

# User Guide

**CTA-369**

**Centrex Terminal Adapter**



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## Introduction

The CTA-369 is a Centrex Terminal Adapter that will allow analog equipment to function normally behind Northern Telecom's DMS100™, Meridian™ Digital Centrex or the SL100™ Digital PBX. When connected to various types of analog business equipment, the CTA-369 is easily configured so that the user can select mode of operation, which line to select when making a call and which line or lines to answer. Examples of analog equipment are:

- Answering Machines
- Electronic Mail
- Modems
- Wireless telephones
- Personal computers
- Credit Card readers
- Extension telephones
- Secure phones

The CTA-369 must operate with a Northern Telecom Electronic Business Set (EBS or P-Phone) or the newer Meridian Business Set, referred to in this guide as MBS.

## Installation

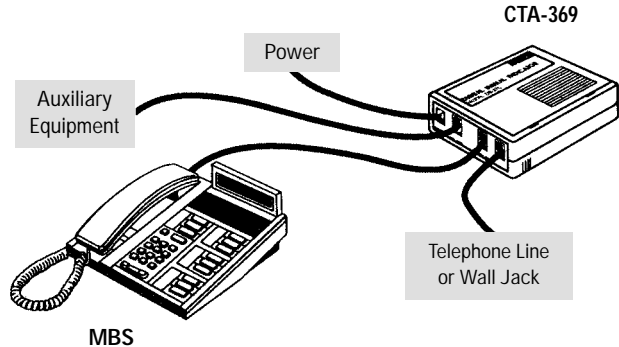
The CTA-369 can be connected to the MBS in several different ways depending on the application.

### Your CTA-369 Package

Your CTA-369 package should contain these components:

- The CTA-369 unit
- A telephone cord
- A 24VDC power supply unit

### Typical Stand-Alone Installation

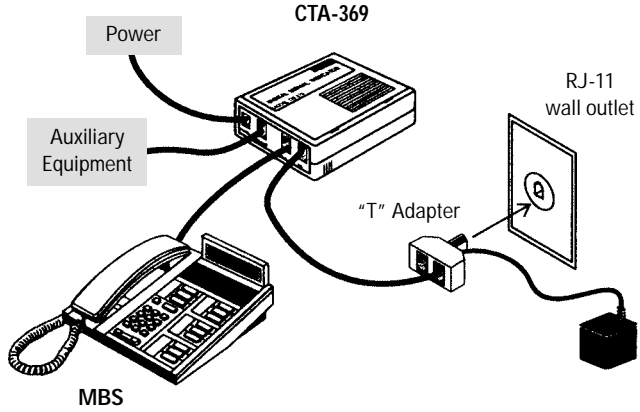


1. Disconnect the wall telephone cord from the MBS and install it in the RJ-11 jack marked LINE on the CTA-369.
2. Connect the telephone cord provided to the MBS and connect the other end to the RJ-11 jack marked STATION SET.
3. Connect the auxiliary equipment to the jack marked AUX on the CTA-369.
4. Apply power to the CTA-369 when ready to configure.

### Note

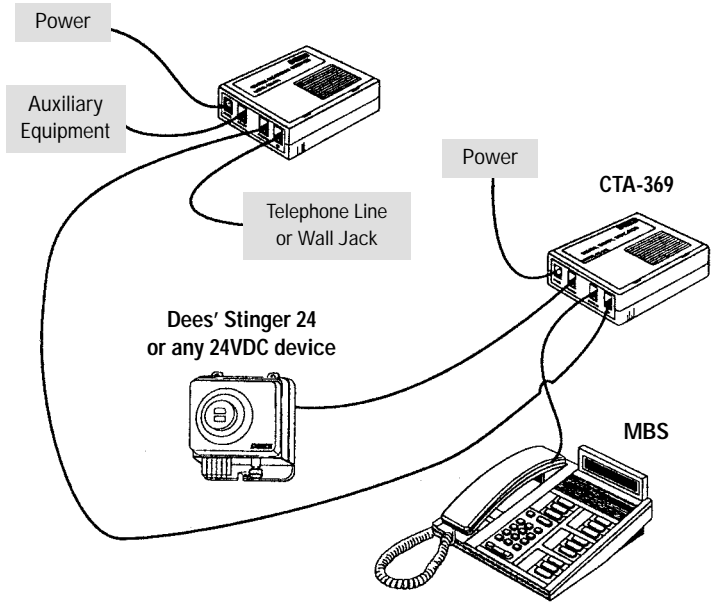
Configuration must commence within 20 seconds of applying power.

**Installation with  
T-Adapter**



If the MBS that is being used is a model M5112, M5209, M5312, M5316 or any set which uses a T-Adapter, simply plug one end of the telephone cord supplied into the T-Adapter and the other end into the LINE jack on the CTA-369. Plug the MBS into the STATION SET jack on the CTA-369. Apply power when ready.

**Installation with  
DSI-375**



The CTA-369 can operate in tandem with the DSI-375 and CRI-369. The units must be programmed separately and are connected together via the LINE jack as shown above.

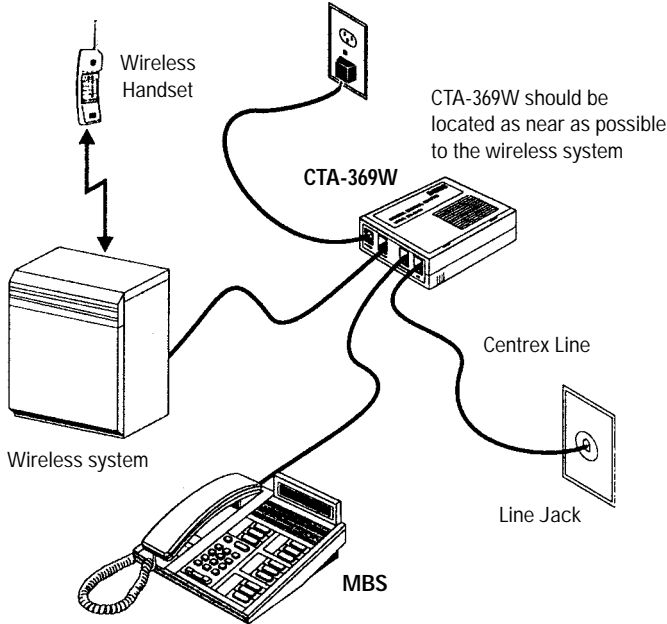
**Note**

See page 22 for a description of the DSI-375 and CRI-376.

**Installation with  
a Wireless Handset**

This configuration is used to program the CTA-369 to respond to commands from a wireless handset.

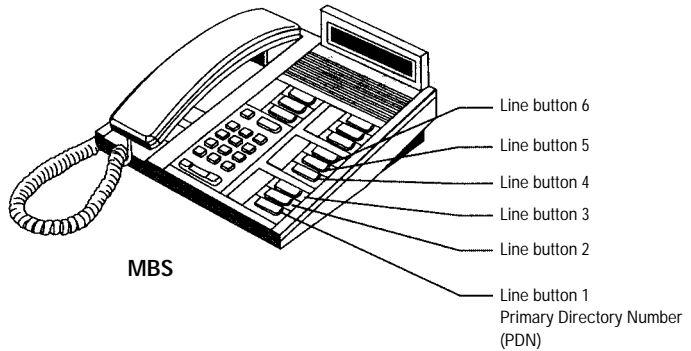
See page 13 for an example of this kind of configuration.



## Configuration

### Your Meridian Business Set

The following illustration shows the dial pad on the MBS that is used to operate and set up the CTA-369. The line buttons that are referenced in the procedures in this User Guide are also shown. Line button 1 is always the Primary Directory Number (PDN).



### Before You Start Configuring

Before you actually start to configure the CTA-369, you will need to have a good idea about how you want to use it. Read through the following pages and become familiar with the configuration procedure. Examples are given on how to set up the CTA-369 for different applications.

When you have decided on which configuration is right for you, refer to the examples. They will help you remember the necessary key presses for your individual setup.

#### **IMPORTANT**

**All configuring is accomplished by pressing the dial pad buttons on the MBS with the hand set "on-hook" and no lines selected.**

## How the CTA-369 is Configured

To configure the CTA-369 use the dial pad on your MBS, with the handset "on-hook". Configuration must commence within 20 seconds of connecting power.

1. Configuration always starts with the \* button.



2. If you want to use the AutoDial feature, press 1 on the MBS keypad. The AutoDial mode allows a modem on your PC to dial the phone for you. If you do not want to use this feature, press 0. To learn more, see "The AutoDial Mode" on page 14.



AutoDial



No AutoDial

3. You then must select which line number will carry outgoing calls. This can be anyone line from 1 to 9 or it may be the # button (the default) to indicate that the Central Office selects the line. Note that you must select the corresponding keypad number, **not** the line button itself.



4. You must then configure the CTA-369 to respond to the Hookswitch Flash button if you are using a wireless telephone. Most often this will be the Transfer key so that you can transfer calls easily from a wireless handset, but hold or 3-way calling can also be assigned. Refer to your Centrex setup. Enter the key number assigned to one of these features, or the # button if you are not using a wireless handset or wish to skip this feature.



5. Next, enter the line number or combination of line numbers, which will be answered by the CTA-369. You can skip this step if no lines will be answered.



6. End your configuration by pressing the \* button.



### Note

The CTA-369 is dedicated to the MBS to which it is attached. The Central Office configuration, e.g., MADN groups or feature buttons, will not affect the operation of the CTA-369.

## **Factory Default Settings**

The CTA-369 is factory configured so that:

- The AutoDial features disabled, AutoDial=0
- A line is automatically selected when calling out, i.e., the Central Office determines which line is used to call out.
- Line one (the Primary ON) is answered
- Hookswitch Flash will have no effect if used with wireless handset.

## **Testing Your Configuration**

You should test your CTA-369 to ensure a correct configuration. Remember to test the configuration from a different phone than the one connected to the CTA-369, i.e. do not call Line 2 from Line 1 to see if the answering machine works.

**Example #1:  
Using Your  
Modem to Dial**

You wish to connect your computer via a modem to the Primary Directory Number (PDN) in the MBS. Your intention is to utilize an AutoDialing software package. The communication script has been adjusted so that the modem goes "on-hook" as soon as the telephone number is dialed. Since the only application for the CTA-369, it is not necessary to answer any lines. Line 1 will be used to dial out.

**To configure the CTA-369:**

Push the \* button to begin configuring.



Press the number 1 on the keypad to select the AutoDial feature.



Push the Line 1 button to indicate that Line 1 (primary DN) will be used to call out on.



Press # to indicate that you are not using a wireless handset and that Hookswitch Flash button will not be used.



Press the \* button to finish your configuration.



**Summary:**

Start	AutoDial	Call Out On	Flash	Answer Keys	Finish
*	1	1	#	-	*

**Example #2:  
Using a Modem  
to Send and  
Receive Data on  
Different Lines**

This time you wish to connect your PC via a modem to the Primary Directory Number (PDN) on your MBS. Calls that are originated from your PC, be they data or voice, will automatically appear on your PDN. Furthermore, you wish to receive data traffic on Line 3.

**To configure the CTA-369:**

Press the \* key to begin configuration.



Press 0 to select normal mode. You will not be using the AutoDial mode because the CTA-369 does not transfer calls from the modem to the MBS. If the AutoDial mode is chosen the data flow will be interrupted.



Press the 1 button to indicate that the PDN will be used for all outgoing calls, be they data or voice.



Press the # button to indicate that you will not be using a wireless handset and Hookswitch Flash will be ignored.



Press the 3 button to set the CTA-369 to answer incoming calls on Line 3.



Press the \* button to finish your configuration.



**Summary:**

Start	AutoDial	Call Out On	Flash	Answer Keys	Finish
*	0	1	#	3	*

**Example #3:  
Answering  
Machines,  
Extension  
Telephones or  
Fax Machines**

In this example you will want the CTA-369 to extend incoming calls to the analog equipment. Line buttons 1 and 2 are to be automatically answered by the equipment, and line button 2 will also be used for outgoing calls.

**To configure the CTA-369:**

Press the \* key to begin configuration.



Press 0 to disable AutoDial mode.



Press the 2 button to indicate that Line 2 will be used for outgoing calls from the CTA-369.



Press the # button to indicate that you will be using a wireless handset and Hookswitch Flash will be ignored.



Press the 1 and 2 button to set the CTA-369 to answer incoming calls on Line 1 and Line 2.



Press the \* button to finish your configurations.



**Summary:**

Start	AutoDial	Call Out On	Flash	Answer Keys	Finish
*	0	2	#	1 2	*

**Example #4:  
Secure Single Line  
Extension Phones**

The CTA-369 can be used to provide connection of Analog Secure Telephones (STU 3, etc.) directly to the MBS.

For example, privacy or security is required on a call originally answered on the MBS. That call can be placed on hold by the MBS and retrieved from the secure phone simply by picking up the handset of the secure phone.

A further example is a call answered at a secretarial answering position, placed on hold and announced to the called party. The called party can then answer from the secure phone or the MBS.

**To configure the CTA-369:**

Press the \* key to begin configuration.



Press 0 to disable the AutoDial mode.



Press the 1 button to indicate the PDN will be used for outgoing calls.



Press the # button to indicate that you will not be using a wireless handset and Hookswitch Flash will be ignored.



Press the 1 button to allow incoming calls to be answered by the secure phone on Line 1.



Press the \* button to finish your configuration.



**Summary:**

Start	AutoDial	Call Out On	Flash	Answer Keys	Finish
*	0	1	#	1	*

**Example #5:  
Configuration for a  
Wireless Handset**

In this example the CTA-369 is programmed to respond to commands from a wireless handset. We will assume that we are going to answer Lines 1 and 2 of the MBS, dial out on Line 2, and Line 3 is the Transfer Key.

**To configure the CTA-369:**

Press the \* key to begin configuration.



Press 0 to program the CTA-369 as non-autodial or normal mode.



Press the 2 button to use Line 2 for outgoing calls from the wireless handset.



Press 3 to indicate that the CTA-369 will send a transfer command when the Hookswitch Flash button is pressed on your wireless handset.



Press 1, 2. This command programs the CTA-369 to answer Lines 1 and 2 from the wireless handset.




Press the \* button to finish the configuration.



**Summary:**

Start	AutoDial	Call Out On	Flash	Answer Keys	Finish
*	0	2	3	1 2	*



## Features of your CTA-369

### The AutoDial Mode

The AutoDial mode allows a Personal Computer based autodial program. (Windows95 Telephone Dialer Sidekick, ProComm Plus, etc) to automatically dial a telephone number for your telephone set using a modem. You can then talk on your MBS.

Since the PC does not have a handset and cannot be directly linked to your digital telephone line the call must be transferred from the PC to your phone through an interface device. The CTA-369 provides this interface by waiting for the modem to go on-hook" and then transferring the call to your telephone as if you had dialed the number using the on-hook dialing feature associated with the MBS.

The way in which the modem goes "on-hook" will vary depending on the software package being used. As an example, Sidekick requires that you press the space bar when all digits have been dialed. Pressing the space bar sends a hang-up command to the modem. Other software packages may allow the user to automatically hang up by adjusting the communications script.

Since it is important that the modem hang up immediately after it has dialed the telephone number, you may have to adjust the way your autodialing software communicates with your modem. We suggest that you consult the modem manufacturer's manual or your telecom department for more information and assistance.

### Normal or Non-AutoDial Mode

The Normal or Non-AutoDial mode is used for all applications where it is not necessary to speak from the MBS or if the auxiliary equipment is equipped with a handset. Examples are:

1. Modems
2. Fax or answering machines
3. Cordless or conference phones
4. Extension analog telephones

## **MADN SCA Configuration**

If the MBS to which the CTA-369 is attached uses a Single Call Arrangement (SCA) MADN (Multiple Access Directory Number) rather than a MADN with Multiple Call Arrangement (MCA), the CTA-369 must be programmed differently.

Refer to the example section of this booklet. For your configuration example, if 0 or 1 is used to activate the normal or autodial mode, use 2 or 3 respectively. This will allow the CTA-369 to communicate with the phone system as if it were in fact the MBS rather than an extension of the MBS. If, in this example, the 2 were used for the normal mode, and a call was initiated from the auxiliary equipment (the STU-3), the display on the MBS may go blank and reset once the auxiliary equipment is "on-hook". That is normal and does not affect the Central Office or the MBS.

## **Call Exclusion or Privacy**

When connected to the MBS, the CTA-369 provides two kinds of call exclusion or call privacy.

For example, if the MBS goes "off-hook" first, a regular analog telephone connected to the auxiliary position on the CTA-369 will act as an extension phone when the handset is lifted. If a recording device were connected to the auxiliary position of the CTA-369 for example, you could record a conversation in progress.

If the auxiliary equipment goes "off-hook" first, as in the case of a modem or fax machine, the data transfer cannot be interrupted if the handset on the MBS is inadvertently lifted. However, in the case of an answering machine or credit card verifier, you may wish to break into a call even though the auxiliary equipment has gone "off-hook" first. To do this, you simply press the digit 1 on the MBS keypad. The handset must be "on-hook", and then the call is placed on hold and retrieved as you would normally retrieve a call on hold.

## Helpful Tips

There are a number of tips that will make using your CTA-369 as easy as possible.

### **After programming the CTA-369, nothing seems to work!**

The most common misunderstanding people may have about the CTA-369 is that configuration always takes place with the MBS handset "on-hook". This can be confusing when most people are used to pressing numbers on a telephone with the handset off the hook.

### **I have two lines on my MBS. If my fax machine is using one line, can I still use my telephone on the other line?**

You can't talk on two lines at a time on your MBS, and it is no different than the CTA-369. Normally you can put other callers on hold; however, you cannot put a fax transmission or modem download on hold.

### **What happens if the CTA-369 is disconnected or the power goes out? Do I need to reconfigure it?**

No, the CTA-369 keeps its configuration information if the power goes out or it is unplugged. You only need to reconfigure the unit if your configuration requirements have changed.

## Specifications

	Min	Typical	Max	Unit
<b>Electrical</b>				
Operating Voltage	24		36	VDC
Operating Supply Current			250	mA
Loop Length Term Equipment			400	ohms
Ring Voltage		140		Vpp
Ring Frequency	19.9		20.1	Hz
Ring Capacity		1		bell
Insertion Loss 200 to 4,000 Hz		<0.5		dB
Modem Support			28.8k	baud
<b>Environmental</b>				
Operating Temp.	32		122	°F
	0		50	°C
Humidity			95%	RH

*Note: A 24 VDC 250 mA wall transformer is an acceptable power supply and is supplied with the CTA-369.*

### Mechanical

#### Connections

Central Office	RJ11
Meridian Business Set	RJ11
Power	2.1mm barrel connector
Wall Mounting	

### Dimensions

1.5" x 5" x 4" (4 cm x 12 cm x 10 cm)

### Weight

Shipping	1.75 lbs (800 grams)
Actual	1.25 lbs (600 grams)

<b>Certification</b>		<b>Approval Number</b>
IC	CS03	
IC	C108-8 Class A	
CSA	C22.2 No.225-M90	
FCC	Part 68	FCNCAN-18268-KX-N
FCC	Part 15 Class A	
<sup>1</sup> UL	1459-2	

<sup>1</sup>UL 1459-2 listing by Canadian Standards Association (CSA), a Nationally Recognized Testing Laboratory.

## Warranty and Service

Dees Communications Corporation 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 or 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

or visit our website at:

[www.dees.com](http://www.dees.com)

Goods returned to the following address:

4130 148th Avenue NE  
Redmond, WA  
98052

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 remainder 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.

**I. FCC REQUIREMENTS:**

1. The federal Communications Commission (FCC) has established Rules, which permit this device to be directly connected to the telephone network. Standardized jacks are used for these connections. This equipment should not be used on party lines or coin lines.
2. If this device is malfunctioning, it may also be causing harm to the telephone network; this device should be disconnected until the source of the problem can be determined and until repair has been made. If this is not done, the telephone company may temporarily disconnect service.
3. The telephone company may make changes in its technical operations and procedures; if such changes affect the compatibility or use of this device, the telephone company is required to give adequate notice of the changes. You will be advised of your right to file a complaint with the FCC.
4. If the telephone company requests information on what equipment is connected to their lines, inform them of:
  - a. The telephone number this unit is connected to
  - b. The ringer equivalence number
  - c. The USOC jack required
  - d. The FCC registration numberItems 'b' and 'd' are indicated on the label.

The ringer equivalence (REN) is used to determine how many devices can be connected to your telephone line. In most areas, the sum of the RENs of all devices on any one line should not exceed five (5.0). If too many devices are attached, they may not ring properly.

**II. SERVICE REQUIREMENTS**

1. In the event of equipment malfunction, all repairs should be performed by our Company or an authorized agent. It is the responsibility of users requiring service to report the need for service to our Company or to one of our authorized agents. Service can be obtained at:

Dees Communications Corporation  
#4130-148th Avenue NE,  
Redmond, WA 98052  
Phone: 1 800 654 5604

**Warning:**

Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

**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.

**WARNING:**

Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

**Note:**

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference with radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interferences by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio TV technician for help.

**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, user's 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 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.



## **Other Dees Centrex Enhancements**

The CTA-369 was developed with the co-operation of Northern Telecom and is the first in a line of products to be sold as enhancements to the Meridian Business Set.

### **DSI-375**

The DSI-375 is the second product in the family of Meridian Digital Centrex enhancements. The DSI customizes the ringing performance of the MBS. It allows continual ringing on second incoming calls, provides distinctive ringing and also busy signals and night bell ringing, DSI and CTA-369 are fully compatible and can both be operated from one phone.

### **CRI-376**

The CRI-376, Centrex Recording Interface, is a terminal adapter that can be used to allow direct connection to any automatic recording device such as the Dictaphone 9000™ series multi-rack recorder. The CRI-376 allows you to select which line or group of lines you wish to record. As an option, the CRI could deliver a tone to indicate when a call is being recorded.

### **CLE-373**

The CLE-373, Centrex loop Extender, is used to increase the distance a MBS can be installed from the Central Office by as much as 70%. The CLE-373 has been standardized on by many North American telephone companies. It is installed in the Central Office and is a cost-effective method of providing MBS service on long loops without the loss of any features. The technology used in the CLE-373 was acquired on a North American exclusive basis from BC Labs.



**Dees**

COMMUNICATIONS

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Website: [www.dees.com](http://www.dees.com)

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