



SITE STATUS VERIFICATION FOR MANAGED WAN SERVICES USER GUIDE

Purpose and Objectives

This document contains a set of instructions how to verify the status of Power, Cabling and Equipment at your site to prevent any delays on restoring your service.

Table of Contents

Purpose and Objectives.....	1
Site Status Verification for Managed WAN.....	3
Introduction.....	3
Why are site access details required?.....	3
Why are CPE checks required?.....	3
CPE Verification Steps.....	4
Appendix 1: Connection and Cabling Details.....	5
Appendix 2 - Access Line Modem Status LED's and Out-of-Band Modem Examples.....	6
Example of Access Line Modem Status LED's:.....	6
▪ Normal	6
▪ Fault situation	6
Example US Robotics Out-of-Band Modem:.....	6
Front View.....	6
Back View.....	6
Appendix 3: Examples Wireless Out-of-Band modem (RFI Engineering).....	7
Appendix 4:.....	8
Examples Complete Router Assembly:.....	8
Example Router with integrated Access Line Modem (NTU or CSU/DSU):.....	8
Appendix 5: Most Common Type of Router Models Used at Customer Location:.....	9



C1900.....	9
Front View	9
Back View	9
C880.....	10
Front View	10
Back View	10
C1841.....	11
Front View	11
Back View	11
C2900 and C2951.....	12
Front View	12
Back View	12
Back Panel LEDES	13
Service Assurance User Guides Library	14
General Customer Training Information.....	14
Verizon Enterprise Center	14



Site Status Verification for Managed WAN

Introduction

Local access carriers typically require Verizon to provide the following minimum information before troubleshooting the access line:

- Site access details (site access hours, site contact name and phone number)
- Confirm the Equipment has Power and that all Cables are securely connected (CPE checks). Therefore, providing this information is essential for a fast service restoration.
- Some carriers may require additional details like modem LED alarm lights read-outs

Why are site access details required?

In most cases, carriers are unable to remotely detect if the fault is located:

- In their technical building (last exchange) closest to your site
- In the copper cable between your site and the last exchange
- At your site

Their field engineer typically will be first dispatched to their last exchange to troubleshoot before checking the copper cable. The field engineer will only go to your site if no fault has been found. Therefore, despite the requirement to provide site access details, Verizon is not able to confirm if a field engineer will actually enter your site and at what time.

To speed up the carrier engagement process, Verizon will use the site access details that are available in the Verizon customer contact database, if available. Local business hours access times will be assumed if this information is missing. However, this information may be out-of-date and this can significantly delay the service restoration as the carrier may defer troubleshooting until correct access details have been provided. It may also lead to additional charges due to a “no show” dispatch. Hence, Verizon always requires you to provide the access details as soon as possible.

Why are CPE checks required?

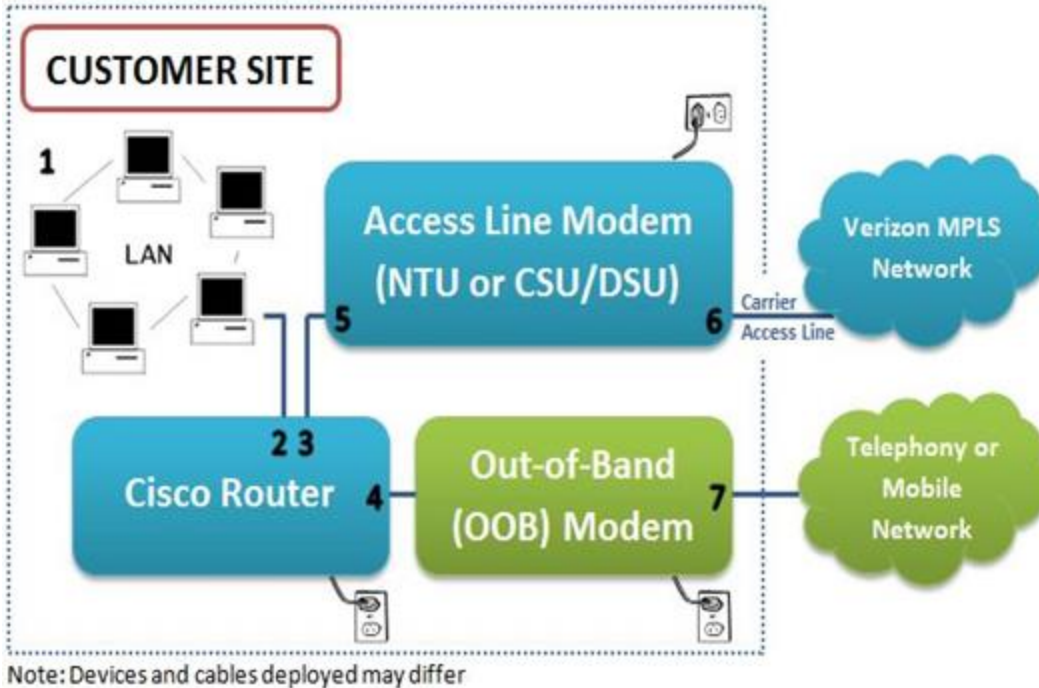
Verizon monitors the router on your site on a 24by7 basis. When power is switched off or cables are disconnected, an alarm will appear and a proactive incident ticket will be created. Root cause analysis has shown that the majority of incident tickets are not caused by a fault on the Verizon network. For the same reason, carriers request confirmation that the equipment on site has power and that the cables are securely connected.

The Verizon NOC engineer will try to remotely access your site (via out-of-band GPRS/PSTN modem, HSRP, back-up circuit, etc.):

- If successful, it will be assumed that your site has power and that all cables are securely connected and therefore the carrier will be engaged.
- If not successful, you will be requested to perform Cabling, Power and Equipment (CPE) checks before the carrier is engaged. The following pages provide further details on how to perform these checks.

CPE Verification Steps

A number of cables and devices are deployed at your site as shown by the following indicative diagram:



It is your responsibility to provide power to the equipment and to connect your LAN (1) to the Ethernet port on the router (2). The router is monitored on a 24by7 basis by Verizon via the Carrier Access Line (6). In case an alarm is detected by Verizon's network monitoring system, a proactive notification email message will be sent to you and a Verizon NOC engineer may contact you by phone after the first diagnostics have been completed. This engineer may request the following actions from you:

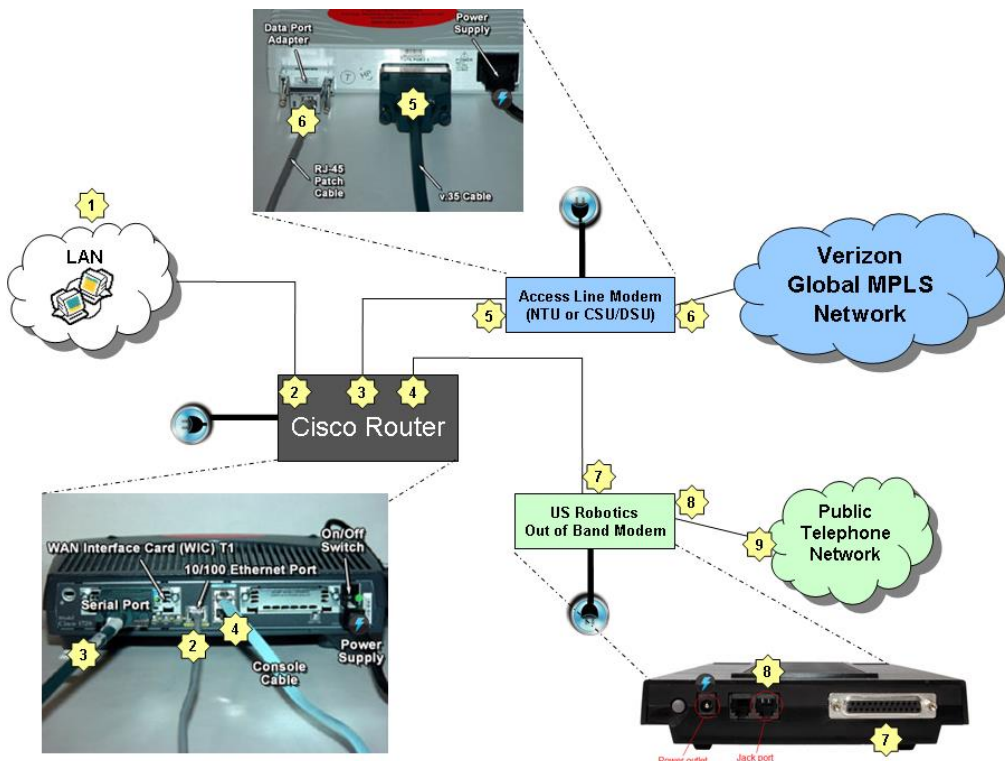
1. Verify that the Router, Access Line Modem, Out-of-Band Modem and your own LAN equipment have power.
2. Verify that all cabling is securely connected as shown in the diagram above. For more details and photographs see the cabling section in Appendix 1.
3. When you have verified that all equipment is powered-on and all cables are securely connected, a Verizon engineer may request you to do the following:
 - Reset the Access Line Modem by disconnecting the power for 30 seconds and then reconnecting it.
 - In case Verizon engineers cannot remotely access the Out-of-Band modem, please reset this modem by disconnecting the power for 30 seconds and then reconnecting it.
 - When resetting devices, the status of any LED's should be taken before and after the reset. The status of these LED's will help to determine the status of your Access Line and Out-of-Band Modem. Examples are provided in Appendix 2 & 3.

Note: Please do not reset these devices before approval by Verizon Technical support. The device logs can provide important information that can assist in identifying issues with your service and can be lost after a reset.

Appendix 1: Connection and Cabling Details

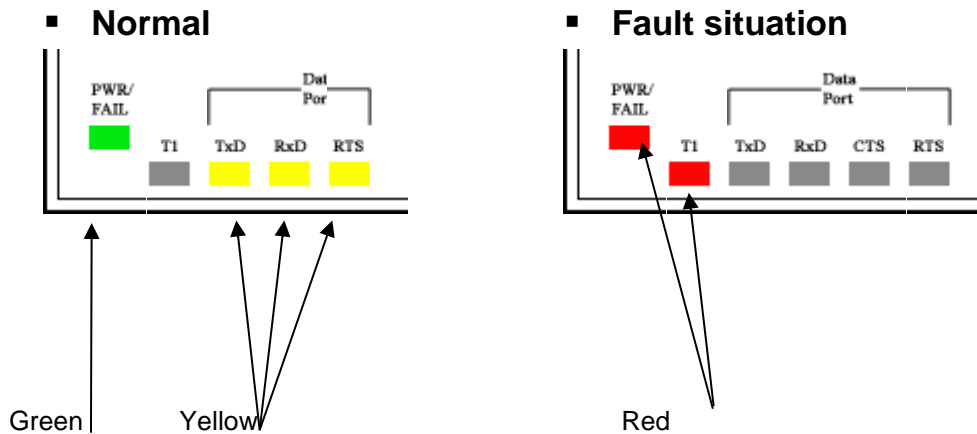
- The LAN (1) should be connected with a twisted pair cable with an RJ-45 connector to the router's 10BaseT or 100BaseT Ethernet port (2).
- The Access Line Modem's V.35 interface (5) should be connected with the thick, dark-blue cable to the router's serial interface (WIC T1) (3). Be sure the cable is not connected upside-down. A router with a built in Access Line Modem (NTU) card connects directly to the carrier demarcation. See example in appendix 4 of this document. Most DSL lines connect straight from the wall jack in to the router.
- The data port adapter on the Access Line Modem (6) is connected via an RJ-45 patch cable to the data service jack (demarcation point) installed by the access line provider.
- The router is connected to an Out-of-Band Modem, usually a US-Robotics modem, to allow Verizon engineers to access the router via the PSTN network in case the access line provided by the PTT fails. The RS-232 port on this modem (7) should be connected to the Console Port on the router (4). Do not use the AUX port. The jack port of the modem (8) should be connected via a phone cord into an analogue telephone wall jack (9)

Please Note: the router installed at your site can differ from the pictures above. In appendix 5 of this document you can find the most common types of routers installed by Verizon. In some cases a wireless Out-of-Band modem may have been deployed. See Appendix 3 for a photograph.



Appendix 2 - Access Line Modem Status LED's and Out-of-Band Modem Examples

Example of Access Line Modem Status LED's:



Example US Robotics Out-of-Band Modem:

Front View

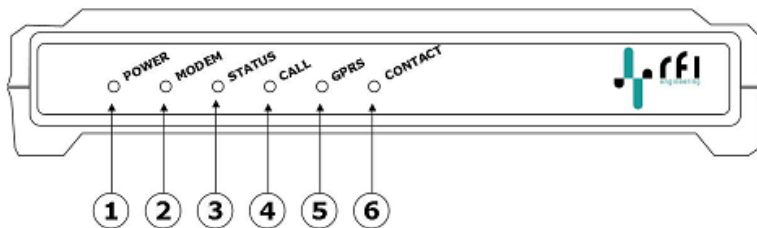


Back View

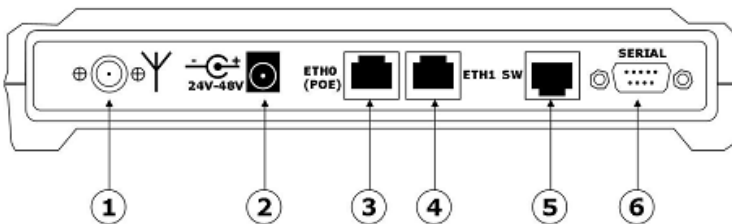


In some cases other types of Out-of-Band Modems may have been deployed.

Appendix 3: Examples Wireless Out-of-Band modem (RFI Engineering)



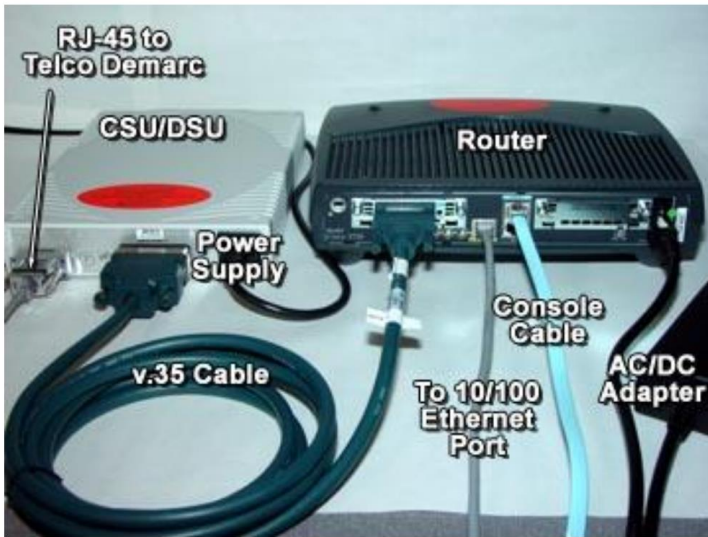
- 1 Blue, Power LED
- 2 Green, Modem
- 3 Green, Status. Flashing when unit is booting
- 4 Green, Call. On when GSM connection is active
- 5 Green, GPRS. On when GPRS connection is established to the network.
- 6 Green, Contact/Relay status



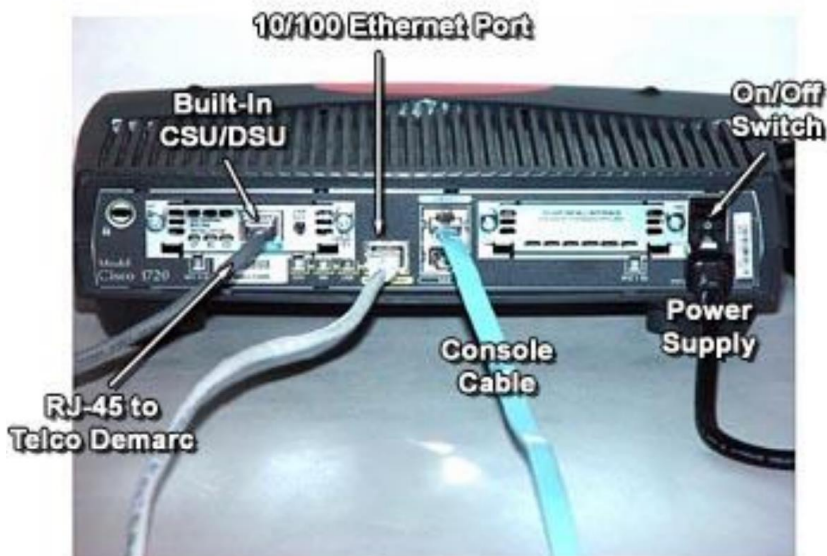
- 1 RP-TNC GSM antenna connector
- 2 DC Power jack 2.5mm
- 3 First Ethernet port, including 802.3af PoE
- 4 Second Ethernet port
- 5 Low power relay contact for remote control
- 6 RS-232, 9 pin male SUB-D

Appendix 4:

Examples Complete Router Assembly:



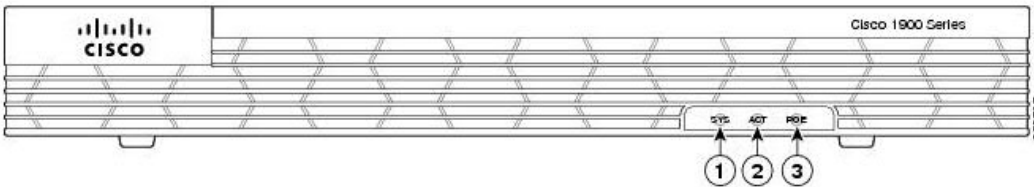
Example Router with integrated Access Line Modem (NTU or CSU/DSU):



Appendix 5: Most Common Type of Router Models Used at Customer Location:

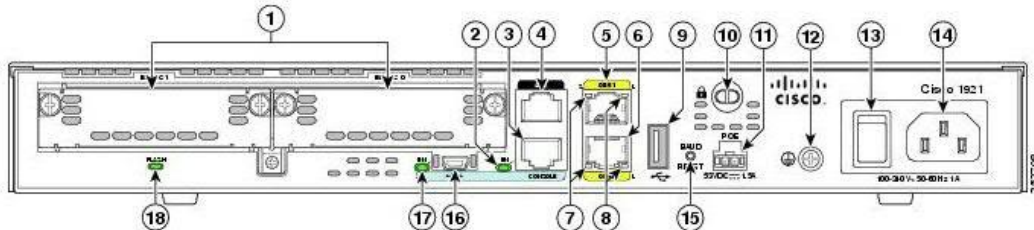
C1900

Front View



1	SYS	2	ACT
3	PoE ¹²		

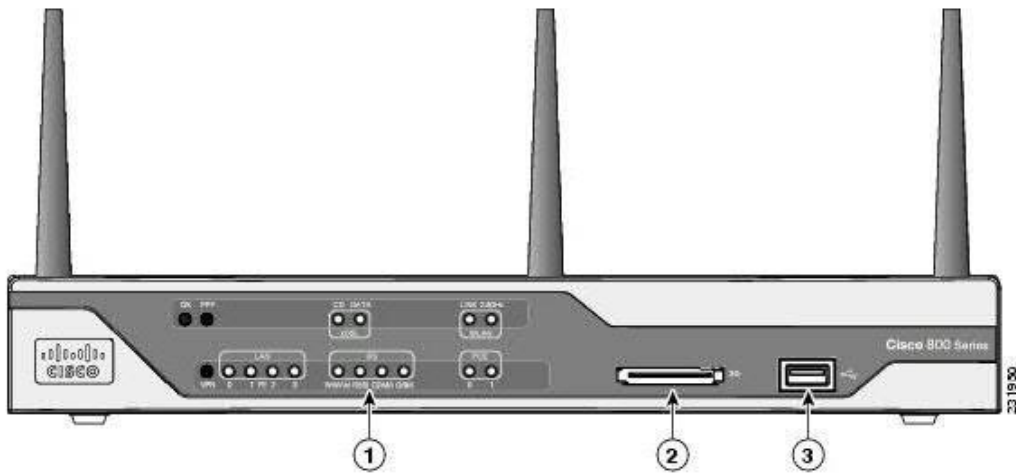
Back View



1	EHWIC (HWIC, WIC, or VWIC ¹) slots 0 and 1—slot 0 (Right), slot 1 (Left), or double wide ^{2,3,4,5}	2	EN (Enable RJ-45 console)
3	RJ-45 serial console port	4	AUX port
5	GE 0/1	6	GE 0/0
7	S (Speed)	8	L (Link)
9	USB port—USB 2.0 Type-A port	10	Kensington™ security slot
11	PoE ⁶	12	Ground connector
13	On/Off switch	14	Input power connection
15	Baud reset	16	USB serial port—USB 5-pin mini USB Type-B
17	EN (Enable USB console)	18	Flash

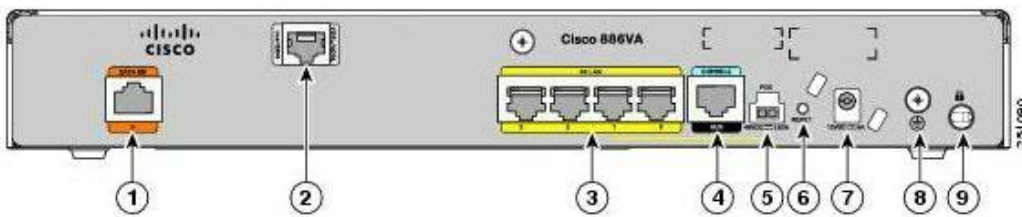
C880

Front View



1	LEDs	3	USB port
2	3G express card slot—Supports third-party ¹² 3G card (Cisco 880G models only)		

Back View



1	Data BRI ¹¹ 0	6	Reset button
2	Primary WAN port—VDSL/ADSL over ISDN	7	Power connector
3	4-port 10/100 Ethernet switch ¹²	8	Earth ground connection
4	Serial port—console or auxiliary	9	Kensington security slot
5	PoE power connector—optional		

¹¹BRI = Basic rate interface.

¹²Ports 0 and 1 provide PoE with the optional PoE module installed.

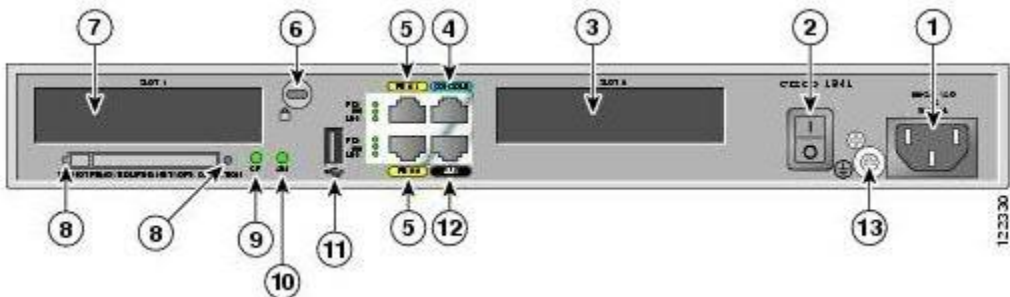
C1841

Front View



1	System Power (SYS PWR) LED	2	System Activity (SYS ACT) LED
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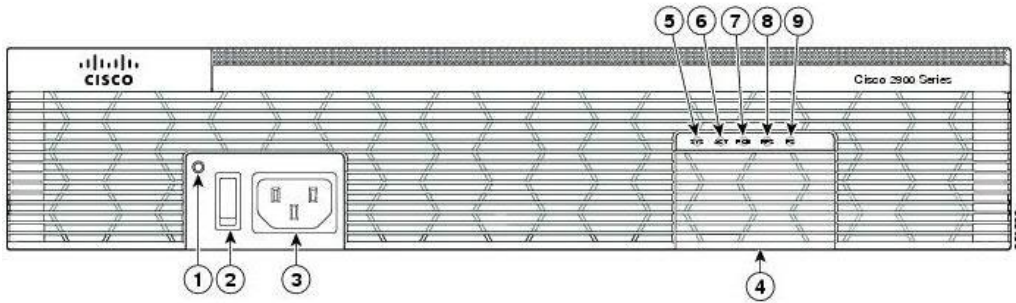
Back View



1	Input power connection	8	CompactFlash memory card slot
2	On/Off switch	9	CompactFlash (CF) LED
3	Slot 0 (WIC, VWIC—data only, or HWIC)	10	AIM LED
4	Console port	11	USB port
5	Fast Ethernet ports and LEDs	12	Aux port
6	Kensington™ security slot	13	Chassis ground connection
7	Slot 1 (WIC, VWIC—data only, or HWIC)		

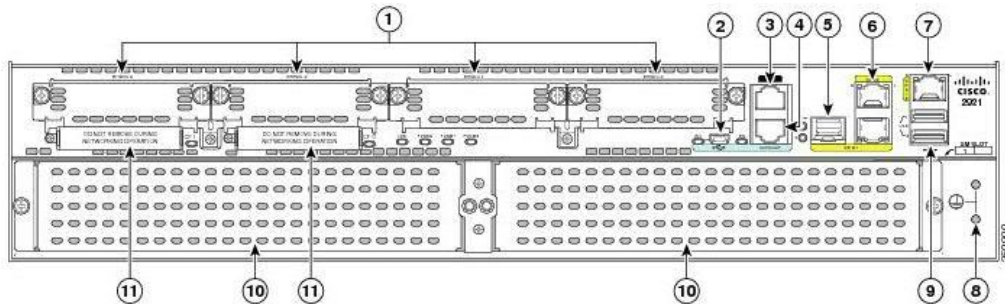
C2900 and C2951

Front View



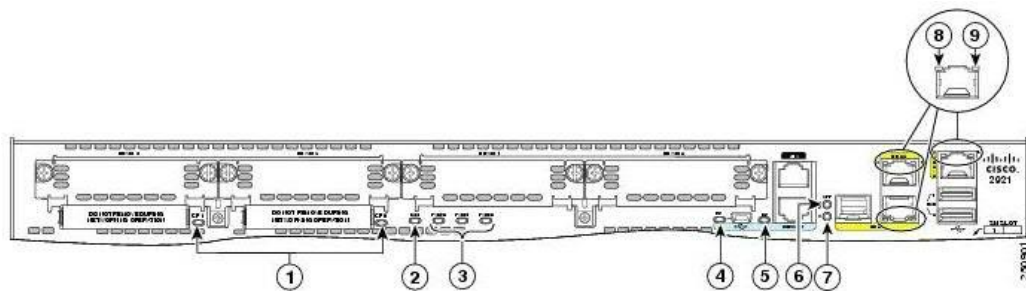
1	AC OK ¹⁶	2	Power On/off switch
3	AC power connector	4	Optional RPS adapter (Blank panel shown)
5	SYS	6	ACT
7	POE	8	RPS
9	PS ¹⁷		

Back View



1	EHWC slots ¹⁸ 0,1,2, and 3 (0, Far right)	2	USB serial console port
3	AUX port	4	RJ-45 serial console port
5	SFP	6	10/100/1000 Ethernet ports (GE 0/1 and GE 0/2 (GE 0/2, Top)
7	10/100/1000 Ethernet port GE 0/0	8	Ground
9	USB0 and USB1 (1, Top)	10	Service module slots ¹⁹ SM1 and SM2 (1, Right on 2951), (1, left on 2921)
11	CompactFlash ²⁰ 0 and 1 (0, Right)		

Back Panel LEDs



1	CompactFlash 0 and 1 (0, Right)	2	ISM ²¹
3	PVDM3 0,1, and 2 (0, Right)	4	EN (Enable USB console)
5	EN (Enable RJ-45 console)	6	SFP ²² EN
7	SFP S	8	S (Speed)
9	L (Link)		



Service Assurance User Guides Library

Documents can be found on the [Service Assurance User Guides](#) page.
The latest version of this document can be always found [here](#).

General Customer Training Information

Go to our [Customer Training Portal](#)* to enroll in training or to download other user and reference guides.
*Registration is required

Verizon Enterprise Center

The [Verizon Enterprise Center](#) portal is an easily accessible tool that supports you in dealing with Repair related technical issues via repair tickets, as well as with Invoice inquiries and Account Management requests, offering an alternative to emails and phone calls.

Getting started on Verizon Enterprise Center

Introduction to Verizon Enterprise Center and information on how to register can be found on the Guides & Tutorials page [here](#).



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