

# 20-27 TONE REMOTE TERMINATION PANEL

**20-27** The 20-27 is a low cost programmable tone termination panel for use with tone remote controllers to remotely control repeaters and base station radios. By decoding the proper function tones from tone remote controllers the 20-27 can control remotely located base stations or repeaters. At the same time the panel provides a two-way audio path in either the 2 or 4 wire mode. The 20-27 comes housed in a compact metal cabinet that provides not only sturdiness and ruggedness but also excellent EMI shielding characteristics.

## PC Programmability

By using an IBM compatible personal computer some of the operational characteristics of the 20-27 can be changed. When programming the 20-27 the installer has the choice of which one of the eleven function tones are to be used for a particular function. Also the panel can be set-up to respond to the two function tone scheme normally associated with older Motorola tone remotes. When programmed in this fashion and used with the IDA Model 24-66 tone remote, the operator can select up to 99 separate channels or system/groups. Option RBC-617 or RBC-618 is required in the 24-66 tone remote to utilize the 99 channel capability.

## Local Operation

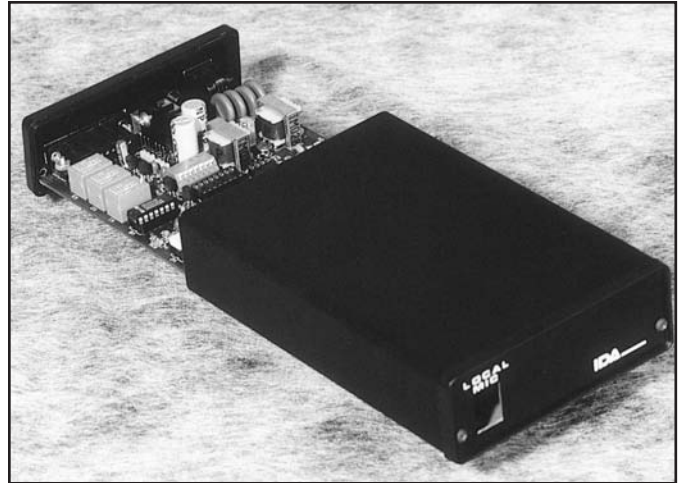
For local operation of the base station a local mic jack and related circuitry is provided on the 20-27. A handsome desk mic is available from IDA Corporation for this purpose. Various radio interface cables are also available for fast and easy installation.

## Binary Output

Many different models of base station radios use binary code to make the channel selection. The 20-27 has as a standard programmable feature binary output capability.

## LTR and ESAS Trunking

An additional programmable feature of the 20-27 is compatibility with certain trunking radios. Please refer to the mobile radio models listed on the back of this brochure. Where ever possible, control of these radios is through the microphone jack or auxiliary connector via the serial port of the 20-27. The installer



has the choice of which function tone or tones are to be associated with which system and/or group. Other control choices are scan and auxiliary. Because the Model 20-27 has the trunking protocol of these radios factory programmed within it's microprocessor, any standard tone remote controller can be used. The number of systems and/or groups is limited by the number of function tones available from the remote controller up to a maximum of 8 if using single tones or 99 if using two function tones.

For example, the IDA Model 24-66 tone remote has 8 channel capacity as a standard feature thus 8 systems and/or groups can be selected. With the proper options installed in the IDA Model 24-66 even more selections can be achieved with certain radios.

## 24-66 Tone Remote Controller

An added benefit of using IDA's programmable remotes with the 20-27 panel is that the panel updates the remotes. When one remote changes the channel or system/group, the 20-27 updates the display of all 24-66 remotes that are in parallel. When the base station radio comes out of scan and lock on to a channel or system/group, again the 20-27 dates all of the 24-66 remotes.

## STANDARD OR FIELD PROGRAMMABLE FEATURES

2 or 4 wire  
11 function tone decode  
10 outputs  
PC programmable  
Local mic jack

2-function tone compatibility  
LTR<sup>®</sup> trunking format  
Binary Output  
Update of IDA 24-66 remotes

3 output types – PTT  
– Latched  
– Switched  
COR active high, low, or none  
Rugged metal case

**The Following Radios Can Be Directly Controlled by the 20-27:**

**Kenwood TK940, 930, 840 series LTR.** Connection is through the auxiliary connector and no modifications are needed to the radio. Up to 8 system and/or group selections. To avoid change in the line levels the volume of the radio should not be changed after installation. Interface cable is IDA part # 106-KEN27CBL

**Various Binary Interfaces.** The IDA model 20-27 can interface to various radios using its binary interface. In most cases this interface will allow up to 16 channel selection capability utilizing single or dual function tones. When using this interface there is no radio communication updates from the panel back to the remote console.

**The Following Radios Can Be Directly Controlled by the 20-27B:**

**Kenwood TK790, TK880 series radios.** Connection is through the auxiliary connection of the KCT-9 accessory cable and no modifications are needed to the radio. Up to 99 channel or 10 System and Group selections available utilizing dual function tones. SCAN can be enabled/disabled. When used with IDA Model 24-66 Tone Remote Controllers the deskset's display will be updated whenever the radio's channel is changed, including coming out of SCAN.

**RELM GMH Series radio.** Connection is through the auxiliary connection radio and no modifications are needed to the radio. Up to 99 channel or 10 System and Group selections available utilizing dual function tones. SCAN can be enabled/disabled. When used with IDA Model 24-66 Tone Remote Controllers the deskset's display will be updated whenever the radio's channel is changed, including coming out of SCAN.

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**20-27 SPECIFICATIONS**

<b>Input voltage</b> .....	10.7VDC - 18VDC
<b>Standby current @ 13.8VDC</b> .....	75 mA
<b>Input power (max)</b> .....	<3 Watts
<b>Temperature range</b> .....	0 to +70 deg C
<b>Relative humidity</b> .....	90% at 50 deg C
<b>Line impedance (1Khz)</b> .....	600 ohms
<b>Receive to line audio output</b> .....	50mVRMS - 3VRMS into 600 ohms
<b>Recieve to line s/n ratio</b> .....	Better than 50dB (ref +10dbm)
<b>Recieve to line distortion</b> .....	< 3%
<b>Receive to line frequency response</b> .....	+1, -3db
<b>through de-emphasis</b> .....	+1, -3db at 6dB/octave (300 to 3000HZ)
<b>Line to TX s/n ratio</b> .....	Better than 50dB
<b>Line to TX frequency response</b> .....	+1, -3db (300 to 3000HZ)
<b>Line to TX distortion</b> .....	< 3%
<b>Line to TX output level</b> .....	30mVRMS - 1.3VRMS into 600 ohms
<b>Line control</b> .....	2 or 4 wire audio
<b>PTT, monitor, F1/F2</b> .....	1 amp - Form C relay contacts
<b>F3 thru F8 outputs</b> .....	Open collector - 100mA sink
<b>Weight</b> .....	1 lb 4 oz
<b>Dimensions</b> .....	1-5/8"H x 4-1/4"W x 6-1/2" D

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