



Fiber Optic Video/Audio/Data Transmission

Installation Instructions

Part Numbers:

FT/FR-IS-SCU-x (ST/FC)

(Aiphone IS CCU and SCU Interface)

FT/FR-IS-RCU-x (ST/FC)

(Aiphone IS CCU and RCU Interface)

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Table of Contents

1.0 Product Description.....	3
2.0 Installation.....	3
3.0 Product Specifications.....	4
4.0 Connector Assignment.....	4
4.1 Front Panel Indicator Lights	4
5.0 Product Part Numbers	8
6.0 Troubleshooting.....	8

FT/FR-IS-SCU(RCU)-x **Fiber Optic Video/Audio/Data Transmission System** **Installation Instructions**

1.0 Product Description

Meridian's FT/FR-IS-SCU-x and FT/FR-IS-RCU-x products are fiber optic modems that provide a compact fiber optic transport system which seamlessly interfaces the Aiphone IS add-on control unit (SCU) or room sub control unit (RCU) stations with the IS-CCU or other exchange units interconnect applications. This product series uses Meridian's standard 1-slot wide chassis mount card assembly and plugs into the following Meridian chassis: SR-500/S, SR-1002/S, SR-1600/S, and SR-2001 & SR-2000 series equipment chassis.

Both ST and FC optical connectors are supported, depending on the part number. An ST optical interface is available for both multimode and singlemode fiber applications. The FC optical interface is available only for singlemode products. Optional conformal coating provides an additional level of protection from environments with high humidity.

2.0 Installation

Series FT/FR-IS-SCU-x and FT/FR-IS-RCU-x products are one-slot wide cards and, as such, occupy one slot in Meridian's standard chassis. To install in these chassis, orient the card with the Meridian logo at the top of the module and slide onto the top and bottom card guides in the chassis. Press securely on the top and bottom of the module to ensure that it is fully seated in the chassis so that the electrical connector mates with the chassis-mounted motherboard. Once installed, manually tighten the two thumbscrews located at the top and bottom of the card. Do not use tools to secure these and do not over tighten.

Note: A fully loaded 19" subrack should have forced-air cooling to avoid excessive heat generation inside the chassis. A fan assembly tray (P/N FA-2000) with three (3) fans is available and should be installed under the 19" SR-2000/1 whenever possible.

3.0 Product Specifications

Interface and compatibility:

Control unit compatibility	IS-CCU and IS-SCU or IS-RCU
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Connectors	
Video/Audio/Data	RJ45 (shielded)
Optical	Singlemode – ST or FC Multimode - ST

3.1 Optical Specifications

The table below lists the optical specifications for both singlemode and multimode fiber applications.

Optical Specifications						
Fiber Type/Size (um)	Optical Output (dBm)	Rx Sensitivity (dBm)	Optical Budget (dB)	Wavelength (nm)	Optical connector	Optical dynamic range (dB)
Multimode (FP Laser) 62.5 / 125	-5	-25	20	850/1300	ST	25
Singlemode (FP Laser) 9 / 125	-5	-25	20	1310/1550	ST, FC	25

4.0 Connector Assignment & Connection Diagram

The RJ-45 connector on the front of the module is used for Aiphone IS interfaces. Refer to the figure 4.3 & 4.4 for appropriate module connection.

4.1 Front Panel Indicator Lights

There are 10 LED indicator lights mounted on the left side of the module's front panel (see Figures below). These indicators show the operation status of the module's power, optical carriers, video signal (only on SCU system) and audio, data channels. Each of the indicator lights will light when activity is detected for that particular input or output channel. These indicators can be used for troubleshooting the module, electrical and optical connections.

Indicator	Function
Power	Green – ON
Tx C/L	Optical output (Green – OK, Red – Overload)
Rx C/E	Optical Carrier input (Green – OK, Red – Error)
RV	Receiver Video present - Green
TV	Transmitter Video present - Green
TA	Audio input - Green
RA	Audio output - Green
TD	Data input - Green
RD	Data output - Green

FT/FR-IS-SCU-X

PINOUT DIAGRAM

STATUS INDICATORS

PWR - POWER (GREEN)

DIAG - N/A

TX C/L - TX CARRIER (GREEN)
/OVERLOAD (RED)

RX C/E - RX CARRIER (GREEN)
/ERROR (RED)

RV - RECIEVER VIDEO PRESENT (GREEN)

TV - TRANSMITTER VIDEO PRESENT (GREEN)

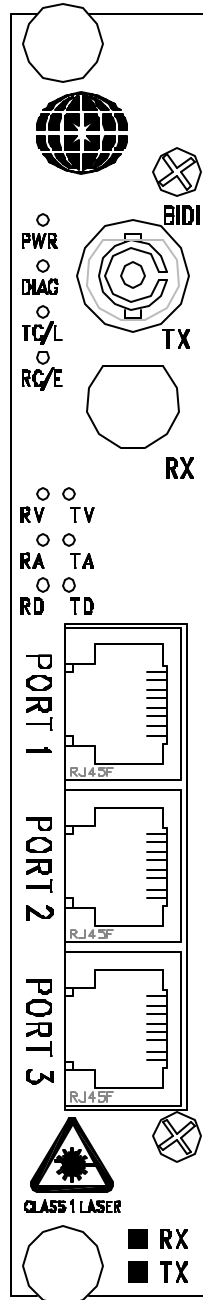
RA - RECIEVER AUDIO PRESENT (GREEN)

TA - TRANSMITTER AUDIO PRESENT (GREEN)

RD - RECIEVER DATA PRESENT (GREEN)

TD - TRANSMITTER DATA PRESENT (GREEN)

OPTICAL PORT IN/OUT
(ST, FC)



PORT 1 MX1
(RJ-45)

PORT 2 MX2
(RJ-45)

PORT 3 MX3
(RJ-45)

Figure 4.1
FT/FR-IC-SCU
Front Pane Layout Diagram

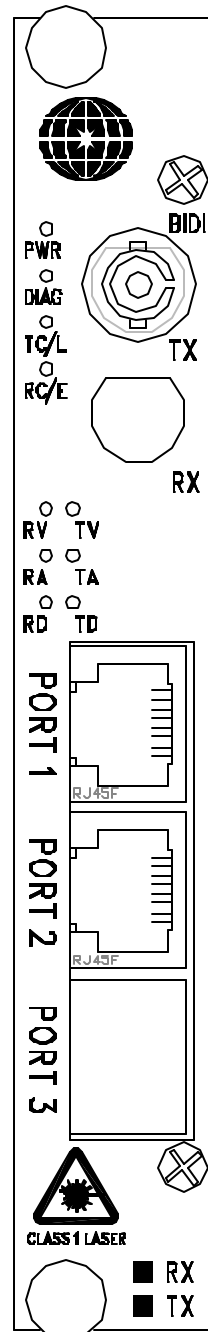
FT/FR-IS-RCU-X

PINOUT DIAGRAM

STATUS INDICATORS

PWR - POWER (GREEN)
 DIAG - N/A
 TX C/L - TX CARRIER (GREEN)
 /OVERLOAD (RED)
 RX C/E - RX CARRIER (GREEN)
 /ERROR (RED)
 RV - N/A
 TV - N/A
 RA - RECIEVER AUDIO PRESENT (GREEN)
 TA - TRANSMITTER AUDIO PRESENT (GREEN)
 RD - RECIEVER DATA PRESENT (GREEN)
 TD - TRANSMITTER DATA PRESENT (GREEN)

OPTICAL PORT IN/OUT
(ST, FC)



PORT 1 1CX1
(RJ-45)

PORT 2 1CX2
(RJ-45)

N/C

Figure 4.2
FT/FR-IC-RCU
Front Pane Layout Diagram

AIPHONE IS CONNECTION DIAGRAM

FT-IS-SCU-X FR-IS-SCU-X

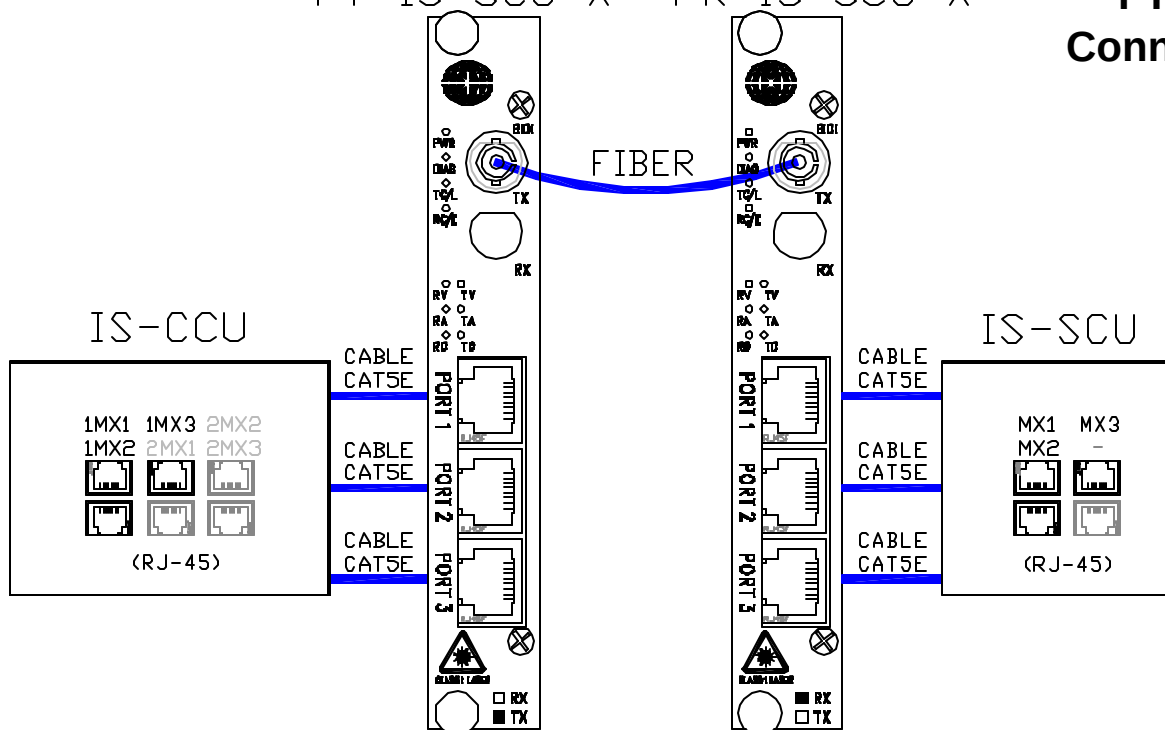


Figure 4.3
FT/FR-IS-SCU-x
Connection Diagram

AIPHONE IS CONNECTION DIAGRAM

FT-IS-RCU-X FR-IS-RCU-X

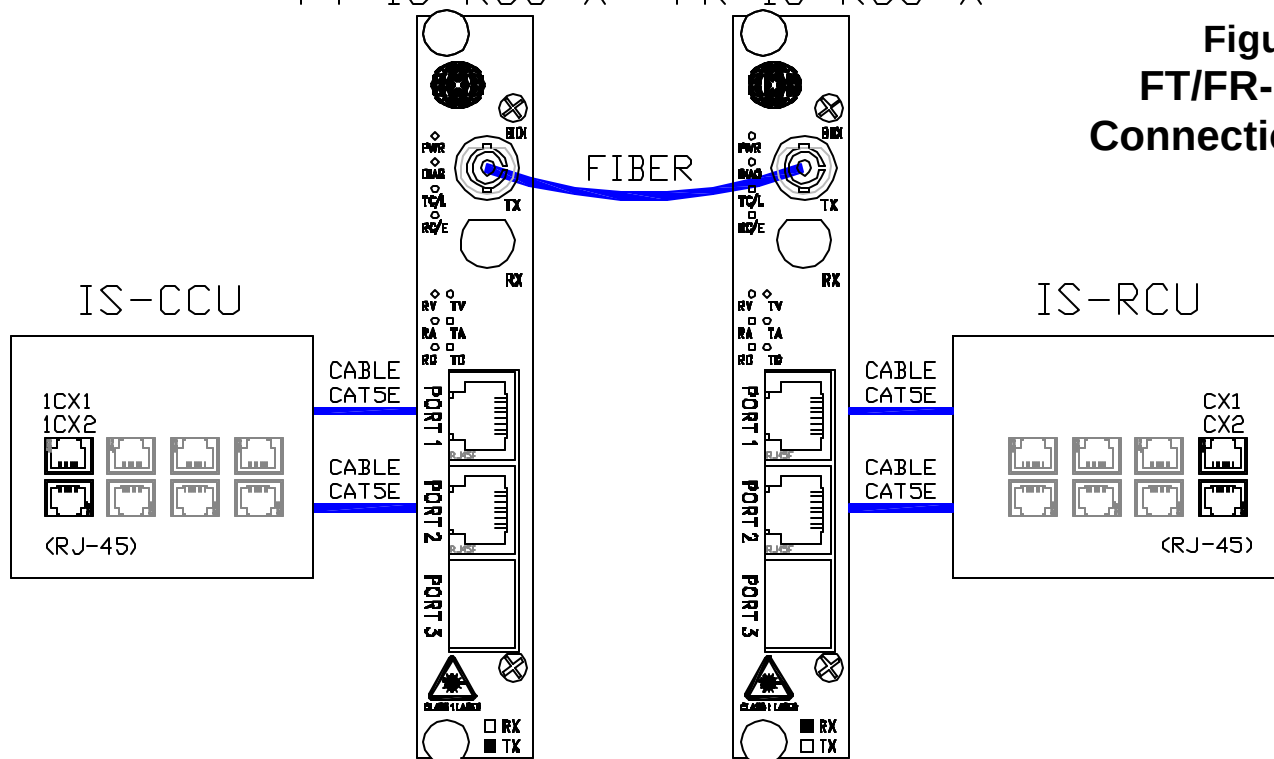


Figure 4.4
FT/FR-IS-RCU-x
Connection Diagram

5.0 Product Part Number Variations

The table below lists the various part numbers and description that are available for this series of product.

Product Part Number Guide				
Part Number	Matching Part #	Fiber Interface	Wavelength	Optical Connector
FT-IS-SCU-2	FR-IS-SCU-2	Multimode	850/1310nm	ST
FT-IS-SCU-5	FR-IS-SCU-5	Singlemode	1310/1550nm	FC
FT-IS-SCU-5ST	FR-IS-SCU-5ST	Singlemode	1310/1550nm	ST
FT-IS-RCU-2	FR-IS-RCU-2	Multimode	850/1310nm	ST
FT-IS-RCU-5	FR-IS-RCU-5	Singlemode	1310/1550nm	FC
FT-IS-RCU-5ST	FR-IS-RCU-5ST	Singlemode	1310/1550nm	ST

For proper operation, it is necessary to match the transmitter (FT) with the associated receiver module (FR).

6.0 Troubleshooting

Below is a listing of several problems that may arise during the installation & operation of the modules. If you are having difficulty installing or operating the modules please refer to this list below.

Problem: *Module does not fit in chassis slots*

Action: Check module orientation. Meridian “Globe” must be oriented on the top left hand side of the module. Make sure the card guides in the chassis are aligned with the extrusion on the module.

Problem: *Card power LED does not light when power to the module/subrack is applied or power indicator turns on and off*

Action: Check power supply to ensure that it is plugged in and turned on. If flashing continues, move module to another chassis or location in the same chassis, if available.

Problem: *No Tx Carrier light*

Action: Optical module is defective, return to factory for repair.

Problem: *No Rx Carrier light*

Action: Received optical signal absent or low. Check fiber connection and optical power at receiver.

If the problem still persists after reviewing the above items, please contact Meridian technical support (516- 285-1000).

Notes:



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