SMarT-1 EuroRoute Compact Dialer

Installation & Programming Guide

MITEL

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Compact Dialer Register Index

Commands and Features

Section 2

Glossary and Abbreviations of Terms

	Represents a burst of 400 Hertz tone transmitted over the phone to the subscriber.
Absorbed Digits	Absorbed digits are digits that are “absorbed” by the Compact Dialer via the Search Tables. The digits that are “absorbed” are copied to a special buffer, which can hold a maximum of 8 digits. The absorbed digits can be totally removed from the destination number or appended to, via the respective Dialing Rule token.
Centrex	A business telephone service provided by the PSTN that gives the subscriber unique telephone features, similar to the features provided by a PABX.
Destination Number	The destination number is the number that is dialled to reach the called party.
Exchange Line	The physical connection between a telephone service subscriber and the PSTN that provides the telephone service.
Hz	Hertz.
mA	milliamperes.
MF4 Dialling	MF4 tone dialling.
ms	milliseconds.
PABX	Private Automatic Branch Exchange.
pps	pulses per second.
PSTN	Public Switched Telephone Network.
Rotary Dialling	Pulse dialling.
Route	A Route is a set of preprogrammed dialling rules that can include access codes to be used to place a telephone call over a particular service or carrier. A Route is chosen by matching dialled digits with a template in the Search Tables.
Search Tables	The Search Tables consist of two buffers, Buffer A and Buffer B, in which the user’s dialled digits are screened for the purpose of assigned a pre-defined set of instructions. It is here in the Search Tables where calls can be barred or sent to a select carrier via a Dialling Rule.
sec	second.
Temporal Zone	A temporal zone is a time zone based on the day of the week and on a time-of-day window. The Dialer can be programmed to select routes based on the time of day and the day of week.

Glossary and Abbreviations of Terms

Section

3

Hardware Installation

Description

The Compact Dialer package consists of:

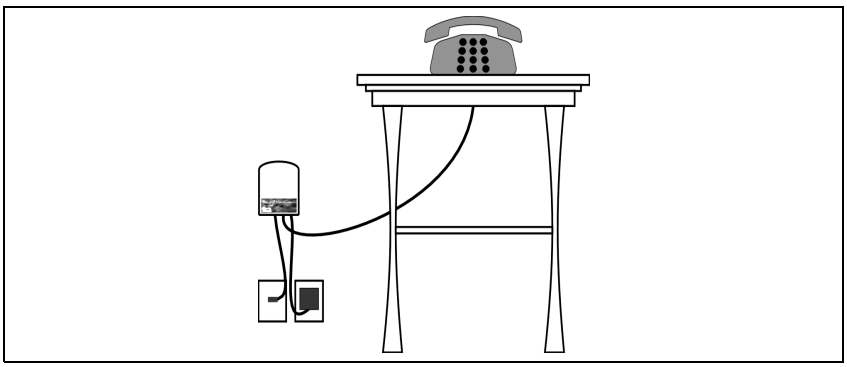
- 1 Unit
- 1 Safety Instructional Sheet
- 2 Line Cords (one for the network and one for the telephone).

Mounting

The Compact can be placed on a desk or any other flat surface or mounted vertically using self tapping screws. Avoid placing the Compact in areas where severe temperature exists, such as direct air flow from a heating duct, radiator or direct sunlight. This product is not intended for outdoor use.

The installer, resident, may use the supplied template (refer to page 51) as a guide to drill holes in the wall with a 3mm drill. Before mounting the Compact to a wall, the installer can supply two 18mm #6 pan-head screws and place them into pre-made holes in the wall.

When attaching the Compact to a plaster wall, insert the nylon anchors into the pre-made holes applying the 18mm #6 pan-head screws. The illustration below shows the positioning of the Compact.



Connecting the Compact to your phone line

- Verify that the two cables supplied with your Compact are connected. If they are not connected, please refer to the section titled, *Installing the Compact Connection Leads*.
- Unplug your telephone from the PSTN Wall Socket.
  Note: If you have multiple extensions plugged into the wall socket, then route all of them through the Compact. You will be able to make calls from any of the connected extensions, and they will be routed correctly. Extensions hard-wired into the back of the PSTN socket will NOT be routed through the Compact.
- Plug the lead from the Compact Dialer connector labeled "*To Phone Socket*" into your wall socket.
- Connect your telephone(s) to the lead from the Compact Dialer labeled "*To Telephone*".
- Pick up the telephone handset, and verify whether you have dial tone.
- Replace the handset.

Hardware Installation

Checking whether the Compact will work on your line

- Pick up the telephone handset and dial the Bad Line Test code (**0002**).
- If you hear a continuous tone you may hang up. The Compact will now call the management centre for programming. Please wait 10 minutes before using your telephone.
- If you do NOT hear a continuous tone or you get a recorded message from the PSTN, you will need to contact your maintainer to obtain a power supply.
- Until a power supply is attached, the Compact will not route calls or Call Home to obtain a program. You may, however, still use your telephone with the Compact connected.

Warning

- Never install telephone wiring during a lightning storm.
- Never install telephone jacks in wet locations.
- Use caution when installing or modifying telephone lines.

Connecting a Power Supply

- Connect the power supply to the power supply jack.
- Plug the power supply into a power outlet, and verify that the Mains switch is on.
- Lift the telephone handset, and check for dial tone.
- Repeat the installation process with the power supply connected.
- If you experience problems, please call your maintainer.

Note: Before disconnecting the power supply, in installations requiring a power supply, disconnect the telephone network connections first.

Power Failure

If a power failure occurs while the optional power supply is being used, the user's telephone equipment will be connected directly to the Exchange line. The user will still have access to the telephone network, but the Compact will not screen or route calls. This statement does not apply to the installations that do not require the optional power supply.

Note: Although this equipment can use either loop disconnect or DTMF signalling, only the performance of DTMF signalling is subject to regulatory requirements for correct operation. It is therefore strongly recommended that the equipment is set to DTMF signalling for access to public or private emergency services. DTMF signalling also provides faster call set up.

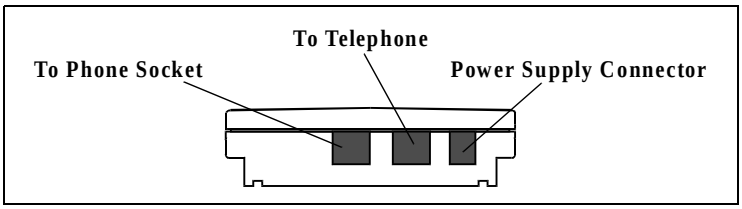
Emergency Number

The emergency number **112** is hard coded. Regardless of any programming that may conflict with this number, the Compact will dial the emergency number directly to the Exchange and cut through.

Installing the Compact Connection Leads

There are two RJ11cables supplied with the Compact. Using these two cables, follow the listed steps to install your Compact.

- Looking at the Compact, you will see three connectors; two of which are used to connect the supplied cables.
- Connect one of the cables to the middle connector on the Compact. This connector is identified on the back of the unit as, "*To Telephones*".
- Connect the other cable to the end connector on the Compact. This connector is identified on the back of the unit as, "*To Phone Socket*".
- Unplug your telephone from the wall socket.
- Connect your telephone to the middle connector labeled, "*To Telephone*".
- Connect your wall socket to the end connector labeled, "*To Phone Socket*".



Safety

Optional power supply

The Compact Dialer operates from a nominal 230 +/- 10% VAC supply. The power supply unit used with this apparatus must be fully compliant with the EEC LowVoltage Directive (73/23/EEC).

Safety Status of Ports

PSU	TNV †
NTP Ports	TNV †

† TNV is defined in EN 60950: 1992.

Connectivity

The Compact is intended to be placed in between the telephone wall outlet and the user's telephone. There are two RJ11 telecom cables, an RJ11 for connection to the Exchange and an RJ11 for connection to the resident's telephone or answering machine, that are used to connect the unit.

Network Approvals

Note 1: The equipment has been approved to commission decision 98/482/EC (CTR 21) for pan_European single terminal connection to the Public Switched Telephone Network (PSTN). However, due to differences between the individual PSTNs provided in different countries, the approval does not, or itself, give an unconditional assurance of successful operation on every PSTN network termination point. In the event of problems, you should contact your equipment supplier in the first instance.

Note 2: This product should work in a satisfactory manner when used in the countries listed in the EuropeanTelecommunications Standard Institute (ETSI) Guide EG 201 121. The countries listed in the guide are Germany, Greece, Portugal, Spain and Switzerland.

Note 3: The SMarT-1 EuroRoute Dialer is suitable for connection to a Public Switched Telephone Network supporting Multi-Frequency dialling.

Loop disconnect dialling may ONLY be used in EC Memberstates, which have NO additional regulatory requirements for Loop Disconnect dialling for products which are approved to CTR 21 (e.g. UK). For more details, contact your local Regulatory Notified body.

Hardware Installation

Basic Hardware Description

Mechanical Description

The Compact consists of a plastic case, enclosed circuitry and an optional outboard power supply.

MECHANICAL
Weight: Main Unit - 120g Power Supply - 190g
Dimensions: Main Unit - 126 x 85 x 27mm Power Supply - 50 x 55 x 65mm
Mounting: Flush wall mount or desk mount

Electrical Description

The electrical characteristics are provided in the table below.

ELECTRICAL
Power: 12 Volts @ 50 mA
Connections: Standard RJ11 and power connector

Safety Instructions

INSTRUCTIONS

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

Failure to follow all instructions may result in improper equipment operation and/or the risk of electrical shock.

1. All installation personnel should consult the following information before attempting to install this product.
2. Read all instructions before attempting to install or use this product.
3. Install and configure this product with only the assemblies specified in this guide.
4. Never install telephone wiring during a lightning storm.
5. Never install telephone jacks in wet locations.
6. Never touch telephone wires of terminals unless the telephone line has been disconnected at the network interface.
7. Use caution when installing or modifying the telephone lines.
8. The AC power socket/outlet should be installed near the equipment and should be easily accessible.

Hardware Specifications

Ringer Impedance	15k min
Ringing Sensitivity (25 Hz):	25VAC min
Off-hook Current	17.5 mA min, 50 mA max
Battery Feed	
Open Circuit	12 VDC nominal
Constant Current	13 mA min, 13.5 mA max
Short Circuit Current	13.5 mA max
MF4 Receiver	
Level	-22 dBm min, +3 max composite
Twist	-6 min
Time between tones	40 ms min
Rotary Receiver (Rate)	8 min, 12 max (pps)
MF4 Sender	
Levels dBV(ZR)	VF_L = -13 dBm +/- 2.5 dB VF_H = -11 dBm +/- 2.5 dB
Duration (programmable)	70 ms min
Rotary Sender	10 pps, 33/66 ms or 40/60
AC Operating Range	
AC Line	230/240 VAC, +/- 10%, 50 Hz, 50 mA Max
Temperature	0º to 45 º C
Humidity	0% to 85%, non condensing
Holdover	20 ms typical
Jacks	
DC Power	2.5 mm
Equipment	2 RJ11 Cables
Regulatory Conformity	
Safety	EN60950
Emissions	EN55022, Class B
Immunity	EN50082-1
Network	CTR21

Section

4

General Notes on Programming

Acknowledgment Tones for Local Programming

While programming the Dialer with an MF4 telephone, you will hear tones that indicate correct entries, incorrect entries and programming time-outs. In general, after each correct entry, the Dialer will respond with two tones.

If You Hear ♪

♪ means that the command you have entered has been recognized as being valid (correct), i.e. you entered **#345*** .

If You Hear ♪♪

♪♪ means that the entry you have made has been accepted. This occurs after a parameter has received all the digits it needs to complete programming, or if you have entered D on a variable length parameter. For example: if you dial **03** you will hear ♪, if you then dial 6 you will hear ♪♪.

If You Hear ♪♪♪♪

♪♪♪♪ means you have made an incorrect programming entry.

Notes:

In the event of an invalid entry, wait for the four tones to stop and then retry the entry. No data will be accepted by the Dialer for an incorrect programming entry.

If you remain inactive for twenty-five seconds while in programming mode, the unit will exit from programming mode and revert to the previous program.

Acknowledgment Tones for Remote Programming

While remotely programming the Dialer with an MF4 telephone, you will hear tones that indicate correct entries, incorrect entries and programming time-outs. In general, after each correct entry, the Dialer will respond with an MF4 “D”.

If You Hear “A”

A means that the command you have entered has been recognized as being valid (correct), i.e. you entered **29**.

If You Hear “D”

D means that the entry you have made has been accepted. This occurs after a parameter has received all the digits it needs to complete programming, or if you have entered D on a variable length parameter. For example: if you dial **03** you will hear **A**, if you then dial 6 you will hear **D.**

If You Hear “C”

C means you have made an incorrect programming entry.

If you remain inactive for twenty-five seconds while in programming mode, the unit will exit from programming mode, without saving any changes that were made.

Terminating Variable Length Entries

To terminate a variable length entry (Search Tables, Dialing Rules, Route Digit Strings and Digit Strings) use an MF4 **D**.

General Notes on Programming

Local Programming With a Fourth Column MF4 Telephone

MF4 tones can be used to program the Compact Dialer. The default local programming code is **#345✻**. To exit programming mode and save data, wait for long tone to end, then dial **98** and hang-up (go on-hook).

To program the Compact Dialer locally:

- Go off-hook and enter #345✻ (Contents of Register **68** by default)
- The Compact Dialer will respond with a long period of 400 Hz tone followed by♪
- Once the beep is heard, local programming mode is entered.

Notes:

Each time that the line cord is disconnected from the Dialer's PSTN socket, labeled "To Phone Socket", and then reapplied, the dialer will attempt to call the management system by using the number stored in Register **71** (refer to page 21) for programming.

Because of the fact that variable length registers need to be terminated with the MF4 digit D, Mitel recommends that the Compact Dialer be programmed with a 4th column telephone (A phone with a key pad including the buttons A, B, C and D).

Remote Programming With a Fourth Column MF4 Telephone

The Compact Dialer can be programmed remotely by using MF4 tones. The default remote programming code is **#124✻**. To exit programming mode and save data, dial **98** and hang up the remote telephone.

Notes:

Because of the fact that variable length registers need to be terminated with the MF4 digit D, Mitel recommends that the Compact Dialer be programmed with a 4th column telephone (A phone with a key pad including the buttons A, B, C and D).

Call Home on Installation

One minute after the Compact is installed, the unit will call the carrier's CallHome Well Management Center (CHWMC), using the following process. The unit will go off-hook and dial the phone number (refer to Register **71** on page 21) to the CHWMC. The unit will then wait for a response from the CHWMC for a period of twenty-five seconds.

If no response is received from the CHWMC, the unit will go on-hook and re-attempt to Call Home after one minute. The unit will then wait for a response from the CHWMC for a period of twenty-five seconds.

If no response is received after the second attempt, the Dialer will wait for one hour before re-attempting to Call Home. The unit will then wait for a response from the CHWMC for a period of twenty-five seconds.

If the third attempt is unsuccessful, the Dialer will Call Home every 24 hours, until the Dialer receives a response from the CHWMC. If the unit receives a password within the twenty-five second period, it will respond by sending an MF4 B followed by an MF4 D tone to the CHWMC. If the unit receives an invalid password, it will disconnect. Otherwise, the unit will then remain in view mode, where it will be ready to echo programming information or be ready to be changed to program mode.

If a telephone goes off-hook during the Call Home process, the unit will stop the Call Home process. The line will be reset, and dial tone will be returned to the user, allowing the user to process a call. The Call Home process may take from two to three minutes, depending on the size of the program. If anyone enters program mode and then exits from program mode using the command **98**, the Call Home process will be cleared. The process will not begin again, unless the Call Home Well Time feature is programmed, or the interval timer is a non-zero value. Call Home may be defeated by setting Register **10** to a **#** value.

Initialisation

Initialisation is a procedure that is used for re-loading the factory defaults into the Compact. This procedure will not affect the Call Home number that is stored in Register **71**.

To initialise a Compact that is connected to an Exchange line:

- With the telephone device on-hook, press and hold the✻ key located on the device
- While continuing to hold the ✻ key, take the telephone device off-hook
- Continue to hold the ✻ key for 10 seconds
- Release the ✻ key and listen for a 400 HZ tone followed by a ♪♪
- Dial **93** and listen for a ♪♪
- Dial **98** and listen for a 400 HZ tone followed by a "click" sound; hang up.

Call Home Well

Call Home Well will occur when the programmed time and date stored in Register **73** (Alarm register for Call Home) or the Interval Timer, Register **74** is reached. The unit will go off-hook and dial the phone number (refer to Register **71** on page 21) to the CHWMC. The unit will then wait for a response from the CHWMC for a period of twenty-five seconds.

If no response is received from the CHWMC, the unit will go on-hook and re-attempt to Call Home after one minute. The unit will then wait for a response from the CHWMC for a period of twenty-five seconds.

If no response is received after the second attempt, the Dialer will wait for one hour before re-attempting to Call Home. The unit will then wait for a response from the CHWMC for a period of twenty-five seconds.

If the third attempt is unsuccessful, the Dialer will Call Home every 24 hours, until the Dialer receives a response from the CHWMC. If the unit receives a password within the twenty-five second period, it will respond by sending an MF4 B followed by an MF4 D tone to the CHWMC. If the unit receives an invalid password, it will disconnect. Otherwise, the unit will then remain in view mode, where it will be ready to echo programming information or be ready to be changed to program mode.

If a telephone goes off-hook during the Call Home process, the unit will stop the Call Home process. The line will be reset, and dial tone will be returned to the user, allowing the user to process a call. The Call Home process may take from two to three minutes, depending on the size of the program. If anyone enters program mode and then exits from program mode using the command **98**, the Call Home process will be cleared. The process will not begin again, unless the Call Home Well feature is programmed.

Forced Call Home

Forced Call Home is accomplished by a technician going off-hook and dialling the Force Call Home code (refer to the note below). After this number is dialled, the unit will begin processing the Call Home, while returning a 400 Hz tone to the user. The intention of this tone is to advise the user to hang up. The unit will then wait for a response from the CHWMC for a period of twenty-five seconds. If the attempt to Call Home is unsuccessful, the Dialer will not re-attempt to Call Home. If the unit receives a password within the twenty-five second period, it will respond by sending an MF4 B followed by an MF4 D tone to the CHWMC. The unit will then remain in view mode, where it will be ready to echo programming information or be ready to be changed to program mode.

If a telephone goes off-hook during the Call Home process, the unit will stop the Call Home process. The line will be reset, and dial tone will be returned to the user, allowing the user to process a call. The Call Home process may take from two to three minutes, depending on the size of the program. If anyone enters program mode and then exits from program mode using the command **98**, the Call Home process will be cleared. The process will not begin again, unless the Call Home Well feature is programmed.

Notes:

The Force Call Home code must be programmed into the Search Tables.

The following example explains where tones would be heard if programming the Dialer via MF4 to use **0001** as the Force Call Home code:

78 ♪ 04 ♪♪ 0001C1D♪♪.

Note that in this example, the **D** terminating character was entered after the Lock Code. In this case, the Compact Dialer will place **0** for the remaining code value.

General Notes on Programming

Commands and Features

Special Function Commands and Features allow access to specific data in the Compact Dialer or cause the Compact to do certain functions. You must be in the programming mode to use these commands.

Commands/Functions	Definition
70	Program Service Centre Number
71	Program Call Home Number
72	Set Time/Date
73	Call Home Time/Date
74	Interval Timer (Minutes)
75	Clear Search Tables
76	Clear default Route string (20-33)
80	Display Service Center Number
81	Display Call Home Number
82	Display Time/Date
83	Display Software Revision
84	Display Call Home Interval Timer
85	Display Search Tables
86	Display Serial Number
88	Drop from Program Mode
92	Enter Verify Mode
93	Re-load Defaults
95	Reset Statistics
96	Display Statistics
97	ExitVerify Mode
98	Exit Programming Mode
9A	Bad Line Test
9D	Make the Dialer transparent

Program Service Centre Number—70

When the command **70** is entered, a ♪ will be heard. The Compact Dialer will then expect a Service Centre number, up to 22 digits, to be entered. An MF4**D** must then be entered in order for the entry to be accepted. The Compact Dialer will return♪♪, indicating that the entry was accepted. This feature is not affected by the commands **93**, **88**, or **98**.

For example, to use the phone number 0800123456 as the Call Home Number, the entry would appear in the following format:

700800123456D.

The Service Centre number will be dialled out when a match of digits in the SearchTables executes the relative action code. For example, with the following entry, if the user dials 0003 the Compact will call the Service Centre number:

7804 0003 C0 D.

Program Call Home Number—71

When the command **71** is entered, a ♪ will be heard. The Compact Dialer will then expect a Call Home number, up to 22 digits, to be entered. An MF4**D** must then be entered in order for the entry to be accepted. The Compact Dialer will return ♪♪, indicating that the entry was accepted. This feature is not affected by the commands **93**, **88** or **98**.

For example, to use the phone number 0800654321 as the Call Home Number, the entry would appear in the following format:

710800654321D.

Call Home will occur if the Time/Date is matched in Register **73** or the Interval Timer (Register **74**) has been reached. Additionally, you can add a code in the SearchTables to force a Call Home. For example, with the following entry, if the user dials 0001 the Compact will Call Home:

7804 0001 C1 D.

Call Home can be disabled by setting Register **10** to a **#**.

Set Time/Date—72

When the command **72** is entered, a ♪ will be heard. The Compact Dialer will then expect a desired time in a twenty-four hour format and date to be entered in the following format:

YY(Year)**MM**(Month)**DD**(Day)**HH**(Hour)**mm**(Minute).

Following the minute digits (**mm**), the Compact Dialer will return ♪♪, indicating that the entry was accepted. The data is saved upon entry. This feature is not affected by the commands **93**, **88** or **98**.

Notes:

When **99** is set in the **YY** position, it will be assumed to be 1999. Any other two digits will be assumed as **20**.

For example, to set the time/date to May 27, 1999 at 1:35 PM, the entry would appear in the following format:

729905271335.

Call Home Time/Date—73

When the command **73** is entered, a ♪ will be heard. The Compact Dialer will then expect a desired Call Home time in a twenty-four hour format and date to be entered in the following format:

MM(Month)**DD**(Day)**HH**(Hour)**mm**(Minute).

Following the minute digits (**mm**), the Compact Dialer will return ♪♪, indicating that the entry was accepted. The data is saved upon entry. This feature is not affected by the commands **93**, **88** or **98**.

Notes:

There is no field for the year with this command.

For example, to set the time/date to July 21 at 10:35 PM, the entry would appear in the following format:

7307212235.

General Notes on Programming

Call Home Interval Timer (Minutes)—74

When the command **74** is entered, a ♪ will be heard. The Compact Dialer will then expect a time interval to be entered (six digits) in the following format:

mmmmmm(Minutes).

This time represents the number of minutes between Call Home attempts. For example, to program the Compact to Call Home every 24 hours, the entry would appear in the following format:

74001440.

A non-zero entry in this register overrides the setting of Register **73**.

Clear Search Tables—75

When the command **75** is entered, a ♪♪ will be heard, indicating that the Search Tables are cleared.

Clear Default Route Strings—76

When the command **76** is entered, a ♪♪ will be heard, indicating that the Default Route Strings (**20 - 65**) have been erased.

Display Service Center Number—80

When the command **80** is entered, a ♪ will be echoed to the PSTN side, and the Compact Dialer will echo the Service Centre number in the following format:

0800654321.

Display Call Home Number—81

When the command **81** is entered, a ♪ will be echoed to the PSTN side, and the Compact Dialer will echo the Call Home number in the following format:

0800654321.

Display Time/Date—82

When the command **82** is entered, a ♪ will be echoed to the PSTN side, and the Compact Dialer will echo the Call Home Time/Date and the current Time/Date in the following format:

MM(Month)**DD**(Day)**HH**(Hour)**MM**(Min)**yy**(year)**mm**(Month)**dd**(Day)**hh**(Hour)**mm**(Min).

Display Software Revision—83

When the command **83** is entered, a ♪ will be echoed to the PSTN side, and the Compact Dialer will echo the software revision of the unit being accessed in the following format:

04520101.

Display Call Home Interval Timer—84

When the command **84** is entered remotely, a ♪ will be echoed to the remote end, and the Compact Dialer will echo the number of minutes remaining to the next Call Home in the following format:

001440.

Display Search Tables—85

When the command **85** is entered, a ♪♪ will be heard, and the contents of the Search Tables, if any exist, will be echoed in the format of the following example:

0612345600000000021100000000.

The first digit represents table A (0) or B (1). The second digit represents the number of digits to screen (1 through F, representing 1 through 15†). The next fifteen digits represent the digits to screen. The next thirteen digits represent action codes. Refer to page 39 for more information on the Search Tables.

† 1=1, 2=2, 3=3, 4=4, 5=5, 6=6, 7=7, 8=8, 9=9, ✳=10, #=11, A=12, B=13, C=14, D=15 (Where A, B, C, & D are Fourth Column tones).

Display Serial Number—86

When the command **86** is entered, a ♪ will be echoed to the PSTN side, and the Compact Dialer will echo the eight-digit serial number of the unit being accessed in the following format:

CBCD9575.

Note: 0=0, 1=1, 2=2, 3=3, 4=4, 5=5, 6=6, 7=7, 8=8, 9=9, ✳=E, #=F, A=A, B=B, C=C, D=D (Where A, B, C, & D are Fourth Column tones).

Drop from Program Mode—88

When the command **88** is entered, a ♪♪ will be heard, followed by a click sound. The Compact Dialer will then connect the user with the subscriber side without saving any changes that were made to the program during the current programming session. This command does not affect registers **72**, **73**, or **74**.

Enter Verify Mode—92

When the command **92** is entered, a ♪ will be echoed to the remote end, and the Compact Dialer will echo the contents of any register that is entered.

Re-load Defaults—93

When the command **93** is entered, a ♪ will be heard followed by ♪♪. The Compact Dialer will re-load the factory defaults after the first ♪ and remain in programming mode after the second ♪♪.

The series of ♪ may be heard as three consecutive tones, depending on the length of time that the dialer takes to load the factory defaults.

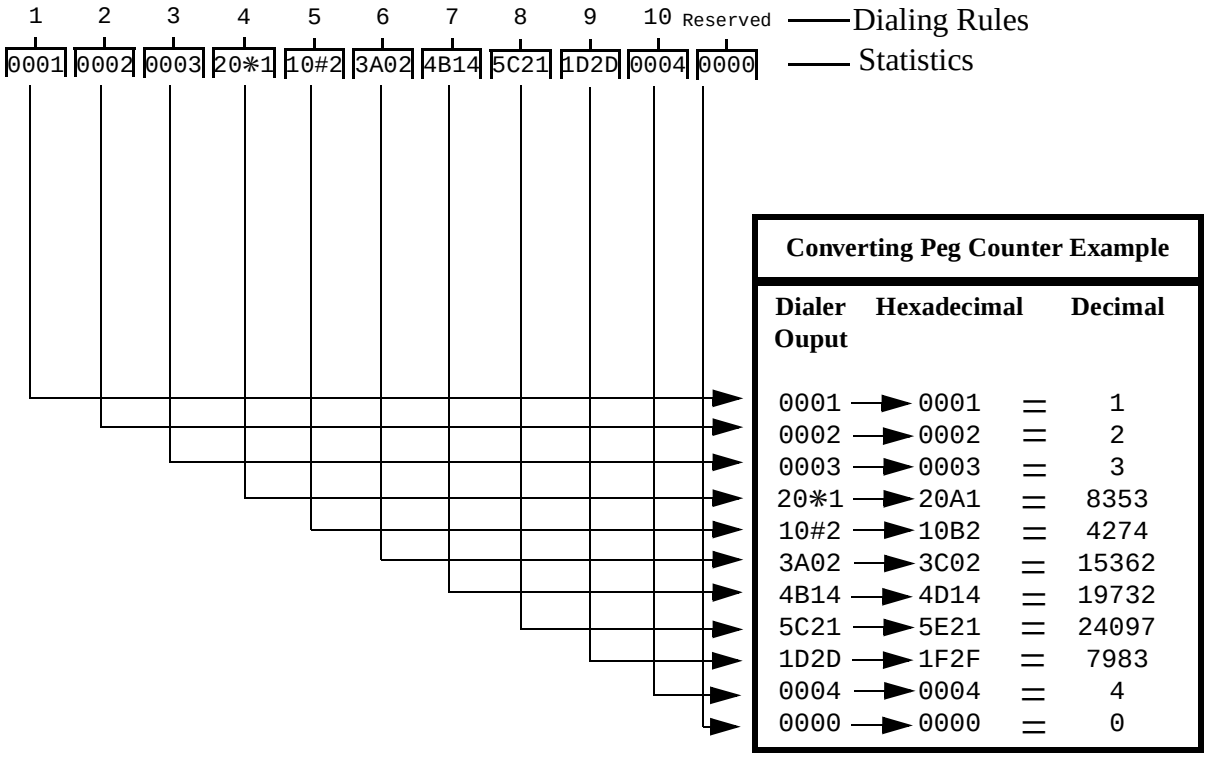
Reset Statistics—95

When the command **95** is entered either, a ♪♪ will be heard. The Compact Dialer will then reset the statistical counters to a value of:
00000000000000000000000000000000000000000000.

General Notes on Programming

Display Statistics—96

When the command **96** is entered, a ♪ is returned to the remote end, and the Compact will return any statistical information that has been logged, in the following forty-four-digit formatted examples.



Converting Peg Counter Example

Dialer Ouput		Hexadecimal		Decimal
0001	→	0001	=	1
0002	→	0002	=	2
0003	→	0003	=	3
20*1	→	20A1	=	8353
10#2	→	10B2	=	4274
3A02	→	3C02	=	15362
4B14	→	4D14	=	19732
5C21	→	5E21	=	24097
1D2D	→	1F2F	=	7983
0004	→	0004	=	4
0000	→	0000	=	0

Note: → indicates that the Compact output is converted to hexadecimal, where * = A, # = B, A = C, B = D, C = E and D = F.

To define the statistical output of the Compact, you must first convert the output to hexadecimal. Once the output is converted to hexadecimal, it can be converted to decimal. The decimal value will represent the total number of calls made for each Dialing Rule.

These are four digits per Dialing Rule. The last four digits are reserved for future use.

Exit Verify Mode—97

When the command **97** is entered, a ♪ will be echoed to the remote end, and the Compact Dialer will exit verify mode and enter into programming mode.

Exit Programming Mode—98

When the command **98** is entered locally, a long ♪ is heard, followed by a click sound; remotely, a ♪♪ will be heard, followed by a click sound. **The user must wait until the Dialer clicks before hanging up the telephone device. The click should be heard within ten seconds.** The Compact Dialer will then cut through the subscriber side to the Exchange side, saving any changes that were made to the program during the current programming session.

Bad Line Test—9A

The Bad Line test can be performed by the Management System to determine if the line connected to the Compact will allow the Dialer to work in Line Power Mode. Each time the test is performed the statistical peg counters will be incriminated and the following results will be returned to the programmer:

A test that was good will return an ACK (MF ADD)
A test that was bad will return an NAK (MF ACD).

Make the Dialer Transparent—9D

When this command is entered during a programming session, the Compact will go to a transparent state once a valid exit from programming mode has been done. Any calls made after exiting programming mode will be routed via the PSTN. This command only works for dialers that are not powered by a power supply.

The Compact must be unplugged from the PSTN line and then plugged back in again to restore the Compact to normal working conditions.

General Notes on Programming

Section

5

System and Trunk Registers

General

You may want to change System Wide Data if the Default data does not meet your requirements.

On-hook Timing

An on-hook is determined by the absence of loop current on the line from the Exchange, for the specified amount of time.

Register	T =		Default
01 T	2 for 200 ms 3 for 300 ms 4 for 400 ms 5 for 500 ms 6 for 600 ms 7 for 700 ms 8 for 800 ms	9 for 900 ms ✻ for 1000 ms # for 1100 ms A for 1200 ms B for 1300 ms C for 1400 ms D for 1500 ms	3

Rotary Inter-digit Pause

This register controls the amount of time that the Dialer inserts between each rotary digit it dials.

Register	T =		Default
02 T	4 for 800 ms 5 for 1000 ms 6 for 1200 ms 7 for 1400 ms 8 for 1600 ms 9 for 1800 ms	✻ for 2000 ms # for 2200 ms A for 2400 ms B for 2600 ms C for 2800 ms D for 3000 ms	8

Inter-digit Time-out

This register controls the amount of time that the Dialer will wait in between digits dialled by the customer before timing-out.

Register	T =		Default
03 T	1 for 1 second 2 for 2 seconds 3 for 3 seconds 4 for 4 seconds 5 for 5 seconds 6 for 6 seconds 7 for 7 seconds 8 for 8 seconds	9 for 9 seconds ✻ for 10 seconds # for 11 seconds A for 12 seconds B for 13 seconds C for 14 seconds D for 15 seconds	4

System and Trunk Registers

MF4 Rate

This register controls the amount of on and off time that the Dialer will dial MF4 digits.

Register	T =		Default
04 T	4 for 40 ms 5 for 50 ms 6 for 60 ms 7 for 70 ms 8 for 80 ms 9 for 90 ms	✻ for 100 ms # for 110 ms A for 120 ms B for 130 ms C for 140 ms D for 150 ms	8

Exchange Type

This register determines whether the Dialer will dial in MF4 or rotary. If **05** = **0**, the Dialer will automatically detect the type of which the subscriber equipment is dialling. Once the type has been established, then the Dialer will use that type to dial unless a power supply is not used. In this case, the unit will only dial out in MF4.

Register	T =	Default
05 T	0 for automatically detect Exchange type 1 for MF4 lines 2 for Rotary lines	0

Subscriber Type

This register determines whether the telephone being used with the Dialer is an MF4 or rotary device.

Register	T =	Default
06 T	0 for automatically detect Subscriber type 1 for MF4 device 2 for Rotary device	0

Rotary Dialling Rate

This register determines the rotary dialling rate that the Compact will use.

Register	T =	Default
07 T	0 for 66/33 1 for 60/40	0

Off-hook Beep

This register determines whether the user will hear a short tone burst before hearing dial tone.

Register	T =	Default
08 T	0 for enabled 1 for disabled	0

Centrex Digit

This register determines whether the user will first dial a centrex digit before dialling the destination number. Typically, the centrex service will require a 9 to be dialled before dialling a destination number. When a 9 is not dialled, the destination number can be treated as an extension number

After the pre-determined centrex digit is dialled, it is stored in a buffer (refer to token **25** on page 33). The buffer can then be referenced at any time during the Dialing Rules sequence.

Register	T =		Default
09 T	0 for 0 1 for 1 2 for 2 3 for 3 4 for 4 5 for 5	6 for 6 7 for 7 8 for 8 9 for 9 * for Centrex off D for Centrex off	D

Call Home Action

This register determines the action that will be taken, when the Compact calls home.

Register	T =		Default
10 T	0 for direct dial 1 use Route 1 2 use Route 2 3 use Route 3 4 use Route 4 5 use Route 5	6 use Route 6 7 use Route 7 8 use Route 8 9 use Route 9 * use Route 10 # for disable	0

Default Route

This register determines the default route that the Compact will use.

Register	T =		Default
11 T	0 for direct dial 1 use Route 1 2 use Route 2 3 use Route 3 4 use Route 4 5 use Route 5 6 use Route 6	7 use Route 7 8 use Route 8 9 use Route 9 * use Route 10 # for cut-through A for NU tone	0

Dialing Rule Action Delay

This register determines the minimum amount of time after an off-hook condition is detected before the Compact will start executing or routing.

Register	T =		Default
14 T	0 for none 1 for 500 ms 2 for 1000 ms 3 for 1500 ms 4 for 2000 ms 5 for 2500 ms 6 for 3000 ms 7 for 3500 ms	8 for 4000 ms 9 for 4500 ms * for 5000 ms # for 5500 ms A for 6000 ms B for 6500 ms C for 7000 ms D for 7500 ms	6

Off-hook Time-out

This register determines the amount of time that the Compact will wait if it receives no dialled digits from the subscriber, before executing the specified default route action.

Register	T =		Default
15 T	0 for forever 1 for 1 second 2 for 2 second 3 for 3 second 4 for 4 second 5 for 5 second 6 for 6 second 7 for 7 second	8 for 8 seconds 9 for 9 seconds * for 10 seconds # for 11 seconds A for 12 seconds B for 13 seconds C for 14 seconds D for 15 seconds	0

Section

6

Route Registers

General Information

Route Strings

The Route Strings are used to store numbers, such as access numbers, personal identification numbers, etc. These strings are specific to the relative route. For instance, Route String **20** can only be used by Route 1.

Each string entry must be terminated with an MF4 "D".

The following table shows the relationship between each Route String register and its related Route (Dialling Rule) register.

Route	Dialling Rule	Route String
1	30	20
2	31	21
3	32	22
4	33	23
5	34	24
6	35	25
7	36	26
8	37	27
9	38	28
10	39	29

Common Digit Strings

The Common Digit Strings are also used to store numbers. However, they differ from the Route Strings in that they are not route dependent.

Each string entry must be terminated with an MF4 "D".

Route Registers

Digit Strings

The number stored in this register will be dialled out when the Dialling Rule token **24** is executed in Route 1. A maximum of 30 digits can be entered into each digit string.

Digit String	S =
20 S	Route 1 Digit String, blank by default
21 S	Route 2 Digit String, blank by default
22 S	Route 3 Digit String, blank by default
23 S	Route 4 Digit String, blank by default
24 S	Route 5 Digit String, blank by default
25 S	Route 6 Digit String, blank by default
26 S	Route 7 Digit String, blank by default
27 S	Route 8 Digit String, blank by default
28 S	Route 9 Digit String, blank by default
29 S	Route 10 Digit String, blank by default

Each string entry must be terminated with an MF4 “D”.

Dialling Rules

The dialling rules are a set of tokens that are used by the Compact Dialer to control activity, such as dialling access numbers, to the Exchange. Once a match is found in the search tables that contains a routing command, the dialling rules begin execution. There are a total of ten dialling rules available.

Register	S =
30 S (Route 1)†	00 to dial a 0
31 S (Route 2)†	01 to dial a 1
32 S (Route 3)†	02 to dial a 2
33 S (Route 4)†	03 to dial a 3
34 S (Route 5)†	04 to dial a 4
35 S (Route 6)†	05 to dial a 5
36 S (Route 7)†	06 to dial a 7
37 S (Route 8)†	08 to dial an 8
38 S (Route 9)†	09 to dial a 9
39 S (Route 10)†	10 to dial an A
	11 to dial a B
	12 to dial a C
	13 to dial a D
	0✻ to dial a ✻
	0# to dial a #
	20 to dial buffer A digits
	21 to dial buffer A absorbed digits (A maximum of 8 digits)
	22 to dial buffer B digits
	23 to dial buffer B absorbed digits (A maximum of 8 digits)
	24 to dial respective digit string (Register 20 - 29)
	25 to dial Centrex digit (Register 09††)
	26 to switch to MF4
	27 to dial the Call Home number
	28 to dial the Service Center number
	40 to dial route string 1 (Register 40)
	41 to dial route string 2 (Register 41)
	42 to dial route string 3 (Register 42)
	43 to dial route string 4 (Register 43)
	44 to dial route string 5 (Register 44)
	45 to dial route string 6 (Register 45)
	46 to dial route string 7 (Register 46)
	47 to dial route string 8 (Register 47)
	48 to dial route string 9 (Register 48)
	49 to dial route string 10 (Register 49)
	50pf to apply tone detector 50†††
	51pf to apply tone detector 51†††
	52pf to apply tone detector 52†††
	53pf to apply tone detector 53†††
	54pf to apply tone detector 54†††
	55pf to apply tone detector 55†††
	56pf to apply tone detector 56†††
	57pf to apply tone detector 57†††
	58pf to apply tone detector 58†††
	59pf to apply tone detector 59†††
	6N to delay Nx100 ms, i.e. 500 ms = 65
	7N to delay Nx1 second, i.e. 3 seconds = 73

† Refer to page 6 for the defaults of these registers.
†† Refer to page 29 for valid entries.
††† Refer to *Tone Detection Token Definition* on page 35 for the complete definition.

Example

If Route 2 (Dialing Rule 31) is programmed to dial the destination number found in Buffer A and connect the call, then the Dialling Rule would look like:

3120.

If Dialing Rule 31 must be programmed to adhere to the instructions listed above, the programmer would:

1. Enter **31**.
2. Hear ♪.
3. Enter **20D**.
4. Hear ♪♪.

Tone Detectors

There are a total of ten Tone Detector strings that are available to any of the ten Dialling Rules. The following table explains the components of the strings.

5X LLXXHHXXGGWW	
X **(String Number)**	0 for string 1 1 for string 2 2 for string 3 3 for string 4 4 for string 5 5 for string 6 6 for string 7 7 for string 8 8 for string 9 9 for string 10
LLXX **(Low Frequency)**	Where LL = 03 - 15 and XX = 00 - 99 † ††
HHXX **(High Frequency)**	Where HH = 03 - 15 and XX = 00 - 99 † ††
GG **(Guard Time)**	01 through 99 (20 ms increments; where 01 = 20ms and 99 = 1880ms)
WW **(Wait Time)**	01 through 99 (1 second increments; where 01 = 1 second and 99 = 99 seconds)
† The minimum frequency to detect is 300Hz; the maximum, 1500Hz. †† The minimum and the maximum frequency should not be the same value. Mitel recommends using ± 20 Hz.	

Example 1

To create a tone detector that will look for a frequency for 200 milliseconds that is 300Hz, for a total of 5 seconds, the Tone Detector string would look like:

50030003201005.

If Tone Detector 50 must be programmed to perform to the instructions listed above, the programmer would:

1. Enter **50**. (Programmable Tone detector)
2. Hear ♪.
3. Enter **030003201005D**. (LLXXHHXXGGWW)
4. Hear ♪♪.

Example 2

To create a tone detector that will look for a frequency for 200 milliseconds that is 700Hz, for a total of 5 seconds, the Tone Detector string would look like:

51068007201005.

If Tone Detector 51 must be programmed to perform to the instructions listed above, the programmer would:

1. Enter **51**. (Programmable Tone detector)
2. Hear ♪.
3. Enter **068007201005D** . (LLXXHHXXGGWW)
4. Hear ♪♪.

Tone Detector Token Definition

The following table explains the "p" and the "f" values of the tone detector tokens (5Xpf). Refer to page 33 for more information on the tone detector tokens.

pf =	
0	No Change; continue executing the next token
A	Deny the call
B	Skip the next token Note that this token should not be used if the next token is a tone detector token, as it will jump you to the middle of the 4 digit token.
Both the "p" and "f" values must have an action assigned to them.	

Common Digit Strings

The number stored in these registers will be dialled out when the respective Dialling Rule token is executed (refer to table on page 33).

Common Digit String	S =
40 S	Common Digit String 1
41 S	Common Digit String 2
42 S	Common Digit String 3
43 S	Common Digit String 4
44 S	Common Digit String 5
45 S	Common Digit String 6
46 S	Common Digit String 7
47 S	Common Digit String 8
48 S	Common Digit String 9
49 S	Common Digit String 10

Route Registers

Section
7

Programming Access Registers

General

For your convenience, several methods of programming the Compact Dialer are available. This device can be programmed locally or remotely.

Each string entry must be terminated with an MF4 "D".

Local MF4 Password

The password defined by this register must be entered before entering into local MF4 programming mode. After the password is entered via the MF4 telephone equipment, a burst of 400 Hz may be heard by the user, followed by two short beeps. After these tones are heard, the user will remain in verify mode.

Register	T =
68 T	Local MF4 password, 8 digits maximum (Default is #345✳)

Remote MF4 Password

The password defined by this register must be entered before entering into remote MF4 programming mode.

Once the Call Home Management Center answers a call home, it should send the Dialer the password found in this register. When the Dialer receives the password, it will respond with an MF4 D and an MF4 B.

Register	T =
69 T	Remote MF4 password, 8 digits maximum (Default is #124✳)

Programming Access Registers

Section

8

Search Tables

General

The Search Tables consist of two buffers, Buffer A and Buffer B, in which the user's dialled digits are screened for the purpose of assigned a pre-defined set of instructions. It is here in the Search Tables where calls can be barred or sent to a select carrier via a Dialling Rule.

One of the following codes must be entered before each Search Table entry:

- **78** enter programming
- **79** delete programming.

The format of the Search Tables is **X-N-D-R-L-E-A-C-S-T-Z1-Z2-Z3-Z4-Z5-Z6**:

X	Search Table Buffer
N	Number of Digits in the Destination Number
D	Digits that must be matched
R	Route Codes
L	Lock Codes
E	Execute Codes
A	Absorb Codes
C	Discard Codes
S	Search Codes
T	Tone Codes
Z1	Temporal Zone One Codes
Z2	Temporal Zone Two Codes
Z3	Temporal Zone Three Codes
Z4	Temporal Zone Four Codes
Z5	Temporal Zone Five Codes
Z6	Temporal Zone Six Codes

An MF4 **D** must be entered after the last Temporal Zone Code used (**Z1** through **Z6**) in each Search Table entry to terminate the string. It is possible to enter the MF4 **D** after any action code. The subsequent codes will be filled with **0**. The Compact Dialer will automatically insert the value **0** for the codes that follow the Route Code (**L-E-A-C-S-T-Z1-Z2-Z3-Z4-Z5-Z6**).

Examples

The following examples explain how the Search Tables might be used. The actual number to match will be shown boldfaced.

Example 1

When the user dials the number 18 followed by any digit 2 through 9, followed by any two digits, the Compact Dialer, using Table A, will; route the call to Route 4; lock the route; execute the Dialing Rule tokens; discard the digits 18; screen the remaining digits in Buffer B; and finally, provide two tones. The following example explains where tones would be heard if programming the Dialer via MF4 tones:

78 ♪ 05 ♪♪ **18BCC**4110212D♪♪.

Example 2

When the user dials the number 2 through 9 followed by any two digits, the Compact Dialer, using Table A, will: not change routes; not lock the route; not begin executing the route; not absorb any digits; not discard any digits; screen the remaining digits in Buffer B; and finally, provide two tones.The following example explains where tones would be heard if programming the Dialer via MF4:

78 ♪ 03 ♪♪ **BCC**0000012D♪♪.

Example 3

When the user dials the number 147, the Compact Dialer, using Table A, will: not change routes; not lock the route; not begin executing the route; not absorb any digits; not discard any digits; not screen; and finally, not provide tones.The following example explains where tones would be heard if programming the Dialer via MF4:

78 ♪ 03 ♪♪ **147**0D♪♪.

Note that in this example, the **D** terminating character was entered after the Route Code. In this case, the Compact Dialer will place **0** for the remaining code values.

Example 4

When the user dials the number 0 followed by any four digits, the Compact Dialer, using Table B, will: route the call to Route 1; lock the route; begin executing the route; not absorb any digits; not discard any digits; not screen; and finally, not provide tones.The following example explains where tones would be heard if programming the Dialer via MF4:

78 ♪ 15 ♪♪ **0CCCC**111D♪♪.

Note that in this example, the **D** terminating character was entered after the Execute Code. In this case, the Compact Dialer will place **0** for the remaining code values.

Example 5

When the user dials the number 0331, the Compact Dialer, using Table B, will: route the call to Route 2; lock the route; begin executing the route; not absorb any digits; not discard any digits; not screen; and finally, not provide tones.The following example explains where tones would be heard if programming the Dialer via MF4:

78 ♪ 14 ♪♪ **0331**211D♪♪.

Note that in this example, the **D** terminating character was entered after the Execute Code. In this case, the Compact Dialer will place **0** for the remaining code values.

Example 6

When the user dials the number 0 followed by any ten digits, the Compact Dialer, using Table B, will: not change routes; not lock the route; not begin executing the route; not absorb any digits; not discard any digits; quit searching; and finally, not provide tones.The following example explains where tones would be heard if programming the Dialer via MF4:

78 ♪ 1# ♪♪ **0CCCCCCCCCC**000002D♪♪.

Note that in this example, the **D** terminating character was entered after the Search Code. In this case, the Compact Dialer will place **0** for the remaining code value.

Example 7

Extended Action Codes cause matched digits in the Search Tables to perform specific actions. The following example explains where tones would be heard if programming the Dialer via MF4 to force a Call Home:

78 ♪ 04 ♪♪ **0001C1**D♪♪.

The following example explains where tones would be heard if programming the Dialer via MF4 to check the Bad Line condition:

78 ♪ 04 ♪♪ **0002C2**D♪♪.

Example 8

Special Customer Programming Access Codes cause matched digits in the Search Tables to alert the Dialer to expect Personal Identification Numbers (PIN), etc. from users. The following example explains where tones would be heard if programming the Dialer via MF4 for a five digit customer PIN:

78 ♪ 09 ♪♪ *##*#B0D♪♪.

According to the example listed above, the customer can enter a five-digit PIN by dialling *##*# 05, followed by any five digits.

Note that in this example, the **D** terminating character was entered after the Search Code. In this case, the Compact Dialer will place **0** for the remaining code value.

Example 9

Multi-digit Centrex can be used if the user needs to dial multiple digits to obtain an outgoing line. It will only activate once per call and will satisfy search criteria. An exception entry should be entered to create direct dial. Any further codes in this table entry are ignored. The following example explains where tones would be heard if programming the Dialer via MF4 to accept the digits 92 as the multi-digit centrex digits:

78 ♪ 02 ♪♪ **92C3**0001D♪♪.

After the user dials the digits 92, dial tone will be returned. Buffer A will be cleared, and screening will re-start in Buffer A.

Note that in this example, the **D** terminating character was entered after the Search Code. In this case, the Compact Dialer will place **0** for the remaining code value.

Search Table Buffers (X)

There are two Search Table buffers, Buffer A and Buffer B. Either buffer can screen up to 15 digits. Collectively, they can screen a 30 digit number. The Search Tables are designed to analyzed the digits dialled by the user based on a pre-programmed set of instructions, the call is processed accordingly. The call may be routed or even denied.

Buffer A is the first Search Table that is accessed. Buffer B is only accessed if the respective action code is executed. Refer to *Search Codes (S)* on page 42.

Number of Digits in the Destination Number (N)

This number represents the total number of digits of the destination number. For example, if the digits that must be matched are 436562, then this number would be 6.

Digits That Must Be Matched (D)

These digits represent the digits that the Compact Dialer must screen. The digits include literal digits and wildcard entries. For example, the digits that must be matched may be 12148441234. Assuming that all calls beginning with 1214 are desired to be routed to Route 1, the entry 1214CCCCCCC could be used to accomplish this task, rather than programming every possible entry.

Route Codes (R)

When a match of digits is found, the Compact Dialer will execute the command defined by this code. These codes are responsible for routing calls, barring calls and dialling calls directly to the Exchange.

Note: Call barring can be overridden. For example, if the number 001 is barred, a customer may dial 00 and wait for the inter-digit timer to expire. After the timer is expired, the customer may continue to dial out without any restrictions, providing that the digits 00 were previously routed.

Search Tables

Lock Codes (L)

When a match of digits is found, and the Route Code has been executed, the Compact Dialer will execute the command defined by this code. If the value is **1**, then the route cannot be changed, even if a command to do so is later encountered. If the value is **0**, then the route can be changed if a command to do so is later encountered.

If the value of the previous code (Route Code) is **B**, then the Special Customer Program Access codes are active. If the value of the previous code (Route Code) is **C**, then the Extended Action codes are active.

Execute Codes (E)

When a match of digits is found, and the Route and Lock Codes have been executed, the Compact Dialer will execute the command defined by this code. If the value is **0**, then no changes will take place. If the value is **1**, then the desired Dialling Rule will begin execution. Once this action has taken place, the call cannot be re-routed.

Absorb Codes (A)

When a match of digits is found, and the Route, Lock and Execute Codes have been executed, the Compact Dialer will execute the command defined by this code. If the value is **0**, then no digits will be absorbed. If the value is any digit from **1** through **8** (Dialling Rule Code **21**, refer to page 33), then the number of digits defined by this code will be absorbed. For example, if the digits 3938000 are matched, and this value is **3**, then the digits 393 will be absorbed. The remaining digits will continue to be screened.

Because the absorbed digits are saved, they can be re-dialled by using the access codes **21** or **23**.

Discard Codes (C)

When a match of digits is found, and the Route, Lock, Execute and Absorb Codes have been executed, the Compact Dialer will execute the command defined by this code. If the value is **0**, then no digits will be discarded. If the value is any digit from **1** through **D**, then the number of digits defined by this code will be discarded. For example, if the digits 3938000 are matched, and this value is **3**, then the digits 393 will be discarded. The remaining digits will continue to be screened.

Search Codes (S)

When a match of digits is found, and the Route, Lock, Execute, Absorb and Discard Codes have been executed, the Compact Dialer will execute the command defined by this code. If the value is **0**, then no action is taken. If the value is **1**, then the remaining digits will be screened in Buffer B, unless the current buffer is B, in which case the Dialer will quit searching. If the value is **2**, then all searching will be stopped, whether the current Search Table is Buffer A or Buffer B. If the value is **3**, then all searching will be stopped after the inter-digit timer has expired, whether the current Search Table is Buffer A or Buffer B.

Tone Codes (T)

When a match of digits is found, and the Route, Lock, Execute, Absorb, Discard and Search Codes have been executed, the Compact Dialer will execute the command defined by this code. If the value is **0**, then no action is taken. If the value is **1** through **6**, the Compact Dialer will return a tone relative the number entered, to the user. For example, if the value is **4**, then four tones will be heard by the user.

Temporal Zone Codes (Z1 through Z6)

The Compact Dialer will be able to route calls based on the internal clock maintained by the Dialer's internal processor. The clock is not powered by a battery but is powered while the Dialer is connected to an Exchange line or to an external power source. A loss of both sources will require that the clock be re-programmed with the correct time and date.

There are six temporal zones, which can be programmed into Registers **60** through **65**. At the start of each call, the Dialer will examine each register and compare it to the current time of day and day of week to determine which zone is currently in effect. Once a match is made, all succeeding registers will be ignored. If temporal zone routing is not in effect, a Search Table match will execute the normal route action. If temporal zone routing is in effect, a Search Table match will result with the Dialer routing the call to the route specified for the selected time zone. If this value is **0**, the routing action will follow the normal route.

Description of Search Tables Format (Table 1)

X-N-D-R-L-E-A-C-S-T-Z1-Z2-Z3-Z4-Z5-Z6															
X	**N**	**D**	**R**	**L**	**E**	**A**	**C**	**S**	**T**	**Z1**	**Z2**	**Z3**	**Z4**	**Z5**	**Z6**
0 = Buffer A **1** = Buffer B	**1** = 1 digit **2** = 2 digits **3** = 3 digits **4** = 4 digits **5** = 5 digits **6** = 6 digits **7** = 7 digits **8** = 8 digits **9** = 9 digits **✻** = 10 digits **#** = 11 digits **A** = 12 digits **B** = 13 digits **C** = 14 digits **D** = 15 digits	**0** = match the digit 0 **1** = match the digit 1 **2** = match the digit 2 **3** = match the digit 3 **4** = match the digit 4 **5** = match the digit 5 **6** = match the digit 6 **7** = match the digit 7 **8** = match the digit 8 **9** = match the digit 9 **✻** = match the digit ✻ **#** = match the digit # **A** = match the digits 0 or 1 **B** = match the digits 2 - 9 **C** = match any digits	**0** = no change **1** = Route 1 **2** = Route 2 **3** = Route 3 **4** = Route 4 **5** = Route 5 **6** = Route 6 **7** = Route 7 **8** = Route 8 **9** = Route 9 **✻** = Route 10 **#** = direct dial destination number (Buffer A) Only **A** = deny call **B** = Special Customer Program Access (**Table 2**) **C** = Extended Action Code (**Table 3**)	*Normal Operation* **0** = no change **1** = lock route	**0** = no change **1** = start/ continue execution	**0** = no change **1** = absorb the first digit **2** = absorb the first 2 digits **3** = absorb the first 3 digits **4** = absorb the first 4 digits **5** = absorb the first 5 digits **6** = absorb the first 6 digits **7** = absorb the first 7 digits **8** = absorb the first 8 digits	**0** = no change **1** = discard the first digit **2** = discard the first 2 digits **3** = discard the first 3 digits **4** = discard the first 4 digits **5** = discard the first 5 digits **6** = discard the first 6 digits **7** = discard the first 7 digits **8** = discard the first 8 digits **9** = discard the first 9 digits **✻** = discard the first 10 digits **#** = discard the first 11 digits **A** = discard the first 12 digits **B** = discard the first 13 digits **C** = discard the first 14 digits	**0** = no action **1** = go to Buffer B (Quit searching if current Buffer is Buffer B) **2** = quit searching **3** = quit searching after the next inter-digit time-out	**0** = no action **1** = one tone **2** = two tones **3** = three tones **4** = four tones **5** = five tones **6** = six tones	**0** = no change **1** = Route 1 **2** = Route 2 **3** = Route 3 **4** = Route 4 **5** = Route 5 **6** = Route 6 **7** = Route 7 **8** = Route 8 **9** = Route 9 **✻** = Route 10 **#** = direct dial destination number (Buffer A) Only **A** = deny call **B** = Special Customer Program Access (**Table 2**) **C** = Extended Action Code (**Table 3**)	**0** = no change **1** = Route 1 **2** = Route 2 **3** = Route 3 **4** = Route 4 **5** = Route 5 **6** = Route 6 **7** = Route 7 **8** = Route 8 **9** = Route 9 **✻** = Route 10 **#** = direct dial destination number (Buffer A) Only **A** = deny call **B** = Special Customer Program Access (**Table 2**) **C** = Extended Action Code (**Table 3**)	**0** = no change **1** = Route 1 **2** = Route 2 **3** = Route 3 **4** = Route 4 **5** = Route 5 **6** = Route 6 **7** = Route 7 **8** = Route 8 **9** = Route 9 **✻** = Route 10 **#** = direct dial destination number (Buffer A) Only **A** = deny call **B** = Special Customer Program Access (**Table 2**) **C** = Extended Action Code (**Table 3**)	**0** = no change **1** = Route 1 **2** = Route 2 **3** = Route 3 **4** = Route 4 **5** = Route 5 **6** = Route 6 **7** = Route 7 **8** = Route 8 **9** = Route 9 **✻** = Route 10 **#** = direct dial destination number (Buffer A) Only **A** = deny call **B** = Special Customer Program Access (**Table 2**) **C** = Extended Action Code (**Table 3**)	**0** = no change **1** = Route 1 **2** = Route 2 **3** = Route 3 **4** = Route 4 **5** = Route 5 **6** = Route 6 **7** = Route 7 **8** = Route 8 **9** = Route 9 **✻** = Route 10 **#** = direct dial destination number (Buffer A) Only **A** = deny call **B** = Special Customer Program Access (**Table 2**) **C** = Extended Action Code (**Table 3**)	**0** = no change **1** = Route 1 **2** = Route 2 **3** = Route 3 **4** = Route 4 **5** = Route 5 **6** = Route 6 **7** = Route 7 **8** = Route 8 **9** = Route 9 **✻** = Route 10 **#** = direct dial destination number (Buffer A) Only **A** = deny call **B** = Special Customer Program Access (**Table 2**) **C** = Extended Action Code (**Table 3**)

Description of Search Tables Format (Table 2)

Route Codes (R) = B Special Customer Program Access
B =
0 = write to string 40 **1** = write to string 41 **2** = write to string 42 **3** = write to string 43 **4** = write to string 44 **5** = write to string 45 **6** = write to string 46 **7** = write to string 47 **8** = write to string 48 **9** = write to string 49 **✻** = write Centrex Digit **#** = write Call Home number **A** = write Service Centre Number
When the Special Customer Program Access codes are used, the remaining codes are ignored.

Description of Search Tables Format (Table 3)

Route Codes (R) = C Extended Action Code
C =
0 = call Service Centre **1** = force Call Home **2** = bad line test **3** = multi-digit Centrex
When the Extended Action Codes are used, the remaining codes are ignored.

Default Search Table Matrix

Add Table	Tables A (0) or B (1)		Digits to screen	Route	Lock	Execute	Absorb	Discard	Search	Tone	Temp. Zone 1	Temp. Zone 2	Temp. Zone 3	Temp. Zone 4	Temp. Zone 5	Temp. Zone 6
	0X	1X														
78	4		0001	C	1											
78	4		0002	C	2											
78	4		0003	C	0											
78	4		0004	B	#											
78	4		0005	B	A											
78	4		0006	B	*											
	0X or 1X		D	R	L	E	A	C	S	T	Z1	Z2	Z3	Z4	Z5	Z6

Section
9

Time of Day/Week Routing

General

The Compact can be programmed to route calls based on time factors.

Time of Day/Week Routing Strings

The Compact may be set to recognise 6 temporal zones for the purpose of time of day routing. Each zone is represented by a seven-digit string. The first digit is used as a day of week indicator. The next four digits are used as the start time; the last four digits, the end time.

Temporal Zones	S =		
	Day of Week	*Start Time*	*End Time*
60 S (Temporal String 1) **61 S (**Temporal String 2) **62 S (**Temporal String 3) **63 S (**Temporal String 4) **64 S (**Temporal String 5) **65 S (**Temporal String 6)	**0** = ignore time of day routing† **1** = Sunday **2** = Monday **3** = Tuesday **4** = Wednesday **5** = Thursday **6** = Friday **7** = Saturday **8** = Sat/Sun **9** = Monday through Friday **✻** = any day	**hhm** hh = 00 - 23 mm = 00 - 59	**hhmm** hh = 00 - 23 mm = 00 - 59
† Any following times will be ignored.			

Examples

When the user dials the digits 0800, the following conditions will exist.

A) Monday Through Friday, From 12:01 AM To 8:59 PM

Using Table A, the Compact Dialer will: route calls beginning with 0800 to Dialling Rule 1; lock the Dialling Rule; execute the Dialling Rule; absorb the digits 0800; not discard any digits; screen the remaining digits in Buffer B; and provide no tones.

B) Monday Through Friday, From 9:00 PM To Midnight

The Compact Dialer will perform the same actions as described in A, but it will route the call to Dialling Rule number 2.

C) Saturday At 12:01 AM Through Sunday At Midnight

The Compact Dialer will perform the same actions as A, but it will route the call to Dialling Rule number 3.

The following example explains where tones would be heard if programming the Dialer via MF4 for the conditions described in A, B and C:

78 ♪ 04 ♪♪ 08001111020230000D♪♪

60 ♪ 921002359 ♪♪ (Monday through Friday, 9:00 PM to Midnight)

61 ♪ 800002359 ♪♪ (Saturday through Sunday, 24 hours)

In the examples given above, **60** is Temporal Zone 1, and **61** is Temporal Zone 2.

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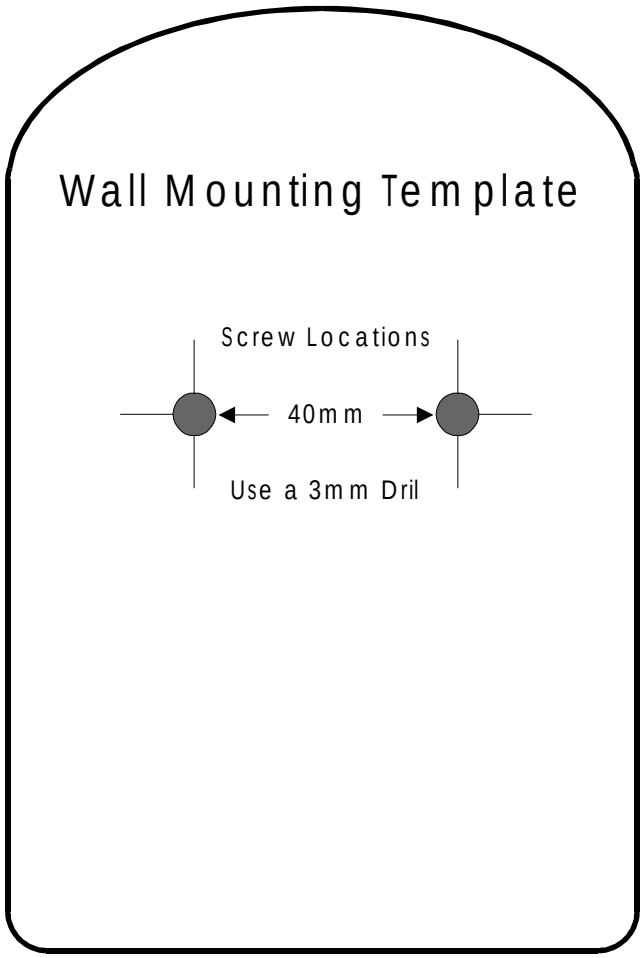
Wall Mounting Template



Wall Mounting Template