



IMS-140 and IMS-145 Intercom Master Stations

1. Intent & Scope

This document describes the installation procedure for the IMS-140 and IMS-145 Intercom Master Stations.

2. Description

Intercom master stations are offered in three basic models -- rack mounted, panel mounted, and desk top. Each can support optional telephone handsets, headsets, gooseneck microphones, and foot operated press-to-talk switches.

The IMS-140 and IMS-145 are desk top Intercom Master Stations, designed to be connected to the intercom system via an SAB-100 station audio board. The IMS-140 and IMS-145 are identical except for the displays. The IMS-140 has a standard sized display while the IMS-145 has a large display.

3. Desktop Intercom Master Stations

The desktop master station provides the functions of a master intercom station in a single desktop package complete with internal speaker, microphone, and PTT switch. It may also include an optional telephone hand set, headset jack, and/or gooseneck microphone.



IMS-140 Intercom Master Station

All of the controls, status indicators, and I/O connections to the desktop master station are on the rear of the main body. After installing the desktop master station the display contrast should be adjusted to provide the best visibility in its normal operating position when viewed from the operators normal location.

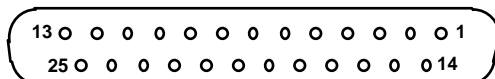


Back of IMS-140 Intercom Master Station Showing Location of DB-25 Connector

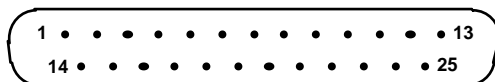
All of the electrical connections to the desktop master station are made with a single DB-25 connector located at the rear of the unit and a headset/microphone jack located on the right hand side of the master station.

3.1 DB-25 Connector

The desktop master station has a male connector and the mating cable requires a female DB-25 connector.



Female DB-25 Connector



Male DB-25 Connector

The pin configuration for the DB-25 connector is as follows:

Pin	Signal	Pin	Signal
1	Main V +	14	Main V +
2	Main V- (Gnd)	15	Main V- (Gnd)
3	Network B+	16	Network B-
4	Earth Ground	17	Speaker -
5	Speaker +	18	Microphone -
6	Microphone +	19	Push to Talk Input
7	Relay 2 NO	20	Relay 2 COM
8	Relay 2 NC	21	Relay 1 NO
9	Relay 1 COM	22	Relay 1 NC
10	Earth Ground	23	Network A -
11	Network A+	24	Backup V- (Gnd)
12	Backup V - (Gnd)	25	Backup V +
13	Backup V +		

DB-25 Pin Signals

100 Series Intercom Master Stations

The IMS can be ordered for either 12 Vdc or 24 Vdc operation. For a 24 Vdc unit the main power should be connected to a 24 Vdc power supply which must provide 14.5–26.4 Vdc at the master station power terminals under load. Full load current, with the back lighting at maximum brightness, is 0.5 A. For a 24 Vdc $\pm 10\%$ power supply, and a single 22 gauge wire feed, the power supply should be located within 480 feet (145 meters) of the master station. For a 12 Vdc unit, and a single 22 gauge wire feed, the power supply should be located within 175 (53 meters) of the master station. Ensure that the power switch on the master is turned off whenever the DB-25 connector is connected or disconnected.

The pins labeled Backup V+ and Backup V- (Gnd) can be used to connect a redundant power supply. This supply acts as a standby power source if the main supply fails. The backup supply must have the same voltage as the main supply.

The Echelon LonWorks connection is made to the pins labeled Network A+ and Network A-. The LonWorks network cable is connected to one of the free topology ports at the SAC computer. A second redundant LonWorks connection can be made to the pins labeled Network B+ and Network B-. If the Network A connection cannot be made the IMS-140 will attempt to make connections on Network B.

The Speaker and Microphone audio pairs connect to two SAB audio ports through the cross connect blocks. This connection is made with two shielded pair cables.

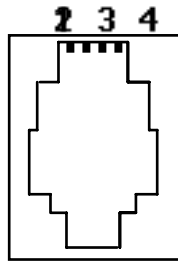
Normally the Speaker pair is connected to the SAB Audio 16 pair and the Microphone pair is connected to the Master Audio pair. The shields should be left open at the desktop master station end and connected to the power supply ground terminal at the BIX block end. The shields are connected together on pin 48 when using the Audio 16 and Master Audio pair. With the SAB-100 the desk top master stations can also be connected to adjacent audio ports (2-3, 4-5, 6-7, 8-9, 10-11, 12-13, 14-15) with the Speaker pair connected to the even numbered SAB-100 audio port, and the Microphone pair connected to the odd numbered SAB-100 audio port, and the shields connected to the individual shield terminals.

The two relay outputs are controlled by setting parameters in the Master Station software configuration. They can be programmed to close if the internal buzzer is activated. These contact can be used to turn on an external buzzer (This buzzer must be externally powered).

The Push to Talk (PTT) input is referenced to V- (Gnd) (as are other PTT inputs), i.e. a PTT switch is connected between the PTT input and V-. The Main V- and Backup V- are connected inside the desk top master station. Note that the desk top master station has a PTT pushbutton switch. This switch activates the PTT action while it is pressed.

3.2 RJ-11 Headset Jack

The 4 pin female headset jack is located on the right hand side of the desktop Master Station. The connector schematic is shown below:



RJ-11 Headset Jack

The pin configuration for the RJ-11 connector is as follows:

Pin Number	Signal
1	Head Mic- (Gnd)
2	Spkr- (Gnd)
3	Spkr+
4	Head Mic+

RJ-11 Pin Signals

If the unit is ordered with a handset then the handset must be on hook before the headset speaker can be activated.