

# Serial Cable Connection Guide

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## Introduction

This document guides you through the process of selecting the right serial cables for your network.

## Prerequisites

## Requirements

There are no specific requirements for this document.

## Components Used

This document is not restricted to specific software and hardware versions.

The information presented in this document was created from devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If you are working in a live network, ensure that you understand the potential impact of any command before using it.

## Conventions

For more information on document conventions, see the [Cisco Technical Tips Conventions](#).

## Overview

One of the critical parts of setting up any router is the selection of the serial cables to connect the router to the serial devices in your network. There are so many different serial cables, with seemingly similar features, finding the correct cable can be tricky. This document guides you through the process of selecting the right serial cables for your network.

The selection of the proper serial cable involves answering three questions:

- Is the router being connected to a data terminal equipment (DTE) or data communications equipment (DCE) device?
- Is a male or female connector required on the cable?
- What signaling standard does the device require?

With the answers to these questions, along with the model of your router, you can find the part number of the cable required from the tables that follow.

## DTE or DCE?

Devices that communicate over a serial interface are divided into two classes: 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 provided 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 following general guidelines to help you select the proper class:

	DTE	DCE	Selectable DTE or DCE*
Device	Terminals, Data Service Unit/Channel Service Unit (DSU/CSU), Multiplexors	Modems	Hubs, Routers
Gender	Male	Female	Either

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

## Male or Female

The gender of the connector is determined by examining the connector. If pins protrude from the base of the connector, the connector is male. If the connector has holes to accept the pins, the connector is female. Refer to the drawings to identify the connector that you need.

## Signaling

A number of different standards defines the signaling over a serial cable (including EIA/TIA-232, X.21, V.35, EIA/TIA-449, EIA-530, and 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 below to select the signaling standard required. Select the connector that will mate with the connector on your device, rather than the illustration that looks like the connector on the device.

## Ordering

To order serial cables and other Cisco products, contact your local account manager or Cisco customer service at 800-553-6387.

## Cisco 7000 Series Cables

	<b>CX-FSIP4</b>	<b>CX-FSIP8</b>	<b>CX-HIP</b>	<b>CX-MIP-1CT1</b>	<b>CX-MIP-2CT1</b>
Number required	1-4	1-8	1	1	1
EIA/TIA-232 DTE	CAB-232MT(=)	CAB-232MT(=)	--	--	--
EIA/TIA-232 DCE	CAB-232FC(=)	CAB-232FC(=)	--	--	--
EIA/TIA-449 DTE	CAB-449MT(=)	CAB-449MT(=)	--	--	--
EIA/TIA-449 DCE	CAB-449FC(=)	CAB-449FC(=)	--	--	--
V.35 DTE	CAB-V35MT(=)CAB-V35FT(=)	CAB-V35MT(=)CAB-V35FT(=)	--	--	--
V.35 DCE	CAB-V35FC(=)CAB-V35MC(=)	CAB-V35FC(=)CAB-V35MC(=)	--	--	--
X.21 DTE	CAB-X21MT(=)	CAB-X21MT(=)	--	--	--
X.21 DCE	CAB-X21FC(=)	CAB-X21FC(=)	--	--	--

	C(=)				
HSSI	--	--	CAB-HSI1=, CAB- HNUL= (M)*	--	--
EIA/TIA-530 DTE	CAB-530M T=	CAB-530MT=	--	--	--
/Channelized	--	--	--	CAB-7KCT1D B15 CAB-7KCT1N ULL*	CAB-7KCT1DB15 CAB-7KCT1NULL*
DTE is male and DCE is female, unless otherwise noted (M = male) (=) indicates spare product. * Allows connection of routers back-to-back.					

**CAB-232MT(=) CAB-232FC(=) CAB-449MT(=) CAB-449FC(=) CAB-V35MT(=) CAB-V35FT(=) CAB-V35FC(=) CAB-V35MC(=) CAB-X21MT(=) CAB-X21FC(=) CAB-530MT= CAB-HSI1= CAB-HNUL=(M) CAB-7KCT1DB15 CAB-7KCT1NULL**

## Cisco AGS+ Cables

	AGS+
Number Required	Optional
EIA/TIA-232 DTE	CAB-R23=
EIA/TIA-232 DCE	CAB-R23=
EIA/TIA-449 DTE	CAB-R44=
EIA/TIA-449 DCE	CAB-R44=
V.35 DTE	CAB-VTM(=), CAB-VTF(=)
V.35 DCE	CAB-VCM(=), CAB-VCF(=)
X.21 DTE	---
X.21 DCE	CAB-X21CF=
HSSI	CAB-HSI1=, CAB-HNUL=(M)*
EIA/TIA-530 DTE	---
DTE is male, and DCE is female, unless otherwise noted (M = male). (=) indicates spare product. * Allows connection of routers back-to-back.	

**CAB-R23= CAB-R44= CAB-VTM(=) CAB-VTF(=) CAB-VCM(=) CAB-VCF(=) CAB-X21CF= CAB-HSI1 CAB-HNUL=(M)**

## Cisco 4000 Series Cables

	NP-2T	NP-4T
Number Required	1-2	1-4

EIA/TIA-232 DTE	CAB-NP232T(=)	CAB-232MT(=)
EIA/TIA-232 DCE	CAB-NP232C(=)	CAB-232FC(=)
EIA/TIA-449 DTE	CAB-NP449T(=)	CAB-449MT(=)
EIA/TIA-449 DCE	CAB-NP449C(=)	CAB-449FC(=)
V.35 DTE	CAB-NPV35TV2(=)	CAB-V35MT(=), CAB-V35FT(=)
V.35 DCE	CAB-NPV35CV2(=)	CAB-V35FC(=), CAB-V35MC(=)
X.21 DTE	CAB-NPX21T(=)	CAB-X21MT(=)
X.21 DCE	CAB-NPX21C(=)	CAB-X21FC(=)
EIA/TIA-530 DTE	CAB-3C530(=)	CAB-530MT(=)
DTE is male and DCE is female, unless otherwise noted (M = male). (=) indicates spare product.		

## NP-2T Cables

**CAB-NP232T(=) CAB-NP232C(=) CAB-NP449T(=) CAB-NP449C(=) CAB-NPV35TV2(=) CAB-NPV35CV2(=) CAB-NPX21T(=) CAB-NPX21C(=) CAB-3C530(=)**

## NP-4T Cables

**CAB-232MT(=) CAB-232FC(=) CAB-449MT(=) CAB-449FC(=) CAB-V35MT(=) CAB-V35FT(=) CAB-V35FC(=) CAB-V35MC(=) CAB-X21MT(=) CAB-X21FC(=) CAB-530MT(=)**

## Cisco 3000 Series Cables

	3102	3202	3104	3204
Number Required	1	1-2	1-2	1-2
EIA/TIA-232 DTE	CAB-3C232(=)	CAB-3C232(=)	CAB-3C232(=)	CAB-3C232(=)
EIA/TIA-232 DCE	--	--	CAB-3C232C(=)	CAB-3C232C(=)
EIA/TIA-449 DTE	CAB-3C449(=)	CAB-3C449(=)	CAB-3C449(=)	CAB-3C449(=)
EIA/TIA-449 DCE	--	--	CAB-3C449C(=)	CAB-3C449C(=)
V.35	CAB-	CAB-	CAB-	CAB-

DTE	3CV35V2(=)	3CV35V2(=)	3CV35V2(=)	3CV35V2(=)
V.35 DCE	--	--	CAB-3CV35V2C(=)	CAB-3CV35V2C(=)
X.21 DTE	CAB-3CX21(=)	CAB-3CX21(=)	CAB-3CX21(=)	CAB-3CX21(=)
X.21 DCE	--	--	CAB-3CX21C(=)	CAB-3CX21C(=)
EIA/TIA-530 DTE	CAB-3C530(=)	CAB-3C530(=)	CAB-3C530(=)	CAB-3C530(=)
DTE is male and DCE is female, unless otherwise noted (M = male). (=) indicates spare product.				

**CAB-3C232(=) CAB-3C232C(=) CAB-3C449(=) CAB-3C449C(=) CAB-3CV35V2(=) CAB-3CV35V2C(=) CAB-3CX21(=) CAB-3CX21C(=) CAB-3C530(=)**

## Cisco 2500 Series Cables

	<b>2500</b>
Number Required	1-2
EIA/TIA-232 DTE	CAB-232MT(=)
EIA/TIA-232 DCE	CAB-232FC(=)
EIA/TIA-449 DTE	CAB-449MT(=)
EIA/TIA-449 DCE	CAB-449FC(=)
V.35 DTE	CAB-V35MT(=), CAB-V35FT(=)
V.35 DCE	CAB-V35FC(=), CAB-V35MC(=)
X.21 DTE	CAB-X21MT(=)
X.21 DCE	CAB-X21FC(=)
EIA/TIA-530 DTE	CAB-530MT(=)
DTE is male and DCE is female, unless otherwise noted (M = male). (=) indicates spare product.	

**CAB-232MT(=) CAB-232FC(=) CAB-449MT(=) CAB-449FC(=) CAB-V35MT(=) CAB-V35FT(=) CAB-V35FC(=) CAB-V35MC(=) CAB-X21MT(=) CAB-X21FC(=) CAB-530MT(=)**

## Cisco 500-CS Series Cables

	<b>8-16 Port</b>
EIA/TIA-232 DCE	CAB-500DCM=, CAB-500DCF=, CAB-500RJ(=)*
EIA/TIA-232 DTE	CAB-500DTM(=), CAB-500DTF=, CAB-500RJ(=)*
Modem	CAB-5MODCM(=), CAB-500RJ(=)*
DTE is male and DCE is female, unless otherwise noted	

(M = male). (=) indicates spare product. \* For each port, a CAB-500RJ and corresponding connector must be ordered.

**Note:** The 500-CS Series nomenclature differs from routing cables. DCE and DTE refer to the type of device connected to. For example, to connect a terminal (DTE) device, order a CAB-500DTM(=) or CAB-500DTF=.

**CAB-500DCM= CAB-500DCF= CAB-500DTM(=) CAB-500DTF= CAB-500RJ(=) CAB-5MODCM(=)**

## Related Information

- [Technical Support - Cisco Systems](#)