

49212

DIAL-UP MODEM

SUBASSEMBLY



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About this Practice:

This practice has been reissued to:

- Add a note on using the dial-up system over a PBX system.

Reissued Practices: Updated and new content can be identified by a banner in the right margin.

Issue date: March 2000

UPDATED

CAUTION

- Install or remove modules from the shelf only when the power is off. If you install a module in the shelf with the power on, the internal circuitry may suffer damage and the product warranty will be void.
- Remove and install circuit boards only in a static-safe environment (use antistatic wrist straps, smocks, footwear, etc.).
- Keep circuit boards in their antistatic bags when they are not in use.
- Do not ship or store circuit boards near strong electrostatic, electromagnetic, magnetic, or radioactive fields.
- For more complete information on electrostatic discharge safety precautions, refer to Bellcore™ Technical Reference # TR-NWT-000870.

ORDERING INFORMATION

NOTE: This section lists the different options available for this product. To order any of the available options, contact Dantel Inside Sales through our toll-free number, **1-800-432-6835**.

OPTION NUMBER	FEATURES
A12-49212-00	Dial-Up Modem Subassembly

GENERAL DESCRIPTION

The 49212 Dial-Up Modem subassembly is a single-line dial-up tone modem. It installs on modules that are part of Dantel's 460 Alarm and Control System (460 ACS).

The Dial-Up Modem replaces a 44210-00 460 Modem Module (460 MM) that operates in remote mode. The 49212 Dial-Up Modem connects to the subassembly areas of other modules, which saves shelf space.

The Dial-Up Modem requires a 46020 Multiple Alarm Processor (MAP) with 46800-58 firmware. The MAP acts as a master, and can poll, configure, and receive calls from the 49212 Dial-Up Modem.

A 460 MM operating in master mode at a master site connects the MAP and the Dial-Up Modem. The connection speed between the MAP and the 44210 Dial-Up Modem is no more than 1200 baud.

Configuration of the 49212 Dial-Up Modem is performed by the MAP.

The Dial-Up Modem accepts DCM commands from the MAP and can poll up to 128 Multiple Alarm Transmitters (MATs) and 16 Control Point Modules (CPMs). The Dial-Up Modem reports changes by calling the master MAP. The MAP can poll MATs and CPMs by calling the Dial-Up Modem.

An EEPROM prevents the loss of the configuration if the module loses normal power.

Access to terminal commands requires a password.

Front panel LEDs indicate when the modem is:

- ◆ Transmitting data
- ◆ Receiving data
- ◆ Detecting ringing voltage
- ◆ Off-hook
- ◆ Detecting carrier signal
- ◆ Not configured
- ◆ Detecting ringing voltage and is not configured

NOTE:

PBX applications utilizing the 49212 Dial-Up Subassembly have been successfully tested and deployed.

Dantel's **Customer Support Services Group** is available by phone to assist in the planning, installation, and turn-up of this product.

This free service is available by calling 800.432.6835 and asking for Customer Support Services.

NEW NOTE

GENERAL DESCRIPTION

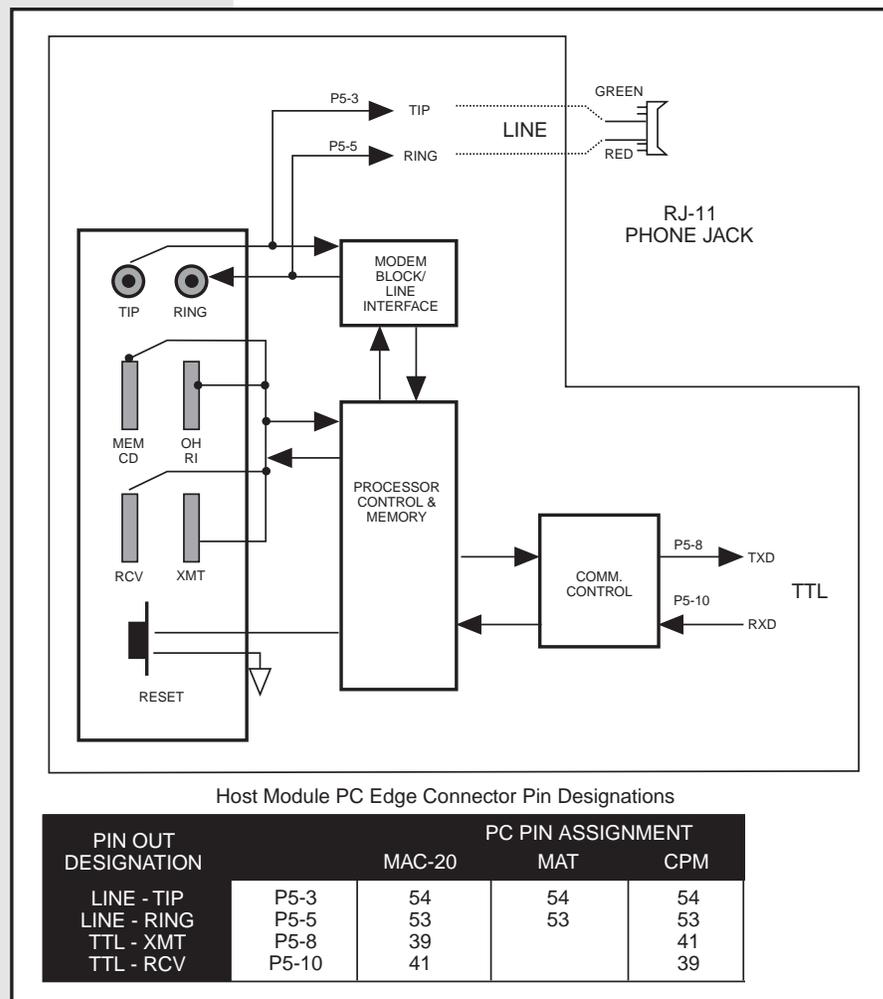
Pin-jacks on the front panel let you monitor the two-wire line. A front panel reset button lets you:

- ◆ Reset the modem if pressed momentarily. When you press the reset button the modem hangs up during a call. Any alarm data is lost and the modem immediately calls the master shelf which reconfigures the modem.
- ◆ Erase the modem's programming if pressed for ten seconds. When you erase the modem's programming all configuration data is lost and the modem hangs up during a call. The Memory/CD LED turns red indicating no configuration is present.

CIRCUIT DESCRIPTION

Fig. 1 shows the 49212 Dial-Up Modem functional schematic.

FIG. 1 - 49212 FUNCTIONAL SCHEMATIC



INSTALLATION

Installation consists of installing the modem subassembly and configuring the modem.

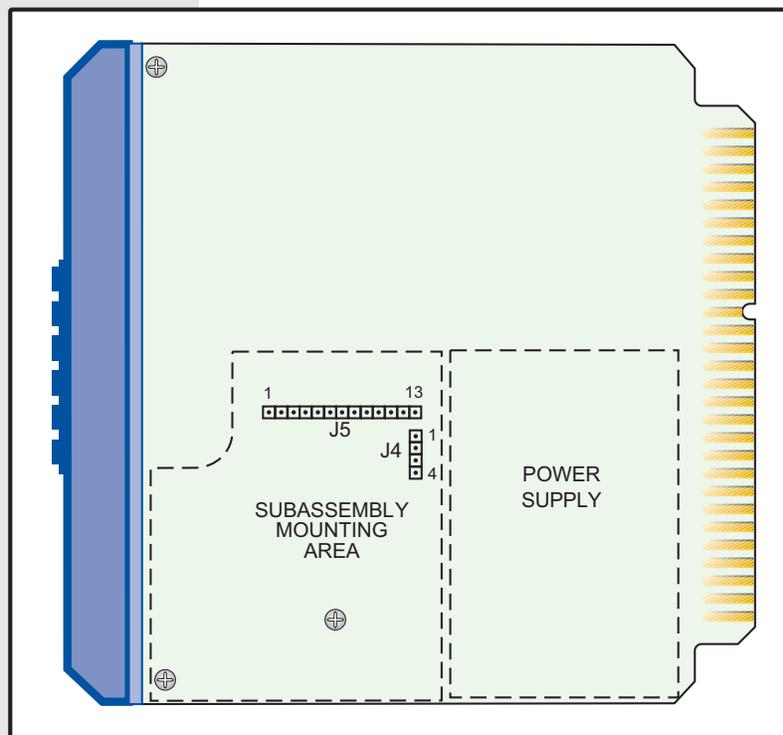
Install the modem subassembly.

1. If there is a hole plug in the front panel of the host module, remove the plug.
2. Remove the three screws from the subassembly standoffs and remove any existing subassembly (refer to Fig. 2).
3. Remove screws from 49212 (refer to Fig. 2).
4. Place the 49212 modem subassembly on the host module:
 - ◆ Insert P4 into J4 and P5 into J5.
 - ◆ Make sure each connector pin goes straight into its socket.
 - ◆ Make sure the subassembly fits closely on the standoffs.
 - ◆ The front panel of the subassembly should be straight in the window of the host module.
5. Replace the three screws in the standoffs.

Configure the modem.

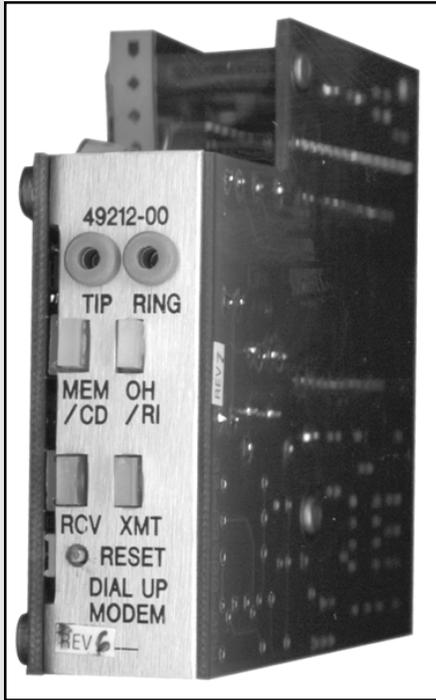
1. Install the host module in its equipment shelf.
2. Apply power to the shelf. The LEDs flash for about two seconds.
3. Configuration of the 49212 Dial-Up Modem is performed by the MAP.

FIG. 2 - SUBASSEMBLY LOCATION



OPERATION

Use the 49212 Dial-Up Modem subassembly as part of Dantel's 460 Alarm and Control System. Subassembly programming and commands received from the host module control the operation of the subassembly.



Applying Power

Whenever power is applied to the subassembly:

- ◆ The subassembly performs a soft reset. The configuration in memory is retained.
- ◆ All the LEDs blink once.

Front Panel LEDs

The four LEDs on the front panel operate as follows:

- ◆ **Transmit Data**
Flashes green when the modem is transmitting data.
- ◆ **Receive Data**
Flashes green when the modem is receiving data.
- ◆ **Off Hook/Ring Indicator**
Is red when the modem is off hook.
Is green when the modem is detecting ringing voltage.
- ◆ **Memory/Carrier Detect**
Is off if the modem is configured.
Is red if there is no configuration.
Is green when signal carrier is detected.
Is orange when signal carrier is detected and there is no configuration present.

Monitor Jacks

Two pin-jacks on the front panel let you monitor the two-wire line.

Front Panel Reset

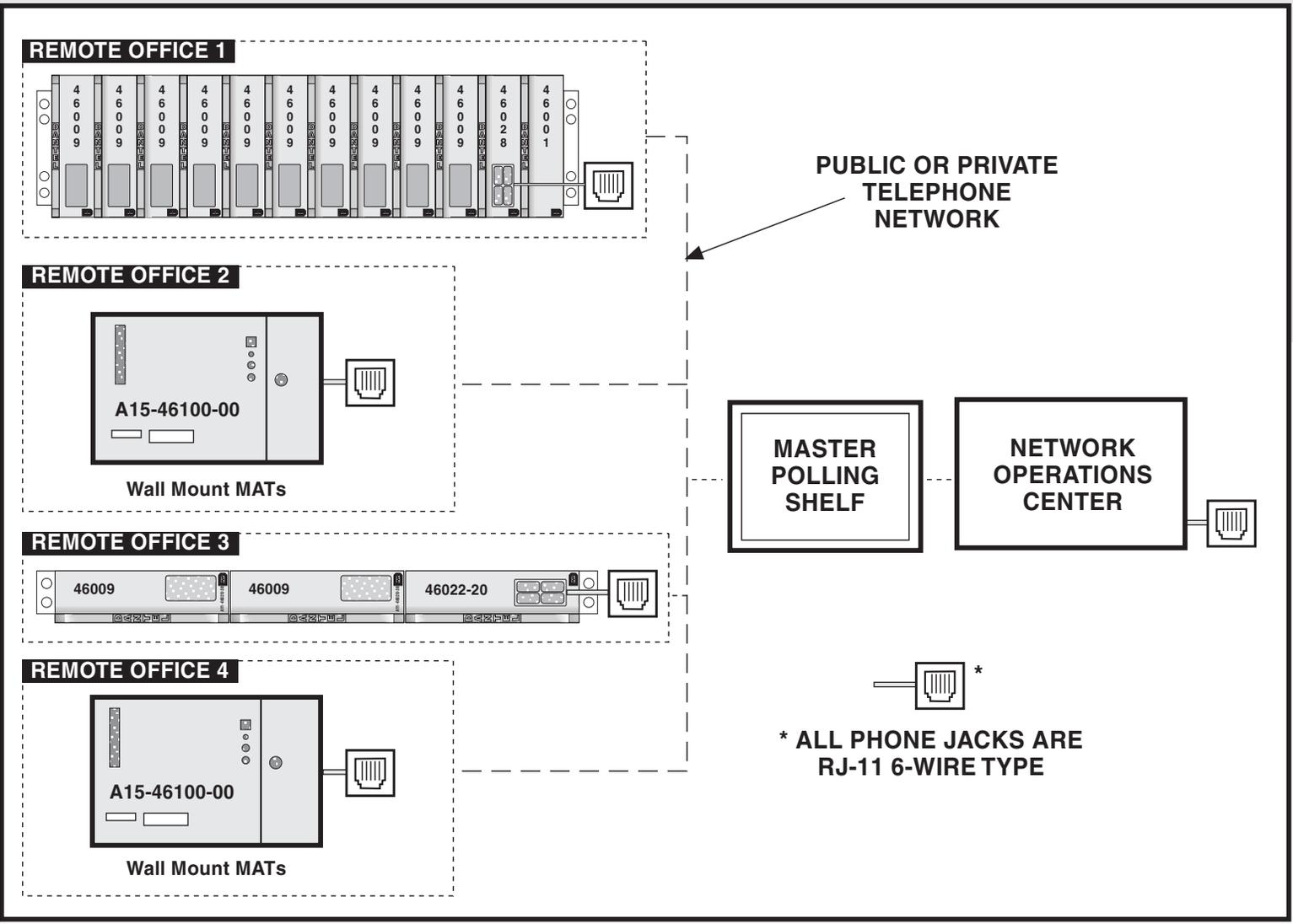
A recessed button on the front panel lets you reset the modem. Press the button for ten seconds to cause a hard reset. This will erase the configuration in memory and you must reconfigure the modem. All the front panel LEDs blink once to indicate that a hard reset was done.

APPLICATION INFORMATION

The 49212 Dial-Up Modem subassembly works with DCM applications.

Fig. 3 shows a typical dial-up modem application.

Fig. 3 - 49212 Dial-Up Modem Application



FCC REQUIRED INFORMATION

The following are requirements of Part 68 of FCC Rules:

- ◆ The installer of this equipment is responsible for notifying the telephone company that it is being connected or disconnected.
- ◆ This equipment is not to be connected to party lines or coin telephone service.
- ◆ The telephone company has the right to temporarily discontinue service (Section 68.108) and to change facilities and services which may affect the operation of this equipment. Adequate written notice will be provided to the user to maintain uninterrupted service (Section 68.110B).
- ◆ In case of trouble, contact the manufacturer's authorized agent.
- ◆ When the installation of this device requires connection or changes to the internal wiring of registered telephones or other registered devices, such changes and connections can be made only by the registered grantee or authorized agents, equipment manufacturers, registered telephone refurbishers, telephone companies, and those qualified for the installation of KN and PN systems under Section 68.215 of the rules. The installer of this equipment is advised, in the interest of safety, that the host equipment be disconnected from all power sources and the telephone network when the installation is being made.
- ◆ Installation of this equipment as an adjunct can be made only with permission of the owner of the host equipment.

FCC required information pertaining to this module:

Registration Number: **DPHUSA-23455-AL-E**

TECHNICAL SPECIFICATIONS

DESCRIPTION	VALUE
Power Requirements	+5 VDC
Input Current (+/- 10mA)	175 mA
Power Source from host module	P4 pin 3
Heat Dissipation (+/- 5%)	0.4 Btu/Hr
Line XMT Carrier Output level Line RCV Carrier Input Range (for carrier detect)	-8 dBm +/- 1 dBm 0 to -36 dBm
Digital Interface Levels TTL/CMOS Input Voltage Output Current RS232 Active (Operate) Inactive	0 to 1.5 V Low, 3.0 to 5 V 20 mA Source at 2.5V Minimum Output 20 mA Sink at 0.5V Maximum Output +3 to +12 VDC -3 to -12 VDC
Weight	3.8 ounces
Physical Dimensions	2.6" x 2.8" x 0.8"
Operating Temperature Ranges	0 to 55 Degrees C.

NOTES

WARRANTY

LIMITED WARRANTY

The Seller warrants that the standard hardware products sold will be free from defects in material and workmanship and perform to the Seller's applicable published specifications for a period of 18 months for hardware, and 3 months for software, from the date of the original invoice. The liability of the Seller hereunder shall be limited to replacing or repairing, at its option, any defective products which are returned F.O.B. to the Seller's plant, (or, at the Seller's option, refunding the purchase price of such products). In no case are products to be returned without first obtaining permission and a customer return authorization number from the Seller. In no event shall the Seller be liable for any consequential or incidental damages.

Equipment or parts which have been subject to abuse, misuse, accident, alteration, neglect, unauthorized repair or installation are not covered by warranty. The Seller shall make the final determination as to the existence and cause of any alleged defect. No warranty is made with respect to custom equipment or products produced to the Buyer's specifications except as specifically stated in writing by the Seller in the contract for such custom equipment.

This warranty is the only warranty made by the Seller with respect to the goods delivered hereunder, and may be modified or amended only by a written instrument signed by a duly authorized officer of the Seller and accepted by the Buyer.

Warranty and remedies on products not manufactured by the Seller are in accordance with warranty of the respective manufacturer. THE SELLER MAKES NO OTHER WARRANTY OF ANY KIND WHATSOEVER, EXPRESSED OR IMPLIED; AND ALL IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE WHICH EXCEEDS THE AFORESAID OBLIGATIONS IS HEREBY DISCLAIMED BY THE SELLER.

IN CASE OF DIFFICULTY

If you experience difficulty with this equipment, check the following, as appropriate:

1. **Switch settings**
2. **Signal levels**
3. **Software configuration**
4. **Connections between Dantel's equipment and your equipment.**

If there is still a problem, substitute equipment that is known to be good. For additional assistance, call Dantel's Technical Field Service Department weekdays, 6 A.M. to 5 P.M. pacific time:

1-800-4DANTEL (1-800-432-6835).

If a thorough checkout shows a piece of equipment has malfunctioned, you may return it to the factory. For repairs and emergency replacements, obtain a Return Material Authorization (RMA) number from the Customer Service Representative at **1-800-4DANTEL (1-800-432-6835)**.

To ensure expedient processing of your order, provide a purchase order number and shipping and billing information when requesting an RMA number. Also, when the units are returned to Dantel, include a description of the failure symptoms for each unit returned. Send defective equipment to:

Dantel, Inc. • 2991 North Argyle Avenue • Fresno, California 93727-1388

