INSTALLATION INSTRUCTIONS

MicroComm DXL

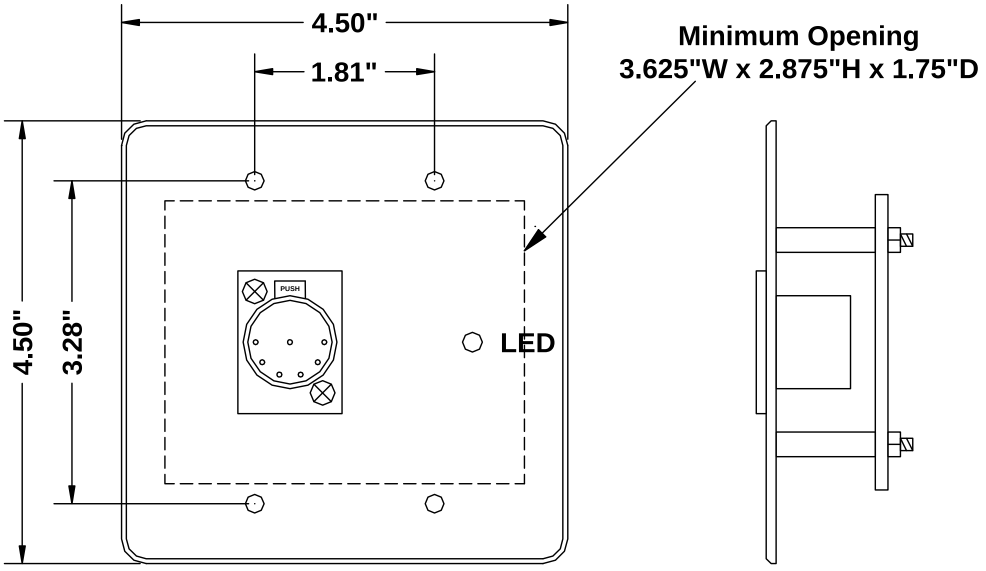
HDH-421 Half-duplex Handset Station

1. Intent & Scope

This document describes the installation procedure for the HDH-421 Half-duplex Handset Station.

2. Description

The HDH-421 Half duplex Handset Station is a two gang intercom station with a 7-pin XLR receptacle and a status LED. The intercom station is operational when 7-pin XLR plug of the HND-100 handset assembly is plugged into the HDH-421 receptacle. A half-duplex audio connection is established between the handset and a second intercom station. The HDH-421 status LED comes on to indicate that the audio connection has been established. Pressing the handset push-to-talk (PTT) switch forces the station into microphone transmit mode. When the handset is unplugged the intercom station reverts to normal operation and the LED goes off.



4 Mounting Holes 0.188" (3/16")

Figure 1 HDH-421 Half Duplex Handset Station

3. Installation

A simplified diagram of the back view of the HDH-421 is shown below. The header CN1 is used to connect audio and switch information from the station to the intercom system. The audio lines are connected to pins 1 and 2 of CN1 with a 4-pin MTA-100-04 connector.

The maximum recommended distance to run 22-gauge twisted-pair shielded cable from a HDH-421 to an SCC-401 is 2500 feet (750 meters).

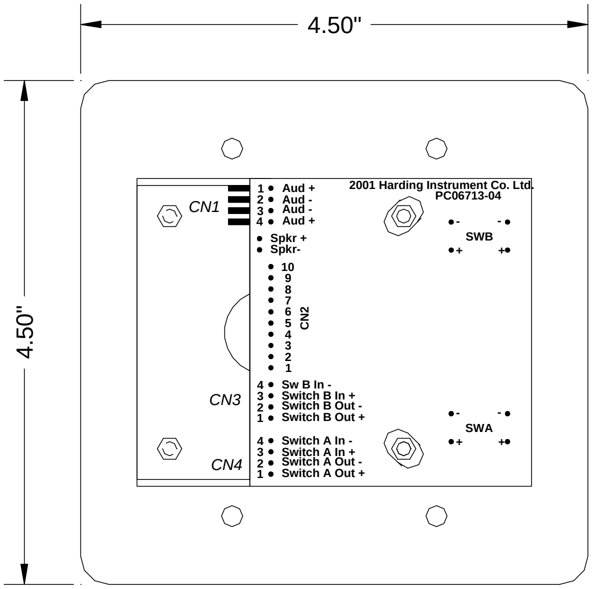


Figure 2 Rear View of HDH-421 Printed Circuit Board Showing Header Positions

3.1 Audio Connection from System to Intercom Station

Each HDH-421 station is connected to the exchange with a single shielded twisted pair. This pair is connected to terminals on the field interface terminal block. All shields are terminated at the field interface teminal block. The shields are grounded through the cable that connects the terminal block to the connector on the SCC-401 (for a DXL system). The shield at the station end is left unconnected.

The connections to the intercom station are made with an AMP MTA-100 series connector. The intercom pair should connect to pins 1 and 2 on a female 4-pin AMP MTA-100 series connector that plugs onto the header labeled CN1 on the printed circuit board of the intercom station. To make these connections you should use an AMP Handle Assy 58074-1 tool with a 58246-1 head. The cable should be cut to length and the shield and outer jacket should be trimmed back about 1/2 inch. Ensure that the shield is not exposed or it may short out exposed contacts on the intercom PCB when it is installed. The pin configuration of the station connector is:

MTA Pin	Signal
1	Audio +
2	Audio -
3	N/C
4	N/C

Figure 3 MTA Pin Signals

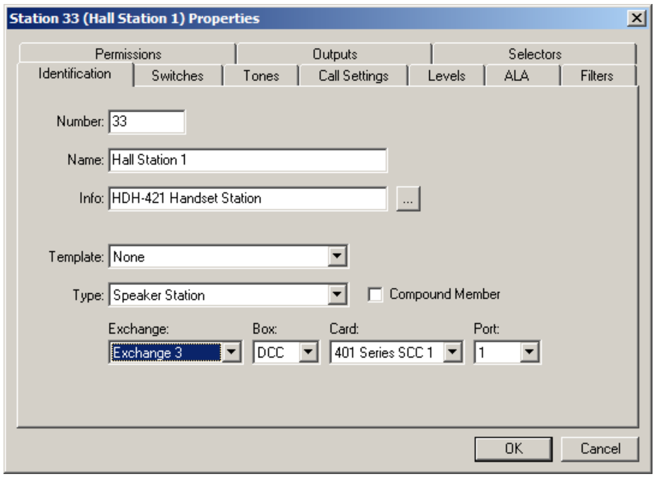
To insert the signal wires into the connector you remove the white cover from the connector, insert the connector into the tool from the left side (it will travel through the tool in the direction indicated by the arrow), pull the trigger once to load the connector. Then insert the signal wire for pin 1 (do not strip the wire) into the hole on the top of the tool and pull the trigger to insert the wire into the connector. Then repeat to install the other signal wire. Finally, remove the connector from the tool, replace the cover, and then slide the connector onto the pins on the intercom station.

3.2 Mounting the HDH-421 Station

The 2 gang HDH-421 is designed to mount to a standard 2-gang electrical box, with the faceplate connected to the box by four #6-32 mounting screws. The box must have a minimum opening of 3.625"W x 2.875"H x 1.75"D (as shown in the figure on page 1).

4.0 Configuring the HDH-421 using the DXL Administrator Software

The DXL Administrator Software is used to configure a HDH-421 station. The **Identification** tab of the **Station Properties** dialog box has entries for ID **Number:** and **Name:** of the station. Using the pull-down menu the station is configured as a **Type:** Speaker Station. The SCC-401 port that the HDH-421 is connected to is specified by the **Exchange:**, **Box:**, **Card:**, and **Port:** entries.



Station 33 (Hall Station 1) Properties

Number: 33

Name: Hall Station 1

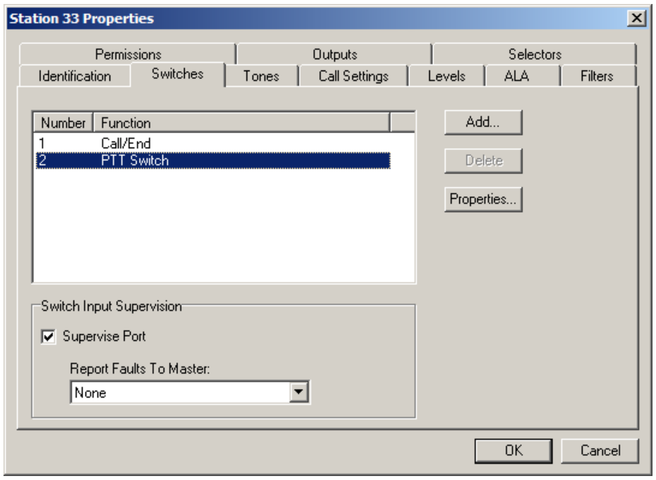
Info: HDH-421 Handset Station

Template: None

Type: Speaker Station ☐ Compound Member

Exchange: Exchange 3 Box: DCC Card: 401 Series SCC 1 Port: 1

The **Switches** tab lists two switches labeled 1 and 2. Both switches are required in an HDH-421 station. Switch 1 is configured as a **Call/End** switch while switch 2 is configured as a **PTT switch**.



Station 33 Properties

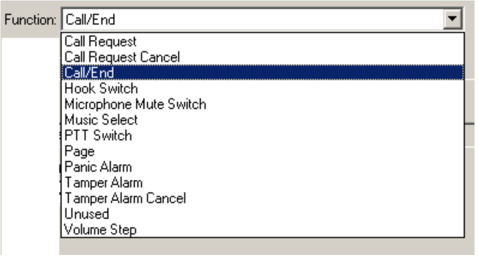
Number	Function
1	Call/End
2	PTT Switch

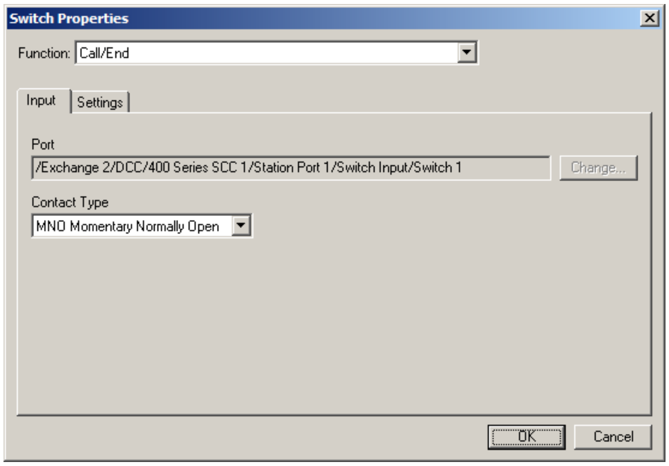
Switch Input Supervision

☑ Supervise Port

Report Faults To Master: None

The **Properties…** button is used to bring up a **Switch Properties** dialog box with two tabs. The **Function:** pull down menu is used to select the function of the switch. Switch 1 should be defined as a **Call/End** switch.


Function: Call/End



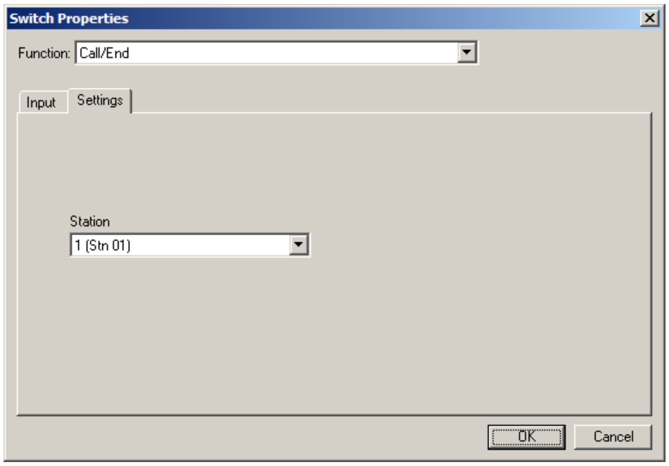
Function: Call/End

Port: /Exchange 2/DCC/400 Series SCC 1/Station Port 1/Switch Input/Switch 1

Contact Type: MNO Momentary Normally Open

The **Contact Type** should be left at the default setting **MNO Momentary Normally Open**.

The **Settings** tab is used to specify the station that you will be connected to when the HND-100 Handset station is plugged into the HDH-421. The **Station** pull-down menu will list all the stations in the system. From this list select the appropriate station. When the HND-100 is plugged into the jack on the HDH-421 the **Call/End** switch is closed and a half–duplex audio connection is made between the HDH-421 and the selected station. When the handset plug is removed from the jack the call connection is terminated.



Function: Call/End

Station: 1 (Stn 01)

The second switch in the HDH-421 configuration, which physically is the push-to-talk switch on the handset, should be defined as a **PTT switch**.

The settings for the remaining tabs in the **Station Properties** dialog box for the HDH-421 station are discussed in the MicroComm DXL Administrator Software and Local User Interface manual.