
Serial Cables

One of the most complicated parts of setting up a network system (router, switch, hub, or access server) is the selection of the serial cables to connect the network system to the serial devices in your network. There are many different serial cables with seemingly similar features, and finding the correct cable can be a challenge. The information that follows will quickly and easily guide you through the process of selecting the right serial cables for your network.

Selecting the proper serial cable is as easy as knowing the answers to three questions:

- Is the network system being connected to a DTE or DCE device?
- What signaling standard does the device require?
- Is a male or female connector required on the cable?

DTE or DCE

Devices that communicate over a serial interface are divided into two modes: DTE and DCE. The most important difference between these types of devices is that the DCE device supplies the clock signal that paces the communications on the bus. The documentation that came with the device should indicate whether it is DTE or DCE (some devices have a jumper to select either mode). If you cannot find the information in the documentation, use the table below to help you select the proper class.

Table 9-5: DTE or DCE Determination

	DTE	DCE	Selectable DTE or DCE
Device	Terminals	Modems CSU/DSU Multiplexers	Routers Hubs Switches Access servers
Gender	Male	Female	Either

1. Selectable devices usually have a jumper, switch, or software command used to select DTE or DCE.

Note The cable itself identifies the Cisco router as a DTE or DCE device to other devices in the network; for this reason, it is important to select the correct product number from the table below.

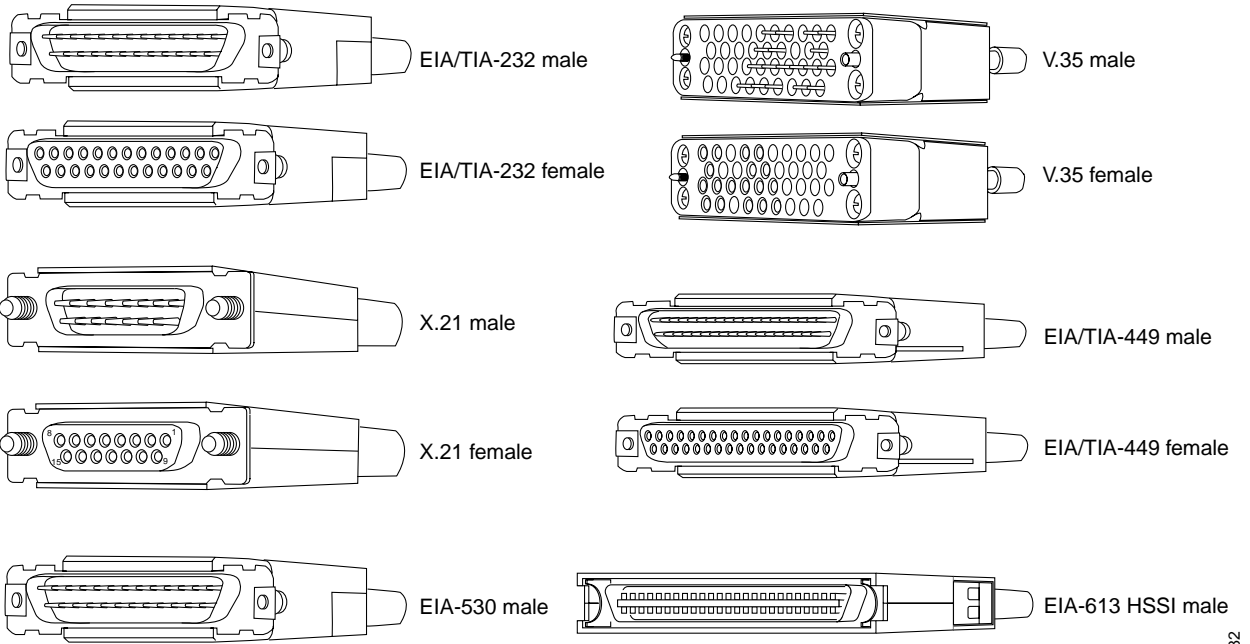
Cable Gender

If pins protrude from the base of the connector, the plug is male. If the connector has holes to accept the pins, the receptacle is female. Refer to the following figure to identify the connector you need.

Signaling Standards

A number of different standards define the signaling over a serial cable (including EIA/TIA-232, X.21, V.35, EIA/TIA-449, EIA-530, and EIA-613 HSSI). Each standard defines the signals on the cable and specifies the connector at the end of the cable. The documentation for the device being connected should indicate the signaling standard used for that device. If you cannot find the information in the documentation, use the illustrations inside to select the signaling standard required. Select the connector in the figure below that will mate with the connector on your device, not the illustration that looks like the connector on the device.

Figure 9-1: Serial Cable Connectors—Network Ends



P-1082

Table 9-6: Serial Cable Part Numbers

Mode	Cable Gender	Signaling	Cisco 7500	Cisco 4500-M and 4700-M; and Cisco 3600 Series	Cisco 2500 Series; AccessPro PC Cards; Access Server Series; and Cisco 1600 Series	
DTE	Male	EIA/TIA-232	CAB-232MT= CAB-OCT-232-MT=	CAB-232MT= CAB-OCT-232-MT=	CAB-232MT=	
		EIA/TIA-449	CAB-449MT=	CAB-449MT=2	CAB-449MT=	
		V.35	CAB-V35MT= CAB-OCT-V35-MT=	CAB-V35MT=2 CAB-OCT-V35-MT=3	CAB-V35MT=	
		X.21	CAB-X21MT= CAB-OCT-X21-MT=	CAB-X21MT=2	CAB-X21MT=	
		EIA-530	CAB-530MT=	CAB-530MT=2	CAB-530MT=	
		HSSI	CAB-HS11=	CAB-HS11	–	
		ASYNC	–	–	CAB-OCTAL-ASYNC=	
		T1	CAB-7KCT1DB15=5	CAB-7KCT1DB15=2	–	
		E1	CAB-E1-BNC=5	CAB-E1-BNC=2 CAB-E1-BNC-3M=	CAB-E1-BNC=7	
			CAB-E1-DB15=5	CAB-E1-DB15=2	CAB-E1-DB15=7	
	CAB-E1-PRI=5		CAB-E1-PRI=2	CAB-E1-PRI=7		
	CAB-E1-PRI/NT=5		CAB-E1-PRI/NT=	CAB-E1-PRI/NT=7		
	CAB-E1-TWINAX=5		CAB-E1-TWINAX=2 CAB-E1-TWINAX-3M=8	CAB-E1-TWINAX=7		
	–		CAB-PCA-VA=5	–	–	
	–		CAB-PCA-VB=5	–	–	
	–		CAB-PCA-Y=5	–	–	
	Female	V.35	–	CAB-V35FT=3	–	
	DCE	Male	V.35	–	CAB-V35MC=9	–
			HSSI	CAB-HNUL=5	CAB-HNUL=6	–
			T1	CAB-7KCT1NULL=5	CAB-7KCT1NULL=2	–
Female		EIA/TIA-232	CAB-232FC= CAB-OCT-232-FC=	CAB-232FC=2 CAB-OCT-232-FC=3	CAB-232FC=	
		EIA/TIA-449	CAB-449FC=	CAB-449FC=2	CAB-449FC=	
		V.35	CAB-V35FC= CAB-OCT-V35-FC=	CAB-V35FC=2 CAB-OCT-V35-FC=3	CAB-V35FC=	
		X.21	CAB-X21FC= CAB-OCT-X21-FC=	CAB-X21FC=2	CAB-X21FC=	
		EIA-530	–	–	–	

1. Applies only to the Cisco 2500 series access servers (2509 through 2512).

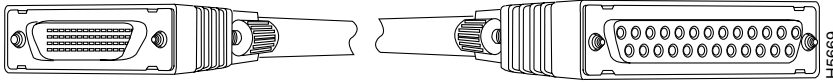
Specifications

This section describes serial cables by product and part number. The illustrations in this section show the Cisco end and the network end of each serial cable. The connector on the left is the Cisco end of the cable. The connector on the right is the network end of the cable.

CAB-232FC=

The following illustration shows serial cable CAB-232FC= (part number 72-0794-01), which is used in the following systems: the Cisco 7000 family, Cisco 4000 series, Cisco 3600 series, Cisco 2500 series, Cisco 1600 series, Cisco access servers, and AccessPro PC cards. This cable has a male DB-60 connector on the Cisco end and a female DB-25 connector on the network end.

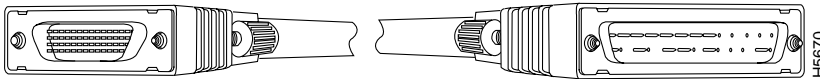
Figure 9-2: CAB-232FC=



CAB-232MT=

The following illustration shows serial cable CAB-232MT= (part number 72-0793-01), which is used in the following systems: the Cisco 7000 family, Cisco 4000 series, Cisco 3600 series, Cisco 2500 series, Cisco 1600 series, Cisco access servers, and AccessPro PC cards. This cable has a male DB-60 connector on the Cisco end and a male DB-25 connector on the network end.

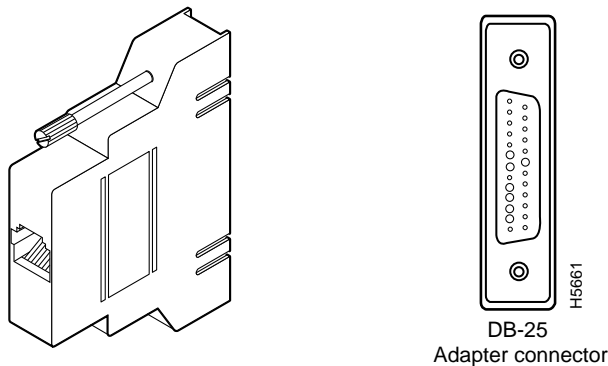
Figure 9-3: CAB-232MT=



CAB-25AS-MMOD=

The following illustration shows adapter CAB-25AS-MMOD= (part number CAB-25AS-MMOD), which is used in the following systems: the Cisco 2500 series, including the access server series (Cisco 2509 through Cisco 2512). This adapter has an RJ-45 connector on one side and a male DB-25 connector on the other side.

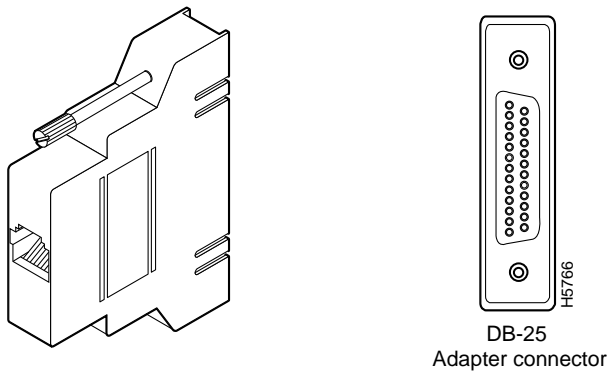
Figure 9-4: CAB-25AS-MMOD=



CAB-25AS-FDTE=

The following illustration shows adapter CAB-25AS-FDTE= (part number CAB-25AS-FDTE), which is used in the Cisco 2500 series, including the access server series (Cisco 2509 through Cisco 2512). This adapter has an RJ-45 connector on one side and a female DB-25 connector on the other side.

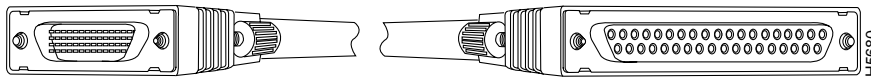
Figure 9-5: CAB-25AS-FDTE=



CAB-449FC=

The following illustration shows serial cable CAB-449FC= (part number 72-0796-01), which is used in the following systems: the Cisco 7000 family, Cisco 4000 series, Cisco 3600 series, Cisco 2500 series, Cisco 1600 series, Cisco access servers, and AccessPro PC cards. This cable has a male DB-60 connector on the Cisco end and a female DB-37 connector on the network end.

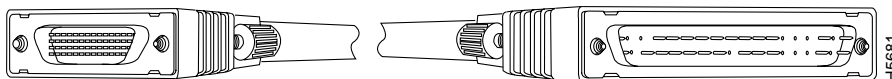
Figure 9-6: CAB-449FC



CAB-449MT=

The following illustration shows serial cable CAB-449MT= (part number 72-0795-01), which is used in the following systems: the Cisco 7000 family, Cisco 4000 series, Cisco 3600 series, Cisco 2500 series, Cisco 1600 series, Cisco access servers, and AccessPro PC cards. This cable has a male DB-60 connector on the Cisco end and a male DB-37 connector on the network end.

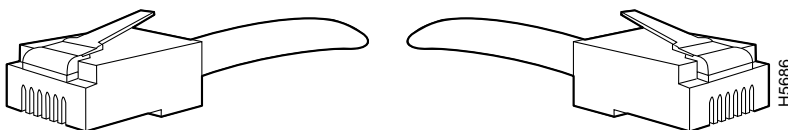
Figure 9-7: CAB-449MT=



CAB-500RJ=

The following illustration shows serial cable CAB-500RJ= (part number 31-0590-01), which is used in the following systems: the Cisco 2500 series and the Cisco CS500. This cable has an RJ-45 connector on both ends.

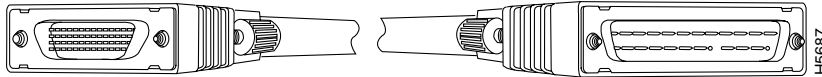
Figure 9-8: CAB-500RJ=



CAB-530MT=

The following illustration shows serial cable CAB-530MT= (part number 72-0797-01), which is used in the following systems: the Cisco 7000 family, Cisco 4000 series, Cisco 3600 series, Cisco 2500 series, Cisco 1600 series, Cisco access servers, and AccessPro PC cards. This cable has a male DB-60 connector on the Cisco end and a male DB-25 connector on the network end.

Figure 9-9: CAB-530MT=



CAB-7KCT1DB15=

The following illustration shows serial cable CAB-7KCT1DB15= (part number 72-0799-00), which is used in the following systems: the Cisco 7500 series, Cisco 7000 family, Cisco 4000 series, and Cisco 3600 series. This cable has a male DB-15 connector on the Cisco end and a male DB-15 connector on the network end.

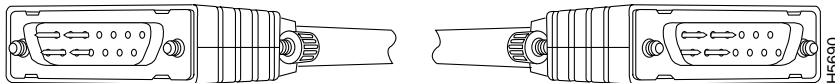
Figure 9-10: CAB-7KCT1DB15=



CAB-7KCT1NULL=

The following illustration shows serial cable CAB-7KCT1NULL= (part number 72-0800-00), which is used in the following systems: the Cisco 7500 series, Cisco 7000 series, Cisco 4000 series, and Cisco 3600 series systems. This cable has a male DB-15 connector on the Cisco end and a male DB-15 connector on the network end.

Figure 9-11: CAB-7KCT1NULL=

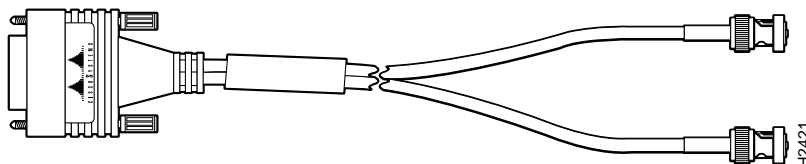


CAB-E1-BNC= and CAB-E1-BNC-3M=

The following illustration shows serial cable CAB-E1-BNC= (part number CAB-E1-BNC=), which is used in the Cisco 7500 series, 7000 series, Cisco 4000 series, Cisco 3600 series, and Cisco access server systems. This cable is 5 meters in length, and has a male DB-15 connector on the Cisco end and two BNC connectors on the network end.

The CAB-E1-BNC-3M= (part number CAB-E1-BNC-3M=) is identical to the CAB-E1-BNC=, except that the CAB-E1-BNC-3M= is 3 meters in length. This cable is used in Cisco 4000 series systems.

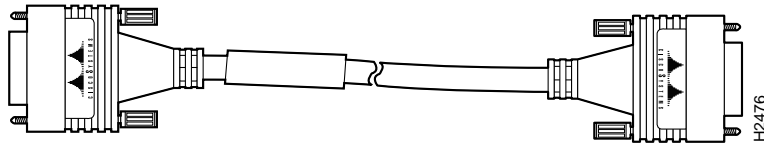
Figure 9-12: CAB-E1-BNC= and CAB-E1-BNC-3M=



CAB-E1-DB15=

The following illustration shows serial cable CAB-E1-DB15= (part number CAB-E1-DB15), which is used in the Cisco 7500 series, 7000 series, Cisco 4000 series, Cisco 3600 series, and Cisco access server systems. This cable has a male DB-15 connector on the Cisco end and a DB-15 connector on the network end.

Figure 9-13: CAB-E1-DB15=

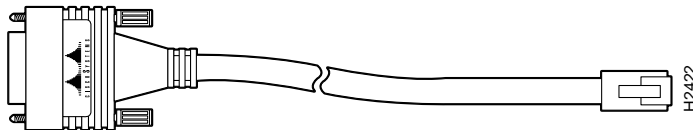


CAB-E1-PRI= and CAB-E1-PRI/NT=

The following illustration shows serial cable CAB-E1-PRI= (part number CAB-E1-PRI=), which is used in the Cisco 7500 series, 7000 series, Cisco 4000 series, Cisco 3600 series, and Cisco access server systems. This cable has a male DB-15 connector on the Cisco end and an RJ-45 connector on the network end.

The CAB-E1-PRI/NT= (part number CAB-E1-PRI/NT=) is identical to the CAB-E1-PRI=, except that the RJ-45 connector is connected as a network terminal (NT1) instead of as a network interface. This cable is used in the Cisco 7500 series, 7000 series, Cisco 4000 series, and Cisco access server systems.

Figure 9-14: CAB-E1-PRI= and CAB-E1-PRI/NT=

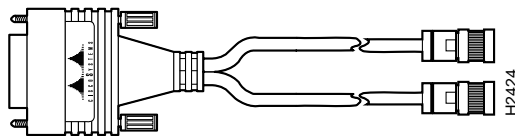


CAB-E1-TWINAX= and CAB-E1-TWINAX-3M=

The following illustration shows serial cable CAB-E1-TWINAX= (part number CAB-E1-TWINAX=), which is used in the Cisco 7500 series, Cisco 7000 series, Cisco 3600 series systems, and AccessPro PC cards. This cable has a male DB-15 connector on the Cisco end and two BNC connectors on the network end.

The CAB-E1-TWINAX-3M= (part number CAB-E1-TWINAX-3M=) is identical to the CAB-E1-TWINAX=. This cable is used in the Cisco 4000 series systems.

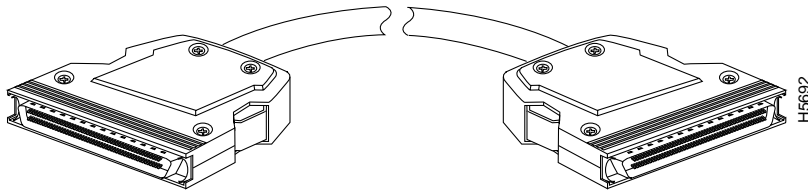
Figure 9-15: CAB-E1-TWINAX= and CAB-E1-TWINAX-3M=



CAB-HNUL=

The following illustration shows serial cable CAB-HNUL= (part number 72-0727-01), which is used in the Cisco 7500 series, Cisco 7000 series, and Cisco 4000 series (NP-1HSSI) systems. This cable has a male DB-50 (SCSI) connector on the Cisco end and a male DB-50 (SCSI) connector on the network end.

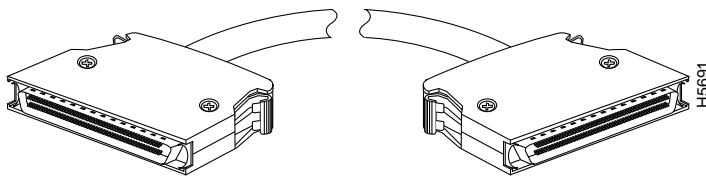
Figure 9-16: CAB-HNUL=



CAB-HSI1=

The following illustration shows serial cable CAB-HSI1= (part number 72-0710-01), which is used in the Cisco 7500 series, Cisco 7000 series, and Cisco 4000 series (NP-1HSSI). This cable has a male DB-50 (SCSI) connector on the Cisco end and a male DB-50 (SCSI) connector on the network end.

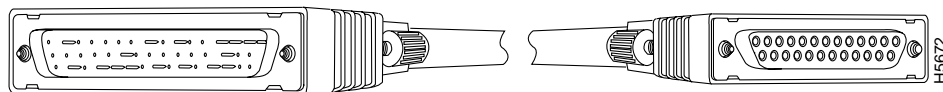
Figure 9-17: CAB-HSI1=



CAB-NP232C=

The following illustration shows serial cable CAB-NP232C= (part number 72-0736-01), which is used in the Cisco 4000 series (2T) systems. This cable has a male DB-50 connector on the Cisco end and a female DB-25 connector on the network end.

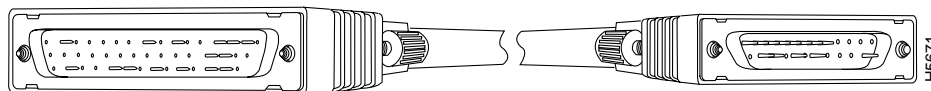
Figure 9-18: CAB-NP232C=



CAB-NP232T=

The following illustration shows serial cable CAB-NP232T= (part number 72-0670-01), which is used in the Cisco 4000 series (2T) systems. This cable has a male DB-50 connector on the Cisco end and a male DB-25 connector on the network end.

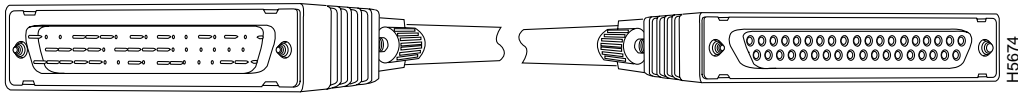
Figure 9-19: CAB-NP232T=



CAB-NP449C=

The following illustration shows serial cable CAB-NP449C= (part number 72-0738-01), which is used in the Cisco 4000 series (2T) systems. This cable has a male DB-50 connector on the Cisco end and a female DB-37 connector on the network end.

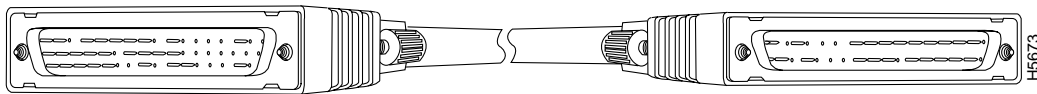
Figure 9-20: CAB-NP449C=



CAB-NP449T=

The following illustration shows serial cable CAB-NP449T= (part number 72-0672-01), which is used in the Cisco 4000 series (2T) systems. This cable has a male DB-50 connector on the Cisco end and a male DB-37 connector on the network end.

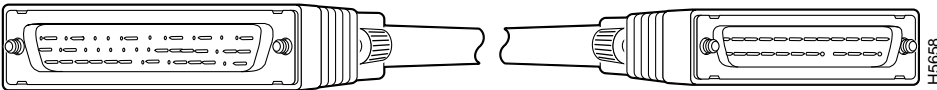
Figure 9-21: CAB-NP449T=



CAB-NP530=

The following illustration shows serial cable CAB-NP530= (part number 72-0732-01), which is used in the Cisco 4000 series (2T) systems. This cable has a male DB-50 connector on the Cisco end and a male DB-25 connector on the network end.

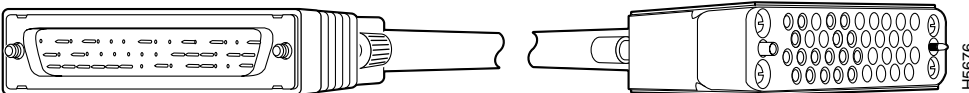
Figure 9-22: CAB-NP530=



CAB-NPV35CV2=

The following illustration shows serial cable CAB-NPV35CV2= (part number 72-0740-02), which is used in the Cisco 4000 series (2T) systems. This cable has a male DB-50 connector on the Cisco end and a female Winchester connector on the network end.

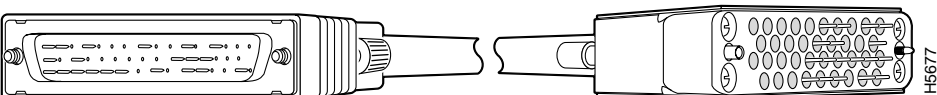
Figure 9-23: CAB-NPV35CV2=



CAB-NPV35TV2=

The following illustration shows serial cable CAB-NPV35TV2= (part number 72-0671-02), which is used in the Cisco 4000 series (2T) systems. This cable has a male DB-50 connector on the Cisco end and a male Winchester connector on the network end.

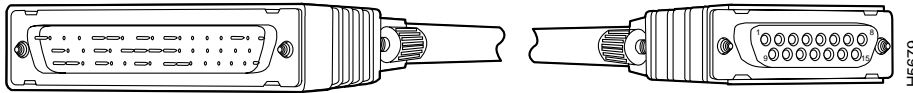
Figure 9-24: CAB-NPV35TV2=



CAB-NPX21C=

The following illustration shows serial cable CAB-NPX21C= (part number 72-0737-01), which is used in the Cisco 4000 series (2T) systems. This cable has a male DB-50 connector on the Cisco end and a female DB-15 connector on the network end.

Figure 9-25: CAB-NPX21C=



CAB-NPX21T=

The following illustration shows serial cable CAB-NPX21T= (part number 72-0683-02), which is used in the Cisco 4000 series (2T) systems. This cable has a male DB-50 connector on the Cisco end and a male DB-15 connector on the network end.

Figure 9-26: CAB-NPX21T=

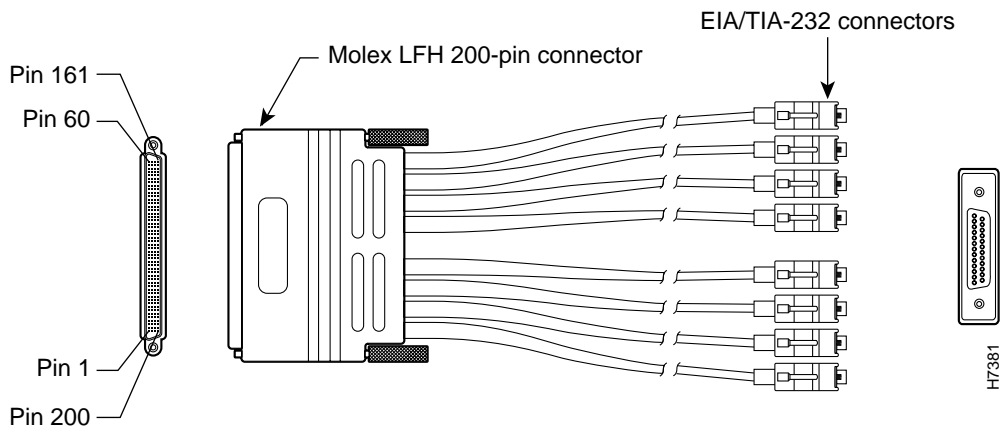


CAB-OCT-232-MT= and CAB-OCT-232-FC=

The following illustration shows serial cable CAB-OCT-232-MT= (part number CAB-OCT-232-MT=), which is used with the PA-8T-232 port adapter for the Cisco 7000 family, and in Cisco 4000 series systems with the NP-2T16S-RS232 network processor module. This cable has a female 200-pin, Molex connector on the Cisco end and eight 25-pin Winchester block-type EIA/TIA-232 male connectors on the network end. (See Figure 16-1 for the EIA/TIA-232 connector detail.)

The CAB-OCT-232-FC= (part number CAB-OCT-232-FC=) is identical to the CAB-OCT-232-MT=, except that the CAB-OCT-232-FC= has eight 25-pin Winchester block-type EIA/TIA-232 female connectors on the network end. This cable is also used with the PA-8T-232 port adapter for the Cisco 7000 family, and in Cisco 4000 series systems with the NP-2T16S-RS232 network processor module.

Figure 9-27: CAB-OCT-232-MT= and CAB-OCT-232-FC=

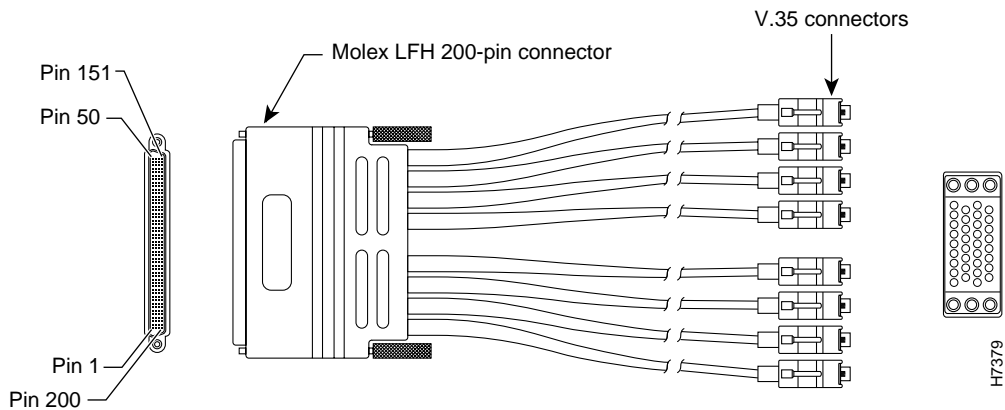


CAB-OCT-V35-MT= and CAB-OCT-V35-FC=

The following illustration shows serial cable CAB-OCT-V35-MT= (part number CAB-OCT-V35-MT), which is used with the PA-8T-V35 port adapter for the Cisco 7000 family, and in Cisco 4000 series systems with the NP-2T16S-V.35 network processor module. This cables has a female 200-pin, Molex connector on the Cisco end and eight 34-pin Winchester block-type V.35 male connectors on the network end. (See Figure 16-1 for the V.35 connector detail.)

The CAB-OCT-V35-FC= (part number CAB-OCT-V35-FC=) is identical to the CAB-OCT-V35-MT=, except that the CAB-OCT-V35-FC= has eight 34-pin Winchester block-type V.35 female connectors on the network end. This cable is also used with the PA-8T-V35 port adapter for the Cisco 7000 family, and in Cisco 4000 series systems with the NP-2T16S-V.35 network processor module.

Figure 9-28: CAB-OCT-V35-MT= and CAB-OCT-V35-FC=

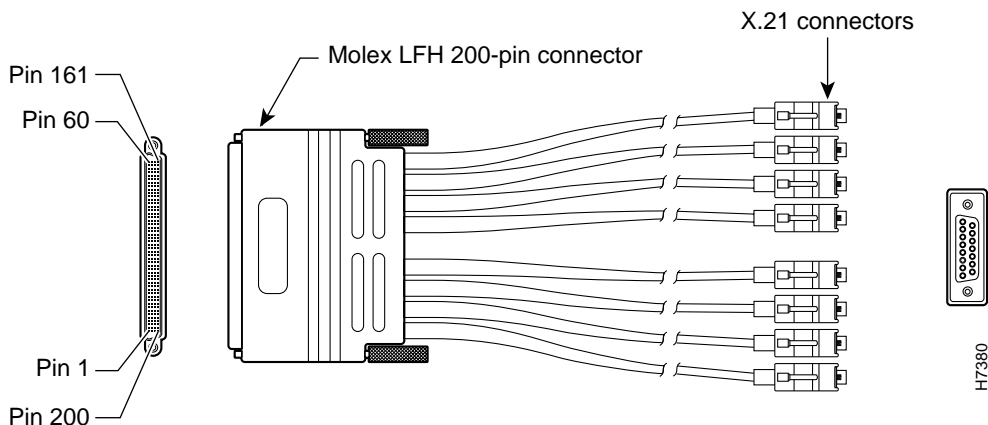


CAB-OCT-X21-MT= and CAB-OCT-X21-FC=

The following illustration shows serial cable CAB-OCT-X21-MT= (part number CAB-OCT-X21-MT=), which is used with the PA-8T-X21 port adapter for the Cisco 7000 family, and in Cisco 4000 series systems with the NP-2T16S-X21 network processor module. This cable has a female 200-pin, Molex connector on the Cisco end and eight 15-pin Winchester block-type X.21 male connectors on the network end. (See Figure 16-1 for the X.21 connector detail.)

The CAB-OCT-X21-FC= (part number CAB-OCT-X21-FC=) is identical to the CAB-OCT-X21-MT=, except that the CAB-OCT-X21-FC= has eight 15-pin Winchester block-type X.21 female connectors on the network end. This cable is also used with the PA-8T-X21 port adapter for the Cisco 7000 family, and in Cisco 4000 series systems with the NP-2T16S-X21 network processor module.

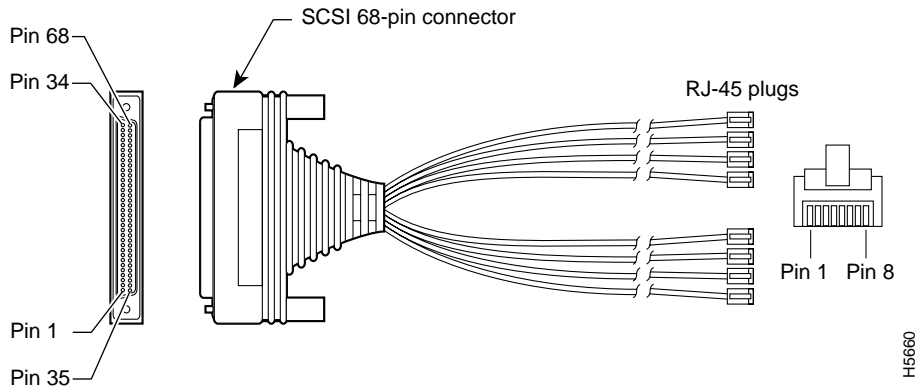
Figure 9-29: CAB-OCT-X21-MT= and CAB-OCT-X21-FC=



CAB-OCTAL-ASYNC=

The following illustration shows serial cable CAB-OCTAL-ASYNC= (part number CAB-OCTAL-ASYNC), which is used in the access server series (Cisco 2509 through Cisco 2512). This cable has a male DB-68 (SCSI II) connector on the Cisco end and eight RJ-45 connectors on the network end.

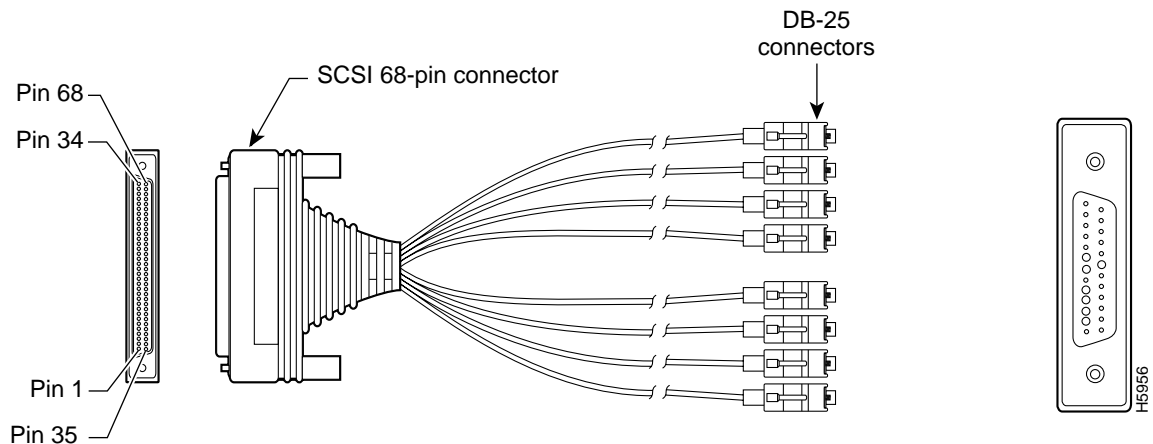
Figure 9-30: CAB-OCTAL-ASYNC=



CAB-OCTAL-MODEM=

The following illustration shows serial cable CAB-OCTAL-MODEM= (part number CAB-OCTAL-MODEM), which is used in the access server series (Cisco 2509 through Cisco 2512). This cable has a male DB-68 (SCSI II) connector on the Cisco end and eight DB-25 connectors on the network end.

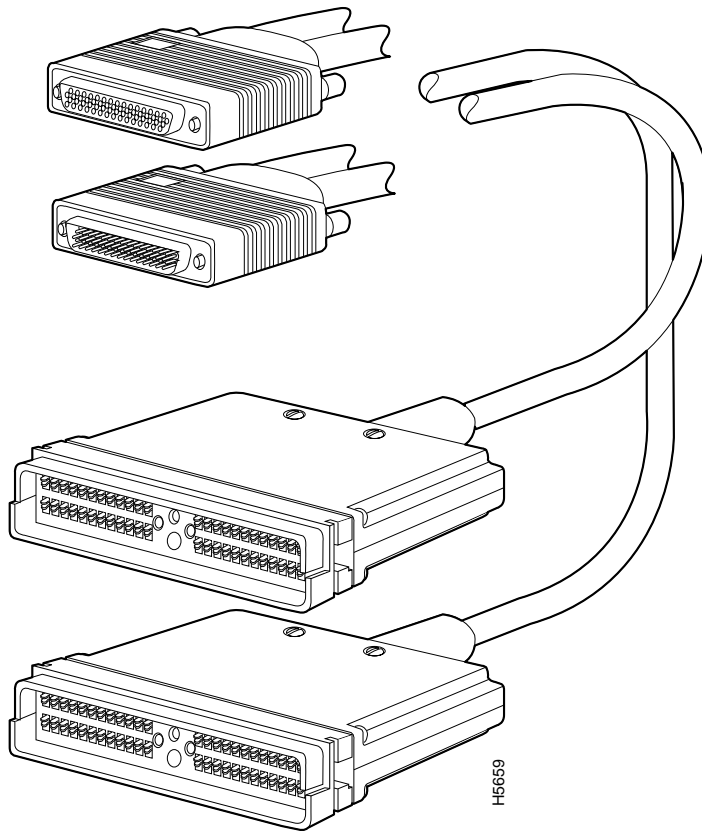
Figure 9-31: CAB-OCTAL-MODEM=



CAB-PCA-VA= and CAB-PCA-VB=

The following illustration shows serial cable CAB-PCA-VA= (part number CAB-PCA-VA) and serial cable CAB-PCA-VB= (part number CAB-PCA-VB), which are used in the Cisco 7500 series and 7000 series systems. The CAB-PCA-VA= has a female DB-78 connector on the Cisco end. The CAB-PCA-VB= has a male DB-78 connector on the Cisco end. Both cables have a DB-48 type-A connector on the network end.

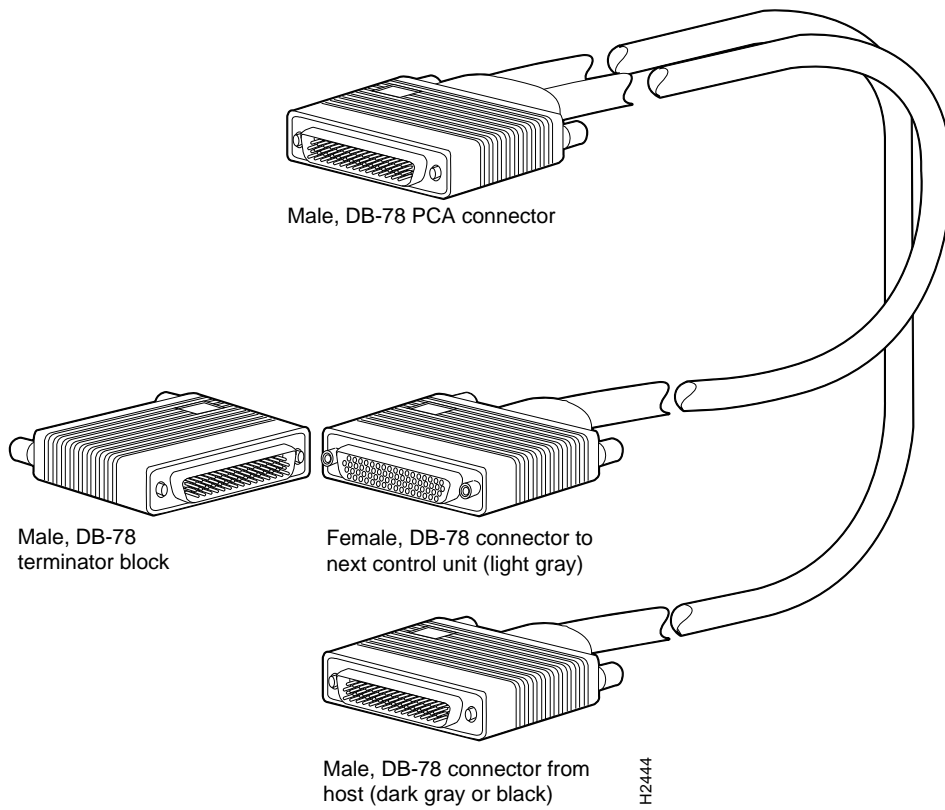
Figure 9-32: CAB-PCA-VA= and CAB-PCA-VB=



CAB-PCA-Y=

The following illustration shows serial cable CAB-PCA-Y= (part number CAB-PCA-Y), which is used in the Cisco 7500 series and 7000 series systems. The CAB-PCA-Y= is a spare Y cable with female and male DB-78 connectors; this cable ships with the Cisco 7000 series and Cisco 7500 series CIP2.

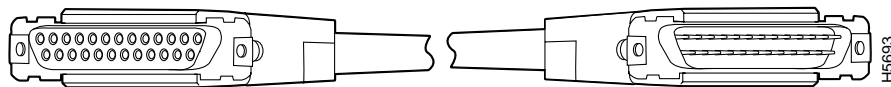
Figure 9-33: CAB-PCA-Y=



CAB-R23=

The following illustration shows serial cable CAB-R23= (part number 74-0173), which is a general serial cable for all router platforms. This cable has a female DB-25 connector on one end and a male DB-25 connector on the other end. Either end of the CAB-R23 cable can be the Cisco end or the network end, depending on whether the Cisco router is designated as a DCE device or a DTE device. If the router is designated as a DCE device, the female DB-25 connector is the Cisco end. If the router is designated as a DTE device, the male DB-25 connector is the Cisco end.

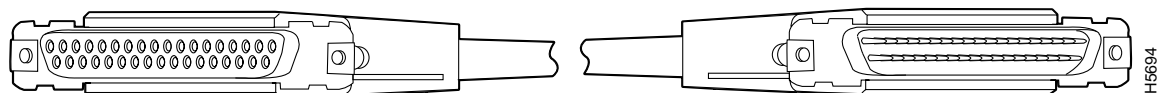
Figure 9-34: CAB-R23=



CAB-R44=

The following illustration shows serial cable CAB-R44= (part number 74-0187), which is a general serial cable for all router platforms. This cable has a female DB-37 connector on one end and a male DB-37 connector on the other end. Either end of the CAB-R44= cable can be the Cisco end or the network end, depending on whether the Cisco router is designated as a DCE device or a DTE device. If the router is designated as a DCE device, the female DB-37 connector is the Cisco end. If the router is designated as a DTE device, the male DB-37 connector is the Cisco end.

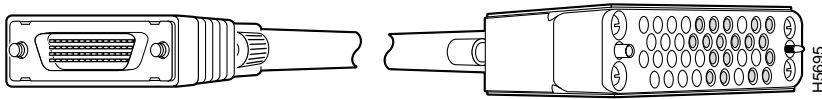
Figure 9-35: CAB-R44=



CAB-V35FC=

The following illustration shows serial cable CAB-V35FC= (part number 72-0792-01), which is used in the following systems: the Cisco 7000 family, Cisco 4000 series, Cisco 3600 series, Cisco 2500 series, Cisco 1600 series, Cisco access servers, and AccessPro PC cards. This cable has a male DB-60 connector on the Cisco end and a female Winchester connector on the network end.

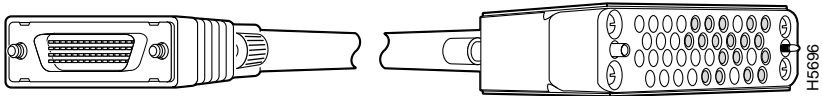
Figure 9-36: CAB-V35FC=



CAB-V35FT=

The following illustration shows serial cable CAB-V35FT= (part number 72-0801-01), which is used in the Cisco 4000 series systems. This cable has a male DB-60 connector on the Cisco end and a female Winchester connector on the network end.

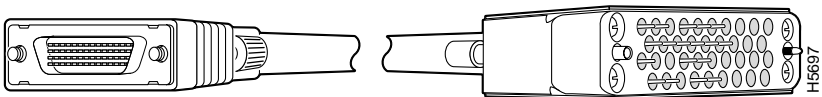
Figure 9-37: CAB-V35FT=



CAB-V35MC=

The following illustration shows serial cable CAB-V35MC= (part number 72-0802-01), which is used in the Cisco 4000 series systems. This cable has a male DB-60 connector on the Cisco end and a male Winchester connector on the network end.

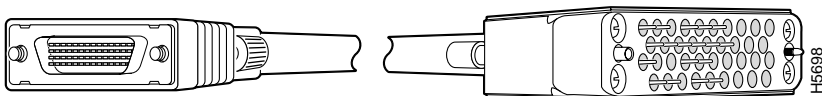
Figure 9-38: CAB-V35MC=



CAB-V35MT=

The following illustration shows serial cable CAB-V35MT= (part number 72-0791-01), which is used in the following systems: the Cisco 7000 family, Cisco 4000 series, Cisco 3600 series, Cisco 2500 series, Cisco 1600 series, Cisco access servers, and AccessPro PC cards. This cable has a male DB-60 connector on the Cisco end and a male Winchester connector on the network end.

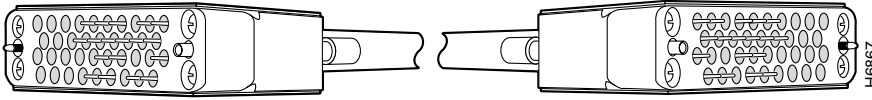
Figure 9-39: CAB-V35MT=



CAB-V35MTS=

The following illustration shows serial cable CAB-V35MTS= (part number 72-0816-01), which is a generic V.35 DTE translation cable and is used in the Cisco 1001. This cable has a male shielded Winchester connector on both ends.

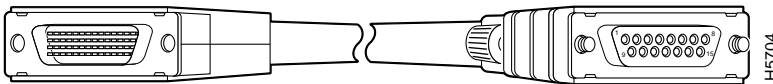
Figure 9-40: CAB-V35MTS=



CAB-X21FC=

The following illustration shows serial cable CAB-X21FC= (part number 72-0790-01), which is used in the following systems: the Cisco 7000 family, Cisco 4000 series, Cisco 3600 series, Cisco 2500 series, Cisco 1600 series, Cisco access servers, and AccessPro PC cards. This cable has a male DB-60 connector on the Cisco end and a female DB-15 connector on the network end.

Figure 9-41: CAB-X21FC=



CAB-X21MT=

The following illustration shows serial cable CAB-X21MT= (part number 72-0789-01), which is used in the following systems: the Cisco 7000 family, Cisco 4000 series, Cisco 3600 series, Cisco 2500 series, Cisco 1600 series, Cisco access servers, and AccessPro PC cards. This cable has a male DB-60 connector on the Cisco end and a male DB-15 connector on the network end.

Figure 9-42: CAB-X21MT=

