

**Corporate Network Solutions  
Business Networks Systems Division**

**Technical  
Information  
Bulletin**

**TITLE:**

Dterm85 series telephones (Dterm i series)  
and associated Accessories

**SYSTEM APPLICATION:**

NEAX 2000 IPS / IVS / NEAX 2400 ICS M110 / M120

**SOFTWARE VERSION APPLICATION:**

NEAX 2000 IPS (Minimum R6.1)

NEAX 2000 IVS \*\*

NEAX 2400 ICS M110/M120 \*\*

**\*\* See Hardware/Software Requirement section of this document**

**ATTACHMENTS:**

**Doc-Reg ID:**

<http://www.kbase.cns.nec.com.au/>

## TABLE OF CONTENTS

<b>INTRODUCTION</b>	<b>3</b>
<b>MINIMUM SOFTWARE/HARDWARE REQUIREMENTS</b>	<b>3</b>
<b>OPERATION MATRIX</b>	<b>3</b>
<b>GENERAL DESCRIPTION</b>	<b>4</b>
<b>HANDSET DESCRIPTION</b>	<b>5</b>
<b>Service Conditions</b>	<b>5</b>
<b>Dterm85 2DT</b>	<b>5</b>
<b>Description</b>	<b>5</b>
<b>Dterm85 8D</b>	<b>5</b>
<b>Description</b>	<b>5</b>
<b>Dterm85 16D</b>	<b>6</b>
<b>Description</b>	<b>6</b>
<b>Dterm85 32D</b>	<b>6</b>
<b>Description</b>	<b>6</b>
<b>Dterm key layout</b>	<b>8</b>
<b>DtermIP 8D</b>	<b>9</b>
<b>Description</b>	<b>9</b>
<b>DtermIP 16D</b>	<b>9</b>
<b>Description</b>	<b>9</b>
<b>60-Button Console</b>	<b>9</b>
<b>Description</b>	<b>9</b>
<b>FEATURE DESCRIPTION</b>	<b>10</b>
<b>Directory, Message and Microphone keys</b>	<b>10</b>
<b>Description</b>	<b>10</b>
<b>Service Conditions</b>	<b>10</b>
<b>Operating procedure</b>	<b>10</b>
<b>Programming procedure</b>	<b>11</b>
<b>General Dterm programming</b>	<b>11</b>
<b>Ring frequency control</b>	<b>12</b>
<b>Description</b>	<b>12</b>
<b>Service conditions</b>	<b>12</b>
<b>Operating procedure</b>	<b>12</b>
<b>Programming procedure</b>	<b>12</b>
<b>Power saving mode</b>	<b>14</b>
<b>Description</b>	<b>14</b>
<b>Service conditions</b>	<b>14</b>
<b>Operating procedure</b>	<b>14</b>
<b>Programming procedure</b>	<b>14</b>

<b>DTERM85 ACCESSORIES</b>	<b>15</b>
<b>Description</b>	<b>15</b>
<b>AC Adaptor</b>	<b>15</b>
<b>AD(A)-R Unit (Ancillary Device Adaptor)</b>	<b>15</b>
<b>Switch settings and wiring</b>	<b>15</b>
<b>AP(A)-R / AP(R)-R Unit (Port Adaptor)</b>	<b>18</b>
<b>WM-R Unit (Wall Mount Unit)</b>	<b>19</b>

## INTRODUCTION

This TIB has been written to explain the operation of the new Dterm85 series phones – also called Dterm i series and provide a matrix to show which PABX's they are supported on and which features are supported. The operating procedure for these handsets has not changed dramatically from the Dterm75 series phone, but some new keys and new features have been added. These new features will be described in this document, along with the associated programming.

## MINIMUM SOFTWARE/HARDWARE REQUIREMENTS

IPS – Full features

MP                    PN-CP24-A                    SC-3117 F1 2.02 (R6.1)

IVS 2000 – Dterm85 functions in Dterm75 mode.\*\* No DtermIP or IP Dterms.

MP                    PN-CP14/CP16                    All software versions

ICS M110/M120 – Dterm85 functions in Dterm75 mode.\*\* No DtermIP or IP Dterms.

MP                    PN-CP00/CP00-C                    CJ Software and above

\*\* **Dterm75 mode:** All features except for the following:

- No display of Volume, LCD contrast and ringer volume adjustment on LCD
- No access to Key Nos 98 and 99. i.e. No Message or Directory keys.
- Standard Ringer tones available, no additional 6 Ringer tones.
- No power saving mode.

## OPERATION MATRIX

Dterm type	Interface card	System type			
		Model 110	Model 120	IVS 2000	IPS / IPS Retrofit
Dterm i	PN-4DLCA	Dterm75 mode	Dterm75 mode	Dterm75 mode	Full function
	PN-8DLCH	Dterm75 mode	Not supported	Dterm75 mode	Full function
	PN-8DLCL	Dterm75 mode	Not supported	Dterm75 mode	Full function
Dterm i with IP adaptor	X	Not supported	Not supported	Not supported	Full function
DtermIP	X	Not supported	Not supported	Not supported	Full function

## GENERAL DESCRIPTION

The Dterm85 series phones offer all the same features as the Dterm75 phones along with some new features and enhancements.

The series includes the following handsets:

Dterm2DT, Dterm8D, Dterm16D, Dterm32D, DtermIP 8D, DtermIP 16D and Dterm85 60 Button DSS Console. All Digital handsets except for the Dterm2DT can have the following adaptors fitted:  
AP(R) / AP(A). Analog Port adaptor  
AD(A). Recording adaptor

**The 2DT has an unbuilt AP(A ) Unit but requires programming as per adaptors on other models.**

The following features have been added to the handsets:

- Three new Dedicated feature keys, Directory, Message and Microphone keys have been added. The operating procedure for these will be described later in this document. (Directory and Message keys not applicable to Dterm2DT)
- 6 additional Dterm ring tones have been added.
- Power saving mode. This feature lowers the brightness of the Dterm LCD after a time determined by system data. (Not available on DtermIP)
- Display of adjusting volume for several items, display of adjusting LCD contrast can now be seen on the Dterm LCD.

# HANDSET DESCRIPTION

## Service Conditions

- The number of Dterm85 and DtermIP handsets that can be accommodated is limited by the maximum number of Dterm / Dterm IP for that IPS configuration.
- The operation mode of the Dterm is set by system data (CM 12 YY=17) explained later in the programming section of this section.
- Either Dterm75 mode or Dterm85 mode must be assigned to level 0~3 and level 4~7 of the 8DLC cards in CM 12 YY=17, because this data must be assigned per four circuits of the 8DLC cards. (This condition is not applicable for DtermIP).
- Dterm85 can be accommodated in IPS with software previous to R6.1 but will function in Dterm75 mode.
- If a Dterm is exchanged during operation, the old key data will remain in system. Therefore, when Dterm65 is exchanged with Dterm85, the key label will not match the keys. In this case, CM 93 will need to be reassigned so that the dedicated function keys of Dterm85 are set.

## Dterm85 2DT

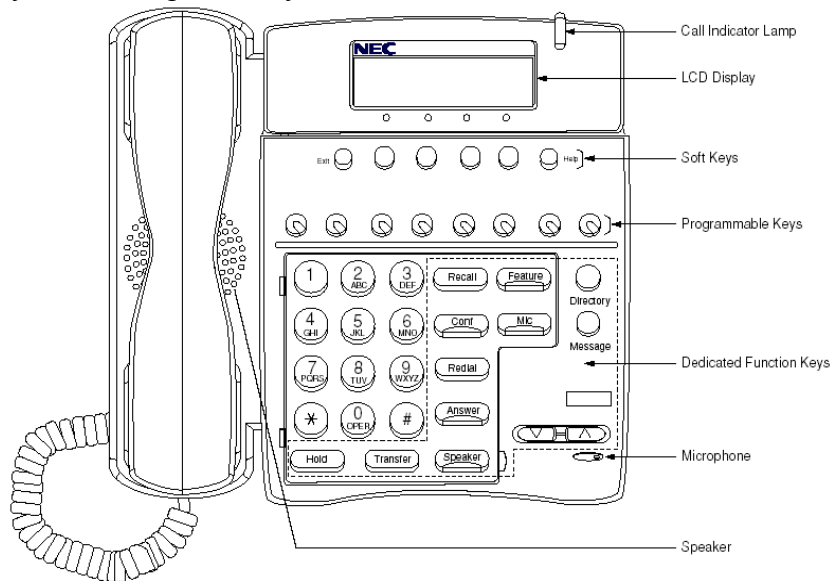
### Description

The Dterm85 2DT handset offers similar features as the previous DSLT (Digital Single Line Telephone) along with a built-in Analog Port Adaptor – (without ringer). Depending on system data, this adaptor can share the same PBX station number as the Dterm or have a completely separate PBX station number. It has no LCD fitted, no Message or Directory keys and has two line/trunk/feature keys.

## Dterm85 8D

### Description

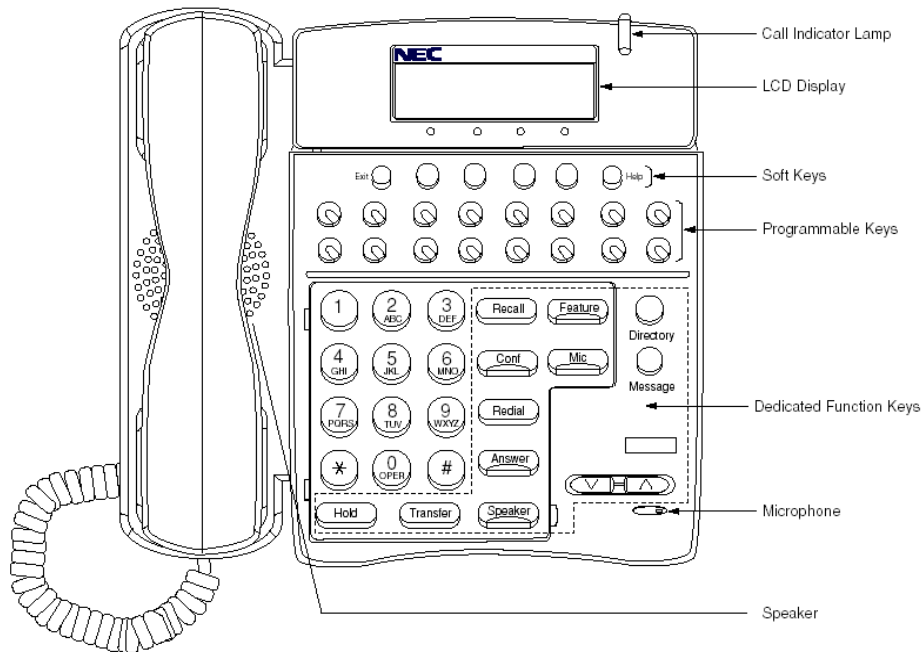
The Dterm85 8D handset offers the same features as the previous Dterm75 8D along with dedicated Message, Directory and Microphone keys. It also has an LCD fitted.



## Dterm85 16D

### Description

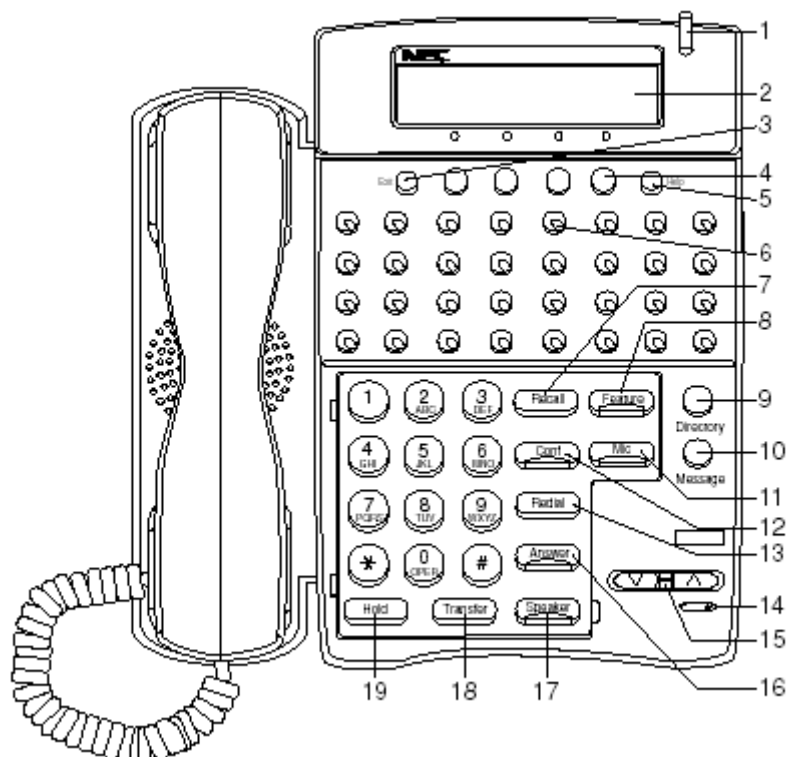
The Dterm85 16D handset offers the same features as the previous Dterm75 16D along with dedicated Message, Directory and Microphone keys. It also has an LCD fitted.



## Dterm85 32D

### Description

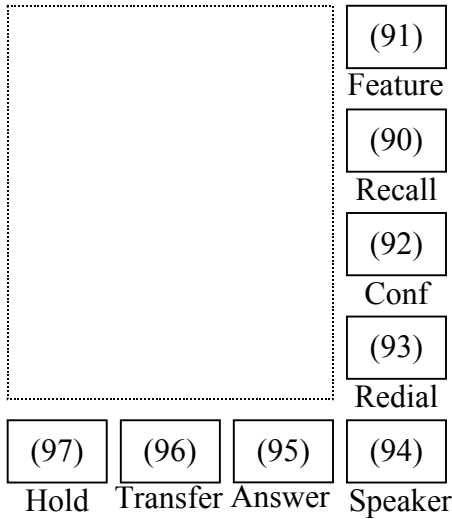
The Dterm85 32D handset offers the same features as the previous Dterm75 32D along with dedicated Message, Directory and Microphone keys. It also has an LCD fitted. This handset can be configured in with 16 Line/Feature keys + 16 One-Touch keys; 24 Line/Feature keys + 8 One-Touch keys.



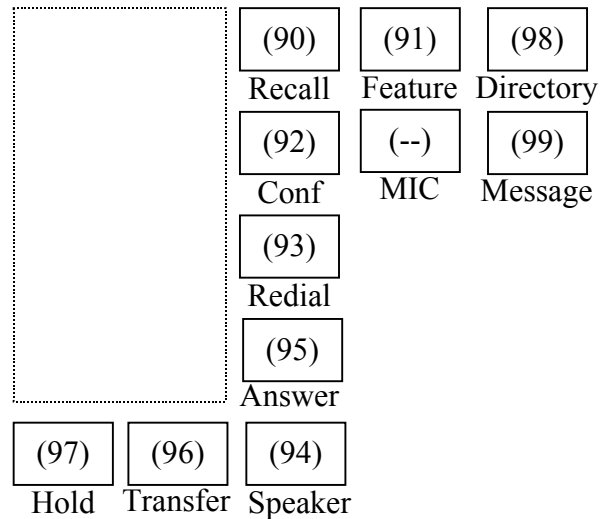
No.	Key name	Description
1	Call indicator lamp	Lamp at top corner of Dterm Display flashes when a call terminates to the terminal. Lamp lights steadily when a message has been left.
2	LCD	Liquid Crystal Display provides Dterm activity information plus data, time and Softkey operation. The LCD has 24 character, 3-line capability.
3	Exit	The user can escape from the Help key mode by pressing this key.
4	Soft keys	Any feature shown at the bottom of the LCD is available. The appropriate feature key is displayed according to the current call status.
5	Help	Explanations of the Soft keys can be called up on the LCD by pressing this key.
6	Programmable keys	These keys can be any of the following: Station line access, Trunk line access, Feature key access, Speed-dial access, One-touch key access.
7	Recall	Press to terminate current call and return to PBX Dial tone.
8	Feature	Used to activate terminal setup functions and program One-touch Speed Dial/Feature keys. (Note 1)
9	Directory (Note 2)	Press key to activate Speed dial-calling system feature.
10	Message (Note 2)	Press this key to activate Message Waiting Search feature.
11	Mic	Press this key to toggle on/off handset Microphone. Mic lamp will illuminate when Microphone is activated.
12	Conf	Press this key to establish a 3-way conversation. LED will light when Conference is active.
13	LNR/SPD	Press to activate redial feature. Press again to step through last five dialled numbers. When desired number is reached, press # button.
14	Microphone	Lights when Microphone is active for hands-free operation.
15	Up/Down	Used to adjust LCD contrast, speaker/receiver and ringer volume.
16	Answer	When LED lights, press key to answer the awaiting call.
17	Speaker	Controls the built-in speaker which can be used for Hands-free dialling/monitoring. LED lights when key is active.
18	Transfer	Allows the station user to transfer established calls to another station, without attendant assistance.
19	Hold	Press key to place an internal or external call on hold.

## Dterm key layout

Dterm70/75 key layout



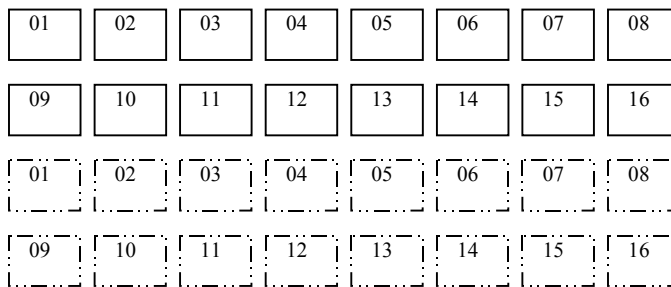
Dterm80/85 key layout



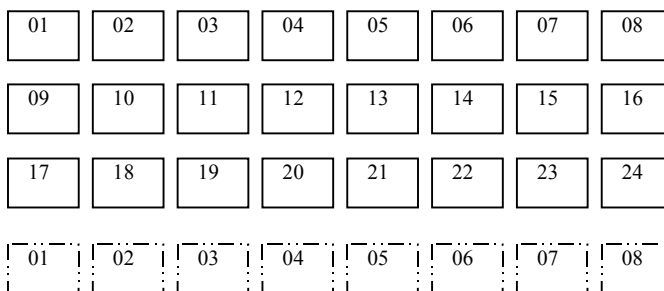
### Line/trunk and One-touch key layout for 32-button Dterm

The line/trunk – one-touch key allocation can be changed from 16 line/trunk and 16 one-touch keys to 24 line/trunk and 8 one-touch keys by CM 12 YY=24.

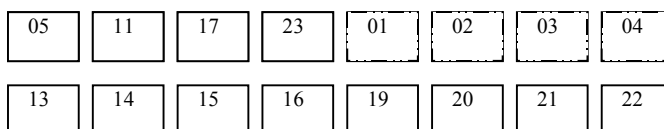
#### 16 line/trunk – 16 one-touch keys



#### 24 line/trunk – 8 one-touch keys



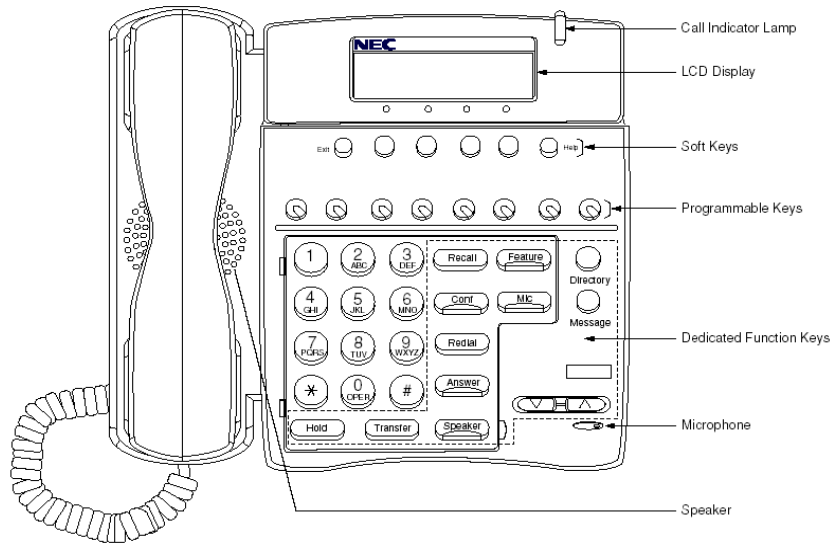
When Dterm85 is used in mode other than Dterm85 mode, 24 Line/Feature keys + 8 One-Touch keys must not be programmed as the key numbers are not sequential as shown below.



## DtermIP 8D

### Description

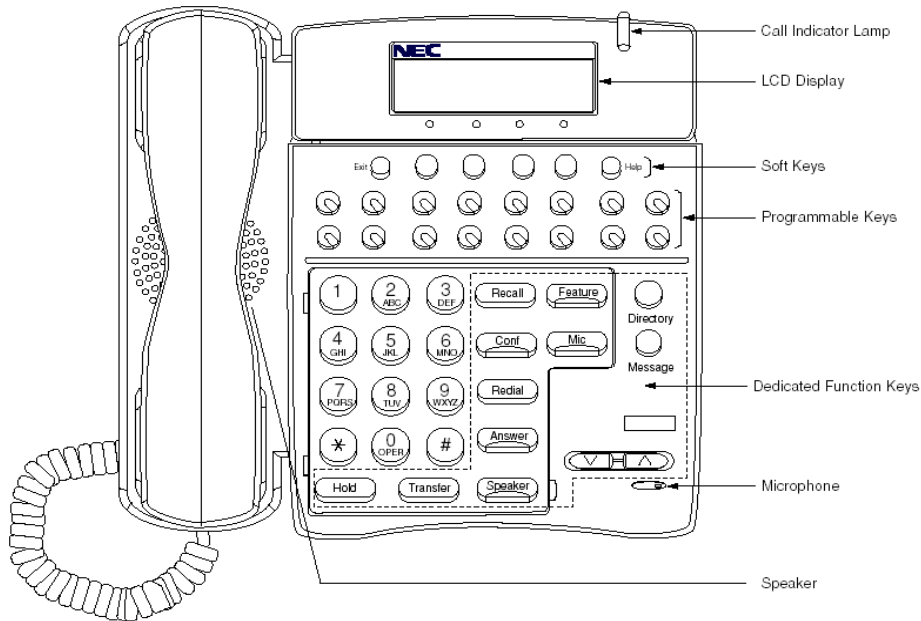
The Dterm85 8D handset offers the same features as the Dterm85 8D along with integral IP connectivity. This handset requires the use of an AC adaptor or can be powered in-line by the switch or hub it is connected to.



## DtermIP 16D

### Description

The DtermIP 16D handset offers the same features as the Dterm85 16D along with integral IP connectivity. This handset requires the use of an AC adaptor or can be powered in-line by the switch or hub it is connected to.



## 60-Button Console

### Description

The 60-button console is similar in function and programming as the previous Dterm75 style console. It has 60 two-color buttons that can be used for line/trunk keys and some are available for limited feature keys. It requires the use of an AC adaptor.

# FEATURE DESCRIPTION

## Directory, Message and Microphone keys

### Description

The Directory key is dedicated for use in conjunction with the System Speed Dial feature. The Message key is dedicated to perform the use of Message Wait Search feature. The Microphone key is dedicated for use as a microphone on/off key. (This setting cannot be changed by system data). The setting of the Directory and Message keys are not fixed.

### Service Conditions

Dedicated function keys have been added to the Dterm85 series handsets. The default settings for these keys are as follows:

- Key number 98: Dial by Name Directory (for Station Speed Dialing [F5015])
- Key number 99: Message Waiting Search [F0A46]
- Key number none: Microphone (This is fixed and cannot be changed by system data)
- There are no lamps associated with keys 98 + 99.

### Operating procedure

#### Directory key

This key uses the same function as the Dial By Name feature.

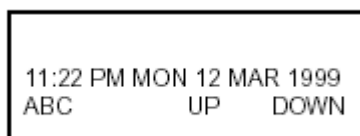
To search for a number by name and originate a call by Speed Calling – Station

1. From an idle status, press Directory key
2. Press STA softkey
3. Enter a name or part of a name by keypad
4. Press up/down softkey to locate correct number (Name and number shown on Dterm LCD)
5. When desired name has been reached, press line key or go off hook to originate call.

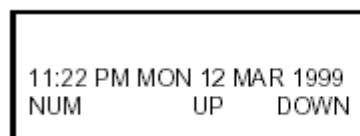
To register a name and number for call by Speed Calling – Station

1. From an idle status, press Directory key
2. Press STA softkey
3. Press Feature key and enter a name by keypad
4. Press the feature key and enter the dialed number to be stored (Name and number shown on Dterm LCD) **NOTE**
5. Press Feature key. The Dterm LCD shows “set ok”.

**NOTE:** *There are two modes of input; alphabet and number. The input mode is indicated on the softkey of the Dterm as per the following example. When left side of the softkey shows “ABC”, the alphabet can be recorded. When “NUM” is displayed, the number can be recorded. The alphabet mode and number can be changed by pressing the left side softkey that shows “ABC” or “NUM”.*



Alphabet Mode



Number Mode

In alphabet mode, the input character is fixed by the “#” key.

Example 1. Dial 222#22#    CB is recorded as the name

Example 2. Dial 222999#    CY is recorded as the name

Example 3. Dial 222#22 then press “ABC” softkey CB is recorded and input mode is changed from alphabet to number.

## Message key

This key uses the same function as the Message Waiting Reminder Search feature key.

To retrieve a message from a Dterm with an LCD:

1. Press the Speaker key or lift handset and receive Dial Tone
2. Press the Message Key; Dterm LCD shows Message xxxx (where xxxx is the station number that set the message) and the time the message was sent.
3. Three options are available by softkey function:
  - Press SEARCH softkey to see the next message; or press 1 on the keypad
  - Press CALL softkey to call the displayed station; or press 2 on the keypad
  - Press ERASE softkey to erase the displayed message; or press 3 on the keypad

## Programming procedure

A	DESCRIPTION	DATA
CM90	Set the dedicated function keys	<ul style="list-style-type: none"> <li>• YY=00</li> </ul>
	Directory key	(1) X~XXXXXXXX,98 Stn No, key 98. (2) F5015: Dial by Name Directory
	Message key	<ul style="list-style-type: none"> <li>• YY=00</li> </ul>
		(1) X~XXXXXXXX,99 Stn No, key 99. (2) F0A46: Message Waiting Search
<u>END</u>		

## General Dterm programming

A	DESCRIPTION	DATA
CM12	Set the mode of operation of the Dterm	<ul style="list-style-type: none"> <li>• YY=17</li> </ul>
		(1) X~XXXXXXXX: Station number (2) 0: Dterm65 mode (no soft keys) 3: Dterm75 mode / Dterm85 mode (sofkey is available) Default
	Kind of Dterm	<ul style="list-style-type: none"> <li>• YY=24</li> </ul>
		(1) X~XXXXXXXX: Station number (2) 0: 24 Line/Trunk keys + 8 One-touch keys 7: 16 Line/Trunk keys + 16 One-touch keys (Default)
<u>END</u>		

## Ring frequency control

### Description

6 new ringer tones have been added to the existing 8 ringer tones currently available.

### Service conditions

These ringer tones are only available to Dterm85 handsets operating in Dterm85 mode.

### Operating procedure

To change the Ring Frequency at the Dterm

1. Press the Feature key, followed by 3; receive the new selected tone from the Dterm speaker
2. Press 3 to scroll through the 14 ringer tones available
3. Press Feature key when desired ringer tone is selected

Alternately

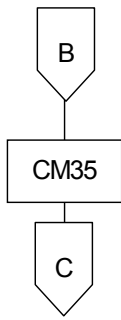
1. Press the Feature key, followed by 0; receive the new selected tone from the Dterm speaker
2. Press 3 to scroll through the 14 ringer tones available
3. Press Feature key when desired ringer tone is selected

### Programming procedure

To control the ring frequency by system programming

A	DESCRIPTION	DATA
CM08	Dterm ringer volume control and sending of ring test tone . To ring the ringer, press feature key and dial 0 . To adjust the ringer volume, press up/down arrow buttons	(1) 262 (2) 0: Allow the ring test tone to be heard when feature key and 0 is pressed
CM15	Enable the frequency control by system data programming <b>INITIAL</b>	(1) 390 (2) 0: By pressing Feature key and 3 1: As per CM 15 YY=83, 84, 93, CM 35 YY=34,164 (Default)
B	Specify the ringer tone pattern of the Dterm for terminating calls from a station in the Service Restriction Class C assigned by CM 12 YY=07	<ul style="list-style-type: none"> <li>• YY=83, 84, 93</li> </ul> (1) 00~15: Service Restriction Class C assigned by CM 12 YY=07 (2) See table below

YY=83	YY=84	YY=93: 0	YY=93: 1 (default)
0	0	Ringer Tone Pattern 7	Ringer Tone Pattern 7
0	1 (default)	Ringer Tone Pattern 6	Ringer Tone Pattern 1
1 (default)	0	Ringer Tone Pattern 5	Ringer Tone Pattern 0
1 (default)	1 (default)	Ringer Tone Pattern 4	Ringer Tone Pattern 2



DESCRIPTION	DATA
Specify the Ringer Tone Pattern of the Dterm to each trunk route	YY=34, 164 (1) 00~63: Trunk Route No. (2) See the table below

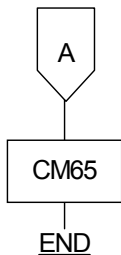
YY=34	YY=164: 0	YY=164: 1 (default)
0	Ringer Tone Pattern 3	Ringer Tone Pattern 0
1	Ringer Tone Pattern 6	Ringer Tone Pattern 1
2	Ringer Tone Pattern 5	Ringer Tone Pattern 2
3 (default)	Ringer Tone Pattern 4	Ringer Tone Pattern 7

To specify the Ringer Tone Pattern of the Dterm to each DID No.



DESCRIPTION	DATA
Specify the Ringer Tone Pattern of the Dterm on DID calls For this assignment, do not set CM 76 YY=23 to 7 (As per CM 35 YY=34/164)	YY=23 (1) 000~999: Number Conversion Block No. assigned by CM 76 YY=00/90 (2) 0: Ringer Tone Pattern 0 1: Ringer Tone Pattern 1 2: Ringer Tone Pattern 2 3: Ringer Tone Pattern 3 4: Ringer Tone Pattern 4 5: Ringer Tone Pattern 5 6: Ringer Tone Pattern 6

To set the ring frequency of the Dterm



DESCRIPTION	DATA
Specify the ring frequency of the Dterm	YY=40 (1) 00~63: Tenant No. (2) See the table below

Ringer Tone Pattern No.	YY=40: 0	YY=40: 1 (default)
0	Door Phone Ringer Tone	1100 + 1400 Hz / 16Hz Modulating signal
1	Ringer Tone 1	520 + 660 Hz / 8 Hz Modulating signal
2	Ringer Tone 2	660 + 760 Hz / 16 Hz Modulating signal
3	Ringer Tone 3	1100 Hz Envelope
4	Ringer Tone 4	540 Hz
5	Ringer Tone 5	1100 Hz
6	Not used	1400 + 1100 Hz
7	Not used	520 + 660 Hz / 16 Hz Modulating signal

## Power saving mode

### Description

This feature dims the level of the Dterm LCD and the line key lamps slightly, after a predetermined time. This time is set in system data.

### Service conditions

This feature is not available for DtermIP.

This feature is not provided in modes other than Dterm85 mode.

### Operating procedure

There is no operating procedure.

### Programming procedure

A	DESCRIPTION	DATA
CM12	Set the timer to activate the power saving mode	YY=44 (1) X~XXXXXXXX: Station No. (2) 0: After 1 minute 1: After 2 minutes 2: After 4 minutes 3: After 8 minutes 4: After 16 minutes 5: After 32 minutes 6: After 64 minutes 7: Don't use power saving mode (default)
END		

## DTERM85 ACCESSORIES

### Description

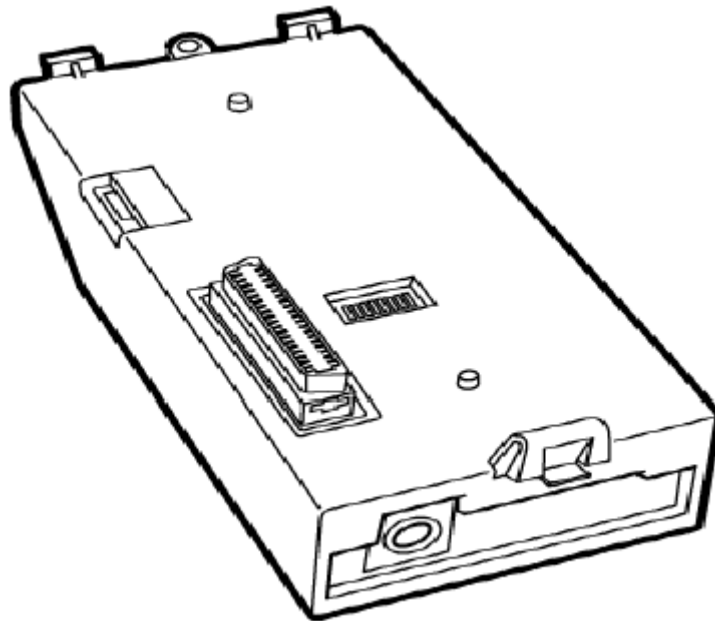
The Dterm85 series handsets can be fitted with various Ancillary Devices. These adaptors and accessories are snap-in options to enhance the functionality of the telephone. This section describes these adaptors and their uses. The fitting of any of the adaptors will require some of the Dterm base cover to be removed to allow clearance for the adaptor. This can be achieved with side cutters.

### AC Adaptor

The AC Adaptor is required for providing power to some of the ancillary devices or DSS/BLF Consoles. The AC adaptor must be connected to an adaptor that is installed on a Multiline Terminal. If more than one adaptor is installed, only one adaptor is necessary per terminal. This adaptor is 24VDC 400mA. (NEC Part No. 4523424)

### AD(A)-RA Unit (Ancillary Device Adaptor)

This Ancillary Device Adaptor allows connection of a voice recording device to all Dterm85 Multiline terminals except 2DT. The AD(A)-RA has the ability to provide warning tone to parties being recorded. It is mandatory to have this feature enabled when using the AD(A)-R in Australia.

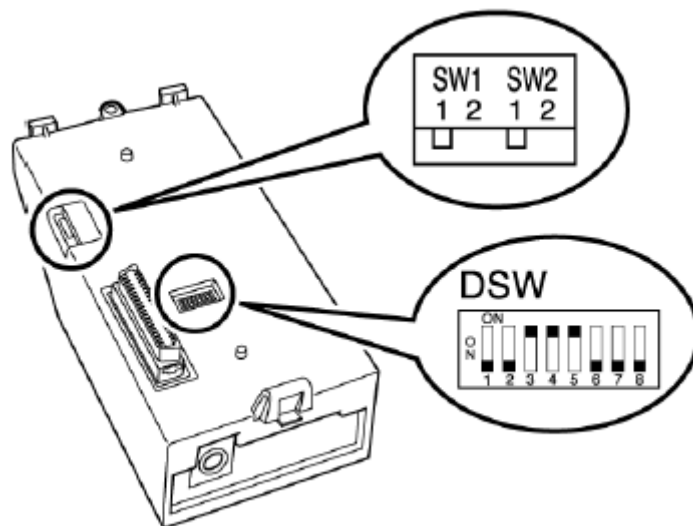


### Switch settings and wiring

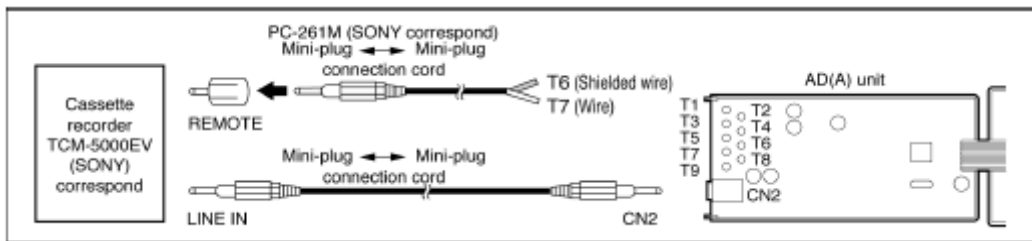
- When voice calls are to be recorded, remove the cover from the Adaptor and set the switch settings with default settings as shown below. The switch setting chart and the wiring diagram is shown on the following pages.

Switch	Setting	Description	
DSW 1	Off	When the AD(A)-R provides control to the recorder, DSW1-1 should be set to On, otherwise set it to Off (default).	
DSW 2	On (default)	Warning Tone from any device is sent to terminal.	
DSW 3 and DSW 4	DSW 3 Off (default) On	DSW 4 Off (default) On	Warning Tone from recording device over same wire pair as speech path.
	DSW 3 Off (default) On	DSW 4 On (default)	Warning Tone from recorder or generator equipment on dedicated wire pair to recorder MIC input
DSW 5	On (default)	Do not use	
DSW 5~ 8	Off (default)	Do not use	
SW1	SW1-1	Do not Use	
SW2	SW2-1 SW2-2	600 $\Omega$ Input Impedance < 30 $\Omega$ Input Impedance	

- Do not connect T1 and T2 when DWSW switches 3 and 4 are On.



AD(A)-RA with default switch settings



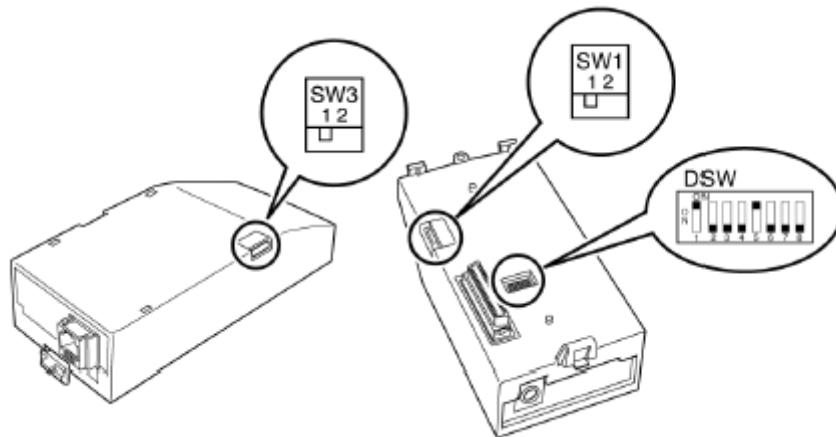
Terminal Number	Cables to Connect	Terminal Specifications
T1	When warning tone is not being sent from the recorder, connect wire pair input from tone generator to T1:T2. The warning tones from the generator are sent to T1:T2 on a dedicated wire pair while the speech path is sent from the Input/Output Terminal:	Input Terminal: T1 and T2 are enabled for tone generating device when DSW switches 3 and 4 are OFF.  (When DSW switches 3 and 4 are ON, a humming sound may be recorded due to impedance mismatch.)  Input Impedance on T1 and T2: 100K $\Omega$  Input Level on T1 and T2: -15 dB ~ 40 dB
T2	Refer to dip switch settings in Table 8-1 AD(A)-R Unit Switch Settings. on T3:T4 over a separate wire pair to the recorder.	
T3:T4	Connect recorder device wire pair speech input to T3:T4. When the recorder used supplies a warning tone, this tone may also be sent over the T3:T4 wire pair back to the terminal.	Input/Output Terminal: Refer to dip switch settings in Table 8-1 AD(A)-R Unit Switch Settings.
T5	Connect the bare end of the control cable.	When a Multiline Terminal is idle, this contact is closed. When the Multiline Terminal goes off-hook (using the handset, headset, or speakerphone), this contact is open. <b>When recorder owner manual specifies start on open circuit, connect T5 and T6.</b>
T6	Connect the shielded end of the control cable.	Provides common connection for control cable.
T7	Connect the bare end of the control cable.	When the Multiline Terminal is idle, this contact is open. When the Multiline Terminal is busy (using the handset, headset, or speakerphone), this contact is closed. <b>When recorder owner manual specifies start on closed circuit, connect T6 and T7.</b>
T8	Unused	
T9	Unused	
REC Jack	Connect recorder device wire pair speech input to REC Jack. When the recorder used supplies a warning tone, this tone may also be sent through the REC Jack wire pair back to the terminal.	Input/Output Terminal: Refer to dip switch settings in Table 8-1 AD(A)-R Unit Switch Settings.

**Notes:**

- When recording in hands-free (half duplex) mode using the built in speaker, the record warning tone may not be audible to the far end party.
- The transmit recording level is lower than the receiving voice level for internal calls. The transmit recording level for trunk calls is normal.
- Depending on the recording devices, separate cables may be required for the warning tone and the speech path. In this case, connect the warning tone cable to input terminals T1 and T2 on the AD(A)-RA Unit. (T3 and T4 are used as the tape recorder input).
- When remote control of the recorder is necessary, the recording start/stop control is provided by connecting to T5 (or T7) and T6 on the AD(A)-RA Unit. (Connecting to T5 or T7 is determined by the specifications of the recorder)
- When a warning tone is provided from the recording equipment, it should be input via T3 and T4 on the AD(A)-RA Unit. (Do not use T1 and T2 to input beep tone)
- Conversations cannot be recorded from terminals connected to an AP(R)-RA Unit.

**AP(A)-RA/ AP(R)-RA Unit (Port Adaptor)**

The Analog Port Adaptor without ringer, AP(A)-RA or Analog Port Adaptor with ringer AP(R)-RA is the interface for installing Single Line Telephones, Modems, Credit Card Readers, NEC Voicepoint and other compatible analog devices. The AP(R)-RA Unit generates ringing signals to the analog device and requires the use of an AC Adaptor.



Switch	Setting/Description
SW1	1 (default)
SW3-1	Sets impedance to 600Ω for devices such as modems or facsimile machines
SW3-2	Used for complex impedance devices such as Single Line Telephones.
DSW	<p>(Default)</p>

## **WM-R Unit (Wall Mount Unit)**

The WM-R is required when a Dterm85 handset that is fitted with an Adaptor, needs to be mounted on a wall surface or vertically. The standard Dterm85 base cover can be installed in the reverse direction when wall mounting is required and no adaptors are fitted to the handset.