



INSTALLATION INSTRUCTIONS

MicroComm DXI

SAB-100 Station Audio Board

1. Intent & Scope

This document describes the installation procedure for the SAB-100 Station Audio Board.

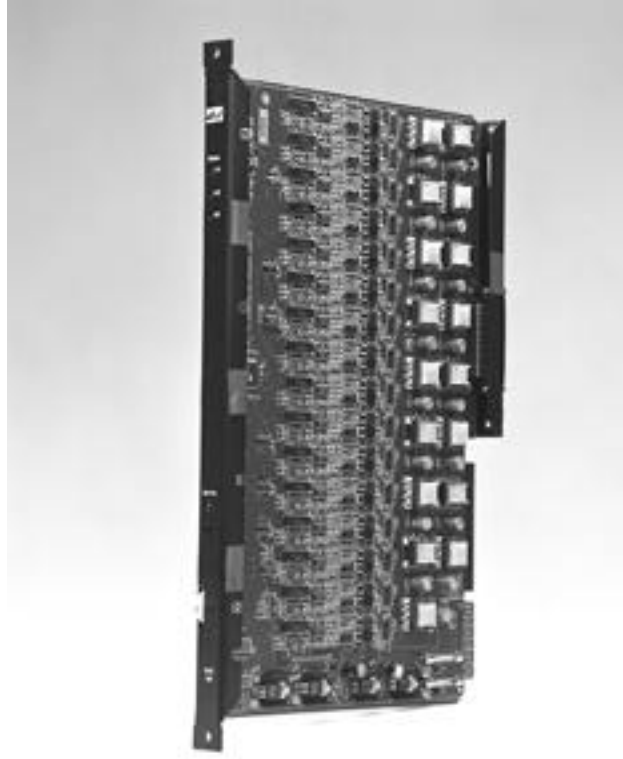
2. Description

The SAB-100 Station Audio Board is used to connect 100 series intercom stations, telephone handset stations, master stations, and loudspeaker talkback stations to the MicroComm DXI system. Each station is wired to its own channel (or channels) on the station audio board.

The SAB-100 has a total of 16 channels and 17 ports. The first 15 channels each have a bi-directional half duplex audio port. The 16th channel has a bi-directional half duplex audio port and a second input only audio port. A full duplex station requires two ports, while a half duplex station requires one port. Half duplex devices can be connected to the bi-directional port on any channel. Full duplex devices can be connected to channel 16 where the bi-directional port is used for outgoing audio and the input port is used for incoming audio. Full duplex devices can also be connected to pairs of channels where one bi-directional port is used for output and the other for input. An SAB-100 can be connected for various combinations of full duplex and half duplex channels. (Restrictions on the way full duplex channels are connected are given in Section 3 Station Interface.)

Full duplex communication allows both parties to speak and listen at the same time. Full duplex communications can only take place if both end devices are full duplex. Full duplex devices include master stations with handsets and/or headsets, telephone sets and stations with handsets.

Half duplex communication is unidirectional, which means the parties take turns speaking and listening. This form of communication is used between master stations and devices such as intercom stations and loudspeakers.



SAB-100

3. Station Interface

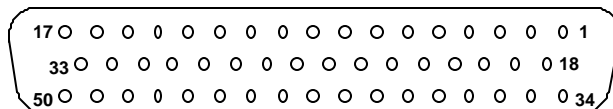
Each audio port also acts as a switch input port. Up to two switch inputs can be multiplexed onto the audio line. Intercom stations, handsets and talkback loudspeakers have their audio and signaling functions transmitted over a single shielded twisted pair cable. Intercom audio pairs are connected to ports 1-15, and may be connected to audio input port 16 if it is not used by a master station.

Intercom master stations are capable of full duplex operation and, therefore, are connected to the station audio board with two shielded, twisted pair cables. Refer to the master station installation bulletins for additional master station data, power, and accessory wiring requirements.

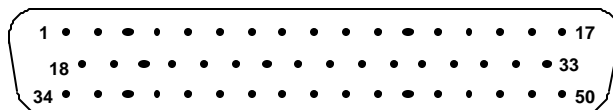
Each intercom station and each master station must have its own channel. A channel for an intercom station requires one audio port, while a channel for a master station requires two audio ports. If there is a single master station it should be connected to Audio port 16 and the Master Audio port. More than one master (or full duplex devices) can be connected to a SAB-100. Two adjacent ports can be grouped to form a full duplex channels. Groupings are restricted to the audio port combinations of 2-3, 4-5, 6-7, 8-9, 10-11, 12-13, 14-15, and 16-Master. Speaker connections are made to the even numbered port, microphone connections to the odd numbered port. The Master Audio port cannot be used as a half duplex channel.

4. Field Interface Cable

The Station Audio Board uses a female DB-50 connector to interface to the external audio lines. The Station Audio Board requires a CBL-130 cable to interface the audio inputs to the field wiring. It incorporates 17, individually shielded pairs with a male DB-50 connector on one end.



Female DB-50 Connector



Male DB-50 Connector

The CBL-130 audio cable connects the audio input lines to the female DB-50 connector. The following table gives the pin numbers, wire colors, and terminal block position for each of the station audio board signals when a CBL-130 audio cable is used. The cable should be terminated on the terminal block in the fashion shown.

Note that the Master Audio pair is reverse polarity compared to the other channels, and the two shields for the Audio pair 16 and the Master Audio pair are connected to the same terminal block terminal 48.

SAB-100 Station Audio Board

DB-50 Pin Number	Signal Name	Wire Color	Terminal Block Pin Number
1	Audio 1 -	Black	1
18	Audio 1 +	Red	2
34	Audio 1 Shield	BR Shield	3
2	Audio 2 -	Black	4
19	Audio 2 +	White	5
35	Audio 2 Shield	BW Shield	6
3	Audio 3 -	Black	7
20	Audio 3 +	Green	8
36	Audio 3 Shield	BG Shield	9
4	Audio 4 -	Black	10
21	Audio 4 +	Blue	11
37	Audio 4 Shield	BBI Shield	12
5	Audio 5 -	Black	13
22	Audio 5 +	Yellow	14
38	Audio 5 Shield	BY Shield	15
6	Audio 6 -	Black	16
23	Audio 6 +	Brown	17
39	Audio 6 Shield	BBr Shield	18
7	Audio 7 -	Black	19
24	Audio 7 +	Orange	20
40	Audio 7 Shield	BO Shield	21
8	Audio 8 -	Red	22
25	Audio 8 +	White	23
41	Audio 8 Shield	RW Shield	24
9	Audio 9 -	Red	25
26	Audio 9 +	Green	26
42	Audio 9 Shield	RG Shield	27
10	Audio 10 -	Red	28
27	Audio 10 +	Blue	29
43	Audio 10 Shield	RBI Shield	30
11	Audio 11 -	Red	31
28	Audio 11 +	Yellow	32
44	Audio 11 Shield	RY Shield	33
12	Audio 12 -	Red	34
29	Audio 12 +	Brown	35
45	Audio 12 Shield	RBr Shield	36
13	Audio 13 -	Red	37
30	Audio 13 +	Orange	38
46	Audio 13 Shield	RO Shield	39
14	Audio 14 -	Green	40
31	Audio 14 +	White	41
47	Audio 14 Shield	GW Shield	42
15	Audio 15 -	Green	43
32	Audio 15 +	Blue	44
48	Audio 15 Shield	GBI Shield	45
16	Audio 16 -	Green	46
33	Audio 16 +	Yellow	47
49	Audio 16 & Master Shield	GY & GBr Shield	48
17	Master Audio +	Green	49
50	Master Audio -	Brown	50

5. System Planning Worksheet

The following page contains a blank system planning worksheet for the SAB-100 Station Audio Board. It contains a cross reference that includes the I/O board's mating connector, pin signal identification, field wiring cable conductor color, terminal block terminal point, and space to identify the field connection.

SAB-100 Station Audio Board

Card Cage: _____

Card Slot: _____

DB-50 Pin Number	Signal Name	Wire Color	Terminal Block Pin Number	Station Name
1	Audio 1 -	Black	1	
18	Audio 1 +	Red	2	
34	Audio 1 Shield	BR Shield	3	
2	Audio 2 -	Black	4	
19	Audio 2 +	White	5	
35	Audio 2 Shield	BW Shield	6	
3	Audio 3 -	Black	7	
20	Audio 3 +	Green	8	
36	Audio 3 Shield	BG Shield	9	
4	Audio 4 -	Black	10	
21	Audio 4 +	Blue	11	
37	Audio 4 Shield	BBI Shield	12	
5	Audio 5 -	Black	13	
22	Audio 5 +	Yellow	14	
38	Audio 5 Shield	BY Shield	15	
6	Audio 6 -	Black	16	
23	Audio 6 +	Brown	17	
39	Audio 6 Shield	BBr Shield	18	
7	Audio 7 -	Black	19	
24	Audio 7 +	Orange	20	
40	Audio 7 Shield	BO Shield	21	
8	Audio 8 -	Red	22	
25	Audio 8 +	White	23	
41	Audio 8 Shield	RW Shield	24	
9	Audio 9 -	Red	25	
26	Audio 9 +	Green	26	
42	Audio 9 Shield	RG Shield	27	
10	Audio 10 -	Red	28	
27	Audio 10 +	Blue	29	
43	Audio 10 Shield	RBI Shield	30	
11	Audio 11 -	Red	31	
28	Audio 11 +	Yellow	32	
44	Audio 11 Shield	RY Shield	33	
12	Audio 12 -	Red	34	
29	Audio 12 +	Brown	35	
45	Audio 12 Shield	RBr Shield	36	
13	Audio 13 -	Red	37	
30	Audio 13 +	Orange	38	
46	Audio 13 Shield	RO Shield	39	
14	Audio 14 -	Green	40	
31	Audio 14 +	White	41	
47	Audio 14 Shield	GW Shield	42	
15	Audio 15 -	Green	43	
32	Audio 15 +	Blue	44	
48	Audio 15 Shield	GBI Shield	45	
16	Audio 16 -	Green	46	
33	Audio 16 +	Yellow	47	
49	Audio 16 & Master Shield	GY & GBr Shield	48	
17	Master Audio +	Green	49	
50	Master Audio -	Brown	50	