Telecom Commander D Installation and Maintenance Manual

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Telecom Australia

Telecom Commander National Support Centre

Telecom Technologies Pty. Ltd. is now a wholly owned subsidiary of Telecom Australia. Since establishment in 1987, TT's charter has been the development and supply of Commander Key System equipment exclusive to Telecom. TT supplies the E and BN ranges and now supplies the Commander D digital key system.

The Telecom Commander Support Centre has been set up by Telecom Technologies to assist you in the tasks of installing and maintaining Telecom Commanders.

Help Desk

The Help desk is staffed by personnel experienced in all areas of Customer Premises Equipment. Call them during normal working hours for support on:

- installation procedures,
- programming problems,
- fault issues,
- detailing,
- equipment compatibility,
- modifications, etc.

The staff at the Commander Support centre are keen to assist, however, *please* read the documentation provided with the product carefully before calling.

Documentation Support

If you find any problems with the documentation for this Telecom Commander product, please tell us.

We want to know if you find any of the following problems:

- mistakes in the manual,
- any part is hard to understand,
- difficulty locating a subject,
- format hard to follow, etc.

Either call the Help Desk to report the problem, or use the *Suggestions* form on the rear of this page.

To contact the Commander Support Centre:

All areas except Melbourne:	Melbourne Callers:
008 339 475	**(03) 818 3033**

These numbers are staffed from 8:00 am to 7:00 pm (EST) from Monday to Friday.

Support is available for Commander N, AN, BN, S, T, E, F120, and D, and Flexitel.

Suggestions about this Manual

The following form is provided for your suggestions. Please photocopy this page and fill in. When completed, post to us at this Address:

Telecom Technologies Pty. Ltd.

Marketing Operations,
1st Floor, The Atrium,
Luton Lane,
Hawthorn, VIC 3122.

Or, fax the copy to (03) 819 5770

Name: .... Designation: ....

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Manual: Commander D Installation & Maintenance, Issue 1.

Suggestions about this manual , ...

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Introduction

This chapter explains the structure of the Telecom Commander D Installation and Maintenance Manual. It describes the overall layout and the layout of each chapter. It also defines and illustrates the conventions used throughout the manual.

NOTE: Throughout this manual reference is occasionally made to the following facilities:
- DISA (Direct Inward System Access)
- MODEM Pooling
- Remote Maintenance
- Meter Pulse Detection

These facilities will not be available until late 1992.

Purpose of the Manual

The purpose of the Telecom Commander D Installation and Maintenance Manual is to provide technical staff with a complete set of clear and concise installation and maintenance procedures. It should be used when installing a Telecom Commander D to ensure the process is completed correctly, safely and easily. It should also be used to maintain the system when problems arise.

Audience

This manual is written solely for technical staff responsible for the installation and maintenance of the Telecom Commander D.

Organisation of the Manual

The Telecom Commander D Installation and Maintenance Manual is divided into ten chapters and five appendices.

Chapter One
About this Manual

This chapter introduces the Telecom Commander D Installation and Maintenance Manual and explains the purpose, organisation and content of the manual. It also describes the intended audience and manual conventions.

Chapter Two
System Introduction

This chapter introduces the Telecom Commander D and provides descriptive lists of the system's features and facilities.

Chapter Three
System Description

This chapter describes the main equipment and system architecture.

**Chapter Four
User Equipment**

This chapter describes the user equipment that can be connected to the system. The different keystation and DSS key functions are explained.

**Chapter Five
System Installation**

This chapter describes the installation procedures.

**Chapter Six
System
Programming**

This chapter describes all the programming commands, provides an operating example of each command and details the system defaults where applicable.

**Chapter Seven
System Maintenance**

This chapter provides a fault-finding guide to help technical staff isolate faults.

**Chapter Eight
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**Appendix A
Parts Serial Item and
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This appendix contains a list of each item's Serial and Item number.

**Appendix B
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This appendix describes the system's signals and tones.

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This appendix provides details of call record printouts which can be obtained from the Telecom Commander D.

**Appendix D
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This appendix contains an example of the customer System Order Form. It is used in conjunction with the system program commands to match system facilities to each customer's needs.

**Appendix E
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This appendix contains a listing of alarm reports generated by the Telecom Commander D.

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Manual Conventions

The symbols and typographic conventions used throughout this manual are as follows:

. Bullets itemise information and procedures.

Bold type indicates chapter, section and sub-section headings –

for example, **'Manual Conventions'.**

Bold type indicates illustration names –

for example, **'System Block Diagrams'.**

Illustration numbers appear below the illustration name –

for example,

**System Block Diagram
[IL01]**

Letters within square brackets [ ] identify keys –

for example, 'When the [Hold] key is pressed...'.

Italics emphasise important words within the text –

for example, *'Do not* overtighten the screws'.

Italics also indicate fourth-level headings.

Chapter Two
Introduction to the
Telecom Commander D

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Chapter Two
Introduction to the
Telecom Commander D

Introduction

This chapter provides a general description of the Telecom Commander D, including an explanation of its features and facilities.

General Description

The Telecom Commander D is a fully digital 128 port key system that supports up to 80 exchange lines and up to 96 keystations or 88 single line telephones (Analogue telephones). It is non-blocking so that all lines and terminals may be used simultaneously.

Interfaces within the main equipment permitting the Telecom Commander D to be connected to the Public Switched Telephone Network (PSTN) or the Integrated Services Digital Network (ISDN). It supports both voice and data communications simultaneously.

System Hardware

Main Equipment

The main equipment rack is modular in construction and comprises between one and three shelves. The bottom shelf is called the Main Equipment (ME) and is mandatory. Up to two additional shelves may be added to provide for additional capacity. The use of double density boards will reduce this need to one additional shelf. These additional shelves are called Expansion Cabinets (EC).

The main control and interface equipment is housed in the main equipment rack along with the power supply and System Distribution Frame (SDF). The main equipment rack also includes:

- Central Processor

  Comprised of the Central Processor Unit (CPU).

- Network Side Interface

  Comprised of either Exchange Line Boards (ELBs) or ISDN Interface Boards

- User Side Interface

  Comprised of either Digital Station Boards (DSB) or Analogue Station Boards (ASB)

- Optional Facilities Interface

  Comprised of interface boards for optional facilities such as door stations, conferencing, DTMF receivers.

- Appropriate Filter Units

These units are described in detail in Chapter **3 – Technical Description.**

Keystations

The keystations offered with the system are available in 8 models:

- Standard keystation (16 line keys. No display)

- Standard *keystation (32 line keys. No display)*

- Executive keystation (16 line keys. 2 line display\

- Executive keystation (32 line keys. 2 line display)

- Executive keystation (16 line keys. 2 line display plus DCI*)

- Executive keystation (32 line keys. 2 line display plus DCI*)

- Premium keystation (32 line keys. 8 line display)

- Premium keystation (32 line keys. 8 line display plus DCI*)

The system is capable of supporting up to 96 keystations or a mixture of keystations and single line telephones up to a total of 96 units.

All keystation models are fully handsfree.

Single line telephones

The system is capable of supporting up to 88 single line telephones or a mixture of single line telephones and keystations up to a total of 96 units. The limiting factor for the single line telephones is the requirement for a Digital Station Board in Slot 1 of the Main Equipment.

Remote Extensions

Remote Extensions are permitted on the Commander D so long as they are **not connected via network cabling.**

ODX

Outdoor Extensions or Off Premises Extensions (OPX) which are connected via network cabling are **not** currently permitted on the Commander D.

Direct Station Select consoles (DSS)

The system is capable of supporting up to 8 DSS consoles, which must be connected in conjunction with Executive or Premium keystations. The DSS consoles do not use an additional port position.

System Distribution Frame (SDF)

Connection to exchange lines and stations is made via SDF Krone strips mounted on the right hand side of the Main Equipment and Expansion Cabinets.

Door stations

The system will support up to four door stations, which provide two-way communication between the door station and designated keystations. When a door station is activated ringing occurs at designated stations. The ringing pattern is different for each door station.

Data Communications Interfaces (DCI)

DCIs provide the interface between the Telecom Commander D and Data Terminal Equipment (DTE). The system will support up to 96 DCIs. Where a DCI is fitted within an Executive or Premium keystation, the total number of keystations that can be connected to the system is not affected. For each stand-alone DCI installed, the total capacity for keystations is reduced by one.

Powerfail lines

The system will support up to 8 powerfail lines per cabinet. In the event of a mains power failure up to 8 exchange lines per cabinet may be switched to designated stand-alone powerfail single line telephones. Note that these are **additional** to any Single Line Telephones used as Commander D extensions.

*DCI = Data Communications Interface. A DCI allows a data terminal to be connected to the Keystation.

Batteries

Internally housed batteries are available as an optional extra to provide full system facilities during a power failure. Two sizes of batteries are available :

- .   6.5 Ah -Provides power for a fully configured system for a minimum of 15 minutes.

- •   15 or 17 Ah – Provides power for a fully configured system for a minimum of 60 minutes.

Where systems are not fully configured, the backup time of the battery is extended according to the system capacity.

System Capacity

The system is modular in construction and supports a maximum of 128 ports and up to 25 card slots. The system is designed so that, within certain maxima per cabinet (maximum of 32 digital stations connected to the Main Equipment, maximum of 64 digital stations connected to each expansion cabinet due to power supply limitations), any of the interface boards may be positioned in any available card slot. The one exception is that a DSB board must reside in Slot 1. The system capacity is as follows:

Exchange lines (analogue)	**80***
Powerfail lines	8 per cabinet
Basic Rate Accesses (BRA)	16 (equivalent of 32 exchange lines)
Primary Rate Accesses (PRA)	2 (equivalent of 60 exchange lines)
Intercom lines	Non-blocking
Digital keystations	96 ⎫ **Total** of 96 stations maximum
Single line telephones	88 ⎭
DSS consoles	8
Data Communication Interfaces (DCI)	48
(optional in Executive and Premium keystations)	

Speed Dialling
. Common	540
. Personal	10
. Repertory dialling	up to 10

Class of Service
. Access Barring	6
. Extension user	15

Tenant Groups	4
Internal Paging zones	5
Station Groups	10

Door Stations/External Paging	Up to 4 circuits
Fax connection	Up to 4 circuits
Alarm Sensor connection	Up to 4 circuits
Pooled Modems	Up to 8 modem circuits
Conference	4 calls of up to 4 parties on each call

*Total number of exchange lines, PSTN and ISDN, is 80 maximum.

System Features

- •   Maximum 'customer participation' is offered when determining the system set-up and facilities for each keystation.

- •   Maximum flexibility is offered in matching system facilities to individual customer needs.

- User operation is simple. A minimum of key operations are required to access facilities.

- Keystations incorporate modern attractive styling.

- System architecture allows inter-working with a wide range of switching and non-switching business systems.

- System installation and re-programming procedures are simple and cost-effective.

- The system supports handsfree and display keystations.

- The system provides connection to the Public Switched Telephone Network (PSTN) and the Integrated Services Digital Network (ISDN).

- The system supports both voice and data switching simultaneously.

- The system supports dual channel digital keystations.

- Remote maintenance is provided to assist in rapid fault isolation.

- The system allows the System Administrator to change the operating facilities. This feature is password-protected.

System Facilities

Incoming calls

Console operation

Up to 8 Direct Station Select (DSS) consoles can be connected to the system. The system may also be configured without a central operator position, to answer incoming calls.

Direct Inward Dial (DID)

This facility allows incoming calls to be answered automatically, without operator intervention, and then for the caller to signal an individual station. This is achieved by the caller sending an access code in DTMF, after answer.

Incoming Ring Groups

Audible signalling of each incoming line can be flexibly assigned to any number of stations on the system.

Direct Inward System Access (DISA)

This facility allows external access to system facilities. When provided, external callers dial an access number and enter a password to gain access to certain system facilities.

Exchange line, Automatic answer

A keystation can be programmed to directly answer an incoming exchange line call ringing at the station by lifting the handset or pressing the [Speaker] key.

Exchange line, Incoming call indication

Visual indication of exchange line calls is provided by LEDs associated with each line key.

Exchange line, Pick-up

This facility allows a station user to answer an incoming exchange line call ringing at another station, by dialling the Call Pick-up code.

External speaker incoming call indication

Incoming calls can be signalled on external speakers.

Incoming ring preference

The system can be programmed to allocate priority to either exchange line calls or internal calls. Ring back tones have priority over normal incoming calls.

Incoming ring tone selection

The system provides four different types of ring tone for incoming exchange line calls. These are programmed on a per-line basis.

Incoming call unanswered alarm

If an incoming call is not answered within a pre-set timeout period, the ringing pattern alters to provide an alert signal.

Incoming ring volume adjustment

The incoming ring volume may be adjusted using a 3-position switch on the keystation.

Queuing of external incoming call

External incoming calls are queued under the [Call 1] or [Call 2] keys. Pressing the appropriate key will answer the longest waiting call.

During a call

Automatic hold by line key depression

An exchange call may be automatically placed on exclusive hold when toggling between exchange lines. The [Hold] key does not need to be pressed to hold the exchange line.

Call Waiting

When an exchange line is transferred to a busy station, a Call Waiting tone is provided to indicate that another call is waiting to be answered.

Hold

The hold condition may be "exclusive", allowing only the holding station to retrieve the call from hold, or "common", allowing any station to retrieve the held call.

Hold Recall

When an exchange call has been on hold for longer than a pre-set time, a ring signal is activated as a reminder to the station that put the line on hold. After a preset time, a call on exclusive hold will revert to common hold, allowing any keystation to retrieve the call.

Long conversation warning tone

A warning tone may be sent to a user to indicate that the call in progress has exceeded a pre-set time.

Transfer

A call may be transferred to another station after announcement, or after ring, without announcement. If the called station is ringing or busy, the call will camp on and call back the original station if not answered within 30 seconds (programmable).

Transfer number display

When a call is transferred to a display keystation, the display indicates the line number, or identity, and the station from where the call was transferred.

Outgoing calls

Access barring

The system is capable of restricting outgoing trunk calls on the basis of the dialled number and the number of digits dialled.

There are 6 barring classes:

Class 1	Unrestricted access.
Class 2	Barred IDD
Class 3	Barred IDD and STD except where the dialled code is the same as an allowed STD/IDD code. Local calls are allowed.
Class 4	Local calls only.
Class 5	Intercom and internal PABX calls only
Class 6	Intercom calls only

Account code

A station user may enter an account code, for call detail recording purposes, at any time during an exchange line call.

Chain dialling

The station user can dial two abbreviated codes successively.

Class of service

The system offers 15 classes of service which establish the facilities available to each station user.

Features available in each class are:

Class 1	Internal and external calls, including Common and Personal Speed dialling, Saved Number Redial, Last Number Redial, and Access Barring Override by password.
Class 2	Class 1 access plus Call Pick-up, Follow Me, Call back and Camp-on,
Class 3	Class 2 access plus Page, Conference, Message Wait, Text Message.
Class 4	Class 3 access plus Divert, DND.
Class 5	Class 4 access plus Break-in, Bypass Call, Monitor
Class 6	Class 1 plus key programming and station programming (i.e. Alarm, Personal Speed Dialling, Intercom Answer Mode, Buzz, Call For and DCI set up.)
Class 7	Class 6 access plus Call Pick-up, Follow Me Call back and Camp on
Class 8	Class 7 access plus Page, Conference, Message Wait, Text Message.
Class 9	Class 8 access plus Divert, DND.
Class 10	Class 9 plus Break-in, Bypass Call, Monitor (Full Service).
Class 11	Class 9 plus Voice call/Signal call switching by calling party on Intercom calls.

NOTE: .   Classes 6-11 allow users to perform some key and station programming.

     .   Classes 12-15 have no facilities assigned allowing programmers to design individual classes of service

Conference

A station user can set up a multi-party conference with up to four internal stations, or up to two external lines and two internal stations.

Dial Tone Detection

The system offers an optional dial tone detector. This feature is provided to prevent the dialling failure that occurs when an attempt is made to dial a stored external number before dial tone is returned from the exchange.

DTMF signalling for external line

The system is able to send DTMF signals to the local exchange for dialling purposes. Further DTMF signals can also be sent to the exchange line after connection has been established.

Exchange line, Automatic seizure

A station can be programmed to automatically seize a pre-set exchange line when going off-hook.

Exchange line, Camp-on/Call-back

When all exchange lines are busy, a station user may camp-on to a particular line or receive a call back when the line becomes idle.

Exchange line, Direct selection

A keystation user may seize specific external lines by pressing the appropriate line key. The speaker is turned on and the line selected.

Exchange line, Group selection

A station user may seize the first free exchange line in an exchange line group, by dialling the exchange line group's access code, or by pressing a programmed Exchange Line Group key.

Exclusive line

An exchange line may be provided for exclusive use at a particular station.

Last Number Redial

The last number dialled may be automatically redialled by pressing the [Redial] key.

Live key working

When a line key is pressed, the speaker is automatically turned on and the exchange line is seized, allowing a call to be made.

Mixed external line accommodation

The system accommodates both direct exchange lines and PABX lines. It can distinguish between these lines and automatically insert a PABX access code, as appropriate, when dialling a stored external number on a PABX line.

Pre-selection

A keystation user can pre-select an external line before dialling the required number.

Recall

To access facilities from a parent PABX, the system can be programmed to provide a timed loop break of variable duration.

Repeat dialling

A keystation can be programmed to automatically redial a busy number after a specified time.

Repertory dialling

The DSS keys on a keystation may be programmed to provide single button dialling of an external number.

Saved number redial

A number can be saved, so the user can redial it at a later time, by pressing the [Memory] key twice.

Internal calls

Alternate point answer

An intercom call to a station can be answered by another station in the same group, by using the Call Pick-up facility.

Automatic release of a held intercom call

An internal call that has been put on hold will be automatically released after a pre-set time.

Direct Station Selection (DSS)

A keystation user can make a single button intercom call by pressing a pre-set [DSS] key on the keystation.

Intercom call

Any station can call another station by dialling the appropriate station number.

Intercom call status indication

The status of a called intercom station is shown on the display of a calling display keystation.

Intercom Camp-on/ Call-back

If a called station is busy, the calling station can camp-on by dialling the Call-back code and waiting, without hanging up, for the busy station to become free. Alternatively the calling station may hang up after dialling the Call-back code and wait for the busy station to ring back when it becomes free.

Intercom hotline

A station may be programmed to automatically call a specified intercom number when the station goes off-hook. This number may be a station number or a station group number.

Intercom line, Automatic seizure

A station may be programmed to automatically select an intercom line when the station goes off-hook.

Intercom signal/ Voice call

Each individual keystation can be programmed to signal intercom calls by intercom ring signal, or by a burst of tone, followed by the caller's voice through the keystation speaker. The called station user has control of whether it is a signal call or a voice call.

Meet Me answer, External

A paging call through an external paging device can be answered at any station by dialling the correct service code.

Meet Me answer, Internal

An internal paging call can be answered at any station by dialling the correct service code.

Meet Me conference, External

A meet-me paging call through an external paging system may be used to establish a conference call.

Meet Me conference, Internal

An internal conference call may be established using the Meet-me Answer facility.

Paging, All internal   A paging call can be made through the speakers of all stations that are in an internal paging zone.

Paging, All External zone   A paging call can be made to all external paging systems connected to the Telecom Commander D.

Paging, External zone   A paging call can be made through an external public address system connected to the Telecom Commander D. Up to four external devices may be connected to the system.

Paging, Internal zone   Five paging zones are available on the system. A station group can be placed in one zone only.

Paging, Simultaneous internal/external zone paging   A paging call can be made simultaneously through the speakers of all keystations and all external paging systems connected to the Telecom Commander D.

Paging, Transfer   A call may be transferred after a page announcement.

Station group call   The first free station in a group may be called by dialling the station group access number.

Registration of unanswered incoming intercom calls   A registration of incoming intercom calls during a users absence can be given on display keystations. A maximum of 5 calls are displayed by pressing the [Check] key followed by the [Call 2] key.

Reset call (Follow on call)   After hearing busy tone or ringback tone when ringing a station, this facility allows the calling station to dial another station number without having to hang up from the first call.

Data calls

Asynchronous Data switching   The system allows asynchronous mode of transmission at speeds up to 19.2 kbps between data terminals in full duplex mode.

Automatic Answer   When a data station is set in the Automatic Answer mode, an incoming data called will be answered automatically by the data terminal.

Bit Rate conversion   This facility allows terminals with different data rates to communicate with each other via DCIs.

Data Call Detail Recording   In association with a printer, a hard copy of all internal and external data calls can be provided.

Data call queuing/ Call back   When the called data station is busy, the calling data station can either queue on line or initiate a callback when free.

Data Group hunting   When a data call encounters a busy data station which is a member of a hunt group, the call is allowed to terminate onto an idle data station in that hunt group.

Data hotline This facility automatically connects a data station to a pre-set internal data station, without dialling.

Data privacy A single line telephone user with an internal modem connected can set data privacy mode so that call processing tones cannot intrude into a data call and cause data corruption.

Data terminal connection Executive and Premium keystations can have an RS-232-C interface (DCI) for connection of a data device.

Simultaneous voice/ Data communication Voice and data can be transmitted simultaneously over a single pair of wires, making it possible to make a data call while a conversation is in progress to the same, or another, destination.

Terminal keyboard dialling This allows both internal and external data calls to be **dialled** from the terminal keyboard.

Station Facilities

Access Barring override A user may override the access barring class of a station, by dialling a password.

Alarm reminder A keystation user may set an alarm signal to ring at a pre-set time. **Two** alarms are available at each keystation.

Background Music (BGM) Music from an external music source can be played through keystation speakers when the keystation is idle. Background music is turned on and off by pressing the [**#**] key while the keystation is idle.

Busy Lamp Field (BLF) A station programmed on a Direct Station Selection (DSS) key will indicate busy on the LED associated with the key, when the station is busy.

Buzz A 'buzz' key allows a keystation to signal a paired keystation by a short burst of ring tone through the called keystation speaker. This facility is designed for managers and secretaries to signal one another without making an intercom call.

Bypass call A user, calling a station which is in DND or divert mode, can bypass the diversion and call the wanted station by invoking the Bypass call facility.

Calendar/Clock display Keystations which have a display indicate the current time and date when the keystation is idle.

Call duration timer Users with a display keystation can display the elapsed time of external conversations.

Call Pick-up display If a call is answered using Call Pick-up, on a keystation with a display, the display will indicate the station where the call was originally ringing.

Calling station number display A keystation with a display indicates the calling station's number, and its station identity.

Conference participants display

The displays on Premium and Executive keystations indicate the external line and internal participants in a conference.

Confidence tone

To confirm the registration of each keypress a low level tone is heard by the user when a key is pressed. The tone is enabled or disabled by pressing the [✲] key while the station is idle.

Dialled number display

Premium and Executive keystations display internal and external numbers that have been dialled.

Display

Keystations may be equipped with one of two displays:

· 2 line x 20 character – Executive keystations

· 8 line x 20 character – Premium keystations

Display Clear

Information on a keystation's display can be cleared by pressing the [Clear] key.

Divert All Calls

This facility enables a station user to arrange for all incoming calls to be signalled at another nominated station. The audible signals will sound at the nominated station when Divert is in operation. A call may be forwarded twice within the system.

Divert Busy/ No Answer

This facility enables unanswered calls, or calls to a busy station, to be diverted to another station after a pre-set time-out period.

Divert No Answer

This facility enables unanswered calls to be diverted to another station after a pre-set time-out period.

Do Not Disturb (DND)

The DND facility blocks all audible incoming exchange and intercom call signals.

Door station monitoring

A station user can make a call to a door station to monitor the activity in the door station area.

Door unlock

While in communication with a door station, the door may be unlocked by pressing the [Recall] key. Note: An approved door lock must be provided by the customer.

Dual speech path

Each keystation has two speech paths to enable incoming calls to signal a keystation user while they are on an existing call.

Executive Over-ride (Break-In)

A station user may break-in on an existing conversation at another station. The third party is temporarily excluded from the conversation and does not hear the intrusion.

Manager/Secretary pairs

When a station (programmed as the 'manager' station) selects DND, all calls to that station are automatically forwarded to the associated secretary's station. The secretary can call back to the manager's station.

Follow Me

Follow Me allows a user to divert all calls from their station to a second station, while located at the second station.

Handsfree conversation

The keystation's in-built speaker and microphone can be used to make and receive two-way intercom and exchange line calls without lifting the handset. Handsfree volume is adjusted by operating an electronic volume control on the keystation.

Handset receiving level adjustment

A keystation user can adjust the handset's receiving level by operating an electronic volume control on the keystation. The volume returns to normal when the keystation goes on-hook.

Headset connection

Keystation handsets can be replaced with an appropriate headset. A line key is required to be programmed to switch to the headset mode, instead of the [Speaker] key performing the switchhook function.

Menu

This facility is designed to simplify the operation of the system. It enables system users to access various system facilities without the need to remember a large number of service codes or key operations. The menu operation is a feature of the 'Premium' keystation.

Message Waiting

A station user can activate the Message Waiting lamp at an unattended keystation. On their return, the keystation user can automatically call the original caller.

Microphone Mute

When on a handsfree call, a keystation user can turn off the microphone so the external party cannot hear any local conversation.

Monitor

A keystation can monitor activity in the vicinity of another keystation by using the Monitor facility.

Multiple call handling

A keystation user can alternate between calls by toggling between the [Call 1] and [Call 2] keys.

Night Service indication

When a keystation has a [Night] key programmed, Night Service mode is indicated by the LED on the programmed key.

Off-hook signalling

While a keystation is already engaged on a call, a second incoming call will signal with muted ring tone.

On-hook dialling

All keystations can make calls with the handset on-hook. Progress of the call can be heard through the station speaker.

Own number display

A keystation with a display indicates its own station number when idle.

Preset dial

A user with a display keystation can set the number to be dialled before selecting an exchange or intercom line. When the line is selected, the number is automatically dialled.

Programmable keys

The line keys and DSS keys on a keystation are programmable.

·   Line keys-for lines and features

·   DSS keys-for DSS and Repertory dial numbers

Programmed data display

A display keystation user can display the number or facility programmed under a key.

Reverted call display

When a transferred call is unanswered and returns to the display keystation, that transferred the call, the message 'REVERTED' is displayed together with the number of the station from which the call has reverted.

Called station number display

Keystations with a display will show the called station number or name during ringing and conversation

Speed Dialling – Common

This facility enables a station user whose station is programmed for access to Common speed dial, to make external calls by dialling the Abbreviated dial code (540 numbers per system).

Depending on how the system is programmed, dialling of numbers in the Common speed dial store can be subject or not subject to the access barring class of each station.

Speed Dialling – Personal

Each station can store up to 10 personal Speed dial numbers.

Station naming

Each station can be assigned an identification name of up to eight characters. This name is displayed during calls on display keystations.

Status indication

A keystation with a display indicates the functions that have been invoked at the station, e.g. DND, Divert.

Text message

When a display keystation is called, it is able to send a 32 character text message to the display of the calling keystation. There are 10 fixed messages and 10 customer programmable system based messages. Each 32 line key display station also has the ability to program one individual message.

Time setting

A keystation with a display can be used to set the system clock via password entry.

Transmitter Mute

The transmitter in the keystation handset can be muted, to prevent the distant end from hearing a private discussion at the station.

Two colour LED indication

Red and green LEDs are used on keystations to aid visual indication of calls.

The green LEDs indicate 'Activated at this keystation' while the red LEDs mean 'Activated by another station'.

Miscellaneous

Automatic pause insertion

When a PABX access code is included in a stored external number or an automatic redial number, the system will automatically insert a pause after the PABX access code is dialled.

Battery Back-up

Internal battery back-up is provided, to maintain complete system operation of a fully configured system for up to 1 hour in the event of commercial power source failure. The system provides a charging circuit for the internal batteries. External batteries with an external charging circuit may be connected to the system instead of the internal batteries.

Calendar function

The calender function enables the system to be programmed for time and date, automatic night switching and scheduling of routine diagnostics.

Decadic to Tone signalling

When dialling out on decadic lines, the station can switch to DTMF signalling to access telephone banking and computer services networks.

Disturbance supervision

The system will automatically print out service failures to an optional printer.

Door Station

Up to 4 door stations can be connected to the system, allowing two-way conversation between a station and the door station. The system uses 'Commander BN' Door stations,

DSS Console accommodation

DSS consoles may be connected to a eight-way modular connector on the Executive or Premium keystations. The DSS console allows single button intercom access to, and visual indication of, the status of stations programmed under those keys.

DTMF/Decadic line accommodation

DTMF and decadic lines can be connected to the system. The system can be programmed to **recognise** each line as either DTMF or decadic, and dial out accordingly.

Exchange line naming

Exchange lines can be assigned an identification name of up to 8 alphanumeric characters.

External alarm sensor

The system has an interface for connection of external alarm sensors. When triggered, an alarm tone will sound through the speakers of pre-set stations or external paging devices.

External Music-on-Hold

An external music source can be connected to the system (via the SDF), for external music-on-hold or background music. An external line isolation unit is required.

Flexible port assignment

The 128 ports can be assigned as lines or stations in any combination within the limits of 80 lines maximum and 96 stations or 88 single line telephones maximum.

Flexible numbering Plan

Flexible numbering allows customers to assign station numbers in accordance with their specific requirements. Station numbers of up to four digits can be integrated into the numbering plan.

Internal Music-on-Hold melody selection

One of two internally generated music-on-hold tunes may be selected to provide music-on-hold for the system.

ISDN function

The system provides a direct interface with the ISDN when equipped with the appropriate ISDN boards. Both Primary Rate and Basic Rate can be supported.

Local Diagnostic   System fault information is accessible via a 32 line, display keystation or a PC (equipped with suitable interface software) connected to a Data Communication Interface (DCI).

MODEM pooling   The system incorporates an optional MODEM pool feature to establish data communication to an external data terminal. Four MODEM circuits are available, supporting V21, V22, V23 or V22 Bis.

Music-on-Hold   When a call is held, either an external or internal music source can be used to provide music-on-hold. Exchange lines can be programmed individually to have the internal or external music source transmitted when placed on hold.

Night service   The system has a Day mode and two Night modes. The mode is selected either automatically or manually. When the system is placed in Night mode, the access barring class for each station may be changed to a pre-set access class. If required, the system may switch to a second Night mode, (during predetermined hours) with different preset access classes.

Powerfail   The system will support up to 8 powerfail lines per cabinet. In the event of a mains power failure up to 8 exchange lines per cabinet may be switched to designated stand-alone powerfail single line telephones. Note that these are additional to any Single Line Telephones used as Commander D extensions.

Programming   The system provides four levels of programming. Levels 1, 2, and 3 are protected by passwords. The levels are:

- Manufacturer

- Installer

- System Administrator

- Station user

Programming data entry   Programming information can be entered from either a 32-line, display keystation or from a PC (equipped with suitable interface software) connected to a Data Communications Interface (DCI).

Remote Maintenance   A remote maintenance centre can gain access to the system via a MODEM or the ISDN network. This remote maintenance feature serves to enhance the system's diagnostic and administration capabilities.

Station Groups   The system allows stations to be allocated in up to 10 groups so that any station within that group can pick up calls ringing at another station within the group. It also provides for group hunting, where calls can be directed to the first free station within a group.

Station Message Detail Recording (SMDR)   The SMDR facility is used to print details of calls in a variety of formats (depending on the system programming).

Tenant service   The system can be divided into four tenant groups. Each group has exclusive access to a set of line and station ports. Access to system facilities may be individually set for each tenant group.

Chapter Three
Main Equipment

Chapter Three
Main Equipment
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Chapter Three
Main Equipment

Introduction

The Main Equipment (ME-D-A) is housed in a metal cabinet of 675mm x 590mm x 330mm (refer to Illustration IL01 – **Commander D Main Equipment).** It contains a printed circuit board subrack, the power supply assembly, the system distribution frame, the optional ring generator unit and internal batteries. The circuit board subrack has space for 7 printed circuit boards in addition to the central processor board. The Main Equipment may be installed in conjunction with one or two Expansion Cabinets (EC-D-A) each of which have space for 9 printed circuit boards.

Commander D Main Equipment
[IL01]

CENTRAL PROCESSOR

CENTRAL
PROCESSING
UNIT

**NETWORK SIDE
INTERFACE**

EXCHANGE
LINE
BOARD

**USER SIDE
INTERFACE**

DIGITAL
STATION
BOARD

**PERIPHERAL
DATA BUS**

ANALOGUE
STATION
BOARD

HIGHWAY BUS

**OPTIONAL FACILITIES
INTERFACE**

DOOR STATION
AND
EXTERNAL PAGING
BOARD
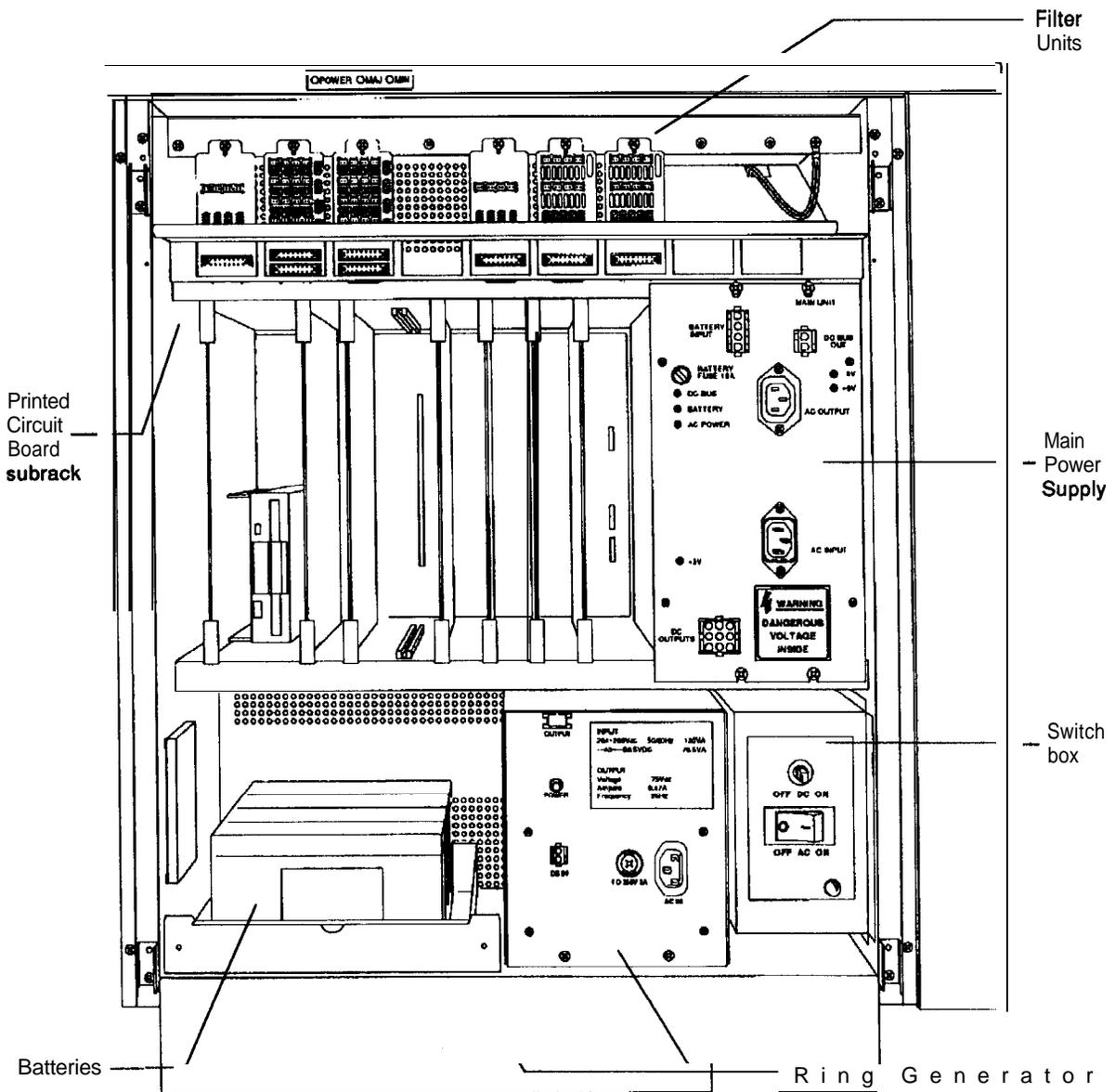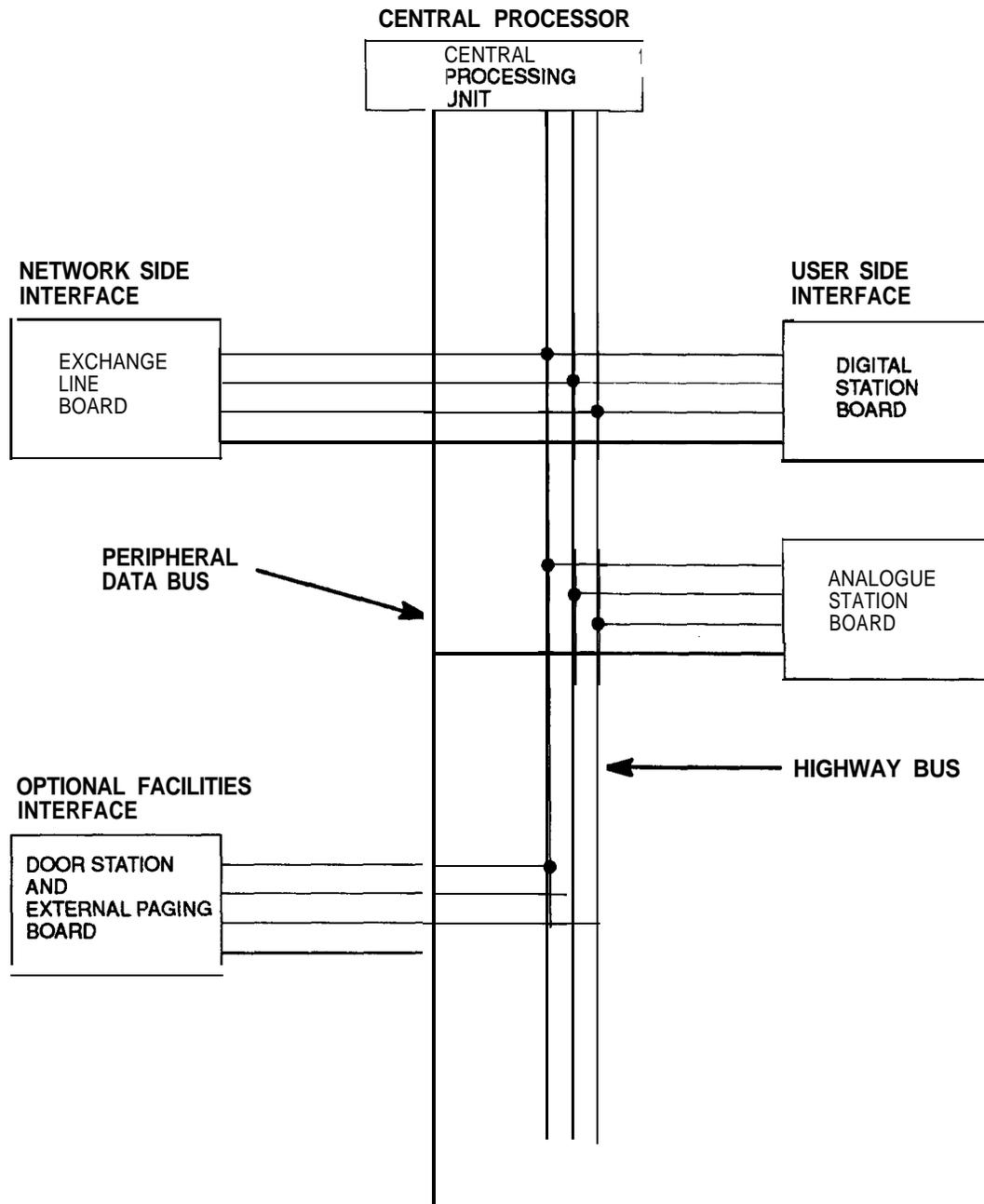
**Commander D Architecutre
[IL02]**

System Architecture

Illustration IL02 shows the general architecture of the Telecom Commander D Main Equipment.

The Telecom Commander D Main Equipment is comprised of four types of functional units. These are:

- Central Processor

- Network Side Interface

- User Side Interface

- Optional Facilities Interface

Central Processor

The Central Processor provides the functionality required for system switching, management, control and maintenance. It consists of one printed circuit board called the Central Processing Unit (CPU). This board also contains a disk drive and controller for loading and storing system data and it must be located in the CPU Slot of the Main Equipment.

Also provided in the CPU is a:

- Direct Memory Access (DMA) Controller

- Serial Communications Controller

- Highway Bus Interface and Control Circuit

- Peripheral Bus Controller

Network Side Interface (NSI)

The NSI provides the interface between the Telecom Commander D and the telecommunications network. It supplies the electrical and logical characteristics required for interconnection to a particular network (PSTN, ISDN).

The NSI may include the following printed circuit boards:

- Exchange Line Board (ELB-D-B 8ccts, ELB-D-C 4ccts [supersedes ELB-D-A])

    Maximum – 80 lines

- ISDN Primary Rate Board (IPRB-D-A)

    Maximum 2 boards – 60 lines

- ISDN Basic Rate / S Bus Board (IBRSB-D-A)

    Maximum 8 boards – 32 lines (when used as an ISDN Basic Rate Board)

Analogue exchange lines may be connected to the ELBs via a parent PABX, but ISDN lines must be directly connected from the ISDN.

User Side Interface (USI)

The USI provides the interface between the system and the user's terminal equipment (for example, data terminals, keystations and Single Line Telephones).

The US1 may contain the following printed circuit boards:

- Digital Station Board (DSB-D-B 16ccts, DSB-D-C 8ccts [supersedes DSB-D-A])

  Maximum – 96 stations. Maximum 32 stations connected in the Main Equipment cabinet and 64 stations connected to the Expansion Cabinet

- Analogue Station Board (ASB)

  Maximum 11 boards – 88 single line telephones

Optional Facilities Interface (OFI)

The OFI interfaces the system to any of the optional facilities that may be connected, for example, Door station, Conference, DTMF receivers, etc.

The OF1 may contain the following printed circuit boards :

- Door Station/External Paging Board (DSEPB-D-A)

  Maximum 1 board – 4 circuits

- Conf Rec, D.T. Det Board (CDB-D-A, CDB-D-B) (Conference, DTMF Receiver and Dial Tone Detect Board)

  Maximum 1 board

- Conference Board (CB-D-A, CB-D-B)

  Maximum 1 board instead of CDB

- DTMF Rec, D.T. Det Board (DB-D-A, DB-D-B) (DTMF Receiver and Dial Tone Detector Board)

  Maximum 2 boards (I board if fitted with 1 CDB board)

- Pooled Modem Board

  Maximum 2 boards – 8 modem circuits

Interface communication

Each of the interface units are interconnected via three Highway Buses (HW BUS), and a Peripheral Data Bus (PD BUS).

Highway Bus (HW BUS)

The highways are used to transfer voice and data between the various interfaces and the processor. Each highway consists of an 8-Bit, parallel, Time Division Multiplexed (TDM) bus. Three of these highways are used. Each highway has a frame rate of 8 kHz with 5 12 time slots per frame, giving the system a total of 3 x 512, 64 kbit/sec, unidirectional communication channels between each of the interfaces and the CPU.

Peripheral Data Bus (PD BUS)

The CPU uses the PD BUS for exchanging call control messages with the interfaces and co-ordinating the use of the HW BUS. It is an 8-bit data bus which is used to control a 64k address space (16 bit address bus).

The following information is sent on the PD BUS:

- Memory read and write signals

- Interrupt requests

- Local CPU clock

- HW BUS data **trans/rec** clock

- HW BUS frame **synchronisation**

System Hardware

Board Code	Board Description	Maximum Quantity
CPU-D-A	Central Processing Unit (ESSENTIAL). Performs the processing and control functions required by the system and its functional blocks. It provides the system alarm indicators, the floppy disk drive and controller, and the interface circuitry for the external music on hold (MOH) and background music sources.	1
ELB-D-A	Exchange line board. This board provides the interface circuitry for four exchange lines from the PSTN.	20
ELB-D-B	This board provides the interface circuitry for eight exchange lines from the PSTN (requires software version D1 .O or later).	10
ELB-D-C	This board provides the interface circuitry for four exchange lines from the PSTN. (This board supersedes ELB-D-A and requires the installation of software version D1 .O or later.)	20
DSB-D-A	Digital Station Board (ESSENTIAL Slot 1). This board provides the interface circuitry for eight digital keystations.	12
DSB-D-B	Provides the interface circuitry for sixteen digital keystations (requires software version D1 .O or later).	6
DSB-D-C	This board provides the interface circuitry for eight digital keystations. (This board supersedes DSB-D-A and requires the installation of software version D 1 .O or later.) All DSB boards support the Data Communication Interface (DCI) when used in conjunction with a DCI–equipped Executive or Premium keystation.	12
ASB-D-A	Analogue Station Board. This board provides the interface circuitry for eight single line telephones.	11
DSEPB-D-A	Door Station/External Paging Board. Provides the interface circuitry for up to four external paging units/door stations. (Includes the door unlock facility for each door station.) The board also provides for the connection of four alarm sensors and four Fax machine sensors	1
CDB-D-A CBD-D-B	Conf Rec, D.T. Det Board (Conference, DTMF Receiver and Dial Tone Detect Boards). Provides the interface circuitry to support 4 simultaneous conferences with a maximum of 4 parties on each conference (maximum 2 external parties). Also supported am 16 DTMF receivers or 16 dial tone detect circuits, or any combination in multiples of 4. **NOTE:** CDB-D-B requires the installation of software version D1 .O or later.	1 (See Note 1)

Board Code	Board Description	Maximum Quantity
CB-D-A CB-D-B	Conference Board Supports 4 simultaneous conferences with a maximum of 4 parties on each. (Maximum 2 external parties.) **NOTE:** CB-D-B requires the installation of software version D1 .O or later.	1
DB-D-A DB-D-B	DTMF Rec, D.T. Det Board (DTMF Receiver/Dial Tone Detector Board). Supports 16 DTMF receivers or 16 dial tone detectors or any combination in multiples of 4. **NOTE:** DB-D-B requires the installation of software version D1 .O or later.	2 (see Note 1)
IPRB-D-A	ISDN Primary Rate Board. Interfaces to 1 ISDN Primary Rate Access (30 channels).	2
IBRSB-D-A	ISDN Basic Rate/s Bus Board. Interfaces to 2 ISDN Basic Rate Access (2 channels each).	8
PFB-D-A	Powerfail Board. Provides the interface circuitry allowing eight exchange lines to be switched to eight stand-alone single line telephones in the event of a power failure.	1 per cabinet
Note 1:	The system allows a maximum of 32 DTMF Receivers/Dial Tone Detectors. If more than 16 of these circuits are required then 2 x DB should be provided or if the conference facility is also needed then 1 x CDB and 1 x DB should be provided.	

Filter Units

These units are located at the top of the Main Equipment and Expansion Cabinets and provide a connection point between the SDF and the **PBAs.** They are used to filter out any unwanted frequencies going into or coming out of the **PBAs.**

Board Code	Board Description
FUCPU-D-A FUCPU-D-B	Filter Unit for CPU Board. Filters the external connections to the CPU, for example. external MOH, BGM. etc. Also used for filtering ISDN connections to both **IPRB** and IBRSB boards.
FUEL-D-A	Filter Unit for Exchange Line Board. Filters four exchange line connections to an ELB-D-A. (Note: this filter unit cannot be used with a ELB-DC.)
FUEL-D-B	Filters eight exchange line connections to an ELB-D-B.
FUEL-D-C	Filters four exchange line connections to an ELB-DC. (Note: this filter unit cannot be used with an ELB-D-A.)
FUS-D-A	Filter Unit for stations. Filters eight digital keystations to a DSB-D-A, or eight single line telephones to an ASB-D-A.
FUS-D-B	Filters 16 digital keystations to a DSB-D-B.
Fus-D-c	Filters eight digital key stations to a DSB-D-C or eight single line telephones to an ASB-D-A.

Either the FUS-D-A or the FUS-D-C is used to filter door stations (including door unlock) and/or external paging units, up to four circuits in total. These filter units are also used to filter eight fax/alarm sensors. If both door station/external paging and fax/alarm sensors are required then one FUS-D-B may be used.

NOTE: There are a number of early systems that will not accommodate FUCPU-D-B, FUEL-D-B, FUEL-D-C, FUS-D-B, FUS-D-C filter units, therefore double density exchange line (ELB-D-B/C) and station (DSB-D-B/C) boards cannot be used in these systems.

Main Power Supply

The Telecom Commander D power supply provides stable, regulated, DC voltages from the AC mains, or (where provided) from the battery back up, should the mains power fail.

The following voltages are generated:

Voltage	Used for:
+5V	Power for digital circuitry on cards in the Main Equipment racks.
±9V	Power for the analogue circuits within the Main Equipment.
–48V	This voltage supplies stations connected to the Main Equipment as well as providing the source for the 5V and ±9V regulation via DC-DC converters. During normal operation, the -48V is converted from the AC mains. During Powerfail, it is supplied from the Battery Backup.

Battery Charging

The power supply also provides the charging current for the Battery Backup. If the –48V rail drops to –46V (±1V) the battery backup is connected. If the battery voltage falls below –43V the batteries are disconnected and will not be reconnected until their voltage reaches –48V (±1V).

Expansion Power Supply

Each Expansion Cabinet is equipped with its own power supply. The Expansion Power supply provides the ±9V and -48V power rails for the Expansion Cabinet. The +5V rail is supplied from the Main Power Supply.

Switchbox

The Switchbox houses the 240V AC mains ON/OFF switch and filter circuits together with the battery backup switch.

NOTE: Both the mains switch and the battery backup switch incorporate built-in circuit breakers.

Ring Generator Unit

This provides the ring current for the single line telephones connected to the system.

Internal Back–up Batteries

During an AC mains failure, system operation is supported by internal batteries. The batteries are located in the Main Equipment and are available in two sizes.

- 4 x **6.5AH** batteries. These batteries will provide **15** minutes full operation for a fully configured system.

- 4 x 15 (or 17) AH batteries. These batteries will provide 1 hour full operation for a fully configured system.

When a system is not fully configured, the back-up time is extended according to the system capacity available. For longer back-up periods, external batteries with an external charger can be connected in place of internal batteries.

Chapter Four
User Equipment

Chapter Four
User Equipment
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Introduction

This chapter describes the equipment that can be connected to the Telecom Commander D. It details the eight types of keystations that are available and the functions of the various keys and LEDs.

The Direct Station Select console is also described and the key and LED functions are detailed.

The chapter concludes by briefly describing other miscellaneous equipment.

Keystations

There are 8 models of keystation offered with the system. They are as follows:

- Standard keystation (16 line keys. No display)
- Standard keystation (32 line keys. No display)
- Executive keystation (16 line keys. 2 line x 20 digit display)
- Executive keystation (32 line keys. 2 line x 20 digit display)
- Executive keystation (16 line keys. 2 line x 20 digit display plus DCI)
- Executive keystation (32 line keys. 2 line x 20 digit display plus DCI)
- Premium keystation (32 line keys. 8 line display)
- Premium keystation (32 line keys. 8 line display plus DCI)

All stations are connected to the main equipment SDF via two wires of a two pair cable. These cables terminate on the internal SDFs mounted on the side of the Main Equipment and Expansion Cabinets, and are further cabled to the Filter Units located above the PBA shelves. Ribbon cable connects each Filter Unit to its associated PBA.

Refer to the following illustrations:

- Illustration 3 – **Standard keystation**
  (16 line keys. No display)
- Illustration 4 – **Standard keystation**
  (32 line keys. No display)
- Illustration 5 – **Executive keystation**
  (16 line keys. 2 line x 20 digit display)
- Illustration 6 – **Executive keystation**
  (32 line keys. 2 line x 20 digit display)
- Illustration 7 – **Premium keystation**
  (32 line keys. 8 line x 20 digit display)
- Illustration 8 – **Keystation DCI connection**
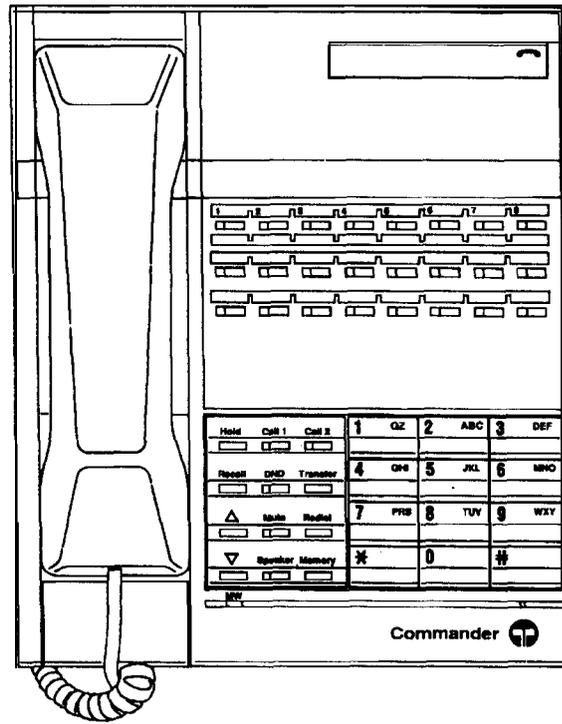
Standard keystation. (16 line keys. No display)
[IL03]
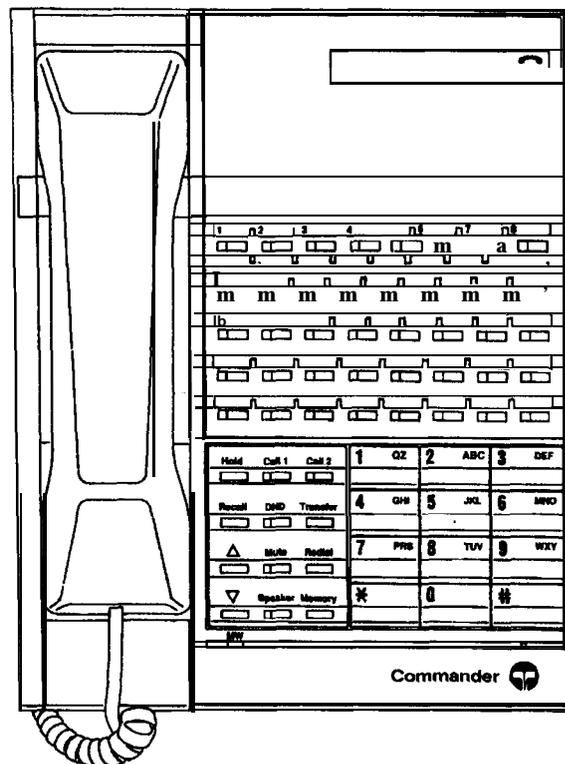
Standard keystation. (32 line keys. No display)
[IL04]
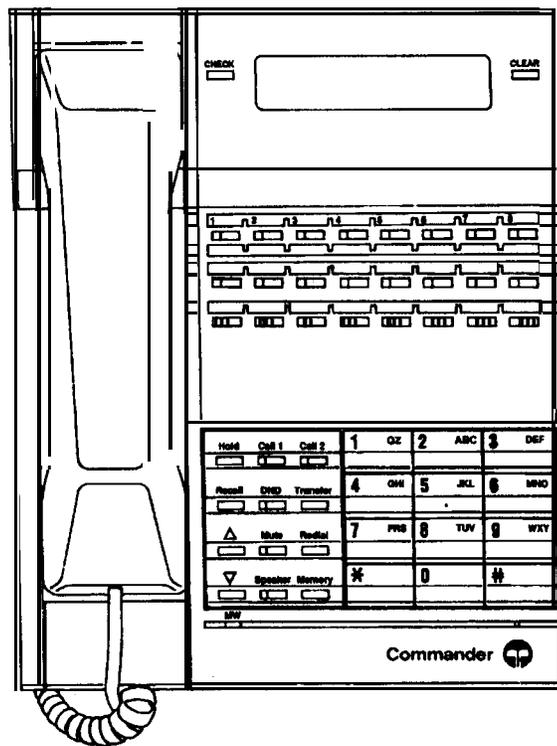
Executive keystation. (16 line keys. 2 Line x 20 digit display)
[IL05]
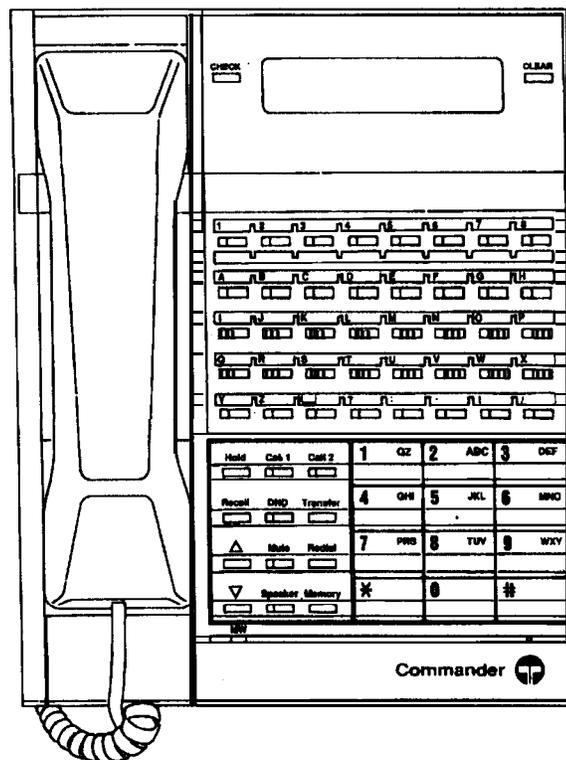
Executive keystation. (32 line keys. 2 line x 20 digit display)
[IL06]
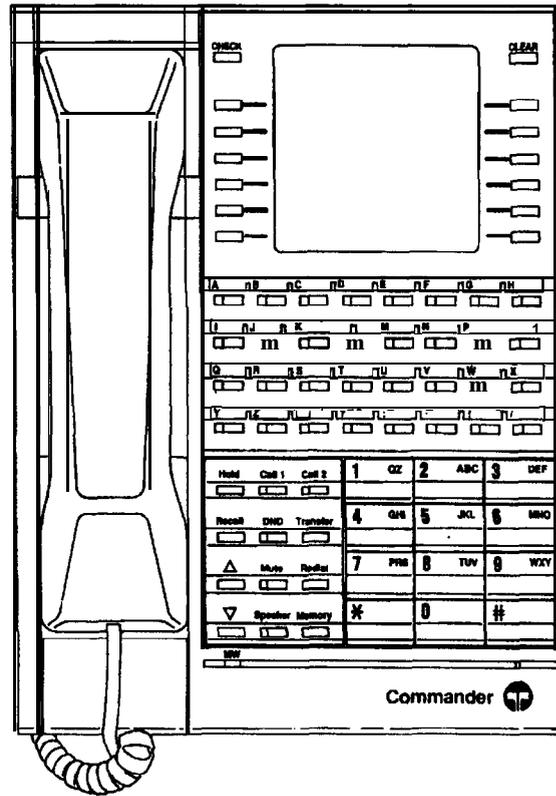
Premium keystation. (32 line keys. 8 Line x 20 digit display)
[IL07]
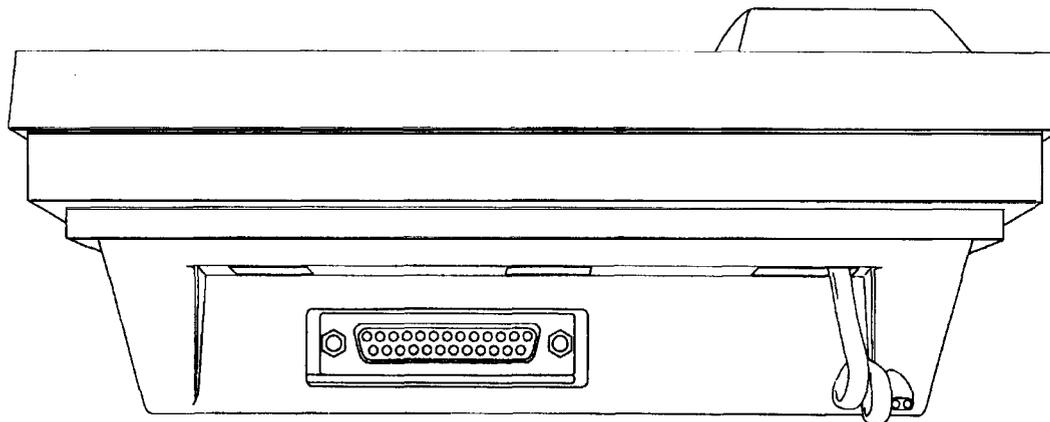
Keystation DCI connection
[IL08]

Keystation key functions

[CHECK]	Used in conjunction with other keys to display their particular functions. This key is also used to shift the cursor left during text message editing.
[CLEAR]	Used to clear the display to its previous idle/operating status. This key is also used to shift the cursor right during text message editing.
Line keys	Used to access exchange lines or specially programmed facilities. These keys are also used to enter alphanumeric characters for text messages during system programming.
[DSS]	Allows one-button operation to connect to stations or to access repertory dialling.
[Hold]	Used to place external and intercom calls on hold. Also used to access the next message when selecting a text message.
[Call 1], [Call 2]	Used to access intercom lines and programming facilities.
[Recall]	Used to recall the parent PABX.
[DND]	Used to block all audible signals to a station.
[Transfer]	Used to transfer a call (during conversation) to another station.
[△]	Used to increase the handset volume. This key is also used to scroll up through text messages.
[▽]	Used to reduce the handset volume. This key is also used to scroll down through text messages.
[Mute]	Enables/disables the station microphone.
[Redial]	Redials the last number called.
[Speaker]	Used to enable/disable the handsfree mode.
[Memory]	Used to store and access numbers stored in the memory.
[✱]	Used to input an account code. This key is also used to enable/disable the key confidence tone.
[✳]	Used to change from Decadic dialling to DTMF during a conversation. This key is also used to enable and disable background music through the station speaker.

Programmable key functions

Functions other than exchange line access can be assigned to the line keys by entering the key number and the required function code. (Refer to the section titled "SA 1006 Line Key Programming" in Chapter 6 – **Programming System** for details)

Function Code	Function Name
0	Not assigned
1 – 80	Trunk port number
1000	Call-back
1001	Divert
1002	Follow Me
1003	Monitor
1004	Conference
1005	Night Switch
1006	Line access
1007	Line Group access
1008	Group Pick-up
1009	Other Group Pick-up
1010	Direct Group Pick-up
1011	Internal Paging zone
1012	Internal Paging All
1013	External Paging zone
1014	External Paging All
1015	Transmitter Mute
1016	Buzz
1017	Bypass call
1018	Break In
1019	Message Wait
1020	Text Message
1021	Headset mode change
1022	Meet Me set or Meet Me Answer
1023	Call For
1024	Data
1025	Data Privacy
1026	All Call paging
1027	Voice/Signal switching (Calling party)
1028	Current Charge
1029	Continuous Charge
1030	End of Call Charge
103 1	Malicious Call Trace
1032 – 1050	Reserved

Direct Station Select console (DSS)

The Telecom Commander D is capable of supporting 8 DSS consoles. They are connected in conjunction with an Executive or Premium keystation.

Key designations

Refer to Illustration **9 – DSS Console key layout**

Function keys

[Page]	Used to select the "Page" mode of operation. When the LED is lit in this key, the bottom row of DSS keys can be used to page individual zones both internal and external.
[All Call]	Used to page all keystations and external zones.
[Int All]	Used to page all internal zones.
[Night]	Night transfer (manual operation).
[MW]	Used to invoke Message Wait via DSS console.
[Normal]	Used to select the "Normal" mode of operation (LED On indicates mode selected).
[Data]	Used to select the "Data" mode of operation (LED On indicates mode selected).
[Off Duty]	Transfers DSS operator functions to the back-up DSS operator.
[Door 1]	Used to answer and make calls to door station 1.
[Door 2]	Used to answer and make calls to door station 2.
[Door 3]	Used to answer and make calls to door station 3.
[Door 4]	Used to answer and make calls to door station 4.

DSS keys

Keys 89-96   These keys (the bottom row of keys) are dual function.

. Primary function:

   DSS keys for the last 8 stations

. Secondary function:

   Used after pressing the [Page] key to access individual paging zones. Zones already in use are indicated by a steady LED on the appropriate DSS key.

   . Keys 89-93 are for internal page zones

   . Keys 94-96 are for external page zones

   The [Normal] key is pressed to exit from Page mode.

Keys 1–88   DSS keys for the remaining stations

NOTE: .   All DSS keys have associated LEDs to provide a Busy
                          Lamp Field.

              •   All function keys have associated LEDs except the
                       message wait (MW) key (This has a lens, but no LED).
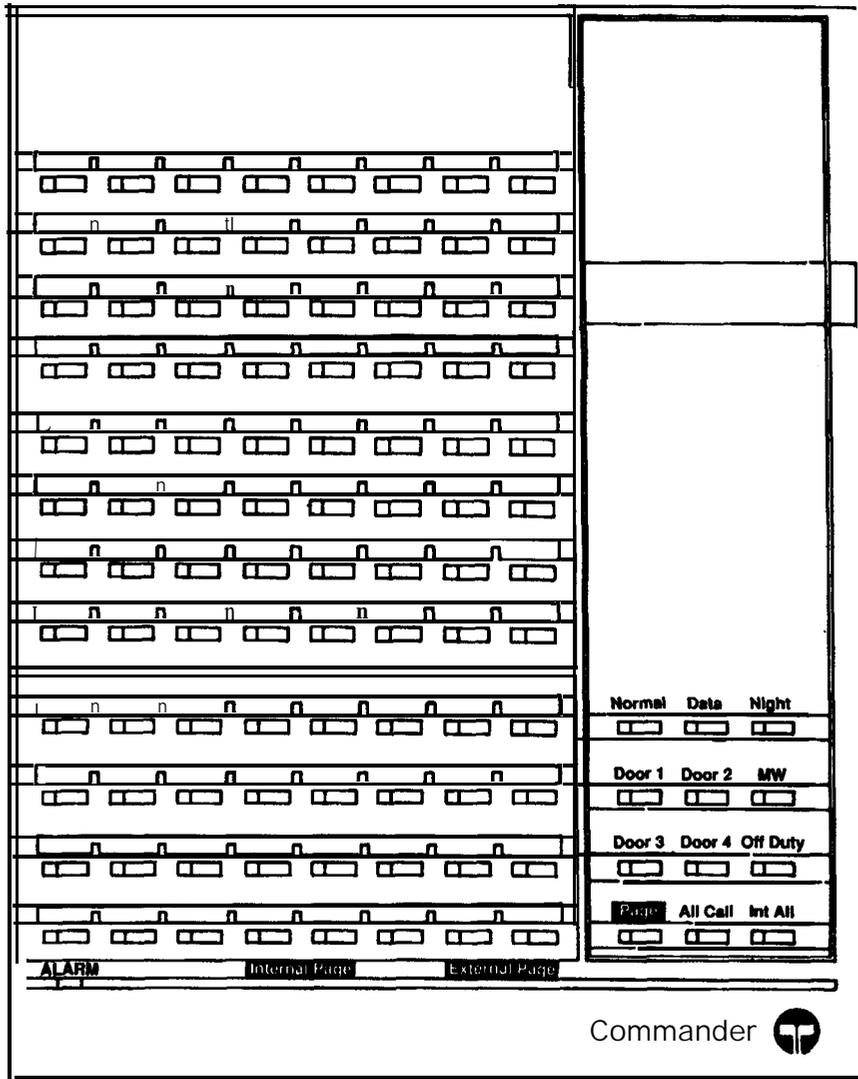
DSS Console key layout
[IL09]

Miscellaneous Equipment

Door station

The Telecom Commander D is capable of supporting up to 4 door stations, each with a different ring cycle. (Refer to Illustration 10 – **Commander Door station**), As the door station and the external paging units use the same interface card, (DSEPB-D-A), the system is initially programmed for 2 door station ports and 2 external paging ports. This assignment can be altered by system program commands. Commander BN Door stations **(338/860)** should be used.

Door lock

A door unlock facility is available with each door station circuit. An AUSTEL approved door unlock mechanism must be supplied by the customer.

Headsets

A keystation handset can be replaced with an AUSTEL approved headset, if required. To use the headset, one of the keystation line keys must be reprogrammed. (Refer to the section titled "SA 1006 Keystation Line Key Programming" in Chapter **6 – System Programming** for details). Where a headset is used, the [Speaker] key performs the hookswitch function. A converter lead may be required to match the headset connections to those on the keystation handset socket.

Station Message Details Recorder (SMDR)

An SMDR printer can be connected to any of the system's DCIs. For a description of the SMDR printout, refer to Appendix **C – Station Message Details Recording.**

Voicemail (PC based)

This system is compatible with a range of PC-based voicemail systems.
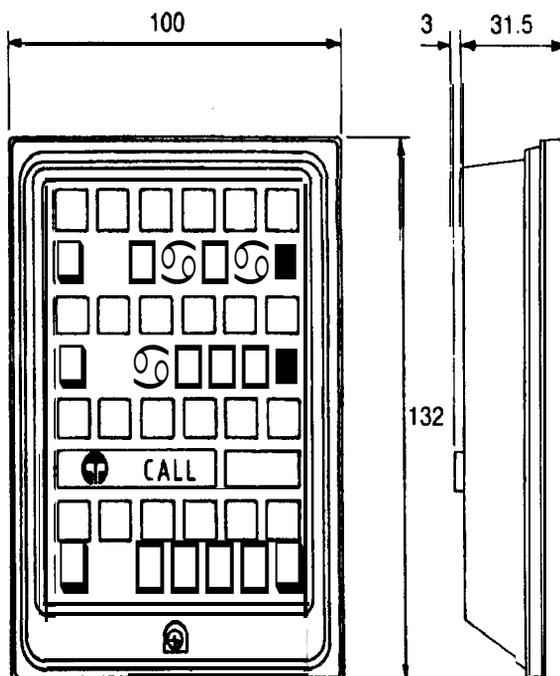
Commander Door station
[IL10]

Chapter Five
System Installation

Chapter Five
System Installation
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Chapter Five
System Installation

Introduction

This chapter describes the procedures that must be performed to install the Telecom Commander D hardware correctly.

It begins with a checklist that summarises the installation procedures. Each point in the checklist is then explained in detail, with additional information and full installation procedures. Where appropriate, illustrations and references are provided to amplify the text.

Safety precautions

The Telecom Commander D equipment contains many static-sensitive components.

To reduce the incidence of premature equipment failure, *the following precautions must be observed:-*

- *Always* discharge static from yourself before handling any Printed Board Assembly (PBA), and wear an antistatic wrist strap connected to the Main Equipment earth.

- *Always* handle **PBAs** by the edges.

- Never touch PBA tracks or connectors. Contaminants introduced by fingers can cause corrosion and high resistance connections.

- *Never* touch components. They are physically delicate and finger pressure can fracture component leads (even if the leads do not actually break).

- To protect **PBAs** against physical damage and damage due to static discharge, they must *always* be wrapped in an anti-static package and placed in the protective packaging that is provided with the new item.

Installation Checklist

Use the following check list with the detailed procedures that follow to ensure that the Telecom Commander D is installed correctly.

- Check that the supplied equipment is as listed on the System Order Form.

- Locate the main components:

  - Main Equipment

    - Power Supply

    - Ring Generator Unit

    - Batteries

  - Expansion Cabinet

    - Power Supply

  - Key stations

  - Single line (analogue) telephones

  - Door stations

- Connect and terminate cables inside cabinets

- Provide surge protection

- Cable System Distribution Frame

  - Exchange lines

  - Stations

  - External paging

  - Music on Hold

- Fit Data Communications Interfaces (DCIs)

- Power on

- Check cabling

- Plug in stations

- Programme the system

- Test the system

- Complete customer record card

- Complete installation feedback label

- Complete and attach installation date label

Installation Procedures

Svstem Order Forms

Ensure that the supplied equipment is as listed on the System Order Forms. Pre-configured systems will have the System Order Forms attached to the Main Equipment SDF cover. The system order forms supplied with the equipment will be the most current and will directly reflect the programming of the system delivered.

NOTE: It is essential that any programming changes made during installation are recorded on the System Order Form programming sheets.

Location and mounting of equipment

Customer responsibilities

The customer is responsible for providing:

·   Satisfactory lighting for installation and maintenance.

·   A single phase, correctly earthed, **220–250V,** 10 amp, 50 Hz, AC General-purpose Power Outlet (GPO) within one metre of the Main Equipment.

NOTE: A separately fused GPO is recommended.

Main Equipment (ME–D–B)

AUSTEL Permit label

Every Telecom Commander D Main Equipment has an AUSTEL permit label attached to the bottom right corner of the SDF cover. Any request to install equipment that does not have the permit label must be referred to local management for investigation.

"AUSTEL PERMIT;
A90/84/0464   516381

Commander **D AUSTEL Permit label**
[IL11]
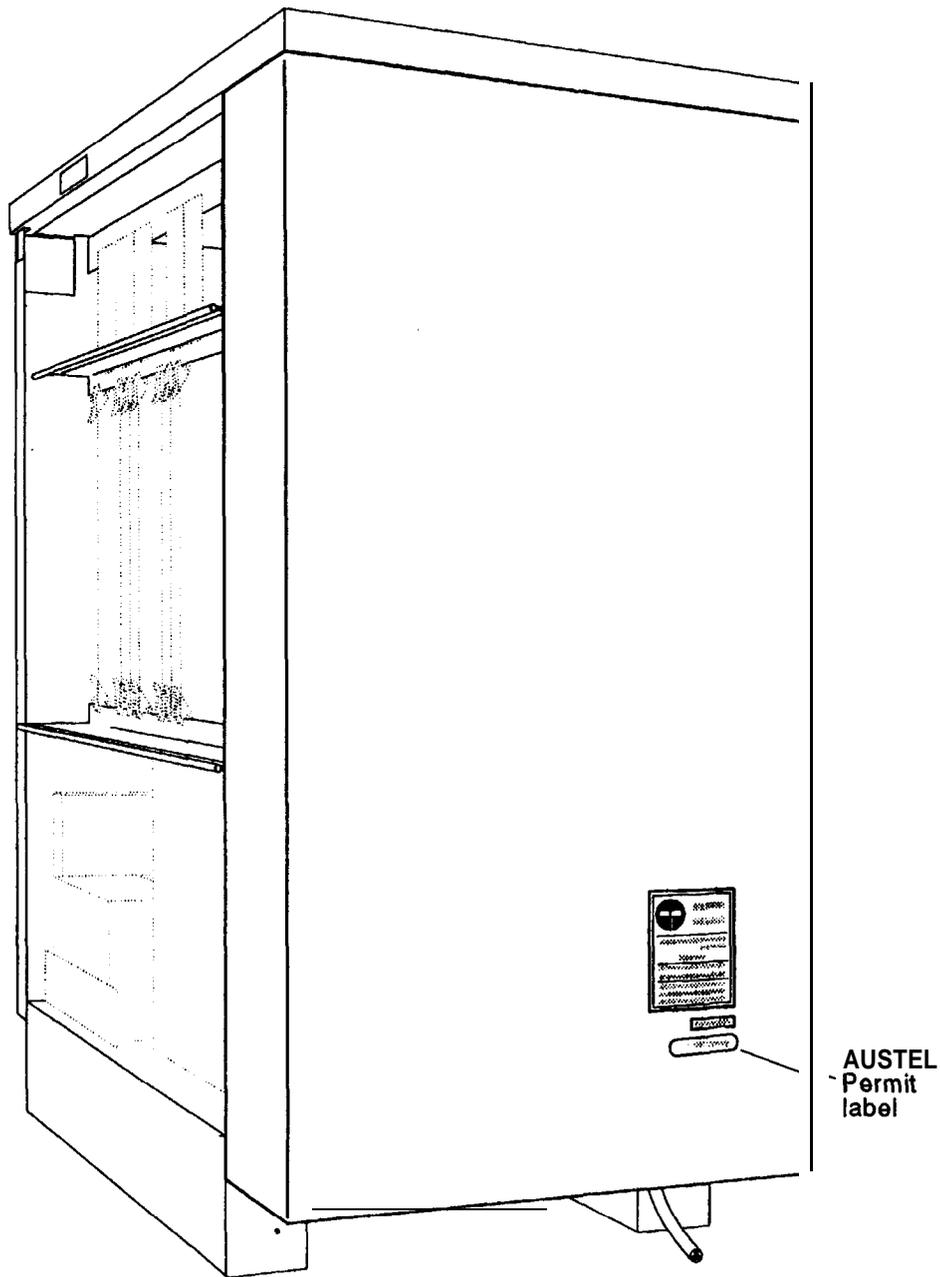
Commander **D AUSTEL Permit label location**
[IL12]

Locution limitations
The Telecom Commander D Main Equipment is free standing, and should be placed on the floor. Wall support brackets are supplied with each Main Equipment and should be used to fix the Main Equipment to the wall.

·   Remove the wall support brackets from their storage location next to the system SDF (IL13a).

·   Fix the wall support brackets to the rear of the cabinet and fasten to the wall with suitable screws (IL13b).
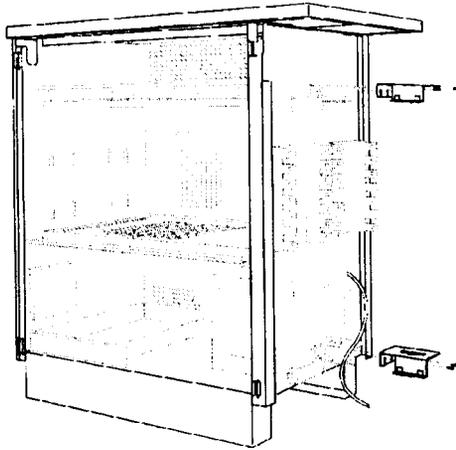
IL1 3a Wall support bracket storage location   IL13b Wall support bracket installation
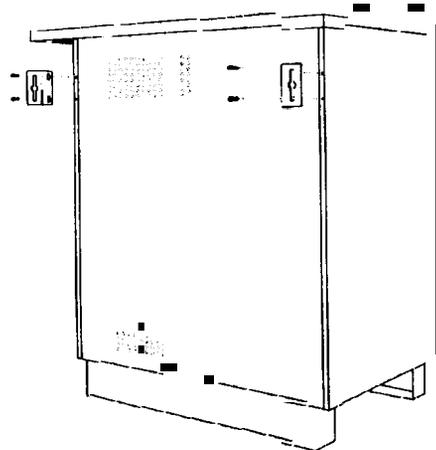
Main Equipment wall support bracket installation
[IL13]

NOTE: Where one or more Expansion Cabinets are to be fitted to the system, the wall support brackets should be fitted to the first Expansion Cabinet.

When choosing a Main Equipment site, ensure that enough surrounding space is allowed for maintenance activities.

These requirements are:

·   Not less than 300mm clear wall space on the left side of the Main Equipment.

·   Not less than 1 metre clear wall space on the SDF side of the Main Equipment.

·   Not less than one metre of clear floor space in front of the Main Equipment.

·   Suitable access for exchange and station cabling.
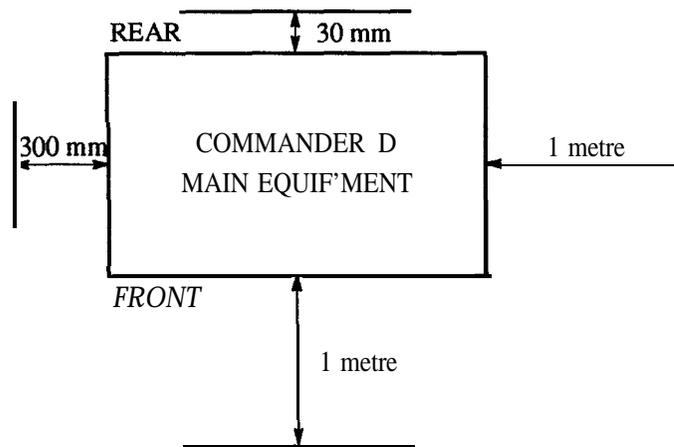
Location   limitations
[IL14]

Power Supply **(PS-D-A)**   Fit the Main Power Supply into the right hand side of the equipment shelf,
and fix it into position with the screws provided.
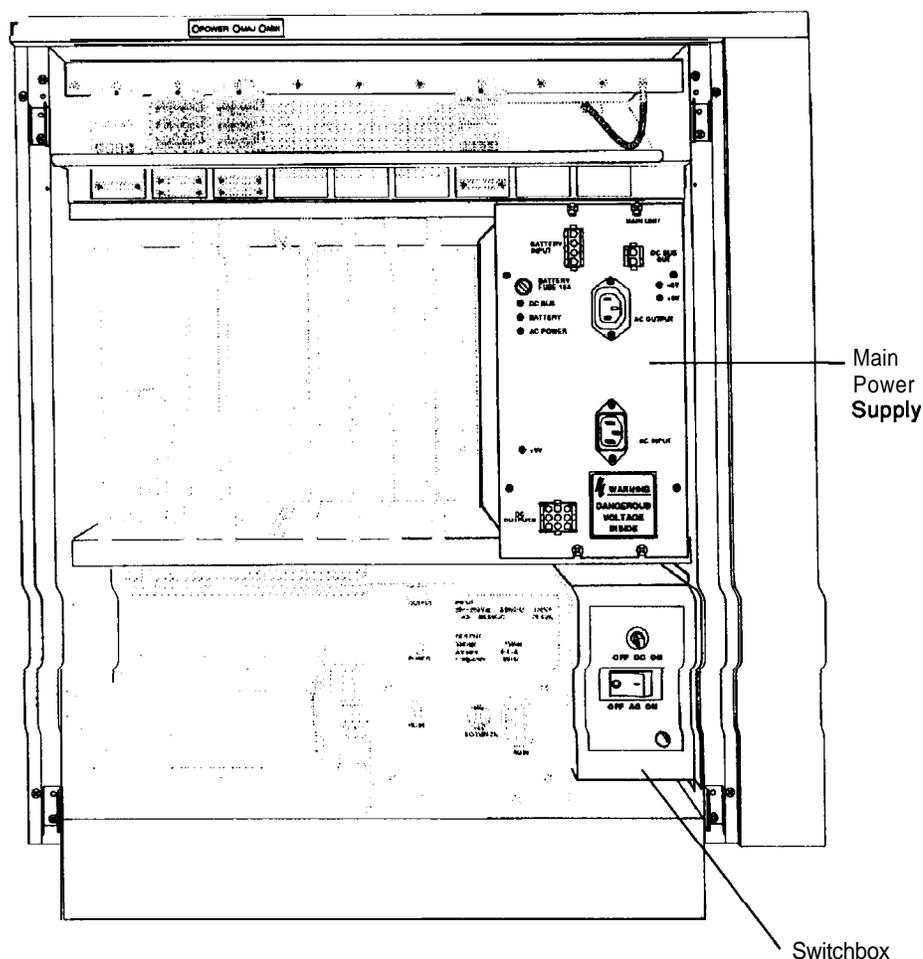
Main Power Supply location
[IL15]

NOTE: If external back-up batteries are to be fitted to the system, the
internal battery charger *must* be turned off before the Main
Power Supply is fitted. This is because the internal charger will
not supply the amount required to charge the higher capacity
external batteries.

To disable the internal charger, locate the window in the rear
cover of the Main Power Supply and switch the internal charger
switch to the OFF position. The internal battery charger will
now be disabled.

The external battery voltage *must* be 48V.

Window in Main Power
R Supply   a   r   , Cover

, **L E D**

ON

OFF
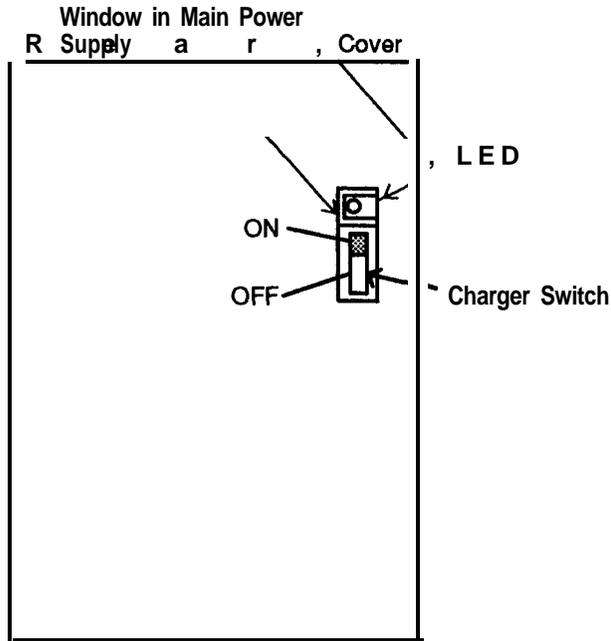
Charger Switch

Internal Battery Charger switch location
[IL16]

Ring Generator Unit
(RGU–D–A)

Fit the Ring Generator Unit into the battery shelf, between the Switchbox and the backup batteries, and fix it into position with the screws provided.

Ring
Generator
Unit
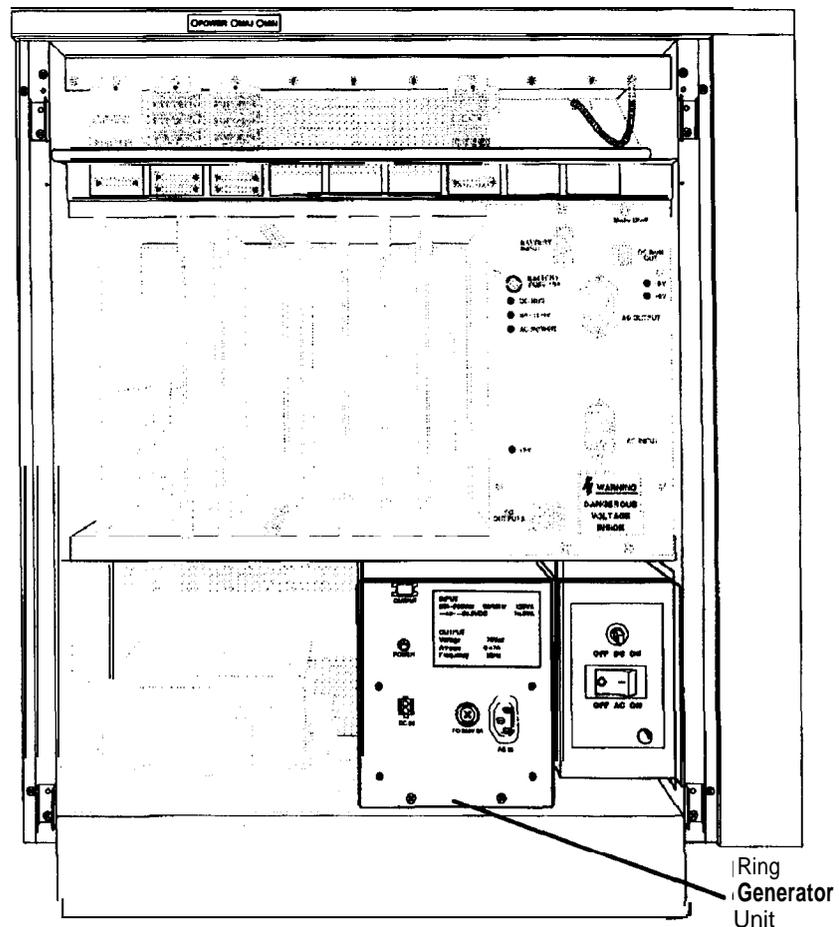
Ring Generator Unit location
[IL17]

**System Battery Backup
(BBUM–D–A or
BBUL–D–A)**

The system backup batteries must be located in the battery tray on the left side of the Main Equipment, next to the Ring Generator Unit.

The batteries are installed as follows:

•   Remove the two battery tray retaining screws and slide out the tray

•   Place the four batteries into the tray

•   Connect the batteries (refer to Page 5 – 20)

•   Replace the tray.

4x12 Volt
Batteries
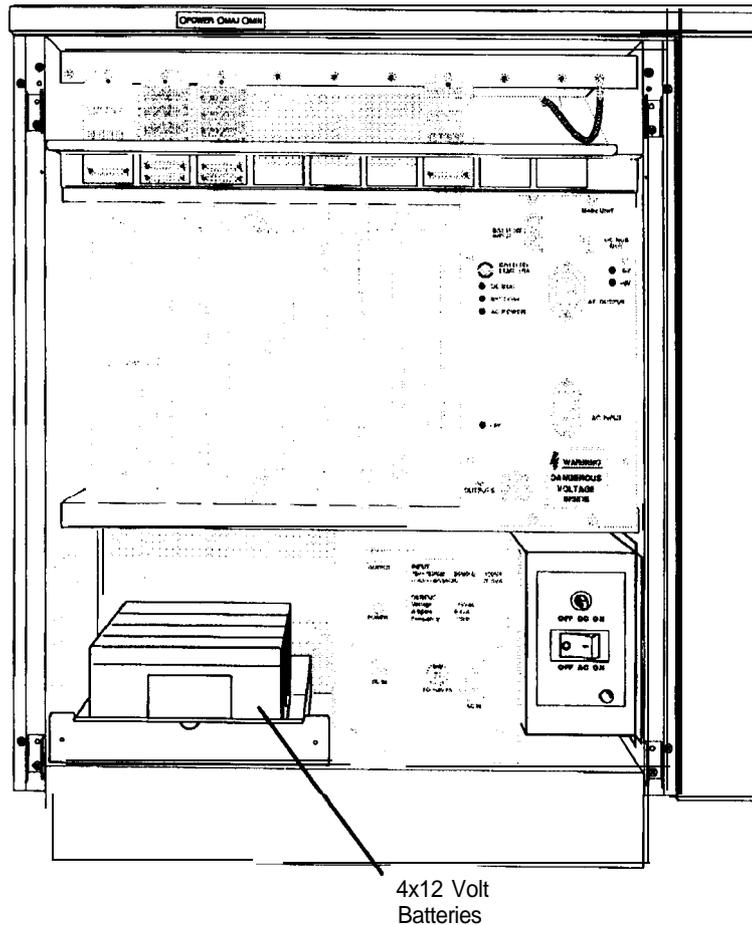
**Backup Battery location
[IL18]**

**Exp ansion Cabinet
(EC–D–B)**

If the system requires an Expansion Cabinet, the cabinet is placed on top of the Main Equipment cabinet and secured using the locating slots and securing plates on each end of the cabinet.

Up to two Expansion Cabinets may be fitted per system. If the second Expansion Cabinet is required, it must be mounted on top of the first, after the first has been fitted.

Installation procedure

To fit an Expansion Cabinet:

•   Remove the top cover of the Main Equipment and disconnect the alarm panel.

•   Remove the front and side covers of the Main Equipment and Expansion Cabinets.

•   Remove the rear cover from both the Main Equipment and each
        Expansion Cabinet.

•   Place the Expansion Cabinet on top of the Main Equipment. Ensure
        that the locating feet and holes are correctly aligned.

•   Secure the two cabinets together by tightening the screws in the
        locking plates at the ends of each cabinet.

•   Repeat the above procedure if a second Expansion Cabinet is to be
        fitted.

•   Replace the left hand covers on each unit.

•   Connect the inter-cabinet ribbon cables to the motherboard
        connectors on the Main Equipment and each Expansion Cabinet.

•   Connect the inter-cabinet 5V power cables to the 9-way motherboard
        connectors on the rear of the Main Equipment and each Expansion
        Cabinet. Connect the alarm panel cable into the 4-way connector at
        the rear of the top Expansion Cabinet.
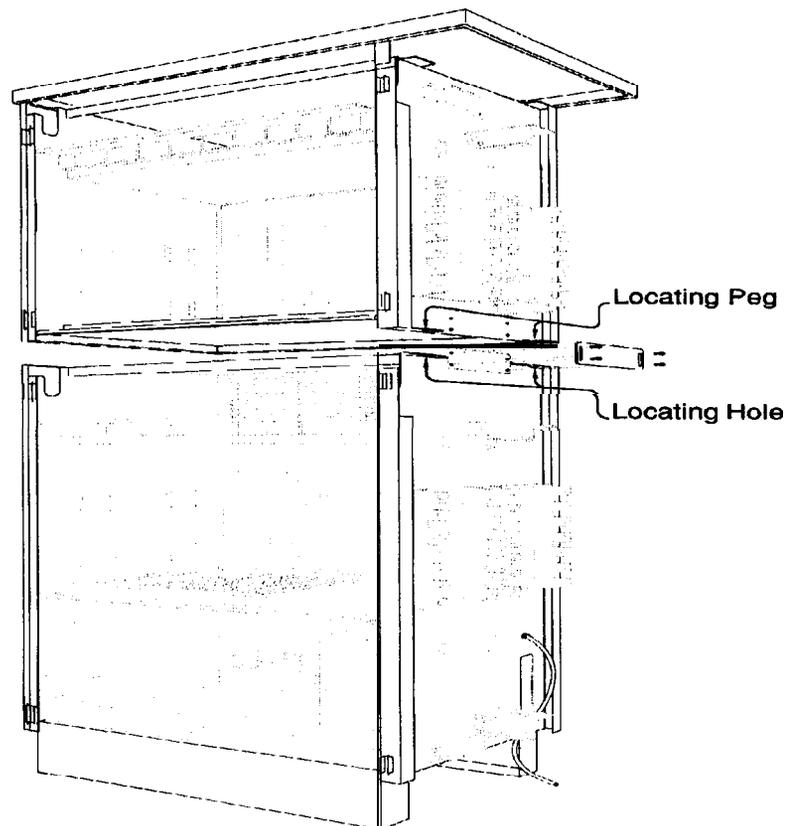
Expansion Cabinet installation
[IL19]

Inter-cabinet
ribbon cables

CN7   CN9

CN8   CN10

Expansion motherboards

CN8

CN9

Main motherboard

Front View

Top cover

LEDU Assembly

Alarm panel cable

Inter-cabinet
5V power cables

Expansion motherboards

Main motherboard

Rear View
(cover removed)
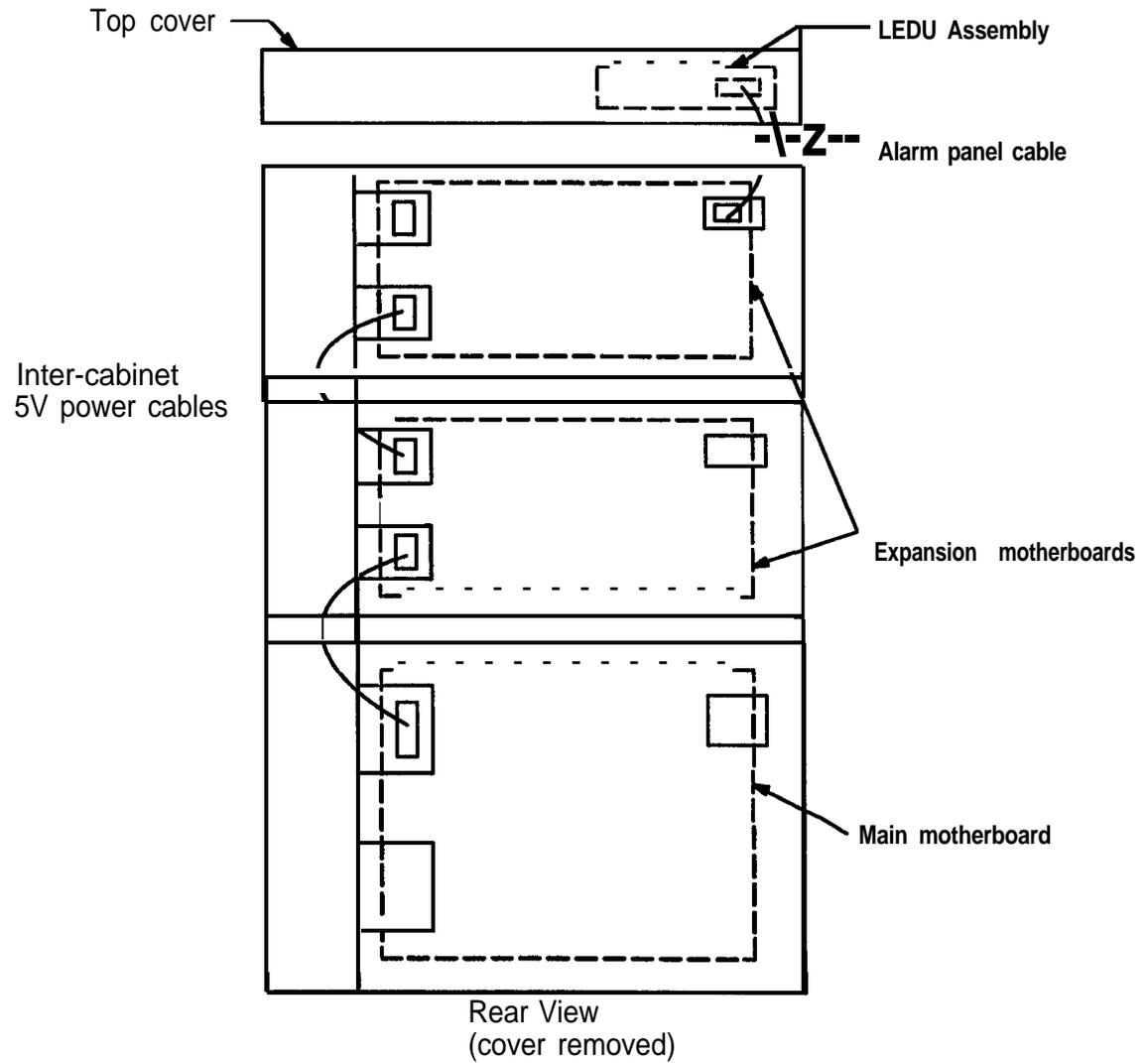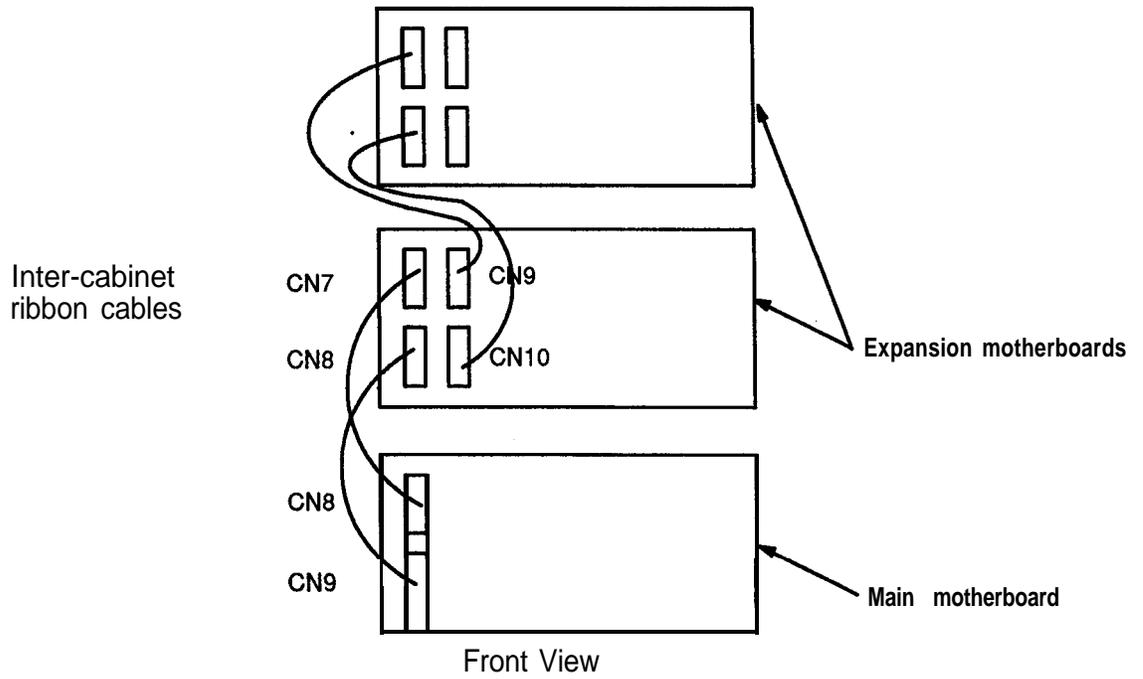
Motherboard cable connections
[IL20]

- Refit the covers to the rear of the cabinets.

- Connect the inter-cabinet earth cabling.

- Fit the alarm panel connector into the rear of the alarm panel and refit the top cover.
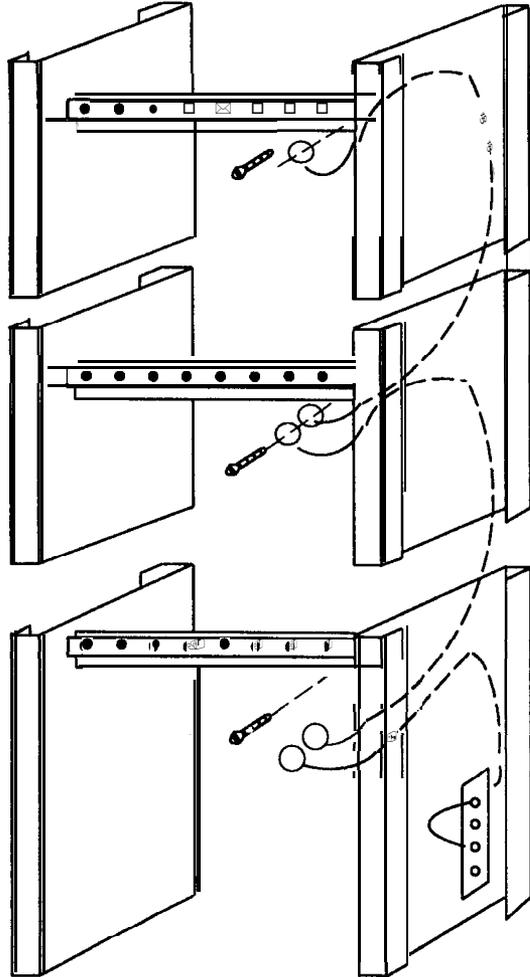
Earth cable connections
[IL21]

• Remove the wall support brackets from their storage location next to the Expansion Cabinet SDF (IL22a).

- Fix the wall support bracket to the rear of the cabinet and fasten to the wall with suitable screws (IL22b).
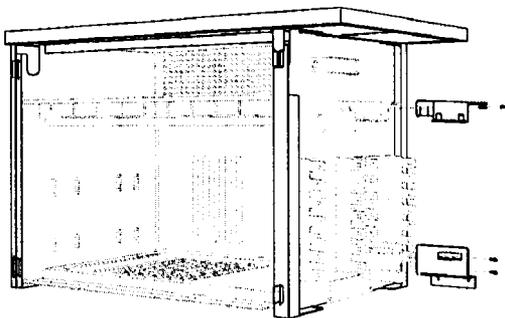
IL22a Wall support bracket storage locations   **IL22b** Wall support bracket installation
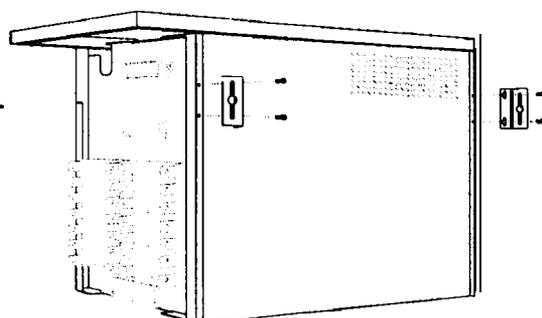
Expansion Cabinet wall support bracket installation
[IL22]

Expansion *Power Supply*   Fit the Expansion Power Supply into the right hand side of the equipment
(EPS–D–A)   shelf, and-fix it into position with the screws provided.

Expansion
Power
Supply
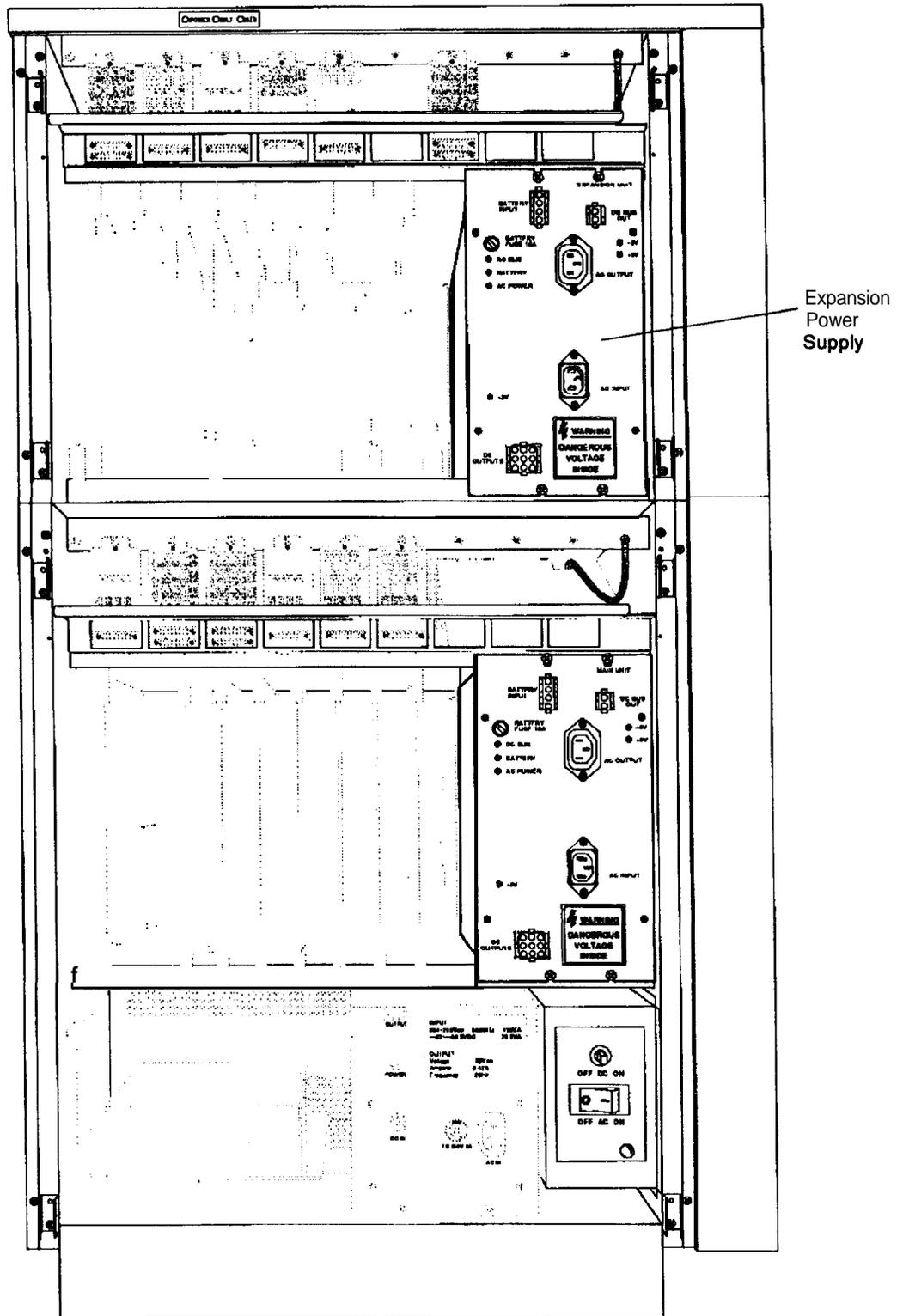
Expansion Cabinet Power Supply location
[IL23]

System Distribution Frame (SDF)

The SDF is an integral part of each Main Equipment and Expansion Cabinet. It is located behind a removable cover on the right hand side of the associated cabinet. The SDF provides a common terminating point for the Main Equipment, exchange lines, keystations and other ancillary equipment. It can be equipped with a maximum of ten Krone terminal blocks per cabinet.

System Distribution
Frame
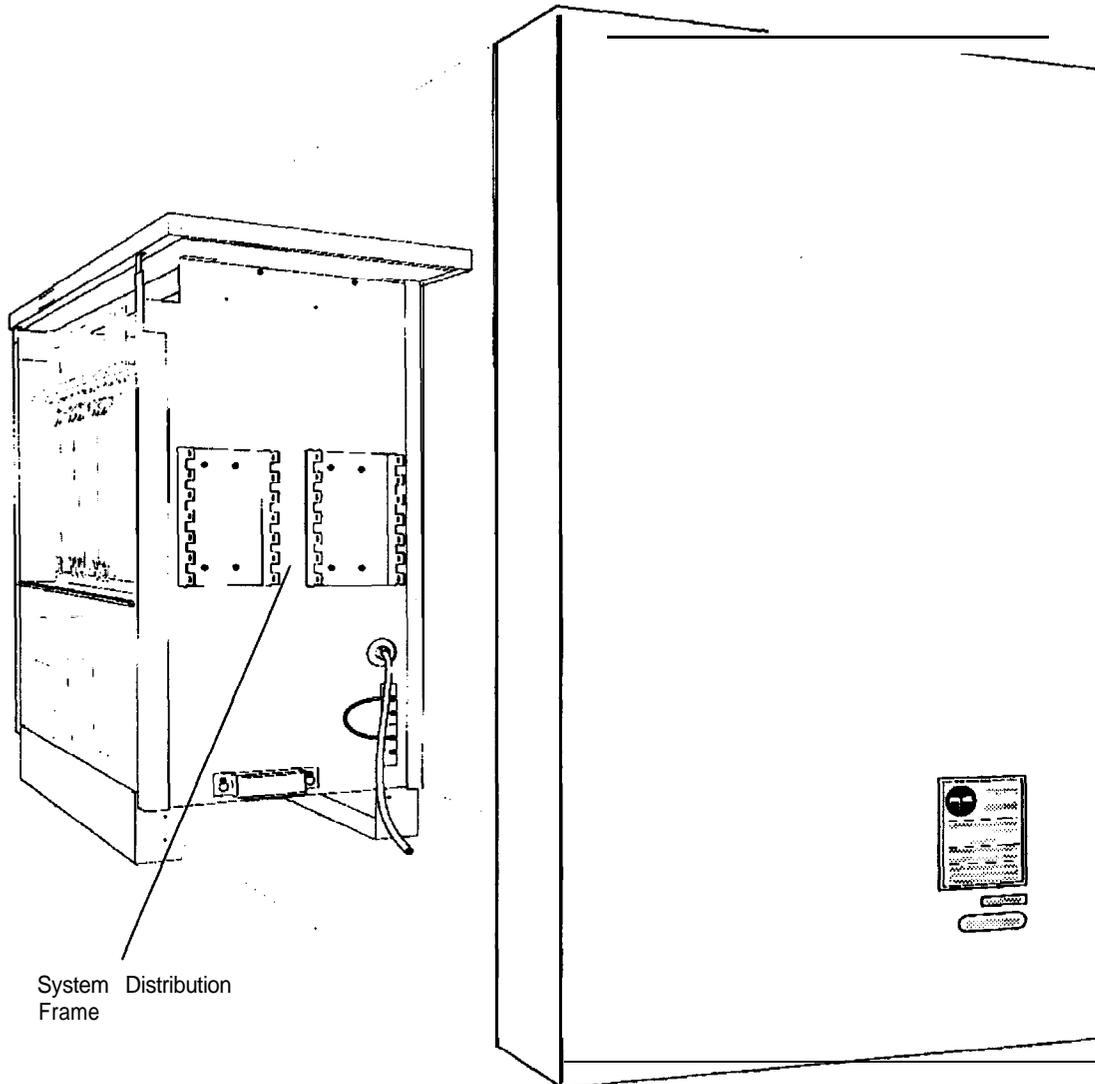
SDF location
[IL24]

Keystations

Wall Mounting

To mount a keystation on the wall:-

- Obtain a wall mounting kit. (WMK-E 546/21) and modular socket (MS-E-SMK 546/23 or MS-E-SMA 546124).

- Remove the centre cut-out of the wall mounting bracket.

. Remove and discard the modular socket cover and fix the socket to the wall.

- Place the wall mounting bracket over the modular socket and fasten to the wall using four screws.
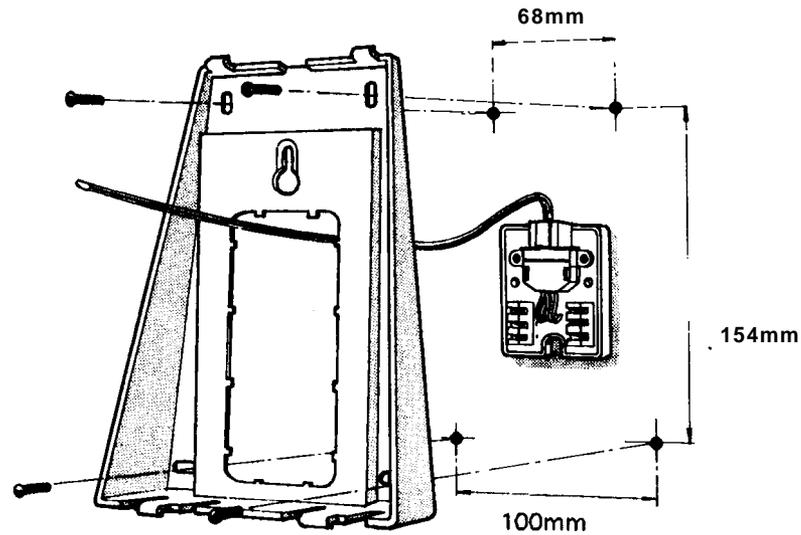
Wall mounting of keystations
[IL25]

·   Terminate the keystation wiring on the terminal block.

TERMINAL	COLOUR
1	
2	
3	BLUE
4	WHITE
5	
6	
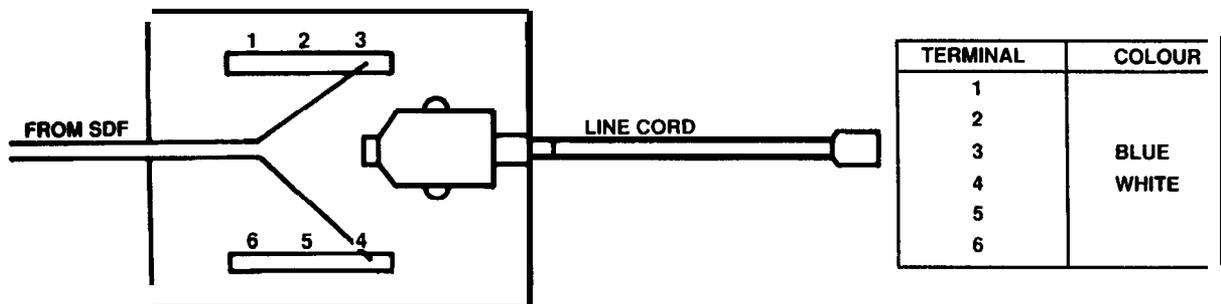
Wall mounting connection
[IL26]

•   Hold down the switch-hook and slide out the handset rest. Rotate and
         re-insert the handset rest.
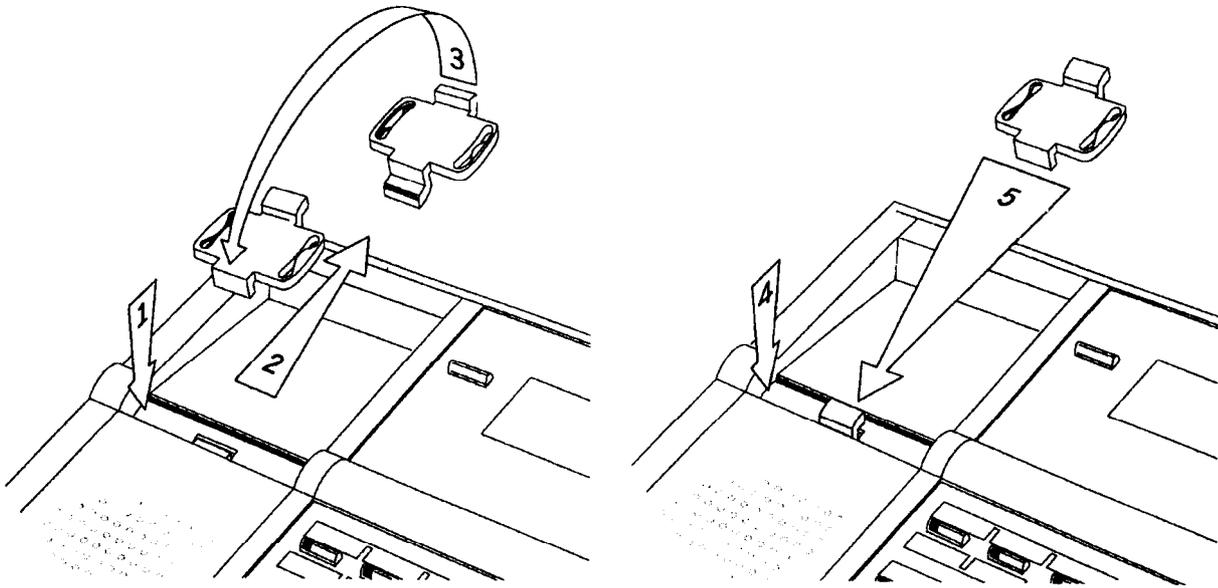
Installing the handset rest
[IL27]

·   Connect the short line cord between the socket and the top of the keystation.

·   Clip the keystation into the wall mounting bracket.
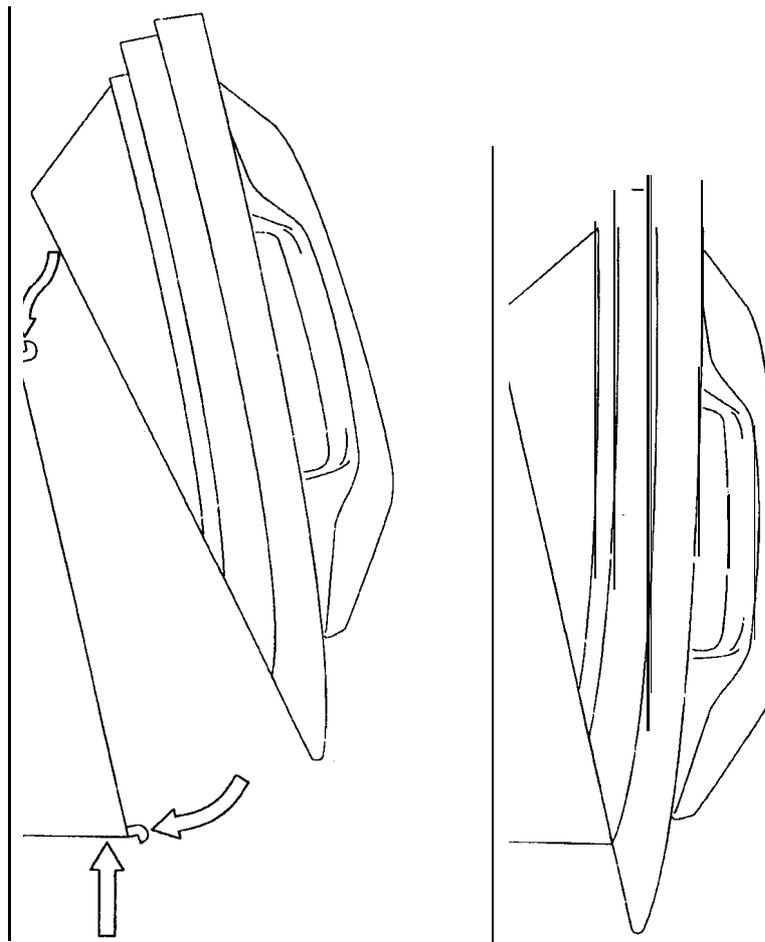
Wall mounting the keystation
[IL28]

Door stations (DS–BN)

To mount a door station:–

•   Obtain a Commander BN door station. (Serial/Item No. **338/860)**

·   Remove the base of the door station.

·   Attach the base to the wall using the two screws provided. Do not over-tighten the screws.

85mm
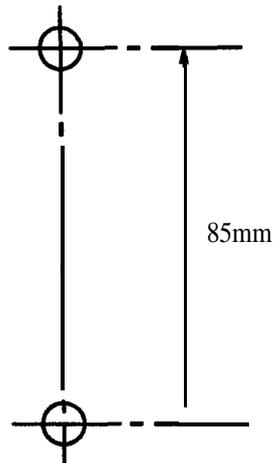
Wall mounting dimensions for door stations [IL29]

•   Pass the cable through the base using the cable entry at the bottom right hand comer of the base.

•   Terminate the cable in the door station.

WIRE DESIGNATION	WIRE COLOUR	DESIGNATION IN DOOR STATION
+Ve -Ve	Red Black	R C

Table 1 – Door station termination

·   Attach the cover to the base of the door station.

Internal cabinet cabling and terminations

Main Equipment

Main Power Supply (PS–D–A)

Connect the cables:-

.   Plug mains cord, from the switchbox, into the socket marked "AC INPUT" in the centre of the power supply.

.   Fit the 4-way connector, from the switchbox, into the socket marked "BATTERY INPUT" at the top left hand corner of the Main Power Supply.

.   Fit the 9–way connector, supplied with the Main Equipment with red cables pre-terminated, into the socket marked "DC OUTPUTS", on the bottom left corner of the power supply. Plug the connector fitted to the other end of this cable into the socket marked "CN1" and "CN2" on the backplane of the main motherboard.
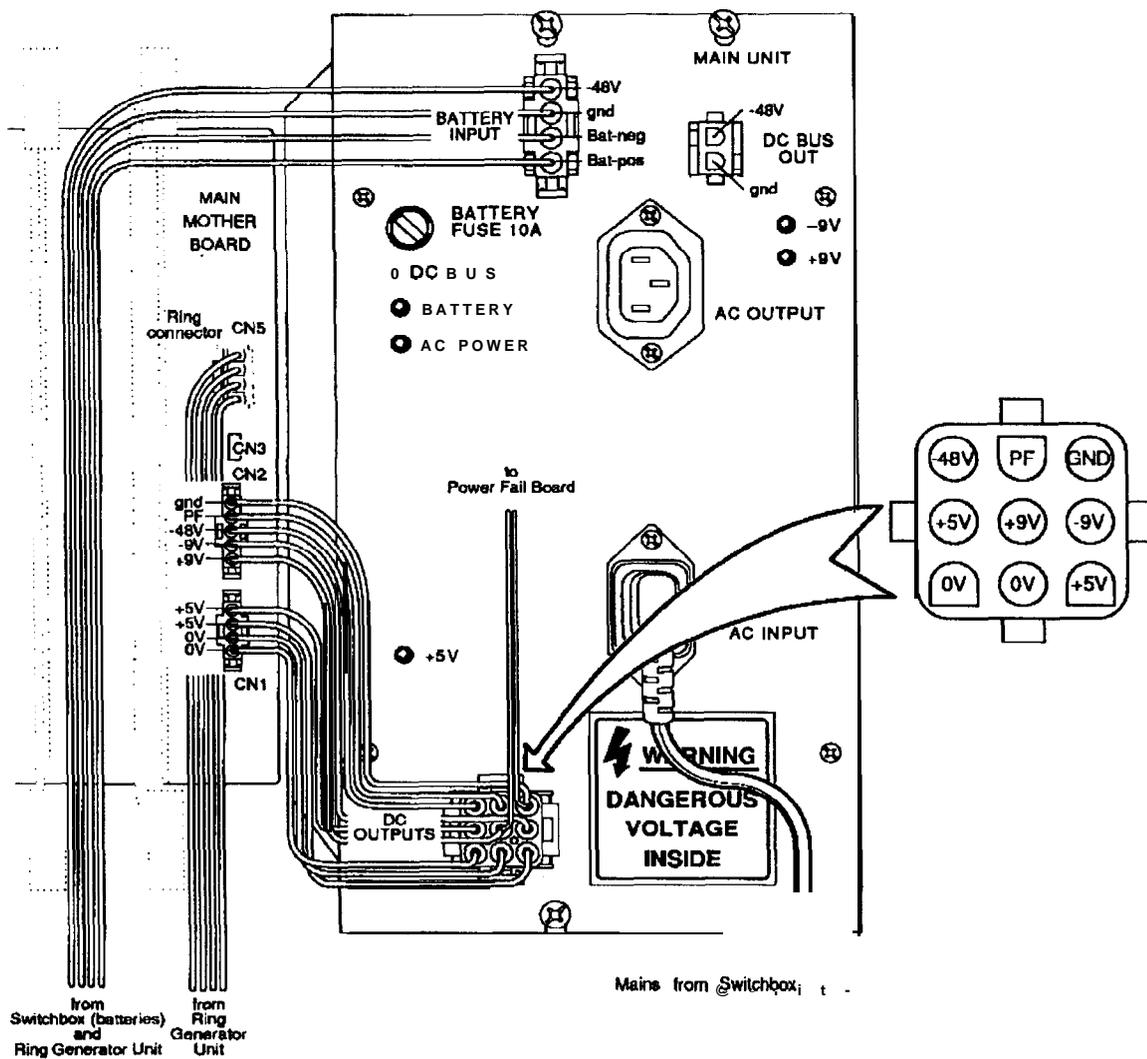
Main Power Supply cable connections
[IL30]

**Ring Generator Unit
(RGU–D–A)**

NOTE: The connections to the RGU *must* be carried out in the order set out below. This is to prevent the possibility of current drain, by a non-operational RGU, causing damage to the system.

Connect the cables:-

. Fit the mains cord, from the switchbox, into the socket marked "AC IN", located on the right of the Ring Generator Unit.

. Plug the 2-way connector from "BATTERY INPUT" on the Main Power Supply, into the socket marked "DC IN" on the left of the Ring Generator Unit.

. Plug the output cable into the socket marked "CN5" on the system motherboard.
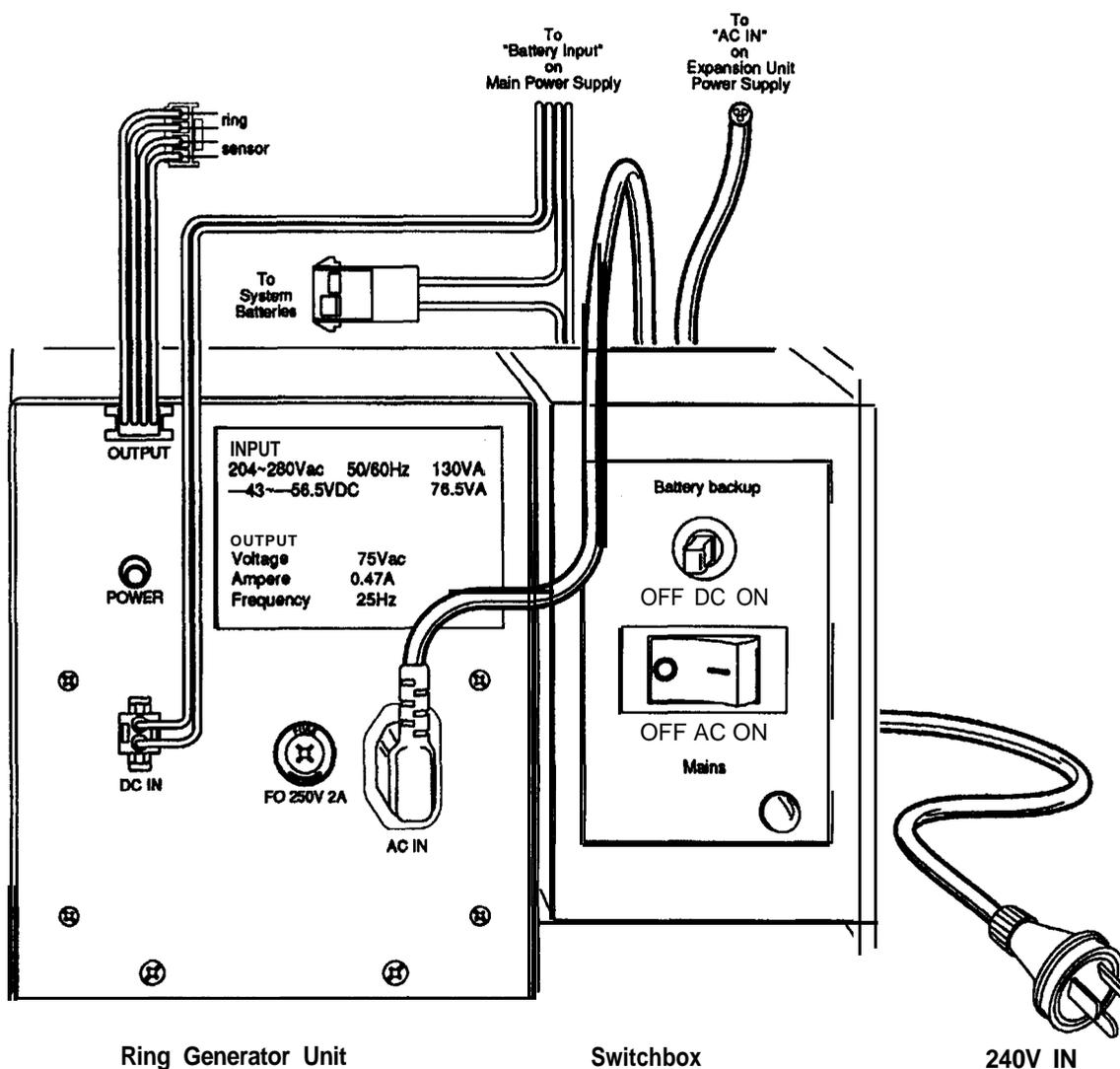
Ring Generator Unit cable connections
[IL3 1]

System Batteries

Internal Batteries
(BBUM–D–A *or*
BBUL-D-A)

Battery Back-Up Medium (4 x 6.5 AH) BBUM-D-A uses Battery Cable Set-Medium. (BCSM-D-A) as shown in IL32. Battery Back-Up Large (4 x **15/17** AH) BBUL-D-A uses Battery Cable Set-Large (BCSL-D-A) which is compatible with the larger terminals on the BBUL-D-A batteries. The appropriate cable set is supplied inside the Main Equipment for pre-configured systems.

Connect the following cables:

Terminate the red and grey leads attached to the two way connector:

·   RED   to the positive **(+)** terminal of the first battery.

·   GREY to the negative (-) terminal of the last battery.

Connect the remaining grey leads from the negative (-) terminal of one battery to the positive (+) terminal of the next battery and so on, until all terminals have been connected.

Plug the connector, now fitted to the batteries, into the connector joined to the leads coming from the socket marked "BATTERY INPUT" on the Main Power Supply.

WARNING

Only Telecom approved sealed batteries should be fitted

48V Battery Set (4 x 12V)

To 'Battery Input"
on **Main Power Supply**

Grey

Red

Battery backup

OFF DC ON

OFF AC ON
Mains

Switchbox   240V
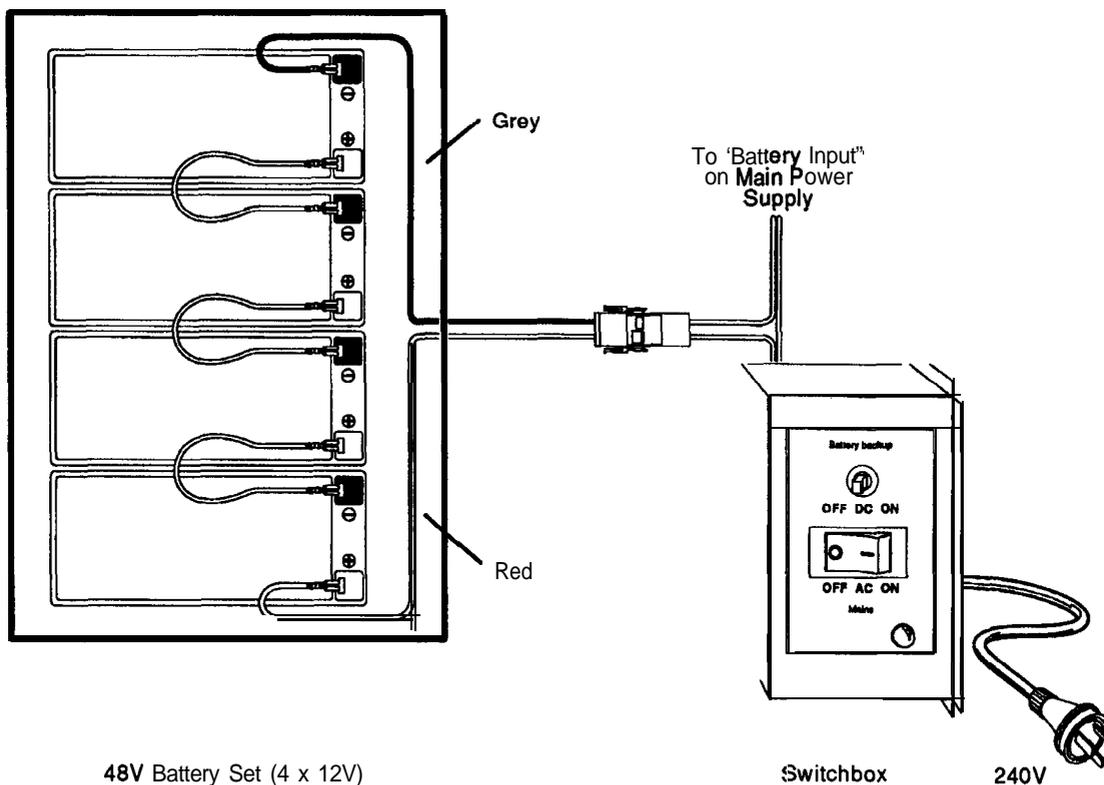
System Battery connections (BBUM-D-A)
[IL32]

External Batteries

Systems which require a greater battery capacity than can be supplied by the internal batteries can have external batteries connected. External batteries must **use** an external charger, as the internal charger does not supply the required **current** to charge these larger batteries. Both batteries and charger must be installed in accordance with the appopriate Australian standards.

NOTE: The external battery voltage must be 48V.

External batteries are connected in place of the internal batteries and the internal charger *must* be disabled.

To disable the internal charger locate the window in the rear cover of the main power supply and switch the internal charger switch to the OFF position. The internal battery charger will now be disabled.

To connect the external batteries:

•   Connect the external batteries as described under the previous heading "Internal Batteries".

•   Ensure that the polarity of the connections is correct.

NOTE: A special, locally **sourced** battery cable set will be required to connect external batteries.

**Window in Main Power
Supply rear cover**
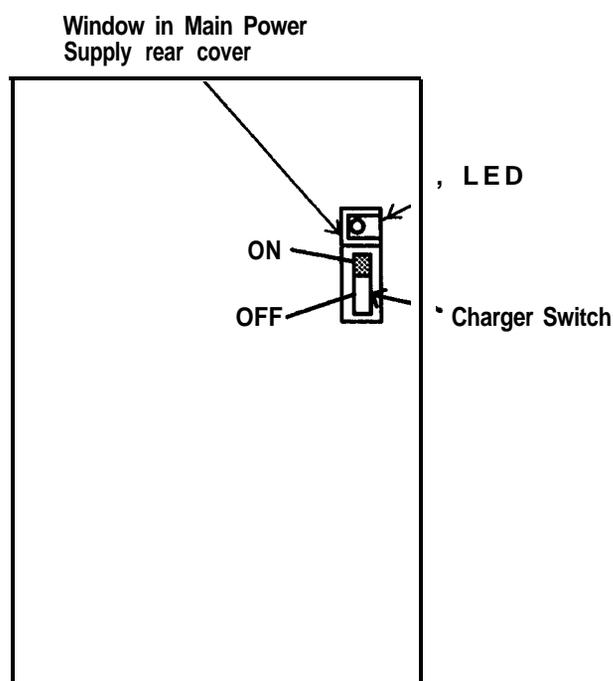
**Internal Battery Charger switch location
[IL33]**

Expansion Cabinet(s)

Expansion *Power Supply*
(EPS–D–A)

To connect the cables:

- Plug the short power cord, supplied with the Expansion Power Supply, into the socket marked "AC IN". Connect the other end of this cord into the socket marked "AC OUT" on the Power Supply in the cabinet immediately below the one being installed.

- Connect the two-way connector into the socket marked "DC BUS IN" of the power supply being installed and the other end into the socket marked "DC BUS OUT" on the Power Supply in the cabinet immediately below.

- Fit the nine way connector into the socket marked "DC OUTPUTS" and plug the other end into the connector marked **"CN4"** on the backplane of the expansion motherboard.
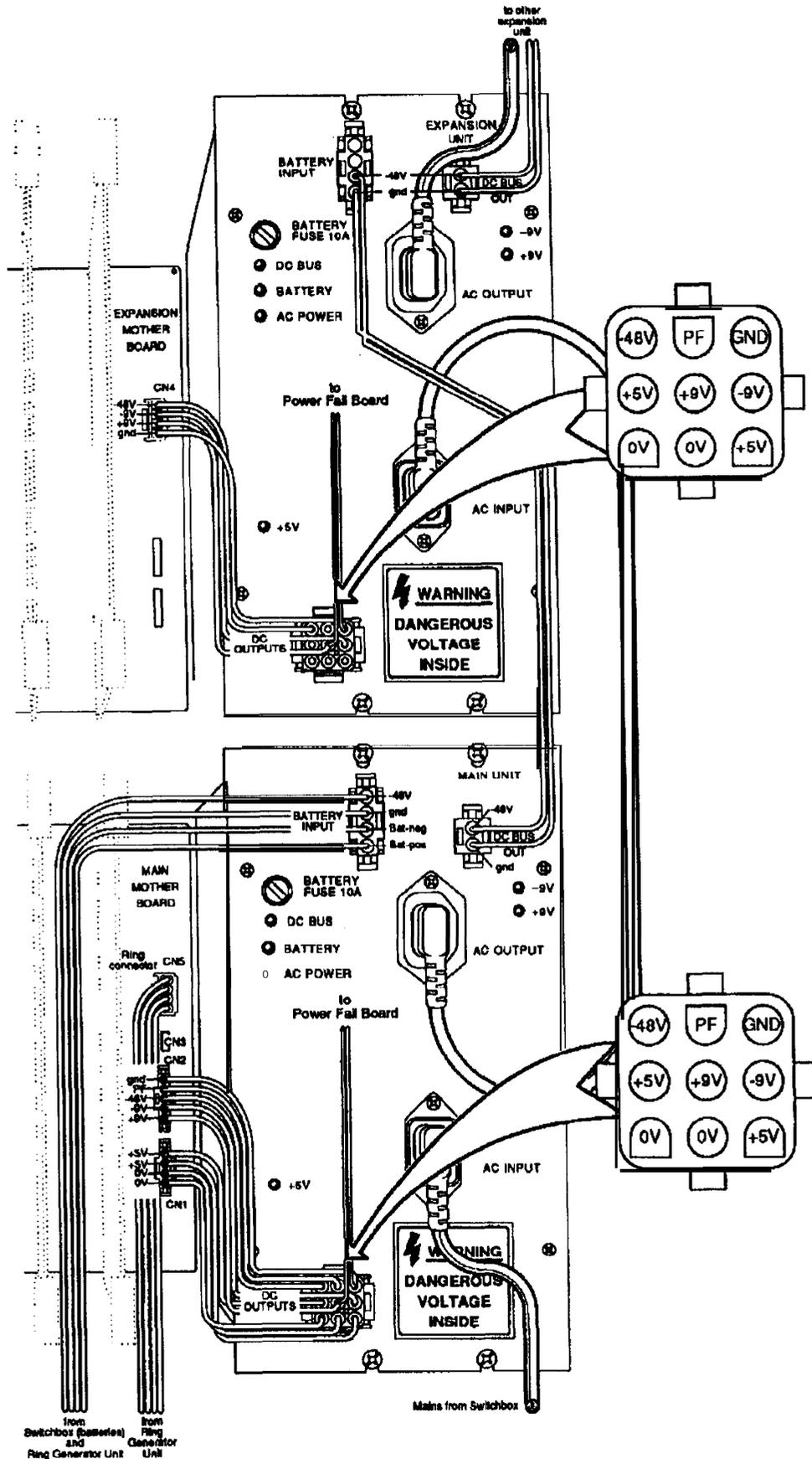
Expansion Power Supply connections
[IL34]

System earthing

Four terminals are provided for the earthing of the Telecom Commander D. These terminals are located under the SDF on the Main Equipment cabinet.

They are designated as follows:

- PE
- SURGE
- o v
- TRC

The internal connection of these terminals is as follows:

- The PE (Protective Earth) terminal is connected to the equipment chassis. The chassis is connected to the 240V mains earth via the three core mains cable when plugged into a 240V GPO.

- The SURGE terminal is connected to the exchange lines via MOV devices mounted on the Filter Units.

- The OV (OV or signal ground) terminal is connected to the 0 volt output of the Main Equipment power supply unit.

- The TRC (Telecommunications Reference Conductor) terminal is connected to the PBA motherboard for use by miscellaneous facilities.

The following connections are to be carried out at installation:

- The OV terminal is to be connected to the PE terminal (BLACK). (This connection may be pre-fitted).

- The SURGE terminal *must* be connected to the PE terminal (Green/Yellow). This connection *must* be made, and the mains cord plugged into the *GPO (not turned on),* before any exchange lines are connected to the system. (This connection may be pm-fitted)

WARNING: The equipment must be protected from possible surges of current down connected exchange lines. This may be done in one (or both) of the following ways:

    1.   Plug the mains cord into the Power Outlet (GPO), ensuring that the outlet is switched off. System surge protection is via the Mains earth of the GPO.

    2.   Isolate the exchange lines from the system. This may be done at the MDF, or alternately by removing all the Filter Unit plugs inserted into each FUEL-D-A, FUEL-D-B, FUEL-D-C, FUCPU-D-A and FUCPU-D-B .

System Distribution Frame cabling

All system cabling, except the 240V AC power and the 48 V power supply, terminates on the System Distribution Frame (SDF). The SDF is located on the right hand side of the Main Equipment and each associated Expansion Cabinet and may comprise up to 14 Krone blocks. The Krone blocks are used for the connection of the required exchange lines and terminal equipment, these connections are made from the bottom of each block. Connection to the system is made from the top of each Krone block.

Being a "Flexible Port System", there are no fixed Krone block allocations for the SDF, the allocations being dependant upon the number and type of PBAs installed. Generally, the exchange lines will appear on the bottom blocks of the left hand side Krone strips on the associated SDF and the connections to the external music sources will appear on the first 4 pairs of block 7 on the Main Equipment SDF. The station connections will generally be on the right hand Krone strips of the assoicated SDF.

Each Telecom Commander D will be delivered in one of two formats, either as a pre-configured system, or a non-configured system.

The pre-configured system will have the SDF installed and be delivered with a set of Hardware Configuration Sheets detailing the allocation of the Krone blocks on the SDF. The type of PBA to be inserted and its position in the system will also be indicated.

Typical SDF layout
[IL35]

Inputs to
CPU–D–A

| W | B | W | O | W | G | W | Bn | | | | | | | | | | V | A | C | A | N | T | | |

EXMOH EXCNT BGM NTMOD

Door stations and
External paging
to DSEPB CN1

| + | – | W | O | AMP +,G | | | | | AMP +,– | B/ | + | B/ | | B/ | | | | | | V | A | C | A | N | T | | |
| W | B | | | W | W | Bn | W | G | W W | W O | W G | | | | | | | | | | | | | | | |

Door   Door   Ext   Ext   Door   Door
Stn 1 Relay 1 Page   Page   Stn 2 Relay 2
              Zone 1   Zone 2

| | | | | | V | A | C | A | N | T | | | | | | | | V | A | C | A | N | T | | |

| | | | | | V | A | C | A | N | T | | |

Single line
(analogue) stations
to ASB–1
STN

| W | B | W | O | W | G | W | Bn | W | Gy | W W | W O | B/ W | B/ O | W | B/ G | | |

Port   Port   Port
25   26   32

ISDN Macrolink
to IPRB–1

| W | B | W | O | W | G | W | Bn | | | | | | | | | | | | |

Tx   Rx

Digital stations
to DSB–2
STN

| W | B | W | O | W | G | W | Bn | W | Gy | W W | W O | B/ W | B/ O | W | B/ G | | |

Port   Port   Port
17   18   24

Exchange lines
to ELB–2
Exch
Line

| W | B | W | O | W | G | W | Bn | | | | | | | | | |

Port   Port   Port   Port
9   10   11   12

ELB–2

Digital stations
to DSB–1
STN

| W | B | W | O | W | G | W | Br | W | Gy | W W | W O | B/ W | B/ O | W | B/ G | | |

Port   Port   Port
9   10   16

Exchange lines
to ELB–1

| W | B | W | O | W | G | W | Bn | W | B | W | O | W | G | W | Bn | | | | |

Block 1

Port Port Port Port Port Port Port Port
1   2   3   4   5   6   7   8

Digital stations
to DSB–1
STN

| W | B | W | O | W | G | W | Bn | W | Gy | W W | W O | B/ W | B/ O | W | B/ G | | |

Port   Port   Port
1   2   8

System Hardware configuration

The Telecom Commander D may be delivered in one of two formats: pre-configured, in which case the SDF and PBA allocations will already be defined, or non-configured, where the installing technician must determine these allocations.

In both cases, it is necessary to have a set of Hardware Configuration Sheets, detailing the SDF and PBA allocations and the order of the PBA insertion, before installation can commence.

COMMANDER D 128 HARDWARE CONFIGURATION SHEET

Customer: _____   System Order No: _____

_____   Date: _____

Filter Unit
Position   1   2   3   4   5   6   7   6   9

| F U S / B | F U S / B | F U E L / B | F U E L / B | F U S / C | F U E L / C | * | * | F U S / C CN1 |

PFB-D-A (if fitted)

| ELB/B #3 |

To Exchange Lines

Expansion Cabinet #1

| D S B / B # 3 | D S B / B # 4 | E L B / B # 3 | I B R S B / A # 1 | D S B / C # 5 | E L B / C # 4 | * | * | D S E P B / A |

To Powerfail SLT's

DSEPB–CN1 Door/Page		DSB/B #5
IBRSB/A #1	DSB/B #4
ELB/C #4	DSB/B #4
	DSB/B #3
	DSB/B #3

PBA
Position   6   9   10   11   12   13   14   15   16

Filter Unit
Position   1   2   3   4   5   6   7   6   9

| F U C P U / B | * | F U S / B | F U S / B | F U E L / B | F U E L / B | F U C P U / B | F U S / C | * |

PFB-D-A (if fitted)

| ELB/B #2 |

To Exchange Lines

Main Equipment

| C P U I A | D S B / B # 1 | D S B / B # 2 | E L B / B # 1 | E L B / B # 2 | I P R B / A # 1 | A S B / A # 1 | C D B I 4 |

To Powerfail SLT's

C P U (EXMOH/BGM)		
	ASB/A #1
	DSB/B #2
	DSB/B #2
IPRB/A #1	DSB/B #1
ELB/B #1	DSB/B #1

PBA
Position   CPU   1   2   3   4   5   6   7

*Unused

Typical Hardware Configuration Sheet
[IL36]

NOTE: This typical Hardware Configuration sheet does **not** relate to the typical SDF layout on the previous page.

Pre–configured system.

For the majority of Telecom Commander D installations, the system will be configured to each customer's specific needs before delivery.

A pre-configured system will be delivered with 3 pre-programmed system disks, each containing the system program and the customer's site-dependant data. The disks are delivered in a plastic pocket inside the System Administration Manual. The appropriate Filter Units will be installed and pre-cabled to the SDF on the side of the cabinet (refer to System Initialisation on Page 5 – 57).

IMPORTANT

A pre-configured system disk will have the customer's order number printed on the disk label.

Write the customer's name on the disk label.

A set of Hardware Configuration Sheets is supplied with each system. These provide details of the system PBA and SDF allocations. These sheets are used to indicate the position in the system that each PBA is installed, and the type of ports and/or equipment connections that appear on each block installed on the SDF. *It is imperative* that the **PBAs,** fitted later in the installation of the system, are inserted in the positions shown on these sheets, or the system will not work.

Non-configured system

For a system that is not delivered pre-configured, the system hardware configuration will need to be established, on site, in accordance with the customer System Order Forms.

For a non-configured system, the location of the associated hardware will need to be determined. The connection to each PBA will appear on the SDF on the right hand side of the equipment cabinet in which the board is installed. The blank Hardware Configuration sheets provided with the system should be completed.

When configuring a system:

- There must *not* be more than 32 digital stations connected to the Main Equipment. (This is a power supply capacity limitation)

- There must *not* be more than 64 digital stations connected in any one of the Expansion Cabinets. (This is a power supply capacity limitation)

- The external connections to the CPU board are to appear on block 7 of the Main Equipment SDF (left hand Krone strips).

- As a general rule, the exchange lines are to appear on the lower blocks on the left hand side of the associated SDF. The keystations and then any single line telephones should appear on the lower blocks on the right hand side of the SDF.

- The system **PBAs** may be positioned anywhere in the cabinet's equipment shelf, with the following exceptions:

    - The CPU *must* be positioned in the Main Equipment, in the slot marked "CPU".

    - A Digital Station Board (DSB) *must* be inserted in slot 1 of the Main Equipment.

- As each station board (DSB/ASB) is inserted, the system will allocate *consecutive* station port numbers. Be careful of the order in which the DSB and ASB are inserted, as the system port allocations may not reflect the port allocations defined on the customer System Order Forms.

  NOTE: Consecutive ports are assigned to each DSB and ASB as they are inserted. If a keystation is connected to a single line telephone port, or vice versa, the station will not work.

- Indicate the order in which each PBA should be inserted into the system on the Hardware Configuration sheets.

Filter Units

The Filter Units filter any spurious signals that may be entering or leaving the system via the connections to the external equipment. They connect between the system **PBAs,** via the ribbon cable supplied, and the SDF, via the appropriate SDF – Filter Unit cable.

A pre-configured system will be delivered with the filter units and associated cables installed and connected. If the system is supplied non-configured, the SDF-Filter Unit cables will also be supplied but not fitted. These cables may also be made on-site, if the pre-made cables are unavailable.

The Filter Units are to be mounted above the system **PBAs.** The appropriate Filter Unit is fitted into the slot above the PBA that it is to be connected and fixed into position with the screw provided.

The cables for connection between the Filter Units and the SDF must be obtained and positioned on the SDF in accordance with the Hardware Configuration sheets.
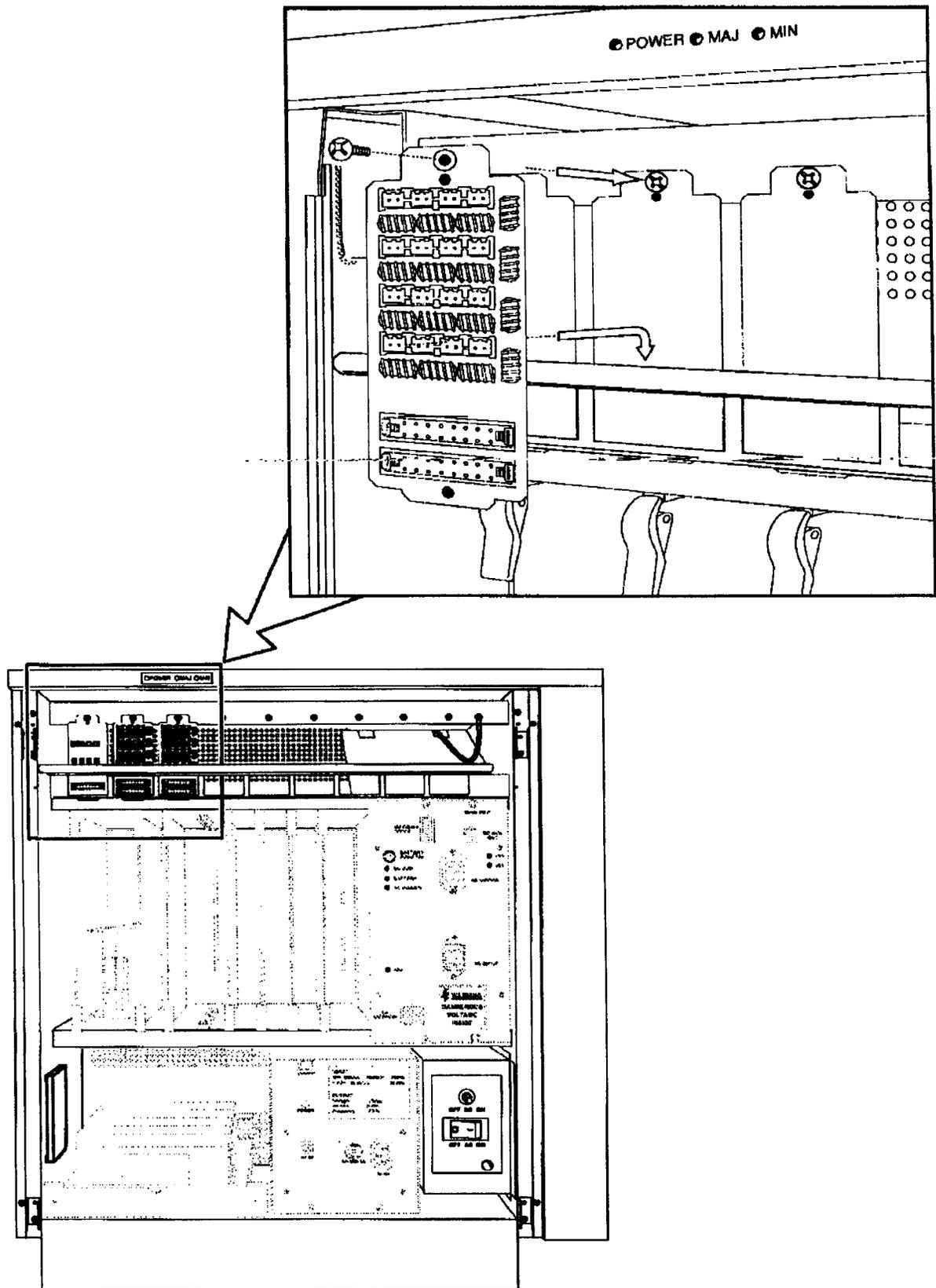
Filter Unit location
[IL37]

SDF – Filter Unit cables

The following SDF – Filter Unit cables are available:-

- SDF to Filter Cable **(SDF/FU8)**.

- SDF to Filter Unit 2x4 pr **(SDF/FU2x4)**.

- SDF to Filter Unit 1x4 pr **(SDF/FU4)**.

The **SDF/FU8** cable is required for the connection between the filter units for stations (FUS), the filter unit for exchange lines (FUEL-D-B) and the SDF. This is required for the filtering of keystations, single line telephones, paging units and exchange lines to their associated boards. Two **SDF/FU8's** are required for each FUS-D-B (16 ccts).

The **SDF/FU2x4** cable is used for the connection between the SDF and the filter units, FUEL-D-A/C, for the filtering of exchange lines connected to the Exchange Line Board (ELB-D-A). One cable connects up to two filter units.

The **SDF/FU4** cable is required for the connection between the SDF and the CPU filter units (FUCPU-D-A/B) for the filtering of the external device connections to the CPU. This cable is also required for the connection to the filter units FUCPU-D-A/B (or FUEL-D-A) when used for the filtering of ISDN connections to the ISDN Boards (IBRSB, IPRB).

SDF – Filter Unit cable
construction

if the SDF – Filter Unit cables are required to be made they can be constructed on-site by following the procedure detailed below:

SDF/FU4–D–A Use a 6 pair cable and terminate a Filter Unit plug (refer to **Filter Unit Plug Termination** on Page 5 – 37) on each of the first four pairs. The unused wires may be trimmed off. Terminate the other end of this cable on the first four pairs of Block 10 on the Main Equipment SDF.

NOTE: . Test the pairs of each cable for continuity, between the Filter Unit plug and the Krone block, before using for the first time.

• Fit the Krone block onto the SDF in the position previously allocated on the Hardware Configuration Sheet (refer non-configured system Page 5 – 29.

• Connect the Filter Unit plugs into the Filter Unit associated with the PBA that the Krone block has been allocated to.

KRONE BLOCK CONNECTION FOR EXTERNAL CPU CONNECTIONS – FUCPU-D-A FILTER (MOH/BGM)

*Total cable length from **DDK** connector to the Krone block is 1 m.

Krone layout **for CPU Filter Unit connection** **[IL38]**
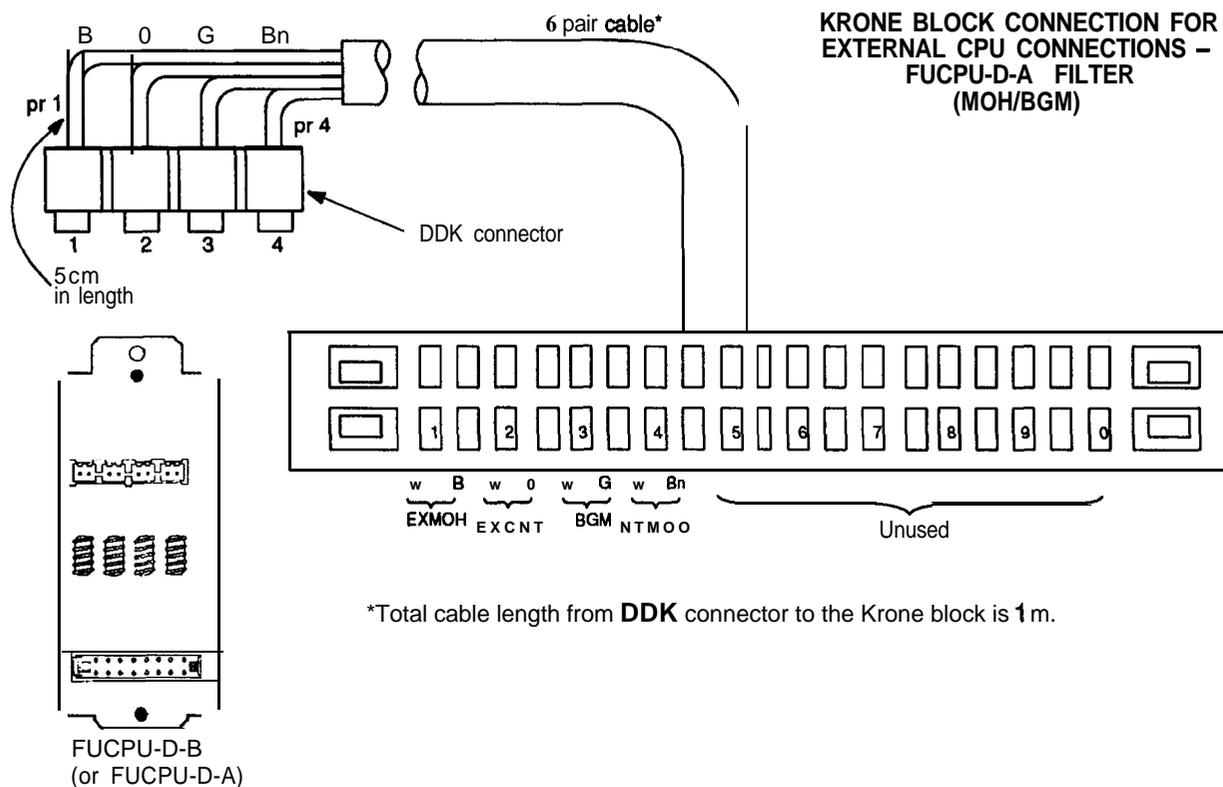
SDF/FU2x4–D–A Use a 6 pair cable and terminate a Filter Unit plug (refer to **Filter Unit Plug Termination** on Page 5 – 37) on each of the first four pairs, the remaining wires may be trimmed off. Terminate the other end of this cable on the first four pairs of the chosen block. If a second exchange line board is required, a separate cable is run for its Filter Unit and is terminated on pairs 5 – 8 on the same block.

NOTE: .   Test the pairs of each cable for continuity, between the Filter Unit plug and the Krone block, before using for the first time.

       •   Fit the Krone block onto the SDF frame in the position previously allocated (refer non-configured system/hardware configuration).

       •   Connect the Filter Unit plugs into the Filter Unit associated with the PBA that the Krone block has been allocated to.

KRONE BLOCK CONNECTION FOR EXCHANGE LINE – FUEL-D-C FILTER UNIT
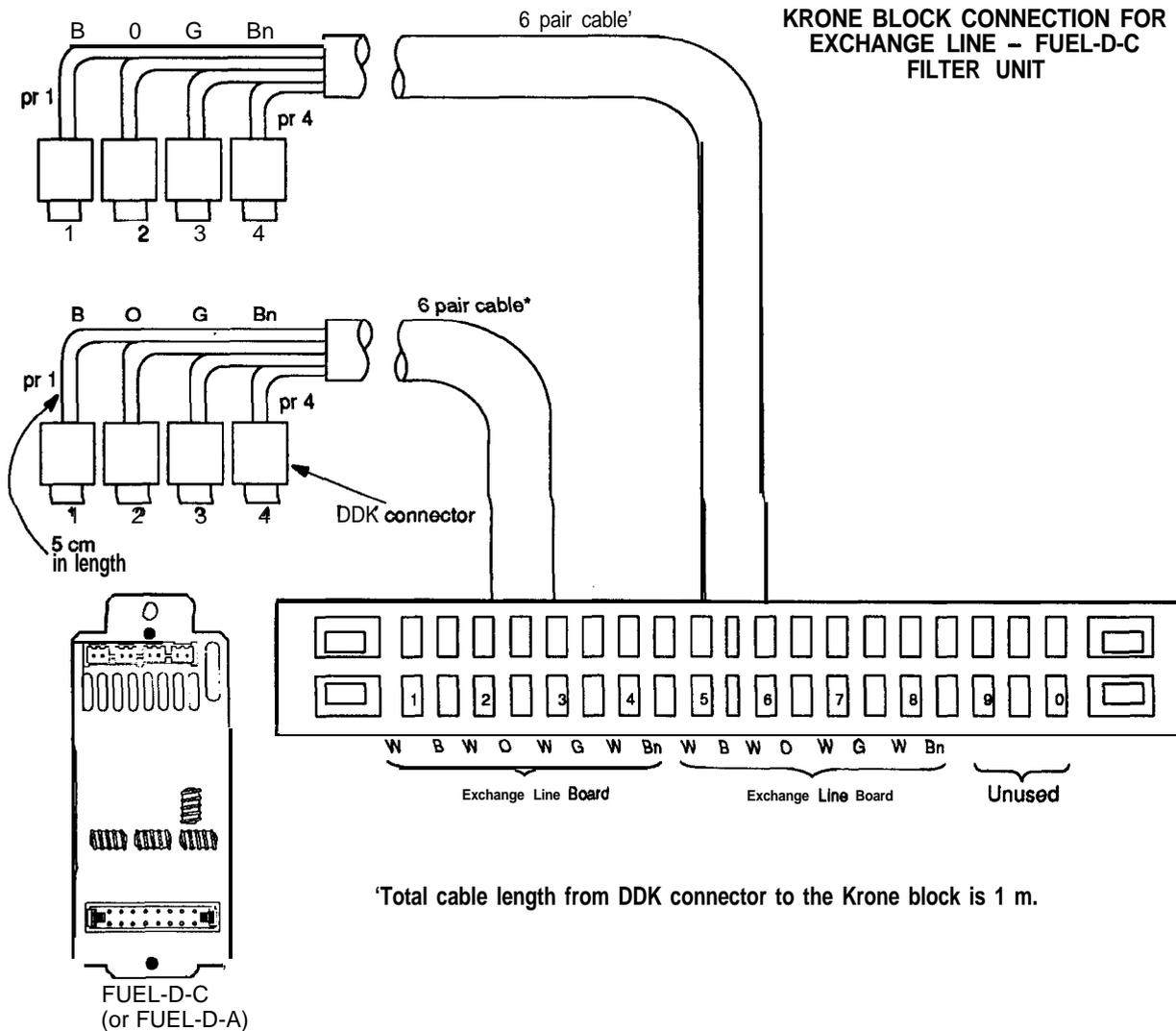
'Total cable length from DDK connector to the Krone block is 1 m.

Krone layout for ELB Filter Unit connection
[IL39]

SDF/FU8-D-A   A 10 pair cable is used for this Filter Unit connection. Terminate a Filter Unit plug (refer to **Filter Unit Plug Termination** on Page 5 – 37) on each of the first eight pairs. The unused wires may be trimmed off. The other end of this cable is terminated on the first 8 pairs of the allocated block.

NOTE: .   Test the pairs of each cable for continuity, between the Filter Unit plug and the Krone block, before using for the first time.

•   Fit the Krone block onto the SDF frame in the position previously allocated (refer non-configured system/hardware configuration).

•   Connect the Filter Unit plugs into the Filter Unit associated with the PBA that the Krone block has been allocated to.

```
KRONE BLOCK CONNECTION FOR:
    EXCHANGE LINE                                               -- FUEL-D-B
    DIGITAL/ANALOG STATIONS                                     -- FUS-D-B/C FILTER UNIT
    EXTERNAL PAGING, ALARM/FAX SENSORS, DOOR STATIONS  -- FUS--D--B/C-- FILTER UNIT
```


'Total **cable length from DDK connector to the Krone block is 1 m.**
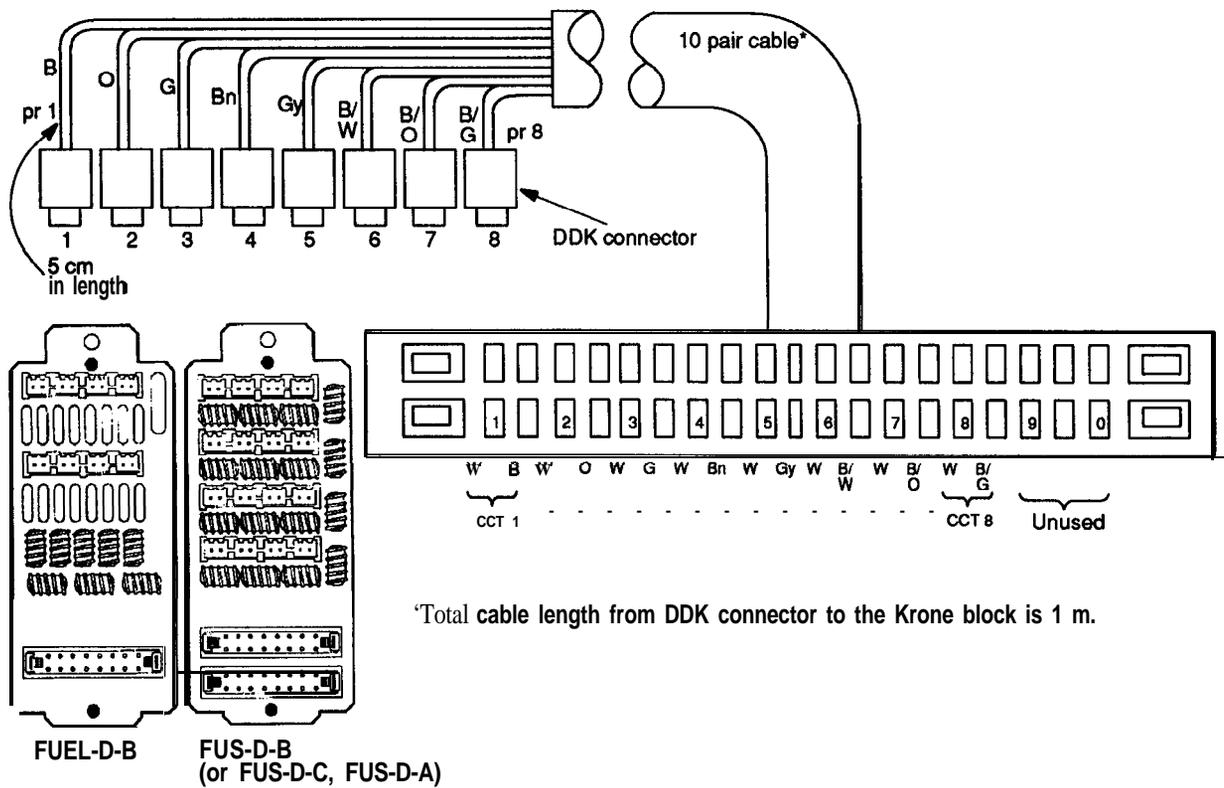
Krone layout for station Filter Unit connection
[IL40]

FILTER UNIT NAME (OR POWERFAIL BOARD)	FUNCTION (OR CONNECTION)		FILTERUNITCONNECTION																
			1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
FUCPU–D–A FUCPU–D–B	SDF-CPU	CONNECTION	EXMOH		EXCNT		BGM		NTMOD									
FUEL–D–A FUEL–D–C	SDF–ELB–D–A SDF–ELB–D–C	PCB INDICATION	C01		C02		C03		C04									
		CONNECTION	T	R	T	R	T	R	T	R								
FUEL-D-B	SDF–ELB–D–B	PCB INDICATION	C01		C02		C03		C04		C05		C06		C07		C08	
		CONNECTION	T	R	T	R	T	R	T	R	T	R	T	R	T	R	T	R
FUS-D-A Fus-D-c	SDF–DSB–D–A SDF–ASB–D–A SDF–DSB–D–C	PCB INDICATION	TEL1		TEL2		TEL3		TEL4		TEL5		TEL6		TEL7		TEL8	
		CONNECTION	T	R	T	R	T	R	T	R	T	R	T	R	T	R	T	R
FUS–D–B	SDF–DSB–D–B	PCB INDICATION	TEL1/ TEL9		TEL2/ TEL10		TEL3/ TEL11		TEL4/ TEL12		TEL5/ TEL13		TEL6/ TEL14		TEL7/ TEL15		TEL8/ TEL16	
		CONNECTION	T	R	T	R	T	R	T	R	T	R	T	R	T	R	T	R
FUS-D-A Fus-D-c	SDF–DSEPB–D–A CN1 (See Note 1)	PCB INDICATION	TEL1		TEL2		TEL3		TEL4		TEL5		TEL6		TEL7		TEL8	
		CONNECTION	+	–	DOOR RELAY		+	–	DOOR RELAY		+	–	DOOR RELAY		+	–	DOOR RELAY	
			DOOR/AMP				DOOR/AMP				DOOR/AMP				DOOR/AMP			
FUS–D–A FUS–D–C	SDFDSEPB-DA CN2 (See Note 1)	PCB INDICATION	TEL1		TEL2		TEL3		TEL4		TEL5		TEL6		TEL7		TEL8	
		CONNECTION	ALARM 1		ALARM2		ALARM3		ALARM4		FAX1		FAX2		FAX3		FAX4	
FUCPU–D–A FUCPU–D–B	SDF–IBRSB–D–A	PCB INDICATION	EXMOH		EXCNT		BGM		NTMOD									
		CONNECTION	T	X	R	X	T	X	R	X								
FUCPU–D–A FUCPU–D–B	SDF–IPRB–D–A	PCB INDICATION	EXMOH		EXCNT		BGM		NTMOD									
		CONNECTION	T	X	–	–	–	–	R	X								
PFB–D–A	PFB–D–A TO FUEL	PCB INDICATION	TRU1		TRU2		TRU3		TRU4		TRU5		TRU6		TRU7		TRU8	
		CONNECTION	T	R	T	R	T	R	T	R	T	R	T	R	T	R	T	R
	PFB–D–A TO EXCH LINE	PCB INDICATION	C01		C02		C03		C04		C05		C06		C07		C08	
		CONNECTION	T	R	T	R	T	R	T	R	T	R	T	R	T	R	T	R
	PFB–&A-P/F TO SLT	PCB INDICATION	TEL1		TEL2		TEL3		TEL4		TEL5		TEL6		TEL7		TEL8	
		CONNECTION	T	R	T	R	T	R	T	R	T	R	T	R	T	R	T	R

Table 2 – Filter Unit and Powerfail Board connections

NOTE 1: Where connections to both **CN1** and CN2 on a DSEPB-D-A are required then a single FUS-D-B (16 circuits) can be used.

Filter Unit plug *termination*

An appropriate number of individual insulation-displacement Filter Unit plugs will be supplied with each Filter Unit.

To connect the Filter Unit plugs:–

1. Obtain the correct size cable for the connection to each Filter Unit (refer to **SDF-Filter Unit Cables** on Page 5 – 32)

2. Strip the cable sheath, allowing a minimum of 5 centimetres of insulated conductor.

3. Insert the conductors into the two round holes marked "1" **& "2"** at the rear of the plug.

    .   Hole 1 – White wire

    •   Hole 2 – Coloured wire

4. Press the section of the plug where the conductors are inserted into the body until it is flush with the edges.

NOTE: The Filter Unit plugs are the insulation-displacement type, so you do not need to strip the insulation on the conductors being fitted.

**Filter Unit plug termination
[IL41]**

Exchange lines

Exchange lines are connected to the Telecom Commander D via the SDF located on the side of the associated cabinet.

Terminate the exchange lines on the appropriate SDF block, as allocated on the Hardware Configuration sheets.

Program the required Exchange line data (Commands 0901-0911).

WARNING: The equipment must be protected from possible surges of current down connected exchange lines. This may be done in one (or both) of the following ways:

1. Plug the mains cord into the Power Outlet (GPO), ensuring that the outlet is switched off. System surge protection is via the Mains earth of the GPO.

2. Isolate the exchange lines from the system. This may be done at the MDF, or alternately by removing all the Filter Unit plugs inserted into each FUEL-D-A, FUEL-D-B, FUEL-D-C, FUCPU-D-A and FUCPU-D-B .

To ELB-D-A/C   To ELB-D-A/C

W	B	W	O	W	G	W	Bn	W	B	W	O	W	G	W	Bn				

    1   2   3   4

4 Exchange
line ports

To ELB-D-B

W	B	W	O	W	G	W	Bn	W	Gy	W	B/ W	W	B/ 0	W	B/ G			

   1   2   3   4   5   6   7   8

8 Exchange line ports
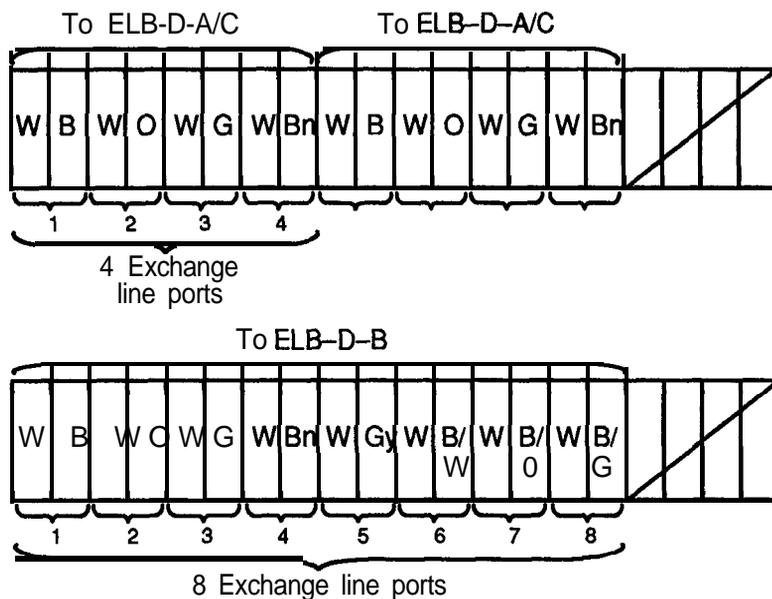
SDF – Exchange Line Terminations
[IL42]

NOTE: EXCHANGE LINE GAIN ADJUSTMENT. The send/receive
level for each exchange line can be adjusted to suit long lines.
This is done using Command 0901 (Trunk port type) and
changing the CODEC Gain type (Item 3). The gain is usually set
at Gain type 1 (Send = 0dB; receive 0dB). Gain type 2 (Send =
+5dB; receive +3dB) is used for long lines.

Keystations

Each keystation requires 2 wires for connection to the SDF. Usual
installation cabling practises should be adhered to, using 2 pair, 0.5mm wire
cable.

SDF	605/610 SOCKET	COLOUR
Wire	Pin 2	White
Wire	Pin 6	Blue

Table 3 – Keystation cabling terminations

Terminate the cable from each station to a station port on the SDF, as
allocated on the Hardware Configuration sheets.

To DSB

W	B	W	O	W	G	W	Bn	W	Gy	W	B/ W	W	B/ O	W	B/ G			

  1/9   2/10   3/11   4/12   5/13   6/14   7/15   8/16

8 Digital station
ports
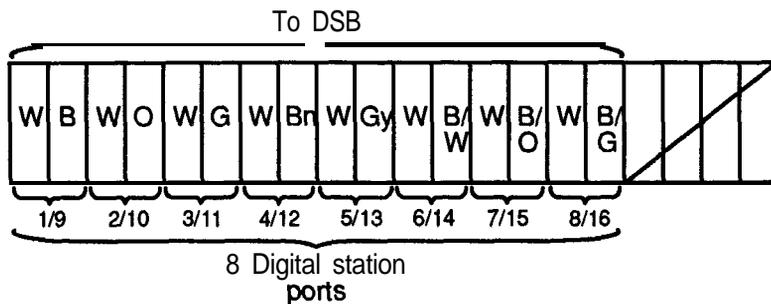
SDF – Keystation terminations
[IL43]

NOTE: The maximum distance permitted between the keystation and
the SDF is 600m if 0.5mm cable is used (400m if 0.4mm cable is
used).

Program the station for the required functions (Commands 1001-1012).

Single line (analogue) telephones

The system also caters for the connection of single line telephones (ie. standard analogue 2W telephones such as the Touchfone 200). These are cabled in the standard way, using 2 pair, **0.5mm** cable.

Both DTMF and decadic single line telephones can be used.

SDF	605/610 SOCKET	COLOUR
Wire	Pin 2	White
Wire	Pin 6	Blue

Table 4 – Single line (analogue) telephone terminations

NOTE: The maximum allowed distance between a single line telephone and the SDF is 4.2 km. However outside extensions (ODXs) connected via network cabling are NOT permitted due to the lack of a network isolation barrier on the Analogue Station Board (ASB-D-A). The need for a network isolation barrier between the Commander D and a network connected ODX is an AUSTEL safety requirement.

Terminate the cable from each single line telephone to a station port on the SDF, as allocated on the Hardware Configuration sheets.

To ASB
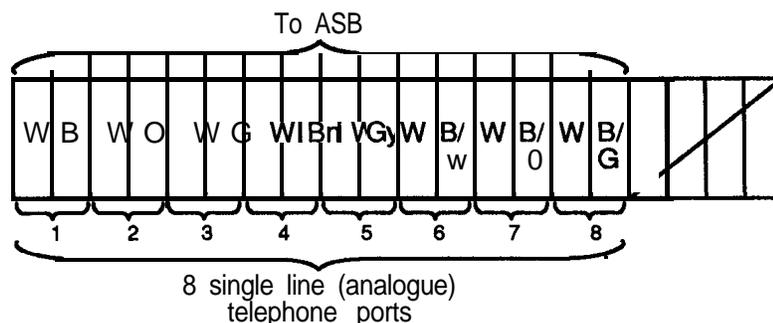
SDF – Single line telephone **terminations**
w-441

Program the station for the required functions (Commands 1001-12).

NOTE: In the case of a single line telephone without a recall button, the system hookflash times will need to be altered. This will enable the switch-hook to be used to generate the hookflash.

*Change Command 0116 MAX-Flash time from 36 **(180ms)** to* **199 (1000ms).**

DSS

DSS consoles are connected in conjunction with an Executive or Premium keystation. The keystation is cabled as standard and the DSS is connected to the socket marked "DSS" in the keystation via the cable supplied with the DSS console.
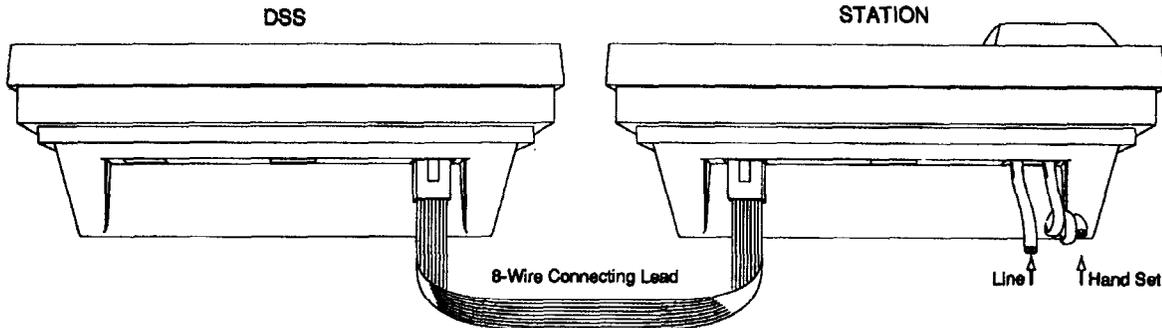
DSS to keystation connection
[IL45]

Set DSS operation parameters (Commands 1101 – 1104).

Door stations

When cabling from the SDF to the door stations take care that the door station(s) is correctly terminated and that the polarity of each wire is correct. The door station is polarity conscious and if it is terminated incorrectly, will not operate.

A maximum of 4 door stations can be supported by the system. Each door station generates a different ring pattern.

Door station cabling is as follows:

WIRE DESIGNATION	WIRE COLOUR	DESIGNATION IN DOOR STATION
+Ve	Red	R
-Ve	Black	C

Table 5 – Door station cabling

Terminate the cable from each door station to a door station port on the SDF, as allocated on the Hardware Configuration sheets.

NOTE: The cable from the Filter Unit (FUS-D-B/C) connects into the socket marked **"CN1"** on the Door Station and External Paging Board (DSEPB-D-A).

To DSEPB **CN1**

Door Relays

Door stations or
external paging amplifiers
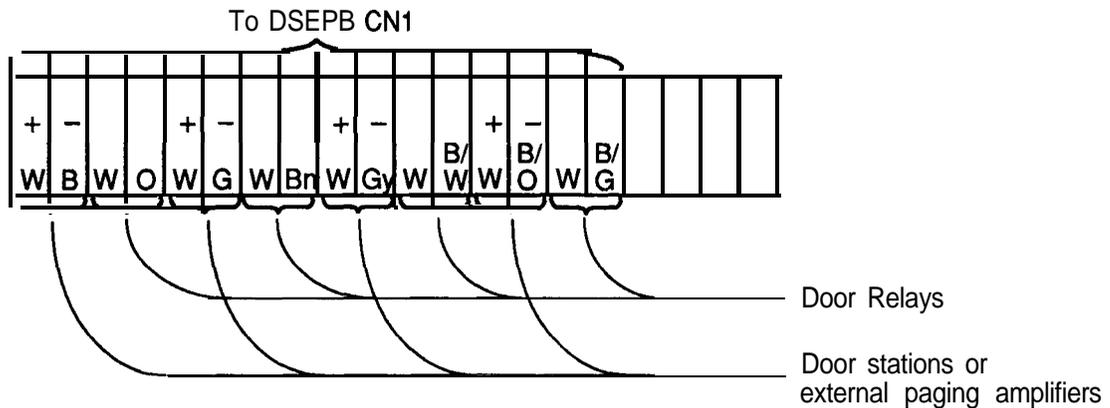
NOTE: Door station/door relay and external paging amplifier designation numbers will vary
according to their system programming.

SDF – Door station/External **amplifier** termination
[IL46]

Set the switches **(SW** l-4). on the DSEPB-D-A, **to** the door station position
for each door station to be installed. (refer DSEPB-D-A layout Page 5 – 55)

Set stations to signal a door station call (Command 1301).

External paging   Four external amplifiers may be connected to the system, giving a maximum
of four external paging zones.

Connect the amplifier via a Line Isolation Unit (LIU) and **605/611** plug and
socket to the SDF in the positions detailed on the Hardware Configuration
sheets.

NOTE: The cable from the Filter Unit (FUS-D-B/C) connects into the
socket marked **"CN1"** on the Door Station and External Paging
Board (DSEPB-D-A).

Adjust the volume control **(VR1–4)** to give the required level for each
external paging amplifier.

Set the switches (SW l-4) on the DSEPB-D-A to the external paging
position for each external amplifier to be connected. (refer DSEPB-D-A
layout Page 5 – 55)

Select the required paging control data. (Commands 1401 – 1404)

NOTE: For external music sources and external paging devices, safety
isolation must be provided by use of an AUSTEL approved
Line Isolation Unit.

Alarm/Fax sensors

Four alarm and four fax sensors are available on the system. The alarm sensors are programmed to detect external contacts that either make or break a current to the sensor. When an alarm condition is detected, an audible alarm signal is transmitted over each designated keystation and/or the external speakers.

The current required by each sensor is between 1 **mA** and 5.5 **mA** and the voltage should be greater than 7 volts but not exceed 39 volts.

The fax sensors are external device control inputs and are associated with exchange lines that are shared with external devices, such as modems and facsimile machines. The external device is connected to the exchange line on the line side of the Telecom Commander D and when in use, it activates the connected sensor. When the sensor is active, the system shows the associated exchange line as being busy, by turning on the line LED for that line on all stations. This prevents other users from intruding on the line while it is being used by the external device.

NOTE: The ribbon cable from the Filter Unit **(FUS–D–B/C)** connects into the socket marked CN2 on the Door Station and External Paging Board (DSEPB-D-A).
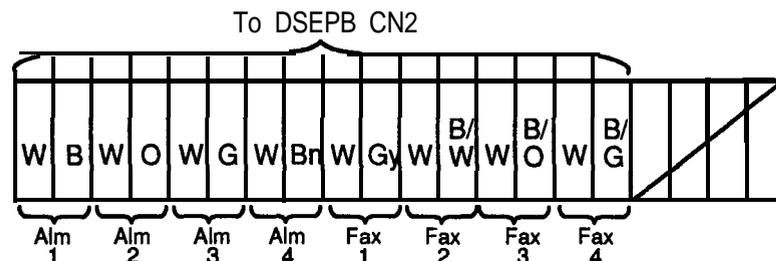
SDF – Alarm/Fax sensor terminations
[IL47]

Alarm sensors

·   Determine the alarm condition to be sensed, i.e. make or break of the alarm contacts (Command 0306).

•   Assign an alarm tone for each sensor (Command 0305).

•   Assign the stations at which each alarm will sound (Command 1011).

•   Decide which of the alarms are to be indicated on the external speakers (Command 1403).

Fax sensors

·   Determine the condition of the external equipment's contacts to indicate that it is in use (Command 0306).

•   Assign the sensor to the exchange line being used by the external equipment (Command 0305).

NOTE: External devices connected to the Telecom Commander D must be AUSTEL approved or isolated by an AUSTEL approved Isolation Unit.

Music on Hold (MOH)/Background Music (BGM).

Internal *MOH.*

An internal MOH facility is provided on each system. Two different internal MOH melodies are available.

Fit the movable link on the connector marked "S" on the front of the CPU board it connects the two pins marked "INT".
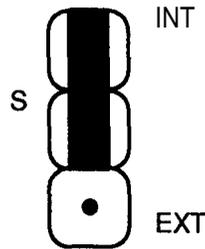
Internal MOH jumper selection
[IL48]

Select the required MOH type. (Command 0303)

Select the exchange lines that require MOH. (Command 0901)

External *music* **source**

An external music source can be connected to the system to provide music on the line when the call is placed on hold. In addition, a second music source can be connected to provide Background Music (BGM) for the system. If one music source is required to provide both Background Music (BGM) and Music-on-Hold (MOH) the two inputs may be connected together.

Connect 2 wires of a 4 wire cable from the external music source via a 611 socket and Line Isolation Unit (LIU), and terminate on the SDF. The source for external MOH connects to the External Music on Hold input (EXMOH) input and the source for BGM connects to the BGM input.

NOTE: If the one source is required for BGM and MOH then the inputs may be connected together.
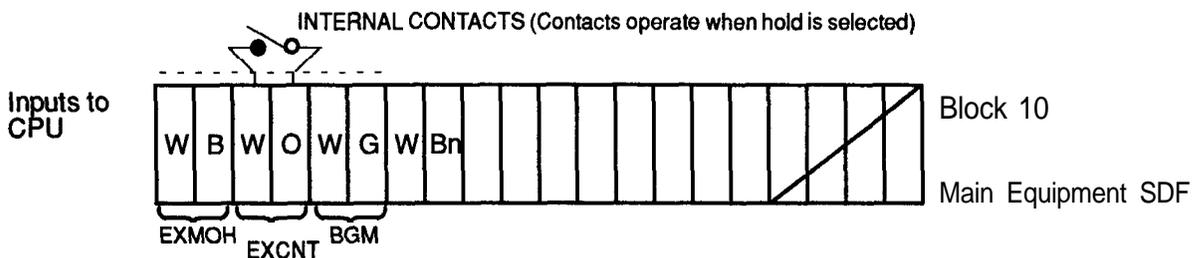
External music source input connections
[IL49]

The input marked "EXCNT" is the external device control and is used for control of the music-on-hold source. This connection is internally connected to a set of contacts, which are normally open circuit. However, when a call is placed on hold, the contacts close, enabling the external music source to be operated. When the call is taken off hold, the contacts open, turning off the source.

Connection to the external device must be via an AUSTEL approved Isolation Unit.

Fit the movable link on the connector marked "S", on the front of the CPU board, so that it connects the two pins marked "EXT".

INT

S

3   EXT
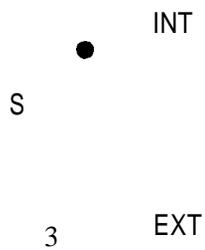
External MOH jumper selection
[IL50]

Set the MOH and BGM volume controls, located on the front of the CPU board, to the required volume level.

*   HTVR   Music on Hold volume control.

·   BGVR   Background Music volume control.
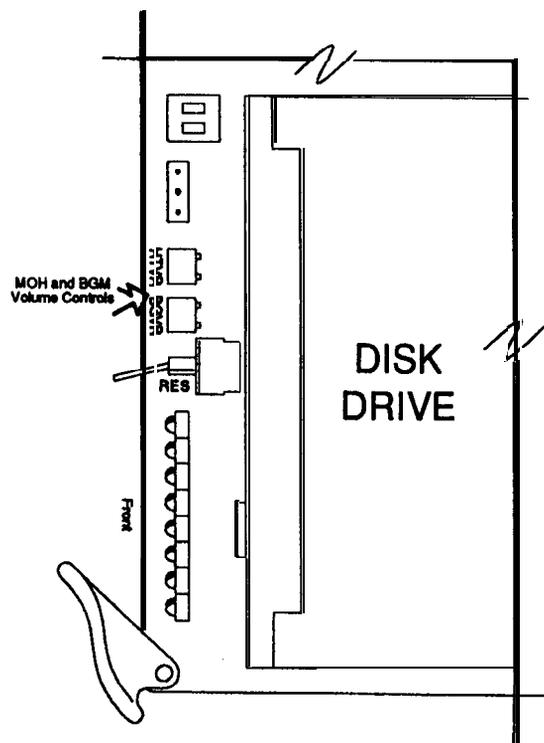
MOH and BGM volume control locations
[IL51]

Select the exchange lines that require external MOH. (Command 0901)

NOTE: For external music sources and external paging devices, safety isolation must be provided by use of an AUSTEL approved Line Isolation Unit.

Powerfail

The Telecom Commander D allows for the provision of eight powerfail lines per cabinet. In the event of a mains power failure and system batteries have not been provided or are discharged, a maximum of eight predefined exchange lines per cabinet will be switched to designated standalone powerfail single line telephones (one exchange line per SLT). Incoming and outgoing calls will then be able to be made from the single line telephone but no system facilities will be available.

NOTE: The powerfail single line telephones are additional to any Single Line Telephones used as Commander D extensions. The powerfail single line telephones are only operational under powerfail conditions.

Customer data will be retained by the battery backed up RAM on the CPU.

Powerfail board PFB-D-A
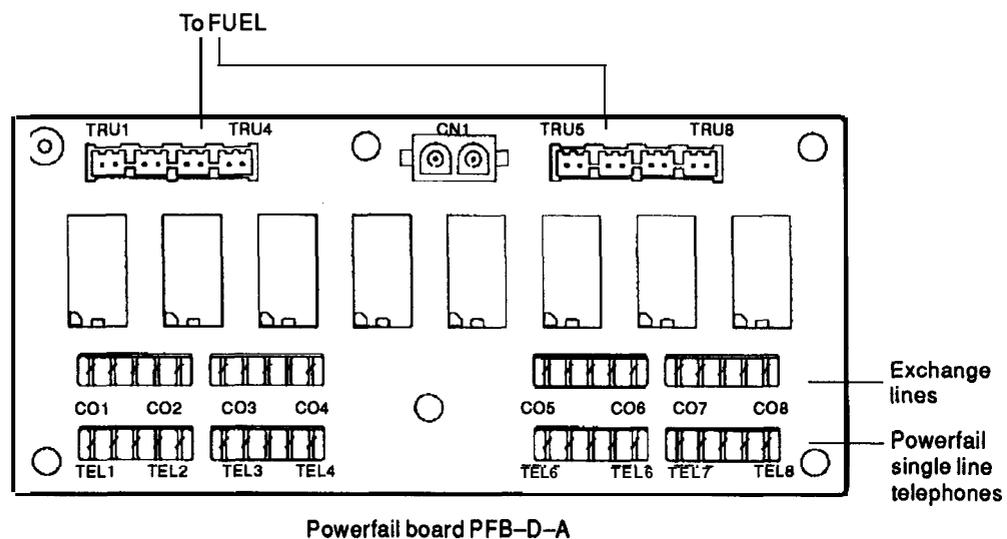
Powerfail board (PFB-D-A)
[IL52]

To fit a powerfail board

*   Obtain a powerfail board (PFB-D-A) and a powerfail filter unit cable (PF/FU-D-A) .

*   Place the powerfail board into position, above the SDF on the associated cabinet, and fix into position with the screws provided. (Refer IL53 Powerfail board location).

*   Connect the designated exchange lines to the Krone connectors marked CO1 – CO8 on the powerfail board.

*   Connect the powerfail single line telephones to the Krone connectors marked TEL1 – TEL 8.

NOTE: The exchange line connected to CO1 will be switched to the single line telephone connected to TEL 1, CO2 to TEL 2 and so on.
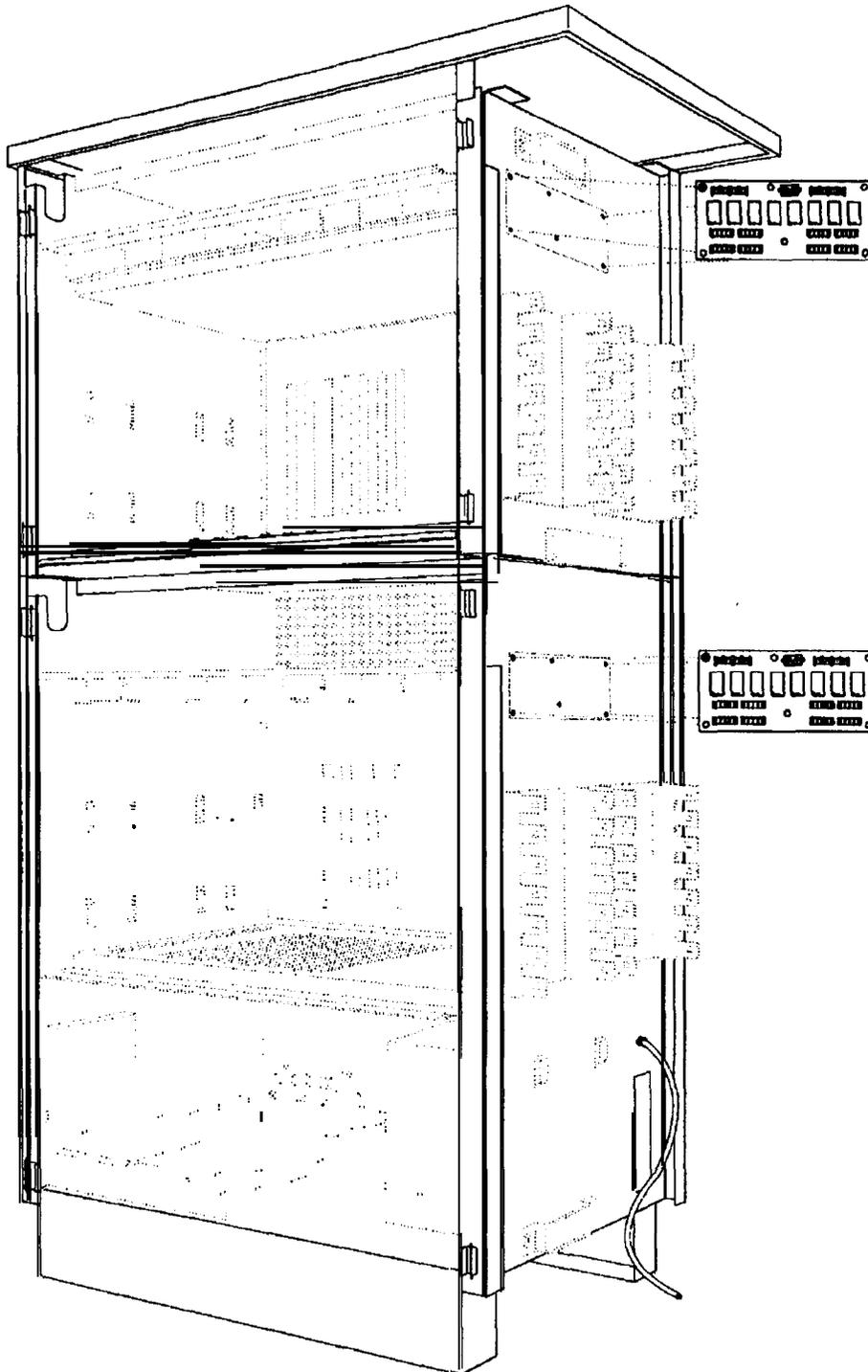
Powerfail board location
[IL53]

· Fit connectors on one end of **PF/FU–D–A** into sockets marked **TRU1 – TRU8.**

• Connect the other end of this cable, **PF/FU–D–A,** into the filter unit (FUEL) associated with the designated exchange line board. (**TRU1** connects to **CO1, TRU2** to CO2 etc. on the associated FUEL.)

• Connect the powerfail cable from the 9 – way connector on the cabinet power supply into the socket marked **CN1** on the powerfail board.

Data Communications Interface

Serial data communication is possible through a Data Communications Interface (DCI) connected to the system as a stand alone unit or as an integral part of a keystation. A DCI may be fitted to any Executive or Premium keystation that does not already have one installed.

To fit a DCI into a keystation:–

*   Obtain a keystation DCI kit (DCIK-D).

*   Remove the base of the keystation.

*   Connect the ribbon cable, supplied with the DCI, into the connector marked "CN1" on the Data Communications Interface (DCI) PBA and plug the other end of this cable into the connector marked "DCICN" on the keystation motherboard.

*   Fit the new base to the keystation.

Connect a stand-alone DCI or DCI equipped keystation to any digital station port (A stand-alone DCI must have its own unique port).

Connect the data transmission equipment to the D25 connector of the DCI.

Select the required serial transmission characteristics. (Command 1201)

Remove and replace the line cord to initialise the DCI.

NOTE: Equipment connected to the DCI should be AUSTEL approved.

Tie Lines

The Telecom Commander D can be configured for the use of Tie lines. To utilise this facility, a Remote Tie line Interface Unit (RTIU) must be used. The RTIU is a small wall-mounted subrack which can provide a maximum of two Tie line interfaces.

The RTIU is equipped with its own power supply (PCB-C) and must have a Ring and Tone source Board (RTB-A) fitted.

Optional boards that may be fitted:–

RRB-A   Ring-in, Ring-out Tie line interface.

LRB-A   Loop-in, Ring-out Tie line interface.

The boards are simply plugged into the designated slots in the RTIU.

Terminal connections are as **follows:–**


```
┌─────────────────┐                      ┌──────────────────────┐
│  TIE LINE TO    │                      │  1 A      │   2A     │
│ RING IN/RING OUT│ ◁══════════▷         │           │          │
│ LOOP IN/LOOP OUT│                      │  1 B      │   2 B    │
└─────────────────┘                      │           │          │


┌─────────────────┐                      │  1 WT     │   2WT    │
│ TO COMMANDER D  │ ◁══════════▷         │           │          │
│     SDF         │                      │  1 BL     │   2 BL   │
└─────────────────┘                      │           │          │

                                         │  1 RD     │   2RD    │
                                         │           │          │
                                         │  1 BK     │   2BK    │
                                         └──────────────────────┘
                                              RTIU TERMINAL
                                              DESIGNATIONS
```
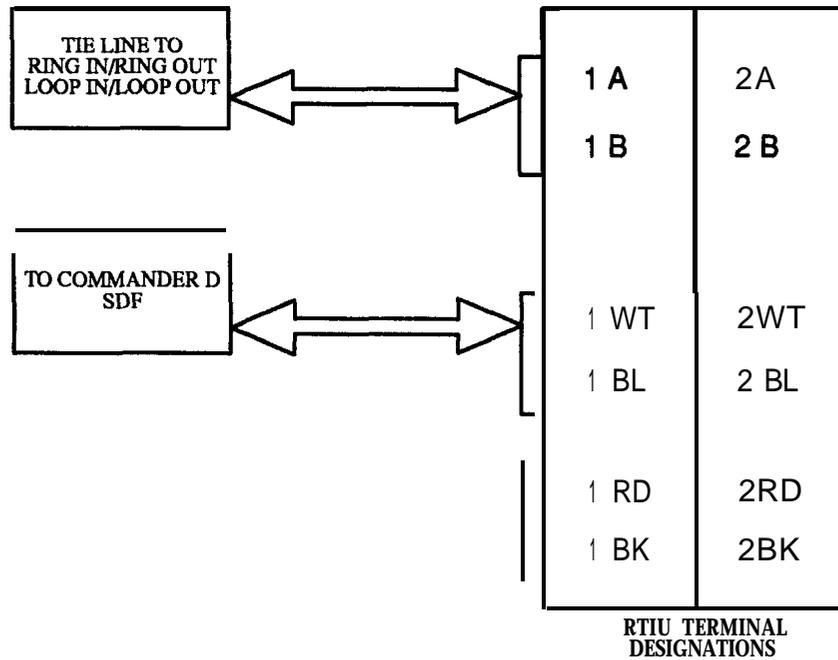
RTIU terminal connectlons
[IL54]

A Tie line takes the place of an exchange line. Hence the designated keystation key now becomes a Tie line key for that particular Tie line.

The pair leaving the remote equipment is terminated on the RTIU terminals designated 1A and 1B (2A and 2B for the 2nd Tie line) and the connection to the main equipment is taken from 1WT and 1BL (2WT and 2BL for the 2nd Tie line).

TIE LINE	RTIU TERMINAL	MAIN EQUIPMENT TERMINAL
1 { A B 2 { A B	1A 1B 2A 2B } To TIE LINE 1WT 1BL 2WT 2BL } To M.E. SDF	EXCHANGE LINE PORT ON SYSTEM SDF

Table 6 – Tie line connection

To operate, lift the handset and press the appropriate Tie line key. The equipment at the other end will ring automatically. The system will treat a Tie line as if it is an ordinary exchange line, so the port it is connected to will need to be programmed accordingly.

Printed Board Assembly (PBA) p r e p a r a t i o n

Introduction

Prior to fitting the PBAs into the Telecom Commander D, any board configuring that is required for the system will need to be done in accordance with the Customer System Order Forms. Each type of PBA is covered below.

CPU-D-A

The CPU-D-A performs the processing and control functions required by the system and its functional blocks.
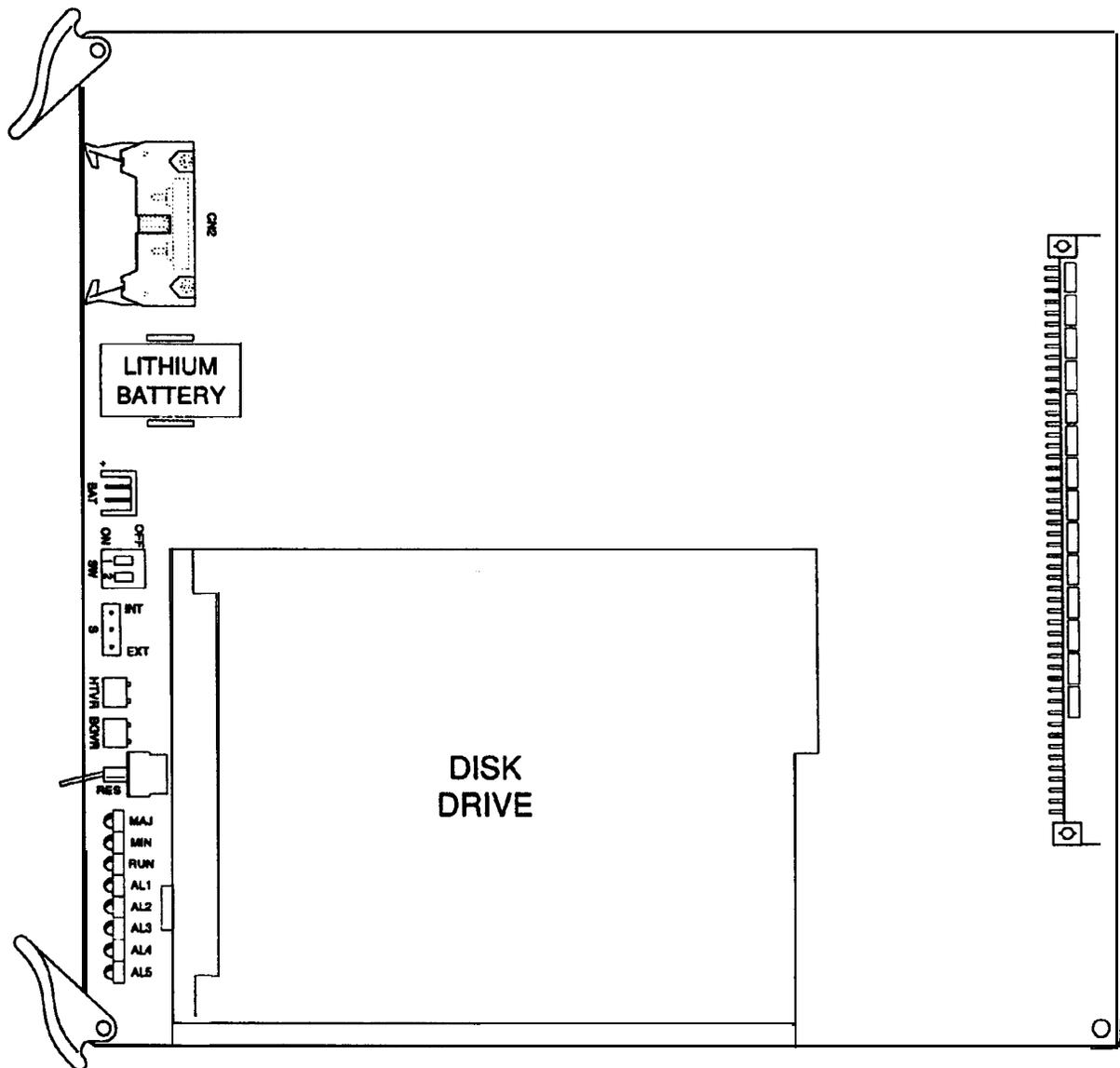
CPU Hardware locations
[IL55]

CN2

CN2 provides the point of connection from the Filter Unit FUCPU-D-A for the external inputs to the CPU-D-A.

These inputs are:

. External Music-on-Hold (EXMOH)

. External Device Control (EXCNT)

. Background Music (BGM)

Lithium battery

The lithium battery is required to maintain the customer data stored in the system memory (RAM) during times when power is not supplied to the system, If the voltage of the Lithium battery becomes too low a major alarm will be generated.

BAT

The connector marked "BAT" is for the connection of the lithium battery.

Fasten the battery to the CPU-D-A with the tie provided and connect the lead to the connector on the board marked "BAT". Ensure that the polarity of the battery connection is correct as follows:

RED wire to +ve terminal.

The lithium battery will supply the power to retain the customer data in the system RAM during a power failure.

WARNING

Do not short circuit the lithium battery

SW

Switch 1 determines where the customer data is loaded from on system initialisation.

SW1 ON will load both the system program and the customer data from the system disk (Cold Start).

OFF will load only the system program from the disk and the customer data will be loaded from the battery backed up RAM (Hot Start).

NOTE: SW1 should be set to ON.

Switch 2 is not currently used.

S

The connector marked **"S"** selects the source of the system music-on-hold.

INT Selects the internal system music-on-hold.

EXT Selects the external music-on-hold source.

Fit the movable link into the required position for the system MOH source.

HTVR

Volume control HTVR controls the output level of the music-on-hold.

BGVR

Volume control BGVR controls the output level of the background music.

RES   The switch RES will re-initialise the system in accordance with the setting of switch SW1 (Hot or Cold Start).

LEDs   These **LEDs** indicate the status of the processor.
(refer to Table 7 – CPU LED Indications)

Disk Drive   This is used to load either the system program and customer data (Cold Start) or the system program only (Hot Start) into the system, on initialisation or reset, from the floppy disk. New or changed customer data can be stored on the disk.

ELB-D-A
ELB-D-B
ELB-D-C

The ELB-D-A and ELB-D-C provide the interface circuitry for 4 exchange lines. The ELB-D-B provides for the interface circuitry for the connection of 8 exchange lines.

NOTE: The ELB-D-C supersedes ELB-D-A. ELB-D-B and ELB-D-C require software version D1.O or later.
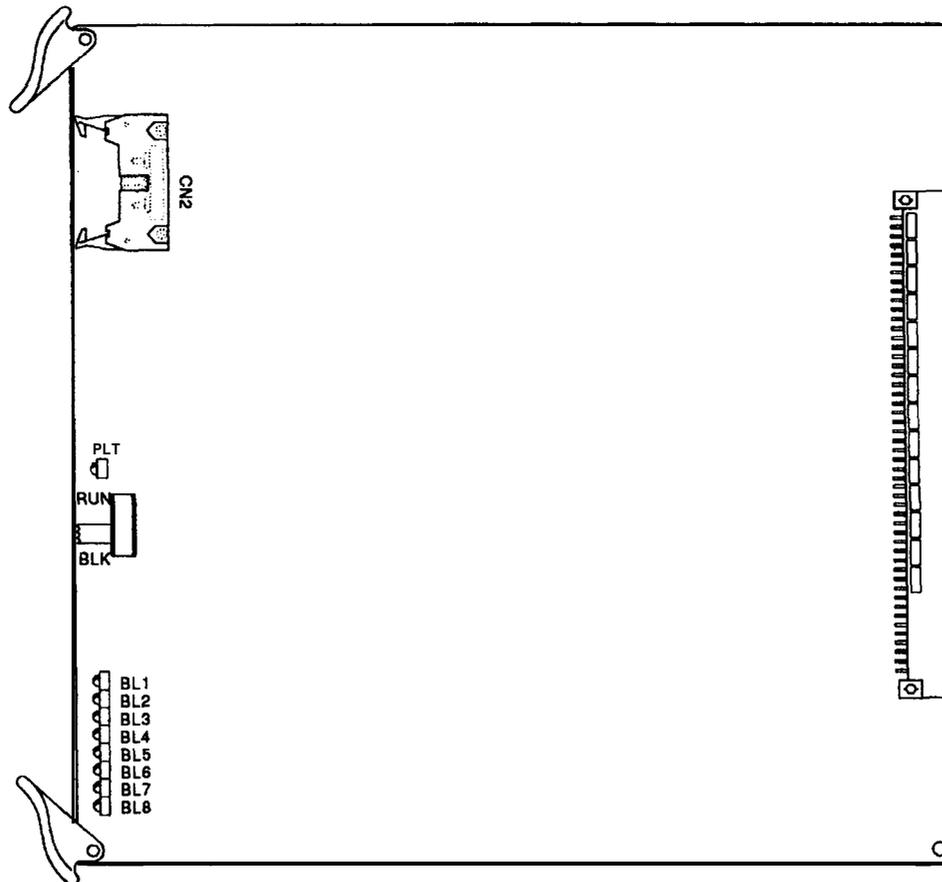
ELB-D-B Hardware locations
[IL56]

CN2

Connector CN2 provides for the connection of exchange lines to the ELB from the Filter Unit (FUEL).

PLT

The pilot LED (PLT), when it is flashing, indicates that the board is communicating with the CPU.

SW1

SW 1 is used to block all circuits on the exchange line board. If the switch is moved to the BLK position the PLT LED will cease to flash and remain on. All calls in progress will remain connected until terminaled by the user. The circuit will then be blocked. When all calls have finished, the PLT LED will turn off, indicating that the board is blocked. When the switch is moved to the RUN position the PLT LED will flash indicating that the board is ready for use.

Set SW1 to the BLK position.

BL1–8(4)

The LEDs BL1 – BL8(4) indicate the status of each exchange line connected to the board:

.   ON – indicates the line is in use.

.   OFF – indicates the line is idle or not connected.

DSB-D-A
DSB-D-B
DSB-D-C

The DSB-D-A and DSB-D-C provide the interface circuitry for the connection of 8 digital stations. The DSB-D-B provides the interface circuitry for the connection of 16 digital stations.

NOTE: The DSB-D-C supersedes DSB-D-A. DSB-D-B and DSB-D-C require software version D1.O or later.
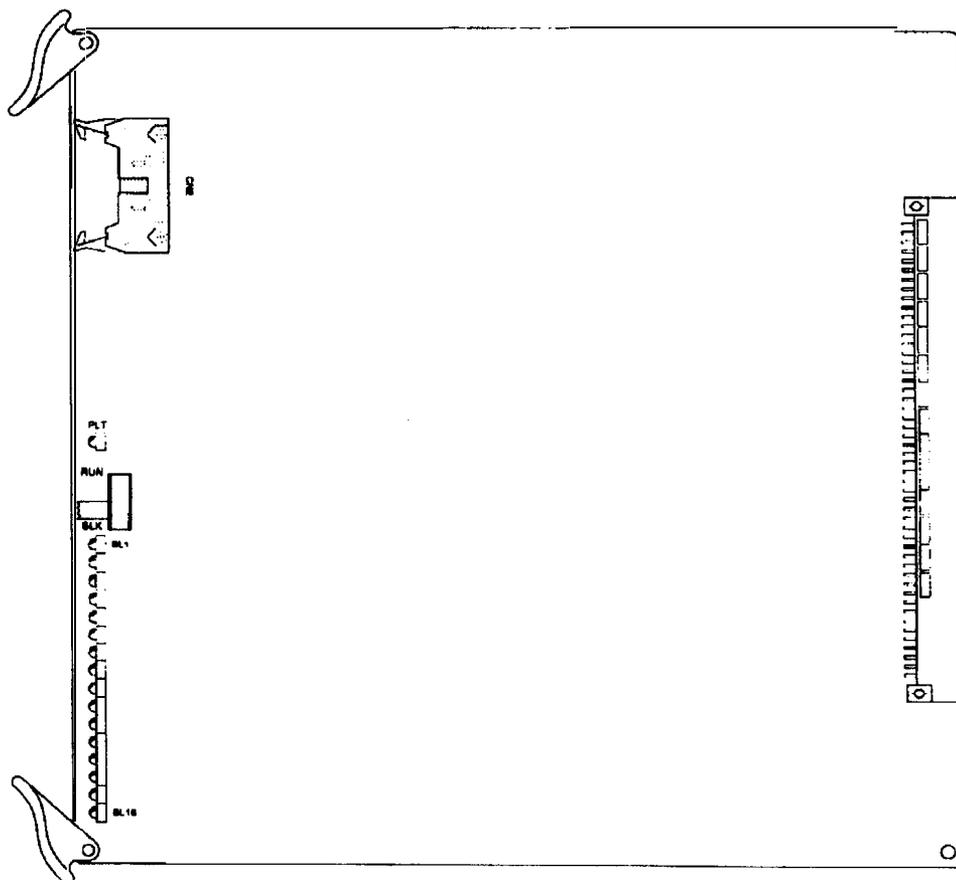
DSB-D-A Hardware locations
[IL57]

CN2

Connector CN2 provides for the connection of digital stations to the DSB from the Filter Unit (FUS).

PLT

The pilot LED (PLT), when it is flashing, indicates that the board is communicating with the CPU.

SW1

Switch SW 1 is used to block all stations connected to the board. If the switch is moved to the BLK position the PLT LED will cease to flash and remain on. All calls in progress will remain connected until terminated by their user. When all calls are finished the PLT LED will cease to flash and remain off, indicating that the board is blocked. When the switch is moved to the RUN position the PLT LED will flash indicating that the board is ready for use.

Set SW1 to the BLK position.

BL1–16(8)

The **LEDs BL1 – BL16(8)** indicate the status of each digital station that is connected to the board:

.   OFF – indicates the station is connected and idle,

.   FLASHING – indicates the station is not connected.

.   ON – indicates the station is off hook.

ASB-D-A

The ASB-D-A provides the interface circuitry for the connection of 8 single line telephones.
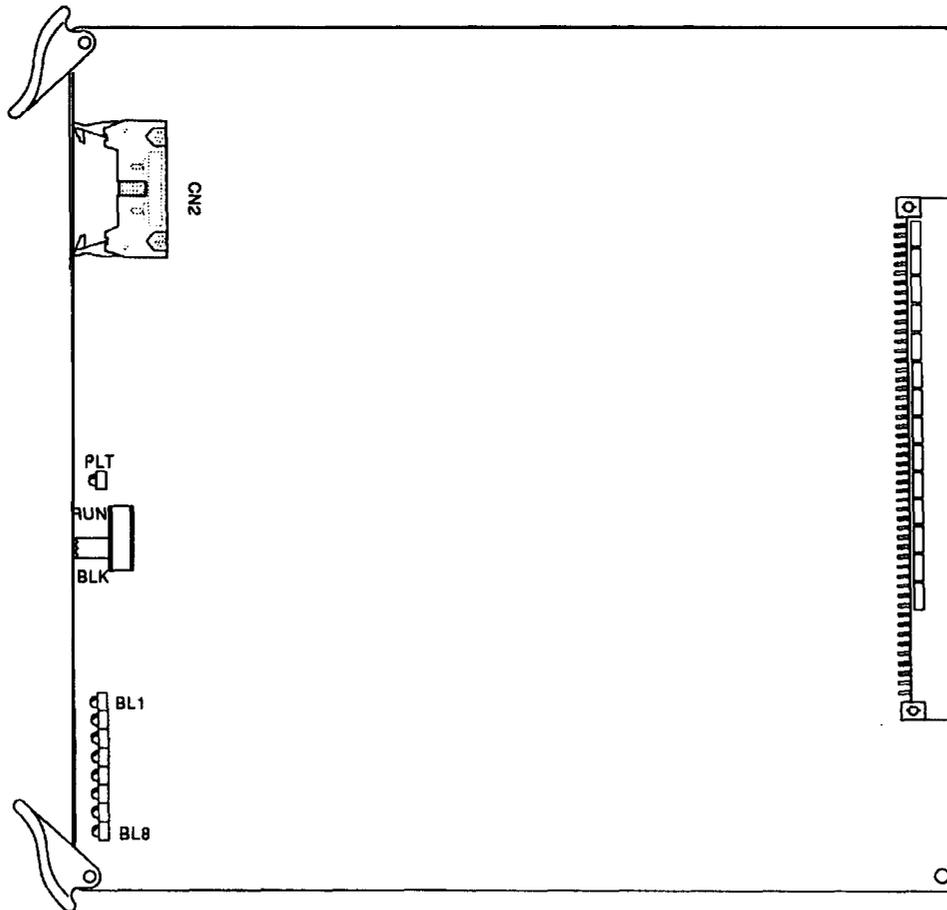
ASB-D-A Hardware locations
[IL58]

CN2

Connector CN2 provides for the connection of 8 single line telephones to the ASB-D-A from the Filter Unit (FUS-D-A).

PLT

The pilot LED (PLT), when it is flashing, indicates that the board is communicating with the CPU-D-A.

SW1

Switch SW1 is used to block all telephones connected to the board. If the switch is moved to the BLK position all calls in progress will remain connected until terminated by their user. When all calls have finished the PLT LED will cease to flash and remain off, indicating that the board is blocked. When the switch is moved to the RUN position the PLT LED will flash indicating that the board is ready for use.

Set SW1 to the BLK position.

BL1–8

The LEDs BL1 – BL8 indicate the status of each single line telephone that is connected to the board:

*   OFF – indicates the station is not connected or idle.

*   ON – indicates the station is off hook.

DSEPB-D-A

The DSEPB-D-A provides the interface circuitry for 4 door stations/ external paging units inclusive of the door unlock control. Also provided on this board are four fax machine sensors and four alarm sensors.
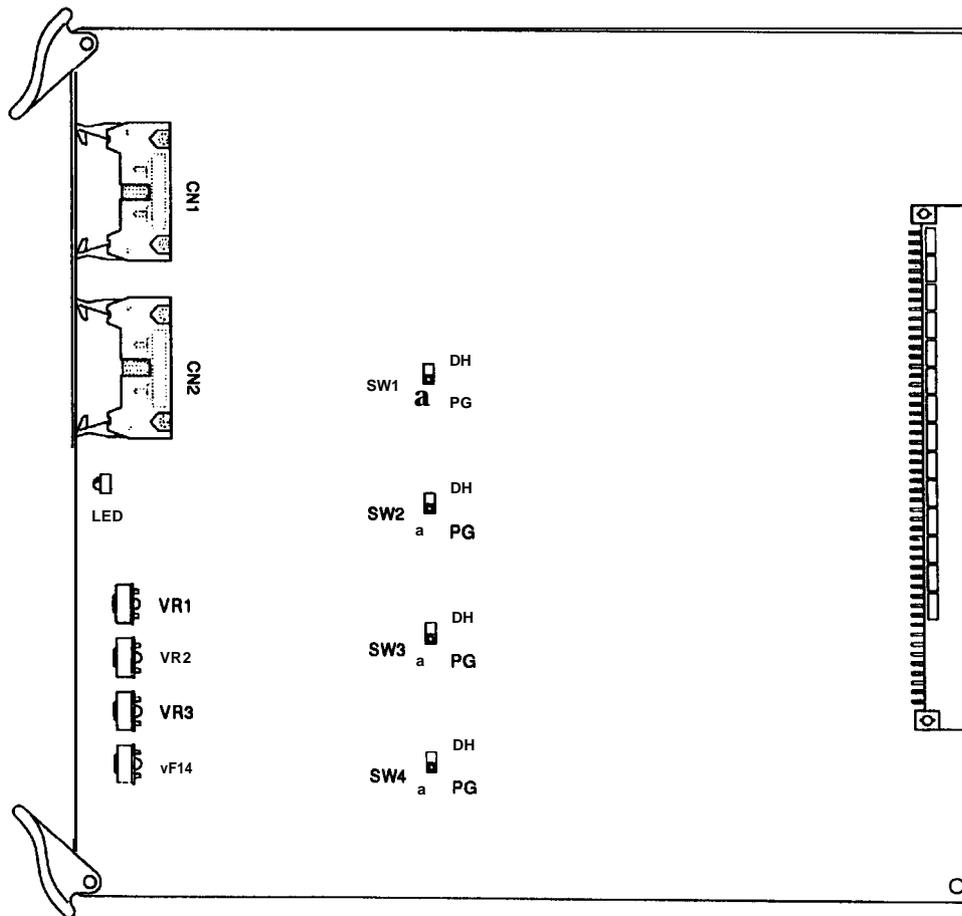
DSEPB-D-A Hardware locations
[IL59]

CN1

Connector CN1 provides for the connection of the door stations, including door unlock control, and external paging units to the DSEPB-D-A from the Filter Unit (FUS).

CN2

Connector CN2 provides for the connection to the fax and alarm sensors from the Filter Unit (FUS).

LED

The pilot LED (LED), when it is flashing, indicates that the board is communicating with the CPU.

vR1-4

The volume controls VR1 – VR4 control the output level to each of the possible 4 external paging amplifiers and/or door stations.

SW1–4

The switches SW1 – SW4 select what each of the 4 circuits is to be used for.

The switch positions are:–

DH – Door station connected
PG – External paging selected

Set the switches SW 1-4 in accordance with the requirements detailed on the System Order Forms.

CDB-D-A/B   The Conference, DTMF Receiver and Dial Tone Detect Board provides the
                        interface circuitry to support 4 simultaneous conference calls, each having a
                        maximum of 4 parties connected (maximum of 2 external parties). 16 DTMF
                        receivers and 16 Dial Tone Detection (DTD) circuits are also provided on the
                        CDB-A. These can be used in any combination of 4 circuits up to a total of
                        16 circuits per board (ie. 12 DTMF receivers and 4 DTD circuits).

CB-D-A/B   The Conference Board supports a maximum of 4 simultaneous conferences
                        each with a maximum of 4 parties connected (maximum of 2 external
                        parties).

DB-D-A/B   The DTMF Receiver and Dial Tone Detect board supports a maximum of 16
                        dial tone detectors and 16 DTMF receivers. These can be used in any
                        combination of 4 circuits up to a total of 16 circuits per board (ie 4 DTMF
                        receivers and 12 DTD circuits).

                        NOTE: The system allows for a maximum of 32 DTMF receivers/dial
                                       tone detectors.

                                       If more than 16 receivers/detectors are required for the system
                                       then 2 x DB-D-A/B would be provided. On the other hand if the
                                       conference facility was required as well, then 1 x CDB-D-A/B
                                       and 1 x DB-D-A/B would be installed.

                        NOTE: CDB-D-B and DB-D-B require software version D1.O.

System Initialisation

Introduction

Obtain three system disks, labelled System Disk 1.2 and 3 from the plastic pocket inside the System Administration Manual.

The customer's name should be written on the disk label.

> **NOTES: .** Disk 1 is used for initial booting and system configuration, then stored as a backup in Main Equipment.
>
> • Disk 2 is left in the disk drive at all times.
>
> • Disk 3 is held by Telecom for future maintenance.

Diskette care

When treated with care, diskettes are a reliable medium for storing information. However when mistreated, the information they contain can be lost. Follow these recommendations to care for the diskettes:

• *Do not* touch the magnetic media inside the protective plastic case.

• *Do not* remove a diskette from the drive when the light is ON.

• *Do not* place the diskettes near any magnetic material. Exposure to magnetism can erase or distort the information on a diskette.

• *Do not* bend the diskettes or allow them to warp.

• *Do not* expose the diskettes to temperature extremes. Store the diskettes in an area that ranges in temperature from 10°C to 50°C.

Write Protect switch

The Write Protect switch is located on the rear of the diskette. The switch positions are labelled "WRITE ENABLE" and "WRITE PROTECT".

When switched to:

WRITE ENABLE, new data is able to be saved onto the diskette.

WRITE PROTECT, no new data is able to be saved onto the diskette.

Confirm that the switch is set to "WRITE ENABLE".

Initial booting and initialisation is performed in three stages:

• Power on with only CPU and DSB inserted.

· Insert additional circuit boards.

• Plug in stations and terminals, and test them.

Before proceeding with the system initialisation, you need to determine the type of system disk programming. The system disks will be delivered in one of two formats:

1.   Pre-configured disk containing the System Program and Customer Data.

     This disk label will have the system disk number, the software version number and the system number pre-printed on the label. This indicates that the disk has been pre-configured with this customer's site dependant data. Pre-configured disks are supplied in a plastic pocket in the System Administration Manual. This pocket should be used to store Disk 3 (Telecom's copy) either in the System Administrators Manual or at a Telecom location (according to local instructions).

     A pre-programmed system will also be delivered with a set of Hardware Configuration sheets.

2.   Non-configured disk containing the System Program *only.*

     This disk will only have the system disk number and the software version number printed on the label.

Procedure

Power On

Pre-configured system

During system initialisation with a pre-configured disk, the "CPU" will determine, from the disk, the type of board that has been allocated to each slot. Each slot in the system is then interrogated. If found to be equipped, the type of board installed is determined. If the installed board is of the same type and in the same slot as that indicated on the disk and the Hardware Configuration sheets, both the slot and the board are initialised. If the system finds that the board installed is different to that indicated on the disk, the slot will not be initialised and the pilot (PLT) LED will not flash.

1.   Insert the CPU board into the slot marked CPU and a DSB board into slot 1 of the Main Equipment.

2.   Insert system disk 1 into the disk drive unit on the CPU board.

3.   Check that switch 1 of the DIP switch SW on the CPU is switched to the ON position.

NOTE: This will cause a cold start of the system when the power is turned on. Both the system program and the customer data will be loaded from the disk into the system.

             If switch 1 is switched to OFF (Hot Start) only the system program will be loaded from the disk.

4.   Prior to turning on the power, ensure the following:

     ·   The system is correctly earthed.

     ·   The SDF and building cabling is completed, but NO stations are to be plugged in.

     ·   The switches on the Power Supply are OFF.

5.   Plug the mains power cord into the power outlet and turn it ON.

6. Switch the AC switch on the Switchbox to the ON position. If back-up batteries are provided, *then* switch the DC switch to the ON position as well.

NOTE: Switch the AC switch to ON *before* operating the DC switch to connect the batteries. This is **to avoid the effects** of high inrush currents capable of being supplied by fully charged batteries.

7. The system will commence to load data from the system disk. The start up sequence takes approximately 3-6 minutes and is complete when the RUN LED on the CPU and the PLT LED on the DSB flash continuously (normal operating mode).

8. During system booting the following CPU LED indications may be observed on the CPU (refer to Table 7).

9. Additional **PBAs** may now be inserted in the order indicated on the Hardware Configuration sheets.

   It is recommended that the additional **PBAs** be inserted one at a time. It is also recommended that you *wait* until each is initialised before inserting the next. Where the **PBAs** are equipped with a **BLK/RUN** switch, they should be inserted with the switch in the BLK Position. The switch may then be switched to the RUN Position. Initialisation is complete when the PLT LED on the inserted board, flashes continuously.

10. When all the system **PBAs** have been inserted and have initialised, switch Switch 1, of the DIP switch (SW) on the CPU, to the OFF position.

    This places the system in Hot Start mode. If the system is re-initialised, only the system program will be loaded from the disk. The system will use exactly the same customer data that was being used before the re-initialisation, because this data will have been saved in the battery-backed RAM.

11. Determine from the customer if the system is operating as they require. Input any data changes needed to meet these requirements.

12. Save the customer data to all three disks. (Command 0001)

13. Update the System Order Forms (SOF) with any changes that have been made. Provide a copy of the SOF to the customer to include in the System Administration Manual. Place the original SOF in the holder on the SDF cover.

NOTES: • Place system disk 1 in the plastic sleeve located on the left side of the Main Equipment, next to the internal battery tray.

   • System disk 2 must *always* be kept in the disk drive.

   • System disk 3 is to be held by Telecom for future maintenance. Refer to local procedures. Use the removable pocket from the System Administrator's Manual to protect this disk.

LED STATE								DESCRIPTION
MAJ	MIN	RUN	ALM1	ALM2	ALM3	ALM4	ALM5	
☀	☀	☀	☀	☀	☀	☀	☀	Reset state
◉	◉	☀	◉	◉	**0**	◉	◉	Memory check state
◉	◉	☀	◉	◉	◉	0	☀	Memory check end
◉	0	☀	0	0	0	☀	☀	Downloading system data
0	0	☀	0	0	☀	☀	☀	Loading main program
0	0	☀	◉	☀	☀	☀	☀	Initialising main program
☀	☀	☀	0	0	0	0	☀	Memory error (D-RAM)
☀	☀	☀	0	0	0	☀	0	Memory error (S-RAM)
☀	☀	☀	☀	0	0	0	☀	Empty disk drive
☀	☀	☀	☀	0	0	☀	0	Disk is not system disk
☀	☀	☀	☀	◉	◉	☀	not	The Disk does not contain system information
☀	☀	☀	☀	☀	0	0	0	Disk I/O error
☀	☀	☀	◉	☀	◉	◉	◉	80286 Protect mode error
◉	0	☀	0	0	0	0	0	Normal operating mode

Key: 0 **LED OFF,**   ☀ LED ON,   ◉ **LED FLASHING**

*Non-configured sys **tem***   During system initialisation with a Non-Configured disk, the CPU will interrogate each slot in the system and determine the type of PBA present. It will then allocate port numbers and, in the case of the station PBAs, allocate station numbers in accordance with the default extension numbering plan. The exchange line numbering plan will also be established.

Before proceeding, the Hardware Configuration sheets *must* be determined. These will detail the location and type of each PBA and the order in which they are to be inserted into the system. Refer to **System Hardware Configuration – Non-Configured System,** Page 5 – 29.

1. Insert the CPU board into the slot marked "CPU" and a DSB board into slot 1 of the Main Equipment.

2. Insert system disk 1 into the disk drive unit on the CPU board.

3. Check that switch 1 of the DIP switch (SW) on the CPU is switched to the ON position.

    NOTE: This will cause a Cold Start of the system when the power is turned on. Both the system program and the default customer data will be loaded from the disk into the system.

    If switch 1 is switched to OFF (Hot Start) only the system program will be loaded from the disk.

4. Prior to turning on the power, ensure the following:

    ·   The system is correctly earthed.

    ·   The SDF and building cabling is completed, but no stations are to be plugged in.

    ·   The switches on the Power Supply are off.

5. Plug the mains power cord into the power outlet and turn on.

6. Switch the AC switch on the Switchbox to the ON position. If internal back-up batteries are provided, *then* switch the DC switch to the ON position as well.

    NOTE: Switch the AC switch to ON *before* operating the DC switch to connect the batteries. This is to avoid the effects of high inrush currents capable of being supplied by fully charged batteries.

7. The system will commence to load data from the system disk. The start up sequence takes approximately 3-6 minutes and is complete when the RUN LED on the CPU and the PLT LED on the DSB flash continuously (normal operating mode).

8. During system booting the alarm LED indications shown in Table 7 – **CPU LED Indication** may be observed on the CPU.

9.   Additional **PBAs** may now be inserted in the order indicated on the Hardware Configuration sheets.

It is recommended that the additional **PBAs** be inserted one at a time. It is also recommended that you *wait* until each is initialised before inserting the next. Where the **PBAs** are equipped with a **BLK/RUN** switch, they should be inserted with the switch in the BLK Position. The switch may then be switched to the RUN position. Initialisation is complete when the PLT LED on the inserted board flashes continuously.

10.   When all the system **PBAs** have been inserted and have initialised, switch Switch 1, of the DIP switch (SW) on the CPU to the OFF position.

This places the system in Hot Start mode. If the system is re-initialised, only the system program will be loaded from the disk. The system will use exactly the same customer data that was being used before the re-initialisation. This is because the data will have been saved in the battery backed RAM.

11.   Determine, from the customer what facilities they require and program the system to meet their specific requirements.

12.   Save the customer data to all three disks. (Command 0001)

13.   Update the System Order Forms (SOF) with any changes that have been made. Provide a copy of the SOF to the customer to include in the System Administration Manual. Place the original SOF in the holder on the SDF cover.

NOTES: .   Place system disk 1 in the plastic sleeve located on the left side of the Main Equipment, next to the internal battery tray.

        •   System disk 2 must *always* be kept in the disk drive.

        ·   System disk 3 is to be held by Telecom for future maintenance. Refer to local procedures.

Station installation

The Filter Units may now be connected to their associated **PBAs** via the ribbon cable provided with each PBA. Before plugging in each station, the voltage should be measured at the station socket. The connections are not polarity conscious and should measure 48V DC. When each Executive and Premium keystation is connected, their display will read "SYSTEM START UP IN PROGRESS" for approximately one second. The time, date and station identity will then be displayed.
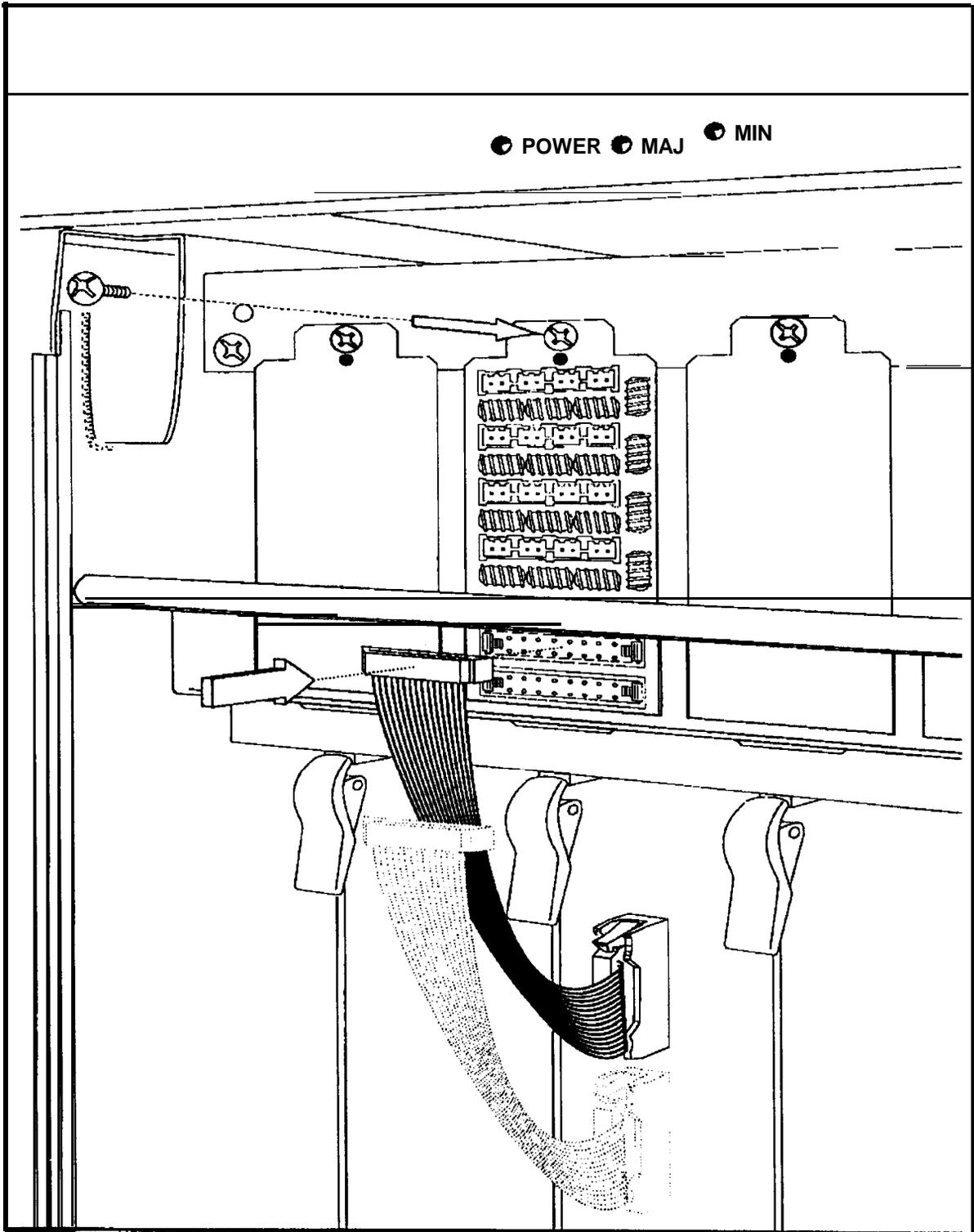
PBA – Filter Unit to PBA connection
[IL60]

System Installation tests

Installation verification

The board layout and the port allocations can be verified by printing the system information to a printer attached to a DCI. (Command 0005).

Keystation self test

A keystation self test can be initiated by pressing the [✻] key while plugging in the line cord. This test automatically tests the display characters and key LEDs.

Automatic test

To start the test – Press the [✻] key while plugging in the line cord.
To stop the test – Press the [Call 1] key followed by Digit 0.

Test sequence

1. The following message is displayed for 3 seconds

    ```
    Self Test in Pro.
    DD MM YYYY
    ```

    Where DD MM YYYY is the date of the software release.

2. All dots in the LCD are turned on for 3 seconds.

3. Digits 0 to 3 are shifted across each column of the display at 0.1 sec per column.

4. The red LED in all line keys are turned on for 1.3 seconds.

5. The red LED of all line keys are turned off and the green LED turned on for 1.3 seconds.

6. The red LED of all function keys and the MW lamp are turned on for 1.3 seconds.

7. The red LED of all DSS keys (except Premium station) are turned on for 1.3 seconds.

8. The message "Manual Test" is displayed on the screen.

Manual test

Key Matrix and LED test

To start the test, press the [Call 1] key followed by '1'. The following message will be displayed: "Key Matrix/LED Test".

Whenever a key is pressed, the logical name for it will be displayed (refer to Table 8 – Keystation logical names) and the key touch tone will sound. This tone has a duration of 50 msec and a frequency of 580 Hz.

The key LEDs light as follows:

•   1st operation – Red LED

·   2nd operation – Green LED

•   3rd operation – LED off

The message "OFF HOOK' is displayed by lifting the handset and "ON HOOK" by replacing the handset.

To exit this test and return to the "Manual Test" display, press the [Call 1] key followed by [✻].

KEY NAME	LOGICAL NAME	KEY NAME	LOGICAL NAME
[LINE#1]	L-01	[LINE#2]	L-02
[LINE#3]	L-03	[LINE#4]	L-04
[LINE#5]	L-05	[LINE#6]	L-06
[LINE#7]	L-07	[LINE#8]	L-08
[LINE#9]	L-09	[LINE#10]	L-10
[LINE#11]	L-11	[LINE#12]	L-12
[LINE#13]	L-13	[LINE#14]	L-14
[LINE#15]	L-15	[LINE#16]	L-16
[LINE#17]	L-17	[LINE#18]	L-18
[LINE#19]	L-19	[LINE#20]	L-20
[LINE#21]	L-21	[LINE#22]	L-22
[LINE#23]	L-23	[LINE#24]	L-24
[LINE#25]	L-25	[LINE#26]	L-26
[LINE#27]	L-27	[LINE#28]	L-28
[LINE#29]	L-29	[LINE#30]	L-30
[LINE#31]	L-31	[LINE#32]	L-32
[DSS#1]	D-01	[DSS#2]	D-02
[DSS#3]	D-03	[DSS#4]	D-04
[DSS#5]	D-05	[DSS#6]	D-06
[DSS#7]	D-07	[DSS#8]	D-08
[Call 1]	F-01	[Call 2]	F-02
[Speaker]	F-03	[Hold]	F-04 (lights MW lamp)
[MIC]	F-05	[TRANS]	F-06
[Recall]	F-07	[Redial]	F-08
[DND]	F-09	[Memory]	F-10
[VOL UP]	F-11	[VOL DOWN]	F-12
[CLEAR]	F-13	[CHECK]	F-14
[DIR]	F-15	[MENU]	F-16

Table 8 – Keystation logical names

Test tone

• To start the test, press the [Call 1] key followed by [2]. The following message will be displayed: "Test Tone (1 KHz)".

• A continuous 1 KHz tone is sent to the speaker.

• The tone is muted by going off-hook.

• To exit the test, press any key.

NOTE: To exit Keystation self test, ensure that "Manual Test" is displayed on the station's display. If this is not displayed, press the [Call 1] key followed by [✱] . Next press the [Call 1] key followed by the digit 0.

System Specifications

Electrical

AC Input to Power Supply	**240** VAC 50 Hz
Output Voltage	**-48** V DC
Battery Backup Cut-in	**-46** V DC
Battery Backup Cut-out	**-43** V DC
Battery Type	Re-chargeable

Environmental

Operating Temperature	0° C to 50° C
Humidity (Relative)	up to 95%

Dimensions

Equipment	Height	Width	Depth
Main Equipment	**675** mm	590 mm	**340** mm
Expansion Cabinet	**400** mm	590 mm	**340** mm
Keystation	**80** mm	**205** mm	**255** mm
DS **S** Console	**80** mm	**205** mm	**255** mm

Chapter Six
System Programming

Chapter Six
System Programming
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Chapter Six
System Programming

Introduction

This chapter describes the commands available to control and customise the operation of the Telecom Commander D.

The first part describes the command groups, the keystations required for programming and how to access the programming mode.

The second part describes the commands in detail.

NOTE: A password is required to access programming mode. This password may be altered by using one of the commands.

IMPORTANT

All programming changes must be recorded on the System Order Form Programming Sheets. These sheets are stored inside the Main Equipment SDF cover. The customer's System Administrator will be responsible for holding a set of System Administration forms to record any changes made by the customer.

Abbreviations used in this chapter

Abbreviation	Meaning
CLS	Class
CODEC	Coder/Decoder
DID	Direct Inward Dial
DISA	Direct Inward Service Access
DND	Do Not Disturb
DSS	Direct Station Select
DST	Door Station
DTD	Dial Tone Detect
DTMF	Dual Tone Multi Frequency
IRG	Incoming Ring Group
KST	Keystation
NT1	Night 1 Mode
NT2	Night 2 Mode
O/M	Operations and Maintenance
SPK	Speaker
STN	Station
TNT	Tenant
TRK	Trunk (Exchange Line)

General Information

Keystations

Programming commands can be entered only from a Premium or Executive display keystation with 32 line keys.

Operating keys

The keys used for data entry are as **follows:–**

Required keystroke: (see note 1)	Keystation key:
A or a	Line key 1
B or b	Line key 2
C or c	Line key 3
D or d	Line key 4
E or e	Line key **5**
F or f	Line key 6
G or g	Line key 7
H or h	Line key 8
I or i	Line key 9
J or j	Line key 10
K or k	Line key 11
L or l	Line key 12
M or m	Line key 13
N or n	Line key 14
0 or 0	Line key 15
P or p	Line key 16
Q or q	Line key 17
R or r	Line key 18
S or **s**	Line key 19
T or t	Line key 20
U or u	Line key 21
V or v	Line key 22
W or w	Line key 23
X or x	Line key 24
Y or y	Line key 25
Z or z	Line key 26
⌴(space)	Line key 27
?	Line key 28
.	Line key 29
	Line key 30
!	Line key 31
/	Line key 32

NOTES:

1.   Upper or lower case letters are selected by pressing the [DND] key.

Key functions

```
  ┌CHECK┐      ┌──────────────────────┐        ┌CLEAR┐
                        DISPLAY

  ┌DSS1┐ ┌DSS2┐ ┌DSS3┐ ┌DSS4┐ ┌DSS5┐ ┌DSS6┐ ┌DSS7┐ ┌DSS8┐

  ┌L01-A┐ ┌L02-B┐ ┌L03-C┐ ┌L04-D┐ ┌L05-E┐ ┌L06-F┐ ┌L07-G┐ ┌L08-H┐

  ┌L09-I┐ ┌L10-J┐ ┌L11-K┐ ┌L12-L┐ ┌L13-M┐ ┌L14-N┐ ┌L15-O┐ ┌L16-P┐

  ┌L17-Q┐ ┌L18-R┐ ┌L19-S┐ ┌L20-T┐ ┌L21-U┐ ┌L22-V┐ ┌L23-W┐ ┌L24-X┐

  ┌L25-Y┐ ┌L26-Z┐ ┌L27-┐ ┌L28-?┐ ┌L29-:┐ ┌L30-.┐ ┌L31- |┐ ┌L32-/┐

      ┌Hold┐ ┌Call 1┐ ┌Call 2┐        ┌1┐ ┌2┐ ┌3┐
      ┌Recall┐ ┌DND┐ ┌Transfer┐       ┌4┐ ┌5┐ ┌6┐
      ┌Δ┐ ┌Mute┐ ┌Redial┐             ┌7┐ ┌8┐ ┌9┐
      ┌▽┐ ┌Speaker┐ ┌Memory┐          ┌*┐ ┌0┐ ┌#┐
```

The keys used for Command programming are:

Key Name:	Used to:
[0] to [9],[*] and [#]	Enter or change numeric data.
Line Keys [L01] to [L32]	Enter or change alphabetic data.
[Hold]	Store data and invoke the next sequential instruction step.
[Δ]	Store data and go to the next step, or display more data when the data length is over 20 characters.
[▽]	Store data and go to the previous step.
[Mute]	Delete the last key operation.
[Clear]	Delete all the previous key operations in this step, or, when the data entry prompt "–" is displayed, to clear the data and go to the next step.
[Transfer]	Enter the "pause" code for speed dial setting.
[Memory]	Exit from Command programming mode.
[DND]	This is equivalent to pressing a [Caps Lock] key when entering letters. When the DND lamp is on, letters are entered in the display as capitals, when the DND lamp is off, letters are entered in the display in lower case.

Programming mode display

The top line of the display shows the current command, or option of the command. The second line is used for data entry.

Commands

The system commands have the following access levels:

MF   Manufacture level

IN   Installer level

SA   System Administrator level

This chapter only describes commands that can be altered at the Installer or System Administrator level. Commands that can only be altered at the Manufacturer level have not been described.

Command groups

The system commands consist of 4 digit numbers. The commands are divided into command groups prefixed by 00 to 14.

Command prefix	Command type
00	Operation and Maintenance
01	Hardware
02	Password
03	System base function
04	Tenant base function
05	Service code
06	Speed dial
07	Toll restriction data
08	Day/Night mode
09	Trunk base function
10	Station base function
11	DSS console
12	Data terminal
13	Door station
14	Paging

Command prompts   The prompts used in command programming are described in the following
table.

Prompt	Example	Meaning
>	Enter Command >	Enter the command number **[A]** Scrolls up through command numbers **[∇]** Scrolls down through command numbers
?	Port no ?	Enter the port number [A] **Scrolls up** through port **numbers** [∇] Scrolls down through port numbers
–	Item -01 : 0–	Enter required input data If the command has several options: [A] Skips up through previous options [∇]**Skips down** through remaining **options.**
&	0448111236&	Indicates there is more information to be displayed. Only the [Δ] key will present the remaining information

Command summary   The commands used in the different groups are shown below, exactly as
displayed by the system after the command number is entered.

Operation and
Maintenance commands

Command	Meaning
0001: SYS Data Save	Saves the customer data onto disk.
0002: SYS Data Load	Loads the system data from disk.
0003: Date & Time Set	Sets system date and time.
0004: Slot Control	Blocks or deletes a PBA slot.
0005: System Info.	Prints out installation data for each slot.
0006: Alarm Report	Controls the system alarm printouts.
0007: Loop Back Test	Controls the loop back test for each port.
0008: Alarm Set Up	Determines which alarm lamps light to indicate faults.
0009: Fault To KStn	Assigns keystations for output of fault reports.
0010: Fault Report	Views fault reports on keystation display.
0011: ISDN PD Loop Back	Tests interface between CPU and ISDN Boards.
0012: ISDN Loop Back	Controls Layer 1 ISDN loopback test.
0013: Customer Info.	Stores a views customer details.
0014: Auto Loop Back	Provides automatic loop back test for each Board.
0015: Battery Replace	Assigns date for battery replacement.
0016: ISDN Function	Controls ISDN access to system.

Hardware commands

Command	Meaning
0116: ASB-D-A Initial	Sets the timing data for the ASB-D-A
0120: DSEPB Gain Set	Sets the CODEC gain for the door station and speaker

Password commands

Command	Meaning
0201: Data Entry Pwd	Defines the user passwords for system programming.
0202: Functions Pwd	Defines the passwords for setting the System clock, Night mode changeover and Access Barring Override.
0203: DISA Password	Defines the passwords for DISA service access.

System Base
function commands

Command	Meaning
0301: Common Data	Defines system data that is common to all tenants.
0302:	— reserved --
0303: System Option	Defines system optional facilities such as melody type, No. of conference parties, night change.
0304: DTMF/DTD Set	Allocates the use of DTMF Receivers and DTD on CDB-D-A, DB-D-A.
0305: DSEPB Alm/Fax	Defines additional information for Fax and alarm sensors.(Tone No., Port No.)
0306: ALM/FAX Sensor	Defines the Alarm/Fax ON condition for each sensor.
0309: DISA Operation	Defines codes to continue and clear exchange line calls.

*Tenant Base
function commands*

Command	Meaning
0401: Tenant Service	Defines the common service facilities for each tenant.
0402: Text Messages	Defines the default text messages that can be stored by a station.
0403: SMDR Operation	Defines the SMDR operating data.
0404: Hotline Assign	Assigns Hot-line pairs.
0405: System Timer	Defines the values of the system common timers.
0406: Class Service	Assigns the 128 service facilities into 15 station classes.
0407: DID Transfer	Defines the transfer station when a DID call is not answered.
0408: DISA Class Svce	Assigns the DISA service class
0409: ISDN Called No	Defines Call numbers for ISDN calls
0410: ISDN Called IRG	Allocates ISDN Call types to Incoming Ring groups
0411: VM Store Code	Defines code forwarded to Voicemail.

Service *code commands*

Command	Meaning
0501: Access Codes	Defines the access codes for system facilities.
0502: Stn Dial **&** Name	Defines the station access numbers and names.
0503: Group Dial&Name	Defines the station group access code and group name.
0504: Door Stn Access	Defines the door station access code.
0505: Trk Access Code	Defines the trunk access code.
0506: Service Code	Defines the **dialled** data for each service code.
0507: DCG Dial **&** Name	Defines the **DCI** group access code and group name.

Speed dial commands

Command	Meaning
0601: **SpD** Dial **&** Name	Defines the speed dial numbers and names.
0602: Common **SpD** Area	Defines the common speed dial allocation for each tenant.

*Toll restriction data
commands*

Command	Meaning
0701: Restriction Set	Defines the barred and allowed codes for each tenant.

Day/Night mode
commands

Command	Meaning
0801: Day Pattern	Defines the operating modes for each tenant; Day, Night 1 or Night 2.
0802: Week Schedule	Assigns the operating modes in a weekly schedule.
0803: Year Schedule	Assigns the operating modes in a 12 month schedule to **recognise** special days such as **public** holidays.

Trunk Base
function commands

Command	Meaning
0901: Trunk Type	Defines the operating data for each trunk.
0902: I/C Ringer Type	Defines the incoming ring type for each trunk.
0903: Trunk Naming	Assigns a name to each trunk.
0904: Trk Assign Tnt	Assigns a tenant number to each trunk.
0905: Trunk Group	Assigns a group number to each trunk port
0906: Route Set	Defines the routing access for trunks.
0907: Route No Assign	Assigns each station to a trunk route.
0908: I/C Ring Group	Assigns stations to an incoming ring group.
0909: Trk Assign IRG	Assigns trunks to incoming ring groups, depending on the operating mode.
0910: Trk Access Map	Defines the trunk access maps.
0911: Stn Trk **Acc** Map	Defines the trunk access map to be accessed by each station.
0912: DISA Route No	Defines the trunk routes for DISA access.

Station Base function commands

Command	Meaning
1001: Station Type	Defines the station port hardware.
1002: Restriction Cls	Assigns the restriction class to each station.
1003: Stn Service Cls	Assigns the station class of service to each station.
1004: Station Tenant	Assigns a tenant number to each station port.
1005: Station Group	Assigns the stations to groups.
1006: KStn Program Key	Defines the programmable line key data to each station.
1007: KStn DSS Key	Assigns the DSS key data to each station.
1008: Station Option	Assigns station optional data such as SMDR printout and line seizure.
1009: Break In Level	Defines the level at which each station can break into an established call.
1010: Mngr-Secretary	Assigns manager/secretary pairs.
1011: Alm Sensor Ring	Defines the stations to ring when an alarm sensor is activated.
1012: Prog Key Init.	Initialises each keystation's line keys in accord with the defined trunk access map and station trunk access group.

DSS Console commands

Command	Meaning
1101: DST Port Assign	Defines the keystation port where a DSS is connected.
1102: DSS Console Key	Defines the key data for the DSS consoles.
1103: Off-Duty Pair	Defines the DSS Console off-duty pair.
1104: Operator Assign	Assigns the operator port for each tenant.

Data Interface commands

Command	Meaning
1201: DCI Init. Data	Defines the DCI initial data.
1202: DCI Port Type	Defines the DCI port type.
1203: DCI Tenant	Assigns a tenant number to each DCI port.
1204: DCI Group	Assigns a group number to each DCI.
1205: Restriction Cls	Defines the restriction class of each DCI.
1206: Hotline for DCI	Defines a Hotline pair for DCI's.
1207: DCI S-Reg Init.	Defines the initial DCI S-Register data.

Door *Station commands*

Command	Meaning
1301: DST Ring Assign	Defines the stations that will ring when a door station is activated.

Paging commands

Command	Meaning
1401: Int Page Group	Defines the Internal Paging Groups.
1402: Int Pge Gp Name	Assigns the Internal Paging Group names.
1403: Ext-Spk Data	Defines the control data for for each external speaker.
1404: Ext-Spk Ringing	Defines the type of ring for each external speaker.

Modem commands

Command	Meaning
1501: MODEM for O/G	Defines 8 modem configurations for outgoing data calls.
1502: MODEM for I/C	Defines 8 modem configurations for incoming data calls.
1503: MODEM Assign	Assigns modem type to incoming exchange line.
1504: DCI Access Name	Assigns name to DCI.
1505: MODEM Init Type	Initialises modem.

System Access

How to access Programming Mode

Before attempting to access Programming mode, ensure that you know the current password.

Action   **Display**

Press the [Speaker] key and dial 643 (programming service code) for system data entry.

```
O/M Program    Ver x-x
Password-
```

Enter the password.
(The password is '12345678' until changed by Installer.)

```
O/M Program    Ver x-x
Password-@@@@@@@@
```

Press the [Hold] key.

The system will now accept programming commands. Enter the command number and press the [Hold] key to continue.

```
USER:TELECOM   LVL:IN
Enter Command>
```

NOTE: The version number (x-x) appearing on the screen is the software version currently operating in the system.

How to exit Programming Mode

When programming mode is exited, the system will provide an option to allow changes, made during the programming session, to be saved to floppy disk. If the changes are to be saved, ensure that a system floppy disk is inserted into the disk drive.

Action	**Display**
To exit programming mode, first return to the Enter Command> display Press the [Memory] key.	```USER:TELECOM LVL:IN``` ```Enter Command>```

Exit *with Data Save to* **disk**

Enter 1. Press the [Hold] key.	```0000:Exit O/M Mode``` ```Data Save (Yes:1)? 1```
The system is saving data to the floppy disk; wait until the process has been completed.	```0000:Exit O/M Mode``` ```Data Saving .....```
The data has been saved successfully. Press the [Hold] key to continue.	```0000:Exit O/M Mode``` ```Data Save Complete!```

NOTE: If the operation was not successful, one of the following messages will be displayed:

- "Disk Missing!"
- "Disk   Write Protect!
- "Disk Error!"

If this occurs, ensure that the floppy disk is correctly inserted and has the write protect slot set to read and write. Press the [Hold] key to try again.

Exit without Data Save to **disk**

Press the [Hold] key.	```10:30AM TUE 20 AUG```

NOTE: If you choose to exit without using the data save option, any programming changes are saved on RAM and not to the floppy disk.

Description of the Telecom Commander D Commands

IN 0001

Customer Data Save

This command is used to save the customer data onto floppy disk. Before using the command, ensure that a formatted floppy disk has been inserted into the disk drive.

Input data

Field name	Description	Input data
Save(Yes:1)	Confirm save	1: Save data to floppy disk

Example

Action

Display

Enter the command number.

Press the [Hold] key.

```
USER:TELECOM  LVL:IN
Enter command> 0001
```

Data Save

Enter 1.

Press the [Hold] key.

```
0001:SYS Data Save
Save? (Yes:1)? 1
```

```
0001:SYS Data Save
Data saving . . . .
```

```
0001:SYS Data Save
Data Save Complete!
```

Press the [Hold] key twice to go to the next command.

NOTE: If the operation was not successful, one of the following messages will be displayed:

- "Disk Missing!"

. "Disk Write Protect!

- "Disk Error!"

Ensure that a system floppy disk is inserted into the disk drive and repeat the command.

Data not saved

Press the [Hold] key to go to next command.

Defaults

None.

IN 0002

System Data Load

This command is used to load both the system programme data and customer data from floppy disk. Note that the current system settings will be overwritten with the data on the floppy disk by this operation.

Before using this command, ensure that the floppy disk, on which system data was previously saved, is inserted into the disk drive. The data on the disk must be the same software version as that on the Telecom Commander D.

Input data

Field name	Description	Input data
Load(Yes: 1)	Confirm load	1: Load the data from floppy disk

Example

Action

Enter the command number.
Press the [Hold] key.

Display

```
USER:TELECOM LVL:IN
Enter command> 0002
```

Data Load

Enter 1.
Press the [Hold] key.

```
0002:SYS Data Load
Load?(Yes:1) 1
```

```
0002:SYS Data Load
Data Loading....
```
.
.
.

```
Data Load Complete!
Please Reset System
```

Press the [Hold] key to go to next command.

NOTE: If the operation was not successful, one of the following messages will be displayed:

. "Versi0n Mismatch!" – The system data does not match the Version number.
- "Disk Off Line!" – The disk is off line.
- "Memory Full!" – The load memory area is full.
- "Loading Fail!" – Loading failure.

If data 'Loading Fail' occurs, use command 0001 to save data, then try command 0002 again.

Data not loaded

Press the [Hold] key to go to next command..

Defaults

None.

IN 0003

Date & Time set

This command is used to set the system date and time.

Input data

Field name	Description	Input data
Year	The last two digits of the year	0 to 99: 1900 to 1999.
Month	The number for the month	1 to 12: January to December.
Day	The day of the month	1 to31
Week	The number for the day of the week	0 to 6: 0: Sunday, 1: Monday, 2: Tuesday, 3: Wednesday, 4: Thursday, 5: Friday, 6: Saturday
Hour	The hour of the day	0 to 23
Minute	The number of minutes after the hour	0 to 59
Second	The number of seconds after the minute	0 to 59

Example

In this example, the system time and date of 10:15:24, Thursday October 14th 1990 is reset to 11:13:00, Wednesday November 17th 1991.

NOTE: When the last item of variable data has been entered, it is not necessary to continue entering data in the remaining fields. Press the [Hold] key twice after entering the last modified data.

Action	**Display**
Enter the command number. Press the [Hold] key.	`USER:TELECOM  LVL:IN` `Enter command> 0003`
Enter the last two digits of the year (91) OR Press the [Hold] key.	`0003:Date & Time Set` `Year:90-91`
Enter the month number (11). Press the [Hold] key.	`0003:Date & Time Set` `Month:10-11`
Enter the day of the month (17). Press the [Hold] key.	`0003:Date & Time Set` `Day:14-17`

IN 0003

Enter the day of the week (3).

Press the [Hold] key.

```
0003:Date & Time Set
Week:  (0:Sun):4-3
```

Enter the hour (11)

Press the [Hold] key.

```
0003:Date & Time Set
Hour:10-11
```

Enter the minutes (13).

Press the [Hold] key.

```
0003:Date & Time Set
Minute:15-13
```

Enter the seconds (0).

Press the [Hold] key.

```
0003:Date & Time Set
Second:24-0
```

Enter 1.

Press the [Hold] key.

```
0003:Date & Time Set
Set?(Yes:1, No:0) 1
```

```
0003:Date & Time Set
Updated !
```

Press the [Hold] key to go to next command.

Defaults   None.

IN 0004

Slot control

This command is used to block or delete a system PBA slot.

- If the Block option is selected and a slot number input, the system will block the PBA. Blocking is indicated by the pilot lamp on the PBA, which is extinguished when the slot is blocked. The PBA may then be removed for repair.

. If the Delete option is selected and a slot number is input, the system will deny system access to that slot. The slot becomes active when a new board is inserted.

Input data

Field name	Description	Input data
Menu No.:	Select the block or delete operation	1: Block 2: Delete **3:** Reset
Target Slot:	The slot number to be blocked or deleted	1 to 25: Slot number 1 to 25.

Example

The following examples show how to block slot 3, and how to delete slot 4.

Action   **Display**

Enter the command number.

Press the [Hold] key.

```
USER:TELECOM LVL:IN
Enter command> 0004
```

Blocking a slot   Enter the menu number (1).

Press the [Hold] key.

```
0004:Slot Control
Menu No? 1
```

Enter the target slot number to be blocked (3).

Press the [Hold] key.

```
0004: Block
Target Slot? 3            I
```

```
0004: Block Slot-03
Blocking Start!
```

Press the [Hold] key and enter the next target slot number and press the [Hold] key to continue blocking slots
       OR
Press the [Hold] key again and enter the next menu number to continue in command 0004
       OR
Press the [Hold] key again to go to next command.

```
0004: Block
Target Slot?
```

```
0004: Slot Control
Menu No?
```

NOTE: If the operation is unsuccessful, the system will display one of the following messages:

- "Not Used!" – Slot not used

- "Can't Block!" – Unable to block slot

IN 0004

Deleting a slot

Enter the menu number (2).

Press the [Hold] key.

```
0004:Slot  Control
Menu No? 2
```

Enter the target slot number to be deleted (4).

Press the [Hold] key.

```
0004: Delete
Target Slot? 4           
```

```
0004: Delete  Slot-0 4
Delete!
```

Press the [Hold] key and enter the next target slot number and press the [Hold] key to continue deleting slots

<div align="center">OR</div>

Press the [Hold] key again and enter the next menu number to continue in command 0004

<div align="center">OR</div>

Press the [Hold] key again to go to next command.

```
0004: Delete
Target Slot?
```

```
0004:Slot  Control
Menu No?
```

NOTE: If the operation is unsuccessful, the system will display the following message:

- "Can't Delete!" – Unable to delete slot.

Defaults

None.

IN 0005

System information print out

This command is used to direct the printout of the system hardware installation data for each PBA slot to a particular DCI port.

System information printout format

An example of a printout is shown below:

```
<< Commander D SYSTEM INFORMATION >>
    Last System Data Change : xx-xxx-xx xx:xx by "TELECOM"
    Last System Data Save   : xx-xxx-xx xx:xx by "TELECOM"

Slot  Type       ID Port     Condition        Note
1     DSB-D-A    1  1-8      Running          4 ports connected
2     DSB-D-A    2  9-16     Block/Initial    8 ports connected
3     DSB-D-A    3  17-24    Not Install      0 port connected
4
5 ASB-D-A ASB-D-A  45  25-32 33-40 Running Not Install
6     ELB-D-A    1  1-4      Running
7     ELB-D-A    2  5-8      Running
8     ELB-D-A    3  9-12     Running
9     ELB-D-A    4  13-16    Not Install
10    CDB-D-A    1           Running
1 1   -none-
12    DSEPB-D-A 1            Block/Initial
1 3   -none-
1 4   -none-
1 5   -none-
1 6   -none-
17    -none-
1 8   -none-
1 9   -none-
2 0   -none-
2 1   -none-
22    -none-
23    -none-
2 4   -none-
2 5   -none-
```

Input data

Field name	Description	Input data
Print-Port:	The print port number	1 – 96
Print(Yes: 1)?	Confirm print request	1: Print

Example

This example sets DCI port 2 to receive installation data for the system.

Action

Enter the command number.

Press the [Hold] key.

Display

```
USER:TELECOM  LVL:IN
Enter command> 0005
```

Enter the print port number (2).

Press the [Hold] key.

```
0005:System Info.
Print_Port:1-2
```

Enter 1.

Press the [Hold] key.

```
0005:System Info.
Print(Yes:1)? 1
```

```
0005:System  Info.
Printed  out!
```

Press the [Hold] key to go to next command.

Defaults

Printer port 1 is selected for output (Print-Port is set to 1).

IN 0006

Alarm report output   This command controls the system alarm printouts. For an example of the
alarm report format and a description of the alarm types refer to Appendix E
– Alarm Reports.

Input data

Field name	Description	Input data
Menu No.	Select print options	1: Print out port set 2: Print alarm report history 3: Print newest alarm report 4: Clear all alarm reports 5: Print out mode set

Menu number	Description	Input data
1	Print port	0: Print port not defined 1-96: DCI port number 1-96.
2	Print All (Yes:l)	**1:** Print the report **[Hold]** : abort
3	Print New (Yes:l)	1: Print the report [Hold]: abort
4	All Clear (Yes:l)	**1:** Clear the report **[Hold]**: abort
5	Mode	0: Manual print out 1: Auto print out

Examples   Examples of each type of menu option are shown below.

Action	**Display**
Enter the command number. Press the [Hold] key.	`USER:TELECOM  LVL:IN` `Enter command> 0006`
Set printout port Enter the menu number (1). Press the [Hold] key.	`0006:Alarm Report` `Menu No? 1`
Enter the print port number (2). Press the [Hold] key.	`0006:Print Port Set` `Print port:1-2`
Print alarm report history Enter the next menu number (2). Press the [Hold] key.	`0006:Alarm Report` `Menu No? 2`
Enter 1 (Yes) Press the [Hold] key.	`0006:Alarm Report` `Print All(Yes:1)? 1`
	`0006:Alarm Report` `Print O.K.`
Press the [Hold] key.	

IN 0006

Print newest alarm report	Enter the next menu option (3).	0006:Alarm Report Menu No? **3**
	Press the [Hold] key.	
	Enter 1.	0006:Alarm Report Print **New(Yes:1)?** 1
	Press the [Hold] key.	
		0006:**Alarm** Report Print O.K.
	Press the [Hold] key.	
Clear all alarm reports	Enter the next menu option (4).	0006:Alarm Report Menu No? 4
	Press the [Hold] key.	
	Enter 1 (Yes).	0006:Alarm Report All **Clear(Yes:1)?** 1
	Press the [Hold] key.	
		0006:Alarm Report Report Clear
	Press the [Hold] key.	
Printout mode set	Enter the next menu number (5).	0006:Alarm Report Menu No? 5
	Press the [Hold] key.	
	Enter the report mode (1).	0006:Print Mode Set Mode:O-1
	Press the [Hold] key.	
	Enter the next menu number and press the [Hold] key to continue in command *0006* OR Press the [Hold] key again to go next command.	0006:**Alarm** Report **Menu No?**
Defaults	In menu 1, the printer port is set to 1. In menu 5, the mode is set to 0.	

IN 0007

Loot, Back test

This command controls the loop back test for each port.

Input data

Field name	Description	Input data
Menu No.	Select loop-back options	1: Single line telephone 2: Keystation 3: Keystation DCI 4: Analogue trunk 5 : DTMF 6: Conference 7: DTD 8: Door station 9: External Speaker 10: Modem 11: –reserved– 12: ISDN port
Port No.	The port number for the loop-back test.	The port number which can be selected depends on the menu number chosen – see the table below.

Menu number:	Valid port numbers:
1	9 to 96: Station port number 9 to 96.
2	l to 96: Station port number 1 to 96.
3	l to 96: Station port number 1 to 96.
4	l to 80: Trunk port number 1 to 80
5	l to 32: DTMF port number 1 to 32
6	l to 4: Conference group number 1 to 4
7	l to 32: DTD port number 1 to 32
8	l to 4: Door station port number 1 to 4
9	l to 4: External paging port number 1 to 4
10	l to 8: Modem port number 1 to 8
11	– reserved –
12	l to 80: ISDN port number 1 to 80

Example

This example sets a loop back test for a single line telephone occupying port number 9.

Action

Enter the command number.

Press the [Hold] key.

Enter the menu number (1).

Press the [Hold] key.

Display

```
USER:TELECOM  LVL:IN
Enter command> 0007
```

```
0007:Loop Back Test
Menu No? 1
```

IN 0007

Enter the testing port number (9).

Press the [Hold] key.

```
0007:SLT(ASB)
Port No? 9
```

```
0007:SLT(ASB)
Port-009:Testing..
```

NOTE: The port cannot be tested if one of the following messages is displayed:

- "Port-001 : Busy !" – The port is in use.

- "Port-001 : Not used!" -The port is not connected.

- "Port-001: Cancel" – The test has been cancelled.

```
0007:SLT(ASB)
Port_009:Pass !
```

Press the [Hold] key and enter the next testing port number to continue in this menu

OR

Press the [Hold] key again and enter the next menu number to continue in command 0007

OR

Press the [Hold] key again to go to next command.

```
0007:SLT(ASB)
Port No?
```

```
0007:Loop Back Test
Menu No?
```

Defaults   None.

IN 0008

Alarm set up

This command defines which alarm lamps light for each alarm number.

Alarm lamps on each Indicator panel/PBA are as follows.

Position	Alarm lamp marking
CPU PBA	MAJ, MIN, ALM1, ALM2, ALM3, ALM4, ALMS
Cabinet	MAJ, MIN
DSS Console	MAJ, MIN

Input data

Field name	Description	Input data
Alarm No.:	Alarm number	100 to 139 Refer to Appendix E for a list of alarm numbers and an example of an alarm report.
Type	Alarm type	0: No lamps lit 1: MAJ lamp lit 2: MIN lamp lit
Level	Alarm level	0: No lamps lit 1: ALM1 lamp lit 2: ALM2 lamp lit 3: ALM3 lamp lit 4: ALM4 lamp lit 5: ALMS lamp lit
Print	Print contro!	0: Not printed 1: Printed

Example

This example selects Alarm 139 to operate a major alarm lamp and store the information for printing at a later time.

Action	Display
Enter the command number. Press the [Hold] key.	USER:TELECOM LVL:IN Enter command> 0008
Enter the alarm number (139). Press the [Hold] key.	0008:Alarm Set Up Alarm No? 139
Enter the alarm type (1). Press the [Hold] key.	0008: ALM 0139 Type:2-1
Press the [Hold] key.	0008: ALM 0139 Level:0-
Press the [Hold] key.	0008: ALM 0139 Print:0-

IN 0008

```
0008:Alarm Set Up
Alarm No?
```

command.

Defaults

Alarm number	Alarm type	MA J/MIN LEDs Lit	Alarm level	ALM LEDs Lit	Print
100	2	MIN	0	none	1
101	2	MIN	0	none	1
102	2	MIN	0	none	1
103	2	MIN	0	none	1
104	2	MIN	0	none	1
105	2	MIN	0	none	1
106	2	MIN	0	none	1
107	0	none	0	none	0
108	0	none	0	none	0
109	1	MAJ	0	none	1
110	1	MAJ	0	none	1
111	0	none	0	none	0
112 to 127	0	none	0	none	1
128	0	none	0	none	1
129, 130	0	none	0	none	1
131	2	MIN	0	none	1
132	2	MIN	0	none	1
133	2	MIN	0	none	1
134 to 139	0	none	0	none	1

IN 0009

Keystation assign for Fault Report

This command assigns the keystation required for fault report output. The system will assign up to 4 Fault Report keystations. Each Fault Report keystation displays the following items:

Item	Description
0107	DSS disconnected
0108	Keystation disconnected
0109	Mains power fail
0128	SMDR buffer full

Input data

Field name	Description	Input data
Report **KStn** No	Keystation number	1 to4: Keystation 1 to 4
RPT **KST_x**	(Where x is the Keystation number) The keystation port number	0: Not assigned 1 to 96: Keystation port number 1 to 96

Example

This example sets keystation port number 27 as Report keystation number 1.

Action   **Display**

Enter the command number.

Press the [Hold] key.

```
USER:TELECOM  LVL:IN
Enter command> 0009
```

Enter the number of the report keystation (1)

Press the [Hold] key.

```
0009:Fault to KStn
Report KStn No? 1
```

Enter the port number (27) that the report is to be directed to

Press the [Hold] key.

```
0009:Fault to KStn
RPT KST_1:0-27
```

Enter the number of the next Fault Report keystation and press the [Hold] key to continue in command 0009
      OR
Press the [Hold] key again to go to next command.

```
0009:Fault to KST
Report KStn No?
```

Defaults

All port numbers are set to 0 (not assigned) for all tenants.

IN 0010

Fault Report view

This command is used to view the Fault Report on a keystation's display. The system has a maximum of 50 Fault Reports. The Fault Report format is as follows:

```
Al 0108 01MAR90 1320
DSB-D-A         02 04
```

Where:

A1	Alarm level
0108	Alarm number
01MAR90	Date
1320	Time
DSB-D-A	Unit name
02	Slot number
04	Port number

Input data

Field name	Description	Input data
Entry No.:	The fault report entry number	1 to 50

NOTE: Fault report number 1 is the first report to be recorded.

Example

Action

Enter the command number.

Press the [Hold] key.

Enter the fault report entry number (1) to be viewed.

Press the [Hold] key.

Press the [Hold] key and enter the next entry number and press the [Hold] key to continue in command 0010
OR
Press the [Hold] key again to go to next command.

Display

```
USER:TELECOM  LVL:IN
Enter command> 0010
```

```
0010:Fault Report
Entry No? 1
```

```
Al 0108 01MAR91 1320
DSB-D-A         02 04
```

```
0010:Fault Report
Entry No?
```

Defaults

None

IN 0011

ISDN PD loop-back test

This command is used to test the internal control interface between the CPU and the installed ISDN boards, (IPRB AND IBRSB).

Input data

Field Name	Description	Input Data
Board ID	Slot number ISDN board is installed in	1 – 25: Slot number 1 – 25

Example

This example tests the control interface for the ISDN board installed in slot 4.

Action

Enter the command number.

Press the [Hold] key.

Enter the board identification number (4).

Press the [Hold] key.

Display

```
USER:TELECOM  LVL:IN
Enter command> 0011
```

```
0011:PD Loop Back
Board ID? 4
```

```
0011:           ID-04
Testing...
```

NOTE: The port cannot be tested if one of the following messages is displayed:

. "Busy!"

— Port is busy.

• "Nothing!"

— Board not installed.

```
0011:           ID-04
Good!
```

Press the [Hold] key and enter the next board identification number to continue in command 0011
            OR
Press the [Hold] again to go to the next command.

```
0011:PD Loop Back
Board ID?
```

Defaults

None.

IN 0012

ISDN loop-back Test

This command allows for the provision of the standard Layer 1 ISDN loop-backs, usually requested by the network provider for testing.

Input data

Field Name	Description	Input Data
Board ID	Slot number ISDN board is installed in	1 to 25: Slot number 1 – 25.
Line No.	ISDN interface number	1: IPRB 1 or 2: IBRSB
Mode	Release/establish loop-back mode	0: Release 1: Layer-l establish (mode 1). 2: Layer-l establish (mode 2).

Example

This example provides a mode 2 loop-back of the second interface on the IBRSB installed in slot 6.

Action

Enter the command number.

Press the [Hold] key.

Enter the slot number (6).

Press the [Hold] key.

Enter the line interface number (2)

Press the [Hold] key.

Enter the loop-back mode (2)

Press the [Hold] key.

Display

```
USER:TELECOM  LVL:IN
Enter command> 0012
```

```
0012:ISDN Loop Back
Board ID? 6
```

```
0012:      ID_06
Line No? 2
```

```
0012:  ID_06  LINE_2
Mode? 2
```

```
0012:   ID_06   LINE_2
Looping...
```

NOTE: The loop cannot be tested if one of the following messages is displayed:

- "Busy!"

  -The port is in use.

- "Nothing!"

  – Board not installed

- "Already Loop!"

  – Interface has already looped.

IN 0012

```
0012:   ID-06 LINE-2
Done!                    ]
```

Enter the release loop-back mode number (0).

```
0012:   ID-06   LINE-2
Mode? 0
```

Press the [Hold] key.

```
0012:   ID-06 LINE 2
Release Completed!-
```

Enter the next board identification number and press the [Hold] key to continue in command 0012
                    OR
Press the [Hold] key again to go to the next command.

```
0012:ISDN Loop Back
Board ID? 1
```

Defaults   None.

IN 0013

Customer information

This command is used to store and view the customers details. The information is stored on the system disk.

Input data

Field Name	Description	Input Data
Menu No.	Customer information options	1: Read information 2: Edit information 3: Write information
Index No.	Data line number	Input customer information

Menu No. 2

Index No.	Description	
1	Customer name 1	1 – 32 characters
2	Customer name 2	33 – 64 characters
3	Customer name 3	65 – 96 characters
4	Customer name 4	97 – 128 characters
5	Customer address 1	1 – 32 characters
6	Customer address 2	33 – 64 characters
7	Customer address 3	65 – 96 characters
8	Customer address 4	97 – 128 characters
9	Customer address 5	129 – 160 characters
10	Customer address 6	161 – 192 characters
11	Customer address 7	193 – 224 characters
12	Customer address 8	225 – 256 characters
13	Contact name	
14	Phone number	
15	Alternate contact name	
16	Comments 1	1 – 32 characters
17	Comments 2	32 – 64 characters
18	Comments 3	65 – 96 characters
19	Comments 4	97 – 128 characters
20	Comments 5	129 – 160 characters
21	Comments 6	161 – 192 characters
22	Comments 7	193 – 224 characters
23	Comments 8	225 – 256 characters
24	Comments 9	257 – 268 characters

Example

This example enters the customer's name as JONES & JONES and saves this to disk.

IN 0013

Action	**Display**
Enter the command number. Press the [Hold] key.	```USER:TELECOM LVL:IN``` ```Enter command> 0013```
Enter the menu number (1). Press the [Hold] key.	```0013:Customer Info.``` ```Menu No.? 1```
	```DISK READ``` ```Disk Reading... ```I
	```DISK READ``` ```Disk Read Complete```
Enter the menu number (2). Press the [Hold] key.	```0013:Customer Info.``` ```Menu No.? 2```
Enter the index number (1). Press the [Hold] key.	```0013: DISK EDIT.``` ```Index No.? 1```
Enter the customer name (JONES & JONES). Press the [Hold] key.	```0013: CUSTOMER NAME``` ```-JONES & JONES ```I
Press the [Hold] key and enter next index number to continue in this menu OR	```0013: DISK EDIT.``` ```Index No.?```
Press the [Hold] key again and enter menu number (3) to enter information.	```0013:Customer Info.``` ```Menu No.? 3```
	```0013:DISK WRITE``` ```Disk Writing...```
	```0013:DISK WRITE``` ```Disk Write Complete!```
Press the [Hold] key again to go to the next command.	```0013:Customer Info.``` ```Menu No.?```

Defaults   None.

IN 0014

Auto Loop-back

This command provides for the establishment of an automatic periodic test of the Highway interface to each installed board (same as manual test in command 0007).

Input data

Field Name	Description	Input Data
Test Mode	Enable/disable Loop-back test	0: Disable 1: Enable

Example

This example enables the automatic testing of the Highway interface.

Action

Enter the command number.

Press the [Hold] key.

Enter the required test mode (1).

Press the [Hold] key.

Press the [Hold] key again to go to the next command.

Display

```
USER:TELECOM LVL:IN
Enter command> 0014
```

```
0014: Auto Loop Back
Test Mode:0-1
```

Defaults

Auto Loop Back Test is disabled.

IN 0015

Date and time set

This command allows for a date to be entered into the system for the replacement of the system backup batteries.

Input data

Field Name	Description	Input Data
Year	The number of the year	**0 to 99**
Month	The month of the year	1: January to 12: December

Example

This example sets April 1999 as the time to renew the system backup batteries.

Action

Display

Enter the command number.

Press the [Hold] key.

```
USER:TELECOM LVL:IN
Enter command> 0015
```

Enter the required year (99)

Press the [Hold] key.

```
0015: Battery Replace
Year:89- 99
```

Enter the required month of the year (4)

Press the [Hold] key.

```
0015: Battery Replace
Month:10-4
```

Press the [Hold] key to go to the next command.

Defaults

None.

IN 0016

ISDN function control

This command is used to control the availability of ISDN access to the system.

Input data

Field Name	Description	Input Data
Mode	Enable/disable ISDN function	0: Enable 1: Disable

Example

This example disables the ISDN facility for the system.

Action   **Display**

Enter the command number.

Press the [Hold] key.

```
USER:TELECOM  LVL:IN
Enter command> 0016
```

Enter the ISDN function mode (1)

Press the [Hold] key.

```
0016: ISDN Function
Mode:0-1
```

Press the [Hold] again to go to the next command.

Defaults

ISDN function is enabled.

IN 0116

ASB-D-A
Initial data

This command defines the timing parameters of the ASB-D-A.

Input data

Field name	Description	Input data
Dtct-Break	Detection break time	1 to 255 (10 msec to 1280 msec)
Dtct-Make	Detection make time	1 to 255 (10 msec to 1280 msec)
Dtct-Ofhk	Detection off-hook time	1 to 255 (10 msec to 1280 msec)
Ofhk–Guard	After off-hook detection guard time	1 to 255 (10 msec to 1280 msec)
Max-Break	Maximum break pulse time	1 to 255 (10 msec to 1280 msec)
Max-Flash	Maximum hook-flash time	1 to 255 (10 msec to 1280 msec)
Max-Make	Maximum make pulse time	1 to 255 (10 msec to 1280 msec)
Dial-Guard	After dial detection guard time	1 to 255 (10 msec to 1280 msec)
Min-Ground	Minimum grounding time	1 to 255 (10 msec to 1280 msec)

Example

This example will change the maximum hook-flash time to 1 second.

Action	**Display**
Enter the command number. Press the [Hold] key.	USER:TELECOM LVL:IN Enter command> **0116**
Press the [Hold] key 5 times.	0116:ASB-D-A Initial Dtct-Break:1-
Enter the maximum hook-flash time (199) (for 1000 msec) Press the [Hold] key 4 times to go to next command.	0116:ASB-D-A Initial Max-Flash :36-**199**

IN 0116

Defaults

Field name	I Setting	Time
Dtct-Break	1	10 msec
Dtct-Make	1	10 msec
Dtct–Ofhk	57	290 msec
Ofhk-Guard	59	300 msec
Max-Break	17	90 msec
Max-Flash	36	190 msec
Max-Make	19	100 msec
Dial-Guard	69	350 msec
Min-Ground	19	100 msec

IN 0120

DSEPB-D-A
CODEC Gain set

This command assigns the CODEC Gain number for the door station and speaker. The DSEPB-D-A has 4 circuits which can be changed to use as a door station or external-speaker by a switch on the DSEPB-D-A.

Input data

Field name	Description	Input data
DSEPB Port No?	Port number	1 - 4 : Port 1 – 4
PORT-xx	(Where xx is the port number) The CODEC gain number	1 - 5 : 1: – Odb 2: – -lOdb **3: – -5db** **4: – +5db** 5: – +10db

Example

Action

Enter the command number.

Press the [Hold] key.

Enter the DSEPB-D-A port number (1).

Press the [Hold] key.

Enter the CODEC Gain number (2).

Press the [Hold] key.

Enter the next port number and press the [Hold] key to continue in command 0120

OR

Press the [Hold] key again to go to next command.

Display

```
USER:TELECOM LVL:IN
Enter command> 0120
```

```
0120:DSEPB Gain Set
DSEPB Port No? 1
```

```
0120:DSEPB Gain Set
PORT_01:1-2
```

```
0120:DSEPB Gain Set
DSEPB Port No?
```

Defaults

Port Number	CODEC Gain No.
Port- 1	1
Port-2	1
Port-3	1
Port-4	1

SA 0201

Password for System Data entry

This command defines the user passwords for accessing system programming. The system can have up to 8 users.

Input data

Field name	Description	Input data
User No.	User number	1 to 8: User 1 to 8
Name	User name	Up to 8 characters
PWD	User password	Up to 8 digits
Tenant	Tenant number	0: All tenants 1 to 4: Tenant 1 to 4
Level	User level	0: Not used 1: MF (Manufacturer) 2: IN (Installer) 3: SA (System Administrator)

Example

This example sets up password 7654321 for user number 4 using the name "EXAMPLE". The password gives access to System Administrator level and is valid for tenant 1.

Action

Display

Enter the command number.

Press the [Hold] key.

```
USER:TELECOM LVL:IN
Enter command> 0201
```

Enter the user number (4).

Press the [Hold] key.

```
0201:Data Entry Pwd
User No? 4
```

Enter the user name (EXAMPLE) using the line keys.

Press the [Hold] key.

```
0201:          USER_4
Name:-TELECOM-EXAMPLE
```

Enter the user password (7654321).

Press the [Hold] key.

```
0201:          USER_4
PWD:-1234567-7654321
```

Enter the tenant number (1).

Press the [Hold] key.

```
0201:          USER_4
Tenant:0-1
```

Enter the user level (3).

Press the [Hold] key.

```
0201:          USER_4
Level:0-3
```

Enter the next user number and press the [Hold] key to continue in command 0201

OR

Press the [Hold] key again to go to next command.

```
0201:Data Entry Pwd
User No?
```

SA 0201

Defaults

User Number	User Name	User Password	Tenant Level	User Level
1	AAL/TT	x x x x x x x x	0	1 (MF)
2	TELECOM	12345678	0	2 (IN)
3	CUSTOMER	0000	1	3 (SA)
4 - 8	none	none	none	none

SA 0202

Password for functions

This command defines the passwords which allow station users access to the following programming functions:

· Date/Clock setup

· Night mode change

· Access barring override

· Reading of Exchange meters.

Input data

Field name	Description	Input data
Tenant No.	Tenant number	1 to 4: Tenant 1 to 4
Pwd(Clock)	Date/Clock setup password	4 digits
Pwd(Night)	Night mode change password	4 digits
Pwd(AcB)	Access barring override password	4 digits
Pwd(REM)	Reading of Exchange meters	4 digits

Example

This example sets password 1234 for Date/Clock setup, 5678 for Night mode change, and 9012 for Access barring Override for tenant 1.

Action

Display

Enter the command number.

Press the [Hold] key.

```
USER:TELECOM  LVL:IN
Enter command> 0202
```

Enter the Tenant number (1).

Press the [Hold] key.

```
0202:Functions Pwd
Tenant No? 1
```

Enter the password to be used for Date/Clock setup (1234).

Press the [Hold] key.

```
0202:        Tenant_1
Pwd(Clock):-0000-1234
```

Enter the password to be used for Night Mode Change (5678).

Press the [Hold] key.

```
0202:        Tenant_1
Pwd(Night):-0000-5678
```

Enter the password to be used for Access barring Override (9012).

Press the [Hold] key.

```
0202:        Tenant_1
Pwd(AcB):-0000-9012
```

Press the [Hold] key.

```
0202:        Tenant_1
Pwd(REM):-0000
```

Enter the next tenant number and press the [Hold] key to continue in command 0202

OR

Press the [Hold] key again to go to the next command.

```
0202:Functions Pwd
Tenant No?
```

Defaults

All passwords are set to "0000" for all modes and tenants.

SA 0203

Password for DISA

This command defines the passwords which allow access to Direct Inward System Access (DISA) service. The system has 15 DISA passwords for each tenant.

This password is used for system access from an external line and assigns a class of service to the external user.

Input data

Field name	Description	Input data
Tenant No.	Tenant number	1 to4: Tenant 1 to 4
User No.	User number	1 to 15: User number 1 to 15
PWD	Password	6 digits.
Cls(Day)	DISA class of service number in Day mode	1-15: Class of service number 1-15
Cls(Night 1)	DISA class of service number in Night 1 mode	1-15: Class of service number 1-15
Cls(Night 2)	DISA class of service number in Night 2 mode	1-15: Class of service number 1-15

Example

This example sets up password '123456' for DISA user 1 in Tenant 1 and assigns DISA class of service 3 to that user in all modes.

Display

Action

Enter the command number.

Press the [Hold] key.

```
USER:TELECOM LVL:IN
Enter command> 0203
```

Enter the tenant number (1).

Press the [Hold] key.

```
0203:DISA Password
Tenant No? 1
```

Enter the user number (1).

Press the [Hold] key.

```
0203: TNT-1
User No? 1
```

Enter the password (123456).

Press the [Hold] key.

```
0203: TNT-1 USER-01
PWD:098765-123456
```

Enter the class of service number in Day mode (3).

Press the [Hold] key.

```
0203: TNT-1 USER-01
Cls(DAY):1-3
```

Enter the class of service number in Night 1 mode (3).

```
0203: TNT_1 USER-01
Cls (Night 1): 1-3
```

Press the [Hold] key.

SA 0203

Enter the class of service number in Night 2 mode (3).

```
0203: TNT_1  USER_01
Cls(Night 2):1-3
```

Press the [Hold] key.

Enter the next user number to continue entering data for this tenant
OR

```
0203: TNT_1
User No?
```

Press the [Hold] key and enter the next tenant number to continue in command 0203
OR

```
0203:DISA Password
Tenant No?
```

Press the [Hold] key again to go to next command.

Defaults

The following defaults apply to all tenants numbers and all user numbers.

Field	Default	Description
Password	098765	Password "098765"
Cls(Day)	1	DISA Station class of service 1
Cls(Night 1)	1	DISA Station class of service 1
Cls(Night 2)	1	DISA Station class of service 1

Additional information

Item No.	Service Name	DISA Class Number *										
		1	2	3	4	5	6	7	8	9	10	11
1	**Internal call (Voice)**	1		1	1		1		1		000000	
2	**Internal Camp-on**	1		1	1		1		1		000000	
3	**Night mode change**	1		1	1		1		1		000000	
4	**Internal call (Data)**	0	1	1	1	1	0	0	0	0	0	0
5	**Internal Paging**	0	0	1	1	1	0	0	0	0	0	0
6	**Speed dial – common**	0		0	1		1		1		000000	
7	**Speed dial – personal**	0		0	0		1		1		000000	
8	**Break In**	0		0	0		0		1		000000	
9	**Bypass call**	0	0	0	0	1	0	0	0	0	0	0
10	**Reserved**	0	0	0	0	0	1	1	●	0	0	0
11	**Remote Maintenance**	0	0	0	0	0	0	1	●	0	0	0
12	**Reserved**	0	0	0	0	0	0	0	0	0	0	0
13	**Reserved**	0	0	0	0	0	0	0	0	0	0	0
14	**Reserved**	0	0	0	0	0	0	0	0	0	0	0
15	**Reserved**	0	0	0	0	0	0	0	0	0	0	0
16	**Reserved**	0	0	0	0	0	0	0	0	0	0	0

IN 0301

System common operation data

This command is used to enable or disable inter-tenant communication.

NOTE: Do not duplicate the numbering plan for the different tenants. The system will not allow you to enable inter-tenant communication if the numbering plan is duplicated.

Input data

Field name	Description	Input data
Item No.	Menu item	1: Tenant communication 2: —reserved— 3: —reserved—
ITEM-O1	Enable/disable Inter-tenant communication	0: Disable communication 1: Enable communication

Example

This example allows inter-tenant communication between tenants.

Action **Display**

Enter the command number.

Press the [Hold] key.

```
USER:TELECOM   LVL:IN
Enter command> 0301
```

Enter the Item number (1).

Press the [Hold] key.

```
0301: Common Data
Item No? 1
```

Enter the enable/disable code (1).

Press the [Hold] key.

```
0301: Common Data
ITEM_01:0-1
```

Press the [Hold] key again to go to next command.

```
0301: Common Data
Item No?
```

Defaults

Field name	Default	Description
ITEM-O 1	0	Disable inter-tenant communication
ITEM-02	0	none
ITEM-03	0	none

0302

Reserved   This command is not yet available.

IN 0303

System optional facilities

This command defines optional facilities.

Input data

Field name	Description	Input data
Item No.	Menu options	1: Hold tone type (Melody IC) 2: Conference mode 3: Night 1 change SW (Manual switch)

Option number	Description	Input data
1	Hold Tone Type	0: Type 1 1: Type 2
2	Conference Mode	0: 4 parties 1: not available

Example

This example sets type 2 Hold tone for the system.

Action	**Display**
Enter the command number. Press the [Hold] key.	```USER:TELECOM LVL:IN``` ```Enter command> 0303```
Enter the Item number (1). Press the [Hold] key.	```0303:System Option``` ```Item No? 1```
Enter the option number (1) for the Item. Press the [Hold] key.	```0303:System Option``` ```ITEM 01:0-1```
Enter the next item number and press the [Hold] key to continue in command **0303** 　　　　OR Press the [Hold] key to go to the next command.	```0303:System Option``` ```Item No?```

Defaults

Item number	Setting	Description
Item-01	0	Type 1
Item-02	0	4 parties

IN 0304

**DTMF, DTD
block type**

This command defines how the DTMF receiver and Dial Tone Detector (DTD) circuits are used on the following boards:

.　　　　CONF Rec DT DET board (CDB-D-A)

.　　　　DTMF Rec DT DET board (DB-D-A)

The system can be equipped with up to 2 of these boards in either of the following combinations :

.　　　　one CDB-D-A board plus one DB-D-A board

.　　　　two DB-D-A boards

Each board has 16 circuits and each circuit can be used as either a DTMF Receiver or as a DTD.

The circuits are used in blocks of 4. The first board contains blocks 1–4 and the second board (if fitted) contains blocks 5-8.

Input data

Field name	Description	Input data
Block No.	Block number	1 to 8: 　Block 1 to 8
BLOCK-xx	(Where xx is the block number). The block type.	0: No connection 1: DTMF for analogue station 　　port 2: DTMF for exchange line 3: DTD for analogue station port 4: DTD for exchange line

Example

This example sets a block number 1 as DTMF receivers for exchange line ports

Action

Enter the command number.

Press the [Hold] key.

Enter the block number (1).

Press the [Hold] key.

Enter the block type (2).

Press the [Hold] key.

Enter the next block number and press the [Hold] key to continue in command **0304.**

　　　　OR

Press the [Hold] key again to go the next command.

Display

```
USER:TELECOM  LVL:IN
Enter command> 0304
```

```
0304:DTMF/DTD Set
Block No? 1
```

```
0304:DTMF/DTD Set
BLOCK_01:1-2
```

```
0304:DTMF/DTD Set
Block No?
```

IN 0304

Defaults

Block number	Setting	Description
1	1	DTMF for analogue station port
2	4	DTD for exchange line
3	1	DTMF for analogue station port
4	2	DTMF for exchange line

IN 0305

DSEPB-D-A FAX/Alarm sensor port assign

This command defines additional information for Alarm and Fax sensors.

Input data

Field name	Description	Input data
Sensor No.	Alarm Sensor number	1 - 4 : Sensor number 1 – 4
	Fax Sensor number	5 – 8: Sensor number 5 – 8

Addit Info	Additional information	For Alarm sensors:
		  0: not used
		  1–4: Alarm tone
		     number l-4.
		
		For FAX sensors:
		  0: not used
		  l-80: Trunk port
		     number l-80.

Example

This example allocates the first fax sensor to trunk port 8.

Action

Enter the command number.

Press the [Hold] key.

Display

```
USER:TELECOM LVL:IN
Enter command> 0305
```

Enter the fax sensor number (5).

Press the [Hold] key.

```
0305:DSEPB Alm/Fax
Sensor No? 5
```

Enter the additional data (8).

Press the [Hold] key.

```
0305:Alm SENSOR_05
Addit Info:0-8
```

Enter the next sensor number and press the [Hold] key to continue in command 0305

> OR

Press the [Hold] key again to go to next command.

```
0305:DSEPB Alm/Fax
Sensor No?
```

Defaults

Sensor number	Sensor type	ADD_INFO setting and description
1	Alarm	1 (alarm tone 1 used)
2	Alarm	1 (alarm tone 1 used)
3	Alarm	1 (alarm tone 1 used)
4	Alarm	1 (alarm tone 1 used)
5	Fax	0 (not used)
6	Fax	0 (not used)
7	Fax	0 (not used)
8	Fax	0 (not used)

IN 0306

Alarm Fax sensor condition

This command defines the Alarm/Fax "ON" condition of each sensor.

Input data

Field name	Description	Input data

Sensor No.	Alarm sensor number
	
	 Fax sensor number
		1-4:
		     Sensor number l-4
		 5-8:
		     Sensor number 5-8

Sensor-x	(Where x is the sensor number). The sensor control code	0: Alarm/Fax is ON when "Break" is detected 1: Alarm/Fax is ON when "Make" is detected

Example

This example sets Alarm/fax sensor number 5 to activate when a break is detected.

Action

Display

Enter the command number.

Press the [Hold] key.

```
USER:TELECOM LVL:IN
Enter command> 0306
```

Enter the Fax/Alarm sensor number **(5).**

Press the [Hold] key.

```
0306:Alm/Fax Sensor
Sensor No? 5
```

Enter the Alarm "ON" sensor control code (0).

Press the [Hold] key.

```
0306:Alm/Fax Sensor
Sensor_5:1-0
```

Enter the next sensor number and press the [Hold] key to continue in command **0306**

OR

Press the [Hold] key again to go to next command.

```
0306:Alm/Fax Sensor
Sensor No?
```

Defaults

Sensors l-8 are set to 1 (The Alarm/Fax is "ON" when Make is detected).

IN 0401

Tenant operation data

This command is used to set up the common service facilities of each tenant.

Input data

Field name	Description	Input data
Tenant No.	Tenant number	1-4: Tenant 1–4
Item No.	The common service facility	1 – 14: See table below for details.

Item number	Description	Input data
1	Manual change Night mode	0: Off 1: On
2	Auto change Night mode	0: Off 1: On
3	No-answer incoming alarm	0: Off 1: On
4	Line key toggling action	0: Exclusive-Hold 1: Drop off
5	---reserved---	
6	Pre-selection/One-touch	0: Pre-select 1: One-touch
7	Key station MIC default	0: MIC off 1: MIC on
8	Incoming ring priority	0: Internal 1: External
9	---reserved---	
10	Intercom call mode default	0: Voice 1: Signal
11	DID condition	0: Transfer 1: cut off
12	Auto answer (Int. incoming)	0: Off 1: On
13	Auto answer (Ext. incoming)	0: Off 1: On
14	Auto answer (Callback)	0: Off 1: On
15	Auto charge (end of call) [ISDN]	0: Off 1: On

IN 0401

Example

This example sets manual change Night mode off for tenant 1.

Action **Display**

Enter the command number.

Press the [Hold] key.

```
USER:TELECOM  LVL:IN
Enter command> 0401
```

Enter the tenant number (1).

Press the [Hold] key.

```
0401:Tenant Service
Tenant No? 1
```

Enter the item number (1).

Press the [Hold] key.

```
0401:          TNT_1
Item No? 1
```

Enter the item data (0).

Press the [Hold] key.

```
0401:          TNT_1
ITEM_01:1-0
```

Enter the next item number to continue
entering data for this tenant
        OR
Press the [Hold] key and enter the next
tenant number to continue in command
0401
        OR
Press the [Hold] key again to go to next
command.

```
0401:          TNT_1
Item No?
```

```
0401:Tenant Service
Tenant No?
```

Defaults

Item number	Description	Default
1	Manual change Night mode	1: On
2	Auto change Night mode	1: On
3	No-answer incoming alarm	0: Off
4	Line key toggling action	1: Drop off
5	---reserved---	0:
6	Pre-selection/One-touch	1: One-touch
7	Key station MIC default	1: MIC on
8	Incoming ring priority	1: External
9	---reserved---	0:
10	Intercom call mode default	1: Signal
11	DID condition	0: Transfer
12	Auto answer (Int. incoming)	1: On
13	Auto answer (Ext. incoming)	1: On
14	Auto answer (Callback)	1: On
15	Auto charge (end of call)	, 1:On

SA 0402

Text Messages

This command defines the system text messages that can be displayed automatically to a calling display keystation from the called station. The system has a maximum of 20 messages per tenant, each of up to 32 characters. The first 10 messages are defined by system default. Message 00 allows each display keystation to programme 1 individual message.

Input data

Field name	Description	Input data
Tenant No.	Tenant number	1 – 4: Tenant 1 – 4
Message No.	Message number	1-20: Message 1 – 20
MSG_xx	(Where xx is the message number). The message data	Up to 32 alphanumeric characters.

Example

This example sets system message 14 to "GONE HOME" for tenant number 1.

Action

Enter the command number.

Press the [Hold] key.

Display

```
USER:TELECOM  LVL:IN
Enter command> 0402
```

Enter the tenant number (1).

Press the [Hold] key.

```
0402:Text Messages
Tenant No? 1
```

Enter the message number for editing (14).

Press the [Hold] key.

```
0402: TNT_1
Message No? 14
```

Press [A] to go to next screen display.

```
0402: TNT_1    MSG_14
MESSAGE 14           &
```

Enter message data (GONE HOME) using the line keys.

Press the [Hold] key.

```
0402: TNT_1    MSG_14
          - GONE HOME
```

Enter the next message number and press the [Hold] key to continue entering data for this tenant

            OR

```
0402: TNT_1
Message No?
```

Press the [Hold] key and enter the next tenant number to continue in command **0402**

            OR.

```
0402: Text Messages
Tenant No?
```

Press the [Hold] key again to go to next command.

SA 0402

Defaults

The following messages are defaults for all tenants:

Message Number	Message
MSG_01	IN MEETING UNTIL ##:##
MSG_02	OUT UNTIL ##:##
MSG_03	OUT PLEASE CALL #######
MSG_04	PLEASE CALL ME ON #######
MSG_05	BUSY – CALL AFTER ##:##
MSG_06	OUT FOR LUNCH BACK AT ##:##
MSG_07	BUSINESS TRIP UNTIL ##/##/##
MSG-08	BUSINESS TRIP CALL #######
MSG_09	GONE FOR THE DAY
MSG_10	ON VACATION UNTIL ##/##/##
MSG_11	MESSAGE 11
to	to
MSG_20	MESSAGE 20

NOTE: & Indicates there is additional data to be displayed. Press the [△] key.

# Indicates where additional numeric information can be entered by the station user leaving the message. Blank data fields can be programmed in message l-20 by inserting # in the message.

SA 0403

SMDR operation data

This command defines the operating parameters for Station Message Detail Recording (SMDR).

Input data

Field name	Description	Input data
Tenant No.	Tenant number	1 – 4: Tenant 1 – 4
Account	Account code	0: Not available 1: Option 2: Forced
Mask Digit	Number of masked digits	0: Not applied 1-24: The number of masked digits
Min Digit	Minimum number of digits	0: Not applied 1 – 24: The minimum number of digits
Pulse Cost	Charge per metering pulse	0 – 65535: Number of cents per pulse
Print Port	DCI port number	0: Not assigned 1 – 96: Port number
Min Conv	Minimum conversation time	0: All conversations 1 – 65535: Conversation time in seconds
Min I/C	Minimum incoming time	0: All calls 1 to 65535: Incoming time in seconds

Print Item No.	Print options	1: Restricted call
		2: PABX call
		3: Internal data call
		4: Summary daily
		5: Summary weekly
		6: Summary monthly
		7: Name/Number Select
		  0: Print Station Name
		  1: Print Station Numbe
		8 – 16:
		  Reserved

ITEM-xx	(Where xx is the print option number). Printing enable/ disable	0: Disable printing 1: Enable printing

SA 0403

Example

This example sets tenant 1 the following SMDR options:

. Forced account codes
. Printed numbers will have 3 digits masked
. Printed numbers to be a minimum of 8 digits
. Each meter pulse is recorded at 30 cents
. DCI port number 1 is the printer port
. Calls not recorded until they have been in conversation for 2 minutes
. All calls waiting to be answered are recorded
. The printer will disable monthly reports

Action	**Display**
Enter the command number. Press the [Hold] key.	``` USER:TELECOM LVL:IN Enter command> 0403 ```
Enter the tenant number (1). Press the [Hold] key.	``` 0403:SMDR Operation Tenant No? 1 ```
Enter the account code mode of operation (2). Press the [Hold] key.	``` 0403: TNT_1 Account:1-2 ```
Enter the number of digits to be masked (3). Press the [Hold] key.	``` 0403: TNT_1 Mask Digit:2-3 ```
Enter the minimum number of digits to be printed out (8). Press the [Hold] key.	``` 0403: TNT_1 Min Digit:0-8 ```
Enter the number of cents to be charged for each pulse (30). Press the [Hold] key.	``` 0403: TNT_1 Pulse Cost:0-30 ```
Enter the DCI port number for the SMDR printer (1). Press the [Hold] key.	``` 0403: TNT_1 Print Port:0-1 ```
Enter the minimum number of seconds (120) of a conversation before that conversation is recorded Press the [Hold] key.	``` 0403: TNT_1 Min Conv:0-120 ```
Enter the minimum number of seconds (0) a call waits to be answered before being recorded. Press the [Hold] key.	``` 0403: TNT_1 Min I/C:0-0 ```
Enter the print item number (6). Press the [Hold] key.	``` 0403: TNT_1 Print Item No? 6 ```

SA 0403

Enter the print enable/disable code (0).

Press the [Hold] key.

```
0403:            TNT_1
ITEM 06:1-0
```

Enter the next print item number and press the [Hold] key to continue entering data for this tenant
            OR
Press the [Hold] key again and enter the next tenant number to continue in command 0403
            OR
Press the [Hold] key again to go to next command.

```
0403:            TNT_1
Print Item No?
```

```
0403: SMDR Operation
Tenant No?
```

Defaults

Field name	Setting	Description
Account	1	Option
Mask Digit	2	2 digits
Min Digit	0	Not applied
Pulse Cost	0	0 cents per meter pulse
Print Port	0	Not assigned
Min Conv	0	All calls
Min I/C	0	All calls
ITEM-O 1 to ITEM-16	} 1	Printing enabled for all print items

SA 0404

Station Hot line pair

This command defines the originating and destination stations of a Hotline pair. The system can accommodate up to 50 Hotline stations per tenant.

Input data

Field name	Description	Input data	I
Tenant No.	Tenant number	1 - 4 : Tenant 1 – 4.	
Hotline No.	Hotline number	1 – 50: Hotline 1 – 50	
Origin	Originating station number	Up to 4 digits	I
Target	Target station number	Up to 4 digits	I

Example

This example sets station 160 as the Hotline destination for station 121.

Action

Display

Enter the command number.

Press the [Hold] key.

```
USER:TELECOM  LVL:IN
Enter command> 0404
```

Enter the tenant number (1).

Press the [Hold] key.

```
0404:Hotline Assign
Tenant No? 1
```

Enter the Hotline number (1).

Press the [Hold] key.

```
0404: TNT_1
Hotline No? 1
```

Enter the originating station call number (121).

Press the [Hold] key.

```
0404: TNT_1    HOT_01
Origin:-121
```

Enter the target station number call (160).

Press the [Hold] key.

```
0404: TNT_1    HOT_01
Target:-160
```

Enter the next Hotline number and press the [Hold] key to continue entering data for this tenant
        OR

```
0404: TNT_1
Hotline No?
```

Press the [Hold] key and enter the next tenant number to continue in command 0404
        OR

```
0404:Hotline Assign
Tenant No?
```

Press the [Hold] key again to go to next command.

Defaults

All originating and target Hotline numbers are set to 0 for all tenants.

IN 0405

System common timer

This command defines the values of the 50 system timers.

Input data

Field name	Description	Input data
Tenant No.	Tenant number	1 − 4: Tenant 1 − 4
Timer No.	Timer number. Refer to the "Defaults" table for a list of the timers.	1 − 50: Timer 1 − 50
TIMER-xx	(Where xx is the timer number). The timer setting in seconds.	0 − 64,800: 0 − 64,800 seconds.

Example

This example sets the exclusive hold callback time to 90 seconds.

Action

Enter the command number.
Press the [Hold] key.

Enter the tenant number (1).
Press the [Hold] key.

Enter the timer number (3).
Press the [Hold] key.

Enter the timer setting (90).
Press the [Hold] key.

Enter the next timer number and press the [Hold] key to continue entering data for this tenant
> OR

Press the [Hold] key and enter the next tenant number to continue in command 0405
> OR

Press the [Hold] key again to go to next command.

Display

```
USER:TELECOM LVL:IN
Enter command> 0405
```

```
0405:System Timer
Tenant No? 1
```

```
0405:           TNT_1
Timer No? 3
```

```
0405:           TNT_1
TIMER_03:10-90
```

```
0405:           TNT_1
Timer No?
```

```
0405:System Timer
Tenant No?
```

IN 0405

Defaults

Timer number	Description	Default setting in seconds
1	Divert No answer	10
2	Exclusive-Hold	90
3	Exclusive-Hold callback	30
4	Call Wait	10
5	Transfer ringing	30
6	DISA trunk conversation	180
7	Camp-On/Callback (internal)	15
8	--reserved--	
9	Incoming No-answer alarm	60
10	Busy tone	15
11	--reserved--	
12	Meet Me conference	90
13	Inter-digit for internal	10
14	Meet Me paging wait	90
15	Dial Tone Detect	5
16	First dial pause	3
17	Door chime	30
18	Pre-selection	5
19	Direct call start	5
20	PB receiver wait	10
21	Paging	64800
22	Congestion tone	10
23	Warning tone	10
24	Confirmation tone	10
25	DISA Camp On cancel	180
26	DISA Paging	60
27	--reserved--	
28	Common-hold	90
29	Wake-up ringer	30
30	Long conversation alarm (Initial)	0
31	Long conversation alarm (Repeat)	0
32	DCI No Answer	0
33	Trunk Camp-On/Callback	15
34	Common-hold Callback	30
35	--reserved--	
36	Internal dial tone	10
37	Camp-On cancel	64800
38	External inter-digit	10
39	--reserved--	
40	Pause	3
41	Guard	1
42	LCD display holding	5
43	DID dial tone	10
44	DID No answer	10
45	Repeat dial interval	60
46	Repeat dial call	30
47	Access barring override	10
48	SLT Interdigit timer	3
49	--reserved--	
50	--reserved--	

IN 0406

Class Data for Station Class of Service

This command assigns a possible 128 service facilities into one of 15 classes of service.

Input data

Field name	Description	Input data
Tenant No.	Tenant number	1 – 4: Tenant 1 – 4
Class No.	Class of service number	1 – 15: Class of Service 1 – 15
Item No.	Class of service facility number Refer to the "Defaults" table for a list of service facilities.	1 – 128: Class of Service facility 1 – 128.
ITEM-xxx	(Where xxx is the service facility number). The service selection code	Item-045: 0: Common-hold 1: Exclusive-hold All other items: 0: OFF 1: ON

Example

This example assigns group call pick up to class of service 1 for tenant 1.

Action

Display

Enter the command number.

Press the [Hold] key.

```
USER:TELECOM  LVL:IN
Enter command> 0406
```

Enter the tenant number (1).

Press the [Hold] key.

```
0406:Class Service
Tenant No? 1
```

Enter the Class of Service number (1).

Press the [Hold] key.

```
0406: TNT_1
Class No? 1
```

Enter the item number (8).

Press the [Hold] key.

```
0406: TNT_1   CLS_01
Item No? 8
```

Enter the service selection code (1).

Press the [Hold] key.

```
0406: TNT_1   CLS_01
ITEM_008:0-1
```

Enter the next item number and press the [Hold] key to continue entering data for this class of service
        OR

```
0406: TNT_1   CLS_01
Item No?
```

Press the [Hold] key and enter the next Class of service number and continue entering data
        OR

```
0406: TNT_1
Class No?
```

Press the [Hold] key again and enter the next tenant number to continue in command 0406
        OR

```
0406:Class Service
Tenant No?
```

Press the [Hold] key again to go to next command.

IN 0406

Defaults

Item No.	Service Name	Station Class Number *										
		1	2	3	4	5	6	7	8	9	10	11
1	Hook-flash (Single line telephone)	1	1	1	1	1	1	1	1	1	1	1
2	Account code in	1	1	1	1	1	1	1	1	1	1	1
3	Long conversation alarm	1	1	1	1	1	1	1	1	1	1	1
4	Bypass call	0	0	0	0	1	0	0	0	0	1	0
5	---reserved---											
6	---reserved---											
7	Data privacy	1	1	1	1	1	1	1	1	1	1	1
8	Group call pick-up	0	1	1	1	1	0	1	1	1	1	1
9	Other group call pick-up	0	1	1	1	1	0	1	1	1	1	1
10	Direct call pick-up	0	1	1	1	1	0	1	1	1	1	1
11	Ring inward	1	1	1	1	1	1	1	1	1	1	1
12	DND	0	0	0	0	0	0	1	1	1	1	0
13	Auto intercom call register	1	1	1	1	1	1	1	1	1	1	1
14	Meet me	1	1	1	1	1	1	1	1	1	1	1
15	Message waiting	0	0	1	1	1	0	0	1	1	1	1
16	Conference	0	0	1	1	1	0	0	1	1	1	1
17	Personal speed dial	1	1	1	1	1	1	1	1	1	1	1
18	Common speed dial	1	1	1	1	1	1	1	1	1	1	1
19	Group speed dial	0	0	0	0	0	0	0	0	0	0	0
20	---reserved---											
21	---reserved---											
22	External paging	0	0	1	1	1	0	0	1	1	1	1
23	Divert -- immediate	0	0	0	1	1	0	0	0	1	1	1
24	Camp-on/Callback (Internal)	0	1	1	1	1	0	1	1	1	1	1
25	Camp-on/Callback (External)	0	1	1	1	1	0	1	1	1	1	1
26	Follow me	0	1	1	1	1	0	1	1	1	1	1
27	Wake-up (Clock alarm)	0	0	0	0	0	1	1	1	1	1	1
28	Off-duty	1	1	1	1	1	1	1	1	1	1	1
29	---reserved---											
30	---reserved---											
31	Divert -- Busy or No-Answer	0	0	0	1	1	0	0	0	1	1	1
32	Divert -- No-Answer	0	0	0	1	1	0	0	0	1	1	1
33	---reserved---											
34	---reserved---											
35	---reserved---											
36	---reserved---											
37	External Line number and name display (seizing)	1	1	1	1	1	1	1	1	1	1	1
38	External Line number and name display (incoming)	1	1	1	1	1	1	1	1	1	1	1
39	Internal Line number and name display (conversation)	1	1	1	1	1	1	1	1	1	1	1
40	Internal Line number and name display (incoming)	1	1	1	1	1	1	1	1	1	1	1
41	Direct call (Hot line)	1	1	1	1	1	1	1	1	1	1	1
42	Transfer information display	1	1	1	1	1	1	1	1	1	1	1
43	Callback information display	1	1	1	1	1	1	1	1	1	1	1
44	Splitting	1	1	1	1	1	1	1	1	1	1	1
45*	Hold is Common-hold/Exclusive-hold	0	0	0	0	0	0	0	0	0	0	0
46	Conversation time display	1	1	1	1	1	1	1	1	1	1	1
47	---reserved---											
48	Last Number Redial	1	1	1	1	1	1	1	1	1	1	1
49	Saved Number Redial	1	1	1	1	1	1	1	1	1	1	1
50	Pre-set dialling	1	1	1	1	1	1	1	1	1	1	1
51	Pick-Up information display	1	1	1	1	1	1	1	1	1	1	1
52	Internal paging	0	0	0	1	1	1	0	0	1	1	1
53	Background music	1	1	1	1	1	1	1	1	1	1	1

IN 0406

Item No.	Service Name	Station Class Number *										
		1	2	3	4	5	6	7	8	9	10	11
54	Room monitor	0	0	0	0	1	0	0	0	0	1	0
55	Room monitored	1	1	1	1	1	1	1	1	1	1	1
56	Key-touch tone	1	1	1	1	1	1	1	1	1	1	1
57	DTMF back tone	1	1	1	1	1	1	1	1	1	1	1
58	Service Status display	1	1	1	1	1	1	1	1	1	1	1
59	Exchange line access by idle dialling	1	1	1	1	1	1	1	1	1	1	1
60	Operator access by idle dialling	1	1	1	1	1	1	1	1	1	1	1
61	-reserved--											
62	-reserved--											
63	-reserved--											
64	-reserved--											
65	Internal outgoing	1	1	1	1	1	1	1	1	1	1	1
66	External outgoing	1	1	1	1	1	1	1	1	1	1	1
67	Picked up station	1	1	1	1	1	1	1	1	1	1	1
68	Pilot Number called station	1	1	1	1	1	1	1	1	1	1	1
69	-reserved--											
70	-reserved--											
71	---reserved---											
72	Break In	0	0	0	0	1	0	0	0	0	1	0
73	BUZZ	0	0	0	0	0	1	1	1	1	1	1
74	Signal call/Voice call	0	0	0	0	0	1	1	1	1	1	1
75	Station programming	0	0	0	0	0	1	1	1	1	1	1
76	DCI programming	0	0	0	0	0	1	1	1	1	1	1
77	-reserved--											
78	Clock/Date set	i	1	1	1	1	1	1	1	1	1	1
79	Voice/Signal change calling	0	0	0	0	0	0	0	0	0	0	1
80	Transmitter Mute	1	1	1	1	1	1	1	1	1	1	1
81	Repeat dialling	1	1	1	1	1	1	1	1	1	1	1
82	Text Message	0	0	1	1	1	0	0	1	1	1	1
83	Night Mode change	1	1	1	1	1	1	1	1	1	1	1
84 to 128	-reserved--											

* **Except for Item 45, 0 = OFF, 1 = ON.**
For Item 45, 0 = Common-hold, 1 = Exclusive-hold

NOTE: Classes of service 12-15 have no facilities assigned.

SA 0407

DID Transfer

This command defines the Direct Inward Dial (DID) station to which calls are transferred when an incoming DID call is not answered within a preset time.

Input data

Field name	Description	Input data
Tenant No.	Tenant number	1 – 4: Tenant 1 – 4

TNT-xx	The transferred to station port number	1 – 96:
		    Port 1 – 96
		    0: Not defined

Example

This example sets station port number 10 to be the DID transfer station for tenant 1.

Action

Enter the command number.

Press the [Hold] key.

Enter the tenant number (1).

Press the [Hold] key.

Enter the transferred to station port number (10).

Press the [Hold] key.

Enter the next tenant number and press the [Hold] key to continue in command **0407**

OR

Press the [Hold] key to go to next command.

Display

```
USER:TELECOM LVL:IN
Enter command> 0407
```

```
0407:DID Transfer
Tenant No? 1
```

```
0407:DID Transfer
TNT_1:0-10
```

```
0407:DID Transfer
Tenant No?
```

Defaults

Tenant 1 transfers unanswered calls to Station port 1. All other tenants are set to 0 (not defined).

IN 0408

Class of Service data for DISA service

This command defines the Direct Inward Service Access (DISA) class of service. Each class of service has 16 service items.

Input data

Field name	Description	Input data
Tenant No.	Tenant number	1 – 4: Tenant 1 -4
Class No.	Class of service number	1 – 15: Class 1 – 15
Item No.	Class of service item number	1: Internal call (Voice) 2: Internal Camp-on 3: Night mode change 4: Internal call (Data) 5: Internal paging 6: Speed dial – common 7: Speed dial – personal 8: Break In 9: Bypass call 10: –reserved– 11: Remote Maintenance 12 – 16: Reserved
ITEM-xx	(Where xx is the service item number). The service enable/disable code	0: disable 1: enable

Example

This example sets system programming for DISA class of service 1.

Action

Display

Enter the command number.

Press the [Hold] key.

```
USER:TELECOM  LVL:IN
Enter command> 0408
```

Enter the tenant number (1).

Press the [Hold] key.

```
0408:DISA Class Svce
Tenant No? 1
```

Enter the Class of Service number (1).

Press the [Hold] key.

```
0408: TNT_1
Class No? 1
```

Enter the item number (10).

Press the [Hold] key.

```
0408: TNT_1    CLS_01
Item No? 10
```

Enter the enable/disable code (1).

Press the [Hold] key.

```
0408: TNT_1    CLS_01
ITEM_10:0-1
```

IN 0408

Enter the next item number and press the [Hold] key to continue entering data for this class of service

```
0408: TNT_1    CLS_01
Item No?
```

OR

Press the [Hold] key and enter the next class of service number and continue entering data

```
0408: TNT_1
Class No?
```

OR

Press the [Hold] key again and enter the next tenant number to continue in command 0408

```
0408: DISA Class SRV
Tenant No?
```

OR

Press the [Hold] key again to go to next command.

Defaults

The defaults for DISA class of service are shown below.

Item No.	Service Name	DISA Class Number •										
		1	2	3	4	5	6	7	8	9	10	11
1	**Internal call (Voice)**	1		1	1			1		1	000000	
2	**Internal Camp-on**	1		1	1			1		1	000000	
3	**Night mode change**	1		1	1			1		1	000000	
4	**Internal call (Data)**	0		1	1			1		1	000000	
5	**Internal Paging**	0	0	1	1	1		0	0	0	0	0	0
6	**Speed dial − common**	0		0	1			1		1	000000	
7	**Speed dial − personal**	0		0	0			1		1	000000	
8	**Break In**	0		0	0			0		1	000000	
9	**Bypass call**	0		0	0			0		1	000000	
10	**Reserved**	0	0	0	0	0	1	1	0	0	0	0
11	**Remote Maintenance**	0	0	0	0	0	0	1	0	0	0	0
12	**Reserved**	0	0	0	0	0	0	0	0	0	0	0
13	**Reserved**	0	0	0	0	0	0	0	0	0	0	0
14	**Reserved**	0	0	0	0	0	0	0	0	0	0	0
15	**Reserved**	0	0	0	0	0	0	0	0	0	0	0
16	**Reserved**	0	0	0	0	0	0	0	0	0	0	0

SA 0409

ISDN Called Number

This command defines the Called Numbers for incoming ISDN calls that can be directed to a particular Ring Group. Any incoming Called Number not defined in Tables 2-80 will default to Table 1.

Input data

Field Name	Description	Input Data
Table No	Table Number	**2** to 80 Table 2 to 80
	The ISDN Called Dial Number	Up to 8 digits

Example

This example defines '2155667' as an allowed ISDN Called Number in Table 2 for Tenant 1.

Action   **Display**

Enter the command number.

Press the [Hold] key.

```
USER:TELECOM  LVL:SA
Enter command> 0409
```

Enter the Table Number (2)

Press the [Hold] key.

```
0409: ISDN Called No.
Table No? 2
```

Enter the ISDN Called Number (2155667)

Press the [Hold] key.

```
0409:         TBL_02
-2155667
```

Enter the next Table Number and press the [Hold] key to continue in command 0409
    OR
Press the [Hold] key again to go to the next command.

```
0409: ISDN Called No.
Table No? 2
```

Defaults

All unallocated Called Numbers default to Table 1

SA 0410

| ISDN Called **Incoming** Ring **Group** | This command allocates ISDN Call Types to Tables and directs the Tables to an incoming Ring Group. |

The ISDN Called Numbers are assigned to Tables in Command SA 0409.

Input data

Field Name	Description	Input Data
Table No	Table Number	1 to 80 Table 1 to 80
Type No	The Call Type Number	1 to 7 1: Speech 2: Audio 3: V.110 Rate Adaption 4: Fax (Group 1– 4) 5: Teletex via audio data 6: DCI to DCI LAPB 7: Unrestricted digit
IRG(Day)	Incoming Ring Group for Day Mode	1 to 80 IRG 1 to 80
IRG(Night1)	Incoming Ring Group for Night 1 Mode	1 to 80 IRG 1 to 80
IRG(Night2)	Incoming Ring Group for Night 2 Mode	1 to 80 IRG 1 to 80
MODEM	(Where Type No. is 2) The Modem type	0: Voice 1: Modem type 1 2: Modem type 2 3: Modem type 3 4: Modem type 4 5: Modem type 5 6: Modem type 6 7: Modem type 7 8: Modem type 8 9: User supplied Fax or Modem
RATE	(Where Type No. is 3) The Protocol	0: CCITT V.110 1: CCITT X.30

SA 0410

Example

This example allocates ISDN Voice calls to Table 3 and directs the calls to ring at Ring Group 4 during Day Mode.

Action	**Display**
Enter the command number. Press the [Hold] key.	```USER:TELECOM LVL:SA``` ```Enter command> 0410```
Enter the Table Number (3). Press the [Hold] key.	```0410: ISDN Called IRG``` ```Table No? 3```
Enter the Call Type Number (2). Press the [Hold] key.	```0410: TBL_03``` ```Type? 2```
Enter the IRG Number for Day Mode (4). Press the [Hold] key.	```0409: TBL_03 AUDIO``` ```IRG(Day): 0-4```
Press the [Hold] key.	```0409: TBL_03 AUDIO``` ```IRG(Night 1): 0-```
Press the [Hold] key.	```0409: TBL_03 AUDIO``` ```IRG(Night 2): 0-```
Enter the Modem type (0). Press the [Hold] key.	```0410: TBL_03 AUDIO``` ```MODEM:0-0```
Enter the next Call Type number and press the [Hold] key to continue in entering data for this Table OR	```0410: TBL_03``` ```Type?```
Press the [Hold] key and enter the next Table Number to continue in command 0410 OR Press the [Hold] key again to go to the next command.	```0410: ISDN Called IRG``` ```Table No?```

Defaults

Table 1 defaults to IRG 1 in all Modes for Types 1 and 2

IN 0411

Voice mail code

This command sets the code that is forwarded to the voicemail system when a call to a station is diverted to the voicemail.

Input data

Field Name	Description	Input Data
Tenant No.	Tenant number	1 to4
Code	Voicemail function code	Up to 4 digits

Example

This example sends a voicemail function code of 1234 when a call is diverted to the voicemail system.

Action

Enter the command number.

Press the [Hold] key.

Enter the tenant number (1).

Press the [Hold] key.

Enter the voice store code (1234).

Press the [Hold] key.

Press the [Hold] key and enter next tenant number to continue in command 0411

OR

Press the [Hold] key again to go to the next command.

Display

```
USER:TELECOM  LVL:IN
Enter  command> 0411
```

```
0411: VM  Store  Code
Tenant No.? 1
```

```
0411:           TNT_1
Code: -1234
```

```
0411: VM  Store  Code
Tenant  No.?
```

Defaults

None.

IN 0501

Access codes

This command assigns the codes which are **dialled** to access system features and facilities. The prefix of the required access codes is entered, together with the number of digits to be generated from the prefix. All codes with the number of digits specified and beginning with the specified prefix are assigned to a specified system facility.

Input data

Field name	Description	Input data
Tenant No.	Tenant number	1 - 4 : Tenant 1 – 4
Dial	The access code prefix	1 – "##": (2 digits maximum)
Digit	The number of digits to be used for the access code.	1 - 4
Facility	The system facility to be accessed by the access codes.	1: Service code access 2: Station access 3: DCI group access 4: Door station access 5: Station group access 6: Trunk access 7: Operator access 8 – 10: reserved

Example

In this example, all 3–digit numbers prefixed by the number "7" are assigned to facility 2 (Station access) for tenant 1.

Action

Enter the command number.

Press the [Hold] key.

Enter the tenant number (1).

Press the [Hold] key.

Enter the access code prefix (7).

Press the [Hold] key.

Enter the number of digits in the Access codes (3).

Press the [Hold] key.

Enter the facility number (2).

Press the [Hold] key.

Enter the next access code prefix and press the [Hold] key to continue entering data for access codes
            OR
Press the [Hold] key again and enter the next tenant number to continue in command 050 1
            OR
Press the [Hold] key again to go to next command

Display

```
USER:TELECOM  LVL:IN
Enter command> 0501
```

```
0501:Access Codes
Tenant No? 1
```

```
0501: TNT-1
Dial? 7
```

```
0501: TNT-1 DIAL- 1
Digit:2-3
```

```
0501: TNT-1   DIAL_ 1
Facility:1-2
```

```
0501: TNT-1
Dial?
```

```
0501:Access  Codes
Tenant No?
```

IN 0501

Defaults

The following defaults apply to all tenants

Access code prefix	Digit field	Facility field	Facility name	Numbers assigned to facility
0	1	**6**	Trunk access	0
9	1	**7**	Operator access	9
80	**3**	**5**	Station group access	800 to **80#**
81	**3**	**3**	DCI group access	810 to **81#**
82	**3**	**4**	Door station access	820 to **82#**
87	**2**	1	Service code access	87
88	**2**	1		88
89	**3**	1		890 to **89#**
7	**2**	1		70 to **7#**
6	**3**	1		600 to **6##**
1	**3**	**2**	Station access	100 to **1##**
2	**3**	**2**		200 to **2##**
3	**3**	**2**		300 to **3##**
4	**3**	**2**		400 to **4##**

SA 0502

**Station access
Number and Naming**

This command defines each station's dial number and name. The command is also used to change station dial numbers and names to accommodate staff moves and changes.

Input data

Field name	Description	Input data
STN No.	The station port number	1 to 96
Dial	The station dial number	Up to 4 digits
Name	The station name	Up to 8 characters

Example

This example assigns the dial number "123" and the name "RECPTION" to station **port** number 1.

Action

Display

Enter the command number.

Press the [Hold] key.

```
USER:TELECOM LVL:IN
Enter command> 0502
```

Enter the station port number (1).

Press the [Hold] key.

```
0502:Stn Dial & Name
Stn Port No? 1
```

Enter the station dial number (123).

Press the [Hold] key.

```
0502: STN_001    Dial
101- 123
```

Enter the station name (RECEPTION).

Press the [Hold] key.

```
0502: STN_001    Name
- RECPTION
```

Enter the next station port number and press the [Hold] key to continue in command 0502

```
0502:Stn Dial & Name
Stn Port No?
```

OR

Press the [Hold] key again to go to next command.

NOTE: When you are required to swap station dial numbers, for example, port number 1 is to be changed from 101 to 121 and port number 21 is to change to a different number, the existing dial number must be cleared. This is done by pressing the [CLEAR] key after entering the station port number to be changed.

Defaults

Station port number	Station dial number	Station name
1 – 8	101 – 108	Not defined
9 – 96	Not defined	Not defined

SA 0503

Station Group access Number and Naming

This command defines the station group access code and group name of each station group.

Input data

Field name	Description	Input data
Tenant No.	Tenant number	1 to 4
Stn Group No.	The station group number	1 to 10
Dial	The station group access code	Up to 4 digits
Name	The group name	Up to 8 alphanumeric characters

Example

This example assigns the group access code "82 1", and the name "SALES", to station group number 1 for tenant 1.

Action	**Display**
Enter the command number. Press the [Hold] key.	```USER:TELECOM LVL:IN``` ```Enter command> 0503```
Enter the tenant number (1). Press the [Hold] key.	```0503:Group Dial&Name``` ```Tenant No? 1```
Enter the station group number (1). Press the [Hold] key.	```0503: TNT-1``` ```Stn Group No? 1 I```
Enter the station group access code (821). Press the [Hold] key.	```0503: TNT 1 _ STG_001``` ```Dial: 801-821```
Enter the group name (SALES). Press the [Hold] key.	```0503: TNT-1 STG_001``` ```Name: GROUP 1 - SALES```
Enter the next station group number and press the [Hold] key to continue entering data for station groups OR	```0503: TNT_1``` ```Stn Group No?```
Press the [Hold] key again and enter the next tenant number to continue in command 0503 OR	```0503:Group Dial&Name``` ```Tenant No?```
Press the [Hold] key again to go to next command.	

IN 0503

Defaults   The following defaults are used for all tenants:

Station group number	Group Access code	Group name
1	801	GROUP 1
2	802	GROUP 2
3	803	GROUP 3
4	804	GROUP 4
5	805	GROUP 5
6	806	GROUP 6
7	807	GROUP 7
8	808	GROUP 8
9	809	GROUP 9
10	800	GROUP 10

IN 0504

Door Station access number

This command defines the access code for each door station.

Input data

Field name	Description	Input data
Door Stn No.	Door station number	1 - 4 : Door station 1 – 4
DST_xx	(Where xx is the door station number). The door station access code	Up to 4 digits.

Example

This example sets the access code for door station 1 to "841"

Action

Enter the command number.

Press the [Hold] key.

Enter the door station code (1).

Press the [Hold] key.

Enter the door station code (841).

Press the [Hold] key.

Enter the next door station number and press the [Hold] key to continue entering data for door stations
        OR
Press the [Hold] key again to go to next command.

Display

```
USER:TELECOM  LVL:IN
Enter command> 0504
```

```
0504:Door Stn Access
Door Stn No? 1
```

```
0504:Door Stn Access
DST_01: 821-841
```

```
0504:Door Stn Access
Door Stn No?
```

Defaults

Door Station number	Access number
1	821
2	822
3	823
4	824

IN 0505

Trunk access code

This command defines the trunk access code for each tenant.

Input data

Field name	Description	Input data
Tenant No.	Tenant number	1 - 4
TNT-x	(Where x is the tenant number). The trunk access code	Up to 4 digits

Example

This example sets the trunk access code for tenant 1 to "9"

Action	**Display**

Enter the command number.

Press the [Hold] key.

```
USER:TELECOM LVL:IN
Enter command> 0505
```

Enter the tenant number (1).

Press the [Hold] key.

```
0505:Trk Access Code
Tenant No? 1
```

Enter the trunk access code (9).

Press the [Hold] key.

```
0505:Trk Access Code
TNT_1: 0-9
```

Enter the next tenant number and press the [Hold] key to continue in command **0505**

OR

Press the [Hold] key again to go to next command

```
0505:Trk Access Code
Tenant No?
```

Defaults

All trunk access codes are set to 0 for all tenants.

IN 0506

Service code

This command defines the dial number for each service code. The system has 100 service codes, that can be accessed by dialling the assigned code.

Input data

Field name	Description	Input data
Tenant No.	Tenant number	1 - 4
Service Code	The service code. (Refer to the following "Defaults" table for a list of service codes).	1 to 100
SRVCD_xxx	(Where xxx is the service code). The assigned dial number.	Up to 4 digits.

Example

This example assigns the dial number "600" to service code number 1 (Account code in service) for tenant 1.

Action

Enter the command number.

Press the [Hold] key.

Enter the tenant number (1).

Press the [Hold] key.

Enter the service code number (1).

Press the [Hold] key.

Enter the assigned dial number (600).

Press the [Hold] key.

Enter the next service code and press the [Hold] key to continue entering data for service codes
            OR
Press the [Hold] key again and enter the next tenant number to continue in command 0506
            OR
Press the [Hold] key again to go to next command.

Display

```
USER:TELECOM LVL:IN
Enter command> 0506
```

```
0506:Service Code
Tenant No? 1
```

```
0506:           TNT_1
Service Code? 1
```

```
0506:           TNT 1
SRVCD_001: 632- 600
```

```
0506:           TNT_1
Service  Code?
```

```
0506:Service Code
Tenant No?
```

IN 0506

Defaults

Service Code number	Description	Assigned Dial number
1	Account code in	632
2	Bypass call	611
3	Divert – Set	77
4 - 8	-reserved--	
9	Data Privacy – set	627
10	Night 1 mode change	641
11	-reserved--	
12	-reserved--	
13	Text Message	651
14	DND – set	624
15	DND – cancel	625
16	Follow Me – set	78
17	-reserved--	
18	Message Waiting – set and answer	601
19	Message Waiting – cancel all sent	602
20	Message Waiting – cancel receive	603
21	Message Waiting – cancel	604
22	Last Number Redial	70
23	-reserved--	
24	-reserved--	
25	Conference	76
26	Break In	612
27	Group Call Pick-up	74
28	Other group Call Pick-up	75
29	Direct group Call Pick-up	610
30	-reserved--	
31	All Call page	890
32	External speaker paging	87
33	Call-back – set	79
34	Call-back – cancel	613
35	Alarm – set/cancel	652
36	Common speed dial	72
37	Station speed dial	73
38	Saved Number Redial	71
39	Internal zone paging	88
40	Station speed dial – set	653
41	Trunk group access	631
42	Register repertory dial	654
43	Register ICM number	655
44	Monitor or monitored – set	
45	Intercom called voice – set	621
46	Intercom called signal – set	622
47	Hook or Flash	634
48	Keystation check mode	
49	Keystation programmable key setting	656
50	Operation and Maintenance log on	643
51	DC key	–
52	Clock/Date – set	642
53	–reserved–	
54	Voice signal change calling	614

IN0506

Service Code number	Description	Assigned Dial number
55	Access barring override	633
56	Meet Me set	606
57	Meet Me conference set	607
58	Internal Meet Me answer	609
59	External Meet Me answer	608
60	Meet Me answer	605
61	Headset mode change	626
62	HP-LCD DSS key set	–
63	DCI Auto Answer mode set	661
64	Data call service code	662
65	DCI Initial	663
66	Charge for Call Continuous	664
67	Charge at End of Call	665
68	Current Charge for Call	666
69	Reading of Exchange Meters	667
70	Malicious Call Trace	668
71	—reserved—	
72	ICM Called Voice on Second Call/Set	671
73	ICM Called Signal on Second Call/Set	672
74	Visual Indication on Second Call/Set	673
75	Second Speech Path Disabled/Set	674
76 – 100	—reserved—	

SA 0507

DCI Group access
Number and Naming

This command defines the DCI group access code and the group name of each DCI group.

Input data

Field name	Description	Input data
Tenant No.	The tenant number	1 - 4
DCG No.	The DCI group number	1 to 10
Dial	The DCI group access code	Up to 4 digits
Name	The group name	Up to 8 characters

Example

This example assigns the DCI group number **"841",** and the group name "ACCOUNTS", to DCI group number 1 for tenant 1.

Action   **Display**

Enter the command number.

Press the [Hold] key.

```
USER:TELECOM  LVL:IN
Enter command> 0507
```

Enter the tenant number (1).

Press the [Hold] key.

```
0507:DCG Dial & Name
Tenant No? 1
```

Enter the DCI group number (1).

Press the [Hold] key.

```
0507: TNT-1
DCG No? 1
```

Enter the DCI group access code (84 1).

Press the [Hold] key.

```
0507: TNT-1 DCG_001
Dial:  811-841
```

Enter the group name (ACCOUNTS).

Press the [Hold] key.

```
0507: TNT-1 DCG_001
Name:DATAG  1-ACCOUNTS
```

Enter the next DCI group number and press the [Hold] key to continue entering data for DCI groups

        OR

```
0507: TNT-1
DCG No?
```

Press the [Hold] key again and enter the next tenant number to continue in command 0507

        OR

```
0507:DCG Dial & Name
Tenant No?
```

Press the [hold] key again to go to next command.

NOTE: DCI groups are independent of station groups.

SA 0507

Defaults The following defaults apply to all tenants:

DCI group number	Access code	Group name
1	811	DATAG 1
2	812	DATAG 2
3	813	DATAG 3
4	814	DATAG 4
5	815	DATAG 5
6	816	DATAG 6
7	817	DATAG 7
8	818	DATAG 8
9	819	DATAG 9
10	810	DATAG 10

SA 0601

Speed Dial data and naming

This command assigns a number and a name to a speed dial code. Each assigned number can be up to 24 digits and each name up to 8 alphanumeric characters. Speed dial codes l-540 are reserved for common speed dial numbers. Speed dial codes 541-1500 are station personal speed dial numbers (e.g. 541-550 are personal speed dial codes l-10 for station port **1**, 551-560 are personal speed dial codes l-10 for station port 2 etc). Station personal speed dial numbers are normally stored by the individual user.

Input data

Field name	Description	Input data
Speed Dial No.	The speed dial code	1 to 1500
Dial	The speed dial number	Up to 24 digits. (The numbers 0 to 9 can be used, together with the characters * and #).
Name	The speed dial name	Up to 8 characters.

Example

This example assigns the number "0448 111 **111",** and the name "TELECOM", to speed dial code 1

Action

Display

Enter the command number.

Press the [Hold] key.

```
USER:TELECOM   LVL:IN
Enter Command> 0601
```

Enter the speed dial code number (1).

Press the [Hold] key.

```
0601:SpD Dial & Name
Speed Dial No? 1
```

Enter the speed dial number (0448111111).

Press the [Hold] key.

```
0601: SPD_0001 Dial
-0448111111
```

Enter the speed dial name (TELECOM).

Press the [Hold] key.

```
0601: SPD_0001 Name
            -TELECOM
```

Enter the next speed dial code number and press the [Hold] key to continue in command 060 1
                OR
Press the [Hold] key again to go to next command.

```
0601:SpD Dial & Name
Speed Dial No?
```

NOTE: When connected behind a PABX, the PABX line access code should be programmed in the number.

SA 0601

--

Defaults   Common speed dial — None

*Personal speed dial for
Port 1-96*

Speed dial code	Speed dial number	Speed dial name
0 – 540	None	None
541 – 549	None	"SPD-P 1" — "SPD-P 9"
550	None	"SPD-P 0"
551 – 559	None	"SPD-P 1" — "SPD-P 9"
560	None	"SPD-P 0"
⋮	⋮	⋮
1491 – 1499	None	"SPD-P 1" — SPD-P 9"
1500	None	"SPD-P 0"

IN 0602

Common Speed Dial tenant allocation

This command defines the number of common speed dial codes for each tenant.

Input data

Field name	Description	Input data
Tenant No.	Tenant number	1 - 4
start	The first code number in the range	0: Not defined 1 – 540: Code number 1 – 540
Length	The number of speed dial codes for each tenant	0: Not defined 1 to 540: Number of speed dial codes.

Example

This example assigns 100 codes to tenant 1 for common speed dial.

Action   **Display**

Enter the command number.

Press the [Hold] key.

```
USER:TELECOM LVL:IN
Enter command> 0602
```

Enter the tenant number (1).

Press the [Hold] key.

```
0602:Common SpD Area
Tenant No? 1
```

Enter the first common speed dial code number (1).

Press the [Hold] key.

```
0602:            TNT_1
Start:l-1
```

Enter the number of common speed dial codes (100).

Press the [Hold] key.

```
0602:            TNT_1
Length:540-100
```

Enter the next tenant number and press the [Hold] key to continue in command 0602

            OR

Press the [Hold] key again to go to next command.

```
0602:Common SpD Area
Tenant No?
```

Defaults

Tenant number	First code number	Number of codes
1	1	540
2	0	0
3	0	0
4	0	0

IN 0701

Restriction data

This command defines the restriction data for each tenant, such as dial code prefixes which are allowed or barred, PABX access codes, the digit length limit, etc.

Input data

Field name	Description	Input data
Tenant No.	Tenant number	l - 4
Alw STD/IDD No.	The serial number of the allowed STD/IDD prefix.	1 – 12
REST-xx	(Where xx is the allowed STD/IDD serial number). The dial code prefix for allowed STD/IDD numbers	Up to 8 digits.
Bar IDD No.	The serial number of the barred IDD prefix.	1 - 4
REST-x	(Where x is the barred IDD serial number). The dial code prefix for barred IDD numbers.	Up to 4 digits
Bar STD No.	The serial number of the barred STD prefix.	1 – 16
REST-xx	(Where xx is the barred STD serial number). The dial code prefix for barred STD numbers.	Up to 4 digits
Corn Alw No.	The serial number of the allowed common prefix	1 - 4
REST-x	(Where x is the allowed common serial number). The dial code prefix for common allowed numbers.	Up to 4 digits
PBX Acs No.	The serial number of the PBX access number	1 - 4
Digit Limit	The number of digits which may be dialled.	0 to 30
Opt Item No.	Common speed dial restriction data	0: Allowed 1: Not allowed (refer to default table)

IN 0701

Example   This **example** sets **up** 044811 and 07235 1 as allowed prefixes for **STD/IDD** calls for tenant 1.

Action   **Display**

Enter the command number.

Press the [Hold] key.

```
USER:TELECOM  LVL:IN
Enter command> 0701
```

Enter the tenant number (1).

Press the [Hold] key.

```
0701:Restriction   Set
Tenant No? 1
```

Enter the serial number of the allowed **STD/IDD** prefix (1).

Press the [Hold] key.

```
0701: TNT_1
Alw STD/IDD No? 1
```

Enter the allowed STD/IDD prefix (044811).

```
0701:  TNT_1 RSTCD_01
-044811
```

Press the **[A]** key to step to the second allowed **STD/IDD** prefix entry

Enter the allowed STD/IDD prefix (072351)

```
0701: TNT-1 RSTCD_02
-072351
```

Press the [Hold] key seven times and enter the next tenant number to continue in command 0701
                  OR
Press the [Hold] key again to go to next command.

```
0701: Restriction Set
Tenant No?
```

NOTE: It is an Austel requirement that the emergency number '000' is never barred access. Ensure that '000' is always inserted in the common allowed number table.

IN 0701

Defaults

All tenants have the following defaults.

Field name	Contents
ALW_STD/IDD No. 1 – 12	none
Bar IDD No. 1	0011
Bar IDD No. 2	0014
Bar IDD No. 3	0012
Bar IDD No. 4	0101
Bar STD No. 1	02
Bar STD No. 2	03
Bar STD No. 3	04
Bar STD No. 4	05
Bar STD No. 5	06
Bar STD No. 6	07
Bar STD No. 7	08
Bar STD No. 8	09
Bar STD No. 9	001
Bar STD No. 10	002
Bar STD No. 11	003
Bar STD No. 12	004
Bar STD No. 13	011
Bar STD No. 14	018
Bar STD No. 15	0055
Bar STD No. 16	none
Corn Alw No. 1	000
Corn Alw No. 2	008
Corn Alw No. 3	013
Corn Alw No. 4	016
PBX Acs No.	none
Digit Limit	7
Opt Item No. 1	1 (restricted)

IN 0701

Common speed dial restriction option.			
Restriction Class	**Speed dial – personal**	**Speed dial – common**	
		Allowed	**Not allowed**
1	OK	OK	OK
2	CHECK	OK	CHECK
3	CHECK	OK	CHECK
4	CHECK	OK	CHECK
5	CHECK	OK	CHECK
6	CHECK	CHECK	CHECK

SA 0801

Defaults   All tenants have the following default Day Patterns:

Pattern number	Set number	Start	End	Mode
1	1	19:oo	0:00	1 (Night 1 mode)
	2	0:00	7:oo	2 (Night 2 mode)
2	1	13:oo	0:00	1 (Night 1 mode)
	2	0:00	7:oo	2 (Night 2 mode)
3	1	0:00	0:00 ,	2 (Night 2 mode)
4	1	0:00	0:00	0 (Day mode)
5	1	0:00	0:00	0 (Day mode)

SA 0802

Weekly Schedule

This command defines which Day Patterns are used for each day of the week.

NOTE: Refer to Command 0801 for information on Day Pattern settings.

Input data

Field name	Description	Input data
Tenant No.	Tenant number	1 to 4
Day No.	The day of the week	1: Sunday 2: Monday 3: Tuesday 4: Wednesday 5: Thursday 6: Friday 7: Saturday
(Day)	(Where (Day) is the day of the week). The Day Pattern number to be used for the selected day.	1 to 5 (The Day Pattern number as defined in command 0801)

Example

This example selects Day Pattern 2 for Sunday.

NOTE: Successive days are displayed for input when the [A] key is pressed. Pressing the [Hold] key terminates the input sequence and stores the data.

Action

Enter the command number.

Press the [Hold] key.

Enter the tenant number (1).

Press the [Hold] key.

Enter the day number (1).

Press the [Hold] key.

Enter the Day Pattern number (2).

Press the [Hold] key.

Enter the next day number and press the [Hold] key to continue entering data for this tenant
        OR
Press the [Hold] key again and enter the next tenant number to continue in command 0802
        OR
Press the [Hold] key again to to next command.

Display

```
USER:TELECOM  LVL:IN
Enter command> 0802
```

```
0802:Week  Schedule
Tenant No? 1
```

```
0802:          TNT_1
Day No? 1
```

```
0802:          TNT_1
Sunday:3-2
```

```
0802:          TNT_1
Day No?
```

```
0802:Week Schedule
Tenant No?
```

SA 0801

Day pattern

This command defines the operation mode for each tenant.

The command is used to specify times when the system will operate in Day mode, Night 1 mode or Night 2 mode. The combination of operating modes for a day is called a "Day Pattern". Up to 5 Day Patterns may be defined – these are used in conjunction with the Weekly Schedule, set up using Command 0802.

A day pattern consists of up to 10 sets, and each set can be assigned to Day mode, Night 1 mode and Night 2 mode.

Any set during the day that is not specified as Night 1 mode or Night 2 mode defaults to Day mode.

Input data

Field name	Description	Input data
Tenant No	The tenant number	1 to 4
Pattern No	The Day Pattern number	1 to 5
Set No	The Set Number	1 to 10
Start (Hour)	The hour at which the set starts	0 to 23
Start (Min)	The minute at which the set starts	0 to 59
End (Hour)	The hour at which the set ends	0 to 23
End (Min)	The minute at which the set ends	0 to 59
Mode	The operational mode for the set	0: Day mode 1: Night 1 mode 2: Night 2 mode

Example

The following example sets up Night 1 mode as midnight to **8.30am,** Day mode as **8.30am** to midnight as pattern 4 for tenant 1.

Set No.	Mode	Start time	End time
1	Night 1	00:00	08:30
2	Day	08:30	00:00

Action

Enter the command number.

Press the [Hold] key.

Display

```
USER:TELECOM  LVL:IN
Enter command> 0801
```

Enter the tenant number (1).

Press the [Hold] key.

```
0801:Day Pattern
Tenant No? 1
```

SA 0801

Enter the day pattern number (4).
Press the [Hold] key.

```
0801:TNT_1
Pattern No.? 4
```

Enter the set number (1).
Press the [Hold] key.

```
0801:TNT_1 P-4
Set No? 1
```

Enter the start time hour (00)
Press the [Hold] key.

```
0801:TNT_1 P-4 S_01
Start(Hour) :0-00
```

Enter the start time minutes (00).
Press the [Hold] key.

```
0801:TNT_1 P-4 S_01
Start(Min.):0-00
```

Enter the end time hour (08).
Press the [Hold] key.

```
0801:TNT_1 P'4 S_01
End(Hour):0-08
```

Enter the end time minutes (30).
Press the [Hold] key.

```
0801:TNT_1 P-4 S_01
End(Min.):0-30
```

Enter the mode (1).
Press the [Hold] key.

```
0801:TNT_1 P-4 S_01
Mode:0-1
```

Enter the number for the next set and press the [Hold] key to continue entering data for this pattern
        OR

```
0801:TNT_1 P-4
Set No?
```

Press the [Hold] key again and enter the next pattern number to continue entering data for this tenant
        OR

```
0801:TNT_1
Pattern No?
```

Press the [Hold] key again and enter the next tenant number to continue in command 080 1
        OR

```
0801:Day  Pattern
Tenant No?
```

Press the [Hold] key again to go to next command.

NOTE: If the data to be entered does not differ from the existing data, press the [Hold] key to move on to the next step.

SA 0802

Defaults

The following defaults apply to all tenants:

Day number	Day	Day Pattern number
1	Sunday	3
2	Monday	1
3	Tuesday	1
4	Wednesday	1
5	Thursday	1
6	Friday	1
7	Saturday	2

SA 0803

Yearly Schedule

This command is used to select the Day Pattern used for special days of the year, such as public holidays.

NOTE: Refer to Command 0801 for information on Day Pattern settings.

Input data

Field name	Description	Input data
Tenant No.	Tenant number	1 to 4
Month	The month of the year	1: January to 12: December
Day No	The date of the month	1 to31
Day-xx	(Where xx is the Day Number). The Day Pattern number to **use** for the day.	0: not defined 1 – 5: The Day Pattern number (Refer to Command 0801 for details)

Example

This example sets December 25 to Day Pattern 3 for tenant 1.

Action

Display

Enter the command number.

Press the [Hold] key.

```
USER:TELECOM  LVL:IN
Enter command> 0803
```

Enter the tenant number (1).

Press the [Hold] key.

```
0803:Year Schedule
Tenant No? 1
```

Enter the month number (12).

Press the [Hold] key.

```
0803:TNT_1
Month? 12
```

Enter the day number (25).

Press the [Hold] key.

```
0803:TNT_1  MONTH_12
Day No? 25
```

Enter the Day Pattern number (3).

Press the [Hold] key.

```
0803:TNT_1  MONTH_12
DAY_25:0-3
```

Enter the next day number and press the [Hold] key to continue entering data for that month
     OR

```
0803:TNT_1  MONTH_12
Day No?
```

Press the [Hold] key again and enter the next month number and continue entering data for that tenant
     OR

```
0803:TNT_1
Month?
```

Press the [Hold] key again and enter the tenant number to continue in command 080 1
     OR

```
0803:Year Schedule
Tenant No?
```

Press the [Hold] key again to go to next command..

Defaults

All Day Patterns are set to 0 (not defined) for all days, months and tenants.

IN 0901

__Trunk port type__   This command defines the type of operation for a trunk port.

Input data

Field name	Description	Input data
TRK No.	Trunk port number	1 to 80
Item No.	The trunk port type number	1 to 15: Refer to the Table below for details.
ITEM-xx	(Where xx is the trunk port type). The option selection for the trunk port type.	Refer to the Table below for details.

Trunk port type data

kunk port :ype number (Item No.)	Description	Option selection (ITEM_xx)
1	Decadic/DTMF	): Decadic l: DTMF
2	Incoming type	): Ordinary l: Not available
3	CODEC Gain type	l: Type-l (Transmit 0dB, Receive 0dB) 2: Type–2 (Transmit +5dB, Receive +3dB) 3: Type-3 (Transmit –5dB, Receive -5dB) 4: Type–4 (Transmit +5dB, Receive +5dB) 5: Type–5 (Transmit +10dB, Receive +10dB)
4	Connected hold tone source	3: Internal 1: External
5	Hook-flash/ Earth recall	3: Hook-flash 1: Earth recall
6	Hook-flash type	3: Flash1 (100 mS) 1: Flash2 (600 mS)
7	Behind PABX in Day mode	3: Not behind 1: Behind
8	Behind PABX in Night 1 mode	0: Not behind 1: Behind
9	Behind PABX in Night 2 mode	0: Not behind 1: Behind
10	DTD at line seizure	0: No DTD 1: DTD used
11	Pause at line seizure	0: No pause 1: Pause used
12	SMDR print out enable/disable	0: Print out 1: No print out

IN 0901

Trunk port type number (Item No.)	Description	Option selection (ITEM-xx)
13	Service type	0: Normal 1: DID 2: DISA 3 – 4: Reserved 5: Network 6: Radio paging 7: Data line
14	Outgoing	0: Disable 1: Enable
15	Restrict	0: Restrict 1: Non-restrict

Example

This example selects DTMF as the trunk port type for trunk port 1.

Action

Enter the command number.

Press the [Hold] key.

Display

```
USER:TELECOM   LVL:IN
Enter command> 0901
```

Enter the trunk port number (1).

Press the [Hold] key.

```
0901:Trunk Type
Trk Port No? 1
```

Enter the trunk port type number (1).

Press the [Hold] key.

```
0901:          TRK_001
Item? 1
```

Enter the option selection.

Press the [Hold] key.

```
0901:          TRK_001
ITEM_01:0-1
```

Enter the next item number and press the [Hold] key to continue entering data for this trunk port number
        OR
Press the [Hold] key again and enter the next trunk port number to continue in command 0901
        OR
Press the [Hold] key again to go to next command.

```
0901:          TRK_001
Item?
```

```
0901:Trunk Type
Trk Port No?
```

IN 0901

Defaults

Trunk port type number (Item No.)	Description	Option setting
1	Decadic/DTMF	1 (DTMF)
2	Incoming type	0 (Ordinary)
3	CODEC Gain type	**1 (Type–1)**
4	Connected hold tone source	0 (Internal)
5	Hook-flash/Earth recall	0 (Hook-flash)
6	Hook-flash type	0 (Flashl)
7	Behind PABX in Day mode	0 (Not-behind)
8	Behind PABX in Night 1 mode	0 (Not-behind)
9	Behind PABX in Night 2 mode	0 (Not-behind)
10	DTD at line seizure	1 (DTD use)
11	Pause at line seizure	1 (Pause use)
12	SMDR printout enable/disable	0 (Print-out)
13	Service type	0 (Normal)
14	Outgoing	1 (Enable)
15	Restrict	0 (Restrict)

IN 0902

Incoming ringer type   This command selects the incoming ringer type for a trunk.

Input data

Field name	Description	Input data
Trk Port No.	Trunk port number	1 to 80
TKP_xxx	(Where xxx is the trunk port number). The ringer type	0: Ringer tone no. 1 1: Ringer tone no. 2 2: Ringer tone no. 3 3: Ringer tone no. 4

Example   This example selects ringer tone no. 2 for trunk port 1.

Action

Display

Enter the command number.

Press the [Hold] key.

```
USER:TELECOM   LVL:IN
Enter command> 0902
```

Enter the trunk port number (1)

Press the [Hold] key.

```
0902:I/C Ringer Type
Trk Port No? 1
```

Enter the ringer type number (1).

Press the [Hold] key.

```
0902:I/C Ringer Type
TKP_001:0-1
```

Enter the next trunk port number and press the [Hold] key to continue in command 0902

        OR

Press the [Hold] key again to go to next command.

```
0902:I/C Ringer Type
Trk Port No?
```

Defaults   All ringer types are set to 0 (Ringer tone no. 1)

IN 0903

__Trunk naming__   This command defines the name of a trunk port.

Input data

Field name	Description	Input data
Trk Port No.	Trunk port number	1 to 80
TKP_xxx	(Where xxx is the trunk port number). The trunk port name.	Up to 8 characters.

Example   This example sets the name of trunk port no. 1 to "I/C 001"

Action   **Display**

Enter the command number.

Press the [Hold] key.

```
USER:TELECOM LVL:IN
Enter command> 0903
```

Enter the trunk port number (1).

press the [Hold] key.

```
0903:Trunk Naming
Trk Port No? 1
```

Enter the trunk port name (I/C 001).

Press the [Hold] key.

```
0903:        TKP_001
LINE 01-I/C 001
```

Enter the next trunk port number and press the [Hold] key to continue in command 0903

             OR

Press the [Hold] key again to go to next command.

```
0903:Trunk  Naming
Trk Port No?        
```

Defaults

Trunk port number	Trunk port name
1 - 8 0	"LINE 01" to "LINE 80"

IN 0904

Tenant number of trunk port

This command assigns a tenant number to a trunk port.

Input data

Field name	Description	Input data
Trk Port No	Trunk port number	1 to 80
TKP_xxx	(Where xxx is the trunk port number). The tenant number	1 to 4

Example

This example assigns trunk port number 9 to tenant 2.

Action   **Display**

Enter the command number.

Press the [Hold] key.

```
USER:TELECOM  LVL:IN
Enter command> 0904
```

Enter the trunk port number (9).

Press the [Hold] key.

```
0904:Trk Assign Tnt
Trk Port No? 9
```

Enter the tenant number (2).

Press the [Hold] key.

```
0904:TRK Tenant Set
TKP_009:1-2
```

Enter the next trunk port number and press the [Hold] key to continue in command 0904
              OR
Press the [Hold] key again to go to next command.

```
0904:Trk Assign Tnt
Trk Port No?
```

Defaults

Tenant number 1 is assigned to all trunk port numbers.

IN 0905

Trunk group

This command assigns a trunk group number to a trunk port and sets an access order for that trunk group.

Input data

Field name	Description	Input data
Trk Port No.	The trunk port number	1 to 80
Trk Group No.	The trunk group number	0: not defined 1 to 80: Trunk group number
Order No.	The access order of the trunk group	0: not defined 1 to 80: Access order

Example

This example assigns trunk port number 11 to trunk group number 2 and sets the access order to 2

Action

Enter the command number.

Press the [Hold] key.

Enter the trunk port number (11).

Press the [Hold] key.

Enter the trunk group number (2).

Press the [Hold] key.

Enter the access order of the trunk **group (2)**

Press the [Hold] key.

Enter the next trunk port number and press the [Hold] Key to continue in command 0905
            OR
Press the [Hold] key again to go to next command.

Display

```
USER:TELECOM LVL:IN
Enter command> 0905
```

```
0905:Trunk Group
Trk Port No? 11
```

```
0905 :          TKP_011
Trk Group No:0-2
```

```
0905 :          TKP_011
Order No:11-2
```

```
0905:Trunk Group
Trk Port No?
```

Defaults

Trunk port	Trunk group	Access order
1 – 80	1	1 – 80

IN 0906

Routing of trunk group

This command defines the routing access for trunks. They are assembled in one of up to 80 trunk groups in priority order (refer to Command 0905 for details).

Up to 4 trunk groups or 3 trunk groups and 1 trunk route (must be priority order 4) can be assigned in priority order to a trunk route.

Input data

Field name	Description	Input data
Route No.	Route number	1 to 40
Order No.	Priority order	1 to 4
ORDER xx	(Where xx is the priority order). The trunk group number.	0: not defined 1 to 80: Trunk Group 1 – 80 1001 to 1040: Route number 1–40

Example

This example assigns Trunk group 4 to route number 1 with priority order 2.

Action **Display**

Enter the command number.

Press the [Hold] key.

```
USER:TELECOM  LVL:IN
Enter  command> 0906
```

Enter the route number (1).

Press the [Hold] key.

```
0906:Route  Set
Route No? 1
```

Enter the priority order number (2).

Press the [Hold] key.

```
0906:        ROUTE-001
Order No? 2
```

Enter the trunk group number (4).

Press the [Hold] key.

```
0906:        ROUTE_001
ORDER_02:0-4
```

Enter the next order number for this route and press the [Hold] key
        OR
Press the [Hold] key again and enter the next route number to continue in command 0906
        OR
Press the [Hold] key again to go to next command.

```
0906:        ROUTE-001
Order  No?
```

```
0906:Route  Set
Route  No?
```

Defaults

Route number	Order number	Trunk Group number
1	1 2 3 4	1 (Trunk Group 1) 0 (Not Assigned) 0 (Not Assigned) 0 (Not Assigned)
2 – 40	All Trunk Groups are set to 0 (Not Assigned) for all Priority Orders.	

IN 0907

Trunk route for station

This command assigns stations and DCIs to a trunk route. Refer also to Commands 0905, 0906.

Input data

Field name	Description	Input data ˡ
Stn Port No.	Station port number	1 to 96
Route(S tn)	The route number for the station	0: not assigned 1 to 40: Route number.
Route(DCI)	The route number for the DCI	0: not assigned 1 to 40: Route number.

Example

This example assigns station port number 20 to trunk route 10 and the associated DCI to trunk route 11.

Action

Enter the command number.

Press the [Hold] key.

Display

```
USER:TELECOM LVL:IN
Enter command> 0907
```

Enter the station port number (20).

Press the [Hold] key.

```
0907:Route No Assign
Stn Port No? 20
```

Enter the route number for the station (10).

Press the [Hold] key.

```
0907 :        STP_020
Route(Stn):0-10
```

Enter the route number for the DCI (11).

Press the [Hold] key.

```
0907 :        STP_020
Route(DCI):0-11
```

Enter the next station port number and press the [Hold] key to continue in command 0907
                OR
Press the [Hold] key again to go to next command.

```
0907:Route No Assign
Stn Port No?
```

Defaults

Station port number	Station route number	DCI route number
1 - 96	1	0

IN 0908

Incoming Ring Group

This command assigns stations to an Incoming Ring Group (IRG). When an incoming call occurs, the system references the calling trunk to this data to determine which stations to ring.

Input data

Field name	Description	Input data
I/C Rng Gp No.	Incoming Ring Group	1 to 80
Stn Port No.	Station port number	1 to 96
STP_xxx	(Where xxx is the station port number). The enable/disable code for ringing on incoming call.	0: Disable ringing 1: Enable ringing

Example

This example assigns station port 12 as the ringing station for Incoming Ring Group (IRG) 1.

Action

Display

Enter the command number.

Press the [Hold] key.

```
USER:TELECOM  LVL:IN
Enter command> 0908
```

Enter the Incoming Ring Group number (1).

Press the [Hold] key.

```
0908:I/C Ring Group
I/C Rng Gp No? 1
```

Enter the station port number (12).

Press the [Hold] key.

```
0908:        IRG_001
Stn Port No? 12
```

Enter the enable/disable code (1).

Press the [Hold] key.

```
0908:        IRG_001
STP_012:0-1
```

Enter the next station port number and press the [Hold] key to continue entering data for this Incoming Ring Group

        OR

```
0908:        IRG_001
Stn Port No?
```

Press the [Hold] key again and enter the next Incoming Ring Group number to continue entering data for this tenant

        OR

```
0908:I/C Ring Group
I/C Rng Gp No?
```

Press the [Hold] key again to go to next command.

Defaults

Incoming Ring Group	Station port number	Ringing enabled/disabled
1	1 2 to 96	1 (Ringing enabled) 0 (Ringing disabled)
2 – 80	Incoming ringing is disabled for all stations and all incoming ring groups.	

IN 0909

Trunk incoming target number

This command assigns trunks to Incoming Ring Groups (IRG). The ring group used can be selected according to the operating mode (Day, Night 1, Night 2).

Input data

Field name	Description	Input data
Trk Port No	The trunk port number	1 to 80
IRG(Day)	The Incoming Ring Group	0: Not defined 1 – 80: IRG number
IRG(Night 1)	The Incoming Ring Group	0: Not defined 1 – 80: IRG number
IRG(Night 2)	The Incoming Ring Group	0: Not defined 1 – 80: IRG number

Example

This example assigns trunk port number 3 to Incoming Ring Group (IRG) 2 for day mode only.

Action

Enter the command number.

Press the [Hold] key.

Enter the trunk port number (3).

Press the [Hold] key.

Enter the target Incoming Ring Group number in day mode (2).

Press the [Hold] key.

Enter the target Incoming Ring Group number in Night 1 mode (0).

Press the [Hold] key.

Enter the target Incoming Ring Group number in Night 2 mode (0).

Press the [Hold] key.

Enter the next trunk port number and press the [Hold] key to continue in command 0909
                OR
Press the [Hold] key again to go to next command.

Display

```
USER:TELECOM  LVL:IN
Enter command> 0909
```

```
0909:Trk Assign IRG
Trk Port No? 3
```

```
0909:         TKP_003
IRG(Day):1-2
```

```
0909:         TKP_003
IRG(Night 1):1-0
```

```
0909:         TKP_003
IRG(Night 2):1-0
```

```
0909:Trk Assign IRG
Trk Port No?
```

Defaults

The following defaults apply to all trunks in IRG 01:

Trunk port	IRG (Day)	IRG (Night 1)	IRG (Night 2)
1 to 80	1	1	1

IN 0910

Trunk Access Map   This command defines the Trunk Access Map. The system has 80 Access
                              Maps.

Input data

Field name	Description	Input data
TAM No.	The Trunk Access Map number	1 – 80
Trk Port No.	The trunk port number	1 – 80
TKP_xxx	(Where xxx is the trunk port number). The trunk access code.	0: Not assigned 1: Outgoing only 2: Incoming only 3: Holding only 4: Outgoing **&** Holding 5: Incoming **&** Holding 6: Incoming **&** Outgoing 7: Outgoing, Incoming **&** Holding

Example   This example sets up trunk port number 1 of Trunk Access Map 1 to be
                              outgoing only.

Action   **Display**

Enter the command number.

Press the [Hold] key.

```
USER:TELECOM LVL:IN
Enter command> 0910
```

Enter the Trunk Access Map
number (1).

Press the [Hold] key.

```
0910:Trk Access Map
TAM No? 1
```

Enter the trunk port number (1).

Press the [Hold] key.

```
0910:        TAM_01
Trk Port No? 1
```

Enter the trunk access code (1).

Press the [Hold] key.

```
0910 :        TAM-01
TKP_01:7-1
```

Enter the next trunk port number and
press the [Hold] key to continue
entering data for this Trunk Access
Map

```
0910:         TAM-01
Trk Port No?
```

            OR
Press the [Hold] key again and enter
the next trunk Access Map number to
continue in command 0910

```
0910:Trk Access Map
TAM No?
```

            OR
Press the [Hold] key again to go to next
command.

Defaults

Trunk Access Map number	Trunk port number	Trunk Access code
1	1 – 80	7 (Outgoing, Incoming **&** Holding)
2 – 80	All port numbers	0 (Not assigned)

IN 0911

Station Trunk Access Map

This command assigns which Trunk Access Map is accessed by a station. The access map used can be selected according to the operating mode (Day, Night 1 or Night 2).

Input data

Field name	Description	Input data
Stn Port No.	The station port number	1 to 96
TAM(DAY)	The Trunk Access Map number in Day mode	0: Not defined 1 – 80: Map number
TAM(Night 1)	The Trunk Access Map number in Night 1 mode	0: Not defined 1 – 80: Map number
TAM(Night 2)	The Trunk Access Map number in Night 2 mode	0: Not defined 1 – 80: Map number

Example

This example assigns station port number 15 to Trunk Access Map number 1 for Night 1 mode only.

Action

Enter the command number.

Press the [Hold] key.

Enter the station port number (15).

Press the [Hold] key.

Enter the Trunk Access Map number for the Day mode (0).

Press the [Hold] key.

Press the [Hold] key.

Enter the Trunk Access Map number for Night 2 mode (0).

Press the [Hold] key.

Enter the next station port number and press the [Hold] key to continue in command 09 11
                OR
Press the [Hold] key again to go to next command.

Display

```
USER:TELECOM  LVL:IN
Enter command> 0911
```

```
0911:Stn Trk Acc Map
Stn Port No? 15
```

```
0911:          STP_015
TAM(Day):1-0
```

```
0911:          STP_015
TAM(Night 1):1-
```

```
0911:          STP_015
TAM(Night 2) :1-0
```

```
0911:Stn Trk Acc Map
Stn Port No?
```

Defaults

All stations are assigned to Trunk Access Map 1 for all operating modes.

Station port number	Trunk Access Map number in Day mode	Trunk Access Map number in Night 1 mode	Trunk Access Map number in Night 2 mode
1 – 96	1	1	1

IN 0912

Trunk route for DISA

This command assigns a Trunk Access Route number to a trunk port number when the trunk is used for DISA service.

Input data

Field name	Description	Input data
Trk Port No.	Trunk port number	1 – 80
Route No.	The Trunk Access Route number	0: Not assigned. 1 – 40: Route number

Example

This example assigns trunk port number 12 to trunk Access Route 10.

Action	**Display**
Enter the command number. Press the [Hold] key.	USER:TELECOM LVL:IN Enter command> 0912
Enter the trunk port number (12). Press the [Hold] key.	0912:DISA Route No. Trk Port No? 12
Enter the trunk access route number (10). Press the [Hold] key.	0912:DISA Route No. TKP_012:0-**10**
Enter the next trunk port number and press the [Hold] key to continue in command 09 12 OR Press the [Hold] key to go to next command.	0912:DISA Route No. Trk Port No?

Defaults

Trunk port number	Trunk Access Route number
1 – 80	1

IN 0914

IPRB Port Assign

This command defines the number of ports to be initialised on the IPRB board. The number will match the activated B-channels in the ISDN Macrolink.

Input data

Field Name	Description	Input Data
Slot No.	Slot Number	1 to 25: Slot No. 1 to 25
	Number of Ports	0: Not defined 1 to 30

Example

This example activates 20 ports in slot 1

Action

Enter the command number.

Press the [Hold] key.

Display

```
USER:TELECOM  LVL:IN
Enter  command> 0914
```

Enter the Slot Number (1).

Press the [Hold] key.

```
0914: ITRU_P Assign
Slot No? 1
```

Enter number of ports to be activated (20).

Press the [Hold] key.

```
0914: ITRU_P Assign
Slot_01:0-20
```

Enter the next Call Slot number and press the [Hold] key to continue in Command 0914
            OR
Press the [Hold] key again to go to the next command.

```
0914: ITRU_P Assign
Slot No?
```

Defaults

All slots default to 0

NOTE: The screen display 'ITRU_P' refers to the IPRB board.

IN 1001

Station type

Input data

This command defines the hardware assigned to the station port.

The system automatically detects whether the port for the selected station port is an SLT or keystation and displays the appropriate fields.

Field name	Description	Input data
Stn Port No.	Station port number	1 to 96

Single Line Telephone

Field name	Description	Input data
SLT Item	Single Line Telephone settings	1: Decadic/DTMF 2: Message Waiting lamp 3: Loop Current 4: CODEC Gain type 5: Voice Mail port

Item No.	Description	Input data
1	Decadic/DTMF selection	0: Decadic 1: DTMF
2	Not available	
3	Loop current selection	0: 20mA 1: 35mA
4	CODEC Gain type selection	1 to 5
5	Voice Mail port selection	0: Normal 1: Voice Mail

Keystation

Field name	Description	Input data
KStn Item	Keystation settings	1: — reserved — 2: Exchange ring type 3: Intercom ring type

Item No.	Description	Input data
1	Reserved	
2	Exchange ring type selection	1: High 2: Middle 3: Low
3	Intercom ring type selection	1: High 2: Middle 3: Low

Example

Two examples are shown below.

In the first case, the system has automatically detected that the port is for a single line telephone (16). The input data sets the Decadic/DTMF type to DTMF.

In the second case, the port is for a keystation (17). The input data sets the exchange ring type to High.

IN 1001

Action	**Display**

Enter the command number.

Press the [Hold] key.

```
USER:TELECOM  LVL:IN
Enter command> 1001
```

Single Line Telephone   Enter the station port number (16).

Press the [Hold] key.

```
1001:Station Type
Stn Port No? 16
```

Enter the single line telephone item number (1).

Press the [Hold] key.

```
1001:         STP_016
SLT Item? 1
```

Enter the item input data (1).

Press the [Hold] key.

```
1001:         STP_016
ITEM_1:0-1
```

Enter the next item number and press the [Hold] key to continue entering data for this telephone
            OR
Press the [Hold] key again and enter the next port number to continue in this command
            OR
Press the [Hold] key again to go to next command.

```
1001:         STP_016
SLT Item?
```

```
1001:Station Type
Stn Port No?
```

Keystation   Enter the station port number (17).

Press the [Hold] key.

```
1001:Station   Type
Stn Port No? 17
```

Enter the keystation item number (2).

Press the [Hold] key.

```
1001:         STP_017
KStn Item? 2
```

Enter the item input data (1).

Press the [Hold] key.

```
1001:         STP_017
ITEM_1:2-1
```

Enter the next item number and press the [Hold] key to continue entering data for this station
            OR
Press the [Hold] key again and enter the next station port number to continue in this command
            OR
Press the [Hold] key again to go to next command.

```
1001:         STP_017
KStn Item?
```

```
1001:Station Type
Stn Port No?
```

IN1001

Defaults   The defaults depend on the type of PBA installed for the selected station
                             number.

DSB installed.

Item number	Feature	Selection
1	Reserved	0 (none)
2	Exchange ring type	2 (Middle)
3	Intercom ring type	2 (Middle)

ASB installed.

Item number	Feature	Selection
1	Decadic/DTMF	0 (Decadic)
2	Not Available	
3	Loop Current	0 (20mA)
4	CODEC Gain type	1 (CODEC Gain 1)
5	Voice Mail port	0 (Normal)

SA 1002

Station Restriction Class

This command assigns the Restriction Class for each station. The information contained in the restriction classes is shown below.

Class 1   Unrestricted Access.

Class 2   Calls are barred when the Initial digits of a dialled number agree with a "Bar IDD No." programmed in Command 0701. All other calls are unrestricted.

This class can be used to provide full IDD barring or selective IDD barring according to the "Bar IDD" numbers programmed. If no "Bar IDD" numbers are programmed then IDD access is unrestricted.

Class 3   IDD and STD access is limited to allowed codes or numbers programmed as "Alw STD/IDD No." in Command 0701. All other IDD and STD numbers are barred. All dialled numbers other than allowed STD/IDD numbers will be barred if they exceed the "Digit Limit" programmed in Command 0701.

Class 3 is generally used to restrict users to local calls and allowed STD and IDD numbers.

Class 4   Calls are barred when the initial digits of a dialled number agree with "Bar IDD No." or "Bar STD No." programmed in Command 0701. Other calls are barred if the dialled number exceeds the "Digit Limit" programmed in Command 070 1.

Class 4 is generally used to restrict users to local calls.

Class 5   Where the Commander D is behind a PABX, outgoing calls from the PABX can be barred by programming the PABX Trunk access code in the "PBX Acs No." field in Command 0701.

This class is used to allow only internal Commander D calls and calls to internal PABX extensions.

Class 6   All outgoing calls are barred. Only internal calls are allowed.

Dialled numbers which begin with codes programmed in "COM_ALW No." in Command 0701 are allowed in all classes above.

Input data

Field name	Description	Input data
Stn Port No.	Station port number	0: not defined. 1 to 96: Port number
Cls(Day)	Restriction Class number in Day mode	0: not defined. 1 to 6: Restriction Class
Cls(Night 1)	Restriction Class number in Night 1 mode	0: not defined. 1 to 6: Restriction Class
Cls(Night 2)	Restriction Class number in Night 2 mode	0: not defined. 1 to 6: Restriction Class

SA 1002

Example

This example assigns station port 13 to Restriction Class 2 in Day mode, Restriction Class 4 in Night 1 mode and Restriction Class 6 in Night 2 mode.

Action	**Display**
Enter the command number. Press the [Hold] key.	`USER:TELECOM  LVL:IN` `Enter command> 1002`
Enter the station port number (13). Press the [Hold] key.	`1002:Restriction Cls` `Stn Port No? 13`
Enter the Restriction Class number in Day mode (2). Press the [Hold] key.	`1002:        STP_013` `Cls(Day):1-2`
Enter the Restriction Class number in Night 1 mode (4). Press the [Hold] key.	`1002:        STP_013` `Cls(Night 1): 1-4`
Enter the Restriction Class number in Night 2 mode (6). Press the [Hold] key	`1002:        STP_013` `Cls(Night 2):1-6`
Enter the next station port number to continue in this command OR Press the [Hold] key again to go to next command.	`1002:Restriction Cls` `Stn Port No?`

Defaults

The Restriction Class of all stations is set to 1 for all operation modes.

```
SA 1003
```

Station Class of Service

This command assigns a Class of Service number to each station.

NOTE: Refer to Command 0406 for details of Class of Service assignment.

Input data

Field name	Description	Input data
Stn Port No.	Station port number	1 to 96
Cls(Day)	Station Class of Service number in Day mode	0: not defined. 1 to 15: Class of Service number
Cls(Night 1)	Station Class of Service number in Night 1 mode	0: not defined. 1 to 15: Class of Service number
Cls(Night 2)	Station Class of Service number in Night 2 mode	0: not defined. **1** to 15: Class of Service number

Example

This example assigns station port 21 to Class of Service 1 in Day mode, Class of Service 2 in Night 1 mode and Class of Service 3 in Night 2 mode.

Action

Enter the command number.

Press the [Hold] key.

Enter the station port number (21).

Press the [Hold] key.

Enter the Class of Service number in Day mode (1).

Press the [Hold] key.

Enter the Class of Service number in Night 1 mode (2).

Press the [Hold] key.

Enter the Class of Service number in Night 2 mode (3).

Press the [Hold] key.

Enter the next station port number and press the [Hold] key to continue in command 1003
              OR
Press the [Hold] key again to go to next command.

Display

```
USER:TELECOM   LVL:IN
Enter command> 1003
```

```
1003:Stn Service Cls
Stn Port No? 21
```

```
1003:          STP_021
Cls(Day):9-1
```

```
1003:          STP_021
Cls(Night 1):9-2
```

```
1003:          STP_021
Cls(Night 2):9-3
```

```
1003:Stn Service Cls
Stn Port No?
```

Defaults

All stations have station Class of Service 9 for all operation modes.

IN 1004

Station Tenant   This command assigns a tenant number for each station port.

Input data

Field name	Description	Input data
Stn Port No.	The station port number	1 to 96
STP_xx	(Where xx is the station port number). The Tenant number	0: not defined 1 to4: Tenant 1 to 4

Example   This example assigns station port number 19 to Tenant number 2.

Action   **Display**

Enter the command number.

Press the [Hold] key.

```
USER:TELECOM  LVL:IN
Enter command> 1004
```

Enter the station port number (19).

Press the [Hold] key.

```
1004:Station Tenant
Stn Port No? 19
```

Enter the tenant number (2).

Press the [Hold] key.

```
1004:Station Tenant
STP_019:1-2
```

Enter the next station port number and press the [Hold] key to continue in command 1004
            OR
Press the [Hold] key again to go to next command.

```
1004:Station Tenant
Stn Port No?
```

Defaults   The Tenant number is set to 1 for each station port.

IN 1005

Station Group

This command assigns a group number to each station port and sets the order number in the group.

Input data

Field name	Description	Input data
Stn Port No.	The station port number	0: not defined 1 to 96: Port number
Stn Group No.	The Station Group number	0: not defined 1 to 10: Group number
Order No.	The order number in the Station Group	0: not defined 1 to 96: Order number

Example

This example assigns station port 21 to Station Group 1 and sets the order number to 3.

Action   **Display**

Enter the command number.

Press the [Hold] key.

```
USER:TELECOM LVL:IN
Enter command> 1005
```

Enter the station port number (21).

Press the [Hold] key.

```
1005:Station Group
Stn Port No? 21
```

Enter the Station Group number (1).

Press the [Hold] key.

```
1005:          STP_021
Stn Group No:0-1
```

Enter the order number (3).

Press the [Hold] key.

```
1005:          STP_021
Order No:0-3
```

Enter the next station port number and press the [Hold] key to continue in command 1005
                OR
Press the [Hold] key again to go to next command.

```
1005:Station Group
Stn Port No?
```

Defaults

All Station Groups and order number are set to '0'.

SA1006

Keystation Line key programming

This command assigns exchange lines and key functions to a keystation's programmable line keys.

Input data

Field name	Description	Input data
KStn Port No.	The keystation port number	1 to 96
Key No.	The line key number	1 to 32

Code	The line key assignment	0: Not assigned
		1 to 80:
		    Trunk port number 1 to **80**
		1000 to 1050:
		    Key function number. (See Table below for details).

Add	Additional password data when the code is 1005 (Night key). This field is blank for all other codes.	1111 to **####**: The password (must be 4 digits)

Key function codes

Key function number	Function name
1000	Camp On
1001	Divert
1002	Follow Me
1003	Monitor
1004	Conference
1005	Night key (Note that the Add field must be completed for this function number)
1006	Line access
1007	Line group access
1008	Group Pick-Up
1009	Other Group Pick-Up
1010	Direct Group Pick-Up
1011	Internal paging group
1012	Internal paging all
1013	External paging group
1014	External paging all
1015	Transmitter mute
1016	BUZZ
1017	Bypass call

SA1006

Key function number	Function name
1018	Break In
1019	Message Waiting
1020	Text Message
1021	Headset mode change
1022	Meet Me set or Meet Me answer
1023	Call For
1024	Data
1025	Data Privacy
1026	Paging All Call
1027	Signal/Voice change
1028	Current Charge for Call
1029	Charge for Call Continuous
1030	Charge at End of Call
1031	Malicious Call Trace
1032 – 50	Reserved

Example

In this example, key 17 of keystation port number 1 is programmed for Group Pick up.

Action

Display

Enter the command number.

Press the [Hold] key.

```
USER:TELECOM  LVL:IN
Enter command> 1006
```

Enter the keystation port number (1).

Press the [Hold] key.

```
1006:KStn Program Key
KStn Port No? 1
```

Enter the key number (17).

Press the [Hold] key.

```
1006: KSP_001
Key No? 17
```

Enter the function code (1008).

Press the [Hold] key.

```
1006: KSP_001 KEY_17
Code:17-1008
```

Press the [Hold] key.

```
1006: KSP_001 KEY_17
Add:0-
```

Enter the next key number and press the [Hold] key to continue entering data for this station port
OR

```
1006: KSP_001
Key No?
```

Press the [Hold] key again and enter the next keystation port number to continue in command 1006
OR

```
1006:KStn Program Key
KStn Port No?
```

Press the [Hold] key again to go to next command.

SA 1006

Defaults

All keystations have the following defaults:

Key number	Code
1 – 32	1 – 32

NOTE: Station with Class of Service 1 – 5 are unable to individually program their keystation's programmable line keys (deny tone is heard if attempted). Stations with Class of Service 6 – 11 can individually program programmable line keys to suit their own requirements.

```
SA1007
```

Keystation DSS key programming

This command defines station numbers and speed dial or personal numbers to the DSS key data of keystations.

Input data

Field name	Description	Input data
KStn Port No.	Keystation port number	1 to 96
Item No.	Type of number	1: Intercom number 2: Repertory number
Key No.	DSS key number	1 to 10
KEY-xx	(Where xx is the DSS key number). The dial code assigned to the key.	Refer to the Table below for details.

Dial codes

Type of number	Number	Dial code
1: Intercom	Up to 4 digits	The dial code for a station
2: Repertory	0	Not defined.
	1 to 540	The Common Speed Dial access number
	541 to 550	The Personal Speed Dial access number

NOTE: Any number in the range 541 – 550 is converted to the actual address of the speed dial for that station.

SA 1007

Example

This example sets up DSS key 8 on keystation port number 1 as an Intercom number with dial code 170.

Action	Display
Enter the command number. Press the [Hold] key.	`USER:TELECOM  LVL:IN` `Enter command> 1007`
Enter the keystation port number (1). Press the [Hold] key.	`1007:KStn DSS Key` `KStn Port No? 1`
Enter the item number (1). Press the [Hold] key.	`1007:        KSP_001` `Item No? 1`
Enter the DSS key number (8). Press the [Hold] key.	`1007:INTCOM  KSP_001` `Key No? 8`
Enter the DSS dial code (170). Press the [Hold] key.	`1007:INTCOM  KSP_001` `KEY_08:-170`
Enter the next DSS key number and press the [Hold] key to continue entering intercom numbers OR	`1007:INTCOM KSP_001` `Key No?`
Press the [Hold] key again and enter the next item number to continue entering data for this keystation OR	`1007:        KSP_001` `Item No?`
Press the [Hold] key again and enter the next keystation port number to continue in command 1007 OR	`1007:KStn DSS Key` `KStn Port No?`
Press the [Hold] key again to go to next command.	

Defaults

All Premium keystations have personal speed dial numbers l-10 assigned to DSS keys l-10. All Executive and Standard keystations have personal speed dial numbers l-8 assigned to DSS keys l-8.

All stations

DSS Key	Intercom number	Repertory number
1 ⋮ 10	Not assigned	541 ⋮ 550

SA 1008

Station option

This command determines if an SMDR printout is provided for each station and whether an intercom or an outside line is selected when the handset is lifted or the [Speaker] key is pressed.

Input data

Field name	Description	Input data
Stn Port No.	Station port number	1 to 96
Item No.	Optional data	1: SMDR print out selection 2: Internal line auto seizing 3: External line auto seizing 4 – 8: Reserved.

Optional item number	Description	Input data
1	SMDR print out selection code	0: Disable printing 1: Enable printing
2	Internal line auto seizing selection code	0: OFF 1: ON
3	External line auto seizing selection code	0: OFF 1: ON
4-8	Reserved.	

Example

This example disables SMDR printing for station port number 15.

Action

Enter the command number.

Press the [Hold] key.

Display

```
USER:TELECOM  LVL:IN
Enter command> 1008
```

Enter the station port number (15).

Press the [Hold] key.

```
1008:Station Option
Stn Port No? 15
```

Enter the optional data (1).

Press the [Hold] key.

```
1008:          STP_015
Item No? 1
```

Enter the selection code (0).

Press the [Hold] key.

```
1008:          STP_015
ITEM_1:1-0
```

Enter the next item number and press the [Hold] key to continue entering data for this station port
              OR

```
1008:          STP_015
Item No?
```

Press the [Hold] key again and enter the next station port number to continue in command 1008
              OR

```
1008:Station Option
Stn Port No?
```

Press the [hold] key again to go to next command.

SA 1008

Defaults

All stations have the following optional data:

Optional data (Item No.)	Description	Setting
1	SMDR printout	1: Printing enabled
2	Internal line auto seizing	1: ON
3	External line auto seizing	0: OFF

NOTE: **(1)** If a station is programmed for both internal line auto seizing and external line auto seizing, then an external line is automatically seized when the handset is lifted and an internal line is automatically seized when · the [Speaker] button is pressed.

(2) Station user guides have been written on the basis of the default values. Changes to this programming should be advised to keystation users informing them the operation will differ from that described in the user guide.

SA 1009

Break In level

This command defines the level at which a station can break into an established call.

Input data

Field name	Description	Input data
Stn Port No.	Station port number	1 to 96
	Break in level	0: Not defined 1: Exchange/Intercom calls 2: Intercom calls 3: Priority ringing

Example

This example allows station port number 21 to break in to intercom calls only.

Action

Enter the command number.

Press the [Hold] key.

Enter the station port number (21).

Press the [Hold] key.

Enter the Break in level (2).

Press the [Hold] key.

Enter the next station port number and press the [Hold] key to continue in command 1009
                OR
Press the [hold] key again to go to next command.

Display

```
USER:TELECOM LVL:IN
Enter command> 1009
```

```
1009:Break In Level
Stn Port No? 21
```

```
1009:Break In Level
STP_021:1-2
```

```
1009:Break In Level
Stn Port No?
```

Defaults

All stations have the Break in level set to 1 (Exchange/Intercom calls)

NOTE: (1)   The station class of service determines whether the station is allowed to use the break in facility.

(2)   Priority ringing allows the station breaking in to jump to the top of any ringing calls queuing at a station.

SA 1010

Secretary port assign   This command defines the secretary port number for a manager station. This
will determine where the manager calls are diverted to while in the Do Not
Disturb mode.

Input data

Field name	Description	Input data
Mngr Stn Port	The manager station port number	1 to 96
STN_xx	(Where xx is the manager station port number). The secretary station port number	0: not assigned 1 to 96: Station port number

Example   This example assigns secretary port 10 to manager station 12.

Action   **Display**

Enter the command number.

Press the [Hold] key.

```
USER:TELECOM  LVL:IN
Enter command> 1010
```

Enter the manager station port number
(12).

Press the [Hold] key.

```
1010:Mngr-Secretary
Mngr Stn Port? 12
```

Enter the secretary port number (10).

Press the [Hold] key.

```
1010:Secretary Port
STP_012:0-10
```

Enter the next manager station port
number and press the [Hold] key to
continue in command 1010
         OR
Press the [Hold] key again to go to next
command.

```
1010:Mngr-Secretary
Mngr Stn Port?
```

Defaults   All stations have the secretary port set to 0 (not assigned).

NOTE: (1)   Several managers can share the same secretary station.

         (2)   A secretary station can also be assigned as a manager station
                but cannot operate as a manager and a secretary at the same
                time.

IN 1011

Alarm sensor ringing station assign

This command defines which station rings when an alarm sensor is activated by the DSEPB-D-A sense ports.

Input data

Field name	Description	Input data
Stn Port No.	Station port number	1 to 96
Sensor No.	Sensor number	1 to4:
SENSOR-x	(Where x is the sensor number). The alarm enable/disable code	0: Ringing disabled 1: Ringing enabled

Example

This example sets station port number 14 to ring when sensor number 3 is activated.

Action   **Display**

Enter the command number.

Press the [Hold] key.

```
USER:TELECOM LVL:IN
Enter command> 1011
```

Enter the station port number (14).

Press the [Hold] key.

```
1011:Alm Sensor Ring
Stn Port No? 14
```

Enter the sensor number (3).

Press the [Hold] key.

```
1011:          STP_014
Sensor No? 3
```

Enter the selection code (1).

Press the [Hold] key.

```
1011:          STP_014
SENSOR_3:0-1
```

Enter the next sensor number and press the [Hold] key to continue entering data for the station port number
            OR

```
1011:          STP_014
Sensor No?
```

Press the [Hold] key again and enter the next station port number to continue in command 1011
            OR

```
1011:Alm Sensor Ring
Stn Port No?
```

Press the [Hold] key again to go to next command.

Defaults

All stations are disabled from ringing for any alarm (SENSOR-l to SENSOR-4 are set to 0).

IN 1012

Keystation programmable key initialisation

This command is used to initialise the keystation's programmable keys for incoming and outgoing exchange call access.

The keys are initialised in accordance with the following system data:

·   Trunk Access Map

·   Station/Trunk access group

NOTE: This command is used after the above system data has been entered. (Refer also to Commands 0905, 0906, 0907, 0908, 0910. 0911)

Input data

Field name	Description	Input data
KStn Port No.	Keystation port number	0: All keystations 1 to 96: Port number.
Initial(Yes: 1)	Enable/disable initialisation	1 : Enable [Hold]: Aborts

Example

This example enables initialisation of keystation port 1 only.

Display   **Action**

Enter the command number.

Press the [Hold] key.

```
USER:TELECOM  LVL:IN
Enter command> 1012
```

Enter the keystation port number (1).

Press the [Hold] key.

```
1012:Prog Key Init.
KStn Port No? 1
```

Enter the initialisation enable code (1).

Press the [Hold] key.

```
1012:          KSP_001
Initial(Yes:1)? 1
```

```
1012:          KSP_001
Initialised!
```

Press the [Hold] key and enter the next keystation port number to continue in command 1012
        OR
Press the [Hold] again to go to next command.

```
1012:Prog Key Init.
KStn Port No?
```

Defaults

None.

IN 1101

DSS Console connect port assign

This command assigns a keystation port number to a DSS Console number.

Input data

Field name	Description	Input data
DSS No **DSS_xx.**	DSS Console number (Where xx is the DSS Console number). The keystation port number.	**1** to 8 0: Not assigned 1 to 96: Keystation port 1 to 96

Example

The following example assigns DSS Console 2 to keystation port 12.

Action   **Display**

Enter the command number.

Press the [Hold] key.

```
USER:TELECOM  LVL:IN
Enter command> 1101
```

Enter the DSS Console number (2).

Press the [Hold] key.

```
1101:DST Port Assign
DSS No? 2
```

Enter the keystation port number (12).

Press the [Hold] key.

```
1101:DSS Port Assign
DSS_02:0-12
```

Enter the next DSS Console number and press the [Hold] key to continue in command 110 1
            OR
Press the [Hold] key again to go to next command.

```
1101:DSS Port Assign
DSS No?
```

Defaults

Keystation port numbers are assigned to any DSS Console number (DSS_01 to DSS_08 are set to 0).

IN 1101

DSS Console connect port assign

This command assigns a keystation port number to a DSS Console number.

Input data

Field name	Description	Input data
DSS No DSS_xx.	DSS Console number (Where xx is the DSS Console number). The keystation port number.	**1** to 8 0: Not assigned 1 to 96: Keystation port 1 to 96

Example

The following example assigns DSS Console 2 to keystation port 12.

Action

Enter the command number.

Press the [Hold] key.

Display

```
USER:TELECOM  LVL:IN
Enter command> 1101
```

Enter the DSS Console number (2).

Press the [Hold] key.

```
1101:DST Port Assign
DSS No? 2
```

Enter the keystation port number (12).

Press the [Hold] key.

```
1101:DSS Port Assign
DSS_02:0-12
```

Enter the next DSS Console number and press the [Hold] key to continue in command 110 1
            OR
Press the [Hold] key again to go to next command.

```
1101:DSS Port Assign
DSS No?
```

Defaults

Keystation port numbers are assigned to any DSS Console number (DSS_01 to DSS_08 are set to 0).

IN 1102

DSS Console kev data

This command assigns a dial code to a DSS Console key.

Input data

Field name	Description	Input data
DSS No	DSS Console number	1 to 8
Key No	DSS key number	1 to 96
KEY-xxx	(Where xxx is the DSS key number). The dial code for the DSS key.	A dial code of up to 4 digits.

Example

The following example assigns dial code 123 to DSS key 4 of DSS Console number 2.

Action

Display

Enter the command number.
Press the [Hold] key.

```
USER:TELECOM  LVL:IN
Enter command> 1102
```

Enter the DSS Console number (2).
Press the [Hold] key.

```
1102:DSS Console Key
DSS No? 2
```

Enter the DSS key number (4).
Press the [Hold] key.

```
1102:         DSS_02
Key No? 4
```

Enter the dial code (123).
Press the [Hold] key.

```
1102:         DSS_02
KEY_004:-123
```

Enter the next DSS key number and press the [Hold] key to continue entering data for this DSS Console
      OR

```
1102:         DSS_02
Key No?
```

Press the [Hold] key again and enter the next DSS Console number to continue in command 1102
      OR

```
1102:DSS Console Key
DSS No?
```

Press the [Hold] key again to go to next command.

Defaults

Dial codes are not defined for any DSS Console or key.

IN 1103

DSS Off-Duty data assign

This command assigns an Off-Duty DSS pair to a DSS Console.

Input data

Field name	Description	Input data
DSS No	DSS number	1 to 8
DSS_xx.	(Where xx is the DSS number). The Off-Duty pair DSS number.	0: Not defined 1 to 8: DSS number 1 to 8.

Example

The following example assigns DSS number 5 to be the Off-Duty pair for DSS number 3.

Action   **Display**

Enter the command number.

Press the [Hold] key.

```
USER:TELECOM   LVL:IN
Enter command> 1103
```

Enter the DSS console number (3).

Press the [Hold] key.

```
1103:Off-Duty Pair
DSS No? 3
```

Enter the DSS console number for the Off-Duty pair (5).

Press the [Hold] key.

```
1103:Off-Duty Pair
DSS_03:0-5
```

Enter the next DSS Console number and press the [Hold] key to continue in command 1103

OR

Press the [Hold] key again to go to next command.

```
1103:Off-Duty Pair
DSS No?
```

Defaults

Off-Duty pairs are set to 0 (not defined) for all DSS numbers.

IN 1104

Operator port assign

This command assigns an operator port number to a tenant.

Input data

Field name	Description	Input data
Tenant No	Tenant number	1 to 4
TNT-x	(Where x is the tenant number). The operator port number.	0: Not assigned 1 to 96: Operator number 1 to 96.

Example

The following example assigns port number 56 as the operator port for tenant number 2.

Action

Enter the command number.

Press the [Hold] key.

Enter the tenant number (2).

Press the [Hold] key.

Enter the operator port number (56).

Press the [Hold] key.

Enter the next tenant number and press the [Hold] key to continue in command 1104

        OR

Press the [Hold] key again to go to next command.

Display

```
USER:TELECOM  LVL:IN
Enter command> 1104
```

```
1104:Operator Assign
Tenant No? 2
```

```
1104:Operator Assign
TNT_2:0-56
```

```
1104:Operator Assign
Tenant No?
```

Defaults

Operator port numbers are set to 0 (not assigned) for each tenant number.

```
                                                        SA 1201
```

DCI initial type

This command defines the operational parameters for a DCI initial type. A DCI initial type is then allocated to each DCI in command SA 1202.

Input data

Field name	Description	Input data
Type No.	Initial data type	1 to 5
Item No.	Register type	1: S-Register 2: LAPB Register Note: See the Tables below for S-Register and LAPB Register data items.
S-Register No	(Only if item 1 is selected)	1 to 66
Data	Data for the S-Register	See the Table below.

S–Register data

S-Register number	Description	Input data
0	Auto answer time	0: auto answer disabled 1 to 255: 2 to 510 sec (*2sec)
1	Ring count	0 to 255: 0 to 510 sec (*2sec)
2	Escape code	0 to 127: ASCII code (in decimal)
3	Carriage return code	0 to 127: ASCII code (in decimal)
4	Line feed code	0 to 127: ASCII code (in decimal)
5	Back space code	0 to 127: ASCII code (in decimal)
7	Carrier wait time	1 to 255: 1 to 255 sec
9	Carrier detect time	1 to 255: 10 to 2550 msec (* 10 msec)
10	Carrier not-detect time	1 to 255: 10 to 2550 msec (*10 msec)
12	Escape code guard time	0 to 255: 0 to 5100 msec
25	ER delay	1 to 255: 10 to 2550 msec (*lOmsec)
61	Packet size	0 to 255: 0 to 255 bytes
62	Terminate code	0 to 127: ASCII code (in decimal)

SA 1201

S-Register number	Description	Input data
63	Data timer	0 to 255: 0 to 12750 msec (*50msec)
64	Result code data	(not known)
Result	Result code	0: Enable sending 1: Disable sending
Result-Type	Result code type	0: Digit 1: Word
Result-Mode	Result code mode	0: Basic, 1: Expand #1, 2: Expand #2, 3: Expand #3, 4: Expand #4
65	(Transmission data)	(not known)
Baud-Rate	Baud rate	1: 300 bps, 2: 600 bps, 3: 1200 bps, 4: 2400 bps, 5: 4800 bps, 6: 9600 bps, 7: 19200 bps
Stop-Bit	Stop bit	0: Stop bit-l 1: Stop bit-2
CHAR-LEN	Character length	0: 7-bits 1: 8-bits
Parity	Parity	0: None 1: –reserved– 2: Odd 3: Even
66	(Unknown)	(Unknown)
RS_Timing	RS on timing	0: Control 1: Always
ER_Timing	ER on timing	0: Control 1: Always
CS_Timing	CS on timing	0: Control 1: Same to RS timing
Flow-Cont	Flow control	0: None 1: RS/CS 2: X-ON/OFF terminate, 3: X-ON/OFF transparent

SA 1201

Enter the S-Register data (5)
(10 seconds).

Press the [Hold] key.

```
1201:TYPE_1 S_REG_00
Data:0-5
```

Enter the next S-Register number (65).

Press the [Hold] key.

```
1201:TYPE_1 S_REG_
Register No? 65
```

Enter the S-Register data (6).

Press the [Hold] key three times.

```
1201:TYPE_1 S_REG_65
Baud - Rate: 3-6
```

Enter the next S-Register data (2).

```
1201:TYPE_1 S_REG_65
Parity: 3-2
```

Press the [Hold] key and enter the next
register number to continue entering
data fot this item number
　　　　　OR
Press the [Hold] key again and enter
the next item number to continue
entering data for this data type
　　　　　OR
Press the[Hold] again and enter the
next DCI initial data type to continue in
command 120 1
　　　　　OR
Press the [Hold] key again to go to next
command.

```
1201:TYPE_1 S_REG
Register No?
```

```
1201:TYPE_1
Item No?
```

```
1201:DCI Init. Data
Type No?
```

SA 1201

Defaults   The following defaults apply to Type 1. Types 2 to 5 have all register data set
                     to 0 (not defined)

S-Register data

S-Register number	Data
S-REG(0)	0 (Disabled)
S-REG(1)	0 (0 sec)
S-REG(2)	43 (2BH = '+')
S-REG(3)	13 (ODH = CR)
S-REG(4)	10 (OAH = LF)
S-REG(5)	8 (08H = BS)
S-REG(7)	30 (30 sec)
S-REG(9)	6 (60 msec)
S-REG(10)	14 (140 msec)
S-REG(12)	50 (1000 msec)
S-REG(25)	5 (50 msec)
S-REG(61)	255 (255 byte)
S-REG(62)	13 (ODH = CR)
S-REG(63)	20 (1000 msec)

S-REG(64):
  Result code
  Result code type
  Result code mode
	
	0 (Send)
	1 (Word)
	0 (Basic)

S-REG(65):
  Baud Rate
  Stop Bit
  Char Length
  Parity
	
	3 (1200 bps)
	0 (Stop bit-l)
	0 (7-bits)
	3 (even)

S-REG(66):
  RS On Timing
  ER On Timing
  CS On Timing
  Flow Control
	
	0 (Control)
	0 (Control)
	1 (Control)
	0 (none)

SA 1201

LAPB *Register data*

Register field	Data
T1(Int)	500 **msec**
T2(Int)	*250* **msec**
N1(Int)	2080 bits
N2(Int)	20 times
K(Int)	7 frames
T1(Ext)	*2000* **msec**
T2(Ext)	1000 **msec**
N1(Ext)	2080 bits
N2(Ext)	7 times
K(Ext)	7 frames

NOTE: The decimal equivalents for standard keyboard characters are provided in the following table:

Decimal equivalent	Standard keyboard	Decimal equivalent	Standard keyboard	Decimal equivalent	Standard keyboard	Decimal equivalent	Standard keyboard
0	Ctrl 2	32	Spacebar,[3]	64	@	96	`
1	Crtl A	33	!	65	A	97	a
2	Ctrl B	34	,,	66	B	98	b
3	Ctrl C	35	#	67	C	99	c
4	Ctrl D	36	$	68	D	100	d
5	Ctrl E	37	%	69	E	101	e
6	Ctrl F	38	&	70	F	102	f
7	Ctrl G	39		71	G	103	g
8	Ctrl H,[1]	40	(	72	H	104	h
9	Ctrl I	41	)	73	I	105	i
10	Ctrl J, Ctrl J	42	*	74	J	106	j
11	Ctrl K	43	+	7.5	K	107	k
12	Ctrl L	44		76	L	108	l
13	Ctrl M, J , Shift J	45	_	77	M	109	m
14	Ctrl N	46	.	78	N	110	n
15	Ctrl 0	47	/	79	P	111	o
16	Ctrl P	48	0	80	Q	112	P
17	Ctrl Q	49	1	81		113	q
18	Ctrl R	50	2	82	R	114	r
19	Ctrl s	51	3	83	S	115	s
20	Ctrl T	52	4	84	T	116	t
21	Ctrl U	53	5	85	U	117	u
22	Ctrl v	54	6	86	V	118	v
23	Ctrl w	55	7	87	W	119	w
24	Ctrl X	56	8	88	X	120	x
25	Ctrl Y	57	9	89	Y	121	Y
26	Ctrl Z	58		90	Z	122	z
27	Ctrl [,[2]	59		91	[	123	{
28	Ctrl \	60	<	92	\	124	l
29	Ctrl]	61	=	93	]	125	}
30	Ctrl 6	62	>	94	^	126	
31	Ctrl –	63	?	95	_	127	Ctrl–

[1] or backspace or Shift backspace   [2] or Esc. or Shift Esc. or Ctrl Esc.   [3] or Shift Space or Ctrl space or Alt space

SA 1202

DCI port type

This command defines the DCI port type.

Input data

Field name	Description	Input data
DCI Port No.	The DCI (Keystation) port number	1 to 96
DCI Type	The DCI port type	0: none 1: Serial (Hayes AT-Command) 2: Parallel 3 – 255: Reserved
DCI_Sub_Type	The DCI initial type number **Note:** This field is only completed if the DCI port type is 1. Press [Hold] for other DCI port types	1 to 5: DCI initial type number

Example

In this example, DCI port 1 is set up as a serial port (Hayes AT-Command) with a DCI initial type number of 2.

Action	**Display**

Enter the command number.

Press the [Hold] key.

```
USER:TELECOM  LVL:IN
Enter command> 1202
```

Enter the DCI port number (1).

Press the [Hold] key.

```
1202:DCI  Port  Type
DCI Port No? 1
```

Press the [Hold] key.

```
1202:          DCP_001
DCI Type:1-
```

Enter the DCI sub type (2).

Press the [Hold] key.

```
1202:          DCP_001
DCI_Sub_Type:1-2
```

Enter the next DCI port number and press the [Hold] key to continue in command 1202

        OR

Press the [Hold] key again to go to next command.

```
1202:DCI  Port  type
DCI Port No?
```

Defaults

All DCI ports have the following defaults:

Field	Setting
DCI_Type	1 (Serial)
DCI_Sub_Type	1 (DCI Initial Type Number 1)

IN 1203

DCI Tenant

This command assigns a tenant number for each DCI port.

Input data

Field name	Description	Input data
DCI Port No.	The DCI (Keystation) port number	1 to 96
DCP_xxx	(Where xxx is the DCI port number). The tenant number	0: Not defined 1 to4: Tenant number

Example

This example assigns DCI port 1 to tenant number 2.

Action

Enter the command number.

Press the [Hold] key.

Enter the DCI port number (1).

Press the [Hold] key.

Enter the tenant number (2).

Press the [Hold] key.

Enter the next DCI port number and press the [Hold] key to continue in command 1203
            OR
Press the [Hold] key again to go to next command.

Display

```
USER:TELECOM  LVL:IN
Enter command> 1203
```

```
1203:DCI Tenant
DCI Port No? 1
```

```
1203:DCI Tenant
DCP_001:1-2
```

```
1203:DCI Tenant
DCI Port No?
```

Defaults

All DCI ports are assigned to tenant 1.

IN 1204

DCI Group

This command assigns a group number to each DCI port.

Input data

Field name	Description	Input data
DCI Port No.	DCI (Keystation) port number	1 to 96
DCI Group No.	DCI group number	0: Not defined 1 to 10: Group number
Order No.	The order number in each DCI group	0: Not defined 1 – 96: Order number

Example

This example assigns DCI port 4 to DCI group 2 and sets the order number to 4.

Action

Enter the command number.

Press the [Hold] key.

Display

```
USER:TELECOM  LVL:IN
Enter command> 1204
```

Enter the DCI port number (4).

Press the [Hold] key.

```
1204:DCI Group
DCI Port No? 4
```

Enter the DCI group number (2).

Press the [Hold] key.

```
1204:        DCP_004
DCI Group No:1-2
```

Enter the order number (4).

Press the [Hold] key.

```
1204 :        DCP_004
Order  No:1-4
```

Enter the next DCI port number and press the [Hold] key to continue in command 1204
        OR
Press the [Hold] key again to go to next command.

```
1204:DCI  Group
DCI Port No?
```

Defaults

DCI port number	Group number	Order
1 to 10	1	1 to 10
11 to 20	2	11 to 20
21 to 30	3	21 to 30
31 to 40	4	31 to 40
41 to 50	5	41 to 50
51 to 60	6	51 to 60
61 to 70	7	61 to 70
71 to 80	8	71 to 80
81 to 90	9	81 to 90
91 to 96	10	91 to 100

SA 1205

DCI Restriction Class

This command assigns the Restriction Class for each DCI.

Input data

Field name	Description	Input data
DCI Port No.	DCI (Keystation) port number	1 to 96
Cls(Day)	Restriction class number (in Day mode)	0: not defined 1 to 6: Restriction class
Cls(Night 1)	Restriction class number (in Night 1 mode)	0: not defined 1 to 6: Restriction class
Cls(Night 2)	Restriction class number (in Night 2 mode)	0: not defined 1 to 6: Restriction class

Example

This example assigns DCI port number 4 to restriction class 2 in Day and Night 1 mode, and restriction class 3 in Night 2 mode.

Action

Enter the command number.

Press the [Hold] key.

Display

```
USER:TELECOM  LVL:IN
Enter  command>  1205
```

Enter the DCI port number (4).

Press the [Hold] key.

```
1205:Restriction Cls
DCI Port No? 4
```

Enter the restriction class number in Day mode (2).

Press the [Hold] key.

```
1205:          DCP_004
Cls(Day):1-2
```

Enter the restriction class number in Night 1 mode (2).

Press the [Hold] key.

```
1205:          DCP_004
Cls(Night 1):1-2
```

Enter the restriction class number in Night 2 mode.

Press the [Hold] key.

```
1205:          DCP_004
Cls(Night 2):1-3
```

Enter the next DCI port number and press the [Hold] key to continue in command 1205
          OR
Press the [Hold] key again to go to next command.

```
1205:Restriction Cls
DCI Port No?
```

Defaults

All DCIs have the restriction class set to 1 for all modes of operation.

NOTE: All restriction tables and notes are the same as Command SA 1002.

SA 1206

DCI Hotline pair

This command defines the Hotline destination DCI number and Hotline originating DCI number.

The system has 50 Hotline DCIs for each tenant.

Input data

Field name	Description	Input data
Tenant No.	The tenant number	1 to 4
Hotline No.	The DCI Hotline code number	1 to 50
Origin	The originating DCI dial number	Up to 4 digits
Target	The target DCI dial number	Up to 4 digits

Example

This example defines Hotline number 1 for tenant 1. The originating DCI number is 101 and the target DCI number is 110.

Action

Display

Enter the command number.

Press the [Hold] key.

```
USER:TELECOM  LVL:IN
Enter command> 1206
```

Enter the tenant number (1).

Press the [Hold] key.

```
1206:Hotline for DCI
Tenant No? 1
```

Enter the Hotline number (1).

Press the [Hold] key.

```
1206: TNT_1
Hotline No? 1
```

Enter the originating DCI dial number (101).

Press the [Hold] key.

```
1206: TNT_1    HOT_01
Origin:-101
```

Enter the target DCI dial number (110).

Press the [Hold] key.

```
1206: TNT_1    HOT_01
Target:-110
```

Enter the next Hotline number and press the [Hold] key to continue entering data for this tenant
          OR
Press the [Hold] key again and enter the next tenant number to continue in command 1206
          OR
Press the [Hold] key again to go to next command.

```
1206: TNT_1
Hotline No?
```

```
1206:Hotline for DCI
Tenant No?
```

Defaults

All target and originating numbers are set to zero.

SA 1207

DCI S-Register initialisation

This command initialises the DCI port to the Sub Type allocated in Command 1202.

Input data

Field name	Description	Input data
DCI Port No.	The DCI (Keystation) port number	0: All DCIs 1 to 96: Specific DCI number

Example

The first of the following examples initialises S-Register 1 only. The second example initialises all DCIs.

	Action	**Display**
	Enter the command number. Press the [Hold] key.	```USER:TELECOM LVL:IN``` ```Enter command> 1207```
Specific DCI	Enter the DCI number to be initialised (1).	```1207:DCI S-Reg Init``` ```DCI Port No? 1```
	Press the [Hold] key to initialise Press the [Hold] key.	```1207:DCI S-Reg Init.``` ```DCP_001 Initial !```
	Enter the next DCI number and press the [Hold] key to continue initialising OR Press the [Hold] key again to go to next command.	```1207:DCI S-Reg Init.``` ```DCI Port No?```
All DCIs	Enter 0. Press the [Hold] key.	```1207:DCI S-Reg Init``` ```DCI Port No? 0```
	Press the [Hold] key to initialise.	```1207:DCI S-Reg Init.``` ```ALL DCI Initial !```
	Press the [Hold] key again and enter the next DCI number OR Press the [Hold] key again to go to next command.	```1207:DCI S-Reg Init.``` ```DCI Port No?```

Defaults

None.

SA 1301

Door Station call ring assign

This command defines which stations will ring when a door station is activated.

Input data

Field name	Description	Input data
Stn Port No.	Station port number	1 to 96
Door Stn No.	Door station number	1 to 4
DST_xx	(Where xx is the door station number). Enable/disable station ringing.	0: Disable ringing 1: Enable ringing

Example

The following example assigns station port number 12 to be the ringing station for door station 2.

Action

Enter the command number.

Press the [Hold] key.

Enter the station port number (12).

Press the [Hold] key.

Enter the door station number (2).

Press the [Hold] key.

Enter the enable/disable code (1).

Press the [Hold] key.

Enter the next door station number and press the [Hold] key to continue entering data for this station port number

OR

Press the [Hold] key again and enter the next station port number to continue in command 1301

OR

Press the [Hold] key again to go to next command.

Display

```
USER:TELECOM  LVL:IN
Enter command> 1301
```

```
1301:DST Ring Assign
Stn Port No? 12
```

```
1301:        STP_012
Door Stn No? 2
```

```
1301:DST Ring Assign
DST_02:0-1
```

```
1301:DST Ring Assign
Door Stn No?
```

```
1301:DST Ring Assign
Stn Port No?
```

Defaults

All stations are disabled from ringing.

SA 1402

Internal Paging Group name

This command defines the name of an Internal Paging Group.

Input data

Field name	Description	Input data
Tenant No.	Tenant number	1 to 4
Int Pge Gp No.	Internal Paging Group number	1 to 5
IPG_xx	(Where xx is the Internal Paging Group number). The Internal Paging Group name.	Up to 8 alphanumeric characters

Example

The following example assigns the name "SALES" to Internal Paging Group 3 for tenant number 1

Action

Enter the command number.

Press the [Hold] key.

Enter the tenant number (1).

Press the [Hold] key.

Enter the Internal Paging Group number (3).

Press the [Hold] key.

Enter the Internal Paging Group name (SALES).

Press the [Hold] key.

Enter the next Internal Paging Group number and press the [Hold] key to continue entering data for this tenant
        OR
Press the [Hold] key again and enter the next tenant number to continue in command 1402
        OR
Press the [Hold] key again to go to next command.

Display

```
USER:TELECOM  LVL:IN
Enter command> 1402
```

```
1402:Int Pge Gp Name
Tenant No? 1
```

```
1402:TNT_01
Int Pge Gp No? 3
```

```
1402:TNT_01   IPG_03
ZONE 3 - SALES
```

```
1402:TNT_01
Int Pge Gp No?
```

```
1402:Int Pge Gp Name
Tenant No?
```

Defaults

The following default group names are assigned to all Internal Paging Groups for all tenants:

Internal Paging Group number	Internal Paging Group name
IPG_0 1	ZONE 1
IPG_02	ZONE 2
IPG_03	ZONE 3
IPG_04	ZONE 4
IPG_05	ZONE 5

SA 1403

External paging speaker control data

This command defines the external paging speaker control data for an external speaker. For example whether a splash tone is to be heard at the beginning of an external page, if background music is required and if an alarm signal will be heard when one of the alarm sensors is activated.

Input data

Field name	Description	Input data
Speaker No.	Speaker number	1 to 4
Item No.	Control item number	1: Splash tone 2: Background music 3: Alarm 1 4: Alarm 2 5: Alarm 3 6: Alarm 4 7 – 8: Reserved
ITEM _xx	(Where xx is the control item number). The item enable/disable code	0: Disabled 1: Enabled

Example

The following example enables alarm 1 to sound on external speaker 2.

Action   **Display**

Enter the command number.

Press the [Hold] key.

```
USER:TELECOM  LVL:IN
Enter command> 1403
```

Enter the external speaker number (2).

Press the [Hold] key.

```
1403:Ext-Spk Data
Speaker No? 2
```

Enter the item number (3).

Press the [Hold] key.

```
1403:         SPK_02
Item No? 3
```

Enter the enable/disable code (1).

Press the [Hold] key.

```
SPK_02
ITEM_03:0-1
```

Enter the next item number and press the [Hold] key to continue entering data for this speaker

        OR

```
1403:         SPK_02
Item No?
```

Press the [Hold] key again and enter the next external speaker number to continue entering data in command 1403

        OR

```
1403:Ext-Spk Data
Speaker No?
```

Press the [Hold] key agian to go to next command.

SA 1403

Defaults   All external speakers have the following defaults:

Field name	Description	Default
Item-0 1	Splash tone	1: Enabled
Item-02	Background music	0: Disabled
Item-03	Alarm 1	0: Disabled
Item-04	Alarm 2	0: Disabled
Item-05	Alarm 3	0: Disabled
Item-06	Alarm 4	0: Disabled

SA 1404

External speaker ringing condition

This command defines which external lines will ring over external paging speakers.

Input data

Field name	Description	Input data
Trk Port No.	Trunk port number	1 to 80
Speaker No.	Speaker Number	1 to 4
Ring(Day) Ring(Night 1) Ring(Night 2)	Enable/disable Day mode ring) Enable/disable Night 1 mode ring) Enable/disable Night 2 mode ring)	0: Disable 1: Enable

Example

The following example enables incoming calls on trunk 1 to ring over speaker number 1 in Day mode, Night 1 mode and Night 2 mode.

Action

Enter the command number.

Press the [Hold] key.

Display

```
USER:TELECOM  LVL:IN
Enter command> 1404
```

Enter the trunk port number (1).

Press the [Hold] key.

```
1404:Ext-Spk Ringing
Trk Port No? 1
```

Enter the speaker number (1).

Press the [Hold] key.

```
1404:          TKP_001
Speaker No? 1
```

Enter the Day Mode enable/disable code (1).

Press the [Hold] key.

```
1404: TKP_001 SPK_01
Ring(Day):0-1
```

Enter the Night 1 mode enable/ disable code (1).

Press the [Hold] key.

```
1404: TKP_001 SPK_01
Ring(Night 1):0-1
```

Enter the Night 2 Mode enable/ disable code (1).

Press the [Hold] key.

```
1404: TKP_001 SPK_01
Ring(Night 2):0-1
```

Enter the next speaker number and press the [Hold] key to continue entering data for this trunk port
          OR
Press the [Hold] key and enter the next trunk port number to continue in command 1404
          OR
Press the [Hold] key again to go to next command.

```
1404:  TKP_001
Speaker No.
```

```
1404:Ext-Spk Ringing
Trk Port No?
```

SA 1404

Defaults

The following defaults apply to all trunks and all speakers:

Field name	Description	Default
Ring(Day)	Enable/disable Day mode	0: Ringing disabled
Ring(Night 1)	Enable/disable Night 1 mode	0: Ringing disabled
Ring(Night 2)	Enable/disable Night 2 mode	0: Ringing disabled

SA 1501

<u>**Modem type for outgoing**</u>

This command allows for the definition of 8 different modem configurations, for outgoing data calls, via the pooled modem board.

Input data

Field Name	Description	Input Data
Type No.	Modem configuration number	1 to 8
MODEM Kind	Modem type	0: V.21 (300 bps) 1: V.22 (1200 bps) 2: V.22 bis (2400bps) 3: V.23 **(600/1200bps)**
Protocol	Data transmission mode	0: Asynchronous 1 – 3: Reserved

Example

This example assigns modem configuration number 4 as modem kind **V22bis.**

Action	**Display**
Enter the command number. Press the [Hold] key.	```USER:TELECOM LVL:SA``` ```Enter command> 1501```
Enter the modem configuration number (4) Press the [Hold] key.	```1501: MODEM for O/G``` ```Type No? 4```
Enter the modem type (2) Press the [Hold] key.	```1501: Type_04``` ```MODEM Kind:0-2```
Enter the protocol (0) Press the [Hold] key.	```1501: Type_04``` ```Protocol::0-0```
Press the [Hold] key and enter the next Modem number to continue in command 150 1 OR Press the [Hold] key again to go to the next command.	```1501: MODEM for O/G``` ```Type No?```

Defaults

All modems are set to V.22 asynchronous

SA 1502

Modem type for incoming

This command allows for the definition of 8 different modem configurations, for incoming data calls, via the pooled modem board.

Input data

Field Name	Description	Input Data
Type No.	Modem configuration number	1 - 8
Item No.	Modem attributes	1 to 12

Modem attributes

Item No.	Description	Input data
1	MODEM Kind	0: V.21 (300 bps) 1: V.22 (1200 bps) 2: V.22 bis (2400bps) 3: V.23 (600/1200 bps) 4 – 6: Reserved 7: Automatic
2	Guard Tone	0: None 1: Reserved 2: 550Hz 3: 1800Hz
3	Protocol	0: Asynchronous 1 – 3: Reserved
4	Carrier wait time (S-Reg 7)	0 – 255: 0 to 255 seconds
5	Carrier detect time (S-Reg 9)	0 – 255: 0 to 25500 milliseconds
6	Delay time between loss of carrier and 'hang up' (S-Reg 10)	0 – 255: 0 to 25500 milliseconds
7	Packet size (S-Reg 61)	0 – 255: 0 – 255 bytes
8	Terminate code (S-Reg 62)	0 – 255: Hex code
9	Data timer (S-Reg 63)	0 – 255: 0 – 12750 milliseconds
10	Parity (S–Reg 65–1)	0: No parity 1: Reserved 2: Odd parity 3: Even parity
11	Character length (S–Reg 65–2)	0: 7 bits 1: 8 bits
12	Stop bit (S–Reg 65–3)	0: 1 bit 1: 2 bits

SA1502

Example

This example sets modem configuration 3 to 2400bps.

Action	**Display**
Enter the command number. Press the [Hold] key.	```USER:TELECOM LVL:SA``` ```Enter command> 1502```
Enter the modem type number (3). Press the [Hold] key.	```1502: MODEM for I/C``` ```Type No? 3```
Enter the item number (1). Press the [Hold] key.	```1502: Type-03``` ```Item No? 1```
Enter the required attributes (2). Press the [Hold] key.	```1502: Type-03``` ```MODEM Kind: O-2```
Press the [Hold] key and enter the next item number to continue entering attributes for this modem type OR	```1502: Type_03``` ```Item No?```
Press the [Hold] key again and enter the next modem type number to continue in command 1502 OR Press the [Hold] key again to go to the next command.	```1502:MODEM for I/C Type``` ```No?```

Defaults

All attributes for all Modems are set to '0'.

SA1503

Modem type assign for data line

This command assigns the modem type, defined in command 1502, to an exchange line for incoming data calls

Input data

Field Name	Description	Input Data
TRK No.	Trunk port number	1 to 80
Type No.	The incoming modem type	0: Not Defined 1 – 8: Incoming modem type number

Example

This example assigns modem type 3 to exchange line 10 for incoming data calls.

Action

Enter the command number

Press the [Hold] key.

Enter the trunk port number (10).

Press the [Hold] key.

Enter the Modem type number (3)

Press the [Hold] key.

Enter the next trunk port number and press the [Hold] key to continue in command 1503
     OR
Press the [Hold] key again to go to the next command.

Display

```
USER:TELECOM LVL:SA
Enter command> 1503
```

```
1503: MODEM Assign
Trk Port No: 10
```

```
1503: MODEM Assign
TRK_010: O-3
```

```
1503: MODEM Assign
Trk Port No?
```

Defaults

All trunks are set to '0'.

SA 1504

Access name of DCI for DID data call

This command defines the names for 10 DCI's displayed on the menu transmitted to the caller on an incoming DID data call.

Input data

Field Name	Description	Input Data
Tenant No.	Tenant number	1 to 4
OPEN-MSG	Opening message	Up to 20 alphanumeric characters
Member No?	DID member number	1 to 10
DCI	DCI port number	0: Not assigned 1 to 96
Name	Member's name	Up to 8 alphanumeric characters

Example

This example assigns DCI port 11 to the first position on the TELECOM menu and is named ACCNTS.

Action	Display
Enter the command number. Press the [Hold] key.	USER:TELECOM LVL:SA Enter command> **1504**
Enter the tenant number (1). Press the [Hold] key.	1504:DCI Access Name Tenant No.? **1**
Enter the opening message (TELECOM) . Press the [Hold] key.	1504:TNT_1 OPEN_MSG **-TELECOM**
Enter the DID member number (1). Press the [Hold] key.	1504:TNT_1 Member No? **1**
Enter the DCI port number (11). Press the [Hold] key.	1504:TNT_1 Member_01 DCI:0-**11**
Enter the DCI name (ACCNTS). Press the [Hold] key.	1504:TNT_1 Member_01 Name: **-ACCNTS**
Press the [Hold] key and enter the next DID member to assign another DCI port number OR	1504:TNT_1 Member No?
Enter the next Tenant number and press the [Hold] key to continue in command 1503 OR	1504:DCI Access Name Tenant No.?
Press the [Hold] key again to go to the next command	

Defaults

All Members are not assigned.

SA1505

Modem initial data assign

This command initialises a modem on the Pooled Modem Board to one of the type numbers defined in command 1201.

Input data

Field Name	Description	Input Data
MODEM No.	Number of Modem	1 to 8
Data	DCI initial type number	1 to 5

Example

This example initialises modem 1 with the data defined in type 2 of command 1201.

Action

Enter the command number.

Press the [Hold] key.

Enter the Modem number (1)

Press the [Hold] key.

Enter the DCI initial type (2)

Press the [Hold] key.

Press the [Hold] key and enter the next
Modem number to continue in
command 1505
            OR
Press the [Hold] key again to go to the
next command.

Display

```
USER:TELECOM  LVL:SA
Enter  command>  1505
```

```
1505:MODEM Init Type
MODEM No? 1
```

```
1505:MODEM Init Type
MODEM 01:1-2
```

```
1505:MODEM Init Type
MODEM No?
```

Defaults

All Modems are set to DCI Initial Type ' 1'

Chapter Seven
Maintenance Procedures

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Chapter Seven
Maintenance Procedures

Introduction

This chapter describes the maintenance procedures to be followed in the event of a fault occurring in the Telecom Commander D. The chapter covers basic faulting procedures, gives details of system alarm reports and lists the programming commands relevant to specific board types and other miscellaneous items.

System alarm reports can be viewed on a display keystation or, if a printer is available, they can be printed out. Some procedures suggested in this chapter will only be possible if a printer, PC or data terminal is available and connected to the system via a Data Communications Interface (DCI). An example of this is the use of Command 0005 to print out system information. However, in most cases, it should be possible to correct faulty systems without the use of a printer.

It is assumed that the technician has been called for one of the following reasons:

- The system has generated an alarm.

- The customer complains of a facility fault.

In either event the fault finding procedure is the same. The steps are:

1. Determine if a fault actually exists and is not due to mis-operation or an incorrect interpretation of system facilities.

2. Obtain a printout of the alarms or view them on a keystation and observe any other alarm indicators.

3. Using the information obtained from 1 and 2, attempt to isolate the fault, ie: PBA, station, facility, etc.

4. Replace or correct the faulty unit.

WARNING

The main equipment must be protected from possible surges of current down connected exchange lines. Always ensure:

1. The mains cord is plugged into the mains power outlet (GPO) – the outlet can be turned off
   or
2. **Isolate** the exchange lines at the MDF or remove the filter unit plugs from all FUEL and FUCPU Filter Units.

Customer Data record

When the installation of a Telecom Commander D has been completed, the original System Order Forms must be updated, by the installer, to show any programming changes made during the installation. The System Order Form and the Hardware Configuration sheets then form the system's Customer Data record and are stored inside the Main Equipment SDF cover.

The installer must give a copy of the updated System Order Form to the System Administrator for inclusion in the System Administration Manual. It is essential that any programming changes made to the system are recorded on the System Order Form programming sheets located in the Customer Data record *and* in the System Administration Manual. Any changes made at 'System Administration' level will be recorded in the System Administration Manual on the System Administration Forms. 'Installer' level changes are recorded directly on the original System Order Form programming sheets.

The System Administrator will not have access to the Customer Data record in the Main Equipment, therefore any changes made by the System Administrator will not be recorded on these forms. It is therefore important to check the System Administration Manual for any programming changes made by the System Administrator.

Kevstation faults

Keystations can be affected by faults from two sources:

·   Hardware failure – such as a faulty station, wiring or system PBA.

·   Software failure – errors in system programming that affect facilities such as ring groups and line access.

IMPORTANT

Note that Alarms 0107 and 0108 (DSS disconnected and Keystation disconnected) are normally programmed so they do not raise a Major or Minor Alarm indication or an alarm report printout. This is to prevent unwanted alarm reports when stations are disconnected by the system user.

During maintenance these alarms can be viewed on Fault Report Keystations (see Command 0010) or, if required, a Minor Alarm indication and/or printout can be enabled by using Command 0008. The alarms should be disabled again before leaving site.

Keystation hardware faults – One keystation affected

NOTE: After each step check if the fault still exists before proceeding.

1.   Use Command 0006 or 0010 to print out or view the system alarms. Refer to Appendix E for a description of each alarm and action required.

2.   On the front edge of each station board there are 8/16 LEDs (BL1–8/16) to indicate the status of each station and a pilot LED (PLT). Check the status of each LED.

LED	STATE	MEANING
PLT	Flashing	DSB is communicating with CPU.
BL1–8/16	Flashing	Station not recognised by DSB (Station unplugged or faulty)
	Steady	Station in use
	Off	Station is connected and idle

3. Check the station's wiring connections.

    ·   DSB to Filter Unit

    ·   Filter Unit to SDF

    ·   SDF to station

    ·   Station plug and line cord

    ·   Handset

    ·   Handset cord

4. Initialise the station by unplugging and replugging the line cord.

5. Run the Station self test. Refer to Page 7 – 8.

6. Check the station line voltage. The polarity does not matter, but the voltage should be approximately 48 V.

7. Run a loop back test on the station port, using Command 0007.

8. Re-initialise the DSB as follows:

    (a)   Move the switch on the front of the PBA to the "BLK" (Block) position

    (b)   Wait for any steady-ON LEDs to go out (that is until there are no calls still in progress)

    (c)   Remove and re-insert the PBA.

    (d)   Return the switch to the "RUN" position.

    The system will then automatically re-initialise the PBA.

9. Replace the station which you suspect is faulty.

10. Replace the DSB which you suspect is faulty as follows:

    (a)   Move the switch on the front of the PBA to the "BLK" (Block) position.

    (b)   Wait for any steady-ON LEDs to go out.

    (c)   Remove the PBA.

(d)   Ensure that the switch on the front of the replacement PBA is set to "BLK".

(e)   Insert the replacement PBA.

(f)   Switch to "RUN".

The system will then automatically initialise the replacement PBA.

11.   Replace the Filter Unit which you suspect is faulty as follows:

(a)   Move the switch on the associated DSB to **the "BLK"** position.

(b)   Wait for any steady-ON **LEDs** to go out.

(c)   Replace the Filter Unit.

(d)   Return the DSB switch to "RUN".

12.   Run a loop test on the station port, using Command 0007, to ensure that the fault has been fixed.

13.   If the fault still exists, a more in-depth investigation is required. If necessary, seek advice from the Technical Support Centre.

Keystation software faults – One keystation affected

It is unlikely that a system program error will affect an individual station in isolation. It is more likely that alterations made to the customer database will cause apparent facility faults. The database can be interrogated by using the programming commands.

Errors can occur for the following reasons:

*   Changes have been made to the database that have unintentionally affected other facilities.

*   Changes previously made to the database have been lost because they were not stored on the system disk and a system reload has occurred.

To check this, carry out the following procedure (in conjunction with Chapter 6):

1.   Use Command 0005 to printout the date of the last data change and the last data save. If a reload and data changes have occurred since the last data save date, the fault may be due to lost data. All recent data base changes will need to be input and then saved to disk.

2.   If 1. has not occurred the commands associated with each station will need to be interrogated to check the validity. Refer to the detailed fault information for DSB and Chapter 6 for command descriptions.

NOTE: Station facilities may be affected by the system operating mode, ie: Day, Night 1 or Night 2.

Keystation hardware faults – Multiple keystations affected

Faults that affect several stations are likely to be in common equipment such as a DSB or pooled devices such as CDB or DB.

1. Use Command 0006 or 0010 to print out or view the system alarms. Refer to Appendix E for a description of each alarm and action to be taken.

2. Use the System Installation charts to determine if the affected stations are on the same DSB.

3. Re-initialise the DSB as follows:

   (a) Move the switch on the front of the PBA to the "BLK" (Block) position

   (b) Wait for the steady-ON LEDs to go out (hence until there are no calls in progress).

   (c) Remove and re-insert the PBA.

   (d) Return the switch to the "RUN" position.

   The system will then automatically re-initialise the PBA.

4. Run a loop back test on the station ports using Command 0007.

5. Replace the DSB which you suspect is faulty as follows:

   (a) Move the switch on the front of the PBA to the "BLK" (Block) position.

   (b) Wait for any steady-ON LEDs to go out.

   (c) Remove the PBA.

   (d) Ensure that the switch on the front of the replacement PBA is set to "BLK".

   (e) Insert the replacement PBA.

   (f) Switch to "RUN".

   The system will then automatically initialise the replacement PBA.

6. Replace the Filter Unit which you suspect is faulty as follows:

   (a) Move the switch on the associated DSB to the "BLK" position.

   (b) Wait for any steady-ON LEDs to go out.

   (c) Replace the Filter Unit.

   (d) Return the DSB switch to "RUN".

Keystation software fault – Multiple keystations affected

Refer to the procedure for single keystation faults and interrogate commands that are related to common facilities.

Single Line Telephone – Hardware faults

Faults associated with single line telephones are isolated in a similar manner to faults on keystations.

1. Use Command 0006 or 0010 to print out or view the system alarms. Refer to Appendix E for a description of each alarm and action to be taken.

2. On the front edge of each station board there are 8 **LEDs (BL1–8)** to indicate the status of each station and a pilot LED (PLT). Check the status of each LED.

LED	STATE	MEANING
PLT	Flashing	ASB is communicating with CPU.
BL1–8	N	Station off hook.
	OFF	Station idle or not connected.

3. Check the telephone's wiring connection.

    · ASB to Filter Unit

    · Filter Unit to SDF

    · SDF to station

    · Station plug and line cord

    · Handset

    · Handset cord

4. Initialise the station by unplugging and replugging the line cord.

5. Check the line voltage. The polarity does not matter, but the voltage should be approximately 50 V.

6. Run a loop back test on the station port using Command 0007.

7. Re-initialise the ASB as follows:

    (a) Move the switch on the front of the PBA to the "BLK" (Block) position

    (b) Wait for any steady-ON **LEDs** to go out (hence until there are no calls still in progress)

    (c) Remove and re-insert the PBA.

    (d) Return the switch to the "RUN" position.

    The system will then automatically re-initialise the PBA.

8. Replace the station which you suspect is faulty.

9.   Replace the ASB which you suspect is faulty as follows:

    (a)   Move the switch on the front of the PBA to the "BLK" (Block) position.

    (b)   Wait for any steady-ON LEDs to go out.

    (c)   Remove the PBA.

    (d)   Ensure that the switch on the front of the replacement PBA is set to "BLK".

    (e)   Insert the replacement PBA.

    (f)   Switch to "RUN".

The system will then automatically initialise the replacement PBA.

10.   Replace the Filter Unit which you suspect is faulty as follows:

    (a)   Move the switch on the associated ASB to the "BLK" position.

    (b)   Wait for any steady-ON LEDs to go out.

    (c)   Replace the Filter Unit.

    (d)   Return the DSB switch to "RUN".

11.   Run a loop back test on the station port, using Command 0007, to ensure that the fault has been fixed.

12.   If the fault still exists, a more in-depth investigation is required. If necessary, seek advice from the Technical Support Centre.

**Single Line
Telephones –
Software faults**

Refer to the procedure for locating software faults associated with keystations.

NOTE: Single line telephone facilities may be affected by the system operating mode, ie: Day, Night 1 or Night 2.

9.   Replace the ASB which you suspect is faulty as follows:

(a)   Move the switch on the front of the PBA to the "BLK" (Block)
       position.

(b)   Wait for any steady-ON LEDs to go out.

(c) Remove the PBA.

(d)   Ensure that the switch on the front of the replacement PBA is
       set to "BLK".

(e)   Insert the replacement PBA.

(f)   Switch to "RUN".

The system will then automatically initialise the replacement PBA.

10.   Replace the Filter Unit which you suspect is faulty as follows:

(a)   Move the switch on the associated ASB to the "BLK" position.

(b)   Wait for any steady-ON LEDs to go out.

(c)   Replace the Filter Unit.

(d)   Return the DSB switch to "RUN".

11.   Run a loop back test on the station port, using Command 0007, to
       ensure that the fault has been fixed.

12.   If the fault still exists, a more in-depth investigation is required. If
       necessary, seek advice from the Technical Support Centre.

**Single Line
Telephones –
Software faults**

Refer to the procedure for locating software faults associated with
keystations.

NOTE: Single line telephone facilities may be affected by the system
             operating mode, ie: Day, Night 1 or Night 2.

Digital Station self test

Digital stations can be tested as follows:

Automatic test

Start test   Press the [✱] key while plugging in line cord

Stop test   Press the [Call 1] key followed by digit 0

1. The following message is displayed for 3 seconds:

   ```
   Self Test in Pro.
   DD MM YYYY
   ```

   DD MM YYYY = The date of the software release

2. All dots in the LCD are turned ON for 3 seconds.

3. Digits 0 to 3 are shifted across each column at 0.1 seconds per column.

4. The red **LEDs** on all line keys are turned ON for 1.3 seconds.

5. The red **LEDs** are turned OFF on the line keys, and the green **LEDs** turned ON for 1.3 seconds.

6. The red **LEDs** of all function keys and the MW LED are turned ON for 1.3 seconds.

7. The red **LEDs** of all DSS keys (not Premium stations) are turned ON for 1.3 seconds.

8. The message "Manual Test" is displayed on the screen.

Manual test

Key Matrix and LED test

To start this test, press the [Call 1] key followed by **[1].** The following message will be displayed:

```
Key  Matrix/LED  Test
```

Whenever a key is pressed, the logical name for it will be displayed and the key-touch tone will sound. This tone has a duration of 50 ms and a frequency of 580 Hz.

The key **LEDs** operate as follows:

1 st operation   Red LED

2nd operation   Green LED

3rd operation   LED OFF

The message "OFF HOOK" is displayed by lifting the HANDSET and "ON HOOK" is displayed when the handset is replaced.

To exit this test and return to the "Manual Test" display, press the [Call 1] key followed by [✱] .

Test tone

To start this test, press the [Call 1] key followed by [2]. The following message will be displayed:

```
Test Tone (1KHz)
```

A continuous 1 KHz tone will be sent to the speaker. This tone is muted when the handset is taken off hook.

To exit the test, press any key.

NOTE: To exit the station self test, ensure that the message "Manual Test" is displayed on the station's display. If this is not displayed, press the [Call 1] key followed by [✱] . Then press the [Call 1] key followed by digit [O].

Exchange line faults

Exchange lines are connected to the Telecom Commander D via Exchange Line Boards (ELB). When a fault is reported on an exchange line, you can determine if the fault is in the Telecom Commander D or its wiring, by isolating the line at the first termination point from the exchange. If the line is faulty at this point there is no need to search for faults inside the Telecom Commander D.

Internal exchange line faults

NOTE: Retest the fault after each step before proceeding to the next step.

1.   Use Command 0006 or 0010 to print out or view the system alarms. Refer to Appendix E for a description of each alarm and the action to be taken.

2.   On the front edge of each ELB there are 4 or 8 LEDs (BL1–4/8) to indicate the status of each station, and a pilot LED (PLT). Check the status of each LED.

LED	STATE	MEANING
PLT	Flashing	ELB is communicating with CPU.
BL1–4/8	O N	DC through connection established.

If the PLT LED is not flashing, ensure that the switch on the front of the PBA is in the RUN position. If the LED is not flashing and the switch is in the RUN position, move it to the BLK position and then back to the RUN position. This action will reinitialise the PBA.

3.   Ensure that the PBA is fully inserted in the slot by pushing it hard against the motherboard.

4.   Run a loop back test on the port, using Command 0007

5.   Replace the ELB which you suspect is faulty. To do this:

   •   Switch the PBA switch to "BLK".

   •   Wait for all line LEDs to extinguish.

   •   Remove the PBA and insert a replacement PBA (with its switch
        set to "BLK".

   •   Switch the PBA switch to "RUN".

6.   Check the following wiring:

   •   Building MDF to Commander D SDF

   •   SDF to Filter Unit

   •   Filter Unit to ELB

7.   Replace the Filter Unit.
      (Block the PBA as per (5))

8.   If the fault still exists, a more in-depth investigation is required. If
          necessary, seek advice from the Technical Support Centre.

ISDN Macrolink faults

ISDN Macrolinks are connected to the Telecom Commander D via ISDN
Primary Rate Boards (IPRB). When a fault is reported on a Macrolink, the
location of the fault must be determined.

The nine LEDs on the front of the IPRB indicate the Macrolink status. If any
RED LED is ON a fault is indicated and should be verified by contacting the
Network Provider.

NOTE: Check the fault status after each step before proceeding to the
             next.

1.   Use command 0006 or 0010 to print out or view the system alarms.
      Refer to Appendix E for adescription of each alarm and the action to be
      taken.

2.   On the front edge of each IPRB there are 9 LED's that indicate the
          status of the Macrolink, and a pilot LED (PLT). Check the status of
          each LED.

LED	STATE	MEANING
'LT	Flashing	IPRB is communicating with CPU.
US	On	Remote Indication Signal. Receiving continuous binary "1 's" from the network.
₹AI	On	Remote Alarm Indication. ISDN exchange has detected a fault between the system and the network.
₋RS	On	Loss of Receive Signal. Not receiving a signal from the network.
₋FA	On	Loss of Frame Alignment. No frame alignment signal being received from network.
BERR	On	Bit Error Ration. More than 83 1 errors received in 1 second i. e. severely errored second.
LNS	On	Loss of Network Synchronisation. System frame is not syncronised with the network frame.
MASTR	On	This board is extracting timing information from the received frame alignment signal and is supplying the network timing reference to the system. **NOTE:** If more than one Macrolink board is installed, this LED will only be lit on one board. If both Microlink and Macrolink boards are installed, the Macrolink MASTR LED should be on if the card is operating correctly.
LINK	On	Indicates the IPRB is communicating correctly with ISDN exchange.
NSYNC	On	The correct network clock is being seen, and the timing frame is being extracted from the received signal.

3.   If the PLT LED is not flashing, press the reset switch (SW1) on the
      IPRB and wait for the board to be recognised by the CPU. If the PLT
      LED is still not flashing, delete the slot (command 0004), remove and
      reinsert the card and press the reset switch and wait for the board to be
      initialised.

4.   If the NSYNC LED is off, check the following wiring:
      ·   NT1 to Telecom Commander D SDF
      ·   SDF to filter unit
      ·   Filter Unit to IPRB
      If the wiring is correct, check the ISDN exchange with the Network
      Provider.

5.   Is the network is proved correct, replace the IPRB which you suspect
     is faulty.
     To do this:
     ·   Set the PBA switch (SW2) to 'BLK'.
     ·   Wait for the PLT LED to extinguish.
     ·   Remove the PBA and insert a replacement PBA (with the
              switch set to 'BLK').
     ·   Set the PBA switch to 'RUN'.
     •   Press the reset switch **(SW1).**

6.   If the LINK LED is off, press the reset switch **(SW1).** If the LINK
     LED is still off, delete the slot (command **0004),** remove and reinsert
     the card and press the reset switch and wait for the board to be
     initialised. This may take up to five minutes.
     If the LINK LED is still off, check the status of the Macrolink and the
     ISDN exchange with the Network Provider. If correct, perform the
     operation as previously described in step 5.

7.   Replace the filter unit.
     (Block the PBA as per step 5).

8.   If the fault still exists, a more in depth investigation is required. If
     necessary, seek advice from the Technical Support Centre.

ISDN Microlink faults

ISDN Microlinks are connected to the Telecom Commander D via ISDN
Basic Rate/S Bus boards (IBRSB). When a fault is reported on a Microlink,
the location of the fault must be determined.

Contact the Network Provider to determine the status of the network. If the
network is proved to be operating correctly it would tend to indicate a fault
within the Telecom Commander D or the cabling from the **NT1.**

NOTE: Check the fault status after each step before proceeding to the
             next.

1.   Use command 0006 or 0010 to print out or view the system alarms.
     Refer to Appendix E for a description of each alarm and the action to
     be taken.

2.   On the front edge of each IBRSB there are two LED's to indicate the
     status of each Microlink, and a pilot LED (PLT). Check the status of
     each LED.

LED	STATE	MEANING
PLT	Flashing	IBRSB is communicating **with** CPU.
B L I - 2	O n Off	Indicates the Microlink is in use. Indicates the **Microlink** is idle or not connected.

3.   If the PLT LED is not flashing, ensure that the switch on the front of
     the PBA is in the RUN position. If the LED is not flashing and the
     switch is in the 'RUN' position, move it to the 'BLK' block position,
     remove and reinsert the PBA and set the switch to the 'RUN' position.
     This action will reinstate the PBA.

4.   Replace the IBRSB which you suspect is faulty.
     To do this:
     ·   Switch the PBA to 'BLK'.
     ·   Wait for all LED's to extinguish.
     ·   Remove the PBA and insert a replacement PBA (with the switch set to 'BLK').
     ·   Set the PBA switch to 'RUN'.

5.   Check the following wiring:
     ·   NT1 to Telecom Commander D SDF
     ·   SDF to filter unit
     ·   Filter unit to IBRSB.

6.   Replace the filter unit
     (Block the PBA as per step 4).

If the fault still exists, a more in depth investigation is required. If **necesary** seek advice from the Technical Support Centre.

Power Supply faults

General

The Telecom Commander D has two types of power supplies:

·   Main Power supply.

•   Expansion Unit power supply.

Backup batteries may be provided as an option.

Precautions

If power supplies are replaced for any reason, all power must first be removed from the Telecom Commander D. This includes the batteries.

Power supplies of the same type should be used. In the Main Equipment only Power Supply PS should be used, and in the Expansion Cabinet only Expansion Power Supply EPS should be used.

When powering up from the beginning, the DC switch should remain OFF until the system is operating on the AC mains.

CAUTION
Do not open power supply units. There are no readily replaceable components.

Power Supply failure

If a power supply fails in the first module, ie: the Mains to 48V conversion, the AC lamp on the failed power supply will be extinguished. If a fault develops in the second module of the power supplies, the respective voltage rail LED will be extinguished. Check the correct voltages on the DC output connectors (see IL30 and IL34 in Chapter 5, System Installation.)

Mains failure

Circuitry in the Main Power Supply located in the Main Equipment monitors the mains power. In the event of a mains power failure, the circuitry switches in the batteries. If the voltage derived from the batteries falls to less than **43V,** the Telecom Commander D is shut down until either the battery voltage reaches 50V **±1V** or the mains is restored.

Battery backup is also connected if the mains-derived voltage from the 48V rail drops to 46V **±1V.**

Battery backup failure

As indicated above, the battery backup will automatically supply power in the event of a mains failure. If the batteries fail to switch in and take the load (indicated by the battery lamp on the Main Power Supply being extinguished during a mains power failure) it may be because they are insufficiently charged – ie: less than 43 volts – or the 10 Amp battery fuse located on the Main Power Supply may be blown. This fuse is also in the charge circuit for the batteries. A spare fuse is taped to the edge of the Main Power Supply. Note that the battery switch on the switchbox is a **10A** circuit breaker and may trip instead of the **10A** fuse blowing. The Expansion Power Supply also has a **10A** fuse on its battery input.

CPU faults

CPU Central Processing Unit (Essential)

The CPU board, CPU, performs the processing and control functions required by the system and its functional blocks. It provides the system alarm indicators, the floppy disk drive and controller, and the interface circuitry for the external Music On Hold (MOH) and Background Music (BGM) sources. It also generates the system tones and DTMF signals.

The CPU board is central to the operation of the whole Commander D system. The following faulting procedures generally involve taking the complete system out of service for periods of 10 minutes or more and this should be done by arrangement with the customer. To avoid calls being disconnected, it will be necessary to block each DSB and ASB and wait for all **LEDs** to extinguish before the CPU is unplugged.

CPU failure – Isolated incident

Fault symptoms:

- Degraded call handling

- Reduced access to system functions

NOTE: This procedure should only be implemented after possible faults in other areas have been eliminated.

Hot Start the system. Ensure that **SW1,** located on the CPU board, is in the OFF position and operate the RESET switch located on the CPU board. Resetting the system in this way retains customer data in RAM but replaces system software.

If Hot Start does not correct the problem, switch SW 1, located on the CPU board, to the ON position and operate the RESET switch located on the CPU board. After the Telecom Commander D has reset, return SW1 on the CPU board to the OFF position. This mode of reset is termed "Cold Start". Resetting the system in this way will cause the latest data stored in RAM to be lost. However, customer data that was on the disk (prior to the most recent disk backup) will be restored to the Telecom Commander D.

CPU error – Regular occurrence

The Telecom Commander D is a microprocessor-based system that fully depends on software for its operation. Although system software is extensively tested before being used commercially, sometimes unusual combinations of either customer data and/or operation may cause the Telecom Commander D to fail. It is also important that the Main Equipment and Expansion Cabinet covers, and the conductive rubber strips on the front edges of the PBA shelves, are properly in place during normal operation. If they are not properly in place, interference may cause data corruption within the system and PBA lock-ups.

If the Telecom Commander D fails regularly for no apparent reason and other more common causes have been eliminated, you should contact the Technical Support Centre for assistance. Do not attempt to load alternate versions of software without prior consultation, this could result in compatibility problems.

Disk Drive failure

When the disk drive is operating, an orange LED glows on the disk drive. If the LED fails to operate when resetting the system (Hot or Cold Start),the CPU board should be changed to prove the original board defective.

RAM Battery failure

The RAM is kept "live" during power failure with a Lithium battery. If this battery deteriorates, a major alarm will occur. When replacing the Lithium battery, ensure correct polarity. The polarity is printed on the CPU board adjacent to the battery.

If the system has been powered down without RAM battery support, after replacing the RAM battery, Cold Start the Telecom Commander D.

NOTE: The old Lithium battery should not be punctured or incinerated during disposal.

Other possible faults:

- RFI/EMF Interference

- Intermittent component failure

- Varying power supply voltage

Contact the Technical Support Centre for advice on these types of problems.

Tie Line faults

Tie lines are used when the exchange line ports of two systems are connected together via loop in/ring out circuits.

Tie line faults should be treated in a similar fashion to exchange line faults. The fault should be isolated to one of the following possible suspect areas:

- Telecom Commander D

- Tie Line unit

- External line network

- Remote equipment

Testing Tie line units (loop m/ring out)

The termination to the Telecom Commander D should be replaced with a test phone.The connection to the remote equipment should be replaced with a test phone. By looping one test phone, the other should ring. Ring tone should be heard in the receiver of the looped test phone. After looping the ringing test phone, conversation should be possible between the two test phones. This test should be repeated in the opposite direction.

Many tie line units can be adjusted to increase the outgoing ring voltages. The methods for doing this are not covered in this manual. Consult the appropriate manuals for instruction.

Commander D as an ODX

If any of the Telecom Commander D's line positions originate from another system (such as a PABX or another Commander system), the Telecom Commander D will merely simulate a two-wire extension from that system. The fault must be isolated to one of the following areas:

·   The Telecom Commander D

·   The cabling between the two systems, including amplifiers

·   The other system

·   A compatibility problem, for example dialling type, time loop break, etc.

The Telecom Commander D should be disconnected from the ODX line and a test phone used in its place. All facilities expected of the Commander D should be tested using the test phone. You should make incoming calls, dial internal and outside numbers, transfer calls, place calls on hold, etc, from the test phone. The description of the fault will influence the tests performed.

If the test phone cannot accomplish all the facilities expected of the Telecom Commander D, assuming time loop break and mode of dialling suitable for the other equipment can be performed on the test phone, the fault has been proved out of the Telecom Commander D.

If the test phone can perform all the functions expected of the Telecom Commander D, the Telecom Commander D should be checked. Software changes, PBA failure or Filter Unit failure are the most likely causes of any failure.

Related programming commands

PABX outgoing code:	Command 0701 PBX ACS NO.
Dial type:	Command 0901 Item 1
Time loop break:	Command 0901 Item 5 & 6
Earth recall:	Command 0901 Item 5
Gain:	Command 0901 Item 3
Pause:	Command 0901 Item 11
Dial Tone Detect:	Command 0901 Item 10

Dialling faults

Before investigating the Telecom Commander D, any dialling problems should be isolated to either the Telecom Commander D or the line not accepting the dial information. This can be done by using a test phone, after removing the line from the Telecom Commander D.

Although dialling information is transmitted to the line from the ELB, DTMF signals are generated on the CPU board.

Not breaking dial tone

Isolate the fault to the Telecom Commander D.

If Dial Tone Detect boards (DB or CBD) are installed and programmed, program this facility as Not Used see (Command 0901 – Item 10 for more information).

If the dial tone on a line is noisy or has been changed, the Dial Tone Detect board may not interpret the dial tone as dial tone. As a result, no digits will be sent to the line.

Board types and associated programming commands

CPU Central Processor Unit

This board performs the overall control of the system.

Associated programming commands

Command	Uses
0001:SYS Data Save	Saves the customer data onto disk.
0002: SY S Data Load	Loads the system data from disk.
0003:Date & Time Set	System date and time set
0004:Slot Control	Blocks or deletes a PBA slot.
0005:System Info.	Prints out installation data for each slot.
0006:Alarm Report	Controls the system alarm printouts.
0008:Alarm Set Up	Determines which alarm lamps light to indicate faults.

ELB Exchange Line Board

This board provides the interface circuitry for four exchange lines.

Associated programming commands

Command	Uses
0004:Slot Control	Blocks or deletes a PBA slot.
0007:Loop Back Test	Controls the loop back test for each port.
0014:Auto Loopback	Activates Auto Loop-back for each port.
0505:Trk Access Code	Defines the trunk access code.
0901:Trunk Type	Defines the operating data for each trunk.
0902:I/C Ringer Type	Defines the incoming ring type for each trunk.
0903:Trunk Naming	Assigns a name to each trunk.
0904:Trk Assign Tnt	Assigns a tenant number to each trunk.
0905:Trunk Group	Assigns a group number to each trunk port.
0906:Route Set	Defines the routing access for trunks.
0907:Route No Assign	Assigns each station to a trunk route.
0909:Trk Assign IRG	Assigns trunks to incoming ring groups, depending on the operating mode.
0910:Trk Access Map	Defines the trunk access maps.
0911:Stn Trk Acc Map	Defines the trunk access map to be accessed by each station.
0912:DISA Route No	Defines the trunk routes for DISA access.

**IPRB
ISDN Primary Rate
Board**

This board provides the interface to 1 ISDN Primary Rate Acess (Macrolink) i.e 30 channels.

**Associated
Programming
commands**

Command	Uses
0004:Slot Control	Blocks or deletes a PBA slot.
0014:Auto Loop-back	Enables or disables the Auto Loop-back test.
0409:ISDN Called Number	Defined incoming ISDN numbers for direction to a ring group.
0410:ISDN Called I/C Ring Group	Allocates ISDN call types to I/C ring groups
0905:Trunk Group	Assigns a group number to each trunk port.
0906:Route Set	Defines the routing access for trunk.
0907:Route No Assign	Assigns each station to a trunk route.
0910:Trk Access Map	Defines the trunk access map.
0911:Stn Trk Acc Map	Defines the trunk access maps.
0914:IPRB Port Assign	Defines the number of ports to be initiated on the IPRB board.

**IBRSB
ISDN Basic Rate/S
Bus Board**

This board provides the interface to 2 ISDN Basic Rate Acess (Microlink) i.e 2 channels each access.

**Associated
Programming
commands**

Command	Uses
0004:Slot Control	Blocks or deletes a PBA slot.
0014:Auto Loop-back	Enables or disables the Auto Loop-back test.
0409:ISDN Called Number	Defined incoming ISDN numbers for direction to a ring group.
0410:ISDN Called I/C Ring Group	Allocates ISDN call types to I/C ring groups
0905:Trunk Group	Assigns a group number to each trunk port
0906:Route Set	Defines the routing access for trunk.
0907:Route No Assign	Assigns each station to a trunk route.
09 10:Trk Access Map	Defines the trunk access map.
0911:Stn Trk Acc Map	Defines the trunk access maps.

DSB
Digital Station Board
(ESSENTIAL Slot 1.)

The DSB provides the interface circuitry for eight digital keystations. It also supports the Data Communications Interface(DCI) when used in conjunction with a DC&equipped Executive or Premium digital keystation.

Associated programming commands

Command	Uses
0004: Slot Control	Blocks or deletes a PBA slot.
0007:Loop Back Test	Controls the loop back test for each port.
0014:Auto Loop-back	Activitates the Auto Loop-back for each port
0404:Hotline Assign	Assigns Hot line pairs.
0406:Class Service	Assigns the 128 service facilities into 15 Classes of Service.
0407:DID Transfer	Defines the transfer station when a DID call is not answered.
0502:Stn Dial & Name	Defines the station access numbers and names.
0503:Group Dial&Name	Defines the station group access code and group name.
0907:Route No Assign	Assigns each station to a trunk route.
0908:I/C Ring Group	Assigns stations to an incoming ring group.
0911:Stn Trk **Acc** Map	Defines the trunk access map to be accessed by each station.
1001:Station Type	Defines the station port hardware.
1002:Restriction Cls	Assigns the restriction class to each station.
1003:Stn Service Cls	Assigns a class of service to each station.
1004: Station Tenant	Assigns a tenant number to each station port.
1005:Station Group	Assigns the stations to station groups.
1006:KStn Program Key	Defines the programmable line key data to each station.
1007:KStn DSS Key	Assigns DSS key data to each station.
1008: Station Option	Assigns station optional data such as SMDR printout and line seizure.
1009:Break In Level	Defines the level at which each station can break into an established call.
lOlO:Mngr-Secretary	Assigns manager/secretary pairs.
10ll:Alm Sensor Ring	Defines the stations which are to ring when an alarm sensor is activated.
1012:Prog Key Init.	Initialises each station's line keys in accord with the defined trunk access map and station trunk access group.
1301:DST Ring Assign	Defines the stations that will ring when a door station is activated.

ASB Analogue Station Board

This board provides the interface circuitry for eight single line telephones.

Associated programming commands

Command	Uses
0004:Slot Control	Blocks or deletes a PBA slot.
0007:Loop Back Test	Controls the loop back test for each port.
0014:Auto Loop-back	Activates the Auto Loop-back for each port.
0116:ASB-D-A Initial	Sets the timing data for the ASB-D-A
0404:Hotline Assign	Assigns Hotline pairs.
0406:Class Service	Assigns the 128 service facilities into 15 classes of service.
0407:DID Transfer	Defines the transfer station when a DID call is not answered.
0907:Route No Assign	Assigns each station to a trunk route.
0908:I/C Ring Group	Assigns stations to an incoming ring group.
0911:Stn Trk Acc Map	Defines the trunk access map to be accessed by each station.
1001:Station Type	Defines the station port hardware.
1002:Restriction Cls	Assigns the restriction class to each station.
1003:Stn Service Cls	Assigns a class of service to each station.
1004:Station Tenant	Assigns a tenant number to each station port.
1005:Station Group	Assigns the stations to station groups.
1008:Station Option	Assigns station optional data such as SMDR printout and line seizure.
1009:Break In Level	Defines the level at which each station can break into an established call.
10ll:Alm Sensor Ring	Defines the stations which are to ring when an alarm sensor is activated.
1301:DST Ring Assign	Defines the stations that will ring when a Door Station is activated.

DSEPB Door Station/External Paging board

This board provides the interface circuitry for four external paging units or four door station units (includes the door unlock facility for each) or any combination of external paging unit and door station units. External paging or door station operation for each circuit is selected by individual switches on the PBA (refer to the installation procedure). The board also provides connection for up to 4 alarm sensors and up to 4 Fax machine sensors.

Associated programming commands

Command	Uses
0004: Slot Control	Blocks or deletes a PBA slot.
0007:Loop Back Test	Controls the loop back test for each port.
0014:Auto Loop-back	Activates the Auto Loop-back for each port.
0120:DSEPB Gain Set	Sets the CODEC gain for the door station and speaker
0305:DSEPB Alm/Fax	Defines additional information for Fax and alarm sensors (Tone number, Port number)
0306:ALM/FAX Sensor	Defines the Alarm/Fax ON condition for each sensor.
0504:Door Stn Access	Defines the door station access code.
1301:DST Ring Assign	Defines the stations that will ring when a door station is activated.

CDB Conference, DTMF Receiver and Dial Tone Detect boards

These boards provide the interface circuitry to support 4 simultaneous conferences with a maximum of 4 parties on each conference (maximum 2 external parties). Up to 16 DTMF receivers or 16 Dial Tone Detect circuits, (or any combination in multiples of 4) are also supported. The boards also perform Dial Tone Detect for auto dialling and DTMF detection for Single Line Telephones, DID and DISA.

Associated programming commands

Command	Uses
0004: Slot Control	Blocks or deletes a PBA slot.
0007:Loop Back Test	Controls the loop back test for each port.
0014:Auto Loop-back	Activates the Auto Loop-back for each port.
0304:DTMF Set Up	Allocates the use of DTMF Receivers and DTD on CDB, DB.

DB
DTMF Receiver/Dial Tone Detector board

This board supports 16 DTMF receivers or 16 Dial Tone Detectors in any combination, in multiples of 4.

NOTE: The system allows a maximum of 32 DTMF Receivers/Dial Tone Detectors. If more than 16 of these circuits are required then 2 x DB should be provided. If the conference facility is also needed, then 1 x CDB and 1 x DB should be provided.

Associated programming commands

Command	Uses
0004:Slot Control	Blocks or deletes a PBA slot.
0007:Loop Back Test	Controls the loop back test for each port.
0014:Auto Loop-back	Activates the Auto Loop-back for each port.
0304:DTMF Set Up	Allocates the use of DTMF Receivers and DTD on CDB, DB.

CB
Conference board

Supports 4 simultaneous conferences, with a maximum of 4 parties on each. (Maximum 2 external parties).

Associated programming commands

Command	Uses
0004:Slot Control	Blocks or deletes a PBA slot.
0007:Loop Back Test	Controls the loop back test for each port.
0014:Auto Loop-Back	Activates the Auto Loop-back for each port.

Miscellaneous programming commands not specific to particular board types

System programming commands

Command	Uses
0201:Data Entry Pwd	Defines the user passwords for system programming.
0202:Functions Pwd	Defines the passwords for setting the system clock, Night mode changeover and access barring override.
0203:DISA Password	Defines the passwords for DISA service access.
0301:System Common	Defines system data that is common to all tenants.
0303:SYS Option	Defines system-optional facilities such as melody type, number of conference parties, or Night change.
0401:Tenant Service	Defines the common service facilities for each tenant.
0402:Text Messages	Defines the default text messages that can be stored by a station.
0405:System Timer	Defines the values of the system common timers.
0408:DISA Class	Assigns the DISA class of service.
0501:Access Codes	Defines the access codes for system facilities.
0506:Service Code	Defines the dialled data for each service code.
0507:DCG Dial & Name	Defines the DCI group access code and group name.
0601:SPD Dial &Name	Defines the speed dial numbers and names.
0602:Common SpD Area	Defines the system-common speed dial area.
0701:Restriction Set	Defines the barred and allowed codes for each tenant.
0801:Day Pattern	Defines the operating modes for each tenant (Day, Night 1, Night 2)
0802:Week Schedule	Assigns the operating modes in a weekly schedule.
0803:Year Schedule	Assigns the operating modes in a 12 month schedule to recognise special days such as public holidays.

SMDR programming commands

Command	Uses
0403:SMDR Operation	Defines the SMDR operating data.
1008:Station Option	Assigns station-optional data such as SMDR printout and line seizure.

DSS programming commands

Command	Uses
1101:DST Port Assign	Defines the keystation port where a DSS is connected.
1102:DSS Console Key	Defines the key data for the DSS consoles.
1103:Off–Duty Pair	Defines the DSS Console Off-duty pair.
1104:Operator Assign	Assigns the operator port for each tenant.

DCI programming commands

Command	Uses
1201:DCI Init. Data	Defines the DCI initial data.
1202:DCI Port Type	Defines the DCI port type.
1203:DCI Tenant	Assigns a tenant number to each DCI port.
1204:DCI Group	Assigns a group number to each DCI.
1205:Restriction Cls	Defines the restriction class of each DCI.
1206:Hotline for DCI	Defines a Hotline pair for DCIs.
1207:DCI S-Reg Init.	Defines the initial DCI S-Register data.

Door station programming commands

Command	Uses
1301:DST Ring Assign	Defines the stations that will ring when a Door station is activated.

Paging programming commands

Command	Uses
1401:Int Page Group	Defines the internal paging groups.
1402:Int Pge Gp Name	Assigns the internal paging group names.
1403:Ext–Spk Data	Defines the control data for each external speaker.
1404:Ext–Spk Ringing	Defines the type of ring for each external speaker.

Repair Procedures

All Items

Never attempt to repair a Commander D PBA or item on-site or in a field depot. If a PBA is faulty, replace the entire PBA assembly.

Packaging

All faulty **PBAs** must be suitably packaged. *Always* pack **PBAs** in the conductive ANTI-STATIC bag and protective container that the new PBA was packed in. This ensures it is protected from further physical and/or static discharge damage.

Working **PBAs** must be packed in the same manner. Careless handling, storage or transportation can cause future or secondary faults.

All other faulty items must be packed in the same carton that was supplied with the new item.

Returning items

Packaged **PBAs** and other items are to be returned promptly to your Region Store on a changeover basis.

A separate Customer Equipment Fault Report Label **(E441),** with a fault description written on it, *must* be attached to each faulty PBA package. *Write as much detail as possible about the faulty condition.*

Each Region Store keeps an accurate record of all **PBAs** dispatched and received to ensure that replacements are obtained on a one-for-one basis.

Chapter Eight
Modem Pooling

Chapter Eight
Modem Pooling
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Chapter Eight
Modem Pooling

Introduction

The Commander may be configured for data communications using optional modems installed in the system. These modems may be configured for V21, V22 and V22bis working.

Hardware

Board Code	Board Description	Max Quantity	
		D72	D128
PM B-D-A	Pooled Modem Board Provides the circuitry for 4 modems each being able to be configured for either V21, V22, or V22bis working. (300, 1200 or 2400bps)	1	2

Installation

Introduction

Serial data transmissions of up to 2400bps are possible via the Commander D by means of an installed Pooled Modem Board (PMB-D-A). The Pooled Modem Board occupies one system slot and provides 4 modems, each of which may be configured for V2 1, V22 or V22bis working (300/300, 1200/1200, or 2400/2400bps).

The PMB is called only if a data call is to be made. The PMB does take up one system slot but does not require a filter unit as there are no external connections.
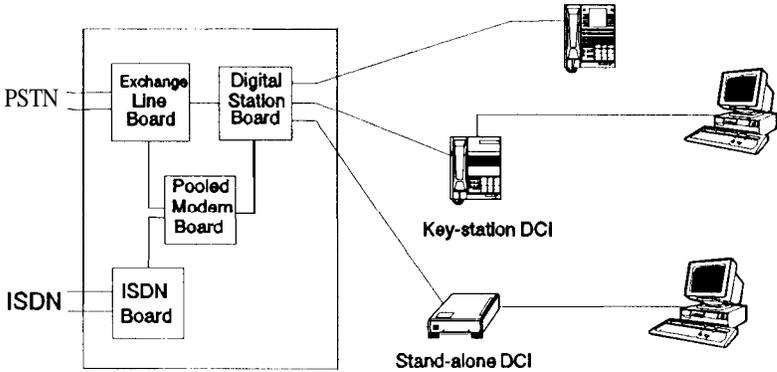
Pooled Modem Block Diagram
[IL01]

- Install the Pooled Modem Board(s) into the designated slot(s) in the system.
- Program the modems for their required functions. (Command 1501-1505)

Operation

Outgoing Modem Call Configuration

For outgoing calls 8 different modem configurations (Type No.) may be specified per system. Before a call is made the modem selected by the system must be configured to the correct data transmission speed (Modem Kind). This is achieved by allocating a particular modem speed (Modem Kind) to each Modem Configuration (Type No.) and specifying what 'Type' of modem is to be used for each individual call (Command 1501).

These modems may be configured for any one of three transmission speeds:

0.	v21	300/300bps
1.	v22	1200/1200bps
2.	V22bis	2400/2400bps

Outgoing data calls will select a line (ISDN or PSTN) in accordance with the defined Exchange Line Data Route (Command 0907) specified for the DCI being used.

Outgoing Data calls

Basically there are three methods of making a modem call from a terminal connected to a DCI:

1. Establishment of the call from a keystation using the Modem Access service code (699).
   a. Press [Speaker] key.
   b. Dial the Modem Access code [699].
   c. Dial the Modem Type [1]-[8].
   d. Select a line by pressing a line key or dialling [0] if an Exchange Line Data Route has been specified for the DCI.
   e. Dial the required telephone number.

2. Making the call from a keystation using a pre-programmed [Data] key.
   a. Press the [Speaker] key.
   b. Select a line by pressing a line key or dialling [0] if an Exchange Line Data Route has been specified for the DCI.
   c. Press the pre-programmed [Data] key. This key will flash slowly.
   d. Dial the Modem Type [I] -[8].
   e. Dial the required telephone number.

3. Making the Modem call directly from the data terminal using the Hayes 'AT' modem commands.

    a. From the terminal connected to a **DCI** type the following string:

        ATD [sss] [t] [l] [n]

        where,

        sss = Modem service code (699).
        t   = Modem Type (l-8).
        l   = Line seizure code (usually 0).
        n   = Number to be dialled.

        For example, ATD 699108 181234 would make a data call to 8 18 1234 using tone dialling and Modem Type 1.

    b. When a connection is established, 'CONNECT' will be displayed.

Incoming Data calls

Incoming data calls require that a dedicated line be defined for this purpose (Data Line, Command 1503 and 0901). Each line that is to be used for an incoming modem call must be told what 'type' of modem call to expect (ie. **V22bis,** V21) and the characteristics or attributes of the data transmissions to be used on this modem, Command 1502).

When a modem call is made into the Commander D the system will answer the call, providing that no IRG has been assigned to the line, and respond to the caller with a menu. This menu will indicate the Company you have called and the station number and user that may be accessed (Command 1504).

Welcome to TELECOM

Please type the menu number of the computer you wish to be connected to:

Menu No.	Station No.	Computer Name
1	111	ACCNTS
2		
3		
4		
5		
6		
7		
8		
9		
0		
S	Currently not used	SYSTEM

Incoming Modem Call Menu
[IL02]

Note: When a Menu No. is selected the appropriate station port **DCI** will be called. The response to a call to a **DCI** is defined in Command 1201.

Chapter Nine
ISDN

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ISDN
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Chapter Nine
ISDN

Introduction

This chapter describes the procedures that must be performed to install both Microlink and Macrolink accesses to the Telecom Commander D.

Macrolink

The ISDN Macrolink provides customers with an end to end digital transmission link. This single link can provide for up to 30 unique transmission channels that may be used for either speech or data transmissions.

The customer is provided with a 2 Mbps digital access consisting of up to thirty 64 kbps (B) channels and one 64 kbps (D) channel. The B channels are used for the transmission of customer information (speech and data) and the D channel for the associated control and signalling information.

A Macrolink may also be termed as a Primary Rate access and is commonly referred to as providing a 30B + D access.

A typical network configuration for an ISDN Macrolink is shown below.
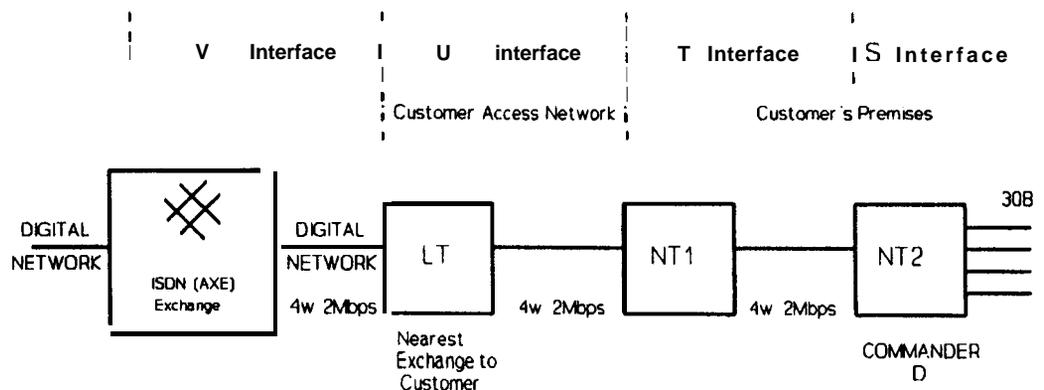
Microlink

The ISDN Microlink provides customers with an end to end digital transmission link. This single link provides 2 unique transmission channels that may be used for either speech or data transmission.

Each Microlink will provide the customer with a 144 kbps digital access consisting of two 64 kbps (B) channels for customer speech/data and one 16 kbps (D) channel for signalling and control information.

A Microlink may also be termed as a Basic access (BRA) and is commonly referred to as providing a 2B + D access.

Currently an ISDN exchange can only provide Macrolink accesses. A Microlink must be derived from a Macrolink by means of a multiplexer (BMUX) which is able to demultiplex 14 Microlinks from one Macrolink feeder. This enables the BMUX to be situated in the customer's local exchange which in many cases may not be a digital exchange.

A typical Microlink network, with the BMUX located in the customer's local exchange, is shown below.
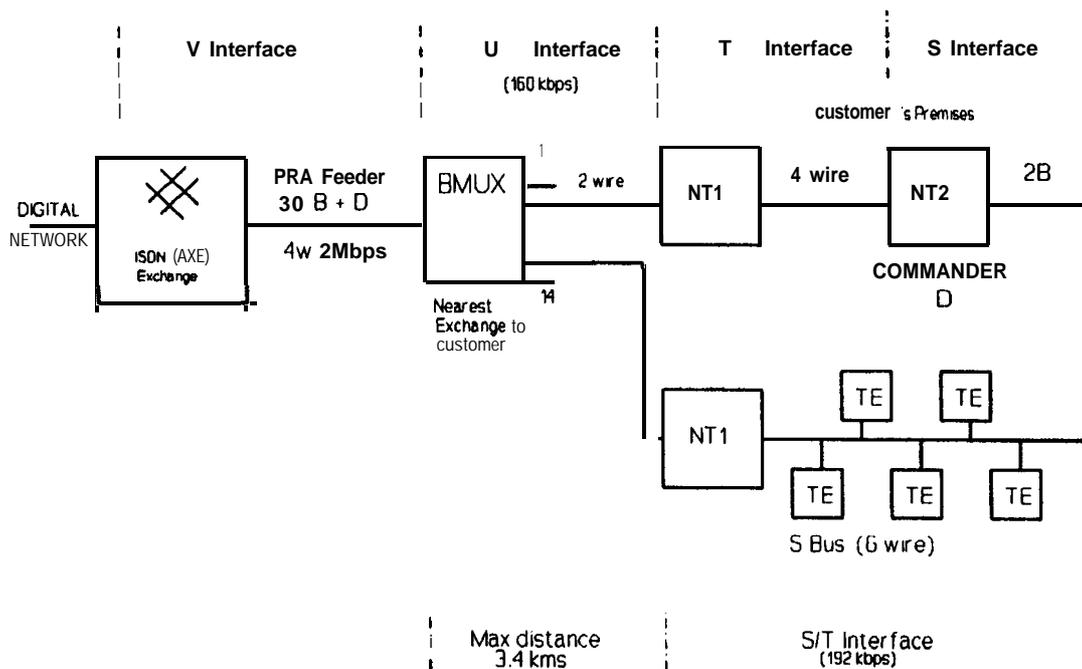
Installation

Macrolink

SDF – Filter Unit Cabling

For the filtering of each Macrolink connection, the FUCPU-D-B Filter Unit is to be used. For connection from this Filter Unit to the SDF, the **SDF/FU4–D–A** Filter Unit cable is required.

The connections to the provided filter unit are as follows:

Tx = White/Blue
Rx = White/Orange
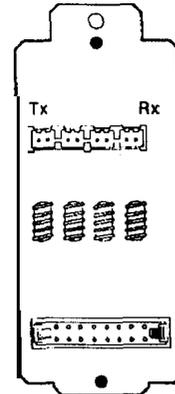
**FUCPU-D-B
(or FUCPU-D-A)**

NOTE: On some early systems the FUCPU-D-A or the FUEL-D-A may be required.

SDF – NT1 Cabling

For all Macrolink connections to the SDF from the **NT1, 120 ohm shielded twisted pair** cable *MUST* be used.

The connections to the SDF are as follows:
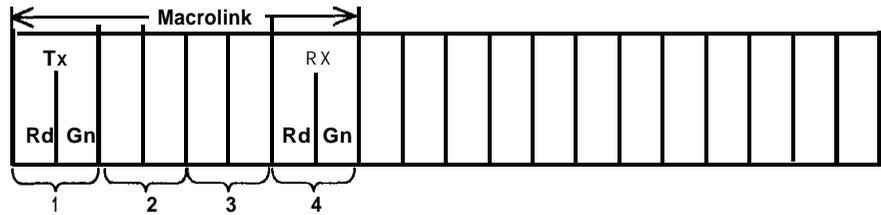
PBA Preparation
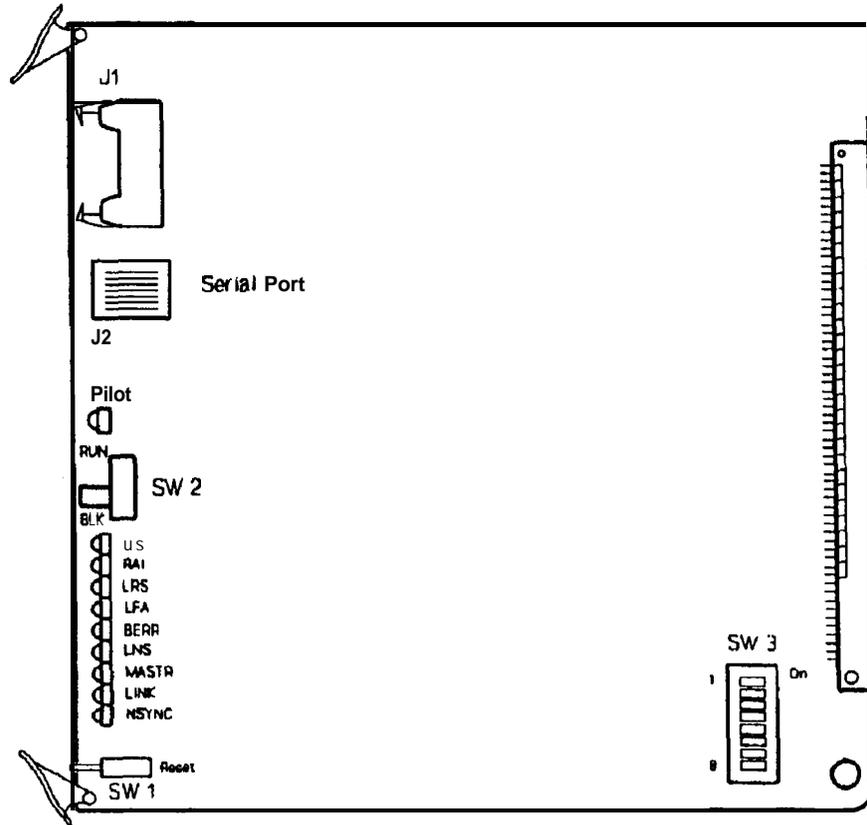
IPRB-D-A Layout
[IL61]

J1 Connector **J1** provides for the connection of one Macrolink access to the IPRB-D-A via a ribbon cable from the Filter Unit.

J2 Serial port to enable connection to the board for debugging.

Pilot The Pilot LED (Pilot), when flashing, indicates that the board is communicating with the CPU-D-A.

SW2 SW2 is used to block all channels on the Macrolink board. If the switch is moved to the blocked (BLK) position the Pilot LED will cease flashing and remain on. No new calls can be initiated. All calls in progress will remain connected until terminated by the user. The circuit will then be blocked. When all calls have finished, the Pilot LED will turn off, indicating that the board is blocked and may be removed. When the switch is moved to the RUN position, the Pilot LED will flash indicating the board is ready for use.

Set SW2 to the block position

SW3 The 8 switches incorporated in SW3 must be set as follows;

SW3 –

1	On	5	Off
2	Off	6	Off
3	Off	7	Off
4	On	8	Off

LEDs	**Red**	
	AIS	Alarm Indication Signal. (Receiving continuous binary '1 s' from the network.)
	RAI	Remote Alarm Indication. (Exchange sees something wrong between the system and the network.)
	LRS	Loss of Receive Signal. (Not receiving a signal from the network, e.g., jumpers removed.)
	LFA	Loss of Frame Alignment. (Cannot see the Frame Alignment Signal from the network.)
	BERR	Bit Error Ratio. (More than 831 errors received in one second.)
	LNS	Loss of Network Synchronisation. (System frame is not synchronised with the network frame.)
	Green	
	MASTR	This board is extracting timing information from the received Frame Alignment Signal and is supplying the Network Timing Reference to the system.

NOTE: If more than one Macrolink board is installed this LED will only be lit on one board. If both Microlink and Macrolink boards are installed it is possible for the Microlink board to supply the system reference. In this case the LED on the Macrolink board would not light.

	LINK	Indicates that the IPRB-D-A is communicating correctly with the exchange.
	NSYNC	The correct network clock is being seen and the timing frame is being extracted from the received signal.
SW1	Reset switch	
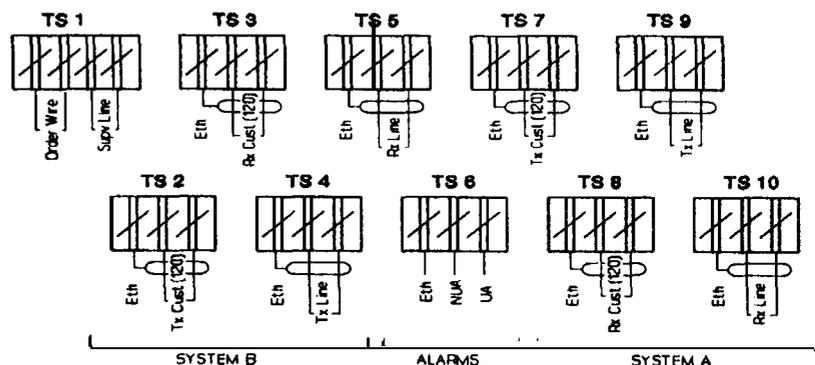
Macrolink NT1 Wall Housing Termination Field
[IL62]

Initialisation   Ensure that the DIP switch (SW3) is set as shown on the IPRB-D-A layout
                          (PBA Preparation).

                          Ensure that the IPRB-D-A board is blocked and insert it into the designated
                          slot in equipment.

                          Switch the **BLK/RUN** switch to the RUN position.

                          NOTE: At this stage the system does not **recognise** that an IPRB-D-A
                                         has been inserted, and the board will not initialise.
                                         (The PLT LED will remain off.)

                          Program the system with the slot in which the IPRB-D-A board has been
                          inserted and how many channels have been provided on the Macrolink
                          access (Command 0914).

                          Press the reset switch (**SW1**) on the IPRB. The Pilot LED will, after a few
                          seconds, commence flashing, indicating that the board has been **recognised.**

                          NOTE: It is possible that other **LEDs** on the IPRB-D-A may also be lit.
                                         These may be ignored at this time.

                          Assign the incoming dial number of each channel to a table. If no Table is
                          defined for an incoming dial number, all calls on that dial number will
                          default to Table 1. (Command 0409)

                          Assign each defined Table to the ring group that incorporates the stations
                          required to ring for incoming ISDN calls. (Command 0410)

                          Ensure that the ISDN Auto Loop Back has been disabled.
                          (Command 0014)

                          Connect the ribbon cable from the IPRB-D-A to the Filter Unit.
                          The three green **LEDs** at the base of the board will light.
                          (This may take one or two minutes.)

Microlink

SDF – Filter Unit   For the filtering of each Microlink connection, the FUCPU-D-B Filter Unit
Cabling   is to be used. For connection from the Filter Unit to the SDF the **SDF/FU4**
                          Filter Unit cable is required.

                          The connections to the provided filter unit are as follows:

                          Microlink 1
                                Tx = White/Green
                                Rx = White/Brown
                          Microlnik 2
                                Tx = White/Blue
                                Rx = White/Orange
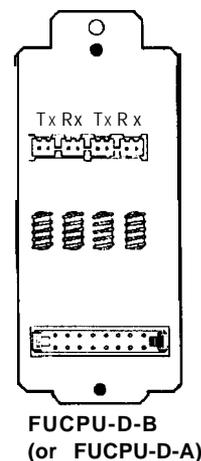
                                                           FUCPU-D-B
                                                           (or FUCPU-D-A)

                          NOTE: On some early systems the FUCPU-D-A or the FUEL-D-A
                                         may be required.

SDF – NT1 Cabling

For all Microlink connections to the SDF from the NT1 a four wire cable with a western electric connector on one end will be required. Two of these cables will be supplied with each IBRSB-D-A. Each cable supplied is 4 metres in length.

The connections to the SDF are as follows:

Microlink 2   Microlink 1
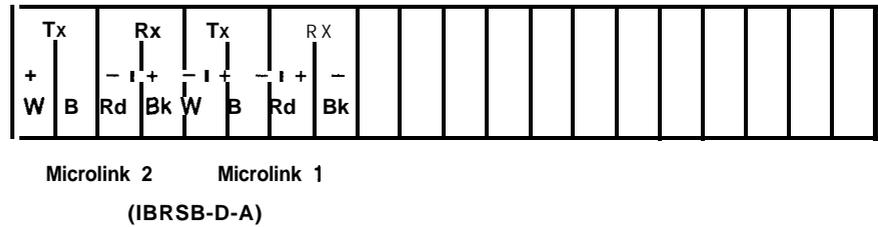
(IBRSB-D-A)

NOTE: If only one Microlink is required on a IBRSB-D-A, place the spare cable in the SDF area so that it may be used if this board is to be later expanded to 2 Microlinks.

PBA Preparation
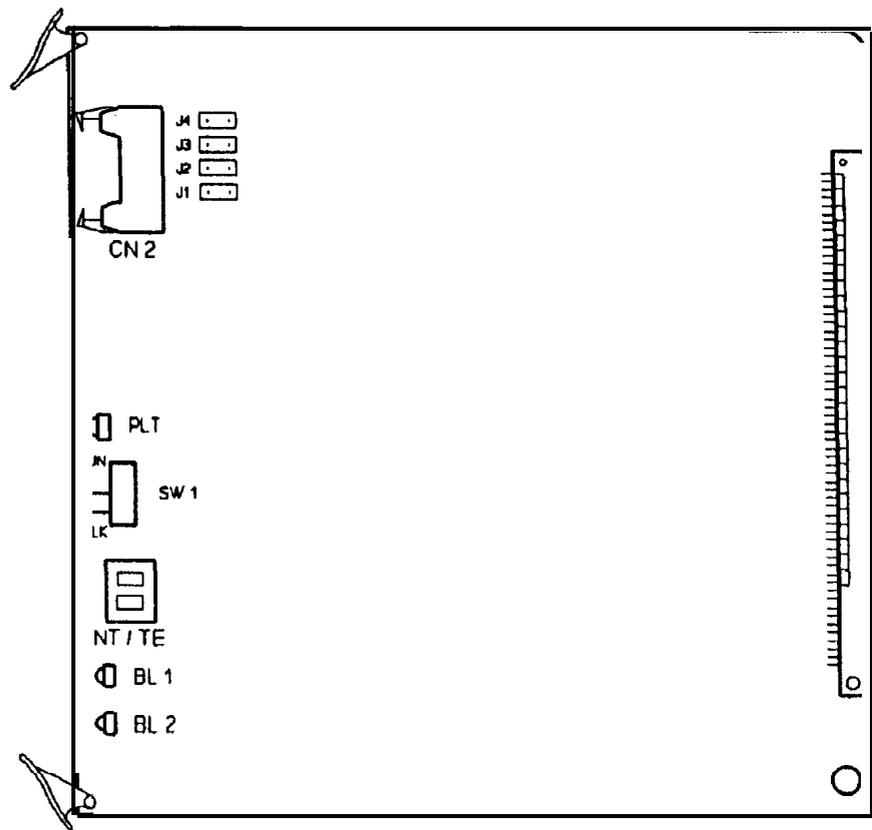
IBRSB-D-A Layout
[IL63]

CN2

Connector CN2 provides for the connection of two Microlink accesses to the IBRSB-D-A from the Filter Unit.

PLT

The Pilot LED (PLT), when flashing, indicates that the board is communicating with the CPU-D-A.

SW1

SW1 is used to block all channels on the Microlink board. If the switch is moved to the blocked position the PLT LED will cease flashing and remain on. No new calls can be initiated. All calls in progress will remain connected until terminated by the user. The circuit will then be blocked. When all calls have finished, the PLT LED will turn off, indicating that the board is blocked and may be removed. When the switch is moved to the RUN position the PLT LED will flash indicating that the board is ready for use.

Set SW1 to the block position,

NTITE

This switch defines the usage of each Microlink termination to the board.

TE – Terminal Equipment. The switch for each Microlink must be in this position, When switched to TE the Telecom Commander D becomes the terminal equipment and separates the two B channels from the Microlink access.

NT – Network termination.
NOT used at present.

BL1–2

The LEDs BL1–2 indicate the status of each Microlink connected to the board.

ON – Indicates the Microlink is in use.

OFF – Indicates the Microlink is idle or not connected.
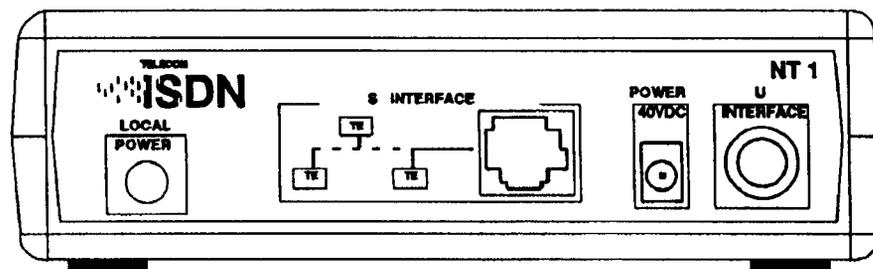
Microlink NT1
[IL64]

Initialisation

Ensure that both NT/TE switches are set to the TE position.

Ensure that the IBRSB-D-A is blocked and insert it into the designated slot in the equipment.

Switch the BLK/RUN (SW1) switch to the RUN position. Board initialisation is complete when the PLT LED on the inserted board flashes continuously.

Assign each required incoming dial number to an individual table. If no table is defined for an incoming number, all calls on that number will default to Table 1. (Command 0409)

Assign each defined table to the Ring Group that incorporates the stations required to ring for incoming ISDN calls. (Command 0410)

Ensure that the ISDN Auto Loop Back has been disabled.
(Command 0014)

Connect the ribbon cable from the IBRSB-D-A to the Filter Unit.

TELECOM BUSINESS SERVICES
. SYDNEY SOUTH REGION

FIELD TRAINING

SET UP FOR **EPSON** PRINTER **ON 'D' COMMDR.**

DATA BITS 7

BAWD **RATE** 1200

PARITY **EVEN**

SWITCH SETTINGS--------SW 1--off

SW 2--on

SW 3--off

SW J--off

SW S--on

SW **6--on**

SW 7--on

SW 8--on

Chapter Ten
Telecom Commander D72

Chapter Ten
Telecom Commander D72
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Chapter Ten
Telecom Commander D72

About this Chapter

This chapter introduces the Telecom Commander D72. It describes the Main Equipment and architecture and the installation procedure.

It will also provide programming commands and a fault finding guide **IF** different to the Telecom Commander D128.

Introduction to the Telecom Commander D72

The Telecom Commander D72 is a **fully** digital 72 port key system that supports up to 40 exchange lines and up to 64 keystations or 24 Single Line Telephones (Analogue telephones). It is non-blocking so that all lines and terminals may be used simultaneously.

System Hardware

The main equipment rack is modular in construction and is referred to as the Main Equipment (ME-D-C). Housed in the Main Equipment is the power supply and an optional ring generator unit.

NOTE: The Telecom Commander D72 is not equipped with a system integral SDF.
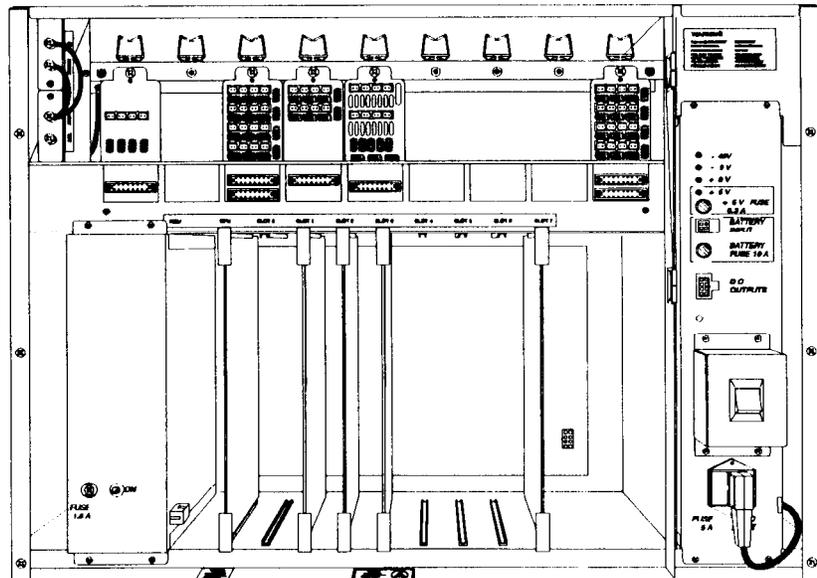
Commander D72 Main Equipment
[IL01]

System Distribution Frame

There is NO System Distribution Frame supplied with the Commander D 72.

Connection of exchange lines and stations is made directly to the system Filter Units.

Batteries

The Commander D 72 *does not* have an option to install internal batteries. External batteries must be provided along with an Austel approved external battery charger.

System Capacity

The system is modular in construction and supports a maximum of 72 ports and up to 8 card slots. The system is designed so that, within certain maxima any of the interface cards may be positioned in any available card slot. The one exception is that a DSB board must reside in Slot 1. The system capacity is as follows:

Exchange lines (analogue)	40'
Powerfail lines	8
Basic Rate Accesses (Microlinks)	6 (equivalent of 12 exchange lines)
Primary Rate Accesses (Macrolinks)	1 (equivalent of 30 exchange lines)
Intercom lines	Non-blocking
Digital keystations	64 ⎱ Total of 64 stations maximum
Single Line Telephones	24 ⎰
DSS Consoles	2
Data Communication Interfaces (DCI)	24

(optional in Executive and Premium keystations)

Speed Dialling	
· Common	540
· Personal	10
· Repertory Dialling	up to 10

Class of Service	
· Access Barring	6
· Extension User	15
Tenant Groups	4
Internal Paging Zones	5
Station Groups	10

Door Stations/External Paging	Up to 4 circuits
Fax connection	Up to 4 circuits
Alarm Sensor connection	Up to 4 circuits
Pooled Modems	Up to 4 modem circuits
Conference	4 calls of up to 4 parties on each call

* Total number of exchange lines, PSTN and ISDN, is 40 maximum.

*Main Equipment
(ME-D-C)*

AUSTEL Permit Label

Every Telecom Commander D72 Main Equipment has an AUSTEL Permit Label attached to the bottom right comer of the right hand side cover. Any request to install equipment that does not have the Permit Label must be referred to local management for investigation.

Commander D AUSTEL Permit Label
[IL02]
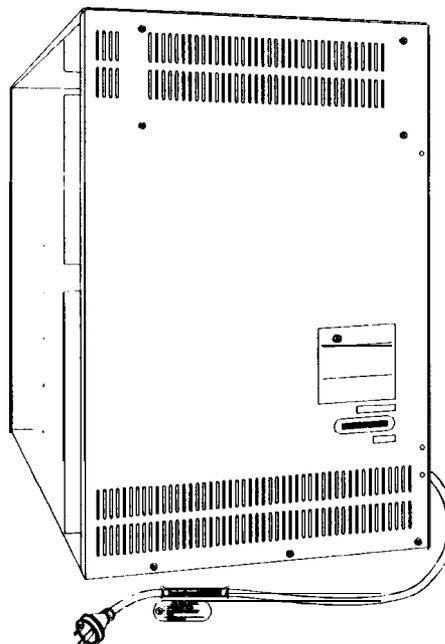
Commander D AUSTEL Permit Label Location
[IL03]

Location Limitations

The Telecom Commander D72 is to be wall mounted. Ensure, when choosing a wall mounting location, that enough surrounding space is allowed for maintenance activities.

These requirements are:

·   Sufficient clear wall space on the left side of the Main Equipment to provide clearance for running cables.

·   Not less than 600mm clear wall space on the right hand side of the Main Equipment (To replace SOF in holder behind M.E.).

·   Not less than one metre of clear floor space in front of the Main Equipment.

·   The Main Equipment should be wall mounted at least 380mm and not more than 1.8m from the floor
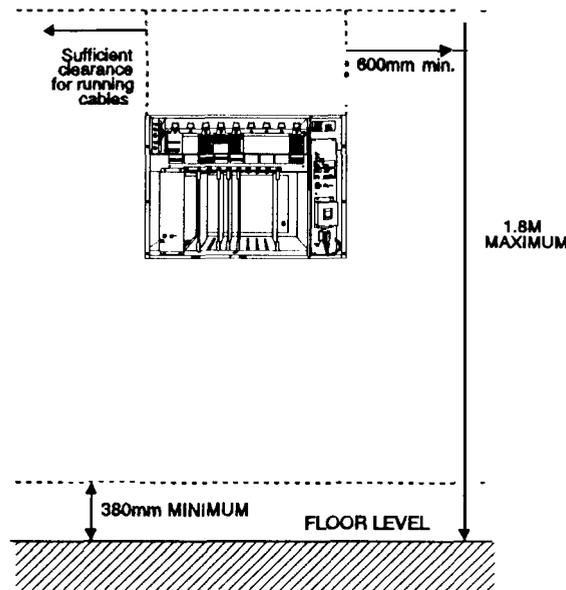
Location Limitations
[IL04]

Wall Mounting

The D72 Main Equipment is to be mounted on the wall in accordance with location limitations specified.

- Attatch the supplied Wall Mounting Bracket to the wall with the screws provided.

· Fix the Customer Record Folder support bracket to the rear of the Main Equipment.

· Remove the locking screws from the Wall Mounting Bracket and hang the Main Equipment on this bracket. The support bracket holds the base of the Main Equipment parallel to the wall while also providing a location to store the Customer Record Folder. This Folder **must** always be stored here when not in use.

· Fasten to the Wall Mounting Bracket by inserting the locking screws onto the sides of the Main Equipment.

Power Supply
(PS-D-B)

Fit the Power **Supply** into the side of the Main Equipment and fix into position with the screws provided.
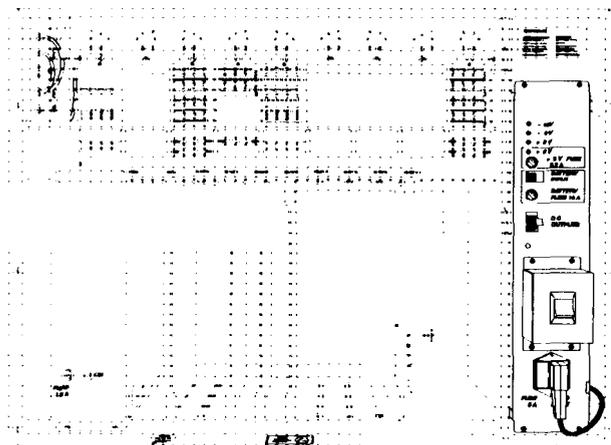
Power Supply Location
[IL05]

User Equipment

The system is capable of supporting up to 64 stations (mixture of keystations and Single Line Telephones) providing a maximum of 24 Single Line Telephones is not exceeded.

Keystations

The Commander D keystations are compatible with both the D128 and D72 systems. A maximum of 64 digital keystations are supported by the Commander D72.

Single Line Telephones

The system is capable of supporting up to 24 Single Line Telephones.

Direct Station Select Consoles (DSS)

The Commander D72 is capable of supporting up to 2 DSS Consoles, which must be connected in conjunction with Executive or Premium keystations. The DSS Consoles do not use an additional port position.

Data Communication Interface

The system will support up to 24 DCIs fitted in conjunction with an Executive or Premium Keystation.

System Installation

Safety Precautions

The Telecom Commander D72 equipment contains many static-sensitive components.

To reduce the incidence of premature equipment failure, *the following precautions must be observed:-*

- *Always* discharge static from yourself before handling any Printed Board Assembly (PBA), and wear an antistatic wrist strap connected to the Main Equipment earth.

- *Always* handle PBAs by the edges.

- *Never* touch PBA tracks or connectors. Contaminants introduced by fingers can cause corrosion and high resistance connections.

- *Never* touch components. They are physically delicate and finger pressure can fracture component leads (even if the leads do not actually break).

- To protect PBAs against physical damage and damage due to static discharge, they must always be wrapped in an anti-static package and placed in the protective packaging that is provided with the new item.

Installation Procedures

System Order Forms

Ensure that the supplied equipment is as listed on the System Order Forms. Pre-configured systems will have the System Order Forms (SOF) supplied with the Main Equipment. The System Order Forms supplied will be the most current and will directly reflect the programming of the system delivered.

The System Order Forms are to be stored between the rear of the Main Equipment and the wall on the SOF support bracket supplied.

NOTE: It is essential that any programming changes made during installation are recorded on the System Order Form programming sheets. Provide a copy of the SOF to the customer to include in the System Administration Manual.

Location and Mounting of Equipment

Customers Responsibilities

The customer is responsible for providing:

- Satisfactory lighting for installation and maintenance.

- A single phase, correctly earthed, 220-250V, 10 amp, 50 Hz, AC General-purpose Power Outlet (GPO) within one metre of the Main Equipment.

NOTE: A separately fused GPO is recommended.

Connect the cables:

- Plug the mains cord into the socket marked "AC INPUT" at the bottom of the Power Supply.

- Fit the 8-way connector, supplied with the Main Equipment, into the socket marked "DC OUTPUTS". Plug the connector fitted to the other end of this cable into the socket marked "Power" on the lower right hand comer of the main motherboard.
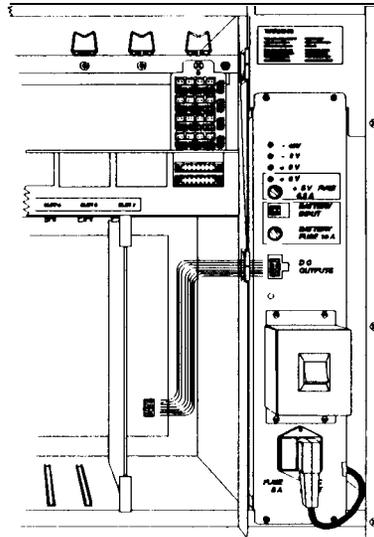
Power Supply Cable Connections
[IL06]

*Ring Generator Unit
(RGU-D-B)*

Fit the Ring Generator Unit into location on the left hand side of the Main Equipment and fix into position with the screws provided.
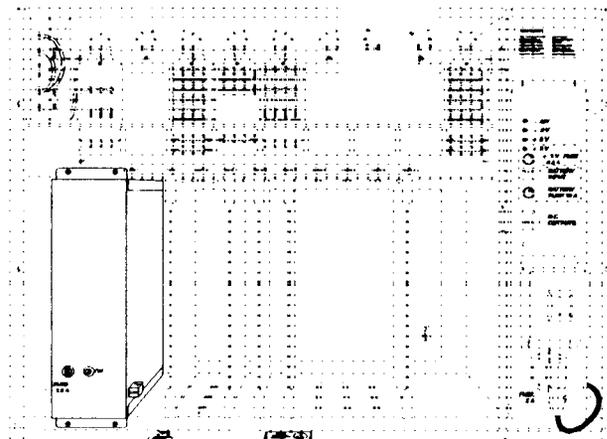
Ring Generator Location
[IL07]

Connect the cables:

· Fit the B-way connector, supplied with the Main Equipment, into the **socket** on the right hand side of the Ring Generator Unit. Plug the connector fitted to the other end of this cable into the socket marked **"RGU"** on the middle left hand side of the main motherboard.
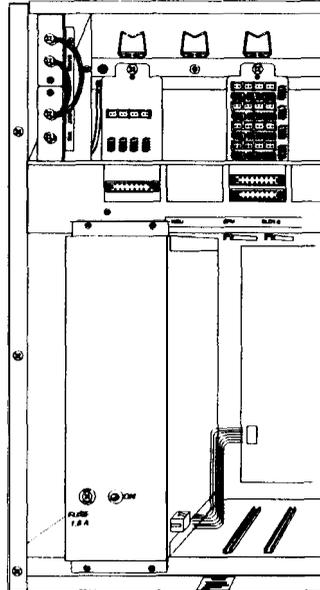
Ring Generator Cable Connections
[IL08]

Battery Backup

The Commander D72 has no provision for internal Backup Batteries.

An External Backup Battery/Charger Unit is currently under development and is expected to be available early in 1993.

NOTE: The external battery voltage must be 48V

Keystations

To wallmount keystations refer to Chapter 5 **- Keystations, Wallmounting.**

Door Stations

Refer to Chapter **5 - Door Stations (DS-BN)**

System Earthing

Four terminals are provided for the earthing of the Telecom Commander D72. These terminals are located on the upper left corner of the main equipment next to the Filter Units.

They are designated as follows:
- PE
- SURGE
- o v
- TRC

The internal connection of these terminals is as follows:
- The PE (Protective Earth) terminal is connected to the equipment chassis. The chassis is connected to the 240V mains earth via the three core mains cable when plugged into a 240V GPO.
- The SURGE terminal is connected to the exchange lines via MOV devices mounted on the Filter Units.
- The OV (OV or signal ground) terminal is connected to the 0 volt output of the Main Equipment power supply unit.
- The TRC (Telecommunications Reference Conductor) terminal is connected to the PBA motherboard for use by miscellaneous facilities.

The following connections are to be carried out at installation:
- The OV terminal is to be connected to the PE terminal (BLACK). (This connection may be pre-fitted).
- The SURGE terminal *must* be connected to the PE terminal (Green/Yellow). This connection *must* be made, and the mains cord plugged into the GPO *(not turned on),* before any exchange lines and remote extension lines are connected to the system. (This connection may be pre-fitted)

WARNING: The equipment must be protected from possible surges of current down connected exchange lines. This may be done in one (or both) of the following ways:
1. Plug the mains cord into the Power Outlet (GPO), ensuring that the outlet is switched off. System surge protection is via the Mains earth of the GPO.

2. Isolate the exchange lines and remote extension lines from the system. This may be done at the MDF, or alternately by removing all the Filter Unit plugs inserted into each FUEL and FUPF (PSTN lines), FUCPU (ISDN) lines and FUS (remote extension lines).

System Cabling

System Distribution Frame

The Commander D72 is not supplied with an integral SDF. Instead all cabling is to be run directly to the Main Equipment, a filter unit plug connected to each pair, and plugged into the appropriate filter unit.

Filter Unit Plug Termination

An appropriate number of individual insulation-displacement Filter Unit plugs will be supplied with each Filter Unit.

To connect the Filter Unit plugs:

1. Obtain the correct size cable for the connection to each Filter Unit (refer to SDF-Filter Unit Cables on Page 5 - 32)

2. Strip the cable sheath, allowing a minimum of 5 centimetres of insulated conductor.

3. Insert the conductors into the two round holes marked "1"& "2" at the rear of the plug.
    ·   Hole 1 - White wire

    ·   Hole 2 - Coloured wire

4. Press the section of the plug where the conductors are inserted into the body until it is flush with the edges.

NOTE: The Filter Unit plugs are the insulation-displacement type, so you do not need to strip the insulation on the conductors being fitted.

Filter Unit Plug Termination
[IL09]

Music on Hold (MOH)/Background Music (BGM)

Internal MOH.

An internal MOH facility is provided on each system. Two different internal MOH melodies are available.

Fit the movable link on the connector marked "S" on the front of the CPU board it connects the two pins marked "INT".
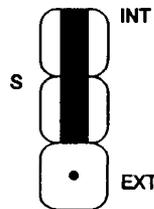
Internal MOH Jumper Selection
[IL10]

Select the required MOH type. (Command 0303)

Select the exchange lines that require MOH. (Command 0901)

External Music Source

An external music source can be connected to the system to provide music on the line when the call is placed on hold. In addition, a second music source can be connected to provide Background Music (BGM) for the system. If one music source is required to provide both Background Music (BGM) and Music-on-Hold (MOH) the two inputs may be connected together.

Connect 2 wires of a 4 wire cable from the external music source via a 61I socket and an Austel approved Line Isolation Unit (LIU), and terminate on a Filter Plug Unit - refer page 10 - 10 The source for external MOH connects to the External Music on Hold input (EXMOH) input and the source for BGM connects to the BGM input.

NOTE: If the one source is required for BGM and MOH then the inputs may be connected together.
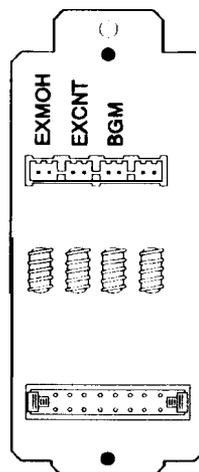
External Music Source Input Connections
[IL11]

The input marked "EXCNT" is the external device control and is used for control of the music-on-hold source. This connection is internally connected to a set of contacts, which are normally open circuit. However, when a call is placed on hold, the contacts close, enabling the external music source to be operated. When the call is taken off hold, the contacts open, turning off the source.

Connection to the external device must be via an AUSTEL approved Isolation Unit.

Fit the movable link on the connector marked "S", on the front of the CPU board, so that it connects the two pins marked "EXT".
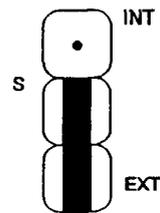
External MOH Jumper Selection
[IL12]

Set the MOH and BGM volume controls, located on the front of the CPU board, to the required volume level.

·   HTVR   Music on Hold volume control.

●   BGVR   Background Music volume control.
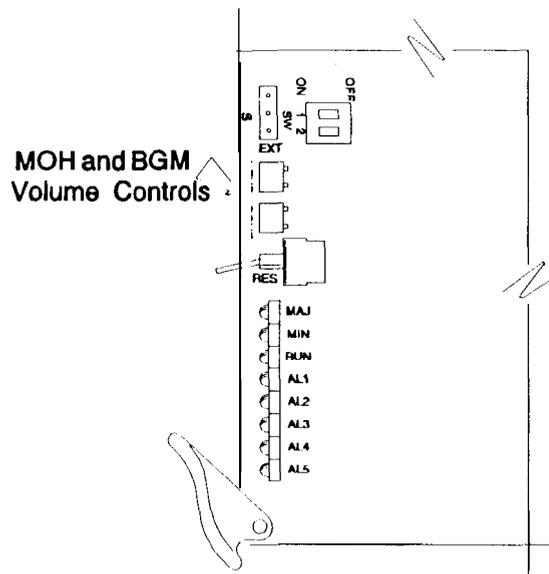
MOH and BGM Volume Control Locations
[IL13]

Select the exchange lines that require external MOH. (Command 0901)

NOTE: For external music sources and external paging devices, safety isolation must be provided by use of an AUSTEL approved Line Isolation Unit.

<table>
<tr><td>

Powerfail

</td><td>

The Telecom Commander D72 allows for the provision of eight powerfail lines. In the event of a mains power failure and external batteries have not

been provided or are discharged, a maximum of eight predefined exchange lines will be switched to designated standalone powerfail single line telephones (one exchange line per SLT). Incoming and outgoing calls will then be able to be made from the single line telephone but no system facilities will be available.

NOTE: The powerfail single line telephones are additional to any Single Line Telephones used as Commander D extensions. The powerfail single line telephones are only operational under powerfail conditions.

Customer data will be retained by the battery backed up RAM on the CPU.

The FUPF-D-A incorporates both powerfail switching of exchange lines and the exchange line filtering and surge protection functions, filtering any spurious signals that may be entering or leaving the system via the connections to the external equipment.

</td></tr>
</table>
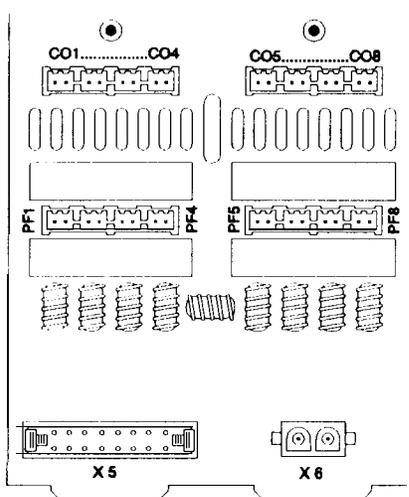
Powerfail Board (FUPF-D-A)
[IL14]

To tit a powerfail board:

·   Obtain a powerfail board (FUPF-D-A).

·   Place the powerfail board into position, above the ELB on the cabinet, and fix into position with the screws provided.

·   Connect the designated exchange lines to the connectors marked CO1 - CO8 on the powerfail board.

·   Connect the powerfail single line telephones to the connectors marked PF1 - PF8.

NOTE: The exchange line connected to CO1 will be switched to the single line telephone connected to PF 1, CO2 to PF2 and so on.

●   Connect the powerfail cable from the 2-way connector X 11 on the top right hand side of the main mother board into the socket marked X6 on the Powerfail Board.

●   Connect the ribbon cable from the ELB to the connector marked X5 on the FUPF-D-A board.

Printed Board Assembly (PBA) Preparation

CPU-D-B

The CPU-D-B performs the processing and control functions required by the system and its functional blocks.
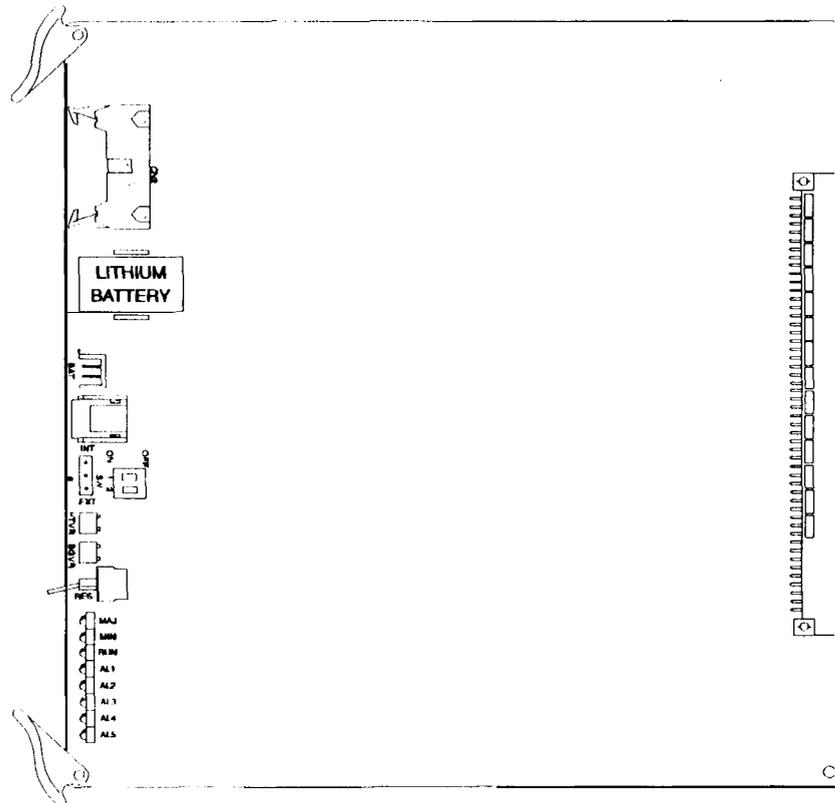
CPU Hardware Locations
[IL15]

CN2

CN2 provides the point of connection from the Filter Unit FUCPU-D-B for the external inputs to the CPU-D-B.

These inputs are:

·   External Music-on-Hold (EXMOH)

·   External Device Control (EXCNT)

·   Background Music (BGM)

Lithium Battery

The lithium battery is required to maintain the customer data stored in the system memory (RAM) during times when power is not supplied to the system. If the voltage of the Lithium battery becomes too low a major alarm will be generated.

BAT

The connector marked "BAT" is for the connection of the lithium battery.

Fasten the battery to the CPU-D-B with the tie provided and connect the lead to the connector on the board marked "BAT". Ensure that the polarity of the battery connection is correct as follows:

RED wire to +ve terminal.

The lithium battery will supply the power to retain the customer data in the system RAM during a power failure.

WARNING

Do not short circuit the lithium battery

SW

Switch 1 determines whether default customer data is loaded on system initialisation.

SW1   ON will load both the system program and the default customer data from the system ROM (Cold Start).

IMPORTANT NOTE

If a COLD START is implemented, any existing customer data will be lost and **default** customer data will be loaded.

ANY CUSTOMER DATA WILL HAVE TO BE
MANUALLY LOADED!

OFF will load only the system program from the ROM and the customer data will be loaded from the battery backed up RAM (Hot Start).

NOTE: SW1 should be set to OFF.

Switch 2 is not currently used.

S

The connector marked **"S"** selects the source of the system music-on-hold.

INT   Selects the internal system music-on-hold.

EXT   Selects the external music-on-hold source.

Fit the movable link into the required position for the system MOH source.

HTVR

Volume control HTVR controls the output level of the music-on-hold.

BG VR

Volume control BGVR controls the output level of the background music.

RES

The switch RES will re-initialise the system in accordance with the setting of switch SW1 (Hot or Cold Start).

LEDs

These LEDs indicate the status of the processor.
(refer to Table 1 - CPU LED Indications)

System Initialisation

Procedure

Before proceeding with the system initialisation, you need to determine if the system has been pre-configured, or has default data.

Power On

Pre-configured System

During system initialisation with a pre-configured system, the "CPU" will determine, from the system RAM, the type of board that has been allocated to each slot. Each slot in the system is then interrogated. If found to be equipped, the type of board installed is determined. If the installed board is of the same type and in the same slot as that indicated by the system data and the Hardware Configuration sheets, both the slot and the board are initialised. If the system finds that the board installed is different to that indicated by the system data (stored in system RAM), the slot will not be initialised and the pilot (PLT) LED will not flash.

1. Insert the CPU board into the slot marked CPU and a DSB board into slot 1 of the Main Equipment.
2. Check that switch 1 of the DIP switch SW on the CPU is switched to the OFF position.

NOTE: This will cause a warm start of the system when the power is turned on. The system program will be initialised into the system.

If switch 1 is switched to ON (Cold Start) the system program and default customer data will be loaded from the ROM.

3. Prior to turning on the power, ensure the following:
   - The system is correctly earthed.
   - All cabling is completed, but NO stations are to be plugged in.
   - The switch on the Power Supply is OFF (0).
4. Plug the mains power cord into the power outlet and turn it ON.
5. Switch the AC switch on the Power Supply to the ON (1) position.
6. The system will commence to load data from the system ROM. The start up sequence takes approximately 30 seconds and is complete when the RUN LED on the CPU and the PLT LED on the DSB flash continuously (normal operating mode).
7. During system booting the following CPU LED indications may be observed on the CPU (refer to Table 1).

LED STATE								DESCRIPTION
MAJ	MIN	RUN	ALM1	ALM2	ALM3	ALM4	ALM 5	
✪	✪	✪	✪	✪	a	✪	✪	Reset state
O	O	✪	O	O	0	0	O	Memory Check state
O	O	✪	O	O	0	0	✪	Memory check end
O	O	✪	O	✪	✪	✪	✪	Initialise main program
✪	✪	✪	O	O	0	0	✪	Memory error (D-RAM)
✪	✪	✪	O	O	0	✪	O	Memory error (S-RAM)
✪	✪	✪	O	✪	0	0	O	80286 Protect mode error
O	O	◐	O	O	0	0	O	Normal operating mode
Key: 0 LED OFF, ✪ LED ON, ◐ LED FLASHING								

Table 1 - **CPU LED** indications

8. Additional **PBAs** may now be inserted in the order indicated on the Hardware Configuration sheets.

NOTE: The slot next to the CPU is **slot 8** (refer to IL16). The first Digital Station Board (DSB) must be inserted in slot **1** as detailed on the Hardware Configuration sheets.
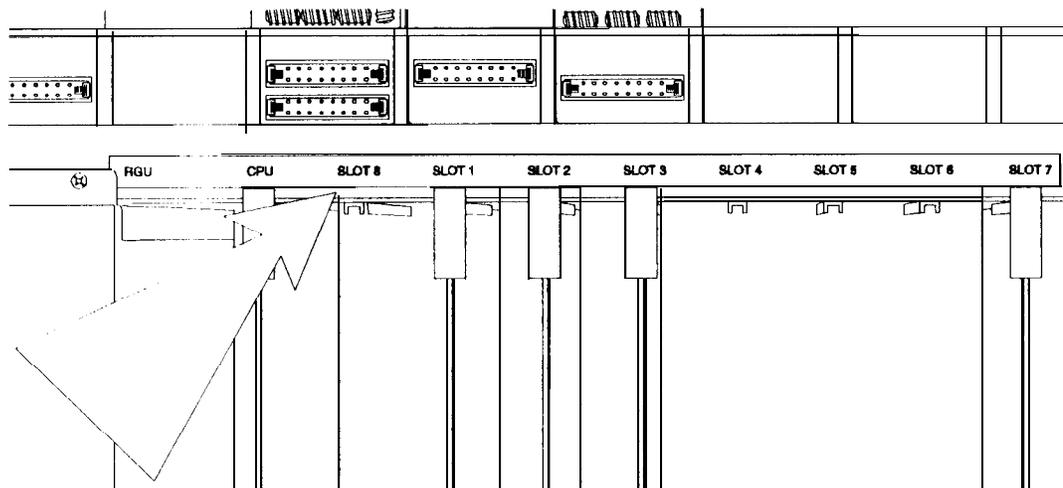
Main Equipment Slot Designations
[IL16]

It is recommended that the additional **PBAs** be inserted one at a time. It is also recommended that you wait until each is initialised before inserting the next. Where the **PBAs** are equipped with a BLK/RUN switch, they should be inserted with the switch in the BLK Position. The switch may then be switched to the RUN Position. Initialisation is complete when the PLT LED on the inserted board, flashes continuously.

9. When all the system **PBAs** have been inserted and have initialised, ensure that switch 1, of the DIP switch (SW) on the CPU, is in the OFF position.

This places the system in Hot Start mode. If the system is re-initialised, only the system program will be loaded from the ROM. The system will use exactly the same customer data that was being used before the re-initialisation, as this data is retained in the battery-backed RAM.

10. Determine from the customer if the system is operating as they require. Input any data changes needed to meet these requirements.

11. Update the System Order Forms (SOF) with any changes that have been made. Provide a copy of the SOF to the customer to include in the System Administration Manual. Place the original SOF in the holder behind the Main Equipment.

Non-conjigured system

During system initialisation with a Non-Configured system, the CPU will interrogate each slot in the system and determine the type of PBA present.

It will then allocate port numbers and, in the case of the station **PBAs,** allocate station numbers in accordance with the default extension numbering plan. The exchange line numbering plan will also be established.

Before proceeding, the Hardware Configuration sheets **must** be determined. These will detail the location and type of each PBA and the order in which they are to be inserted into the system. Refer to **System Hardware Configuration - Non-Configured System,** Page 5 - 29.

1. Insert the CPU board into the slot marked "CPU" and a DSB board into slot 1 of the Main Equipment.

2. Check that switch 1 of the DIP switch (SW) on the CPU is switched to the ON position.

    NOTE: This will cause a Cold Start of the system when the power is turned on. Both the system program and the default customer data will be loaded from the ROM into the system.

    If switch 1 is switched to OFF (Hot Start) only the system program will be loaded from the ROM.

3. Prior to turning on the power, ensure the following:

    ·   The system is correctly earthed.

    ·   All cabling is completed, but no stations are to be plugged in.

    ·   The switches on the Power Supply are off.

4. Plug the mains power cord into the power outlet and turn on.

5. Switch the AC switch on the Power Supply to the ON position.

6. The system will commence to load data from the system ROM. The start up sequence takes approximately 30 seconds and is complete when the RUN LED on the CPU and the PLT LED on the DSB flash continuously (normal operating mode).

7. During system booting the alarm LED indications shown in Table 1 – **CPU LED Indication may** be observed on the CPU.

8. Additional **PBAs** may now be inserted in the order indicated on the Hardware Configuration sheets.

    It is recommended that the additional **PBAs** be inserted one at a time. It is also recommended that you wait until each is initialised before inserting the next. Where the **PBAs** are equipped with a **BLK/RUN** switch, they should be inserted with the switch in the BLK Position. The switch may then be switched to the RUN position. Initialisation is complete when the PLT LED on the inserted board flashes continuously.

9. When all the system **PBAs** have been inserted and have initialised, switch Switch 1, of the DIP switch (SW) on the CPU to the OFF position.

    This places the system in Hot Start mode. If the system is re-initialised, only the system program will be loaded from the ROM. The system will use exactly the same customer data that was being used before the re-initialisation. This is because the data will have been saved in the battery backed RAM.

10. Determine, from the customer what facilities they require and program the system to meet their specific requirements.

11. Update the System Order Forms (SOF) with any changes that have been made. Provide a copy of the SOF to the customer to include in the System Administration Manual. Place the original SOF in the holder behind the Main Equipment.

Station Installation

The Filter Units may now be plugged into their respective **PBA's** via the ribbon cable supplied with each PBA. Before plugging in each station, the voltage should be measured at the station socket. The connections are not polarity conscious and should measure 48V dc. When each Premium and Executive keystation is connected, their display will read "SYSTEM START UP IN PROGRESS" for approximately one second. The time, date and station identity will then be displayed.

System Installation Tests

Installation Verification   The board layout and the port allocations can be verified by printing the system information to a printer attached to a DCI. (Command 0005).

Keystation Self Test   A keystation self test can be initiated by pressing the [✕] key while plugging in the line cord. This test automatically tests the display characters and key LEDs.

Automatic Test   To start the test -   Press the [✕] key while plugging in the line cord.
                                    To stop the test -   Press the [Call 1] key followed by Digit 0.

Test **Sequence**   1.   The following message is displayed for 3 seconds.

> Self Test in Pro.
> DD MM YYYY

Where DD MM YYYY is the date of the software release.

2.   All dots in the LCD are turned on for 3 seconds.

3.   Digits 0 to 3 are shifted across each column of the display at 0.1 sec per column.

4.   The red LED in all line keys are turned on for 1.3 seconds.

5.   The red LED of all line keys are turned off and the green LED turned on for 1.3 seconds.

6.   The red LED of all function keys and the MW lamp are turned on for 1.3 seconds.

7.   The red LED of all DSS keys (except Premium station) are turned on for 1.3 seconds.

8.   The message "Manual Test" is displayed on the screen.

Manual Test

Key Matrix and LED Test   To start the test, press the [Call 1] key followed by '1'. The following message will be displayed: "Key Matrix/LED Test".

                                    Whenever a key is pressed, the logical name for it will be displayed (refer to Table 2 - Keystation logical names) and the key touch tone will sound. This tone has a duration of 50 msec and a frequency of 580 Hz.

                                    The key LEDs light as follows:

                                    ·   1st operation - Red LED

                                    ·   2nd operation - Green LED

                                    ·   3rd operation - LED off

                                    The message "OFF HOOK' is displayed by lifting the handset and "ON HOOK" by replacing the handset.

                                    To exit this test and return to the "Manual Test" display, press the [Call 1] key followed by [✕].

KEY NAME	LOGICAL NAME	KEY NAME	LOGICAL NAME
[LINE#1]	L-01	[LINE#2]	L-02
[LINE#3]	L-03	[LINE#4]	L-04
[LINE#5]	L-05	[LINE#6]	L-06
[LINE#7]	L-07	[LINE#8]	L-08
[LINE#9]	L-09	[LINE#10]	L-10
[LINE#11]	L-11	[LINE#12]	L-12
[LINE#13]	L-13	[LINE#14]	L-14
[LINE#15]	L-15	[LINE#16]	L-16
[LINE#17]	L-17	[LINE#18]	L-18
[LINE#19]	L-19	[LINE#20]	L-20
[LINE#21]	L-2 1	[LINE#22]	L-22
[LINE#23]	L-23	[LINE#24]	L-24
[LINE#25]	L-25	[LINE#26]	L-26
[LINE#27]	L-27	[LINE#28]	L-28
[LINE#29]	L-29	[LINE#30]	L-30
[LINE#31]	L-3 1	[LINE#32]	L-32
[DSS#1]	D-01	[DSS#2]	D-02
[DSS#3]	D-03	[DSS#4]	D-04
[DSS#5]	D-05	[DSS#6]	D-06
[DSS#7]	D-07	[DSS#8]	D-08
[Call 1]	F-01	[Call 2]	F-02
[Speaker]	F-03	[Hold]	F-04 (lights MW lamp)
[MIC]	F-05	[TRANS]	F-06
[Recall]	F-07	[Redial]	F-08
[DND]	F-09	[Memory]	F-10
[VOL UP]	F-11	[VOL DOWN]	F-12
[CLEAR]	F-13	[CHECK]	F-14
[DIR]	F-15	[MENU]	F-16

Table 2 - Keyshtion logical names

Test Tone

·   To start the test, press the [Call 1] key followed by [2]. The following message will be displayed: "Test Tone (1 KHz)".

·   A continuous 1 KHz tone is sent to the speaker.

·   The tone is muted by going off-hook.

·   To exit the test, press any key.

NOTE: To exit Keystation self test, ensure that "Manual Test" is displayed on the station's display. If this is not displayed, press the [Call 1] key followed by [✶]. Next press the [Call 1] key followed by the digit 0.

System Specifications

Electrical

AC Imput to Power	240 VAC 50	Hz
Output Voltage	-48 V DC	

Environmental

Operating Temperature	0°C to 50°C
Humidity (Relative)	up to 95 %

Dimensions

Equipment	Height	Width	Depth
Main Equipment	450mm	600mm	290mm
Keystation	80mm	205mm	255mm
DSS Console	80mm	205mm	255mm

System Programming

System Access

How to Access Programming Mode

Refer to Chapter 6 System **Programming**

How to Exit Programming Mode

When Programming Mode is exited on the Telecom Commander D72 all changes to customer data are retained in the battery backed up RAM.

Action	Display
To exit Programming Mode, first return to the Enter Command> display	USER: TELECOM LVL:IN Enter Command >
Press the (Memory] key.	10:30AM TUE 20 AUG

NOTE: On exit from Programming Mode any data changes will be saved in battery backed up RAM.

Command Differences

The only difference in the commands for the Telecom Commander D72 is:

·   Command IN0001 - 'Customer Data Save'
and
·   **Command** IN0002 - 'System Data Load'

These commands are not used as the CPU-D-B does not have a disk drive.

All other commands listed in Chapter 6 - **System Programming** are applicable to the Telecom Commander D72.

Additional Facilities

Two Line Conference Gain

The Telecom Commander D72 offers a conference facility which may include up to two exchange lines and one or more stations.

When a two exchange line conference call is in progress, stability problems may arise due to the gain of the Exchange Line Boards (ELB)

It is possible, in Command 0901 - Item 16, to decrease the gain of the **second** exchange line, to join the conference call, by either 0dB, 3dB or 6dB from the default gain on a normal outside call.

The default setting is -6dB

IN 0901

Trunk Port Type

This command defines the type of operation for a trunk port.

Input Data

Field Name	Description	Input Data
TRK No.	Trunk Port Number	1 to 80 (D128) 1 to 40 (D72)
Item No.	The Trunk Port Type Number	1 to 15: Refer to the Table below for details.
ITEM-xx	(Where xx is the Trunk Port Type). The option selection for the Trunk Port Type.	Refer to the Table below for details.

Trunk Port Type Data

Trunk Port Type Number (Item No.)	Description	Option Selection (ITEM_xx)
1	Decadic/DTMF	0: Decadic I: DTMF
2	Incoming type	3: Ordinary 1: Not available
3	CODEC Gain Type	1: Type-l (Transmit 0dB, Receive 0dB) 2: Type-2 (Transmit +5dB, Receive +3dB) 3: Type-3 (Transmit -5dB, Receive -5dB) 4: Type-4 (Transmit +5dB, Receive +5dB) 5: Type-5 (Transmit +10dB, Receive +lOdB)
4	Connected Hold Tone Source	3: Internal 1: External
5	Hook-flash/ Earth Recall	D: Hook-flash 1: Earth Recall
6	Hook-flash Type	D: Flash1 (100 mS) 1: Flash2 (600 mS)
7	Behind PABX in Day Mode	0: Not Behind 1: Behind
8	Behind PABX in Night 1 Mode	0: Not Behind 1: Behind
9	Behind PABX in Night 2 Mode	0: Not Behind 1: Behind
10	DTD at line seizure	0: No DTD 1: DTD used
11	Pause at line seizure	0: No pause 1: Pause used
12	SMDR print out enable/disable	0: Print out 1: No print out

IN 0901

Trunk Port Type Number [Item No.)	Description	Option Selection (ITEM xx)
13	Service Type	0: Normal 1: DID 2: DISA **3 - 4: Reserved** 5: Network 6: Radio paging 7: Data line
14	Outgoing	0: Disable 1: Enable
15	Restrict	0: Restrict 1: Non-restrict
16	2-line Conference CODEC Gain Type	1: Type-l (-6dB) 2: Type-2 (-3dB) 3: Type-3 (OdB)

Example

This example selects DTMF as the Trunk Port Type for Trunk Port 1.

Action

Enter the command number.
Press the [Hold] key.

Enter the Trunk Port Number (1).
Press the [Hold] key.

Enter the Trunk Port Type Number (1).
Press the [Hold] key.

Enter the Option Selection.
Press the [Hold] key.

Enter the next Item number and press the [Hold] key to continue entering data for this Trunk Port Number
        OR
Press the [Hold] key again and enter the next Trunk Port Number to continue in command 0901
        OR
Press the [Hold] key again to go to next command.

Display

```
USER:TELECOM  LVL:IN
Enter command > 0901
```

```
090 1 :Trunk Type
Trk Port No? 1
```

```
0901:              TRK_001
Item? 1
```

```
0901:              TRK_00 1
ITEM 01:0-1
```

```
0901:              TRK_001
Item?
```

```
090 1 :Trunk Type
Trk Port No?
```

IN 0901

Defaults

Trunk port type number (Item No.)	Description	Option setting
1	Decadic/DTMF	1 (DTMF)
2	Incoming type	0 (Ordinary)
3	CODEC Gain type	1 (Type-1)
4	Connected hold tone source	0 (Internal)
5	Hook-flash/Earth recall	0 (Hook-flash)
6	Hook-flash type	0 (Flashl)
7	Behind PABX in Day mode	0 (Not-behind)
8	Behind PABX in Night 1 mode	0 (Not-behind)
9	Behind PABX in Night 2 mode	0 (Not-behind)
10	DTD at line seizure	1 (DTD use)
11	Pause at line seizure	1 (Pause use)
12	SMDR printout enable/disable	0 (Print-out)
13	Service type	0 (Normal)
14	Outgoing	I (Enable)
15	Restrict	0 (Restrict)
16	2-line Conference CODEC Gain Type	1 (Type-1)

Maintenance Procedures

Refer to Chapter 7 - **Maintenance Procedures** for maintenance procedures associated with the Telecom Commander D72. In addition the following notes also apply.

1.   There is no integral SDF or SDF Filter Unit cabling.

2.   There are no internal back-up batteries for the Telecom Commander D72.

3.   The Power Supply for the Telecom Commander D72 is a PS-D-B, serial **581/33**

4.   The Ring Generator Unit for the Telecom Commander D72 is an RGU-D-B, serial 581134.

5.   The Central Processor Unit for the Telecom Comrnander D72 is a CPU-D-B, serial **581/35.**
        It does not incorporate a disk drive unit, the system program and DEFAULT customer data is held in ROM.

        Customer Data is retained in the battery backed up RAM.

IMPORTANT NOTE

If a Cold Start is implemented, any existing Customer Data will be lost and **Default** Customer Data will be loaded.

   ANY CUSTOMER DATA WILL HAVE TO BE MANUALLY RELOADED

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6.   The Power Fail Filter Unit for the Telecom Comman der D72 is a FUPF-D-A, serial 58 I **/36.**

7.   Commands 0001 - Customer Data Save, and 0002 - System Data Load do not apply to the Telecom Commander D72 as there is no disk drive.

ISDN

Refer to Chapter 9 **- ISDN** for Integrated Services Digital Network procedures associated with the Telecom Commander D72. In addition the following notes also apply.

1. There is no integral SDF or SDF Filter Unit cabling.

2. All connections from filter units are cabled to an external **IDF/MDF.**

Parts Serial Item and Code List

Main Equipment
Serial 581

ITEM & CODE	DESCRIPTION	REMARKS
32 ME-D-C	Main Equipment	Includes PBA shelf.
33 PS-D-B	Power Supply	Power Supply for the Main Equipment.
34 RGU-D-B	Ring Generator Unit	Generates ring for single line telephones. The unit is mounted in the Main Equipment.
36 FUPF-D-A	Power Fail Filter Unit	Provides for the connection of 8 exchange lines to standard telephones under power fail conditions. Provides filtering and surge protection for 8 exchange lines.
35 CPU-D-B	Central Processor Unit	Performs the processing and control functions.
12 ASB-D-A	Analogue Station Board (8 ccts)	Interfaces to 8 single line telephones.
16 CB-D-A/CB-D-B	Conference Board	Provides the conference facility. CB-D-B will supersede CB-D-A.
17 DSEPB-D-A	Door Station/Ext. Paging Board	Interfaces to door stations, external paging units and fax/alarm sensors.
18 IPRB-D-A	ISDN Primary Rate Board	Interfaces to 1 ISDN Primary Rate Access (30 channels).
19 IBRSB-D-A	ISDN Basic Rate / S Bus Board	Interfaces to 2 ISDN Basic Rate Accesses (2 channels each, 4 channels total).
20 FUEL-D-B	ELB Filter Unit (8 ccts)	Provides filtering and surge protection for 8 exchange lines.
21 FUS-D-B	ASB/DSB/DSEPB Filter Unit (16 ccts)	Provides filtering and surge protection for single line telephones, keystations, door stations/external paging units, Fax/alarm sensors.
22 DSB-D-B	Digital Station Board (16 ccts)	Interfaces to 16 digital keystations.
23 ELB-D-B	Exchange Line Board (8 ccts)	Interfaces to 8 exchange lines.
25 DSB-D-C	Digital Station Board (8 ccts, DSB-D-B sub equipped)	Interfaces to 8 digital keystations.
26 ELB-D-C	Exchange Line Board (4 ccts, ELB-D-B sub equipped)	Interfaces to 4 exchange lines.
27 FUEL-D-C	ELB Filter Unit (4 ccts, FUEL-D-B sub equipped)	Provides filtering and surge protection for 4 exchange lines.
28 FUS-D-C	ASB/DSB/DSEPB Filter Unit (8 ccts, FUS-D-B sub equipped)	Provides filtering and surge protection for single line telephones, keystations, door stations/external paging units, Fax/alarm sensors.

ITEM & CODE	DESCRIPTION	REMARKS
29 PMB-D-A	Pooled Modem Board	Provides 4 modem circuits.
30 MPB-D-A	50Hz Meter Pulse Detection Board (8 ccts)	Daughter board for ELB-D-B. Does not require a separate board slot.
31 FUCPU-D-B	CPU Filter Unit (4 ccts)	Filters MOH/BGM. Also used with IPRB-D-A and IBRSB-D-A.
37 MPB-D-B	12KHz Meter Pulse Detection Board	Daughter board for ELB-D-B. Does not require a separate board slot.
38 CDB-D-B	Conf, DTMF DT Detect Board	Provides the conference facility plus DTMF receivers and Dial Tone Detect circuits.
39 DB-D-B	DTMF DT Detect Board	Provides DTMF receiver and Dial Tone Detect circuits.

Stations
Serial 581

ITEM & CODE	DESCRIPTION	REMARKS
41 **TS-D-16S**	16 Key Standard Station	Digital keystation with 16 line keys and no display.
42 **TS-D-32S**	32 Key Standard Station	Digital keystation with 32 line keys and no display.
43 TS-D-16E	16 Key Exec Station	Digital keystation with 16 line keys and 2 line LCD display.
44 TS-D-16E-DC1	16 Key Exec Station with DCI	Digital keystation with 16 line keys, 2 line LCD display and Data Communications Interface.
45 TS-D-32E	32 Key Executive Station	Digital keystation with 32 line keys and 2 line LCD display.
46 TS-D-32E-DC1	32 Key Exec Station with DCI	Digital keystation with 32 line keys, 2 line LCD display and Data Communications Interface.
47 TS-D-32P	32 Key Premium Station	Digital keystation with 32 line keys and 8 line LCD display.
48 TS-D-32P-DC1	32 Key Premium Station with DCI	Digital keystation with 32 line keys, 8 line LCD display and Data Communications Interface.
49 DSS-D-96	96 Key DSS Console	Operator console for use with Executive or Premium keystations.
51 DCI-D	Stand Alone DCI Unit	Stand alone Data Communications Interface (requires 1 digital station port).
52 DCIK-D	Station DCI Kit	Used to upgrade an Executive or Premium keystation to include a DCI. Consists of a DCI board mounted on a keystation base.

Miscellaneous
Serial 581

ITEM & CODE	DESCRIPTION	REMARKS
71 LC-D	Station Line Cord (Modular Plug)	Spare line cord for digital keystations (with modular plug both ends).
72 CDSS-D	DSS Cord	Spare line cord for DSS.
73 HS-D	Handset with Cord	Spare handset and cord for digital keystations.
74 **LP-D-16S**	Label Pack (inc. plastic cover) **16S**	5 spare sets of paper labels plus 1 set of plastic panels for 16 line key Standard keystation.
75 **LP-D-32S**	Label Pack (inc. plastic cover) **32S**	**5** spare sets of paper labels plus 1 set of plastic panels for 32 line key Standard keystation.
76 LP-D-16E	Label Pack (inc. plastic cover) **16E**	5 spare sets of paper labels plus 1 set of plastic panels for 16 line key Executive keystation.
77 LP-D-32E	Label Pack (inc. plastic cover) 32E	5 spare sets of paper labels plus 1 set of plastic panels for 32 line key Executive keystation.
78 LP-D-32P	Label Pack (inc. plastic cover) 32P	5 spare sets of paper labels plus 1 set of plastic panels for Premium keystations.
79 LP-D-DSS	Label Pack (inc. plastic cover) DSS	5 spare sets of paper labels plus 1 set of plastic panels for DSS consoles.

Documents
Serial 581

ITEM & CODE	DESCRIPTION	REMARKS
100￼DOC-D-IM	I & M Manual (Telecom Use)	Installation and Maintenance Manual (for Telecom use).
101￼DOC-D-IM-C	I & M Manual (Customer Use)	Installation and Maintenance Manual (for non-Telecom use).
102￼DOC-D-SB	Sales Brochure	Sales aid brochure providing customer information on product.
103￼DOC-D-PRSM	Product Sales Reference Manual	Sales aid manual providing product details/customer benefits, etc., for use by the sales force.
104￼DOC-D-UC-S/E	User Guide STD/EXEC	User Guide for Standard and Executive keystations.
105￼DOC-D-UC-DSS	User Guide DSS	User Guide for DSS console.
106￼DOC-UC-P	User Guide Premium	User Guide for Premium keystation.
107￼DOC-D-UC-SLT	User Guide Single Line Telephone	User Guide for Single Line Telephones.
108￼DOC-D-SAM	System Administration Manual	System Administrators Manual.
111￼DOC-D-UC-DATA	Station User Guide - Data	User Guide for the Data Communications Interface.

Related items NOT in
Serial 581

SERIAL, ITEM & CODE	DESCRIPTION	REMARKS
3381860￼DS-BN	Door Station	Door station for use with Telecom Commander D.
546/21￼WMK-E	Wall Mounting Kit	Provides wall mounting for keystations. Use with modular socket 546/23 or 546/24.
30/211 or￼550/204	TF200 Line cord	Spare line cord with 600 series plug.
818/32￼DOC-D-SOF	System Order Forms	Order forms and programming sheets for Commander D and new systems.
818147	Expansion Order Form	Order forms for Commander D expansions.

System Signals and Tones

Refer to Appendix B - **System Signals and Tones** for signals and tones associated with the Telecom Commander D72.

Station Message Details Recording

Refer to Appendix C - **Station Message and Details Recording (SMDR)** for Message Detail Recording associated with the Telecom Commander D72.

System Order Forms

Refer to Appendix D - **System Order Forms** for information associated with detailing the Telecom Commander D72, and Page 10 - 2 for the system capacity

Alarm Reports

Refer to Appendix E - **Alarm Reports** for alarms associated with the Telecom Commander D72.

Appendix A
Parts Serial Item and Code List

Main Equipment   Serial 581

ITEM & CODE	DESCRIPTION	REMARKS
1 ME-D-B	Main Equipment	Includes PBA shelf, SDF (less Krone strips), Alarm Pane1 and Switchbox. Supersedes ME-D-A.
2 EC-D-B	Expansion Cabinet	Provides expansion PBA shelf and SDF (less Krone strips). To be used with Item 1. Supersedes EC-D-A.
3 PS-D-A	Power Supply	Power Supply for the Main Equipment.
4 EPS-D-A	Expansion Power Supply	Power Supply for the Expansion Cabinet
5 RGU-D-A	Ring Generator Unit	Generates ring for single line telephones. The unit is mounted in the Main Equipment.
6 FUEL-D-A	ELB Filter Unit (4 ccts)	Provides filtering and surge protection for 4 exchange lines.
7 FUS-D-A	ASB/DSB/DSEPB Filter Unit (8 ccts)	Provides filtering and surge protection for single line telephones, keystations, door stations/external paging units, Fax/alarm sensors.
8 PFB-D-A	Power Fail Board	Provides for the connection of 8 exchange lines to standard telephones under power fail conditions.
9 FUCPU-D-A	CPU Filter Unit (4 ccts)	Provides filtering for external MOH and Background Music. Also used with IPRB-D-A and IBRSB-D-A.
10 CPU-D-A	Central Processor Unit	Includes floppy disk drive.
11 DSB-D-A	Digital Station Board (8 ccts)	Interfaces to 8 digital keystations.
12 ASB-D-A	Analogue Station Board (8 ccts)	Interfaces to 8 single line telephones.
13 ELB-D-A	Exchange Line Board (4 ccts)	Interfaces to 4 exchange lines.
14 CBD–D–A	Conference, Receiver, Dial Tone Detect Board	Provides the conference facility plus DTMF receivers and Dial Tone Detect circuits.
15 DB-D-A	DTMF Receiver, Dial Tone Detect Board	Provides DTMF receiver and Dial Tone Detect circuits.
16 CB-D-A/CB-D-B	Conference Board	Provides the conference facility. CB-D-B will supersede CB-D-A.
17 DSEPB-D-A	Door Station/Ext. Paging Board	Interfaces to door stations, external paging units and fax/alarm sensors.

ITEM & CODE	DESCRIPTION	REMARKS
18 IPRB-D-A	ISDN Primary Rate Board	Interfaces to 1 ISDN Primary Rate Access (30 channels).
19 IBRSB-D-A	ISDN Basic Rate / S Bus Board	Interfaces to 2 ISDN Basic Rate Accesses (2 channels each, 4 channels total).
20 FUEL-D-B	ELB Filter Unit (8 ccts)	Provides filtering and surge protection for 8 exchange lines.
21 FUS–D–B	ASB/DSB/DSEPB Filter Unit (16 ccts)	Provides filtering and surge protection for single line telephones, keystations, door stations/external paging units, Fax/alarm sensors.
22 DSB-D-B	Digital Station Board (16 ccts)	Interfaces to 16 digital keystations.
23 ELB-D-B	Exchange Line Board (8 ccts)	Interfaces to 8 exchange lines,
25 DSB-D-C	Digital Station Board (8 ccts, DSB-D-B sub equipped)	Interfaces to 8 digital keystations. Supersedes DSB-D-A.
26 ELB-D-C	Exchange Line Board (4 ccts, ELB-D-B sub equipped)	Interfaces to 4 exchange lines. Supersedes ELB-D-A.
27 FUEL–D–C	ELB Filter Unit (4 ccts, FUEL-D-B sub equipped)	Provides filtering and surge protection for 4 exchange lines. Supersedes FUEL-D-A. Compatible with all but very early Main Equipment
28 Fus-D-c	ASB/DSB/DSEPD Filter Unit (8 ccts, FUS-D-B sub equipped)	Provides filtering and surge protection for single line telephones, keystations, door stations/external paging units, Fax/alarm sensors. Supersedes FUS-D-A. Compatible with all but very early Main Equipment.
29 PMB-D-A	Pooled Modem Board	Provides 4 modem circuits.
30 MPB-D-A	50Hz Meter Pulse Detection Board (8 ccts)	Daughter board for ELB-D-B. Does not require a separate board slot.
31 FUCPU-D-B	CPU Filter Unit (4 ccts)	Filters MOH/BGM. Also used with IPRB-D-A and IBRSB-D-A. Compatible with all but very early Main Equipment.
37 MPB-D-B	12KHz Meter Pulse Detection Board	Daughter board for ELB-D-B. Does not require a separate board slot.
38 CDB-D-B	Conf, DTMF DT Detect Board	Provides the conference facility plus DTMF receivers and Dial Tone Detect circuits. Supersedes CBD-D-A.
39 DB-D-B	DTMF DT Detect Board	Provides DTMF receiver and Dial Tone Detect circuits. Supersedes DB-D-A.

Stations   Serial 581

ITEM & CODE	DESCRIPTION	REMARKS
41 **TS–D–16S**	16 Key Standard Station	Digital keystation with 16 line keys and no display .
42 **TS–D–32S**	32 Key Standard Station	Digital keystation with 32 line keys and no display.
43 TS-D-16E	16 Key Exec Station	Digital keystation with 16 line keys and 2 line LCD display.
44 TS-D-16E-DC1	16 Key Exec Station with **DCI**	Digital keystation with 16 line keys, 2 line LCD display and Data Communications Interface.
45 TS-D-32E	32 Key Executive Station	Digital keystation with 32 line keys and 2 line LCD display.
46 TS-D-32E-DC1	32 Key Exec Station with **DCI**	Digital keystation with 32 line keys, 2 line LCD display and Data Communications Interface.
47 TS-D-32P	32 Key Premium Station	Digital keystation with 32 line keys and 8 line LCD display.
48 TS-D-32P-DC1	32 Key Premium Station with **DCI**	Digital keystation with 32 line keys, 8 line LCD display and Data Communications Interface.
49 DSS-D-96	96 Key DSS Console	Operator console for use with Executive or Premium keystations.
51 DCI-D	Stand Alone **DCI** Unit	Stand alone Data Communications Interface (requires 1 digital station port).
52 DCIK-D	Station **DCI** Kit	Used to upgrade an Executive or Premium keystation to include a DCI. Consists of a **DCI** board mounted on a keystation base.

Miscellaneous   Serial 581

ITEM & CODE	DESCRIPTION	REMARKS
53 BBUM-D-A	Battery Back Up Pack – Medium	12 Volt, 6-5AH battery for basic battery back-up (4 required).
54 BBUL-D-A	Battery Back Up Pack – Large	12 Volt, 15-17AH battery for larger capacity battery back-up (4 required).
56 BCSM-D-A	Battery Cable Set-Medium	For use with BBUM-D-A
57 BCSL-D-A	Battery Cable Set-Large	For use with BBUL-D-A
71 LC-D	Station Line Cord (Modular **Plug)**	Spare line cord for digital keystations (with modular plug both ends).
72 CDSS-D	DSS Cord	Spare line cord for DSS.
73 HS-D	Handset with Cord	Spare handset and cord for digital keystations.
74 **LP–D–16S**	Label Pack (inc. plastic cover) **16S**	5 spare sets of paper labels plus 1 set of plastic panels for 16 line key Standard key station.
75 **LP–D–32S**	Label Pack (inc. plastic cover) **32S**	5 spare sets of paper labels plus 1 set of plastic panels for 32 line key Standard keystation.
76 LP-D-16E	Label Pack (inc. plastic cover) 16E	5 spare sets of paper labels plus 1 set of plastic panels for 16 line key Executive keystation.
77 LP-D-32E	Label Pack (inc. plastic cover) 32E	5 spare sets of paper labels plus 1 set of plastic panels for 32 line key Executive keystation.
78 LP-D-32P	Label Pack (inc. plastic cover) 32P	5 spare sets of paper labels plus 1 set of plastic panels for Premium keystations.
79 LP-D-DS S	Label Pack (inc. plastic cover) DSS	5 spare sets of paper labels plus 1 set of plastic panels for DSS consoles.
80 SDF/FUS-D-A	Cable, SDF to Filter Unit (1 x 8 pair)	Pre-terminated cable (Krone **strip/DDK** type connectors).
81 **SDF/FU2** x4-D-A	Cable, SDF to Filter Unit (2x4 pair)	Pre-terminated cable (Krone **strip/DDK** type connectors).
82 **SDF/FU4–D–A**	Cable, SDF to Filter Unit **(1 $\times$ 4 pair)**	Pre-terminated cable (Krone **strip/DDK** type connectors).
84 PF/FU-D-A	Cable, PFB to Filter **(1 $\times$ 8 pair)**	Pre-terminated cable (DDK type connectors both ends).

Documents

Serial 581

ITEM & CODE	DESCRIPTION	REMARKS
100 DOC-D-IM	I & M Manual (Telecom Use)	Installation and Maintenance Manual (for Telecom use).
101 DOC-D-IM-C	I & M Manual (Customer Use)	Installation and Maintenance Manual (for non-Telecom use).
102 DOC-D-SB	Sales Brochure	Sales aid brochure providing customer information on product.
103 DOC-D-PRSM	Product Sales Reference Manual	Sales aid manual providing product details/customer benefits, etc., for use by the sales force.
104 DOC-D-UG-S/E	User Guide STD/EXEC	User Guide for Standard and Executive keystations.
105 DOC-D-UG-DS S	User Guide DSS	User Guide for DSS console.
106 DOC-UG-P	User Guide Premium	User Guide for Premium keystation.
107 DOC-D-UG-SLT	User Guide Single Line Telephone	User Guide for Single Line Telephones.
108 DOC-D-SAM	System Administration Manual	System Administrators Manual.
111 DOC-D-UG-DATA	Station User Guide — Data	User Guide for the Data Communications Interface.

Related items NOT in Serial 581

SERIAL, ITEM & CODE	DESCRIPTION	REMARKS
3381860 DS-BN	Door station	Door station for use with Telecom Commander D.
546/21 WMK-E	Wall mounting kit	Provides wall mounting for keystations. Use with modular socket 546/23 or 546/24.
30/211 or 550/204	TF200 Line cord	Spare line cord with 600 series plug.
818/32 DOC-D-SOF	System Order Forms	Order forms and programming sheets for Commander D and new systems.
818/47	Expansion Order Form	Order forms for Commander D expansions.

Appendix B
System Signals and Tones

Station Signals

Ring

External line (Normal)	1 Sec ON/2 Sec OFF
External line (Special)	0.4 Sec ON/0.4 Sec OFF/ 0.4 Sec ON/1.8 Sec OFF
Intercom	0.4 Sec ON/0.6 Sec OFF
Call Back	0.3 Sec ON/0.3 Sec OFF
Clock alarm	0.2 Sec ON/0.2 Sec OFF/ 0.2 Sec ON/0.4 Sec OFF
Sensor alarm 1	0.2 Sec ON/0.2 Sec OFF
Sensor alarm 2	0.5 Sec ON/0.5 Sec OFF
Sensor alarm 3	0.7 Sec ON/0.7 Sec OFF
Sensor alarm 4	1 Sec ON/1 Sec OFF

Tones

Dial	400 Hz Continuous
Special dial	400 Hz 0.9 Sec ON/O. 1 Sec OFF
Ring Back	5 80 Hz/20 Hz 0.5 Sec ON/l Sec OFF
Busy	400 Hz 0.5 Sec ON/O.5 Sec OFF
Do Not Disturb	400 Hz 0.2 Sec ON/O.2 Sec OFF
Warning	400 Hz 0.1 Sec ON/0.1 Sec OFF
Splash	800 Hz 0.1 Sec ON
Function refuse	800 Hz 1 Sec ON
Confidence	440 Hz 0.1 Sec ON
Lock Out	800 Hz 0.1 Sec ON/O. 1 Sec OFF
Door 1	Ringer 1
Door 2	Ringer 2
Door 3	Ringer 3
Door 4	Ringer 4

Keystation LED functions

Two-colour LED indications are used in the line keys :

RED: In-use at another station, on-hold at another station, incoming call.

GREEN: In-use at this station, on-hold at this station, call–back.

Single colour LED indications are used in the function keys:

RED: Function key in use

LED Indications

FUNCTION KEYS	LED STATUS	DESCRIPTION
[Line Keys]	SLOW FLASH – RED	Incoming call
	MEDIUM FLASH -RED	Line ON HOLD at another station
	FAST FLASH – GREEN	Line ON HOLD
	MEDIUM FLASH – GREEN	Exclusive HOLD
	STEADY – GREEN	In use at this station
	STEADY – RED	In use at another station
	SLOW FLASH – GREEN	Call Back
[Call 1], [Call 2] Keys	FAST FLASH	Intercom call, Exchange call, Recall
	MEDIUM FLASH	Intercom HOLD
	STEADY	Intercom in use
[DND]	STEADY	DND activated
	SLOW FLASH	DND at secretary station
[Mute]	OFF	Microphone ON
	STEADY	Microphone OFF
[Speaker]	STEADY	Speaker ON
	OFF	Speaker OFF
[DSS]	OFF	Idle
	FAST FLASH	DND
	STEADY	Busy
[MW]	FAST FLASH	Received
	MEDIUM FLASH	Setting station

Keystation programmable keys

FUNCTION KEY ASSIGNMENT	LED STATUS	DESCRIPTION
[Call Back]	STEADY	Call Back activated
[Divert]	FAST FLASH	Diverted station
	MEDIUM FLASH	Divert setting station
[Follow me]	FAST FLASH	Destination station
	MEDIUM FLASH	Originating station
[Monitor]	FASTFLASH	Monitored station
	MEDIUM FLASH	Monitoring station
[Conference]]	STEADY	In use
[Night]	OFF	Day
	STEADY	Night 1
	MEDIUM FLASH	Night 2
[Line Access]	STEADY	In use
[Pick up]	STEADY	In use
[Paging]	STEADY	In use
[Muted]	STEADY	Muted
[BUZZ]	STEADY	Buzzing station
	FAST FLASH	Buzzed station
[Bypass Call]	STEADY	In use
[Break In]	STEADY	In use
[Message Wait]	STEADY	In use
[Text Message]	STEADY	In use
[Headset]	STEADY	In headset mode
[Meet Me]	STEADY	In use
[Call For]	FAST FLASH	Incoming
[Data]	FAST FLASH	Incoming
	MEDIUM FLASH	Calling
	STEADY	In communication

DSS Visual Indications

FUNCTION KEY	LED STATUS	DESCRIPTION
[Page]	OFF	Idle
	STEADY	Page in progress (from this console)
	FLASH	Incoming page announcement (for the zone within which this console is situated)
[All Call]	OFF	Idle
	STEADY	Page in progress
[Int All]	OFF	Idle
	STEADY	Page in progress
[Night]	OFF	Idle
	STEADY	Night transfer invoked
[Normal]	OFF	DSS in data mode
	STEADY	DSS in normal mode
[Data]	OFF	DSS in normal mode
	STEADY	DSS in data mode
[Off Duty]	OFF	Idle
	STEADY	In off-duty mode, functions transferred to back-up DSS position
[Door 1] to [Door 4]	OFF	Idle
	STEADY	In communication with door station
	FLASH	Incoming door station call
ALARM LED	STEADY	Minor system fault condition
	FLASH	Major system fault condition

DSS Keys – Multi operation

Normal operation

FUNCTION KEY	LED STATUS	DESCRIPTION
DSS	OFF	Station idle
	STEADY	Station busy
	FAST FLASH	Station in DND

Data operation

FUNCTION KEY	LED STATUS	DESCRIPTION
DSS Key LED	OFF	Station without DCI or terminal not ready
	SLOW FLASH	Terminal ready
	STEADY	Terminal busy
	FAST FLASH	Terminal called (waiting connection)

Page operation (Keys 89 – 96 only)

FUNCTION KEY	LED STATUS	DESCRIPTION
DSS Key LED	OFF	Page zone idle
	STEADY	Page zone busy

Appendix C
Station Message Details Recording (SMDR)

Appendix C
Station Message Details Recording
(SMDR)

General Description

The SMDR provides call record printouts via a DCI to an associated printer. Details may then be used by a Telephone Information Management System (TIMS) for more comprehensive call reporting. Up to 55 call details may appear on each printout page.

The current date is printed on the top right hand side of each page of the printout, followed by the page number. The date is displayed in the format DD/MM/YY, and the page number is displayed sequentially from 001 to 999. At midnight, the SMDR prints the new date on the right hand side of the current line of the printout. The next call record is then printed on the following line.

On a system restart, the date and page number are printed on a new page, prior to the first call being recorded. Whenever the SMDR printer is switched on or reconnected to its DCI, the date and the next sequential page number are printed on a new page. Any calls stored in the SMDR buffer while the printer is disconnected will be recorded after the date and page number. If the buffer becomes full, the information in the buffer is then recorded followed by normal call recording. The buffer can store 300 rows of information.

Printout format

The format of the SMDR printout is as follows:

NOTE: The column headings used on the printout are shown in brackets.

Column 1

Call Number

The number of calls recorded is printed sequentially from 01 to 55 on each page.

Column 2 (CLASS)

Class of Call

The type of call is recorded as below:

PSTN Incoming call	PIN
PSTN Outgoing call	POT
ISDN Incoming Voice call	IVIN
ISDN Outgoing Voice call	IVOT
ISDN Incoming Data call	IDIN
ISDN Outgoing Data call	IDOT
Internal Data call	SDTA
All Pooled Modems Busy	APMB
All Rate Adaption units Busy	ARAB
All Exchange Lines Busy	ALB
Barred Outgoing call	BRD
Buffer Full	BFL

NOTE: If the printer is out of service for a lengthy period of time, the SMDR buffer may become full and new calls are unable to be recorded. If so, the number of calls for which information is lost is printed out on an hourly basis when the printer is reconnected.

Column 3 (TIME)

Time of call

Indicates the time of call in hours and minutes (24-hour format).

Column 4 (LINE)

Line number or identity

Indicates the line number or its 8 character identity (if programmed) used for the outgoing or incoming call.

Column 5 (DURATION)

Duration of call

Indicates the duration of the call in hours, minutes and seconds.

**Column 6
(STATION0**

Station number or identity

Indicates the number or identity (if programmed) of the station that made the
call.

**Column 7
(DIALLED NO.CLI)**

Dialled number/Calling line identification

The number **dialled** on outgoing calls, or the identification of a calling party
on incoming ISDN calls is indicated in this column. A maximum of 20 digits
will be printed. The last two digits of an outgoing number **dialled** will be
either printed or replaced with 'XX' to maintain privacy requirements. This
is an option programmable at the 'System Administrator' level.

**Column 8
(RD/COST)**

Ring duration/Cost of call

Indicates the duration of ring tone before an incoming call is answered. The
time is indicated in minutes and seconds, to a maximum of **9:59** minutes.
The SMDR is be able to record the ring duration of unanswered calls.
Recording the ring duration of unanswered calls is an option programmable
at the 'System Administrator' level. If this option is invoked, the words 'NO
ANSWER' will appear in column 9, in place of the account code. No station
number is recorded.

**Column 9
(ACCOUNT)**

Account code

If an account code is entered during a conversation, the number is indicated
here. The code may be up to 8 digits long.

Options

The following options are available for the SMDR printout. These are
programmable at the 'System Administrator' level:

• Exemption of certain lines from call details recording.

• Exception of certain stations from call details recording.

• Account codes may be compulsory, optional or not available.

• Printouts of calls to a parent PABX are optional.

• Printouts for barred calls are optional.

• Printouts for internal data calls are optional.

• Printouts for calls exceeding one minute's duration only.

• Printouts for calls exceeding a specified number length only.

Malicious Call Trace Recording (ISDN)

Advice of a malicious call trace activated from a station will be recorded by the SMDR on a separate line, with the following format:

- The time is recorded in Column 3.

- The line number or identity is recorded in Column 4.

- The station number or identity is recorded in Column 6.

- The words 'MALICIOUS CALL TRACE' is printed in the 'number dialled' column (Column 7) of the printout.

- All other columns remain blank.

Summary Printouts

The system can be programmed to provide any or all of the following summary printouts:

Daily (Printed out at midnight)

```
OUTGOING CALL
FOR DAY OF DD/MM/YY

    TOTAL NO.  OF OUTGOING PSTN CALLS:
    TOTAL NO.  OF OUTGOING ISDN CALLS:
```

Weekly (Printed out at midnight on Saturday)

```
OUTGOING CALL
FOR WEEK ENDING DD/MM/YY

    TOTAL NO.  OF OUTGOING PSTN CALLS:
    TOTAL NO.  OF OUTGOING ISDN CALLS:
```

Monthly (Printed out at midnight on the last day of the month)

```
OUTGOING CALL
FOR MONTH ENDING DD/MM/YY

    TOTAL NO.  OF OUTGOING PSTN CALLS:
    TOTAL NO.  OF OUTGOING ISDN CALLS:
```

Appendix D
System Order Forms
User Guide

STATION DETAILS

			.0502		.1005		.1001						.1003			.1002			.1008			.1009	.1010		.0907		.0911		
STN PORT	STN TENANT NO.	STN TYPE	STATION NUMBER & NAME		STATION GROUP		STATION TYPE						STATION CLASS OF SERVICE			STATION RESTRICT CLASS			STATION OPTIONS			Class 5,10 Customised only	Secr. Port Assign	1. Command 0907 is to be entered after 0905 (Page 3) and 0906 (Page 5).	EXCH LINE ROUTE FOR STATION		EXCH LINE ACCESS MAP ASSIGN		
	(1)		Compulsory Fields (No default data)				Keystation			Single Line Telephone																			
		Station Type	Station Number	Station Name ########	Stn Group (0)	Seq. Number	.1 Stn Type (0)	.2 Exch Ring (2)	.3 Intm Ring (2)	.1 Dial Type (0)	.3 Loop Current (0)	.4 Codec Gain (1)	Day (9)	Nit 1 (9)	Nit 2 (9)	Day (1)	Nit 1 (1)	Nit 2 (1)	.1 SMDR Print (1)	.2 ICM Auto Seize (1)	.3 Exch Auto Seize (0)	Break in Level (1)	(0)		Stn (1)	DCI (0)	Day (1)	Nit 1 (1)	Nit 2 (1)
01																													
02																													
03																								2. Command 0911 is to be entered after 0910 (Page 4).					
04																													
05																													
06																													
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Bottom reference row:

1=Ten 1 2=Ten 2 3=Ten 3 4=Ten 4	P=Premium E16=Exec16 E32=Exec32 S16=Stand16 S32=Stand32 SLT=2W Analog PD=Prem+DCI E16D=E16+DCI E32D=E32+DCI +DSS=+DSS Cns SDCI=Standalone DCI	Range 100-499	Maximum of 8 alphanumeric characters	Enter Grp No. 1 - 10	Enter Seq No. 1 - 96	0 = Keystn 1 = SDCI	Pitch 1 = High 2 = Medium 3 = Low	0 = Dec 1 = DTMF	0 = 20mA 1 = 35mA	1=Type 1 2=Type 2 3=Type 3 4=Type 4 5=Type 5	Enter Stn COS 1-15	1=No restriction 2=Barred IDD 3=Limited IDD, STD 4=Barred IDD, STD 5=PABX calls only 6=Intercom calls	0=No 1=Yes	0=No 1=Yes	0=No 1=Yes	0=None 1=All 2=ICM 3=Ring	Enter Secr. Port No. 01-96

Enter Exch Route No. 1-40 0=Not Ass. (See Notes Page 3)

Enter Exch Access Map No. 1-80 (See Notes Page 3)

| Ref .0503 .1401 Page 8 | For SLT Only | Tech to assign | Ref .0406 Page 13 | Ref .0701 Page 12 | Ref .0403 Page 14 | Ref .0406 Page 13 .1003 Page 2 | | Ref .0906 Page 5 | Ref .0910 Page 4 |

STATION DETAILS

System Order No. (Service Plus)

TT Order No.

	.1004 STN TENANT NO (1)	.0502 STN TYPE — Station Type	STATION NUMBER & NAME — Compulsory Fields (No default data) — Station Number	Station Name ########	.1005 STATION GROUP — Stn Group	Seq Number	.1001 STATION TYPE — Keystation .1 Stn Type (0)	2 Exch Ring (2)	3 Intm Ring (3)	Single Line Telephone .1 Dial Type (0)	.3 Loop Current (0)	.4 Codec Gain (1)	.1003 STATION CLASS OF SERVICE Day (9)	Nit 1 (9)	Nit 2 (9)	.1002 STATION RESTRICT CLASS Day (1)	Nit 1 (1)	Nit 2 (1)	STATION OPTIONS .1 SMDR Print (1)	.2 ICM Auto Seize (1)	.3 Exch Auto Seize (0)	.1009 Class 5, 10 or Customised only Break in Level (1)	.1010 Secr. Port Assign (0)	.0907 EXCH LINE ROUTE FOR STATION Stn (1)	DCI (0)	.0911 EXCH LINE ACCESS MAP ASSIGN Day (1)	Nit 1 (1)	Nit (1
STN PORT																									
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Command 0907 is to be entered after 0905 (Page 3) and 0906 (Page 5)

2. Command 0911 is to be entered after 0910 (Page 4).

Bottom reference row:

- 1=Ten 1, 2=Ten 2, 3=Ten 3, 4=Ten 4
- P=Premium, E16=Exec16, E32=Exec32, S16=Stand16, S32=Stand32, SLT=2W Analog, PD=Prem+DCI, E16D=E16+DCI, E32D=E32+DCI +DSS=+DSS Cns, SDCI=Standalone DCI
- Range 100-499
- Maximum of 8 alphanumeric characters — See also .1101, 1102 and 1103 DSS Port Console, Page 7 and 11
- Enter Grp No. 1 - 10 — Ref .0503 .1401 Page 8
- Enter Seq No. 1 - 96
- 0 = Keystn, 1 = SDCI
- Pitch: 1 = High, 2 = Medium, 3 = Low
- 0 = Dec, 1 = DTMF — For SLT Only
- 0 = 20mA, 1 = 35mA — Tech to assign
- 1=Type 1, 2=Type 2, 3=Type 3, 4=Type 4, 5=Type 5
- Enter Stn COS 1-15 — Ref .0406 Page 13
- 1=No restriction, 2=Barred IDD, 3=Limited IDD, STD, 4=Barred IDD, STD, 5=PABX calls only, 6=Intercom calls — Ref .0701 Page 12
- 0=No, 1=Yes — Ref .0403 Page 14
- 0=No, 1=Yes
- 0=No, 1=Yes
- 0=None, 1=All, 2=ICM, 3=Ring — Ref .0406 Page 13 .1003 Page 2
- Enter Secr Port No 01-96
- Enter Exch Route No. 1-40, 0=Not Ass. (See Notes Page 3) — Ref .0906 Page 5
- Enter Exch Access Map No. 1-80 (See Notes Page 3) — Ref .0910 Page 4

STATION DETAILS

System Order No. (Service Plus)

TT Order No.

	.1004 STN TENANT NO (1)	.0502 STN TYPE Station Type	STATION NUMBER & NAME / STATION GROUP — Compulsory Fields (No default data) Station Number	Station Name ########	.1005 Stn Group	Seq. Number	.1001 STATION TYPE — Keystation .1 Stn Type (0)	.2 Exch Ring (2)	.3 Intm Ring (3)	Single Line Telephone .1 Dial Type (0)	.3 Loop Current (0)	.4 Codec Gain (1)	.1003 STATION CLASS OF SERVICE Day (9)	Nit 1 (9)	Nit 2 (9)	.1002 STATION RESTRICT CLASS Day (1)	Nit 1 (1)	Nit 2 (1)	.1008 STATION OPTIONS .1 SMDR Print (1)	.2 ICM Auto Seize (1)	.3 Exch Auto Seize (0)	.1009 Class 5, 10 or Customised only Break in Level (1)	.1010 Secr. Port Assign (0)		.0907 EXCH LINE ROUTE FOR STATION Stn (1)	DCI (0)	.0911 EXCH LINE ACCESS MAP ASSIGN Day (1)	Nit 1 (1)	Nit 2 (1)
STN PORT																					1 Command **0907** is to be entered after 0905 (Page 3) and 0906 (Page 5). 2 Command **0911** is to be entered after 0910 (Page 4).						
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Bottom reference notes:

- **STN TENANT NO:** 1=Ten 1, 2=Ten 2, 3=Ten 3, 4=Ten 4
- **Station Type:** P=Premium, E16=Exec16, E32=Exec32, S16=Stand16, S32=Stand32, SLT=2W Analog, PD=Prem+DCI, E16D=E16+DCI, E32D=E32+DCI, +DSS=+DSS Cns, SDCI=Standalone DCI
- **Station Number:** Range 100-499
- **Station Name:** Maximum of 8 alphanumeric characters. See also .1101, 1102 and 1103 DSS Port Console, Page 7 and 11
- **Stn Group:** Enter Grp No. 1 - 10
- **Seq. Number:** Enter Seq No. 1 - 96. Ref .0503 .1401 Page 8
- **.1 Stn Type:** 0 = Keystn, 1 = SDCI
- **.2 Exch Ring / Pitch:** 1 = High, 2 = Medium, 3 = Low
- **.1 Dial Type:** 0 = Dec, 1 = DTMF. For SLT Only
- **.3 Loop Current:** 0 = 20mA, 1 = 35mA. Tech to assign
- **.4 Codec Gain:** 1=Type 1, 2=Type 2, 3=Type 3, 4=Type 4, 5=Type 5
- **Station COS:** Enter Stn COS 1-15. Ref .0406 Page 13
- **Station Restrict Class:** 1=No restriction, 2=Barred IDD, 3=Limited IDD, STD, 4=Barred IDD, STD, 5=PABX calls only, 6=Intercom calls. Ref .0701 Page 12
- **.1 SMDR Print:** 0=No, 1=Yes. Ref .0403 Page 14
- **.2 ICM Auto Seize:** 0=No, 1=Yes
- **.3 Exch Auto Seize:** 0=No, 1=Yes
- **Break in Level:** 0=None, 1=All, 2=ICM, 3=Ring. Ref 0406 Page 13 .1003 Page 2
- **Secr. Port Assign:** Enter Secr. Port No 01-96
- **Exch Line Route for Station:** Enter Exch Route No. 1-40, 0=Not Ass. (See Notes Page 3). Ref .0906 Page 5
- **Exch Line Access Map Assign:** Enter Exch Access Map No 1-80 (See Notes Page 3). Ref .0910 Page 4

STATION DETAILS

	.1004	.0502		.1005		.1001						.1003	.1002	.1008			.1009	.1010	.0907		.0911		
STN PORT	STN TENANT NO.	STN TYPE	STATION NUMBER & NAME	STATION GROUP		STATION TYPE						STATION CLASS OF SERVICE	STATION RESTRICT CLASS	STATION OPTIONS			Class 5,10 or Customised only	Secr Port Assign	EXCH LINE ROUTE FOR STATION		EXCH LINE ACCESS MAP ASSIGN		

(Large blank data-entry grid, STN PORT rows 73–96)

Legend	
1=Ten 1, 2=Ten 2, 3=Ten 3, 4=Ten 4	P=Premium, E16=Exec16, E32=Exec32, S16=Stand16, S32=Stand32, SLT=2W Analog, PD=Prem+DCI, E16D=E16+DCI, E32D=E32+DCI, +DSS=+DSS Cns, SDCI=Standalone DCI

Range 100-499 | Maximum of 8 alphanumeric characters | Enter Grp No. 1-10 | Enter Seq No. 1-96 | 0 = Keystn 1 = SDCI | Pitch 1=High 2=Medium 3=Low | 0=Dec 1=DTMF | 0=20mA 1=35mA | 1=Type1 2=Type2 3=Type3 4=Type4 5=Type5 | Enter Stn COS 1-15 | 1=No restriction 2=Barred IDD 3=Limited IDD,STD 4=Barred IDD,STD 5=PABX calls only 6=Intercom calls | 0=No 1=Yes | 0=No 1=Yes | 0=No 1=Yes | 0=None 1=All 2=ICM 3=Ring | Enter Secr. Port No. 01-96 | Enter Exch Route No. 1-40 0=Not Ass. | Enter Exch Access Map No. 1-80

See also .1101, 1102 and 1103 DSS Port Console, Page 7 and 11 | Ref .0503 .1401 Page 8 | For SLT Only | Tech to assign | Ref .0406 Page 13 | Ref .0701 Page 12 | Ref .0403 Page 14 | Ref .0406 Page 13 .1003 Page 2 | Ref .0906 Page 5 | Ref .0910 Page 4

Notes: 1. Command 0907 is to be entered after 0905 (Page 3) and 0906 (Page 5). 2. Command 0911 is to be entered after 0910 (Page 4)

Apr '93 Issue 2.1

EXCHANGE LINE PROGRAMMABLE OPTIONS

0904		.0903		.0901 (EXCHANGE LINE TYPE)														.0902	1a. Go to page 4. Exchange Line Access map 0910, and set out all Access Maps required for the system. 1b Insert Exchange Line Access Map numbers into Exchange Line Access Map Assign 0911 fields on page 2 to indicate Station Access to exchange lines. 2a. Go to page 6 I/C Ring Group Assign 0908. and allocate the stations which are to ring for different exchange lines. 2b. Insert Ring Group numbers into Incoming Ring Group Target 0909 fields on page 3 to allocate lines to each ring group. 3a. While on page 3. assign outgoing exchange line groups and their sequence number in Outgoing Exchange Line Group Assignment 0905. 3b. Go to page 5. Routing of Exchange Line Group 0906. and allocate Exchange Line Groups into Exchange Line request routes. 3c. Go to page 2. and allocate Exchange Line Route numbers to stations in Exchange Line Route for stations 0907.	.0909 PSTN only I/C RING GROUP TARGET			.0905 O/G EXCH LINE GROUP	
EXCH PORT	EXCH LINE TENANT NO (1)	SERVICE NUMBER	LINE TYPE (EL)	EXCH LINE NAME (max. 8 alphanumeric)	Tech to Assign 1 Signal Type (1)	3 Codec Gain (1)	4 Music on Hold Source (0)	Tech to Assign 5 PABX Recall (0)	6 Recall Duration (0)	Behind PABX 7 Day (0)	8 Nit 1 (0)	9 Nit 2 (0)	10 Dial Tone Detect (1)	11 Pause (1)	12 SMDR Printout (0)	13 Service Type (0)	14 Access Line (1)	15 Outgoing Restrict (0)	Ringer Type (0)		Day (1)	Nit 1 (1)	Nit 2 (1)	Group No. (1)	Order No. (Seq.)
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02																									
03																									
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	1=Ten 1 2=Ten 2 3=Ten 3 4=Ten 4	Enter exchange service number or PABX extension	IP= ISDN PRA IB= ISDN BRA EL= PSTN Line	Enter name	0=Dec 1=DTMF	1-Type 1 2-Type 2 3-Type 3 4-Type 4 5-Type 5	0=MOH 1=BGM	0=Flash 1=Earth	0=100mS 1=600mS	0=No 1=Yes	0=No 1=Yes	0=No 1=Yes	0=Disable 1=Enable Requires DTD Hardware	0=No 1=Yes	0=Yes 1=No Ref .0403	0=Norm 1-DID 2=DISA 7=Data 1&2 requires DTD Hardware	0=I/C only 1=B/W	0=Yes 1=No Ref .0701 No overrides 0701 on Page 12	0=Type 1 1=Type 2 2=Type 3 3=Type 4		Enter Incoming Ring Group 1-80 (assigned in 0908 Ref .0409 .0410 - Page 16 ISDN Ring Group assignments)			Enter O/G Group 1-80	Enter order of access for, group

EXCHANGE LINE PROGRAMMABLE OPTIONS

Compulsory Fields

System Order No. (Service Plus)

TT Order No.

	.0904	.0903			.0901 EXCHANGE LINE TYPE														.0902	1a. Go to page 4. Exchange Line Access map 0910. and set out all Access Maps required for the system	.0909 PSTN only			.0905	
EXCH PORT	EXCH LINE TENANT NO. (1)	SERVICE NUMBER	LINE TYPE (EL)	EXCH LINE NAME (max. 8 alphanumeric)	.1 Signal Type (1)	.3 Codec Gain (1)	.4 Music on Hold Source (0)	.5 PABX Recall (0)	.6 Recall Duration (0)	.7 Day (0)	.8 Nit 1 (0)	.9 Nit 2 (0)	.10 Dial Tone Detect (1)	.11 Pause (1)	.12 SMDR Printout (0)	.13 Service Type (0)	.14 Access Line (1)	.15 Outgoing Restrict (0)	Ringer Type (0)		I/C RING GROUP TARGET Day(1) Nit 1(1) Nit 2(1)			O/G EXCH LINE GROUP Group No.(1) Order No.(Seq.)	
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22																									
23																									
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Bottom legend row:

1=Ten 1 2=Ten 2 3=Ten 3 4=Ten 4	Enter exchange service number or PABX extension	IP= ISDN PRA IB= ISDN BRA EL= PSTN Line	Enter name	0=Dec 1=DTMF	1-Type 1 2-Type 2 3-Type 3 4-Type 4 5-Type 5	0=MOH 1=BGM	0=Flash 1=Earth	0=100mS 1=600mS	0=No 1=Yes	0=No 1=Yes	0=No 1=Yes	0=Disable 1=Enable	0=No 1=Yes	0=Yes 1=No Ref .0403 Page 14	0=Norm 1-DID 2=DISA 7=Data 1&2 requires DTD Hardware	0=I/C only 1=B/W	0=Yes 1=No Ref .0701 No overrides 0701 on Page 12	0=Type 1 1=Type 2 2=Type 3 3=Type 4

Requires DTD Hardware (under .10 Dial Tone Detect)

1b. Insert Exchange Line Access Map numbers into Exchange Line Access Map Assign 0911 fields on page 2 to indicate Station Access to exchange lines.

2a. Go to page 6 I/C Ring Group Assign 0908. and allocate the stations which are to ring for different exchange lines.

2b. Insert Ring Group numbers into Incoming Ring Group Target 0909 fields on page 3 to allocate lines to each ring group.

3a. While on page 3 assign outgoing exchange line groups and their sequence number in Outgoing Exchange Line Group Assignment 0905.

3b. Go to page 5. Routing of Exchange Line Group 0906. and allocate Exchange Line Groups into Exchange Line request routes.

3c. Go to page 2. and allocate Exchange Line Route numbers to stations in Exchange Line Route for stations 0907.

Enter Incoming Ring Group 1-80 (assigned in 0908 Ref .0409 .0410 - Page 16 ISDN Ring Group assignments)

Enter O/G Group 1-80

Enter order of access for group

EXCHANGE LINE PROGRAMMABLE OPTIONS

DCRIS/Wang Berger Order No. Compulsory Fields

System Order No. (Service Plus)

TT Order No.

.0904		.0903			.0901 EXCHANGE LINE TYPE														.0902	1a.	.0909			.0905	
EXCH PORT	EXCH LINE TENANT NO (1)	SERVICE NUMBER	LINE TYPE (EL)	EXCH LINE NAME (max 8 alphanumeric)	.1 Signal Type (1)	.3 Codec Gain (1)	.4 Music on Hold Source (0)	5 PABX Recall (0)	6 Recall Duration (0)	7 Day (0)	8 Nit 1 (0)	9 Nit 2 (0)	10 Dial Tone Detect (1)	11 Pause (1)	12 SMDR Printout (0)	13 Service Type (0)	14 Access Line (1)	15 Outgoing Restrict (0)	Ringer Type (0)	(notes)	Day (1)	Nit 1 (1)	Nit 2 (1)	Group No. (1)	Order No. (Seq.)
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	1=Ten 1 2=Ten 2 3=Ten 3 4=Ten 4	Enter exchange service number or PABX extension	IP= ISDN PRA IB= ISDN BRA EL= PSTN Line	Enter name	0=Dec 1=DTMF	1-Type 1 2-Type 2 3-Type 3 4-Type 4 5-Type 5	0=MOH 1=BGM	0=Flash 1=Earth	0=100mS 1=600mS	0=No 1=Yes	0=No 1=Yes	0=No 1=Yes	0=Disable 1=Enable Requires DTD Hardware	0=No 1=Yes	0=Yes 1=No Ref 0403 Page 14	0=Norm 1-DID 2=DISA 7=Data 1&2 requires DTD Hardware	0=I/C only 1=B/W	0=Yes 1=No Ref 0701	0=Type 1 1=Type 2 2=Type 3 3=Type 4 No overrides 0701 on Page 12		Enter Incoming Ring Group 1-80 (assigned in 0908 Ref 0409 0410 Page 16 ISDN Ring Group assignments)	Enter O/G Group 1-80	Enter order of access for group	

Notes (right column):
1a. Go to page 4. Exchange Line Access map 0910, and set out all Access Maps required for the system.
1b. Insert Exchange Line Access Map numbers into Exchange Line Access Map Assign 0911 fields on page 2 to indicate Station Access to exchange lines.
2a. Go to page 6 I/C Ring Group Assign 0908, and allocate the stations which are to ring for different exchange lines.
2b. Insert Ring Group numbers into Incoming Ring Group Target 0909 fields on page 3 to allocate lines to each ring group.
3a. While on page 3, assign outgoing exchange line groups and their sequence number in Outgoing Exchange Line Group Assignment 0905.
3b. Go to page 5. Routing of Exchange Line Group 0906, and allocate Exchange Line Groups into Exchange Line request routes.
3c. Go to page 2, and allocate Exchange Line Route numbers to stations in Exchange Line Route for stations 0907.

EXCHANGE LINE PROGRAMMABLE OPTIONS

Compulsory Fields

System Order No (Service Plus

TT Order No.

	.0904	.0903			.0901														.0902	.0909			.0905	
						EXCHANGE LINE TYPE														PSTN only				
							Tech to Assign		Tech to Assign		Behind PABX								Ringer Type	I/C RING GROUP TARGET			O/G EXCH LINE GROUP	
EXCH PORT	EXCH LINE TENANT NO (1)	SERVICE NUMBER	NE TYPE (EL)	EXCH LINE NAME (max. 8 alphanumeric)	1 Signal Type (1)	3 Codec Gain (1)	4 Music on Hold Source (0)	5 PABX Recall (0)	6 Recall Duration (0)	7 Day (0)	8 Nit 1 (0)	9 Nit 2 (0)	10 Dial Tone Detect (1)	11 Pause (1)	12 SMDR Printout (0)	13 Service Type (0)	14 Access Line (1)	15 Outgoing Restrict (0)	(0)	Day (1)	Nit 1 (1)	Nit 2 (1)	Group No. (1)	Order No. (Seq.)
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	1=Ten 1 2=Ten 2 3=Ten 3 4=Ten 4	Enter exchange service number or PABX extension	IP= DN PRA IB= DN BRA EL= TN Line	Enter name	0=Dec 1=DTMF	1-Type 1 2-Type 2 3-Type 3 4-Type 4 5-Type 5	0=MOH 1=BGM	0=Flash 1=Earth	0=100mS 1=600mS	0=No 1=Yes	0=No 1=Yes	0=No 1=Yes	0=Disable 1=Enable Requires DTD Hardware	0=No 1=Yes	0=Yes 1=No Ref .0403 Page 14	0=Norm 1-DID 2=DISA 7=Data 1&2 requires DTD Hardware	0=I/C only 1=B/W	0=Yes 1=No Ref .0701 No overrides 0701 on Page 12	0=Type 1 1=Type 2 2=Type 3 3=Type 4		Enter Incoming Ring Group 1-80 (assigned in 0908 Ref .0409 .0410 - Page 16 ISDN Ring Group assignments)			Enter O/G Group 1-80	Enter order of access for group

Right column instructions:

Go to page 4. Exchange Line Access map 0910, and set out all Access Maps required for the system.

1b
Insert Exchange Line Access Map numbers into Exchange Line Access Map Assign 0911 fields on page 2 to indicate Station Access to exchange lines.

2a.
Go to page 6 I C Ring Group Assign 0908, and allocate the stations which are to ring for different exchange lines.

2b
Insert Ring Group numbers into Incoming Ring Group Target 0909 fields on page 3 to allocate lines to each ring group.

3a
While on page 3, assign outgoing exchange line groups and their sequence number in Outgoing Exchange Line Group Assignment 0905.

3b
Go to page 5. Routing of Exchange Line Group 0906, and allocate Exchange Line Groups into Exchange Line request routes.

3c
Go to page 2, and allocate Exchange Line Route numbers to stations in Exchange Line Route for stations 0907.

EXCHANGE LINE PROGRAMMABLE OPTIONS

	.0904	.0903			.0901																.0902	1a.	.0909			.0905	
					EXCHANGE LINE TYPE																	Go to page 4. Exchange Line Access map 0910. and set out all Access Maps required for the system.	PSTN only				
							Tech to Assign		Tech to Assign		Behind PABX										Ringer Type		I/C RING GROUP TARGET			O/G EXCH LINE GROUP	
EXCH PORT	EXCH LINE TENANT NO (1)	SERVICE NUMBER	LINE TYPE (EL)	EXCH LINE NAME (max. 8 alphanumeric)	.1 Signal Type (1)		.3 Codec Gain (1)	4 Music on Hold Source (0)	.5 PABX Recall (0)	.6 Recall Duration (0)	7 Day (0)	.8 Nit 1 (0)	9 Nit 2 (0)	10 Dial Tone Detect (1)	11 Pause (1)	.12 SMDR Printout (0)	13 Service Type (0)	14 Access Line (1)	15 Outgoing Restrict (0)	(0)	1b Insert Exchange Line Access Map numbers into Exchange Line Access Map Assign 0911 fields on page 2 to indicate Station Access to exchange lines.	Day (1)	Nit 1 (1)	Nit 2 (1)	Group No. (1)	Order No. (Seq.)
61																											
62																						2a. Go to page 6 I/C Ring Group Assign 0908. and allocate the stations which are to ring for different exchange lines.					
63																											
64																											
65																											
66																						2b. Insert Ring Group numbers into Incoming Ring Group Target 0909 fields on page 3 to allocate lines to each ring group.					
67																											
68																											
69																											
70																						3a. While on page 3. assign outgoing exchange line groups and their sequence number in Outgoing Exchange Line Group Assignment 0905.					
71																											
72																											
73																											
74																						3b. Go to page 5. Routing of Exchange Line Group 0906. and allocate Exchange Line Groups into Exchange Line request routes.					
75																											
76																											
77																											
78																											
79																						3c. Go to page 2. and allocate Exchange Line Route numbers to stations in Exchange Line Route for stations 0907.					
80																											
	1=Ten 1 2=Ten 2 3=Ten 3 4=Ten 4	Enter exchange service number or PABX extension	IP= ISDN PRA IB= ISDN BRA EL= PSTN Line	Enter name	0=Dec 1=DTMF		1-Type 1 2-Type 2 3-Type 3 4-Type 4 5-Type 5	0=MOH 1=BGM	0=Flash 1=Earth	0=100mS 1=600mS	0=No 1=Yes	0=No 1=Yes	0=No 1=Yes	0=Disable 1=Enable Requires DTD Hardware	0=No 1=Yes	0=Yes 1=No Ref 0403 Page 14	0=Norm 1-DID 2=DISA 7=Data 1&2 requires DTD Hardware	0=I/C only 1=B/W	0=Yes 1=No Ref 0701 No overrides 0701 on Page 12	0=Type 1 1=Type 2 2=Type 3 3=Type 4			Enter Incoming Ring Group 1-80 (assigned in 0908 Ref .0409 .0410 - Page 16 ISDN Ring Group assignments)			Enter O/G Group 1-80	Enter order of access for group

,0910

DCRIS/Wang Berger Order No.   Compulsory Fields

EXCHANGE LINE ACCESS MAPS

Note: up to 80 Maps may be assigned

System Order No. (Service Plus)

TT Order No.

.1 MAP 1		2 MAP 2		.3 MAP 3		4 MAP 4		.5 MAP 5		.6 MAP 6		.7 MAP 7		8 MAP 8		.9 MAP 9		.10 MAP 10		.11 MAP 11		.12 MAP 12		.13 MAP 13		.14 MAP 14		.15 MAP 15	
EXCH LINE (01-80)	ACCESS TYPE (7)	EXCH LINE (ALL)	ACCESS TYPE (0)	EXCH LINE (ALL)	ACCESS TYPE (0)	EXCH LINE (ALL)	ACCESS TYPE (0)	EXCH LINE (ALL)	ACCESS TYPE (0)	EXCH LINE (ALL)	ACCESS TYPE (0)	EXCH LINE (ALL)	ACCESS TYPE (0)	EXCH LINE (ALL)	ACCESS TYPE (0)	EXCH LINE (ALL)	ACCESS TYPE (0)	EXCH LINE (ALL)	ACCESS TYPE (0)	EXCH LINE (ALL)	ACCESS TYPE (0)	EXCH LINE (ALL)	ACCESS TYPE (0)	EXCH LINE (ALL)	ACCESS TYPE (0)	EXCH LINE (ALL)	ACCESS TYPE (0)	EXCH LINE (ALL)	ACCESS TYPE (0)
Enter Exch Port No 1-80	1=Out 2=I/C 3=Hold 4=1+3 5=2+3 6=1+2 7=All	Enter Exch Port No 1-80	1=Out 2=I/C 3=Hold 4=1+3 5=2+3 6=1+2 7=All	Enter Exch Port No 1-80	1=Out 2=I/C 3=Hold 4=1+3 5=2+3 6=1+2 7=All	Enter Exch Port No 1-80	1=Out 2=I/C 3=Hold 4=1+3 5=2+3 6=1+2 7=All	Enter Exch Port No 1-80	1=Out 2=I/C 3=Hold 4=1+3 5=2+3 6=1+2 7=All	Enter Exch Port No 1-80	1=Out 2=I/C 3=Hold 4=1+3 5=2+3 6=1+2 7=All	Enter Exch Port No 1-80	1=Out 2=I/C 3=Hold 4=1+3 5=2+3 6=1+2 7=All	Enter Exch Port No 1-80	1=Out 2=I/C 3=Hold 4=1+3 5=2+3 6=1+2 7=All	Enter Exch Port No 1-80	1=Out 2=I/C 3=Hold 4=1+3 5=2+3 6=1+2 7=All	Enter Exch Port No 1-80	1=Out 2=I/C 3=Hold 4=1+3 5=2+3 6=1+2 7=All	Enter Exch Port No 1-80	1=Out 2=I/C 3=Hold 4=1+3 5=2+3 6=1+2 7=All	Enter Exch Port No 1-80	1=Out 2=I/C 3=Hold 4=1+3 5=2+3 6=1+2 7=All	Enter Exch Port No 1-80	1=Out 2=I/C 3=Hold 4=1+3 5=2+3 6=1+2 7=All	Enter Exch Port No 1-80	1=Out 2=I/C 3=Hold 4=1+3 5=2+3 6=1+2 7=All	Enter Exch Port No 1-80	1=Out 2=I/C 3=Hold 4=1+3 5=2+3 6=1+2 7=All

By default, Map 1 is bothway access to all Exchange Lines.

Assign these Maps to stations (.0911 Exchange Line Access Map Assign - Page 2 1)

10910

EXCHANGE LINE ACCESS MAPS

Note: up to 80 Maps may be assigned

_ MAP 1_		_ MAP 1_		_ MAP 1_		_ MAP 1_		_ MAP 1_		MAP 1_		_ MAP 1_		_ MAP 1_		_ MAP 1_		_ MAP 1_		_ MAP 1_		_ MAP 1_		_ MAP 1_		_ MAP 1_		_ MAP 1_	
EXCH LINE (ALL)	ACCESS TYPE (0)	EXCH LINE (ALL)	ACCESS TYPE (0)	EXCH LINE (ALL)	ACCESS TYPE (0)	EXCH LINE (ALL)	ACCESS TYPE (0)	EXCH LINE (ALL)	ACCESS TYPE (0)	EXCH LINE (ALL)	ACCESS TYPE (0)	EXCH LINE (ALL)	ACCESS TYPE (0)	EXCH LINE (ALL)	ACCESS TYPE (0)	EXCH LINE (ALL)	ACCESS TYPE (0)	EXCH LINE (ALL)	ACCESS TYPE (0)	EXCH LINE (ALL)	ACCESS TYPE (0)	EXCH LINE (ALL)	ACCESS TYPE (0)	EXCH LINE (ALL)	ACCESS TYPE (0)	EXCH LINE (ALL)	ACCESS TYPE (0)	EXCH LINE (ALL)	ACCESS TYPE (0)
Enter Exch Port No 1-80	1=Out 2=I/C 3=Hold 4=1+3 5=2+3 6=1+2 7=All	Enter Exch Port No 1-80	1=Out 2=I/C 3=Hold 4=1+3 5=2+3 6=1+2 7=All	Enter Exch Port No 1-80	1=Out 2=I/C 3=Hold 4=1+3 5=2+3 6=1+2 7=All	Enter Exch Port No 1-80	1=Out 2=I/C 3=Hold 4=1+3 5=2+3 6=1+2 7=All	Enter Exch Port No 1-80	1=Out 2=I/C 3=Hold 4=1+3 5=2+3 6=1+2 7=All	Enter Exch Port No 1-80	1=Out 2=I/C 3=Hold 4=1+3 5=2+3 6=1+2 7=All	Enter Exch Port No 1-80	1=Out 2=I/C 3=Hold 4=1+3 5=2+3 6=1+2 7=All	Enter Exch Port No 1-80	1=Out 2=I/C 3=Hold 4=1+3 5=2+3 6=1+2 7=All	Enter Exch Port No 1-80	1=Out 2=I/C 3=Hold 4=1+3 5=2+3 6=1+2 7=All	Enter Exch Port No 1-80	1=Out 2=I/C 3=Hold 4=1+3 5=2+3 6=1+2 7=All	Enter Exch Port No 1-80	1=Out 2=I/C 3=Hold 4=1+3 5=2+3 6=1+2 7=All	Enter Exch Port No 1-80	1=Out 2=I/C 3=Hold 4=1+3 5=2+3 6=1+2 7=All	Enter Exch Port No 1-80	1=Out 2=I/C 3=Hold 4=1+3 5=2+3 6=1+2 7=All	Enter Exch Port No 1-80	1=Out 2=I/C 3=Hold 4=1+3 5=2+3 6=1+2 7=All	Enter Exch Port No 1-80	1=Out 2=I/C 3=Hold 4=1+3 5=2+3 6=1+2 7=All

For Maps 16 to 80 photocopy this page to cover all maps.

DCRIS/Wang Berger Order No   Compulsory Fields

System Order No (Service Plus)

TT Order **NO**

.0906
ROUTING OF EXCHANGE LINE GROUPS

ROUTE NUMBER 01 02-40	.1 1st O/G EXCH. GROUP (1) (0)	.2 2nd O/G EXCH. GROUP (0)	.3 3rd O/G EXCH. GROUP (0)	.4 4th O/G EXCH. GROUP OR ROUTE NO. (0)
01				
02				
03				
04				
05				
06				
07				
08				
09				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
	Enter O/G Exch. Group No. 1-80 0=None	Enter O/G Exch. Group No. 1-80 0=None	Enter O/G Exch. Group No. 1-80 0=None	Enter O/G Exch. Group No. 1-80 OR Route No. 1001-1040 0=None

Note: Outgoing Exchange Groups assigned in .0905

.0906
ROUTING OF EXCHANGE LINE GROUPS

ROUTI NUMBE	.1 1st O/G EXCH. GROUP (0)	2 2nd O/C EXCH. GROUF (0)	3 3rd O/G EXCH GROUP (0)	4 4th O/G EXCH GROUP OR ROUTE NO (0)
21				
22				
23				
24				
25				
26				
Z1				
28				
29				
30				
31				
32				
33				
34				
35				
36				
37				
38				
39				
40				
	Enter O/G Exch. Group No. 1-80 0=None	Enter O/G Exch. Group No. 1-80 0=None	Enter O/G Exch. Group No. 1-80 0=None	Enter O/G Exch. Group No. 1-80 OR Route No. 1001-1040 0=None

See notation on Page 3
*Input Route No. in .0907 Exchange Line Route for Station (Page 2)

.0908

DCRIS/Wang Berger Order No.   Compulsory Fields

INCOMING RING GROUP ASSIGN

Note: **up** to80I/CRingGroupsmay **be** assigned.

System Order No. (Service Plus)

TT Order NO.

.1 GROUP 1		.2 GROUP 2		.3 GROUP 3		.4 GROUP 4		.5 GROUP 5		6 GROUP 6		.7 GROUP 7		6 GROUP 6		9 GROUP 9		10 GROUP10		.11GROUP 11		.12 GROUP 12		13 GROUP 13		I d GROUP 14		.15 GROUP 15	
STN PORT 01 (02-96)	RING SIGNAL (1) (0)	STN PORT (01-96)	RING SIGNAL (0)	STN PORT (01-96)	RING SIGNAL (0)	STN PORT (01-96)	RING SIGNAL (0)	STN PORT (01-96)	RING SIGNAL (0)	STN PORT (01-96)	RING SIGNAL (0)	STN PORT (01-96)	RING SIGNAL (0)	STN PORT (01-96)	RING SIGNAL (0)	STN PORT (01-96)	RING SIGNAL (0)	STN PORT (01-96)	RING SIGNAL (0)	STN PORT (01-96)	RING SIGNAL (0)	STN PORT (01-96)	RING SIGNAL (0)	STN PORT (01-96)	RING SIGNAL (0)	STN PORT (01-96)	RING SIGNAL (0)	STN PORT (01-96)	RING SIGNAL (0)
Enter Stn. No. 1-96	0=No 1=Yes	Enter Stn. No. 1-96	0=No 1=Yes	Enter Stn No 1-96	0=No 1=Yes	Enter Stn. No 1-96	0=No 1=Yes	Enter Stn No. 1-96	0=No 1=Yes	Enter Stn No 1-96	0=No 1=Yes	Enter Stn No. 1-96	0=No 1=Yes	Enter Stn No 1-96	0=No 1=Yes	Enter Stn No 1-96	0=No 1=Yes	Enter Stn No 1-96	0=No 1=Yes	Enter Stn No 1-96	0=No 1=Yes	Enter Stn No 1-96	0=No 1=Yes	Enter Stn No 1-96	0=No 1=Yes	Enter Stn No 1-96	0=No 1=Yes	Enter Stn No 1-96	0=No 1=Yes

Assign these RingGroupsto Exchange Line ports (.0909 i/d Ring Group Target Page 3)

.0908

INCOMING RING GROUP ASSIGN

Note: up to 80 I/C Ring Groups may **be** assigned.

_ GROUP _		_ GROUP		_ GROUP _		_ GROUP		_ GROUP _		_ GROUP _		_ GROUP _		_ GROUP _		GROUP _		_ GROUP _		_ GROUP _		_ GROUP _		_ GROUP _		_ GROUP _		_ GROUP _	
STN PORT	RING SIGNAL	STN PORT	RING SIGNAL	STN PORT	RING SIGNAL	STN PORT	RING SIGNAL	STN PORT	RING SIGNAL	STN PORT	RING SIGNAL	STN PORT	RING SIGNAL	STN PORT	RING SIGNAL	STN PORT	RING SIGNAL	STN PORT	RING SIGNAL	STN PORT	RING SIGNAL	STN PORT	RING SIGNAL	STN PORT	RING SIGNAL	STN PORT	RING SIGNAL
(01-96)	(0)	(01-96)	(0)	(01-96)	(0)	(01-96)	(0)	(01-96)	(0)	(01-96)	(0)	(01-96)	(0)	(01-96)	(0)	(01-96)	(0)	(01-96)	(0)	(01-96)	(0)	01-96	0	01-96	0	01-96	0	01-96	0
Enter Stn No 1-96	0=No 1=Yes	Enter Stn No 1-96	0=No 1=Yes	Enter Stn. No. 1-96	0=No 1=Yes	Enter Stn No 1-96	0=No 1=Yes	Enter Stn. No. 1-96	0=No 1=Yes	Enter Stn. No. 1-96	0=No 1=Yes	Enter Stn. No. 1-96	0=No 1=Yes	Enter Stn. No. 1-96	0=No 1=Yes	Enter Stn. No. 1-96	0=No 1=Yes	Enter Stn. No. 1-96	0=No 1=Yes	Enter Stn. No. 1-96	0=No 1=Yes	Enter Stn No 1-96	0=No 1=Yes	Enter Stn. No. 1-96	0=No 1=Yes	Enter Stn. No. 1-96	0=No 1=Yes	Enter Stn. No. 1-96	0=No 1=Yes

ForRing Groups 16-80 photocopy this page and enter the Ring Group numbers.

.1102

DSS CONSOLE KEY DATA

.1102 Compulsory Field

Station Number _____
DSS Console Number _____ (Ref. .1 101 **ESS** Console Port Number)
Notes: 1 Enter Station Dial Codes (not Port numbers) in the spaces provided
2. Up to 8 DSS Consoles may be connected to the system.

01	02	03	04	05	06	07	08
09	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24
25	26	27	28	29	30	31	32
33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48
49	50	51	52	53	54	55	56
57	58	59	60	61	62	63	64
65	66	67	68	69	70	71	72
73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88
89	90	91	92	93	94	95	96

Station Number _____
DSS Console Number _____ (Ref. .1101 ess Console Port Number)
Notes: 1 Enter Station Dial Codes (not Port numbers) in the spaces provided
2. Up to 8 DSS Consoles may be connected to the system.

01	02	03	04	05	06	07	08
09	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24
25	26	27	28	29	30	31	32
33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48
49	50	51	52	53	54	55	56
57	58	59	60	61	62	63	64
65	66	67	68	69	70	71	72
73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88
89	90	91	92	93	94	95	96

Station Number _____
DSS Console Number _____ (Ref. .1 101 **ESS** Console Port Number)
Notes: 1 Enter Station Dial Codes (not Port numbers) in the spaces provided
2. Up to 8 DSS Consoles may be connected to the system.

01	02	03	04	05	06	07	08
09	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24
25	26	27	28	29	30	31	32
33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48
49	50	51	52	53	54	55	56
57	58	59	60	61	62	63	64
65	66	67	68	69	70	71	72
73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88
89	90	91	92	93	94	95	96

Station Number _____
DSS Console Number _____ (Ref. .1 101 **ESS** Console Port Number)
Notes: 1 Enter Station Dial Codes (not Port numbers) in the spaces provided
2. Up to 8 DSS Consoles may be connected to the system

01	02	03	04	05	06	07	08
09	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24
25	26	27	28	29	30	31	32
33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48
49	50	51	52	53	54	55	56
57	58	59	60	61	62	63	64
65	66	67	68	69	70	71	72
73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88
89	90	91	92	93	94	95	96

If more than 4 DSS Consoles are connected to the system, photocopy this page.

EXTERNAL ALARM, STATION GROUP AND INTERNAL PAGING

.1011
EXTERNAL ALARM SENSOR SIGNAL

STN PORT	.1 ALM 1 (0)	.2 ALM 2 (0)	.3 ALM 3 (0)	.4 ALM4 (0)
Enter Port No 01-96	0=No Ring on Alarm 1=Ring on Alarm			

.0503
STATION GROUP NUMBER AND NAME

	TENANT 1	TENANT 2	TENANT 3	TENANT 4
.1 (Group 1)				
2 (Group 2)				
3 (Group 3)				
4 (Group 4)				
5 (Group 5)				
6 (Group 6)				
7 (Group 7)				
8 (Group 8)				
9 (Group 9)				
.10 (Group 10)				

Enter Alphanumeric name (8 characters)

.1401
INTERNAL PAGING ZONE

TENT	.1 Stn. Grp .1 (0)	.2 Stn. Grp .2 (0)	.3 Stn. Grp .3 (0)	.4 Stn. Grp .4 (0)	.5 Stn. Grp .5 (0)	.6 Stn. Grp .6 (0)	.7 Stn. Grp .7 (0)	.8 Stn. Grp .8 (0)	.9 Stn. Grp .9 (0)	.10 Stn. Grp .10 (0)
1										
2										
3										
4										

Enter Internal Paging Zone 1-5
0=None

.1402
INTERNAL PAGING ZONE NAME

TENT No.	(ZONE 1)	(ZONE 2)	(ZONE 3)	(ZONE 4)	ZONE 5
1					
2					
3					
4					

.0402
TEXT MESSAGES

System Order No. (Service Plus)

Tenant Number (1)_____

TT Order No.

.01

| L1. | I | N | | M | E | E | T | I | N | G | | U | N | T | I | L | | | | | |
| L2. | # | # | : | # | # | | | | | | | | | | | | | | | | |

.02

| L1. | O | U | T | | U | N | T | | | | | | | | | | | | | | |
| L2. | # | # | : | # | # | | | | | | | | | | | | | | | | |

.03

| L1. | O | U | T | | - | | P | L | E | A | S | E | | C | A | L | L | | | | |
| L2. | # | # | # | # | # | # | # | # | # | # | | | | | | | | | | | |

.04

| L1. | P | L | E | A | S | E | | C | A | L | L | | M | E | | O | N | | | | |
| L2. | # | # | # | # | # | # | # | # | # | # | | | | | | | | | | | |

.05

| L1. | B | U | S | Y | | - | | C | A | L | L | | A | F | T | E | R | | | | |
| L2. | # | # | : | # | # | | | | | | | | | | | | | | | | |

.06

| L1. | O | U | T | | F | O | R | | L | U | N | C | H | | B | A | C | K | | | |
| L2. | A | T | | # | # | : | # | # | | | | | | | | | | | | | |

.07

| L1. | B | U | S | I | N | E | S | S | | T | R | I | P | | U | N | T | I | L | | |
| L2. | # | # | / | # | # | / | # | # | | | | | | | | | | | | | |

.08

| L1. | B | U | S | I | N | E | S | S | | T | R | I | P | | C | A | L | L | | | |
| L2. | # | # | # | # | # | # | # | # | # | # | | | | | | | | | | | |

.09

| L1. | G | O | N | E | | F | O | R | | T | H | E | | D | A | Y | | | | | |
| L2. | | | | | | | | | | | | | | | | | | | | | |

.10

| L1. | O | N | | V | A | C | A | T | I | O | N | | U | N | T | I | L | | | | |
| L2. | # | # | / | # | # | / | # | # | | | | | | | | | | | | | |

.11 (blank)

.12 (blank)

.13 (blank)

.14 (blank)

.15 (blank)

.16 (blank)

.17 (blank)

.18 (blank)

.19 (blank)

.20 (blank)

Note: Users with Premium or Executive 32 line keystations may enter an additional personal text message on their station by using the text message code 00

Photocopy this page for each Tenant's requirements

TIMERS AND DTMF/DTD BLOCK TYPE

.0304
DTMF/DTD BLOCK TYPE

Block No.	Block Type
1	(1)
2	(4)
3	(1)
4	(2)
5	(0)
6	(0)
7	(0)
8	(0)

Board 1: rows 1–4
Board 2: rows 5–8

0=Not connect
1=DTMF-ICM
2=DTMF-EXCH
3=DTD-ICM
4=DTD-EXCH

Tech to Assign

.0405
SYSTEM TIMERS

(Note: Can be separate for each tenant)

Timers	Default Time (sec)	Tenant 1	Tenant 2	Tenant 3	Tenant 4
.1 Divert No Answer	10				
2 Exclusive Hold - Revert	**90**				
.3 Exclusive Hold - Callback	30				
.5 Ring Transfer Revert	30				
.9 Incoming No Answer Alarm	60				
.17 Door Chime Answer Duration	30				
.28 Common Hold - Revert	90				
.30 Long Conversation Alarm - period before 1st tone	0				
.31 Long Conversation Alarm - ongoing reminder after 1st tone	0				
.34 Common Hold - Callback	30				
.38 Exchange Line Interdigit Timer	10				
.44 DID No Answer	10				

DSS, DOOR STATION AND INTERNAL/EXTERNAL PAGING

.1101
DSS CONSOLE PORT NUMBER

DSS No.	Stn Port No. (0)
1	
2	
3	
4	
5	
6	
7	
8	
	Enter Stn. Port No. 1-96 O=None

.1103
DSS OFF-DUTY PAIR ASSIGN

DSS No.	Off-duty DSS No. (0)
1	
2	
3	
4	
5	
6	
7	
8	
	Enter Off-duty DSS No. 1-8 0=None
	Refer .1101 above

.1301
DOOR STATION RING ASSIGN

Stn Port No.	Door Station No. .1 (0)	.2 (0)	.3 (0)	.4 (0)
Enter Stn. Port No. 1-96	0=No 1=Ring	0=No 1=Ring	0=No 1=Ring	0=No 1=Ring
Max. 12 Stn.				

.1403
EXTERNAL PAGING SPEAKER DATA

External Zone	.1 Splash Tone (1)	.2 BGM (0)	.3 Alarm 1 (0)	.4 Alarm 2 (0)	.5 Alarm 3 (0)	.6 Alarm 4 (0)
1						
2						
3						
4						
	1=On 0=Off	1=On 0=Off	1=On 0=Off	1=On 0=Off	1=On 0=Off	1=On 0=Off

.1404
EXCHANGE LINE SIGNALLING TO EXTERNAL SPEAKERS

Exch. Port No.	.1 Zone 1 Day (0)	Nit 1 (0)	Nit 2 (0)	.2 Zone 2 Day (0)	Nit 1 (0)	Nit 2 (0)	.3 Zone 3 Day (0)	Nit 1 (0)	Nit 2 (0)	.4 Zone 4 Day (0)	Nit 1 (0)	Nit 2 (0)
Enter Exch Port No.	0=Not Ring 1=Ring			0=Not Ring 1=Ring			0=Not Ring 1=Ring			0=Not Ring 1=Ring		

ACCESS BARRING AND TIME PATTERNS

Tenant Number (1) _____

.0701
ACCESS BARRING DATA

Allowed DD/STD Codes	Barred ID Numbers	Barred STD Numbers	Common Allowed Codes	PABX Access Codes	Digit Length Limit (7)	.1 Common Speed Dial Restriction (1)
	(0011)	(02)	(000)			
	(0014)	(03)	(008)		(0-30)	0=No Restrict 1=Restrict
	(0012)	(04)	(013)			
	(0101)	(05)	(016)			
	4 digits max.	(06)	4 digits max.	2 digits max.		
		(07)				
		(08)				
		(09)				
		(001)				
		(002)				
		(003)				
		(004)				
8 digits max		(011)				
		(018)				
		(0055)				
		(12)				
		4 digits max.				

.0801
DAY PATTERN Note: Finish time of previous set should equal start time of new set.

Time Zone Set	Pattern 1			Pattern 2			Pattern 3			Pattern 4			Pattern 5		
	Start Time	Finish Time	Mode	Start Time	Finish Time	Mode	Start Time	Finish Time	Mode	Start Time	Finish Time	Mode	Start Time	Finish Time	Mode
1	00:00	:		00:00	:		00:00	:		00:00	:		00:00	:	
2	:	:		:	:		:	:		:	:		:	:	
3	:	:		:	:		:	:		:	:		:	:	
4	:	:		:	:		:	:		:	:		:	:	
5	:	:		:	:		:	:		:	:		:	:	
6	:	:		:	:		:	:		:	:		:	:	
7	:	:		:	:		:	:		:	:		:	:	
8	:	:		:	:		:	:		:	:		:	:	
9	:	:		:	:		:	:		:	:		:	:	
10	:	:		:	:		:	:		:	:		:	:	
	Enter Start Hours:Mins eg. 18:15	Enter End Hours:Mins eg. 18:15	0=Day 1=Nit 1 2=Nit 2	Enter Start Hours:Mins eg. 18:15	Enter End Hours:Mins eg. 18:15	0=Day 1=Nit 1 2=Nit 2	Enter Start Hours:Mins eg. 18:15	Enter End Hours:Mins eg. 18:15	0=Day 1=Nit 1 2=Nit 2	Enter Start Hours:Mins eg. 18:15	Enter End Hours:Mins eg. 18:15	0=Day 1=Nit 1 2=Nit 2	Enter Start Hours:Mins eg. 18:15	Enter End Hours:Mins eg. 18:15	0=Day 1=Nit 1 2=Nit 2

.0802
WEEKLY SCHEDULE

Day	Day Pattern
.1 SUN	
.2 MON	
.3 TUE	
.4 WED	
.5 THU	
.6 FRI	
.7 SAT	
	Enter Applicable Time Pattern 1-5 Assign 0801

.0803
YEARLY SCHEDULE

Month	Day	Day Pattern
Enter Month 1-12	Enter Day of Public Holiday 1-31	Enter Time Pattern 1-5

If more than 1 tenant photocopy this page for each Tenant's requirements

.0406

CLASS OF SERVICE TABLE

Item No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Hook-flash	1	1	1	1	1	1	1	1	1	1	1				
2. Acct Code in	1	1	1	1	1	1	1	1	1	1	1				
3. Long Conv. Alarm	1	1	1	1	1	1	1	1	1	1	1				
4. Bypass Call	0	0	0	0	1	0	0	0	0	1	0				
7. Data Privacy	1	1	1	1	1	1	1	1	1	1	1				
8. Group Pick-up	0	1	1	1	1	0	1	1	1	1	1				
9. Other Group Pick-up	0	1	1	1	1	0	1	1	1	1	1				
10. Direct Call Pick-up	0	1	1	1	1	0	1	1	1	1	1				
11. Ring Inward	1	1	1	1	1	1	1	1	1	1	1				
12. Do Not Disturb	0	0	0	1	1	0	0	0	1	1	0				
13. Auto Intercom Call Register	1	1	1	1	1	1	1	1	1	1	1				
14. Meet Me	1	1	1	1	1	1	1	1	1	1	1				
15. Message Waiting	0	0	1	1	1	0	0	1	1	1	1				
16. Conference	0	0	1	1	1	0	0	1	1	1	1				
17. Station Speed Dial	1	1	1	1	1	1	1	1	1	1	1				
18. Common Speed Dial	1	1	1	1	1	1	1	1	1	1	1				
19. Group Speed Dial	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22. External Paging	0	0	1	1	1	0	0	1	1	1	1				
23. Divert All	0	0	0	1	1	0	0	1	1	1	1				
24. Camp-on Internal	0	1	1	1	1	0	1	1	1	1	1				
25. Camp-on External	0	1	1	1	1	0	1	1	1	1	1				
26. Follow Me	0	1	1	1	1	0	1	1	1	1	1				
27. Clock Alarm	0	0	0	0	0	1	1	1	1	1	1				
28. Off-duty	0	0	0	1	1	0	0	0	1	1	1				
31. Divert Busy/No Answer	0	0	0	1	1	0	0	0	1	1	1				
32. Divert No Answer	0	0	0	1	1	0	0	0	1	1	1				
37. Ext Line No. & Name Display-Seizing	1	1	1	1	1	1	1	1	1	1	1				
38. Ext Line No. & Name Display-Incoming	1	1	1	1	1	1	1	1	1	1	1				
39. Int Line No. & Name Display-Conversation	1	1	1	1	1	1	1	1	1	1	1				
40. Int Line No. & Name Display-Incoming	1	1	1	1	1	1	1	1	1	1	1				
41. Hot Line	1	1	1	1	1	1	1	1	1	1	1				
42. Transfer Information Display	1	1	1	1	1	1	1	1	1	1	1				

Item No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
43. Called Information Display	1	1	1	1	1	1	1	1	1	1	1				
44. Splitting	1	1	1	1	1	1	1	1	1	1	1				
45. I Hold (0) Exclusive Hold (1)	0	0	0	0	0	0	0	0	0	0	1				
46. Conversation Time Display	1	1	1	1	1	1	1	1	1	1	0				
48. Last Number Redial	1	1	1	1	1	1	1	1	1	1	1				
49. Saved Number Redial	1	1	1	1	1	1	1	1	1	1	1				
50. Pre-set Dialling	1	1	1	1	1	1	1	1	1	1	1				
51. Pick-up Information Display	1	1	1	1	1	1	1	1	1	1	1				
52. Internal Paging	0	0	1	1	1	0	0	1	1	1	1				
53. Background Music	1	1	1	1	1	1	1	1	1	1	1				
54. Room Monitor	0	0	0	0	1	0	0	0	0	1	1				
55. Room Monitored	1	1	1	1	1	1	1	1	1	1	0				
56. Confidence Tone	1	1	1	1	1	1	1	1	1	1	1				
57. DTMF Back Tone	1	1	1	1	1	1	1	1	1	1	1				
58. Service Display Status	1	1	1	1	1	1	1	1	1	1	1				
59. Exchange line access by idle dialling	1	1	1	1	1	1	1	1	1	1	1				
60. Operator access by idle dialling	1	1	1	1	1	1	1	1	1	1	1				
65. Internal Outgoing	1	1	1	1	1	1	1	1	1	1	1				
66. External Outgoing	1	1	1	1	1	1	1	1	1	1	1				
67. Pick-up Station	1	1	1	1	1	1	1	1	1	1	1				
68. Pilot Number Called Station	1	1	1	1	1	1	1	1	1	1	1				
72. Break-in	0	0	0	0	1	0	0	0	0	1	1				
73. Buzz	0	0	0	0	0	1	1	1	1	1	1				
74. Signal/Voice Called	0	0	0	0	0	1	1	1	1	1	1				
75. Station Programming	0	0	0	0	0	1	1	1	1	1	1				
76. DCI Programming	0	0	0	0	0	1	1	1	1	1	1				
78. Clock Data Set	1	1	1	1	1	1	1	1	1	1	1				
79. Signal/Voice Change Calling	0	0	0	0	0	0	0	0	0	0	1				
80. Transmitter Mute	1	1	1	1	1	1	1	1	1	1	1				
81. Repeat Dialling	1	1	1	1	1	1	1	1	1	1	1				
82. Text Message	0	0	1	1	1	0	0	1	1	1	1				
83. Night Mode Change	1	1	1	1	1	1	1	1	1	1	1				

Note: 1=Yes
0=No

Allocate these Service Classes to stations in SA1003 Station Class of Service (page 2)

SYSTEM AND TENANT OPTIONS

FACILITY	DATA	NOTES
.0301 .1 Inter-tenant Communication	(0)	0=Off 1=On
.0303 .1 Int Hold Tone	(0)	0=Type 1 1=Type 2
.0305 .1 Alarm Sensor 2	(1)	Enter Alarm Tone Type 1-4 0=Not Used
.2 Alarm Sensor 2	(1)	
.3 Alarm Sensor 3	(1)	
.4 Alarm Sensor 4	(1)	
.5 Fax Sensor 1	(0)	Enter Exch. Line Port 1-80 0=Not Used
.6 Fax Sensor 2	(0)	
.7 Fax Sensor 3	(0)	
8 Fax Sensor 4	(0)	
.0306 Alarm/Fax Sensor Cond. .1 Alarm Sensor 1	(1)	0=Break On 1=Make On
.2 Alarm Sensor 2	(1)	
.3 Alarm Sensor 3	(1)	
.4 Alarm Sensor 4	(1)	
.5 Fax Sensor 1	(1)	
.6 Fax Sensor 2	(1)	
.7 Fax Sensor 3	(1)	
Tech to Assign .8 Fax Sensor 4	(1)	

.0401   .040 7   .1104

Tnt Grp	.1 Manual Night Switch (1)	.2 Auto Night Switch (1)	.3 I/C No Answer Alarm (0)	.6 Ring Priority (1)	.10 ICM Call Mode (1)	.11 DID Mode (0)	.12 Auto Ans ICM (1)	.13 Auto Ans Exch (1)	.14 Auto Ans Recall (1)	.15 Auto Charge (0)	DID TRANSFER STATION (0)	OPERATOR PORT ASSIGNMENT (0)
1												
2												
3												
4												
	0=Off 1=On	0=Off 1=On	0=Off 1=On	0=ICM 1=Exch	0=Voice 1=Signal	0=Trans 1=Cut Off See .0407	0=Off 1=On	0=Off 1=On	0=Off 1=On	0=Off 1=On	Enter Stn Port 1-96 0=None	Enter Stn Port 1-96 0=None

.0403 SMDR OPERATION DATA

Tnt Grp	Account Code (1)	Mask Digits (2)	Min Digits for Rec (0)	Pulse Cost (0)	Printer Port (0)	Max Converse Time for Rec (0)	Min I/C Call Time for Rec (0)	.1 Restrict Calls (1)	.2 PABX Calls (1)	.3 Int. Data Calls (1)	.4 Summary Daily (1)	.5 Summary Weekly (1)	.6 Summary Weekly (1)	.7 Stn No & Name (1)
1														
2														
3														
4														
	0=None 1=Opt. 2=Comp	Enter No. of digits to be masked 0-24	Enter Min. No. digits 1-24 0=All	Enter Pulse Cost in cents	Enter DCI Port No. 1-96	Enter No. of seconds 0=Recall	Enter No. of seconds 0=Recall	0=No 1=Print	0=No 1=Print	0=No 1=Print	0=No 1=Print	0=No 1=Print	0=No 1=Print	0=Name 1=Number

.0404 HOTLINE PAIR ASSIGN

Note: Up to 50 Hotline pairs may be assigned for each tenant.

TNT	Hotline 1		Hotline 2		Hotline 3		Hotline 4		Hotline 5		Hotline 6		Hotline 7		Hotline 8		Hotline 9		Hotline 10		Hotline 11		Hotline 12	
	Origin	Target	Origin	Target	Origin	Target	Origin	Target	Origin	Target	Origin	Target	Origin	Target	Origin	Target	Origin	Target	Origin	Target	Origin	Target	Origin	Target
1																								
2																								
3																								
4																								

Enter Station Numbers (100 to 499/1000 to 4999) 0 = Not Assigned

SPEED DIAL NUMBER AND NAME

DCRIS/Wang Berger Order No.   Compulsory Fields

System Order No. (Service Plus)

TT Order NO.

.0601

SPEED DIAL NUMBER AND NAME

TEN'T No (1)	SPEED DIAL CODE (001-540)	SPEED DIAL NUMBER (max 24 [0-9, #, *] digits)	SPEED DIAL NAME (8 alphanumeric)
	Enter Speed Code		Enter Alphanumeric Speed Dial Name

Photocopy as many additional copies as required to make 540 Abbreviated numbers.

Detailer must arrange a typed copy of all Common Speed Dial information for Manufacturer programming.

(Note: If behind a PABX, enter the PABX access code, pause (P) then the number, e.g. 0P81 83731
To include Recall, e.g. for PABX or Network based services, enter 'R'.)

.0602

TENANT ALLOCATION OF COMMON SPEED DIAL NUMBERS

Complete on 1st form only

Tenant Number	Start	Length
1		
2		
3		
4		

Total < = 540

Apr '93 Issue 3.1

.0409   **.0410**

ISDN CALLED NUMBER   ISDN INCOMING RING GROUP

Table	Dial Number	Type 1 - Speech (ISDN) Day (0)	Night 1 (0)	Night 2 (0)	Type 2 - Audio/PSTN Day (0)	Night 1 (0)	Night 2 (0)	Voice/ Modem	Type 3 - V110 Day (0)	Night 1 (0)	Night 2 (0)	Rate (0)	Type 4 - Group 4 Fax Day (0)	Night 1 (0)	Night 2 (0)	Type 5 - Audio Data Teletex Day (0)	Night 1 (0)	Night 2 (0)	Type 6 - DCI-DCI Data Day (0)	Night 1 (0)	Night 2 (0)	Type 7 - Unrestrict Digit Day (0)	Night 1 (0)	Night 2 (0)
1	Default (Note 2)	(1)	(1)	(1)	(1)	(1)	(1)	(0)																
2																								
3																								
4																								
5																								
6																								
7																								
8																								
9																								
10																								
11																								
12																								
13																								
14																								
15																								
16																								
17																								
18																								
19																								
20																								

Enter Directory Number for ISDN services

Enter Ring Groups as allocated in .0908

1. Enter Ring Group
2. Voice/Modem
    0=Voice
    1=Modem Type 1
    2=Modem Type 2
    3=Modem Type 3
    4=Modem Type 4
    5=Modem Type 5
    6=Modem Type 6
    7=Modem Type 7
    8=Modem Type 8
    9=User Supplied Equipment

1. Enter Ring Group as allocated in .0908
2. Enter Rate
    0=CCITT V.110
    1=CCITT x.30

1. Enter Ring Group as allocated in .0908

1. Enter Ring Group as allocated in .0908

1. Enter Ring Group as allocated in .0908

1. Enter Ring Group as allocated in .0908

.0914

IPRB PORT ASSIGN

Slot No.	Total Channels (30)
Insert 1-25	Insert 20-30 0=Not defined
Tech to Assign	

Note 1:   Type 2 must be assigned to allowcalls made from the PSTN.

Note 2:   Default setting -
The path the call will take if no match is made with the other 79 options.

Note 3:   Table 1 has the default value of (1) such that all ISDN calls will ring at Ring Group 1 (Page 6 .0908).
Ring Group 1 has the default of ringing at station port 01
Tables 2-80 have default of (0) so a Ring Group must be assigned to these tables to make them effective.

DCRIS/Wang Berger Order No   Compulsory Fields

System Order No (Service Plus)

TT Order NO

.0409   .0410

ISDN CALLED NUMBER   ISDN INCOMING RING GROUP

Table	Dial Number	Type 1 - Speech (ISDN)			Type 2 Audio/PSTN				Type 3 - V110				Type 4 - Group 4 Fax			Type 5 - Audio Data Teletex			Type 6 - DCI-DCI Data			Type 7 - Unrestrict Digit		
		Day (0)	Night 1 (0)	Night 2 (0)	Day (0)	Night 1 (0)	Night 2 (0)	Voice/ Modem	Day (0)	Night 1 (0)	Night 2 (0)	Rate (0)	Day (0)	Night 1 (0)	Night 2 (0)	Day (0)	Night 1 (0)	Night 2 (0)	Day (0)	Night 1 (0)	Night 2 (0)	Day (0)	Night 1 (0)	Night 2 (0)
1	Default (Note 2)	(1)	(1)	(1)	(1)	(1)	(1)	(0)																
2																								
3																								
4																								
5																								
6																								
7																								
8																								
9																								
10																								
11																								
12																								
13																								
14																								
15																								
16																								
17																								
18																								
19																								
20																								

Enter Directory Number for ISDN services

Enter Ring Groups as allocated in .0908

1. Enter Ring Group
2. Voice/Modem
    0=Voice
    1=Modem Type 1
    2=Modem Type 2
    3=Modem Type 3
    4=Modem Type 4
    5=Modem Type 5
    6=Modem Type 6
    7=Modem Type 7
    8=Modem Type 8
    9=User Supplied Equipment

1. Enter Ring Group as allocated in .0908
2. Enter Rate
    0=CCITT V.110
    1=CCITT x.30

1. Enter Ring Group as allocated in .0908

1. Enter Ring Group as allocated in .0908

1. Enter Ring Group as allocated in .0908

1. Enter Ring Group as allocated in .0908

.0914

IPRB PORT ASSIGN

Slot No.	Total Channels (30)
Insert 1-25	Insert 20-30 0=Not defined
Tech to Assign	

Note 1: Type 2 must be assigned to allowcalls made from the PSTN.

Note 2: Default setting -
The path the call will take if no match is made with the other 79 options.

Note 3: Table 1 has the default value of (1) such that all ISDN calls will ring at Ring Group 1 (Page 6 .0908).
Ring Group 1 has the default of ringing at station port 01
Tables 2-80 have default of (0) so a Ring Group must be assigned to these tables to make them effective.

ISDN

.0409   .0410

ISDN CALLED NUMBER   ISDN INCOMING RING GROUP

Table	Dial Number	Type 1 Speech (ISDN)			Type 2 - Audio/PSTN				Type 3 - V110				Type 4 - Group 4 Fax			Type 5 - Audio Data Teletex			Type 6 - DCI-DCI Data			Type 7 - Unrestrict Digit		
		Day (0)	Night 1 (0)	Night 2 (0)	Day (0)	Night 1 (0)	Night 2 (0)	Voice/ Modem	Day (0)	Night 1 (0)	Night 2 (0)	Rate (0)	Day (0)	Night 1 (0)	Night 2 (0)	Day (0)	Night 1 (0)	Night 2 (0)	Day (0)	Night 1 (0)	Night 2 (0)	Day (0)	Night 1 (0)	Night 2 (0)
21	Default (Note 2)	(1)	(1)	(1)	(1)	(1)	(1)	(0)																
22																								
23																								
24																								
25																								
26																								
27																								
28																								
29																								
30																								
31																								
32																								
33																								
34																								
35																								
36																								
37																								
38																								
39																								
40																								
	Enter Directory Number for ISDN services	Enter Ring Groups as allocated in .0908			1. Enter Ring Group 2. Voice/Modem 0=Voice 1=Modem Type 1 2=Modem Type 2 3=Modem Type 3 4=Modem Type 4 5=Modem Type 5 6=Modem Type 6 7=Modem Type 7 8=Modem Type 8 9=User Supplied Equipment				1. Enter Ring Group as allocated in .0908 2. Enter Rate 0=CCITT V.110 1=CCITT x.30				1. Enter Ring Group as allocated in .0908			1. Enter Ring Group as allocated in .0908			1. Enter Ring Group as allocated in .0908			1. Enter Ring Group as allocated in .0908		

Note 1:   Type 2 must be assigned to allowcalls made from the PSTN.

Note 2:   Default setting -
The path the call will take if no match is made with the other 79 options.

Note 3:   Table 1 has the default value of (1) such that all ISDN calls will ring at Ring Group 1 (Page 6 .0908).
Ring Group 1 has the default of ringing at station port 01
Tables 2-80 have default of (0) so a Ring Group must be assigned to these tables to make them effective.

ISDN

.0409   .0410

ISDN CALLED NUMBER   ISDN INCOMING RING GROUP

Table	Dial Number	Type 1 - Speech (ISDN)			Type 2 - Audio/PSTN				Type 3 - V110				Type 4 - Group 4 Fax			Type 5 - Audio Data Teletex			Type 6 - DCI-DCI Data			Type 7 - Unrestrict Digit		
		Day (0)	Night 1 (0)	Night 2 (0)	Day (0)	Night 1 (0)	Night 2 (0)	Voice/Modem	Day (0)	Night 1 (0)	Night 2 (0)	Rate (0)	Day (0)	Night 1 (0)	Night Z (0)	Day (0)	Night 1 (0)	Night 2 (0)	Day (0)	Night 1 (0)	Night Z (0)	Day (0)	Night 1 (0)	Night Z (0)
41	Default (Note 2)	(1)	(1)	(1)	(1)	(1)	(1)	(0)																
42																								
43																								
44																								
45																								
46																								
47																								
48																								
49																								
50																								
51																								
52																								
53																								
54																								
55																								
56																								
57																								
58																								
59																								
60																								
	Enter Directory Number for ISDN services	Enter Ring Groups as allocated in .0908			1. Enter Ring Group 2. Voice/Modem				1. Enter Ring Group as allocated in .0908 2. Enter Rate				1. Enter Ring Group as allocated in .0908			1. Enter Ring Group as allocated in .0908			1. Enter Ring Group as allocated in .0908			1. Enter Ring Group as allocated in .0908		

Type 2 - Voice/Modem detail:
```
1. Enter Ring Group
2. Voice/Modem
     0=Voice
     1=Modem Type 1
     2=Modem Type 2
     3=Modem Type 3
     4=Modem Type 4
     5=Modem Type 5
     6=Modem Type 6
     7=Modem Type 7
     8=Modem Type 8
     9=User Supplied Equipment
```

Type 3 Rate detail:
```
2. Enter Rate
     0=CCITT V.110
     1=CCITT x.30
```

Note 1: Type 2 must be assigned to allow calls made from the PSTN.

Note 2: Default setting -
The path the call will take if no match is made with the other 79 options.

Note 3: Table 1 has the default value of (1) such that all ISDN calls will ring at Ring Group 1 (Page 6 .0908).
Ring Group 1 has the default of ringing at station port 01
Tables 2-80 have default of (0) so a Ring Group must be assigned to these tables to make them effective.

ISDN

.0409   .0410

ISDN CALLED NUMBER   ISDN INC   MING RING GROUP

Table	Dial Number	Type 1 - Speech (ISDN)			Type 2 - Audio/PSTN				Type 3 - V110				Type 4 - Group 4 Fax			Type 5 - Audio Data Teletex			Type 6 - DCI-DCI Data			Type 7 - Unrestrict Digit		
		Day (0)	Night 1 (0)	Night 2 (0)	Day (0)	Night 1 (0)	Night 2 (0)	Voice/ Modem	Day (0)	Night 1 (0)	Night 2 (0)	Rate (0)	Day (0)	Night 1 (0)	Night 2 (0)	Day (0)	Night 1 (0)	Night 2 (0)	Day (0)	Night 1 (0)	Night 2 (0)	Day (0)	Night 1 (0)	Night 2 (0)
61	Default (Note 2)	(1)	(1)	(1)	(1)	(1)	(1)	(0)																
62																								
63																								
64																								
65																								
66																								
67																								
68																								
69																								
70																								
71																								
72																								
73																								
74																								
75																								
76																								
77																								
78																								
79																								
80																								

Enter Directory Number for ISDN services

Enter Ring Groups as allocated in .0908

1. Enter Ring Group
2. Voice/Modem
   0=Voice
   1=Modem Type 1
   2=Modem Type 2
   3=Modem Type 3
   4=Modem Type 4
   5=Modem Type 5
   6=Modem Type 6
   7=Modem Type 7
   8=Modem Type 8
   9=User Supplied Equipment

1. Enter Ring Group as allocated in .0908
2. Enter Rate
   0=CCITT V.110
   1=CCITT x.30

1. Enter Ring Group as allocated in .0908

1. Enter Ring Group as allocated in .0908

1. Enter Ring Group as allocated in .0908

1. Enter Ring Group as allocated in .0908

Note 1: Type 2 must be assigned to allow calls made from the PSTN.

Note 2: Default setting
The path the call will take if no match is made with the other 79 options.

Note 3: Table 1 has the default value of (1) such that all ISDN calls will ring at Ring Group 1 (Page 6 0908)
Ring Group 1 has the default of ringing at station port 01
Tables 2-80 have default of (0) so a Ring Group must be assigned to these tables to make them effective

Appendix E
Alarm Reports

Generating the alarm report

The IN 0006 command initiates the system alarm printouts. This command is described in full in Chapter **6 – Programming,** however a summary of the command options is provided below for reference. Alarm reports can also be viewed on a display keystation using Command 0010.

Input data.

Input Field	Description	Input data
Menu No?	Function select	1: Select printer port
		2: Print alarm report history
		3: Print newest alarm report
		4: Clear all alarm reports
		5: Set print mode
Print-port:	(Menu 1) Select printer port	0: Disable printout
		1 to 96: DCI port number 1 – 96
Print-All (Yes: 1)?	(Menu 2) Print alarm report history	1: Print report
Print New (Yes: 1)?	(Menu 3) Print newest alarm report	1: Print report
All Clear (Yes: 1)?	(Menu 4) Clear all alarm reports	1: Clear report
Mode:	(Menu 5) Set print mode	0: Manual printout
		1: Auto printout

Alarm report format

The alarm report printed in response to IN 0006 has the format shown in the following example:

```
<< ALARM REPORT >>                    //   01-MAR-90 15:50 PAGE 001
LVL NO STAT DATE TIME ITEM            // UNIT  SLT  PRT  PARAMETER
--//-
A-4 0108 ERR 01-MAR-90 14:16 Blocking //  DSB-D-A   01   04   KST
A-4 0108 REC 01-MAR-90 15:20 Blocking //  DSB-D-A   01   04
```

Heading codes

The abbreviations used in the headings are:

LVL	Alarm level number (1 to 5)
NO	Alarm Number (these are described on the next page.
STAT	Alarm Status. The entry in this column is either ERR (for error) or REC (for recover)
DATE	Date of alarm error or recovery
TIME	Time of alarm error or recovery
ITEM	Item name of alarm
UNIT	Unit name
SLT	Slot number
PRT	Port number of each slot
PARAMETER	Other information. The entry in this column specifies the device associated with the alarm, either KST (for keystation), DSS (for Direct Station Select console), or DCI (for Data Communications Interface).

Alarm types

Alarm No and Name	Meaning	Action required
0000 – 99 reserved		
0100 Board initialisation failure	Board is faulty	Remove and replace the board and ensure correct installation. If REC status is not output on the alarm report, replace with a new board.
0101 Board initial test failure	Board is faulty.	Remove and replace the board and ensure correct installation. If REC status is not output on the alarm report, replace with a new board.
0102 Board install failure	Board is not installed.	Check the installation data for the board.
0103 Board communication failure	Board is faulty	Check that the board is installed correctly and not manually blocked. If REC status is not output on the alarm report, replace with a new board.
0104 Down load failure	Board is blocked or sub program does not exist on the system disk.	Ensure that the board is installed correctly and not blocked. Retry down load. If unsuccessful replace board and/or check data integrity.
0105 Loop back test failure	Target port is faulty	Unblock target port.
0106 Terminal initial failure	Terminal is faulty.	Check and unblock target terminal (e.g. keystation).
0107 Terminal connection failure	DSS Console is disconnected.	Check the DSS Console to keystation connection.
0108 Blocking	Blocking detect or terminal removed.	Check the block switch on the board, or check the keystation connection.
0109 Power source failure	Commercial power is not supplied.	Check the system AC switch or AC socket. If still faulty, replace with new power supply.
0110 RAM back up	RAM back up battery is low voltage.	Check the battery connector, or replace with a new battery.
Note: Alarm 0108 Blocking WAR (Warning) indicates that the station is disconnected. This warning will remain for 10 seconds and then be upgraded to an ERR alarm. If reconnected within the 10 seconds the warning will clear without causing an alarm but will appear on the Alarm Printout.		

Alarm No and Name	Meaning	Action required
0111 Ringer source	Ringer source is not supplied.	Check the ringer source connectors, or replace with a new ringer source.
0112-0127 reserved		
0128 **SMDR** buffer full	SMDR buffer full.	Check the printer for SMDR.
0129–130 **reserved**		
0131 ISDN Layer 1 Alarm	An ISDN Layer 1 Alarm has been active for more than 10 seconds. The PARAMETER field of the error report indicates the type of Alarm **(AIS.** LPA LRS BER etc.)	If active for more than 1 hour or if there is an excessive number of alarms reported within 1 hour: – reset the board and observe * If errors still occur, replace board and observe * If errors still occur check terminals on the S-BUS * If errors still occur contact the ISDN network provider.
0132 ISDN Layer 2 Alarm	The number of Layer 2 MDL errors has exceeded 10 per hour or the number of spontaneous Layer 2 data link releases has exceeded 2 per minute. The PARAMETER field of the error report indicates the type of Layer 2 alarm (MDL or DL error).	Refer to Alarm 0 13 1 for action.
0133 ISDN Layer 3 Alarm	The number of Layer 3 MNL errors has exceeded 10 per hour.	Refer to Alarm 0 13 1 for action.
0134-0139 reserved		

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