

46018 AUDIBLE ALARM MODULE (AAM)



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About this Practice:

This practice has been reissued to:

- Incorporate the Addendum into the practice (-00 option discontinued).
- Replace Fig. 2.

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

Issue date: January 1998

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

UPDATED

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
A11-46018-01	Audible Alarm Module (AAM)

GENERAL DESCRIPTION

The 46018 Audible Alarm (AAM) provides an audible alarm through the application of a ground to the input. The AAM has selectable tone frequencies and repetition rates, which identifies different alarm levels according to priority.

The 46018 Audible Alarm features:

- ◆ Four four-pin inputs.
- ◆ Two eight-position DIP switches for setting module tone frequencies and duty cycles.
- ◆ A strap option which allows selected tone frequencies to be high or low.

The AAM is a plug-in printed circuit module that fits into any Dantel 400-type or similar equipment housing. The front panel includes:

- ◆ Two speakers.
- ◆ Level control jacks.
- ◆ Output test jacks.

The AAM normally functions with the 46019 Summary Alarm Module in the 460 Alarm and Control System. You can also use the AAM where you need a ground actuated audible alarm device for alarm purposes.

The AAM operates on -21 to -56 VDC input power. The AAM does not accept subassemblies.

CIRCUIT DESCRIPTION

Fig. 1 shows the 46018 Audible Alarm functional schematic. The circuit consists of:

An Oscillator

The oscillator receives a ground from any one of four inputs; each of the inputs having four common pins. When grounded, a voltage comparator enables the oscillator tones.

DIP Switches

The oscillator feeds two separate DIP switches from inputs 1 and 2 or inputs 3 and 4. Each switch contains eight manually set selectors. Activation of input 1 overrides activation of inputs 2, 3 or 4 for alarm priority purposes. Input 1 automatically switches to the most important alarm levels.

A Function Generator

The frequency tones route to a function generator strapped for a sawtooth or squarewave (low or high tone) alarm signal configuration.

An Operational Amplifier

The signal routes through an operational amplifier where the front panel "LEVEL ADJ" potentiometer (R26) adjusts the signal gain.

Two Panel Speakers

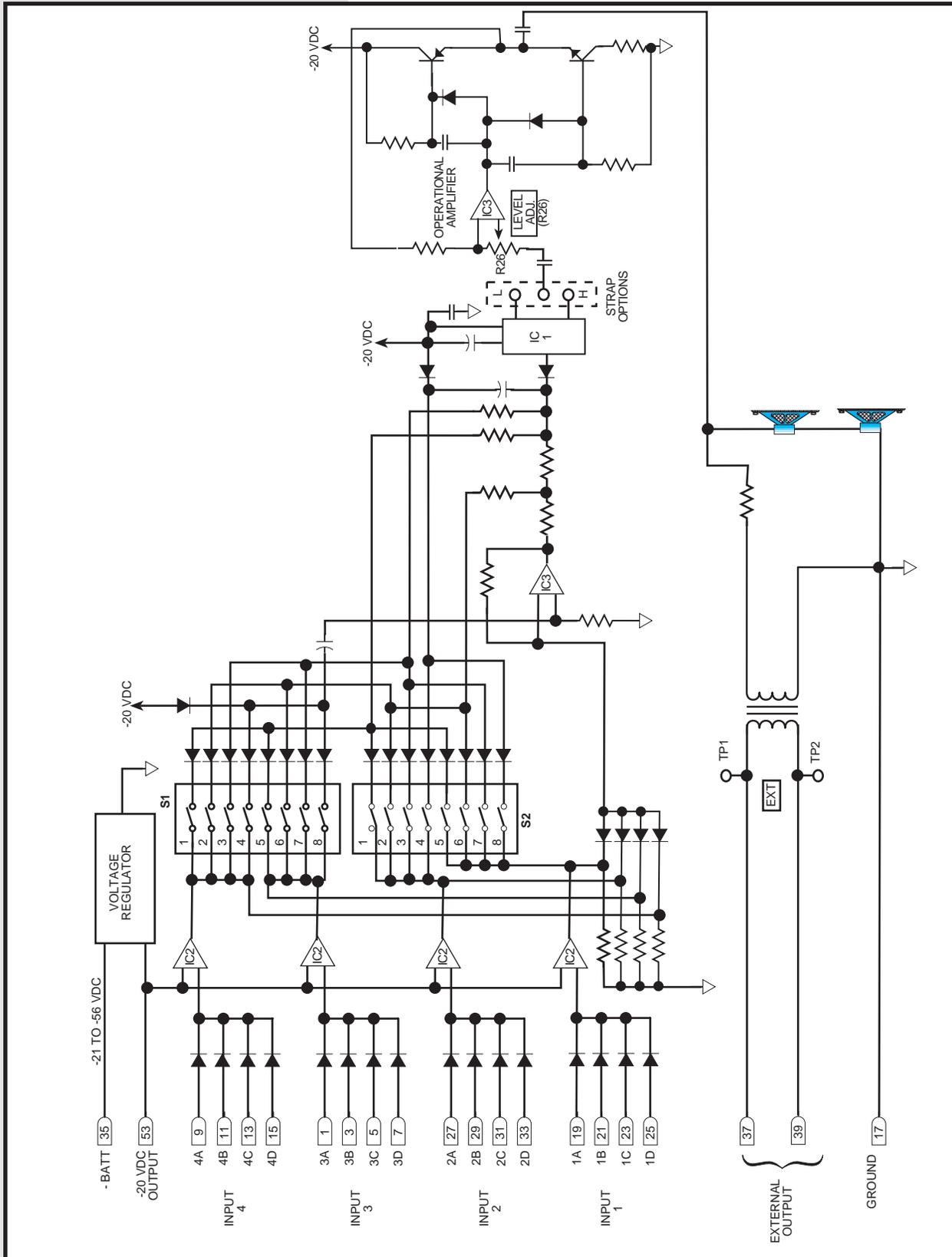
The panel speakers audibly present the generated alarm signal.

A Voltage Regulator

The voltage regulator consists of transistors Q1 and Q2 that provide a regulated voltage of -20 VDC for the module.

CIRCUIT DESCRIPTION

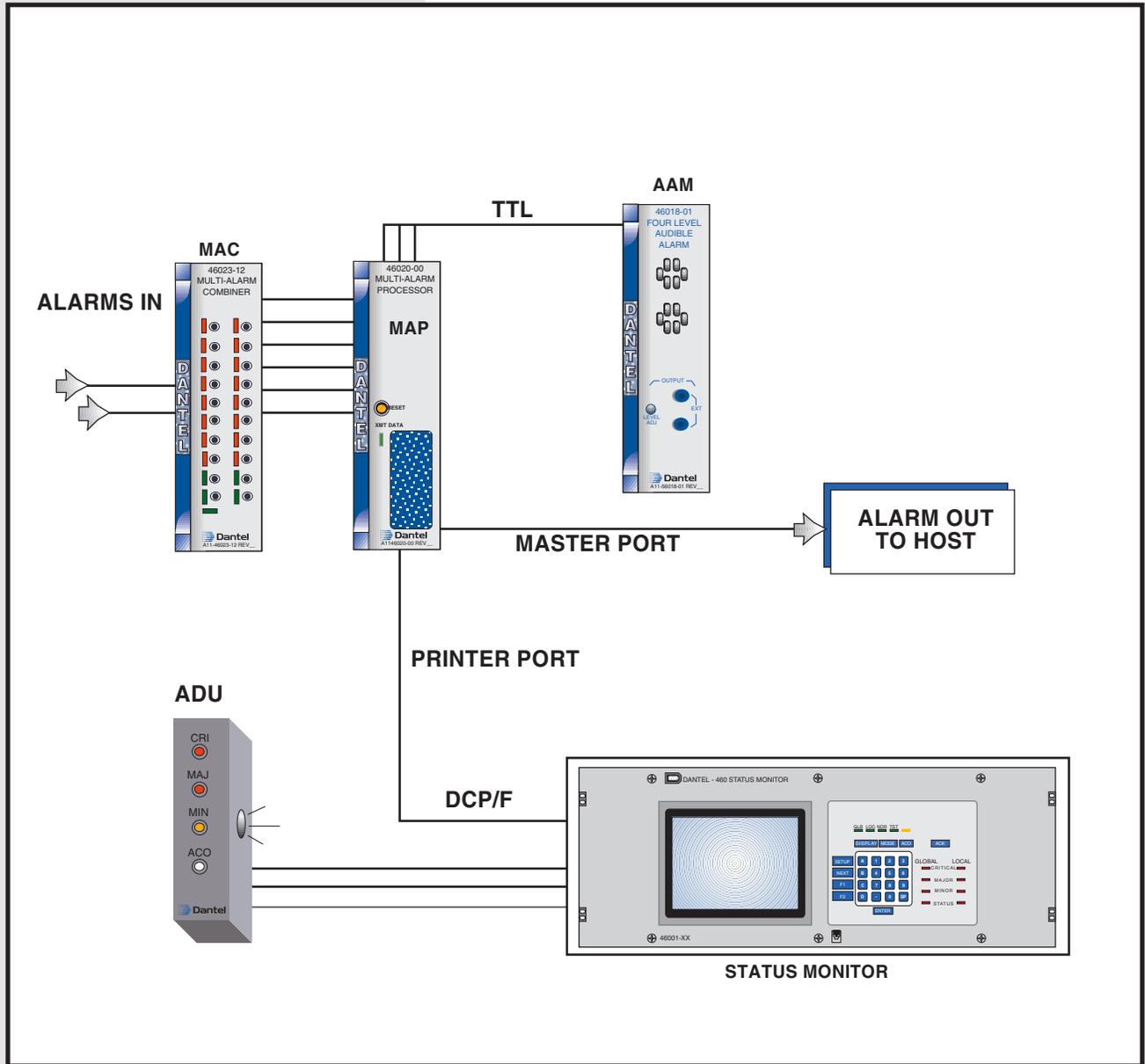
FIG. 1 - FUNCTIONAL SCHEMATIC, 46018



APPLICATION INFORMATION

Fig. 2 shows a 460 Alarm and Control System configuration showing alarm gathering, reporting, and annunciation using the 46018 Audible Alarm Module.

FIG. 2 - 460 ALARM AND CONTROL SYSTEM BLOCK DIAGRAM USING 46018 AUDIBLE ALARM MODULE



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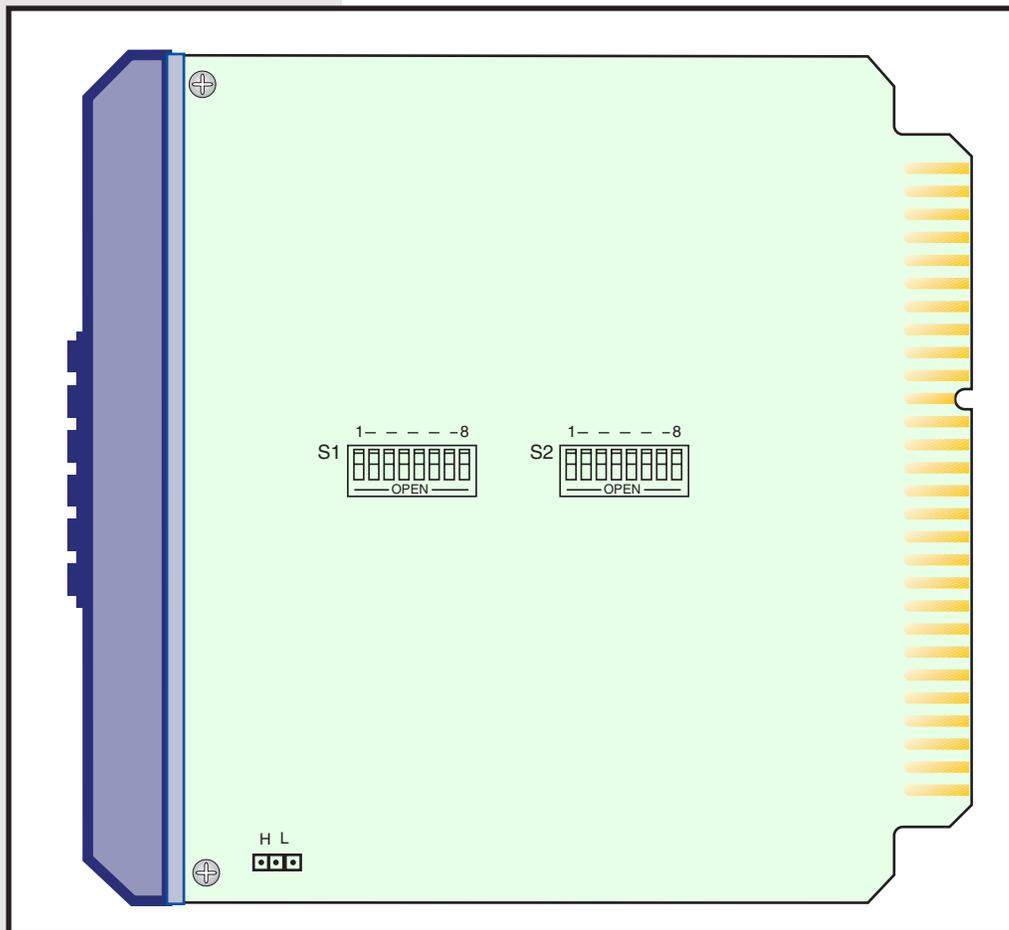
INSTALLATION

Installation consists of setting the straps and switches, wiring the pin connections, installing the module in the equipment shelf, and checking out the module.

1. Set the strap and switches.

The strap selects the output waveform (sawtooth or square) which varies the alarm's audio tone. The option switches select tone options. Refer to Fig. 3 and Tables A and B.

FIG. 3 - SWITCH AND STRAP LOCATIONS, 46018



CONTINUED . . .

INSTALLATION

TABLE A - STRAP OPTIONS, 46018

WAVE SHAPE	STRAP
Saw-tooth Wave	L
Square-wave	H

TABLE B - SWITCH OPTIONS, 46018

TONE OPTION	INPUT #1	INPUT #2	INPUT #3	INPUT #3
800 Hz. Pulsating Tone	S2-5, S2-6, S2-7 all OFF	S2-1, S2-2, S2-3 all OFF	S1-5, S1-6, S1-7, S2-8 all OFF	S1-1, S1-2, S1-3, S2-4 all OFF
1025/1800 Hz. Shifting Tone	S2-5 ON	S2-1 ON	S1-5 ON	S1-1 ON
90/1320 Hz. Shifting Tone	S2-6 ON	S2-2 ON	S1-6 ON	S1-2 ON
550/1350 Hz. Shifting Tone	S2-7 ON	S2-3 ON	S1-7 ON	S1-3 ON
Fast Repetition, 1/6 sec. off, 1/3 sec. on			S1-8 OFF	S1-4 OFF
Slow Repetition, 1/2 sec. off, 1 sec. on			S1-8 ON	S1-4 ON
60/850 Hz. Shifting Tone	S2-8 ON	S2-4 ON		

NOTES:

1. Other than the switch listed (which can be either ON or OFF) the status of all other switches is assumed to be OFF.
2. The frequencies shown in Table B are approximate. Any combination of S1 and S2 switch status can result in other tone frequencies being produced.

2. Wire the pin connections.

Wire the connector into the shelf or housing. Refer to Fig. 4.

3. Install the module in the proper slot in the equipment shelf.

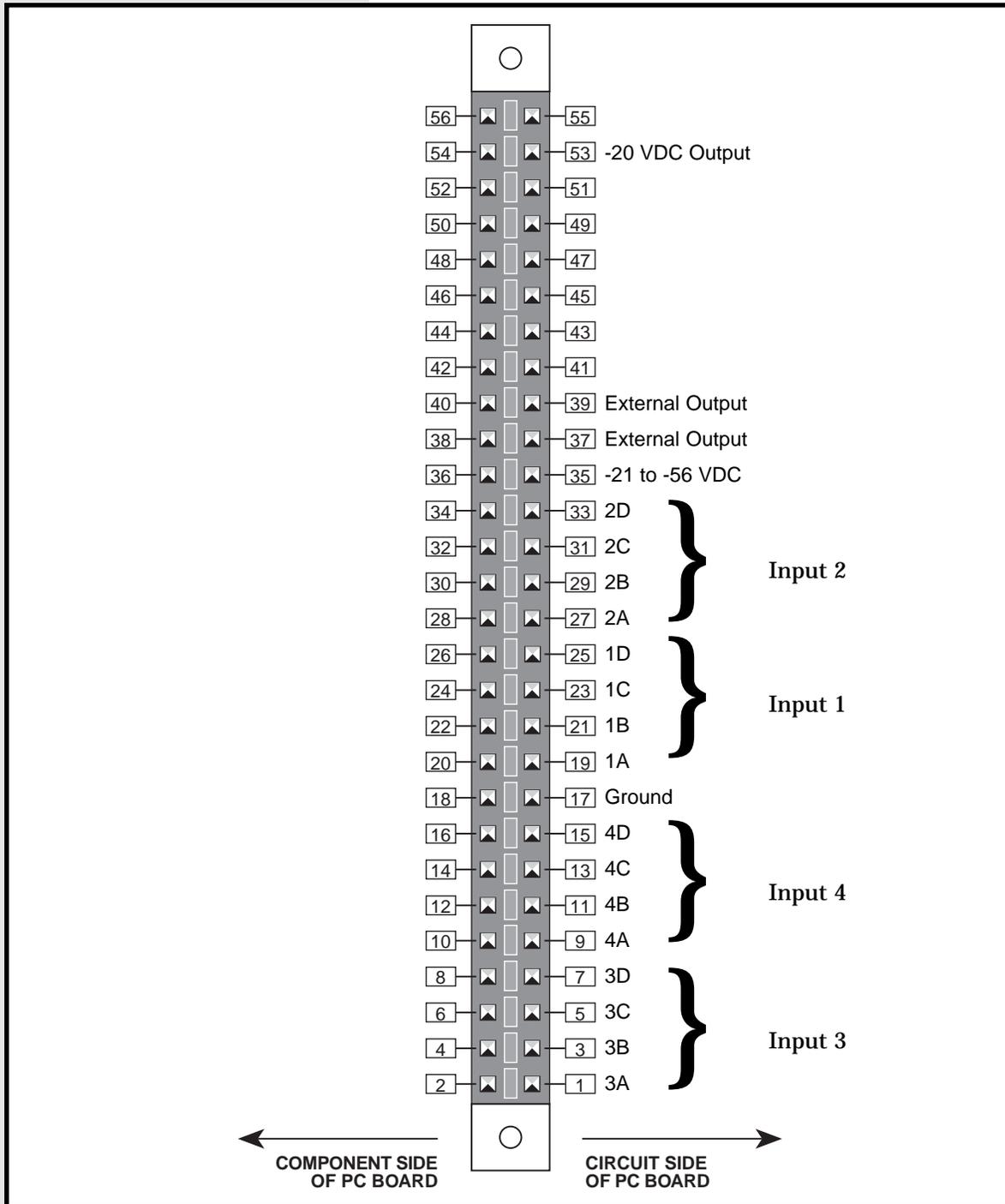
4. Checkout

To check the operation of the 46018 AA, monitor the unit in a system:

1. Apply an alarm (ground) at each input being used and observe the front panel for proper operation. The front panel "LEVEL ADJ" button (R26) adjusts the audio output level of the two panel speakers.
2. Monitor the audio output at the front panel test points TP-1 and TP-2. Connect a 600 ohm level meter across the test points.
3. The meter reads -23 dBm to +7 dBm as you vary the "LEVEL ADJ." Set the gain for the front panel speaker levels. Refer to Fig. 5.
4. There is no troubleshooting performed on this module. When it is determined during checkout that the module has malfunctioned, it is to be replaced and returned to the factory for repair.

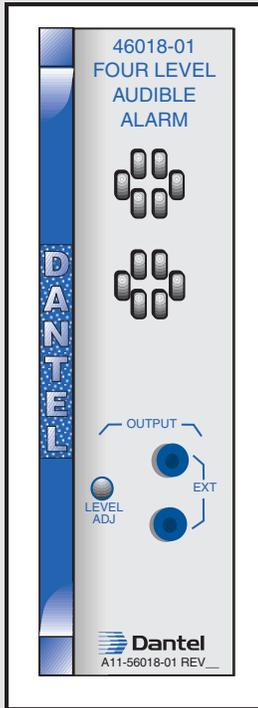
INSTALLATION

FIG. 4 - PIN DESIGNATIONS, 46018



OPERATION

FIG. 5 - FRONT PANEL VIEW, 46018



There are no specific operating instructions for the 46018 Audible Alarm Module. The unit begins operation with application of power.

The audible level is user-adjustable from the front panel. Refer to Fig. 5.

TECHNICAL SPECIFICATIONS

DESCRIPTION	VALUE
Input Voltage Range	-21 to -56 VDC
Input Current	
Idle	30.05 mA
Enabled	57.7 mA
Heat Dissipation	
Idle	4.99 Btu/Hr.
Enabled	9.45 Btu/Hr.
Speakers	250 mW adjustable
Amplifier Output Level	+7 dBm adjustable
Temperature Range	0° to 60° C.
Physical Dimensions	1.4" x 6.0" x 5.6"
Weight	5.75 ounces

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

