



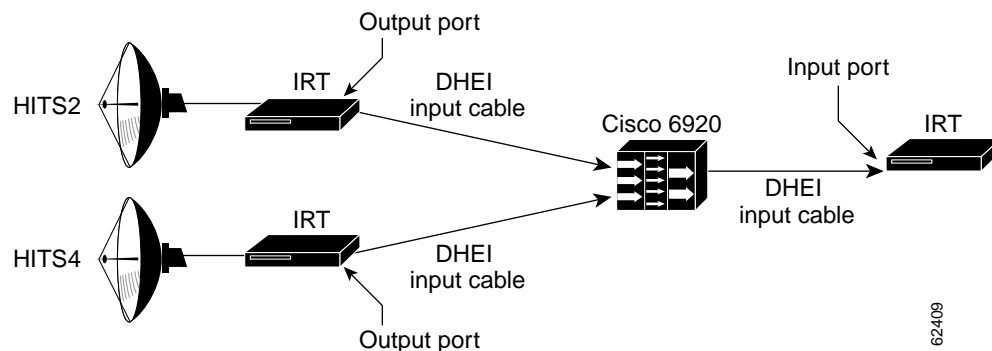
Cable Use for the Cisco 6920 RateMux Multiplexer

This document describes cabling requirements for connecting the Cisco 6920 RateMux Multiplexer with third-party equipment.

DHEI Cabling Requirements for Motorola/GI Equipment

Most cable headends use integrated receiver transcoders (IRTs) from General Instrument (now part of Motorola) to receive digital programming from AT&T Headend in the Sky (HITS) and other satellite-based distributors. The IRT, which decrypts and demodulates the QPSK feed, has a DHEI (26-pin connector) output that can be interconnected with the Cisco 6920 DHEI Input or I/O module (15-pin connectors) using the CAB-6920-DHEI-Input cable. A CAB-6920-DHEI-Input cable can also be used to connect the Cisco 6920 DHEI I/O module output (15-pin connector) to the IRT DHEI input (26-pin connector) for reencryption and QAM modulation of the newly stat-muxed transport stream for distribution through the cable plant. (See [Figure 1.](#))

Figure 1



Motorola/GI has recently revamped their digital headend product offering with the introduction of their Modular Processing System (MPS), which can contain modules that decrypt, demodulate, remultiplex, reencrypt, and remodulate digital video streams. An additional DHEI or DVB-ASI module is used to

interconnect the MPS to the Cisco 6920. Motorola/GI is also introducing a new DSR 4400 satellite demodulator. Both of these products use 15-pin connectors for DHEI rather than the 26-pin connectors used in the IRTs.



Note

Cisco does not provide the interconnect cables between the Cisco 6920 and these products. The appropriate DHEI (15-pin to 15-pin) cables are available from Motorola as an accessory.

Cabling for Scientific-Atlanta Equipment

Many cable headends also use multiple decryption receivers (MDRs) from Scientific-Atlanta to receive digital programming from Time Warner's Athena or other satellite-based distributors. The MDR, which decrypts and demodulates the QPSK feed, has a DHEI (26-pin connector) output that can be interconnected with the Cisco 6920 DHEI Input or I/O module (15-pin connectors) using the CAB-6920-DHEI-Output cable.

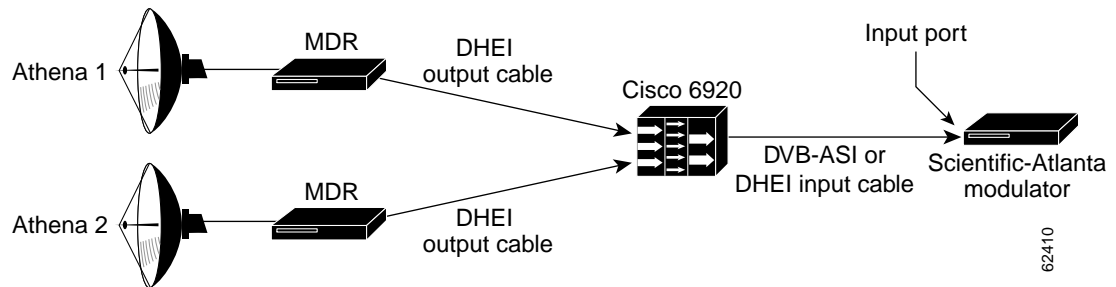


Note

It is the DHEI output cable and not the DHEI input cable (as was the case with the Motorola IRT).

The newly stat-muxed output of the Cisco 6920 can be forwarded to a Scientific-Atlanta encryptor/modulator (for example, the D9476) via DHEI (through the 15-pin DHEI I/O output connection) with CAB-6920-DHEI-Input cable or more commonly via DVB-ASI (through the DVB-IO module). (See [Figure 2](#).)

Figure 2



Scientific-Atlanta has recently introduced a new high-density multiple QAM modulator (MQAM), that supports up to four 6-MHz QAM 256 outputs in a single rack unit. Due to the MQAM's limit of only two DVB-ASI input ports (the MQAM does not support DHEI interfaces), the Cisco 6920 cannot fully utilize the MQAM's bandwidth requirements through the existing DVB I/O card outputs. However, the Cisco 6920's new dual DVB-I/O cards are designed so that the card's pair of DVB output ports can be connected to the MQAM's two DVB-ASI input ports with standard DVB cables to fully drive the MQAM.

Cabling Requirements for Other Headend Equipment Vendors

Other headend equipment manufacturers produce equipment that typically uses only the DVB-ASI protocol. Should you encounter a satellite demodulator, MPEG encoder, or multiplexer that is to be connected to the Cisco 6920 via DHEI, keep in mind that Cisco provides cabling only for the 26-pin-to-15-pin conversion. Any 15-pin-to-15-pin cabling must be acquired from the equipment vendor and not from Cisco.

Obtaining Documentation

The following sections explain how to obtain documentation from Cisco Systems.

World Wide Web

You can access the most current Cisco documentation on the World Wide Web at the following URL:

<http://www.cisco.com>

Translated documentation is available at the following URL:

http://www.cisco.com/public/countries_languages.shtml

Documentation CD-ROM

Cisco documentation and additional literature are available in a Cisco Documentation CD-ROM package, which is shipped with your product. The Documentation CD-ROM is updated monthly and may be more current than printed documentation. The CD-ROM package is available as a single unit or through an annual subscription.

Ordering Documentation

Cisco documentation is available in the following ways:

- Registered Cisco Direct Customers can order Cisco product documentation from the Networking Products MarketPlace:
http://www.cisco.com/cgi-bin/order/order_root.pl
- Registered Cisco.com users can order the Documentation CD-ROM through the online Subscription Store:
<http://www.cisco.com/go/subscription>
- Nonregistered Cisco.com users can order documentation through a local account representative by calling Cisco corporate headquarters (California, USA) at 408 526-7208 or, elsewhere in North America, by calling 800 553-NETS (6387).

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Obtaining Technical Assistance

Cisco provides Cisco.com as a starting point for all technical assistance. Customers and partners can obtain documentation, troubleshooting tips, and sample configurations from online tools by using the Cisco Technical Assistance Center (TAC) Web Site. Cisco.com registered users have complete access to the technical support resources on the Cisco TAC Web Site.

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Technical Assistance Center

The Cisco TAC is available to all customers who need technical assistance with a Cisco product, technology, or solution. Two types of support are available through the Cisco TAC: the Cisco TAC Web Site and the Cisco TAC Escalation Center.

Inquiries to Cisco TAC are categorized according to the urgency of the issue:

- Priority level 4 (P4)—You need information or assistance concerning Cisco product capabilities, product installation, or basic product configuration.
- Priority level 3 (P3)—Your network performance is degraded. Network functionality is noticeably impaired, but most business operations continue.
- Priority level 2 (P2)—Your production network is severely degraded, affecting significant aspects of business operations. No workaround is available.
- Priority level 1 (P1)—Your production network is down, and a critical impact to business operations will occur if service is not restored quickly. No workaround is available.

Which Cisco TAC resource you choose is based on the priority of the problem and the conditions of service contracts, when applicable.

Cisco TAC Web Site

The Cisco TAC Web Site allows you to resolve P3 and P4 issues yourself, saving both cost and time. The site provides around-the-clock access to online tools, knowledge bases, and software. To access the Cisco TAC Web Site, go to the following URL:

<http://www.cisco.com/tac>

All customers, partners, and resellers who have a valid Cisco services contract have complete access to the technical support resources on the Cisco TAC Web Site. The Cisco TAC Web Site requires a Cisco.com login ID and password. If you have a valid service contract but do not have a login ID or password, go to the following URL to register:

<http://www.cisco.com/register/>

If you cannot resolve your technical issues by using the Cisco TAC Web Site, and you are a Cisco.com registered user, you can open a case online by using the TAC Case Open tool at the following URL:

<http://www.cisco.com/tac/caseopen>

If you have Internet access, it is recommended that you open P3 and P4 cases through the Cisco TAC Web Site.

Cisco TAC Escalation Center

The Cisco TAC Escalation Center addresses issues that are classified as priority level 1 or priority level 2; these classifications are assigned when severe network degradation significantly impacts business operations. When you contact the TAC Escalation Center with a P1 or P2 problem, a Cisco TAC engineer will automatically open a case.

To obtain a directory of toll-free Cisco TAC telephone numbers for your country, go to the following URL:

<http://www.cisco.com/warp/public/687/Directory/DirTAC.shtml>

Before calling, please check with your network operations center to determine the level of Cisco support services to which your company is entitled; for example, SMARTnet, SMARTnet Onsite, or Network Supported Accounts (NSA). In addition, please have available your service agreement number and your product serial number.

This document is to be used in conjunction with the *Cisco 6920 RateMux Multiplexer Installation Guide*.

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