# INSTALLATION INSTRUCTIONS

MicroComm DXI

## PAB-401 Paging Amplifier Board

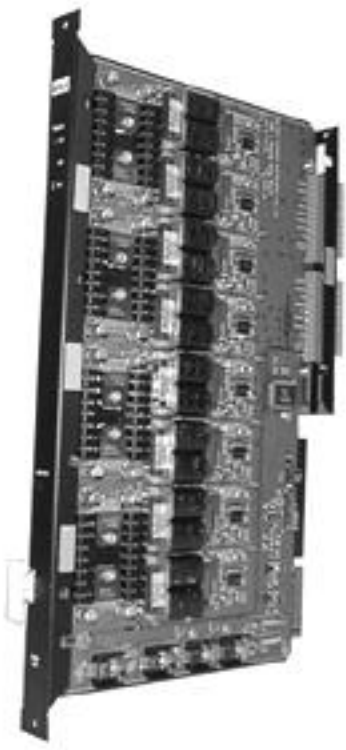
## 1. Intent & Scope

This document describes the installation procedure for the PAB-401 Paging Amplifier Board.

## 2. Description

The PAB-401 Paging Amplifier Board (PAB) has eight constant voltage output channels that are used to drive paging loudspeaker circuits. Each channel's power output is rated at 5 watts at either 25 volts or 70 volts, depending on the board version. The outputs from the PAB-401 can be connected in parallel to provide higher output power i.e. connecting three outputs together would provide a 15 watt output. When outputs are connected in parallel appropriate settings must be made in the Maintenance configuration software specifying which outputs are to be connected. The possible output connections are restricted to outputs 1 and 2, 2 and 3, 3 and 4, 4 and 5, 5 and 6, 6 and 7, and 7 and 8. For example connecting outputs 2 and 3 as well as 3 and 4 will provide a 15-watt output.

Each loudspeaker connected to a paging amplifier board circuit must be equipped with an appropriate 25 volt or 70 volt loudspeaker matching transformer, depending on the PAB model. Loudspeaker matching transformer taps must be set so that the total audio power load on each circuit does not exceed the rated output.



**PAB-401**

## 3. Power Requirements

Each paging amplifier board draws approximately 6 amps of power supply current when operating at full power output. Therefore, it is recommended that no more than three PAB's be installed in a card cage that is fully populated with other boards. If the PAB circuits are not fully loaded or to be run at full output power, or if there are only a few other boards in the card cage, additional paging amplifier boards may be installed, as long as the card cage power supply current rating is not exceeded.

## 4. Parallel Outputs

In order to parallel outputs the Hardware Configuration file must be set up properly. Using the *Maintenance* module of the DXI system software select the *Edit* function. The *Modify Hardware* is then selected followed by selecting the Card database. When a PAB_401 card is selected page 3 of the database for the Card configuration will appear as shown on the right (the last 7 lines appear only if the card selected is a PAB_401)

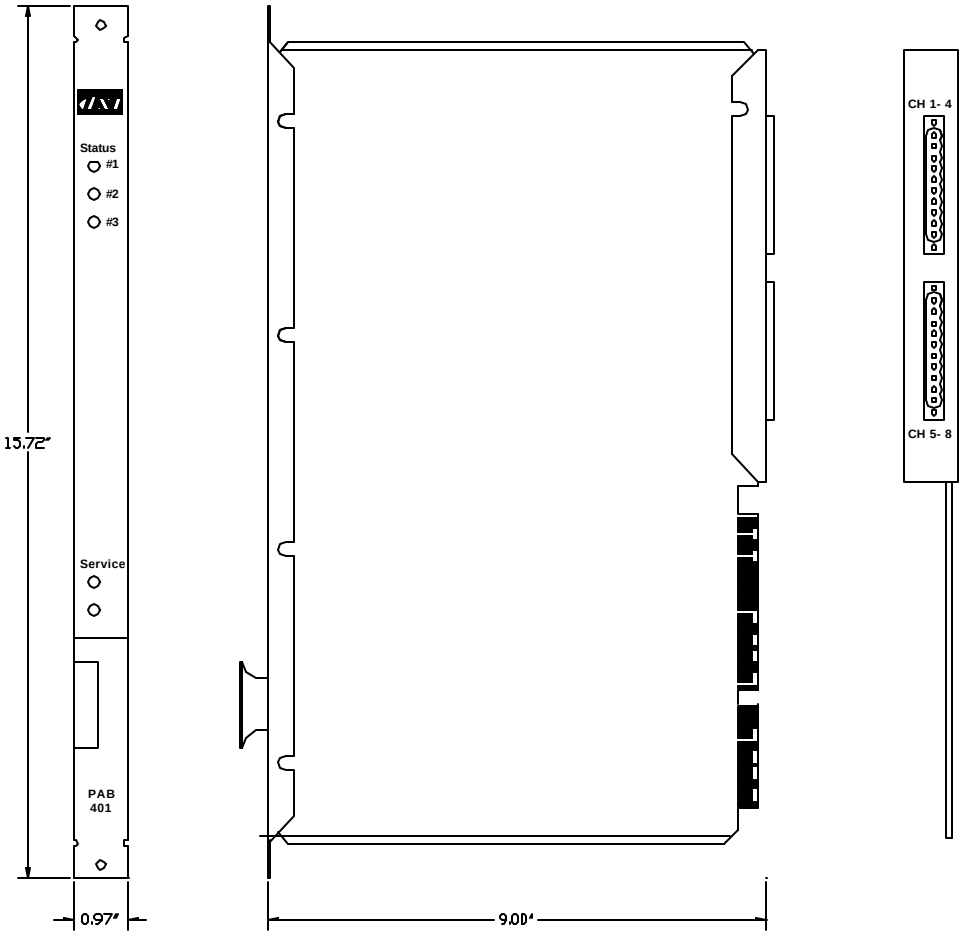
Setting the parameters to "1" will merge the designated outputs. Setting the parameter to "0" means the output is a single 5 watt output.

```
↓ / Enter: Next Field        :↑Previous field.        Home: Next Page.
 ←/ →: Select   PgDn/PgUp: Next/Previous entry.   End: Quit.
                F9: Delete  F10: Add  F1: Help.

Card ID:              2          Page 3 of 3
Comm ALM Action:      Unknown
ID 1:                 0
ID 2:                 0
Master:               0
Comm FIX Action:      Unknown
ID 1:                 0
ID 2:                 0
Master:               0
Merge Out 2 with 1:   0          (0=No , 1=Yes)
Merge Out 3 with 2:   1          (0=No , 1=Yes)
Merge Out 4 with 3:   1          (0=No , 1=Yes)
Merge Out 5 with 4:   1          (0=No , 1=Yes)
Merge Out 6 with 5:   0          (0=No , 1=Yes)
Merge Out 7 with 6:   1          (0=No , 1=Yes)
Merge Out 8 with 7:   1          (0=No , 1=Yes)
```

## 5. Field Interface Wiring

Field wiring is made to two connectors on the back of the Paging Amplifier board. The location of these two connectors is shown in the following diagram.




**Paging Amplifier Board showing Location of two Combicom Connectors**

The following tables give the pin numbers, wire colors, and terminal block position for each of the paging amplifier board signals when a CBL-150 field wiring interface cable is used. The cables should be terminated on the terminal block in the fashion shown below. Terminals 25 to 50 on the terminal block are not used. If desired, a second CBL-150 may be terminated on the same terminal block in the same sequence using pins 25 to 48.

If outputs are to be paralleled then the outputs must be connected together at the terminal blocks. The proper polarity must be maintained when connecting the outputs together.

Two tables are given, one for a generic type terminal block, and a second for a BIX terminal block.

## Wiring Table for Generic Terminal Block

| Combicon Pin Number | Signal | PAB/TAB Cable Wire Colors | Terminal Block Pin Number |
|---|---|---|---|
| 1-1 | Audio 1+ | Black | 1 |
| 1-2 | Audio 1- | Red | 2 |
| 1-3 | Audio 1 & 2 Shield | BR Shield | 3 |
| 1-4 | Audio 2+ | Black | 4 |
| 1-5 | Audio 2- | White | 5 |
| 1-3 | Audio 1 & 2 Shield | BW Shield | 6 |
| 1-6 | Audio 3+ | Black | 7 |
| 1-7 | Audio 3- | Green | 8 |
| 1-8 | Audio 3 & 4 Shield | BG Shield | 9 |
| 1-9 | Audio 4+ | Black | 10 |
| 1-10 | Audio 4- | Blue | 11 |
| 1-8 | Audio 3 & 4 Shield | BBl Shield | 12 |
| 2-1 | Audio 5+ | Black | 13 |
| 2-2 | Audio 5- | Red | 14 |
| 2-3 | Audio 5 & 6 Shield | BR Shield | 15 |
| 2-4 | Audio 6+ | Black | 16 |
| 2-5 | Audio 6- | White | 17 |
| 2-3 | Audio 5 & 6 Shield | BW Shield | 18 |
| 2-6 | Audio 7+ | Black | 19 |
| 2-7 | Audio 7- | Green | 20 |
| 2-8 | Audio 7 & 8 Shield | BG Shield | 21 |
| 2-9 | Audio 8+ | Black | 22 |
| 2-10 | Audio 8- | Blue | 23 |
| 2-8 | Audio 7 & 8 Shield | BBl Shield | 24 |

## Wiring Table for BIX Terminal Block

| Combicon Pin Number | Signal | PAB/TAB Cable Wire Colors | Terminal Block Pin Number |
|---|---|---|---|
| 1-1 | Audio 1+ | Black | 1 |
| 1-2 | Audio 1- | Red | 2 |
| 1-3 | Audio 1 Shield | BR Shield | 3 |
| 1-3 | Audio 2 Shield | BW Shield | 4 |
| 1-4 | Audio 2+ | Black | 5 |
| 1-5 | Audio 2- | White | 6 |
| 1-6 | Audio 3+ | Black | 7 |
| 1-7 | Audio 3- | Green | 8 |
| 1-8 | Audio 3 Shield | BG Shield | 9 |
| 1-8 | Audio 4 Shield | BBl Shield | 10 |
| 1-9 | Audio 4+ | Black | 11 |
| 1-10 | Audio 4- | Blue | 12 |
| 2-1 | Audio 5+ | Black | 13 |
| 2-2 | Audio 5- | Red | 14 |
| 2-3 | Audio 5 Shield | BR Shield | 15 |
| 2-3 | Audio 6 Shield | BW Shield | 16 |
| 2-4 | Audio 6+ | Black | 17 |
| 2-5 | Audio 6- | White | 18 |
| 2-6 | Audio 7+ | Black | 19 |
| 2-7 | Audio 7- | Green | 20 |
| 2-8 | Audio 7 Shield | BG Shield | 21 |
| 2-8 | Audio 8 Shield | BBl Shield | 22 |
| 2-9 | Audio 8+ | Black | 23 |
| 2-10 | Audio 8- | Blue | 24 |

## 6. System Planning Worksheet

The following page contains a blank system planning worksheet for the PAB-100 or PAB-400 Paging Amplifier 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.

# PAB-401 Paging Amplifier Board

Card Cage: _____ Card Slot: _____

| Combicon Pin Number | Signal | PAB/TAB Cable Wire Colors | Terminal Block Pin Number | Speaker Circuit |
|---|---|---|---|---|
| 1-1 | Audio 1+ | Black | 1 | |
| 1-2 | Audio 1- | Red | 2 | |
| 1-3 | Audio 1 & 2 Shield | BR Shield | 3 | |
| 1-4 | Audio 2+ | Black | 4 | |
| 1-5 | Audio 2- | White | 5 | |
| 1-3 | Audio 1 & 2 Shield | BW Shield | 6 | |
| 1-6 | Audio 3+ | Black | 7 | |
| 1-7 | Audio 3- | Green | 8 | |
| 1-8 | Audio 3 & 4 Shield | BG Shield | 9 | |
| 1-9 | Audio 4+ | Black | 10 | |
| 1-10 | Audio 4- | Blue | 11 | |
| 1-8 | Audio 3 & 4 Shield | BBl Shield | 12 | |
| 2-1 | Audio 5+ | Black | 13 | |
| 2-2 | Audio 5- | Red | 14 | |
| 2-3 | Audio 5 & 6 Shield | BR Shield | 15 | |
| 2-4 | Audio 6+ | Black | 16 | |
| 2-5 | Audio 6- | White | 17 | |
| 2-3 | Audio 5 & 6 Shield | BW Shield | 18 | |
| 2-6 | Audio 7+ | Black | 19 | |
| 2-7 | Audio 7- | Green | 20 | |
| 2-8 | Audio 7 & 8 Shield | BG Shield | 21 | |
| 2-9 | Audio 8+ | Black | 22 | |
| 2-10 | Audio 8- | Blue | 23 | |
| 2-8 | Audio 7 & 8 Shield | BBl Shield | 24 | |