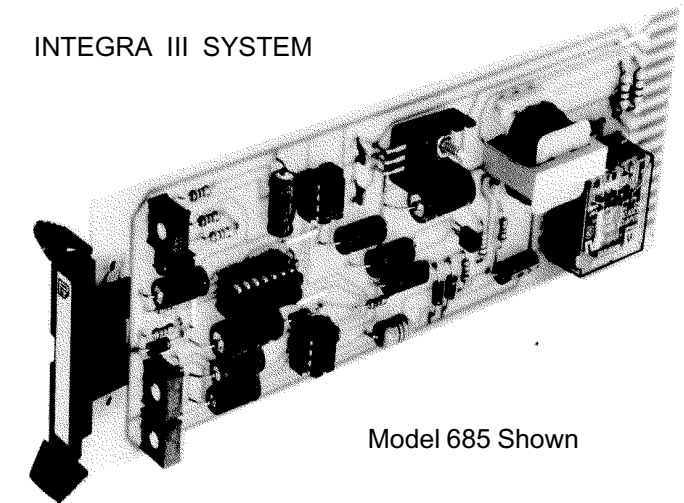


MODEL COVERED

685

INTEGRA III SYSTEM



Model 685 Shown

www.protechaudio.com

The Model 685 Tone Supervisor Card is designed for use in professional audio applications, which require constant, automatic supervision of audio equipment.

The card detects the presence of a 25Hz signal, even when program material is present. The 25Hz signal may be fed into the audio signal path at any point in the system. There are INTEGRA III SYSTEM cards available to help facilitate the mixing of the supervisory tone into the audio system. Feeding the supervisory tone into the audio system at the earliest possible point, will allow the supervisor card to monitor the operation of more equipment.

The Tone Supervisor card is capable of monitoring audio circuits from 600 ohms to 70 volt distributed systems. The input of the card is balanced, bridging, transformer isolated.

Typical applications are multi-zone public address systems, intercoms, paging systems, training systems, and monitoring systems. The actual application is found in buildings such as airports, factories, courthouses, casinos, convention centers, libraries, military facilities, racetracks, and corporate boardrooms.

The Model 685 features a transformer isolated input, in order to allow the unit to be connected to circuits without unbalancing the line. One set of input pins is used for line level circuits, while another set is used for 25 and 70 volt distributed audio speaker lines.

The audio is fed from the secondary of the input transformer to a tuned detector circuit. The detector circuit is tuned to react to a 25Hz, constant magnitude tone. When the circuit detects the presence of this tone, it turns on the on-board relay. If the tone should drop in level, or completely disappear, the detector circuit turns off the relay.

The on-board relay contacts are wired, by the installer, to a remote annunciator panel. This panel usually contains LED indicators, to alert personnel of a circuit failure. The relay contacts may be wired to several remote annunciator panels if necessary. The relay contains an adjustable drop-out delay, to prevent nuisance tripping.

The Model 517 25Hz Notch Filter may be used in conjunction with the Model 685, to process program material, and remove any 25Hz content. For more information, contact: SALES ENGINEERING

INSTALLATION

The Model 685 Tone Supervisor Card is designed to be mounted in the Model 857B Card Frame, or the Model 858B Card Frame. The Model 857B Card Frame will accommodate up to 10 audio cards, and requires an external power supply (Model 66708). The Model 858B Card Frame will accommodate up to 9 audio cards, and has a built-in, unpluggable power supply card.

Both card frame assemblies bus the DC power to the individual card slots, and provide screw-type barrier termination points for audio and DC connections.

The determination as to which backplane assembly to use in your project, was made prior to our factory receiving the order. The backplane assembly you have received will accommodate the group of cards you or your designer have specified.

The actual steps necessary for installation of the Model 685 Tone Supervisor cards, are comparable to those necessary for any of the INTEGRA III SYSTEM cards. They are as follows;

- 1- Mount the card frame in an appropriate EIA 19" width rack, using 4 screws of sufficient tensile strength to provide secure mounting.
- 2- A determination has been made as to which type of power supply will be used on your system. Follow the instructions for the type of power supply you will be installing.

EXTERNAL POWER SUPPLY. If an external power supply is to be used, terminate the proper supply connections to pins 1, 2, & 3 of the DC barrier connector, as shown in the card frame layout drawing. Turn on the power supply, and using a DC voltmeter, check for correct voltage and polarity at pins 1,2, & 3 of the barrier connector.

INTERNAL POWER SUPPLY. If a plug-in power supply card is to be used, plug in the supply card, and check for proper illumination of both the positive and negative voltage LED's, on the power supply card.

3 - Terminate all audio input and output connections, using the card connection drawing on the facing page. Double conductor shielded cable is recommended for all audio connections.

4- Unpack each individual card, inspect for shipping damage, and assuming none is found, slide the card half-way into the appropriate slot. After all cards have been installed half-way into the card frame, plug in one card at a time and turn on the power supply. Make sure no unusual loading is indicated at the power supply. If loading is noticed, turn off the power supply, unplug the card and recheck terminations. If no loading is noticed, continue inserting each card in the card frame, checking power supply loading as each card is plugged in. When all the cards have been plugged in, the installation is complete, and all that remains is the alignment.

ALIGNMENT

There are three trimpots on the Model 685 (see drawing on facing page). One is used to adjust the detector circuit for center frequency of 25Hz. The second is used as an input level adjustment. The third adjusts the relay dropout delay. The frequency center alignment trimpot is factory adjusted for 25Hz, and should not require field adjustment. The level adjustment trimpot is factory adjusted for minimum level detection, and may not need adjustment, depending upon the system designers specifications. The delay trimpot is factory adjusted for maximum delay. If adjustments are necessary, the following procedure is recommended.

1- Apply the 25Hz tone, at a level which is representative of the actual circuit being used, to the input pins of the tone supervisor card. Monitor the card relay contacts with a VOM, or at the annunciator panel, to see if the relay is activated. If the relay has not activated, check input signal frequency with a frequency counting meter to insure that the proper frequency is being applied. If the frequency is correct, slowly turn the frequency centering trimpot until the on-board LED turns on. The relay will now be activated.

2 - To adjust the input level trimpot, first make sure that the detector circuit is activated. Slowly turn the level adjusting trimpot until the on-board LED goes off. Then turn the trimpot slowly the other way, until the LED is fully illuminated. This adjusts the threshold of detection. If the input level should drop more than 3dB, the detector circuit will deactivate.

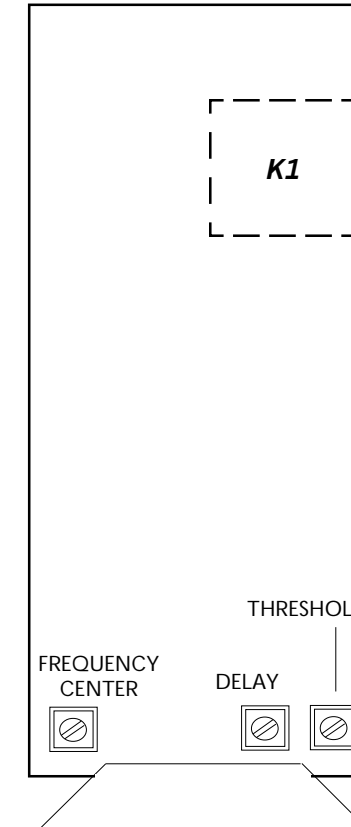
3 - Adjust relay dropout delay trimpot until the desired delay is achieved. (Note- timing circuit triggers when LED goes off. Make sure relay is deactivated, then increase input level until LED goes on. Then lower input level until LED goes off, and start timing delay adjustment.)

This completes the installation and alignment of your Model 685 Tone Supervisor Cards. The units may be expected to deliver years of uninterrupted service.

Note #1- The alignment procedures for INTEGRA III SYSTEM Cards, differ from card type to card type. Therefore it is necessary to consult the alignment procedure for each type of card being installed, to properly align a card frame using different card types.

PROTECH AUDIO®

INTEGRA III SYSTEM
CONNECTOR & TRIMPOT DRAWING
MODEL 685



CARD HANDLE

THRESHOLD TRIMPOT, CCW = LOWER THRESHOLD
DELAY TRIMPOT, CW = LONGER DELAY

857B & 858B BACKPLANE CONNECTIONS

