

User Guide

MRI-320

Recording Interface for Meridian™ Terminals

Dees

COMMUNICATIONS

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Part 1

Application Overview



Overview

The MRI-320, Recording Interface for Meridian Terminals, has been developed to allow users of Meridian Digital Terminals (2000 and 7000 series sets) serviced from a Northern Telecom SL1™ or M1™ PBX or a Norstar™ Key System to connect their telephones directly to an industrial analog recording device.

Each MRI-320 allows the user to record voice conversations on up to four telephone sets. It must be connected to a Meridian Digital Terminal. Each telephone set can consist of the telephone set itself and its associated add-on console. Any line or group of lines can be selectively recorded. In addition the internal relays may be enabled or disabled.

The MRI is programmable to allow the user to access a wide range of features that include:

- Line for Line selectability
- “Forced Answer” compatibility for ACD applications
- Relay contacts for contact closure activated recorders
- Alarm Enunciation

About the Meridian Digital Terminal

The MRI-320 was built to support the Meridian Digital Terminal manufactured by Northern Telecom. The set may or may not be a display set.

The following Meridian Digital Terminals will operate with the MRI-320:

- Meridian M2006 Single Line Digital Telephone
- Meridian M2008 Standard Business Telephone
- Meridian M2216 ACID Telephone
- Meridian M2317 Intelligent Telephone
- Meridian M2616 Performance-Plus Telephone
- Meridian M71 00 Single Line Digital Telephone
- Meridian M7208 Multiple Line Digital Telephone
- Meridian M7310 Multiple Line Digital Telephone
- Meridian M7324 Multiple Line Digital Telephone

During the programming process, reference to Line buttons on the Meridian Digital Terminal is made. For reference to line buttons, see the following figs:

- 2000 series main set Figs. 1 and 2
- 7000 series main set Figs. 3, 4, 5, 6 and 7

Note

When programming, remember to press the corresponding key on the dial pad of your Meridian Digital Terminal, not the actual line button.

Figs. 1 and 2 show the numbering sequence for line buttons on a Meridian M2616. All other models follow the same numbering scheme but may have fewer line buttons/feature keys.

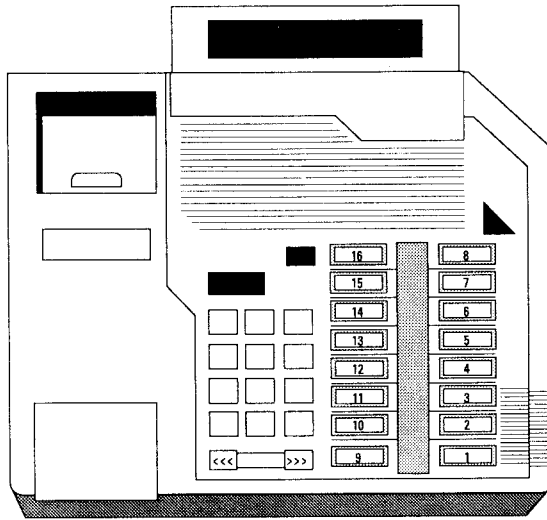


Fig. 1 – Model M2616 (SL1, M1 or SL100)

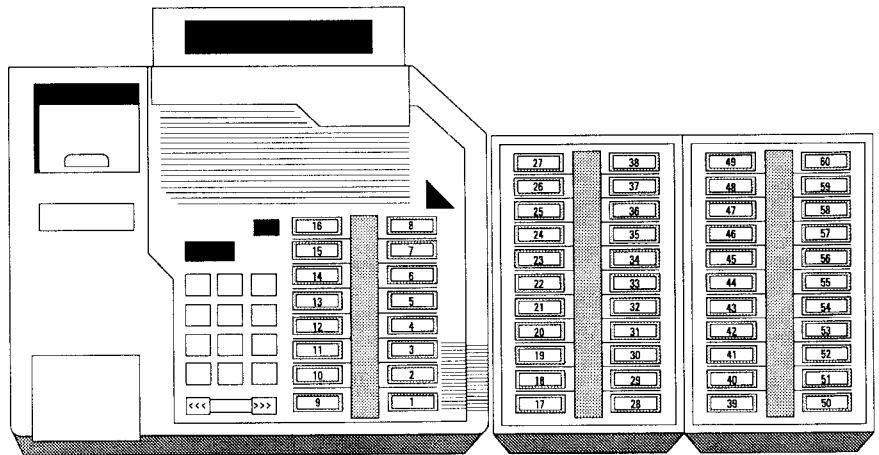


Fig. 2 – Model M2616 with two add-on modules (SL1, M1 or SL100)

Figs. 3, 4, 5, 6 and 7 show the numbering sequence for line buttons on a Meridian 700 (Norstar) series set.

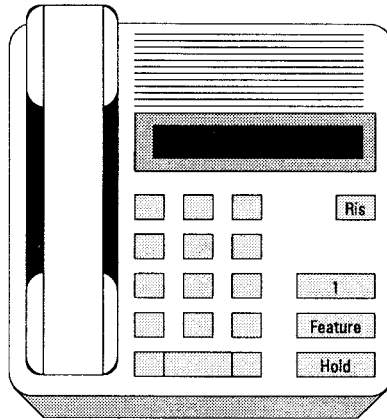


Fig. 3 – Model M7100 (Norstar)

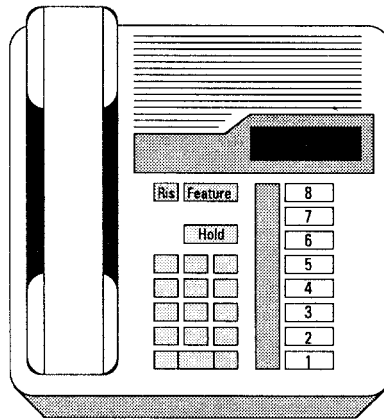


Fig. 4 – Model M7208 (Norstar)

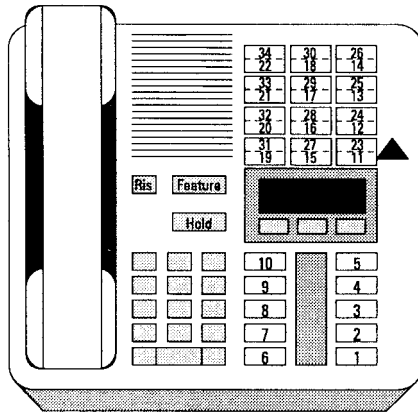


Fig. 5 – Model M7208 (Norstar)

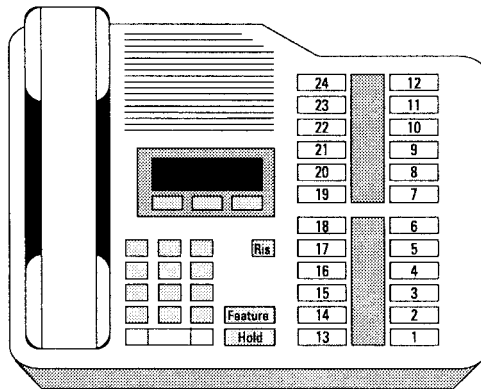
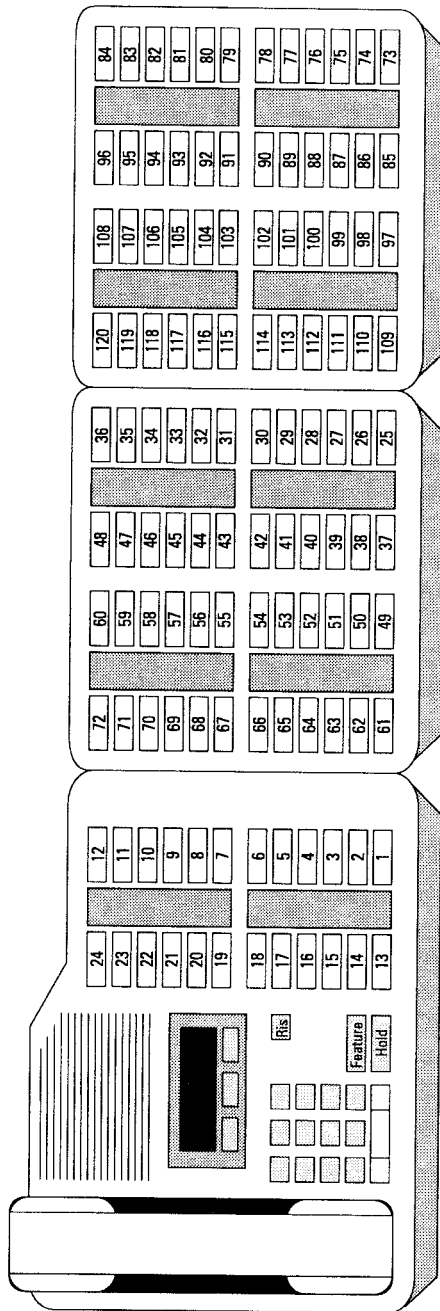


Fig. 6 – Model M7324 (Norstar)



Part 2

Installation



Installing Your MRI-320

The MRI-320 is installed in the Telephone Closet. All connections necessary for the operation are through the MRI-320 main connector.

Your MRI-320 Package

The Model **MRI-320** package contains the following items:

- MRI-320 Hardware Unit
- 24 VDC Power Supply (Model 368 if ordered separately)

The Model **MRI-321 Cable Kit** (order separately) contains the following items:

- 15 ft cable equipped with female amphenol connector at one end
- Bix mounting bracket
- Bix block
- Cable tie

MRI-320 Front View

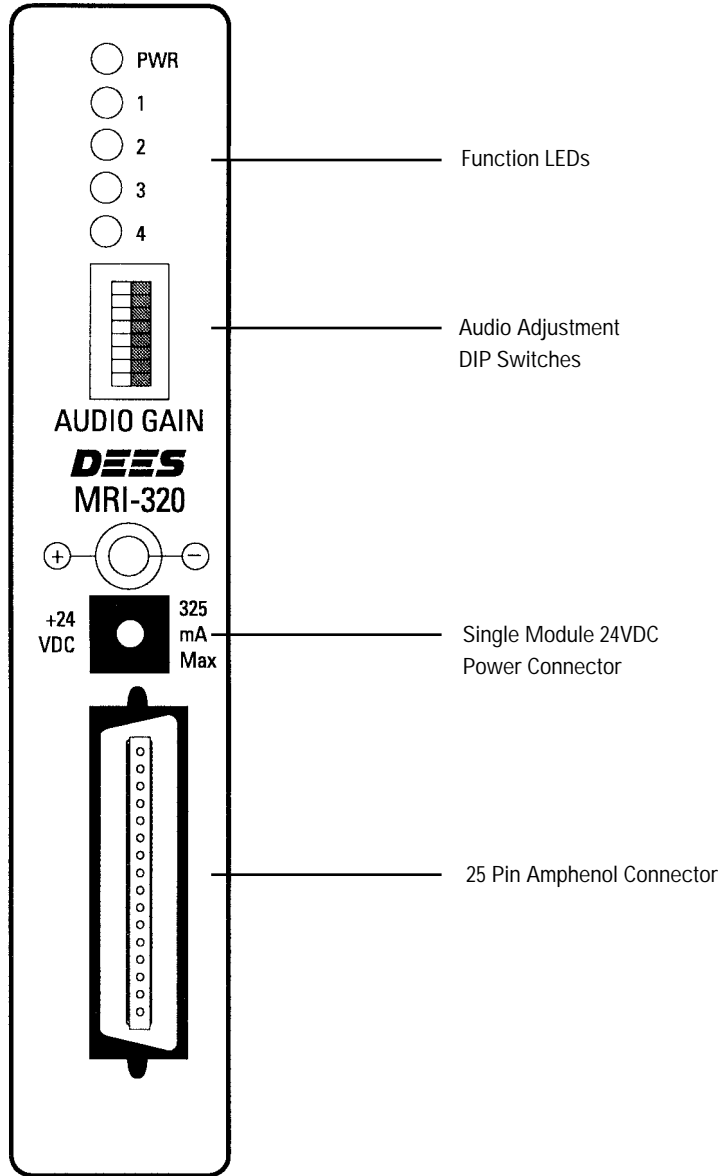


Fig. 8

**Typical Installation
Using the MRI-321
Cable Kit**

MRI-320

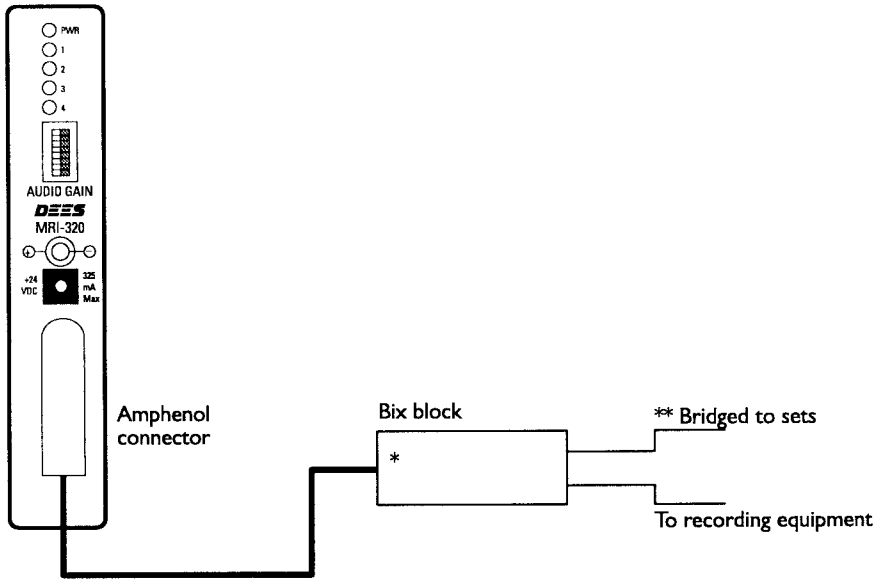


Fig. 9

* See Fig. 11 for Connector Pin assignments.

** See Fig. 10 for detailed view.

MRI-320 Installation Configuration

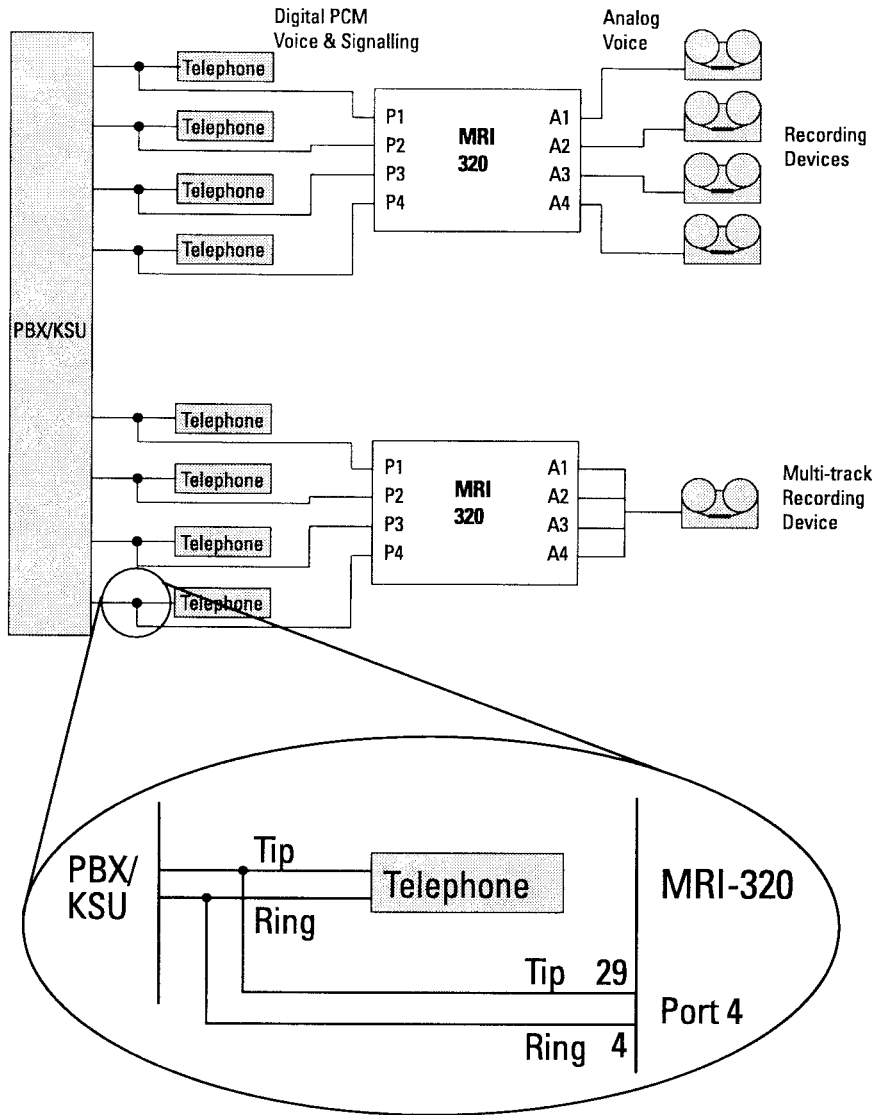


Fig. 10
Bridge MRI port across tip/ring of existing set wires.

MRI-320 Connector Pin Assignments

Pin	Wire Color	Designation	
26	WH-BL	Tip	Port 1
1	BL-WH	Ring	
27	WH-OR	Tip	Port 2
2	OR-WH	Ring	
28	WH-GR	Tip	Port 4
3	GR-WH	Ring	
29	WH-BR	Tip	Port 4
4	BR-WH	Ring	
30	WH-SL	Spare	
5	SL-WH	Spare	
31	R-BL	Spare	
6	BL-R	Spare	
32	R-OR	Spare	
7	OR-R	Spare	
33	R-GR	Spare	
8	GR-R	Spare	
34	R-BR	Relay	Port 1
9	BR-R	Contacts	
35	R-SL	Relay	Port 2
10	SL-R	Contacts	
36	B-K-BL	Relay	Port 3
11	BL-BK	Contacts	
37	BK-OR	Relay	Port 4
12	OR-BK	Contacts	
38	BK-GR	Audio +	Port I
13	GR-BK	Audio -	

Pin	Wire Color	Designation	
39	BK-BR	Audio +	Port 2
14	BR-BK	Audio -	
40	BK-SL	Audio +	Port 3
15	SL-BK	Audio -	
41	Y-BL	Audio +	
16	BL-Y	Audio -	
42	Y-OR	Spare	
17	OR-Y	Spare	
43	Y-GR	Norstar*	Interface
18	GR-Y	Norstar*	Select
44	Y-BR	Alm_NO	Alm
19	BR-Y	Alm_Comm	Relay
45	Y-SL	Alm_NC	Alm
20	SL-Y	Alm_Comm	Relay
46	V-BL	+24VDC	Pwr
21	BL-V	+24VDC	Pwr
47	V-OR		
22	OR-V		
48	V-GR		
23	GR-V		
49	V-BR		
24	BR-V		
50	V-SL	Ground	Pwr
25	SL-V	Ground	Pwr

Fig. 11

* See Fig. 12 for Norstar/M1 strapping options.

Strapping Option for Norstar and M1

1. To enable MRI-320 for Norstar operation, strap pins 43 and 18 together. When the green power LED is turned on, the red port 1 LED will flash for 3 seconds.
2. To enable MRI-320 for M1 operation, remove strap between pins 43 and 18. When the green LED is turned on, the red port 1 LED will not flash.
3. All other connections and operations remain the same.

Note:

The MRI must power-up with the shorting strap in place to set Ports 1 - 4 for Norstar lines.

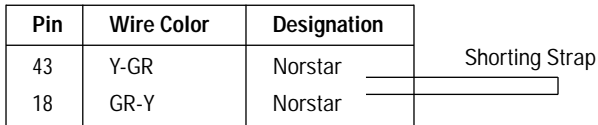


Fig. 12

MRI-320 Cross Connections

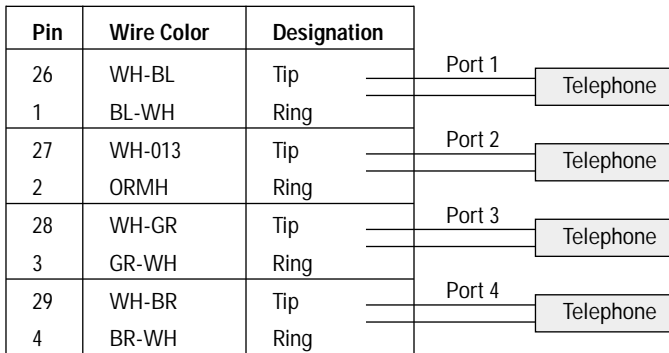


Fig. 13 – Typical telephone connections

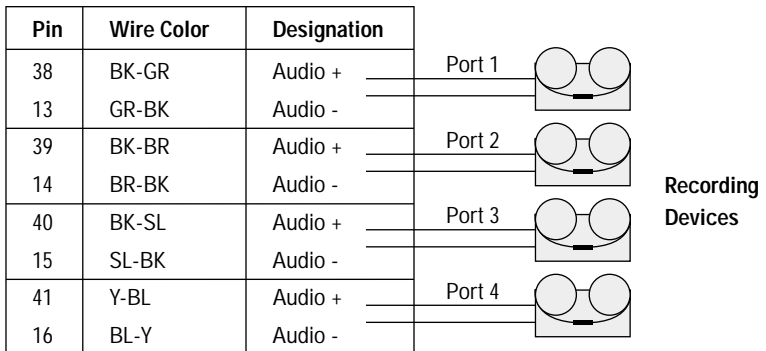


Fig. 14 – Typical recording system connections

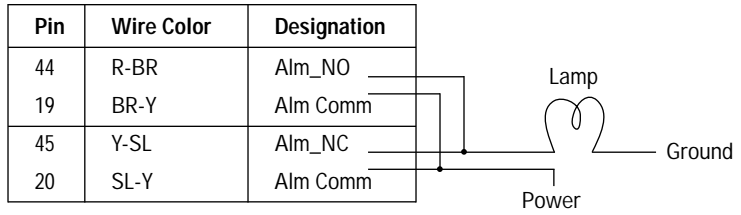


Fig. 15 – Typical alarm contact configuration

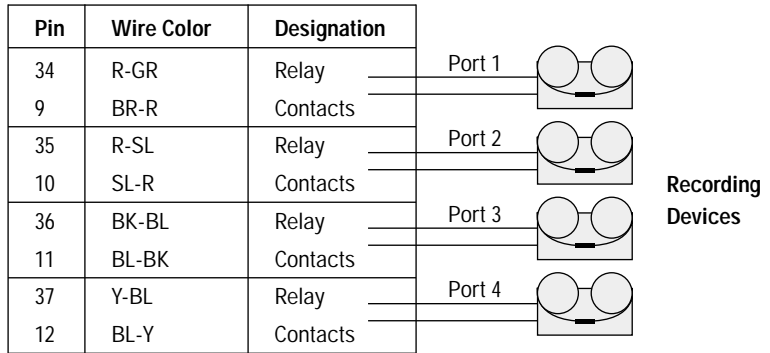


Fig.16 – Typical recording system contact control

To Install Your MRI-320

1. Mount the MRI-320 to the backboard with #8 X 1/2" wood screws or to a relay rack with customer supplied mounting bars.
2. Connect a 25 pair cable from the MRI-320 main receptacle to customer supplied cross connect.
3. Tie down cables as per Fig. 11.
4. Cross connect from Tip and Ring of stations to be recorded to Tip and Ring of MRI-320. See Fig. 13.
5. Cross connect audio output of each port on the MRI-320 to customer supplied recording unit. See Fig. 14.
6. If required, connect alarm output to customer supplied indicators. See Fig. 15.
7. If recorder is operated by contact closure, connect to appropriate MRI-320 ports. See Fig. 16.
8. If recorder is connected to a Norstar Key System, connect as per Fig. 12.
9. Install power to MRI-320 from the 25 pair cable if multiple installation, or directly into the power jack on the face of the unit if single MRI-320 installation. See Figs. 8 and 11.

Note:

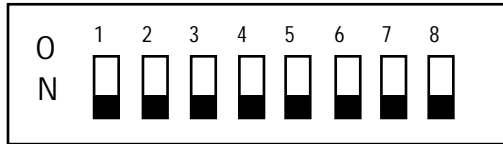
The 24VDC, 250 mA power supply provided with you MRI-320 from Dees is suitable for single installations of the MRI. If you are installing multiple MRIs and wish to power them from one single power supply, you must purchase a high capacity 24VDC power supply, i.e., 1 amp for every 3 MRI-320s.

Installation Quick Check

Once you have completed the installation procedure make the following quick check to ensure that the MRI-320 has been installed successfully.

1. Initiate a conversation on one of the Meridian Digital Terminals hooked up to the MRI-320 and the associated Port and LED should be ON solid.
2. Check for audio output on the audio + and audio - of the associated cross connect.
3. Disconnect line from a port installation and LED should flash indicating an alarm condition. (This flashing will commence within 65 seconds.)


The output audio level for each port is set via the 8-position DIP switch on the front panel of the unit as shown below. The switch is on when the switch is in the "up" position. The figure below shows all the switches in the "down" position meaning all the switches are off.



Switch positions 1 and 2 control port 1's audio, positions 3 and 4 control port 2's, positions 5 and 6 control port 3's and 7 and 8 control port 4's.

The table below lists the 4 audio output levels selected by the switches for each port.

Port 1	SW1	SW2	Audio Output Level	Output Levels
	Off	Off	+10	Doubles volume
	Off	On	0	Output level equals input
	On	Off	-10	Output reduced by 50%
	On	On	-15	Output reduced by 66%
Port 2	SW3	SW4	Audio Output Level	Output Levels
		Off	Off	+10 Doubles volume
		Off	On	0 Output level equals input
		On	Off	-10 Output reduced by 50%
		On	On	-15 Output reduced by 66%
Port 3	SW5	SW6	Audio Output Level	Output Levels
		Off	Off	+10 Doubles volume
		Off	On	0 Output level equals input
		On	Off	-10 Output reduced by 50%
		On	On	-15 Output reduced by 66%
Port 4	SW7	SW8	Audio Output Level	Output Levels
		Off	Off	+10 Doubles volume
		Off	On	0 Output level equals input
		On	Off	-10 Output reduced by 50%
		On	On	-15 Output reduced by 66%



MRI-320 LEDs

On the front of the MRI-320 there are five LEDs.

When you apply power to the MRI-320, the green LED will light after 8 to 10 seconds. The four red LEDs on the front of the MRI-320 will be turned on whenever the Meridian Digital Terminal associated with that port is recording.

Blinking red LEDs indicate an alarm condition, which usually indicates that the phone or line is disconnected. In addition to this blinking LED indication, you may wish to enunciate this alarm in either or both of the following ways:

1. By utilizing the normally closed contacts. These contacts open during port failure conditions. See Fig 15.
2. By utilizing the normally open set of contacts. These contacts close during port failure. See Fig 15.

Part 3

Programming



Getting Started

Programming the MRI-320 involves identifying which line or lines are to be recorded. To determine the numbers of the line buttons on your Meridian Digital Terminal see Figs. 1 to 7.

Any program input into the MRI-320 on any line set in the line recording mode is retained in a non-volatile memory until such time as you wish to change it. This means if you unplug the MRI-320, or have a power failure, you do not have to reprogram these lines. Each MRI-320 can control up to four Meridian Digital Terminals. You must program each Meridian Digital Terminal individually from its dial pad.

The 24VDC, 250mA power supply provided with your MRI-320 from Dees is suitable for single installations of the MRI. If you are installing multiple MRIs and wish to power them from one single power supply, you must purchase a high capacity 24VDC power supply, i.e., 1 amp for every 3 MRI-320s.

You can program the MRI-320 at any time after power is applied.

The program is input by pressing keys on the Meridian Digital Terminal dial pad. When programming, remember to press the corresponding key on the dial pad of your Meridian Digital Terminal, not the actual line button.

Programming is carried out with your Meridian Digital Terminal on hook. Within this User Guide "off hook" means picking up your handset or selecting a line key.

When you are programming the MRI-320, successive command digits must be entered with 10 second intervals or less otherwise the command is aborted. If this happens you must start the sequence over again.

Adding a password is an optional feature. One password can be entered for all four Meridian Digital Terminals connected to each MRI-320 (see page 34).

Programming Your MRI-320

Your MRI-320 can be programmed by you using the dial pad of your terminal set, Programmable features are:

- Setting the recording mode
 - Setting default mode
 - Setting voice activation mode
 - Setting line recording mode
 - Setting continuous mode
 - Setting ACD mode
- Setting a password (optional)
- Reverting to the default password

In many cases the MRI-320 default program, i.e., factory settings, is all that you will require. If this is the case, no further programming is necessary.

The default mode is:

Recording is activated when you go off hook.

Recording is terminated when you go on hook.

All lines are recorded (automatic connection to the recording device as soon as the telephone handset is lifted).

To change your programming:

- To make a change to the Recording Selected Lines Mode (i.e., to add, delete or make a change to the lines you selected earlier) you must first return to the default mode. See page 25 and then reprogram, see pages 27 through 34.
- To change programming on any other mode, simply enter the new programming string and the original mode will be deleted and the new mode will become operational.



To Set the Recording Mode

In the default recording mode all lines are recorded. Recording is activated when you go off hook and terminated when you go on hook.

The following recording modes are available:

Default Mode

Records all conversations when phone is off hook and fine is selected, Recording is terminated when you go on hook.

Voice Activated Mode

Is used when recording equipment triggers on voice activation (see page 26).

Note: Using Voice Activation mode, you cannot select the line you wish to record.

Line Mode

Records when off hook only on selected lines on your phone (see pages 27 through 34 for details on how to select lines). The line must be taken off hook by pressing the line key button.

Line Mode for Hotlines

Allows you to record individual lines or groups of lines which include hotlines (see pages 35 and 36 for details). The line must be on hook.

Continuous Mode

Recording of all voice activity on all lines at all times (see page 37).

E.g., use this mode if using a headset and all activity is to be recorded.

ACD Mode

Recording of all voice activity on selected lines on an ACD phone (see pages 38 and 39).

E.g., use this mode if using a headset on an ACD phone.

Special Relay Operation

Allows you to select call relay modes (see pages 40 and 41).

See the following pages for complete programming instructions.

Default Mode

You may wish to return the MRI-320 to the original **default** mode, e.g., if you have forgotten how you have programmed the MRI-320 or simply if you wish to record all lines when off hook.

The default mode is:

Recording is activated when you go off hook. Recording is terminated on hook. All Lines are recorded (automatic connection to the recording device as soon as the telephone handset is lifted).

E.g., When you go off hook and select a line your phone conversation will be recorded. When you go on hook recording will terminate.

To reset to default mode press the following keys on the dial pad of the Meridian Digital Terminal with the handset on hook.

Action Select Default Mode

Step 1: Press 








Step 2: Enter    

Step 3: Press 

Step 4: Press 

There will be no confirmation tone. All digits must be entered within 10 seconds of each other.

For quick reference and easy programming, enter the following:

Start	Programming Code or Four Digit Password	Turn on Default	End
	    or _____		

Voice Activated Mode

Use this mode if your recording device begins recording when it hears voice (voice activated).

Note: In this mode all lines are recorded.

To set to Voice Activated Mode press the following keys on the dial pad of the Meridian Digital Terminal with the handset on hook.

E.g., When you go off hook and start speaking recording will commence.

Connection to the recording machine is terminated when voice activity ceases,

Note: In this mode, connection to the recording device is dependent on audio level.

Action Select Voice Activated Mode

Step 1: Press

Step 2: Enter

Step 3: Press

Step 4: Press

Step 5: Press

There will be no confirmation tone. All digits must be entered within 10 seconds of each other.

For quick reference and easy programming, enter the following:

Start	Programming Code or Four Digit Password	Turn on Voice Activate Mode	End
<input type="text" value="*"/>	<input type="text" value="1"/> <input type="text" value="2"/> <input type="text" value="3"/> <input type="text" value="4"/> or _____	<input type="text" value="3"/> <input type="text" value="1"/>	<input type="text" value="#"/>









Recording Selected Lines Mode

You may not wish to record all lines. You may program the MRI-320 to record individual lines or groups of lines on the Meridian Digital Terminal or add-on module. There are two methods of selecting lines to be recorded. The first one allows you to select the lines you wish to record and the second one allows you to deselect the lines that you do **not** wish to record (see page 31).

Note: If you are recording calls on selected keys which include hotline keys, please refer to pages 35 and 36.









To set to recording on selected lines press the following keys on the dial pad of the dependent on audio Meridian Digital Terminal with the handset on hook.

Action 1 - Select Line Recording Mode


- Step 1: Press 
- Step 2: Enter    
- Step 3: Press 
- Step 4: Press 
- Step 5: Press 

There will be no confirmation tone. All digits must be entered within 10 seconds of each other.

For quick reference and easy programming, enter the following:

Start	Programming Code or Four Digit Password	Turn on Recording Selected Lines Mode	End
	    or _____	 	

Action 2 - Select Lines To Be Recorded (1 - 9)

Step 1: Press 




Step 2: Enter    

Step 3: Press 








Step 4: Enter the line numbers of the lines you wish to record _____

Step 5: Press 

There will be no confirmation tone. All digits must be entered within 10 seconds of each other.

E.g., If you wish to record line numbers 1, 3 and 4 enter the string    at Step 4.

For quick reference and easy programming, fill in the line numbers you wish to record and enter the following:

Start	Programming Code or Four Digit Password	Turn on Selected Line Mode 1-9	Enter the lines you wish to record	End
	    or _____		_____ _____	

Action 3 - Select Lines To Be Recorded (10 - 99)

Step 1: Press

Step 2: Enter

Step 3: Press

Step 4: Enter the line numbers of the lines you wish to record _____

Step 5: Press

There will be no confirmation tone. All digits must be entered within 10 seconds of each other.


E. g., If you wish to record line numbers 10, 11 and 12 enter the string

at Step 4.


For quick reference and easy programming, fill in the line numbers you wish to record and enter the following:

Start	Programming Code or Four Digit Password	Turn on Selected Line Mode 10-99	Enter the lines you wish to record	End
<input type="text" value="*"/>	<input type="text" value="1"/> <input type="text" value="2"/> <input type="text" value="3"/> <input type="text" value="4"/> or _____	<input type="text" value="4"/>	_____	<input type="text" value="#"/>

Action 4 - Select Lines To Be Recorded (100 - 120 Norstar Add-ons only)

Step 1: Press 

Step 2: Enter    

Step 3: Press 

Step 4: Enter the line numbers of the lines you wish to record _____








Step 5: Press 

There will be no confirmation tone. All digits must be entered within 10 seconds of each other.

E. g., If you wish to record line numbers 100, 101 and 103 enter the string

         at Step 4.

For quick reference and easy programming, fill in the line numbers you wish to record and enter the following:

Start	Programming Code or Four Digit Password	Turn on Selected Line Mode 100-120	Enter the lines you wish to record	End
	    or _____		_____	

To set to recording by deselecting lines you do not wish to record on press the following keys on the dial pad of the Meridian Digital Terminal with the handset on hook.

Action 1 - Deselect Line Recording Mode

Step 1: Press 

Step 2: Enter    









Step 3: Press 

Step 4: Press 


Step 5: Press 

There will be no confirmation tone. All digits must be entered within 10 seconds of each other.

For quick reference and easy programming, enter the following:

Start	Programming Code or Four Digit Password	Turn on Recording Deselected Lines Mode	End
	    or _____	 	

Action 2 - Deselect Lines To Be Recorded (1 - 9)

Step 1: Press 

Step 2: Enter    

Step 3: Press 

Step 4: Enter the line numbers of the lines you wish **not** to record _____








Step 5: Press 

There will be no confirmation tone. All digits must be entered within 10 seconds of each other.

E. g., If you **do not** wish to record line numbers 1, 3 and 4 enter the string

   at Step 4.

For quick reference and easy programming, fill in the line numbers you wish to record and enter the following:

Start	Programming Code or Four Digit Password	Turn on Deselect Line Mode 1-9	Enter the lines you wish to deselect	End
	    or _____		_____	

Action 3 - Deselect Lines To Be Recorded (10 - 99)

Step 1: Press 

Step 2: Enter    

Step 3: Press 

Step 4: Enter the line numbers of the lines you wish **not** to record _____








Step 5: Press 

There will be no confirmation tone. All digits must be entered within 10 seconds of each other.

E. g., If you **do not** wish to record line numbers 10, 11 and 12 enter the string

      at Step 4.

For quick reference and easy programming, fill in the line numbers you wish to record and enter the following:

Start	Programming Code or Four Digit Password	Turn on Deselect Line Mode 10-99	Enter the lines you wish to deselect	End
	    or _____		_____	

Action 4 - Select Lines To Be Recorded (100 - 120 Norstar Add-ons only)

Step 1: Press

Step 2: Enter

Step 3: Press

Step 4: Enter the line numbers of the lines you wish **not** to record _____

Step 5: Press

There will be no confirmation tone. All digits must be entered within 10 seconds of each other.

E. g., If you **do not** wish to record line numbers 10, 11 and 12 enter the string

at Step 4.

For quick reference and easy programming, fill in the line numbers you wish to record and enter the following:

Start	Programming Code or Four Digit Password	Turn on Selected Line Mode 100-120	Enter the lines you wish to record	End
<input type="text" value="*"/>	<input type="text" value="1"/> <input type="text" value="2"/> <input type="text" value="3"/> <input type="text" value="4"/> or _____	<input type="text" value="7"/>	_____	<input type="text" value="#"/>









Recording Selected Lines Mode for Hotlines

If you are recording calls on selected keys which include hotline keys, disregard the instructions on pages 27 and 31 and instead, follow the instructions below. There are two methods of selecting lines to be recorded. The first one allows you to select the lines you wish to record and the second one allows you to deselect the lines that you do **not** wish to record (see page 36).

This mode will allow you to record individual lines or groups of lines that also include **hotlines**.

To set recording on selected lines which include hotlines press the following keys on the dial pad of the Meridian Digital Terminal with the handset on hook.









Action Select Key/indicator Record Mode

- Step 1: Press 
- Step 2: Enter    
- Step 3: Press 
- Step 4: Press 
- Step 5: Press 

There will be no confirmation tone. All digits must be entered within 10 seconds of each other.









After the Select Key/Indicator mode has been activated, follow the instructions on pages 28, 29 and 30 to select which lines you wish to record.

For quick reference and easy programming, enter the following:

Start	Programming Code or Four Digit Password	Turn on Select Key/indicator Record Mode	End
	    or _____	 	

To set recording by deselecting lines you do not wish to record on which include hotlines press the following keys on the dial pad of the Meridian Digital Terminal with the handset on hook.









Action Deselect Key/indicator Record Mode

- Step 1: Press 
- Step 2: Enter    
- Step 3: Press 
- Step 4: Press 
- Step 5: Press 

There will be no confirmation tone. All digits must be entered within 10 seconds of each other.

After the Deselect Key/indicator mode has been activated, follow the instructions on pages 32, 33 and 34 to deselect lines you **do not** wish to record.

For quick reference and easy programming, enter the following:

Start	Programming Code or Four Digit Password	Turn on Deselect Key/Indicator Record Mode	End
	    or _____	 	

Continuous Mode

If your recording machine is continuously running, this mode will provide a constant audio path.

E. g., If you are wearing a headset, all voice activity will be recorded whether you are on hook or off hook.


To set to Continuous Mode press the following keys on the dial pad of the Meridian Digital Terminal with the handset on hook.

Action Select Continuous Mode

Step 1: Press 

Step 2: Enter    

Step 3: Press 









Step 4: Press  again

Step 5: Press 

There will be no confirmation tone. All digits must be entered within 10 seconds of each other.

Note: The LEDs on the MRI of those ports programmed to function in continuous mode will be lit constantly and the port relays will be closed.

For quick reference and easy programming, enter the following:

Start	Programming Code or Four Digit Password	Turn on Continuous Mode	End
	    or _____	 	

ACD Mode

The MRI can be programmed to work in ACID environments that use headsets. Inbound calls will be recorded either on the “in-calls” key or selected lines. Outbound calls will be recorded on selected outbound lines. There are two methods of selecting lines to be recorded in ACD mode. The first one allows you to select the lines you wish to record and the second one allows you to deselect the lines that you do not wish to record (see page 39).

To set to ACD Mode and then select the lines you wish to record press the following keys on the dial pad of the Meridian Digital Terminal with the handset on hook.

Action Select ACD Mode for select lines

Step 1: Press

Step 2: Enter

Step 3: Press

Step 4: Press

Step 5: Press

There will be no confirmation tone. All digits must be entered within 10 seconds of each other.

After the ACD Mode has been activated, select the lines you wish to record following the instructions on pages 28, 29 and 30.

For quick reference and easy programming, enter the following:

Start	Programming Code or Four Digit Password	Turn on Forced Answer Mode	End
<input type="text" value="*"/>	<input type="text" value="1"/> <input type="text" value="2"/> <input type="text" value="3"/> <input type="text" value="4"/> or _____	<input type="text" value="3"/> <input type="text" value="5"/>	<input type="text" value="#"/>

Note: Forced Answer Mode is available only on M1 and SL1 PBXs.

To set to **ACD Mode** and then **deselect the lines you do not wish to record** press the following keys on the dial pad of the Meridian Digital Terminal with the handset on hook.


Action Select ACD Mode for deselect lines

Step 1: Press 

Step 2: Enter    

Step 3: Press 









Step 4: Press 

Step 5: Press 

There will be no confirmation tone. All digits must be entered within 10 seconds of each other.

After the ACD Mode has been activated, deselect the lines you **do not** wish to record following the instructions on pages 32, 33 and 34.

For quick reference and easy programming, enter the following:

Start	Programming Code or Four Digit Password	Turn on Forced Answer Mode	End
	    or _____	 	









Note: Forced Answer Mode is available only on MI and SL1 PBXs.

Special Relay Operation

Normally, the MRI-320's port relay closes when a call is being recorded (call is present) and opens when recording stops (call is released). However, if a line has not been selected to record from, then the port relay does not close when a call is present on this line. If the port relay is not used to control a recorder, but used to control the switching of the phone's headset between the phone and another source (for example, a dispatch radio) then you will want to separate port relay operation from record operation.









To set the relay to close when a call is present and open when a call is released regardless of whether the line has been selected to record, press the following keys on the dial pad of the Meridian Digital Terminal with the handset on hook.

Action Select Call Relay Mode

- Step 1: Press 
- Step 2: Enter    
- Step 3: Press 
- Step 4: Press 
- Step 5: Press 


There will be no confirmation tone. All digits must be entered within 10 seconds of each other.

For quick reference and easy programming, enter the following:

Start	Programming Code or Four Digit Password	Select Call Relay Call Present Mode	End
	    or _____	 	


To set the relay to close when recording and open when not recording press the following keys on the dial pad of the Meridian Digital Terminal with the handset on hook.

Action Select Call Relay Mode

Step 1: Press 

Step 2: Enter    









Step 3: Press 

Step 4: Press 

Step 5: Press 

There will be no confirmation tone. All digits must be entered within 10 seconds of each other.

For quick reference and easy programming, enter the following:

Start	Programming Code or Four Digit Password	Select Call Relay Recording Mode	End
	    or _____	 	

Adding a Password

You can, optionally, add one password per MRI unit to your MRI-320 for security reasons. Once the password has been set, access to any programming features or changes can only be gained by entering your four digit password after the * in the Default Password programming string.

Note: Your personal four digit password replaces the 1234 string already in the programming string.

To change the default password press the following keys on the dial pad of the Meridian Digital Terminal with the handset on hook.

Action

Step 1: Press 

Step 2: Enter    

Step 3: Press 








Step 4: Enter your new password (4 digits) _____

Step 5: Press 

There will be no confirmation tone. All digits must be entered within 10 seconds of each other.

Note: Once you have changed your password, keep a note of it in a secure location.

For quick reference and easy programming, enter the following:

Start	Programming Code or Four Digit Password	Turn on Password Selection	Enter your personal four digit password	End
	    or _____		_____	

Reverting to the Default Password

If you have added a password and wish to revert back to the default password of 1 2 3 4 follow the instructions below.

To revert back to the default password press the following keys on the dial pad of the Meridian Digital Terminal with the handset on hook.

Action

Step 1: Press 

Step 2: Enter your four digit password








Step 3: Press 

Step 4: Press     (the default password)

Step 5: Press 

There will be no confirmation tone. All digits must be entered within 10 seconds of each other.

For quick reference and easy programming, enter the following:

Start	Enter your Four Digit Password	Turn on Password Selection	Reset Password to Default Password	End
	_____		   	

Part 4

Miscellaneous



Beep Tone Generator

Beep Tone Generators are available for those areas where required by law.
Order separately from:

DynaMetric Inc.
717 S. Myrtle Ave.
Monrovia, California
91016

Tel: 818 358.2559
Fax: 818 359.5701

Trouble Shooting

- Q. The MRI-320 has been installed and we don't want to record every call. Is it possible to turn the MRI-320 on and off?*
- A. Yes, push the following keys on the Meridian terminal
- to turn off
- to turn on
- where is the password.
- Q. Once installation of the MRI-320 was completed we ran the Installation Quick Check (page 17) to ensure installation had been successful. When we disconnected the line from an MRI port, the LED did not flash.*
- A. Make sure you wait at least 65 seconds for this flashing to commence.
- Q. After installation we tried to monitor the audio output using a butt set. Output was very low, is this normal?*
- A. We do not recommend that you monitor output with a low impedance butt set. However, if you have a high impedance butt set, you will get a much higher output or alternatively we recommend that you use earphones or an actual recording device.
- Q. The MRI-320 has been installed on a Norstar Key System. After performing the Installation Quick Check (page 17) all the checks failed.*
- A. Make sure you have installed the Norstar shorting strap (page 15) and that you power up the MRI with the shorting strap installed. The MRI will verify that the shorting strap has been installed by flashing the port 1 red LED 3 times after power up.
- Q. The MRI has been installed and the Installation Quick Check test was successful. However, calls are being recorded erratically, i.e., some calls are recorded and some calls continue to be recorded after the call release.*
- A. The MRI may have been programmed to the incorrect programming mode for your needs. To correct this, you must first reset the MRI to default mode (page 25). Next identify the programming mode that you require (page 23), go to that section in this User Guide and re-program.

Warranty and Service

Dees Communications warrants equipment manufactured by it to be free from defective material and workmanship for a period of one year. At its option, Dees shall replace or repair such equipment, which under normal use and service, discloses such defects. This warranty shall not apply to fuses. Equipment under warranty shall be returned to Dees' designated facility, transportation prepaid by the purchaser, for inspection by Dees, whose opinion as to defects shall be conclusive.

The warranty period shall commence on the date of shipment which shall be deemed to be the date of final calibration marked on the equipment.

This warranty period shall be void as to any products which have been repaired, worked upon or altered by persons not authorized by Dees, or which have been subject to misuse, negligence, accident or abnormal conditions of operations, i.e. lightning, earthquake, tornado. In all such cases, such repairs shall be billed at a nominal cost, and an estimated charge will be provided before work is begun. This warranty shall not apply to any of our products which have been connected, installed, used or adjusted otherwise in accordance with the instructions furnished by us. Such units shall be returned to the customer.

If you experience problems while installing this product, or if this product stops functioning, please call Dees' Technical Support. If the problem cannot be resolved on the phone, return the product(s) to Dees. A material return authorization number must be secured prior to return shipment by calling Dees. You can reach Technical Support by calling the following number:

1-800-654-5604

Goods should be returned to the following address:

4130 148th Avenue NE
Redmond, WA 98052
U.S.A.

Repair returns should be accompanied by a complete description regarding the nature of the defect. All return shipments must be properly packed in protective containers with identification of the sender and return authorization number on the carton.

A repair charge will be assessed on units returned for repair after expiration of the warranty period. A service and handling charge will be assessed on units returned to Dees and found not to be defective.

Repaired units are warranted for 90 days or the remaining period of the original warranty, whichever is greater.

In all instances, Dees retains the option of updating returned products to current technological standards in components or circuitry, conditioned on no change of features, functions or compatibility with approved units.

Regulatory Notes

FCC REQUIREMENTS:

Note:

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations for the Canadian Department of Communications.

Le present appareil numerique n'emet pas de bruits radioélectrique dépassant les limites applicables aux appareils numériques de la class A prescrites dans le Reglement sur le brouillage radioélectrique édicté par le ministere des Communications du Canada.

Equipment Attachment Limitations Notice

The Canadian Department of Communications label identifies certified equipment. This certification means that the equipment meets certain telecommunications network protective, operational and safety requirements. The Department does not guarantee the equipment will operate to the user's satisfaction.

Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using acceptable method of connection. In some cases, the company's inside wiring associated with a single line individual service may be extended by means of a certified connector assembly (telephone extension cord). The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.

Repairs to certified equipment should be made by an authorized Canadian maintenance facility designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas.

Caution:

Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority or electrician as appropriate.

The Load Number 0) assigned to each terminal device denotes the percentage of the total load to be connected to a telephone loop which is used by the device to prevent overloading. The termination on a loop may consist of any combination of devices subject only to the requirement that the total of the Load Numbers of all devices does not exceed 100.

Note:

- a. Never install telephone wiring during a lightning storm.
- b. Never install telephone jacks in wet locations unless the jack is specifically designed for wet locations.
- c. Never touch uninsulated telephone wires or terminals unless the telephone line has been disconnected at the network interface.
- d. Use caution when installing or modifying telephone lines.

Specifications

	Min	Typical	Max	Unit
Electrical				
Supply Voltage	18	24	28	VDC
Supply Current			325	mA
Line Input Impedance	1			Mohm
Relay Contact Rating			10	VA

Loop Length

PBX/KSU to set plus MRI to cross connect point

Norstar key system

24 gauge			1000	ft
M1, SL1 PBX				
22 - 24 gauge			3500	ft
26 gauge			2500	ft

Timing

Audio Response Times

Off-hook to audio on delay			1	Sec
On-hook to audio off delay			1	Sec
Time out to turn off audio due to absence of voice	10			Sec
Time out to declare line fault and reset port	65			Sec

Audio Output

Gain -	15		10	dBm
Audio Output Impedance		50		ohms
Relay contact rating			10	VA

Environmental

Operating Temperature	32		122	°F
	0		50	°C
Storage Temperature	-40		158	°F
	-40		70	°C
Humidity (non-condensing)			95%	RH

Dimensions

8.75" x 1.35" x 7.5" (22.2 cm x 3.4 cm x 9 cm)

Shipping Weight

2.5 lbs (1.1 kg)

Certification

DOC C108-8 Class A

CSA C22.2 No.225-M90

FCC Part 68

FCC Part 15 Class A

UL¹ 1459-2

Approval Number

Approved

LR65726-29

Not Required

Approved

LR65726-29

¹ Approved by Canadian Standards Association, Nationally Recognized Testing Laboratory.

Dees COMMUNICATIONS

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