INSTALLATION INSTRUCTIONS

MicroComm DXI

FST-420 Fiber Station Transceiver

1. Intent & Scope

This document describes the installation procedure for the FST-420 Fiber Station Transceivers.

2. Description

The FST-420 Fiber Station Transceiver facilitates the connection of DXI/DXL 400-series Intercom Stations (ICMs), Touchscreen Master modules (TMMs), and Master Audio Interface modules (MAIs) to a system's exchange equipment by means of fiber optic cable, allowing these devices to be located in another building or out of doors. Up to four devices may be connected using a single fiber optic transmit & receive pair.

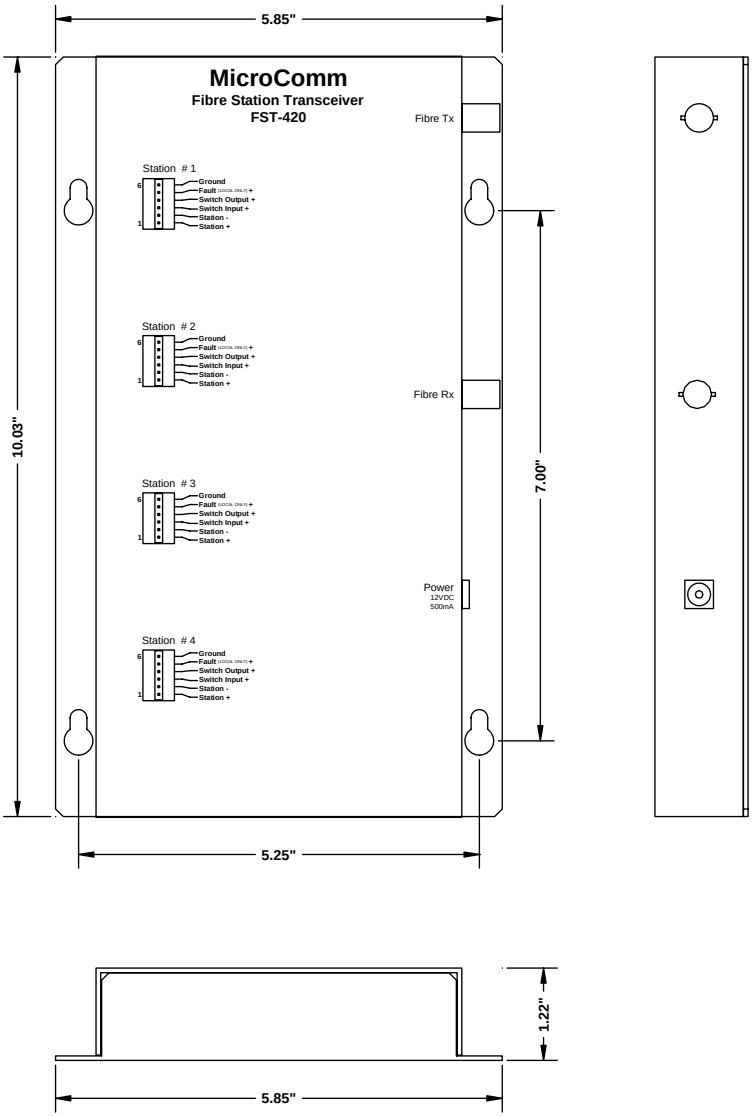
Two FST-420s are required to complete the connection. The local transceiver connects to either an SAB-400 station audio card in a DXI system, or similarly to an SCC-400 station audio card and/or MCC-400 master audio card in a DXL system. The remote transceiver then connects to the associated field devices.

The transceiver pair carries bi-directional audio as well as a variety of discrete signaling, thereby providing a completely transparent bridge between the local and remote locations. FST-420's support all the functions of an ICM-400 series intercom (which has remote wiring supervision), as well as a supplementary status input at both the local and remote locations.

2.1 FST-420 Fiber Station Transceiver

Both the Local and the Remote FST-420s are designed to be wall mounted, and are packaged in similar enclosures.

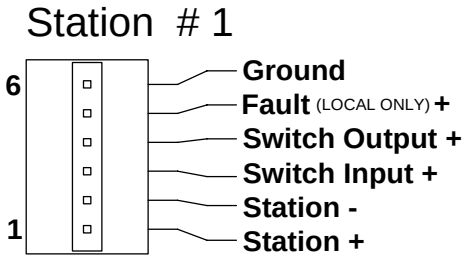
FST-420



FST-420 Mechanical Drawing

3. FST-420-1 Remote Unit

Each FST-420 has 4 channels, where each channel can be connected to a 400 series intercom station. Each channel has a 6-pin header those mates to a 6-pin MTA-100 connector. The labeling of the header for Station #1 is shown below.



MTA-100 Header Labeling

The pin outs for the 6-pin MTA-100 connector at the Remote FST-420 are as follows:

TB Pin Number	Function
1	Station +
2	Station -
3	Switch Input +
4	Switch Output +
5	Ground
6	Ground

Pin outs for 6-pin MTA-100 Connector at Remote FST-420

3.1 Station Connections

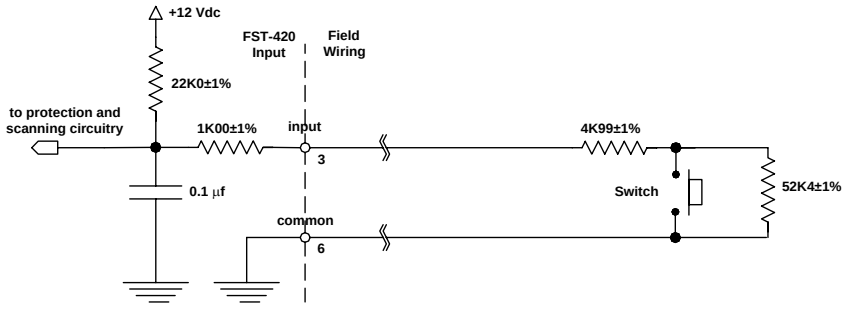
A 400 series intercom station is connected to terminals 1 and 2 labeled Station + and Station – on the Remote FST. Maintaining correct polarity connections between the FST-420 and the intercom station is essential. Shielded twisted pair cable should be used to connect the station to the Remote FST with the shield connected to the Ground terminal of the FST-420. The corresponding Local FST Station + and Station – terminals are then connected to a port on a SAB-400 audio card in a DXI system or a port on a SCC-400 audio card in a DXL system. The station connected to the Remote FST operates as if connected directly to the local cards. Again proper polarity must be maintained between the audio card port and the Local FST.

3.2 Master Station Connections

Touch Screen Master Modules (TMMs) and Master Audio Interface modules (MAIs) require two station ports. With a DXI SAB-400 the two station ports must be adjacent with the lowest numbered port connected to the speaker pair and the highest numbered port connected to the microphone pair. With a DXL system an MCC master audio card system the two ports (Speaker and Microphone) connect to two of the Station ports on the Local FST.

3.3 Switch Input Connections

A supervised external switch can be connected to the Remote FST-420 between terminal 3 and 6 (Switch Input + and Ground). The following resistor network is required to provide proper supervision of the switch.



Terminating Network for Supervised Switch

The terminal voltage that you should measure between terminal 3 and Ground depends on the state of the switch and whether the lines are open or closed.

Input State	Wiring	Switch A	Voltage
Open Fault	Open Circuit	NA	12
Idle	Normal	Not Pushed	8.6
Switch A Pressed	Normal	Pushed	2.1
Short Fault	Short Circuit	NA	0

Terminal Voltages for Supervised 1 Switch Input

An unsupervised switch can also be used at the Remote FST; in this case the Fault output line at the Local FST is meaningless.

3.4 Switch Output

The switch output is an open drain transistor the can sink a maximum of 30 mA and withstand a maximum voltage of 30 volts. When the unsupervised switch at the Local FST-420 is closed the open drain transistor is turned on.

4. FST-420-2 Local Unit

The pin outs for Local FST-420 6-pin MTA-100 header at the Remote FST-420 are as follows:

TB Pin Number	Function
1	Station +
2	Station -
3	Switch Input +
4	Switch Output +
5	Fault
6	Ground

Pin outs for 6-pin MTA-100 Connector at Local FST-420

4.1 Station Connections

Station terminal pairs from the station audio cards are connected to the inputs labeled Station + and Station - .You must maintain the proper polarity for these connections.

4.2 Master Station Connections

The Speaker pair and Microphone pair must be connected to any adjacent station channels on an SAB-400, or the Microphone pair and Speaker pair on a MCC card of a DCC or DCE.

4.3 Switch Input

The Switch Input + is used to control the Switch Out + terminal at the Remote site. When a switch (connected between Switch Input + and Ground) is closed the Switch Out + open drain transistor at the Remote FST is turned on.

4.4 Switch Output

The switch output is an open drain transistor the can sink a maximum of 30 mA and withstand a maximum voltage of 30 volts. When either a supervised or unsupervised switch at the Remote FST-420 is closed the open

drain transistor is turned on. (Note that a shorted input on a supervised switch will also turn on this open drain switch output transistor.)

4.5 Fault

The fault output is an open drain transistor the can sink a maximum of 30 mA and withstand a maximum voltage of 30 volts. When a supervised switch at the Remote FST-420 is open or shorted the open drain transistor is turned on to indicate a fault condition. With an unsupervised switch the fault output open drain transistor is always on.

5. Making Connections to the MTA-100 Header

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 6-pin AMP MTA-100 series connector that plugs onto the header. 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.

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), and 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. The shield drain wire should be connected to Pin 6, the Ground pin

6. Mounting

Both the Remote and Local FST-420s are designed to be surface mounted on an equipment backboard or similar location. The unit is mounted with four #8 or #10 round headed. The diagram in section 3 indicates the screw positions.