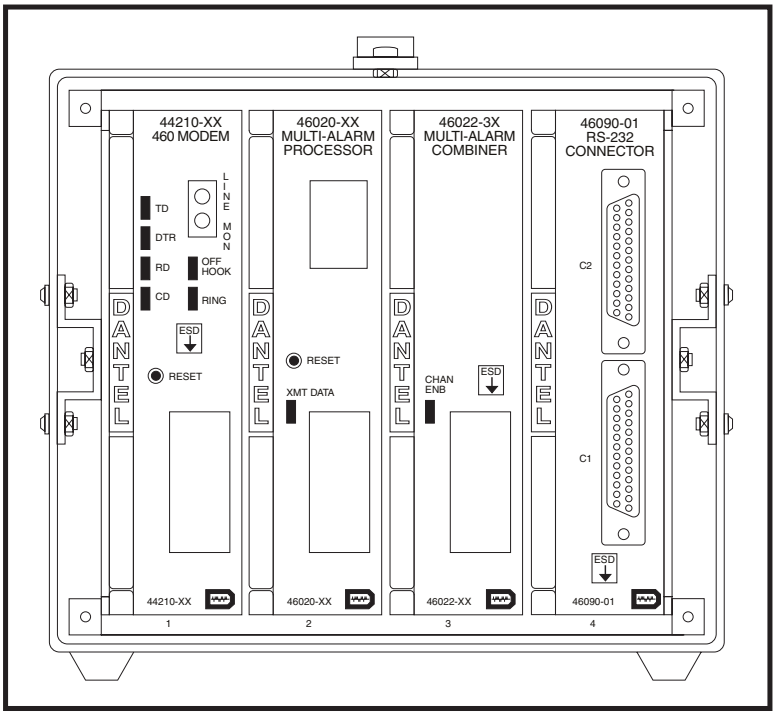
# 05615 UNIVERSAL ALARM TEST SET

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**About this Practice:**

This practice has been reissued to:

- Meet ISO 9001 requirements.

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

UPDATED

**Issue date: January 1998**

**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 |
|---|---|
| A15-05615-01 | Universal Alarm Test Set |
| A15-05615-21 | Universal Alarm Test Set w/ A17-49023-00 Cable Kit |
| A15-05615-42 | Universal Alarm Test Set w/ A17-49023-00 Cable Kit and A22-46508-02 40 MAP Editor |

# GENERAL DESCRIPTION

The 05615 Universal Alarm Test Set is a four-slot portable 400-type equipment shelf for testing alarm collection and reporting equipment. It can poll equipment using DCP, DCPF, TABS, TBOS, and DCM protocols, and can report alarm data in DCP, DCPF, TABS, TBOS, and Printer (ASCII) protocols.

Alarm polling and reporting can be done through RS-232, RS-422, RS-485, or 202 tone modem interfaces.

Configuration downloading to the 46020 Multiple Alarm Processor (MAP) requires Dantel's 46508 40 MAP Editor. The configuration can be downloaded:

- Directly from a computer.
- Through a dial-up modem in the test set.
- Through a digital network connection.

A battery backup on the MAP module retains the configuration when the test set is unplugged.

The test set housing features a carrying handle and non-slip feet. It uses 120 VAC power.

# INSTALLATION

Installing the 05615 Universal Alarm Test Set consists of:

- Setting switches and straps.
- Connecting cables to external equipment.
- Configuring the MAP.
- Connecting the terminal to the MAP craft/printer port.

***NOTE***: *Before beginning, verify that the Test Set is equipped as illustrated on the front cover of this manual.*

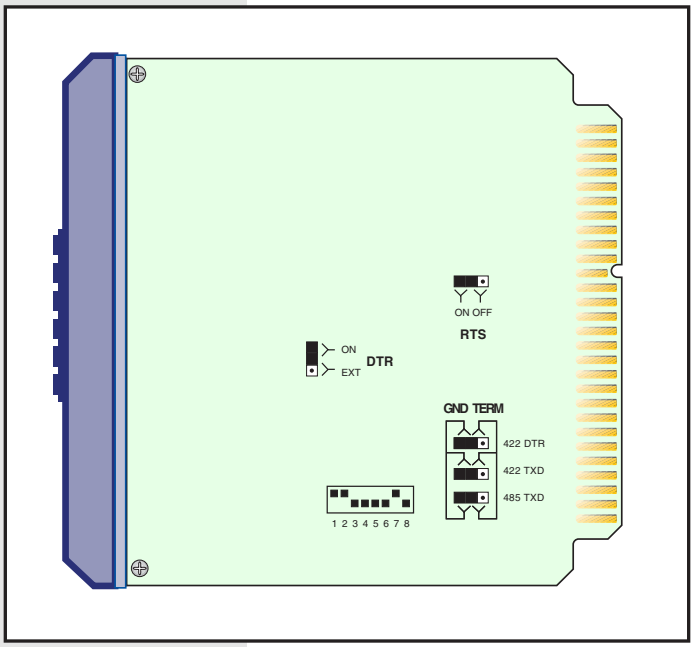
### 1. Set the switches and straps.

1. Refer to Fig. 1 and Table A for the 44210 460 Modem module strap and switch settings. Set the straps as shown in Fig. 1.
2. Refer to Figs. 2 and Table B for the 46020 Multiple Alarm Processor (MAP) module switch settings. To download the configuration file to the MAP, set the printer port protocol for DCPF or Printer Protocol.
3. Refer to Fig. 3 and Table C for the 46022-30 Multiple Alarm Combiner (MAC) module switch settings. Set all switches on S1 OFF (card and channel addresses are both 1).
4. Refer to Fig. 4 and Table D for the 49008 Current Loop Interface subassembly strap settings.
5. Refer to Fig. 5 and Table E for the 49013 202 Modem subassembly switch and strap settings.
6. Refer to Fig. 6 and Table F for the 49029 RS-232 Current Loop Interface subassembly switch and strap settings.
7. There are no switch or strap settings for the 46090 RS-232 Connector module.
8. Install all modules in the test set.

***NOTE***: *Each test set includes detailed A18-05615-42 application drawings. You can also order application drawings as necessary. These drawings show all connections and card locations.*

CONTINUED . . .

## Fig. 1 - Switch and Strap Locations, 44210




## Table A - Switch Settings, 44210 (UP = OFF, DOWN = ON)

| DESCRIPTION | SWITCH SETTING |
|---|---|
| Automated Answering Mode ON | S1-1 UP; S1-8 DOWN |
| Not used | S1-2 UP |
| 1200 Baud Data Rate | S1-3 DOWN |
| 1 Stop Bit | S1-4 DOWN |
| 8 Bit Word Length | S1-5 DOWN |
| No Parity | S1-6 DOWN; S1-7 UP |

## Fig. 2 - Switch Locations, 46020

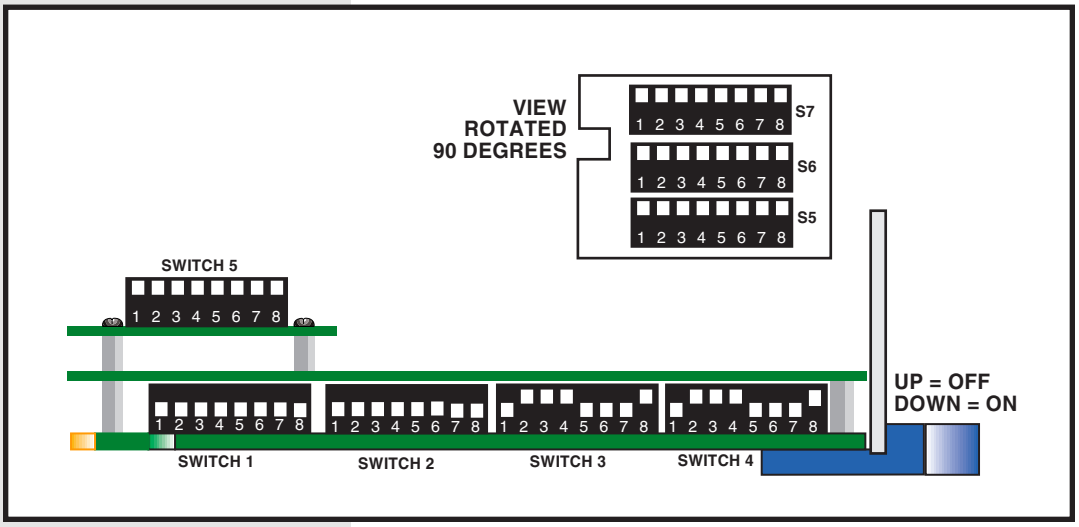


**TABLE B - SWITCH SETTINGS, 46020 (UP = OFF, DOWN = ON)**

| | | | | |
|---|---|---|---|---|
| **MASTER (S1) AND PRINTER (S2) PORT ADDRESSES** | | | | |
| (Address 1 = Default) S1 = ALL DOWN<br>S2 = ALL DOWN<br>NOTE: For extended or additional information, refer to 46020-40 practice. | | | | |
| **MASTER (S3) AND PRINTER (S4) PORT DATA RATES** | | | | |
| | S3-1<br>S4-1 | S3-2<br>S4-2 | S3-3<br>S4-3 | S3-4<br>S4-4 |
| 1200 | DOWN | DOWN | DOWN | UP |
| 2400 | DOWN | UP | DOWN | UP |
| 9600 (Default) | DOWN | UP | UP | UP |
| **MASTER (S3) AND PRINTER (S4) PORT PARITY** | | | | |
| | S3-5<br>S4-5 | S3-6<br>S4-6 | | |
| None (DCP, DCPF, Printer) (Default) | DOWN | DOWN | | |
| Odd (TBOS, TABS) | UP | DOWN | | |
| **MASTER (S3) AND PRINTER (S4) PORT STOP BITS** | | | | |
| | S3-7<br>S4-7 | | | |
| 1 Bit (Default) | DOWN | | | |
| **MASTER (S3) AND PRINTER (S4) PORT WORD LENGTH** | | | | |
| | S3-8<br>S4-8 | | | |
| 8 Bits (Default) | UP | | | |
| **DATA PORT CONNECTED TO 46022-30 MAC** | | | | |
| MAC Select | S5-1<br>UP | | | |
| **POWER-UP OPERATION** | | | | |
| | S5-2 | S5-3 | S5-4 through S5-8 | |
| Cold Boot (erases memory) | DOWN | UP | NOT USED | ALL UP |
| Normal | UP | UP | NOT USED | ALL UP |
| **MASTER PORT PROTOCOL** | | | | |
| | S6-1 | S6-2 | S6-3 | S6-4 |
| DCP | DOWN | DOWN | DOWN | DOWN |
| TBOS | UP | DOWN | DOWN | DOWN |
| DCPF | UP | UP | DOWN | DOWN |
| TABS | DOWN | DOWN | UP | DOWN |
| **PRINTER PORT PROTOCOL** | | | | |
| | S6-5 | S6-6 | S6-7 | S6-8 |
| DCP | DOWN | DOWN | DOWN | DOWN |
| TBOS | UP | DOWN | DOWN | DOWN |
| Printer (Default) | DOWN | UP | DOWN | DOWN |
| DCPF | UP | UP | DOWN | DOWN |
| TABS | DOWN | DOWN | UP | DOWN |
| **SWITCH S7** | | | | |
| | S7-1 through S7-8 | | | |
| Not Used | All UP | | | |

**FIG. 3 - SWITCH LOCATIONS, 46022-30**

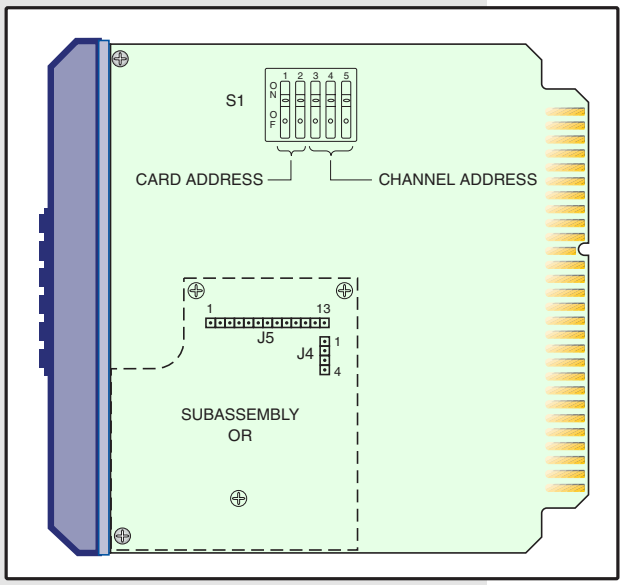



**TABLE C - SWITCH SETTINGS, 46022-30**

| DESCRIPTION | SWITCH SETTINGS |
|---|---|
| **CARD ADDRESS** | |
| Address 1 | S1-1 OFF; S1-2 OFF |
| **PORT ADDRESS** | |
| Port Address 1 | S1-3 through 5 all OFF |

**FIG. 4 - STRAP LOCATIONS, 49008**

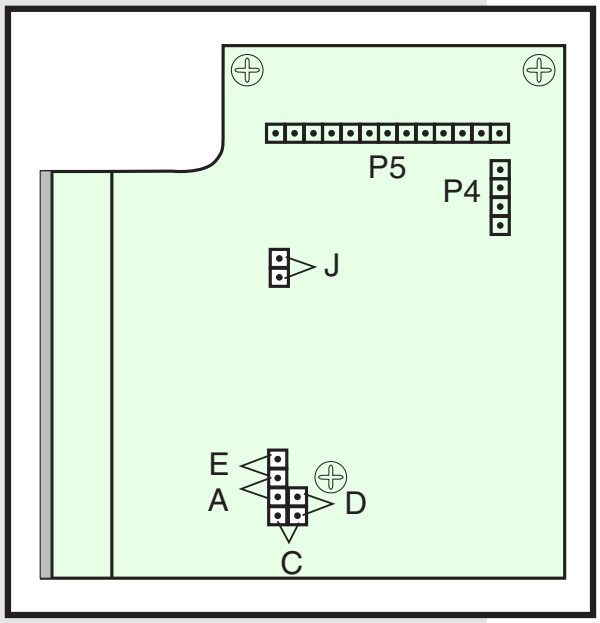



**TABLE D STRAP SETTINGS, 49008**

| OPTION | STRAP |
|---|---|
| Unterminated Input | J Strap removed |
| Terminated Input * | J Strap installed |
| RS-422 * | Install straps A & C |
| RS-485 | Install straps C & E |
| NOTES: * = default setting. Remove J Strap when using RS-422. | |

**FIG. 5 - SWITCH AND STRAP LOCATIONS, 49013**

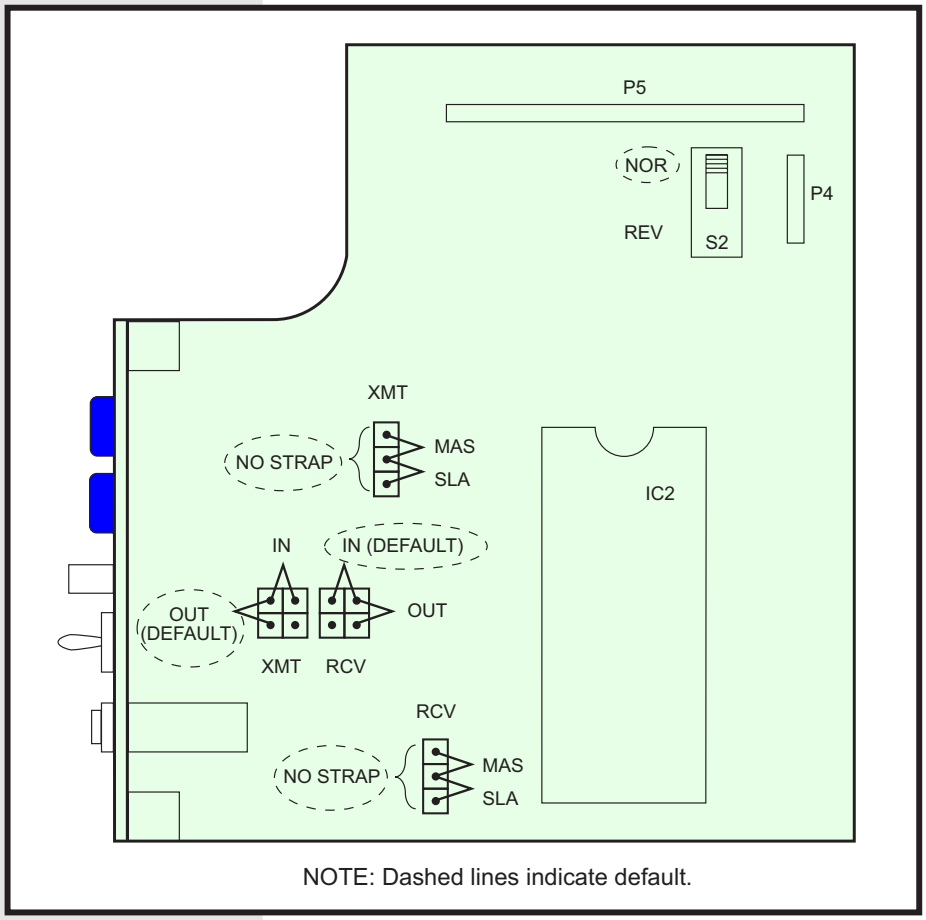



**TABLE E - SWITCH AND STRAP SETTINGS, 49013**

| OPTION | POSITION |
|---|---|
| **S2** | |
| Normal Operation | NOR |
| **MASTER/SLAVE STRAPS** | **MASTER/SLAVE STRAPS** |
| Non-operative | Remove straps from subassembly. |
| **RCV PAD STRAPS** | **RCV PAD STRAPS** |
| IN (default - receive input level can be between 0 and -20 dBm.) | Place jumpers parallel to connector P5. |
| OUT (receive input level can be between -20 and -40 dBm.) | Place jumpers perpendicular to connector P5. |
| **XMT PAD STRAPS** | **XMT PAD STRAPS** |
| IN (transmit output level adjustable between -20 and -40 dBm.) | Place jumpers parallel to connector P5. |
| OUT (default -transmit output level adjustable between -1 and -20 dBm.) | Place jumpers perpendicular to connector P5. |

**FIG. 6 - SWITCH AND STRAP LOCATIONS, 49029**

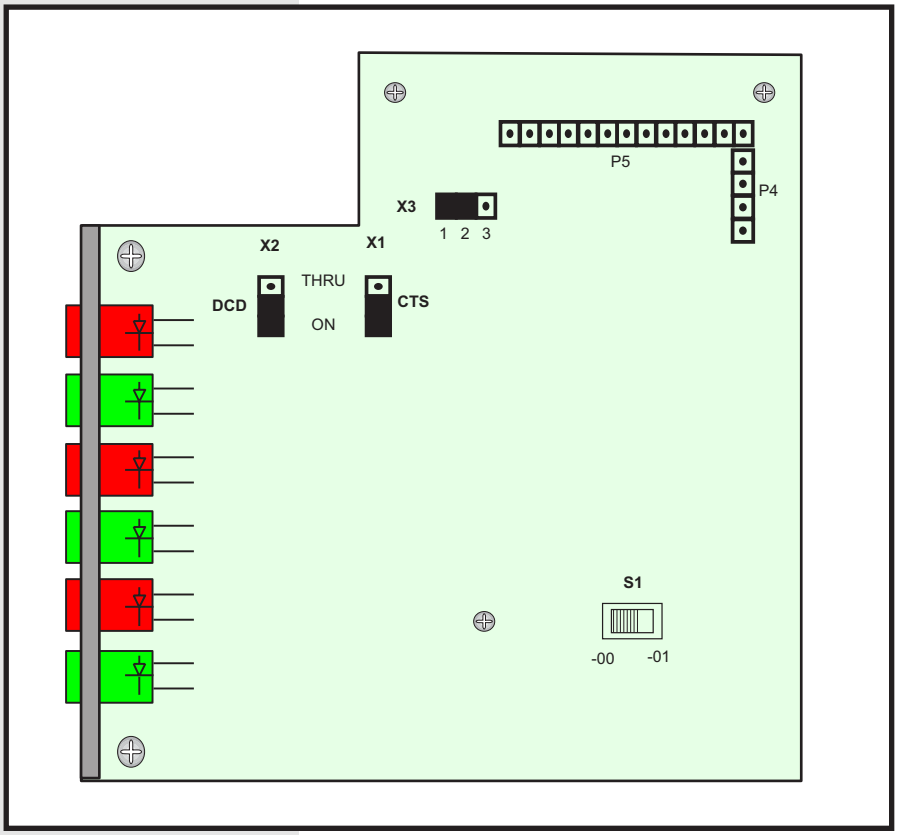
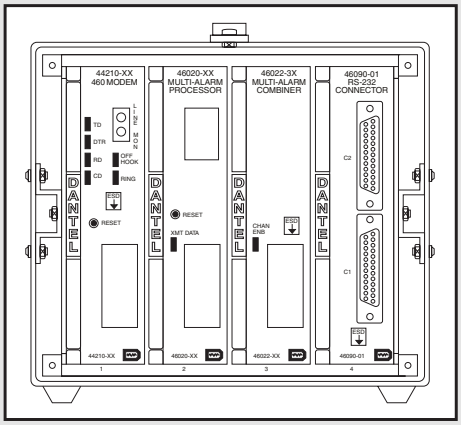



**TABLE F - SWITCH AND STRAP SETTINGS, 49029**

| OPTION | SWITCH/STRAP |
|---|---|
| Mode (-00) | Switch to -00 position (left) |
| CTS Handshaking | |
| Use CTS Handshaking | X1 - THRU |
| No CTS Handshaking | X1 - ON |
| DCD Handshaking | |
| Use DCD Handshaking | X2 - THRU |
| No DCD Handshaking | X2 - ON |
| Paralleling (not used) | X3 - jumper pins 1 & 2 |

FIG. 7 - FRONT VIEW




## 2. Connect the test set to external equipment.

For the following steps refer to Figs. 7-9. Fig. 7 shows the test set front view. Fig. 8 shows the test set rear view. Fig. 10 shows an interrogator/responder mode block diagram.

The MAP is the central module in the test set. Refer to Fig. 10. The MAP has three ports – master, printer, and data – that function as follows:

- Master - Reports alarms to an alarm center.
- Printer - Configuration port. It can also be used for local reporting of alarms because alarm information sent out the printer port is a duplicate of the master port.
- Data - Polls equipment for alarms.

  Connect the master port to the alarm center. Use the top DB25 connector on the 46090 module.

***NOTE***: *Although the 46090 module says "RS-232" on the front panel, it contains wiring only and will work with RS-422, RS-485, and 202 tone modem interfaces.*

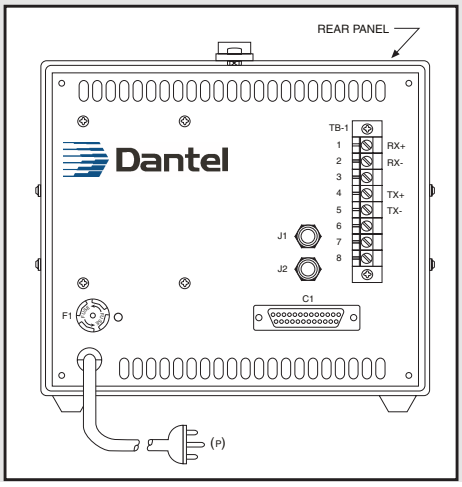
- Connect the printer port to your computer so you can download the configuration file to the MAP.

  Refer to Fig. 10. To download the MAP remotely over a public switched network, connect connectors 7 and 8 of TB-1 on the back of the test set to tip and ring of a phone line. Or use the bottom DB-25 connector on the 46090 module to connect the printer port directly to your computer or to a digital network connection.

  Make sure the computer is set for the same baud, parity, and stop bits as the MAP's printer port.

***NOTE***: *For a detailed explanation of the commands available to you through the Printer Port, refer to the 46640 Firmware Manual.*

FIG. 8 - REAR VIEW




- The data port polls equipment for alarms through the 46022-30 MAC. Connect the MAC to alarm equipment at one of three locations. See Figure 9 and Table G for pin designations.

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**FIG. 9 - MAC CONNECTION POINTS**

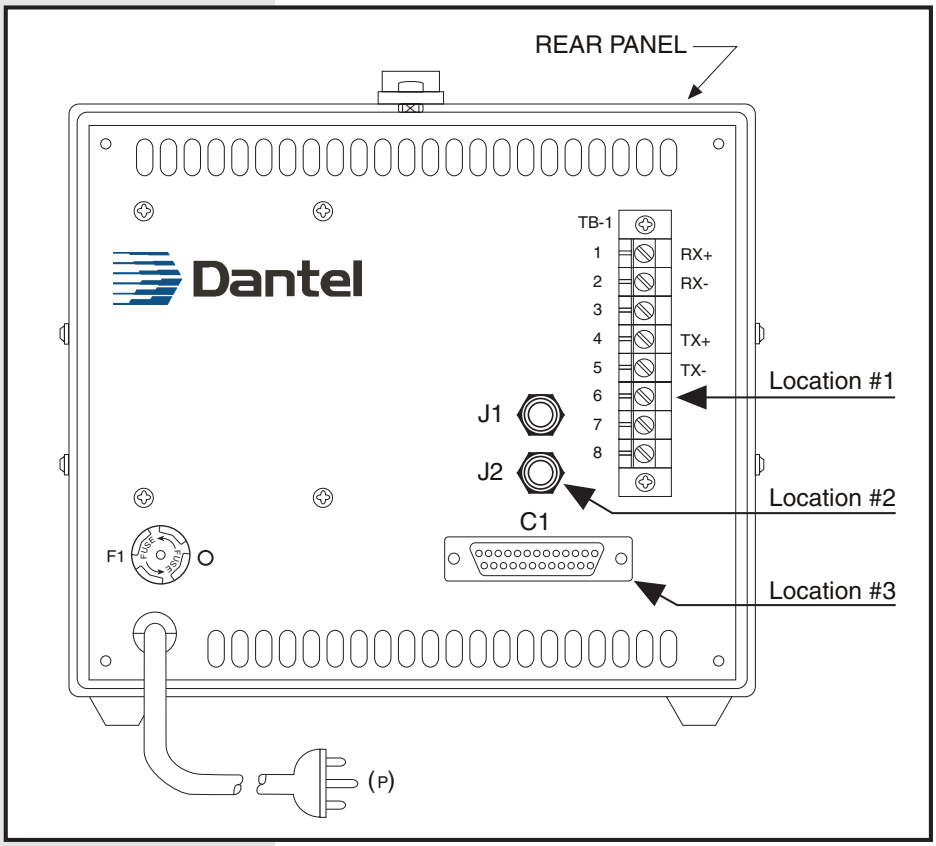



**TABLE G - COMMUNICATION SUBASSEMBLY PIN DESIGNATIONS**

| MAC-30 E/W SUBASSEMBLY: | | LOCATION #1 | LOCATION #2 | LOCATION #3 |
|---|---|---|---|---|
| | | (TB-1) | (310 JACKS) | C1 (BACK OF TEST SET |
| 49008 (RS-422/485) | TX+ | pin 4 | J2-tip | pin 5 |
| | TX- | pin 5 | J2-ring | pin 2 |
| | RX+ | pin 1 | J1-tip | pin 3 |
| | RX- | pin 2 | J1-ring | pin 20 |
| 49013 (202 Tone) | TX+ | pin 4 | J2-tip | pin 5 |
| | TX- | pin 5 | J2-ring | pin 2 |
| | RX+ | pin 1 | J1-tip | pin 3 |
| | RX- | pin 2 | J1-ring | pin 20 |
| 49029 (RS-232) | RD | pin 1 | J1-tip | pin 3 |
| | DTR | pin 2 | J1-ring | pin 20 |
| | DCD | pin 3 | n/a | pin 8 |
| | CTS | pin 4 | J2-tip | pin 5 |
| | TD | pin 5 | J2-ring | pin 2 |
| | RTS | pin 6 | n/a | pin 4 |

### 3. Clear the memory in the MAP, if necessary.

Perform this step only if you are installing the MAP in the test set for the first time or if you need to clear all memory.

1. Turn the test set off by flipping the rear panel power switch down. Refer to Fig. 8.
2. Remove the 46020 MAP and place switch S5-2 DOWN.
3. Insert the MAP in the test set.
4. Turn the test set on by flipping the rear panel power switch up. Refer to Fig. 8.
5. Wait ten seconds, then turn the test set off.
6. Remove the MAP and place switch S5-2 UP.
7. Insert the MAP in the test set.

### 4. Apply power to the test set.

Plug in the power cord and turn the test set on by flipping the rear panel power switch up. Refer to Fig. 8.

### 5. Configure the MAP to operate.

Refer to the 46508 40 MAP Editor manual for instructions to configure the MAP to operate.

### 6. Reconnect the printer port for alarm monitoring.

1. Flip the rear panel power switch off.
2. Set up the computer to operate as a terminal or remove the computer and connect one of the following:
   - A dumb terminal.
   - A serial printer.

   Change the switches on the MAP to set the printer port's protocol for Printer (ASCII). Make sure the baud, parity, and stop bits on the terminal or printer are the same as those for the printer port of the MAP. Set S5-3, on the MAP, down. Insert the MAP in the test set.
3. Flip the rear panel power switch on.

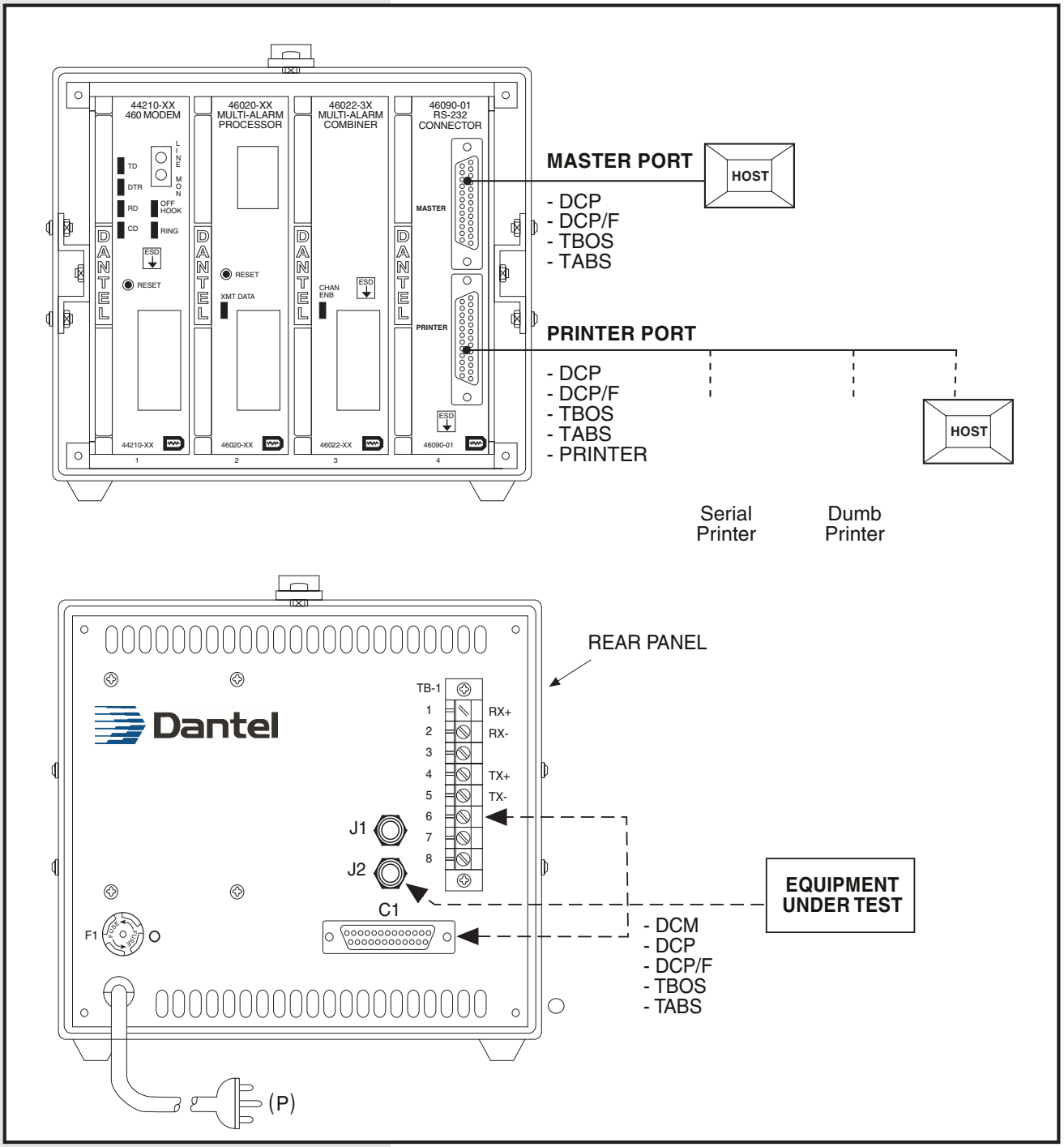
### 7. Align any modem subassemblies.

1. A modem must be connected to another modem at the other end of the communications line.
2. Place the front panel switch in the TEST position.
3. Verify that the front panel CD (Carrier Detect) LED at the distant end indicates data transmisssion activity.
4. With a dB meter (bridging), check the signal level at the XMT test points. Adjust the XMT LVL to obtain the level required for your application.

CONTINUED . . .

5. With a dB meter (bridging), check the incoming signal level at the RCV test points. The signal level should be 0 to -40 dBm, depending on your application. There is no field adjustment for this circuit.

**FIG. 10 - TEST SET**



# OPERATION

After you configure the test set it begins operation when you plug the test set in and flip the rear panel power switch up. The test set automatically interrogates equipment for alarms based on the configuration in the MAP's memory. The processed alarms can be sent to the alarm center when requested or monitored locally if a terminal or printer is connected to the MAP's printer port.

The MAP has a battery to retain the configuration when the test set is unplugged or if power goes out. When power is restored, the MAP resumes operation.

***NOTE***: *You must configure the MAP with Dantel's 40 MAP Editor software (46508) to collect and process alarms correctly.*

LEDs on the front panels of the modules and subassemblies show the activity on the transmit and receive paths and the handshaking lines.

There is a reset button on the front panel of the 44210 460 Modem module that you can push if you need to reinitialize the modem.

# APPLICATION INFORMATION

Connect the test set to other systems using the 05615 Universal Alarm Test Set Cables Package. Refer to Fig. 11. The test set has multiple ports for communications with various external alarm systems. Refer to Fig. 12. Use the types of cables for connecting to different systems.

Fig. 13 shows a standalone alarm interrogator application. The test set automatically interrogates alarms based on preprogrammed instructions stored in non-volatile RAM memory. The processed alarms route to the master computer upon request. The MAP printer port has alarm information in ASCII format.

Fig. 14 shows a TABS/TBOS responder application. The test set connects to an alarm master system using TABS, TBOS or another protocol through port C2 of the 46090 RS-232 Connector. Port C1 of the 46090 RS-232 Connector connects to a local configuration or monitor port.

Use the 46022-3X Multiple Alarm Combiner for a four wire connection to a local TABS or TBOS device being tested. You can also use the 44210 460 Modem for a dial-up configuration.

Fig. 15 shows a TABS/TBOS interrogator application. The test set connects to an alarm master system using DCP, DCPF or another protocol through port C2 of the 46090 RS-232 Connector. All other connections are the same as the TABS/TBOS responder application.

The test set automatically interrogates alarms based on preprogrammed instructions stored in non-volatile RAM memory. The processed alarms route to the master computer upon request. The MAP printer port has alarm information in ASCII format.

## Fig. 11 - Universal Alarm Test Set Cable Package (A17-49023-00)

### Dantel Alarm Test Set: A18-05615-42

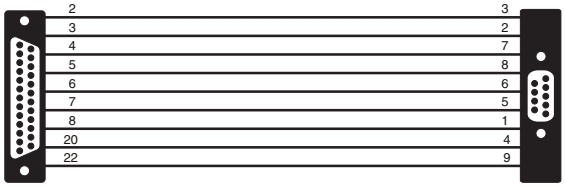
Various cables may be used to provide system connections depending on what customer equipment is to be attached. See Block Diagram for pinouts


**RJ-11 plug to Spade Connectors**

(P/N 929-00057-00)

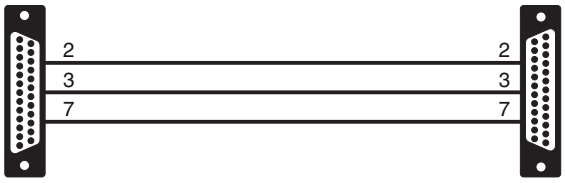

**ALARM EQUIPMENT INTERFACE**
**RS 422/RS 485**

DB-25 Connector (Male) To Wire-wrap pins (Female)
4 conductors, multi-strand, shielded, with strain relief.
(P/N A25-00707-00)



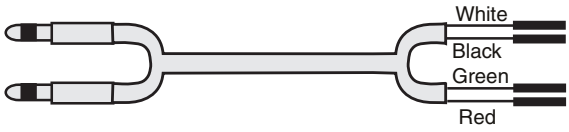

**PC INTERFACE**
**RS 232**

DB-25 Connector (Male) To DB-9 Connector (Female)
Dantel P/N:999-00367-00
(Null Modem Cable)




**ALARM EQUIPMENT INTERFACE**
**RS 232**

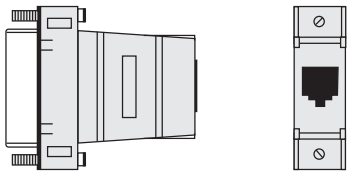
DB-25 Connector (Male) To DB-25 Connector (Male
(Straight Ribbon Cable)
(P/N 929-00056-00)




"310" Connector (Male) To Wire-wrap pins (Female)
(P/N A25-00706-00)

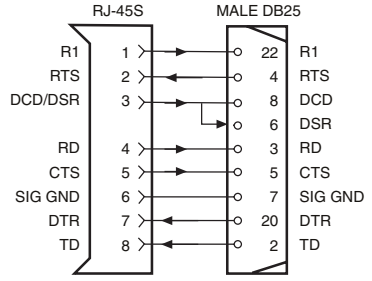

"Spade Lug" Crimp Connector to
Wire-wrap pins (Female)
CP/N A25-00705-00

**ADAPTOR KIT**
**BLACK BOX P/N: 915-00068-00**

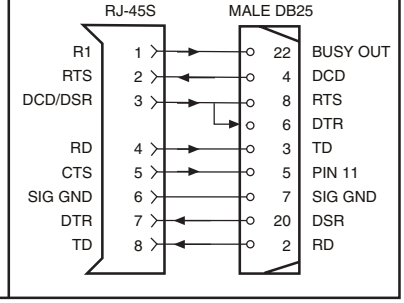



TYPICAL RJ-45 TO DB-25 KIT PIN OUTS (WIRED BY CUSTOMERS)

DCE APPLICATION PIN OUT

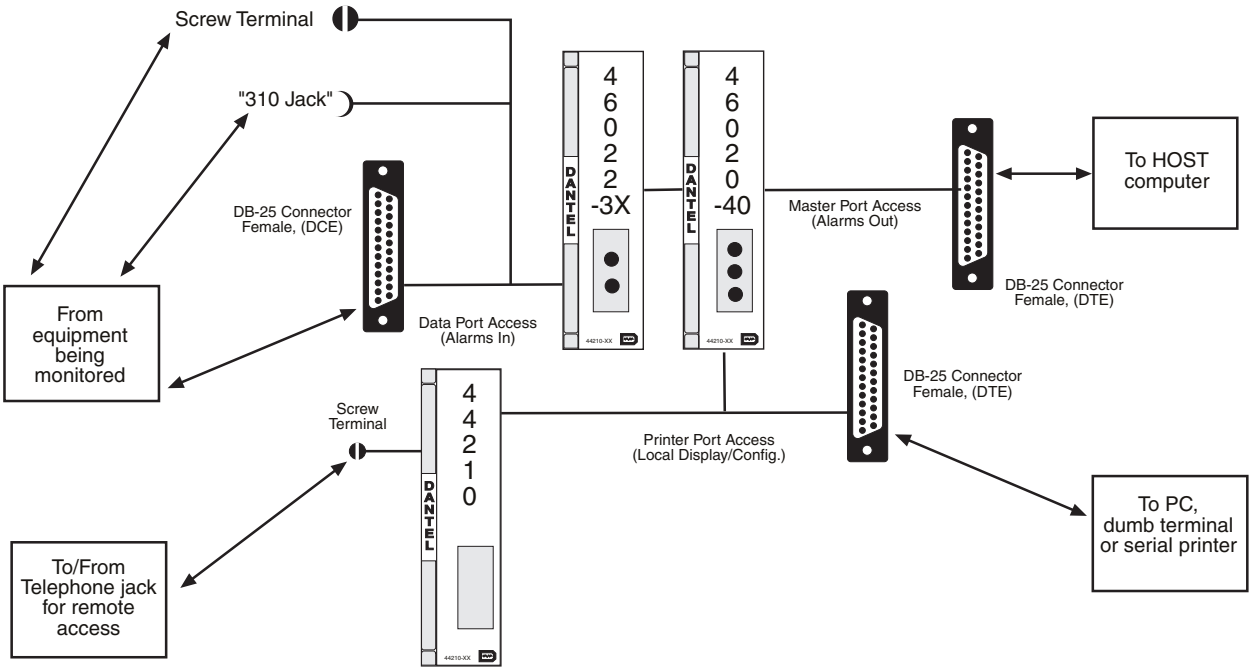



DTE APPLICATION PIN OUT



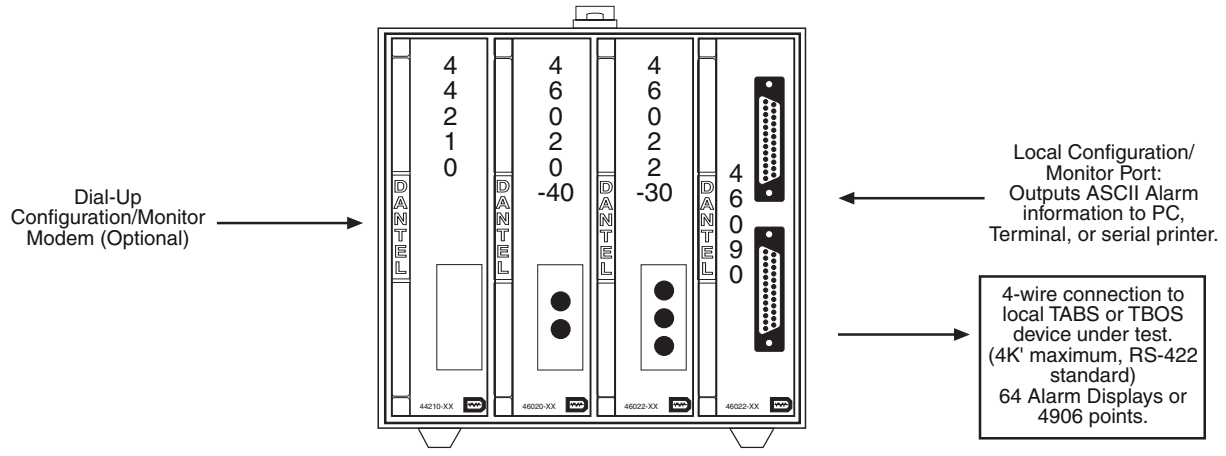
## FIG. 12 - UNIVERSAL TEST SET CONNECTIONS

**Dantel Universal Alarm Test Set: A18-05615-42**
**TEST SET CONNECTIONS:**
The 5615 Test Set is equipped with multiple ports for communications with various external alarm systems.
The drawing below illustrates the input, output, and configuration connections.




## FIG. 13 - STANDALONE ALARM INTERROGATOR APPLICATION

**Dantel Universal Alarm Test Set: A18-05615-42**
**STANDALONE ALARM INTERROGATOR APPLICATION:**
Test Set automatically Interrogates alarms based on pre-programmed instructions stored in Non-Volatile RAM memory. The processed alarms are sent to the master computer when requested. Alarm information is also available at the Printer port of the MAP in ASCII.



# APPLICATION INFORMATION

**FIG. 14 - TABS/TBOS RESPONDER APPLICATION**

**Dantel Universal Alarm Test Set: A18-05615-42**
**TABS/TBOS RESPONDER APPLICATION:**

Test Set simulates a TABS/TBOS Device when polled by an interrogator.

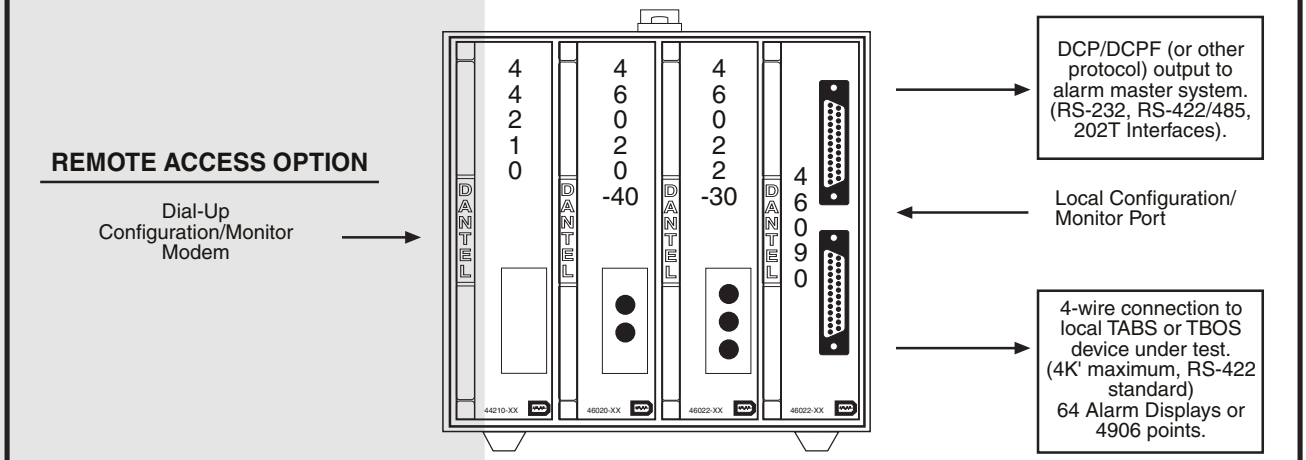
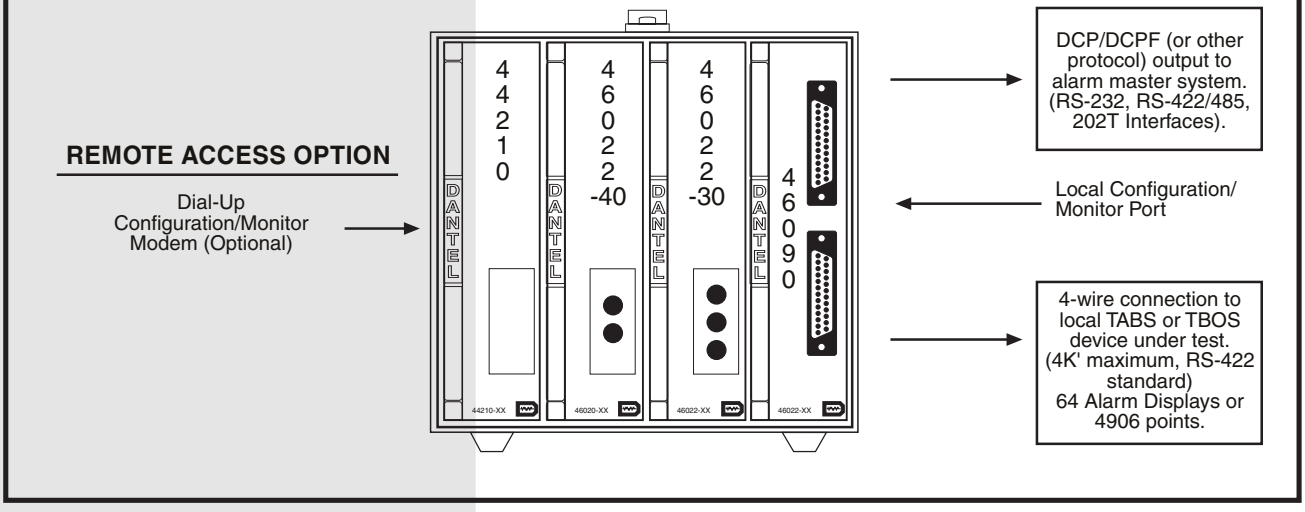



**FIG. 15 - TABS/TBOS INTERROGATOR APPLICATION**

**Dantel Universal Alarm Test Set: A18-05615-42**
**TABS/TBOS INTERROGATOR APPLICATION:**

Test Set automatically Interrogates alarms based on pre-programmed instructions stored in Non-Volatile RAM memory. The processed alarms are sent to the master computer when requested. Alarm information is also available at the Printer port of the MAP in ASCII.



# TECHNICAL SPECIFICATIONS

| DESCRIPTION | DESCRIPTION |
|---|---|
| Configuration<br>RS-232 Direct Connection<br>or<br>Dial-Up (212) Connection | <br>RS-232 Direct Connection<br><br>Dial-up (212) Connection |
| Memory | 64 displays maximum (4096 alarm points) |
| Interface | RS-422/485 *<br>RS-232 *<br>202 Tone * |
| Input Voltages | 117 VAC (0.5 Amps) |
| Weight | 6.5 lbs. |
| Physical Dimensions | 7.0" x 7.0" x 10.0" |
| Operating Temperature Range | 0° to 55° C. |

* Depending on subassemblies used

# 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**

Dantel

**P.O. Box 55013 • Fresno, CA 93747-5013 Phone (209) 292-1111 Fax (209) 292-9355 http://www.dantel.com**