

Field Service Quick Reference

Standard Verikit Checklist; Modem Configuration; Modem Connection, HyperTerm PC/Laptop Configuration and Connection



Standard Verification Kit (Verikit) Checklist:

Description	qty	Part #:
Black Case	1	C1113
Inspection slip or sticker, dated and signed	1	47-0001-01
Double sided, laminated card	1	Card-Lam
56K US Robotics Modem	1	160826
9.5v, 12w Power Supply	1	N/A
50 ft. Phone Cord Extension (RJ11)	1	BBT-52I
Black, Rolled, RJ45 to RJ45 Console Cable	1	72-0876-01
7 ft. UTP Cat5e RJ45 Network Cable	1	-
7 ft. 350MHz RJ45 CrossOver Cat5e Cable	1	-
DB-9 Female/Female Null Modem Cable	1	DB-9FFNMC ¹
RS232 to RJ45 MDCE Adaptors	2	29-0808-01
RS232 to RJ45 FDTE Adaptor	1	29-0810-01
DB9 to RJ45 FDTE Adaptors	2	74-0495-01
RJ45 – Ethernet loopback	1	AC07-003376
RJ-48C T1 loopback connector	1	99-7912-042-1
RJ-48S 4W 56K loopback connector	1	99-7912-043-1
DB9 M/M Gender Changer	1	DB9-MMGC
Female RJ45 Coupler	1	
5/32 Allen Wrench	1	5-32AW
Minimum 256MB USB Thumb Drive	1	SDDR-92-A15 (Sandisk)
Compact Flash Card Reader (USB or PCMCIA Type)	1	SDAD-38-A10 (Sandisk)
Power Cord w/ 3 conductor PC power connector (US Only)	1	CAB-AC

1OPTIONAL CABLE – only specific to certain TPM vendors.

Modem Configuration:

US Robotics Sportster Modem

Method 1:

1. Power OFF Modem
2. Set the dip switches to **1 and 4** in the **down** position, the rest up

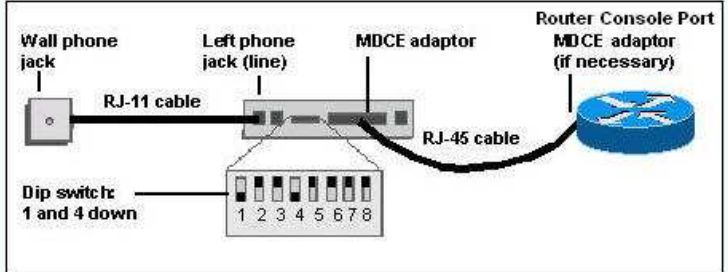
Note: Add **7 down** if modem needs reset or for “**56K US Robotics Modem**” type.

3. Power ON Modem

Physical setup for Modem to Router:

- Connect **RJ-11 Phone Cord** into to the **Telephone wall jack**.
- Connect the other end of the **RJ-11 Phone Cord** into the back panel of the **Modem (Left Phone Jack)**.
- Connect **MDCE adaptor (29-0808-01)** into the **Modem (Out 25 Pin Serial connector)**
- Connect the **RJ-45 Roll-Over Serial Cable** to the **MDCE adaptor**.
- Connect the other end of the **RJ-45 Roll-Over Serial** into the **Router Console Port**.

Modem Connection Diagram:



Hyperterm Laptop configuration and connection:

To configure HyperTerminal:

1. Locate HyperTerminal:
 - a) (For Windows) Click **Start** → **All Programs** → **Accessories** → **Communication** → **HyperTerminal** folder.
2. Double-Click the **HyperTerminal** accessory. The New Connection window opens with the smaller Connection Description box in the center.
3. Enter the **name of the connection** (i.e. Router Console). Then choose **OK**.
4. At the Phone Number Dialog box, ignore all fields except “**Connect Using**.” In this field, choose “**COM1**”

Note: Select the highest COM port number if using the USB port on your laptop.
5. Click **Configure** to access COM1 properties dialog box.
6. At the COM1 Properties dialog box, set the following fields:
 - a) Data Bits – **8**
 - b) Parity – **None**
 - c) Stop Bits – **1**
 - d) Flow Control – **None**
7. Click **OK** to continue

Physical setup for PC/Laptop to Router:

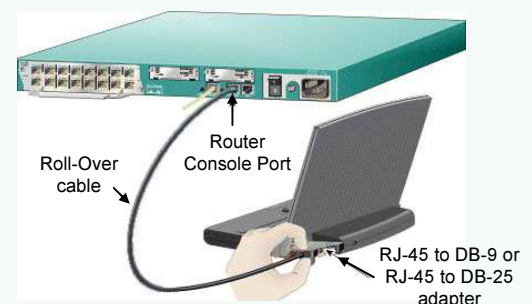
- Connect the **RJ-45 to DB-9 adapter (74-0495-01)** into the **PC/Laptop (Serial port)**.
- Connect the **RJ-45 Roll-Over cable** into the **RJ-45 to DB-9 adapter (74-0495-01)**.
- Connect the other end of the **RJ-45 Roll-Over cable** into the **Router Console port**.

Note:

- For Catalyst with Sup Engine use **RJ-45 Straight-Through** cable.
- For Catalyst without Sup Engine use **RJ-45 Roll-Over** cable.
- For Aironet Access Point use **nine-pin, male-to-female, straight-through serial cable** (for 340 series and 350 series) or **RJ-45 to DB-9 serial cable** (for 1200 series)..

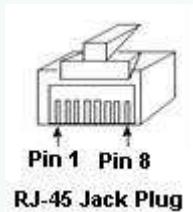
Laptop/PC Console Connection Diagram:

This diagram illustrates the physical connection between a Router and a Laptop (a PC could also be used).



Loopback Test procedure for WIC-1DSU-T1/56K4 and VWIC-1MFT-T1:

STEP 1. Loopback Plugs and Pinouts information:



Pinouts for T1 Loopback Plug - RJ-48C T1 loopback connector (99-7912-042-1) :

- a. Pin 1 and Pin 4 together
- b. Pin 2 and Pin 5 together

Pinouts 56k Loopback Plug - RJ-48S 4W 56K loopback connector (99-7912-043-1) :

- a. Pin 1 and Pin 7 together
- b. Pin 2 and Pin 8 together

STEP 2: Loopback Configuration Commands

For WIC-1DSU-T1/56K4:

After connecting the correct loopback plug on the serial interface, follow the steps below to configure for loopback test.

- a. Router(config-if)# **interface serial x/x**
- b. Router(config-if)# **encapsulation hdlc**
- c. Router(config-if)# **ip address 10.10.10.10 255.255.255.0**
- d. Router(config-if)# **exit**
- e. Router(config)# **end**
- f. Router#
- g. Perform **STEP 3** – Extended Ping Test

NOTE: For WIC-1DSU-56K4, add the configuration command “**service-module 56k clockrate 56**”

For VWIC-1MFT-T1:

After connecting the correct loopback plug on the serial interface, follow the steps below to configure for loopback test.

- a. Router(config)# **controller t1 x/x**
- b. Router(config-controller)# **no pri-group timeslots 1-24**
- c. Router(config-controller)# **channel-group 0 timeslots 1-24 speed 64**
- d. Router(config-controller)# **exit**
- e. Router(config)# **interface serial x/x**
- f. Router(config-if)# **encapsulation hdlc**
- g. Router(config-if)# **ip address 10.10.10.10 255.255.255.0**
- h. Router(config-if)# **exit**
- i. Router(config)# **end**
- j. Router#
- k. Perform **STEP 3** – Extended Ping Test

STEP 3. Extended Ping Test:

- a. Router# **show interface serial x/x**
 Serial0/0 is up, line protocol is up (looped)
 Hardware is HD64570
 Internet address is 10.10.10.10, subnet mask is 255.255.255.0
 MTU 1500 bytes, BW 1544 Kbit, DLY 20000 usec, rely 255/255, load 1/255
 Encapsulation HDLC, loopback set, keepalive set (10 sec)
 ...

NOTE: This will verify that the router has HDLC encapsulation on that the interface, and that the interface sees the loopback.

- b. Clear the counter of the interface. Below is an example IOS command:

- Router# **clear counters**
 Clear "show interface" counters on all interfaces
 [confirm]
 Router#

Note: This will clear all counters to 0.

- c. Perform the extended ping test from your local router. Below is an example IOS commands for extended ping:

- Router# **ping ip**
 Target IP address: **10.10.10.10**
 Repeat count [5]: **50**
 Datagram size [100]: **1500**
 Timeout in seconds [2]:
 Extended commands [n]: **yes**
 Source address or interface:
 Type of service [0]:
 Set DF bit in IP header? [no]:
 Validate reply data? [no]:
 Data pattern [0xABCD]: **0x0000**
 Loose, Strict, Record, Timestamp, Verbose[none]:
 Sweep range of sizes [n]:
 Type escape sequence to abort.
 Sending 50, 1500-byte ICMP Echos to 10.10.10.10, timeout is 2 seconds:
 Packet has data pattern 0x0000
 !!!
 Success rate is 100 percent (50/50), round-trip min/avg/max = 4/4/8 ms
 Router#

- d. Repeat **step c** (three times) using each of the following three Data Patterns (**0x1111**, **0xaaaa**, and **0xffff**)

- e. Perform the **show interface serial** command and examine the output to determine whether input errors have increased.

Note: If all pings are 100 percent successful and input errors stayed at 0, the equipment in this portion of the circuit is probably in good condition. A Telco assisted loopback is now needed for further testing.

- f. After testing the interface and circuit, remove all loopback from the interface. (loopback plug, software loopback, and telco loopback.
- g. Power cycle the router.

Quick Router Password Recovery:

1. Establish console connection with Router
2. Power cycle Router. Hit **Ctrl-Break** until Router goes into **rommon1>**
3. Change config-register **rommon2> confreg 0x2142** (this ignores startup-config on boot.)
4. Type **reset** at the prompt (Reset or power cycle Router to take affect.)
NOTE: Router boots as if new installation but configuration still in NVRAM)
5. Enter Initial configuration? **No**
6. Terminate auto-install? **Yes**
7. At the **Router>** prompt, type **enable** and press **Enter**
8. At the **Router#** prompt, type **copy startup-config running-config**
NOTE: Customer's configured hostname will appear at the command prompt.
9. At the **hostname#** prompt, type **config t**
10. At the **hostname(config)#**, type **enable secret <new password>** (Make sure to remember this password.)
11. At the **hostname(config)#**, type **config-register 0x2102** (This changes back to normal settings.)
NOTE: For detail Password Recovery information and procedures for different Cisco platforms, go to COMPASS Main Page (<http://www.cisco.com/public/scc/compass/index.html>) under ToolBox section.

Basic Switch Configuration:

For Switch running Cat OS:

- console> (enable) **set password**
- console> (enable) **set enablepass**
- console> (enable) **set interface sc0 <ip address> <subnet mask>**
- console> (enable) **set interface sc0 up**
- console> (enable) **set ip route <static ip address> <default gateway>**
- console> (enable) **set ip route default <ip address of default gateway>**

For Switch running IOS:

- Router(config)# **enable password cisco**
- Router(config)# **interface vlan1**
- Router (config-if)# **ip address <ip address> <subnet mask>**
- Router(config-if)# **no shut**
- Router(config-if)# **exit**
- Router(config)# **ip default-gateway <ip address of default gateway>**
- Router(config)# **line vty 0 4**
- Router(config)# **password cisco**
- Router(config)# **login**
- Router(config)# **end**

Field Service Quick Reference



Show IOS Commands and Outputs

show version:

```
Router-3845#show version
Cisco Internetwork Operating System Software
IOS (tm) 3800 Software (C3845-IK9S-M), Version 12.3(12b), RELEASE SOFTWARE (fc2)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 1986-2005 by cisco Systems, Inc.
Compiled Thu 31-Mar-05 18:07 by jfeldhou
Image text-base: 0x60008AF4, data-base: 0x61E20000
```

```
ROM: System Bootstrap, Version 12.2(8r)T2, RELEASE SOFTWARE (fc1)
ROM: 3800 Software (C3845-IK9S-M), Version 12.3(12b), RELEASE SOFTWARE (fc2)
```

```
D-R4745-9A uptime is 18 minutes
System returned to ROM by reload
System image file is "flash:c3845-ik9s-mz.123-12b.bin"
```

::: < output omitted > :::

```
cisco 3845 (R7000) processor (revision 0.0) with 249856K/12288K bytes of memory.
Processor board ID
R7000 CPU at 350MHz, Implementation 39, Rev 3.3, 256KB L2, 2048KB L3 Cache
Bridging software.
X.25 software, Version 3.0.0.
SuperLAT software (copyright 1990 by Meridian Technology Corp).
```

```
2 FastEthernet/IEEE 802.3 interface(s)
1 Subrate T3/E3 ports(s)
DRAM configuration is 64 bits wide with parity disabled.
151K bytes of non-volatile configuration memory.
62592K bytes of ATA System CompactFlash (Read/Write)
```

```
Configuration register is 0x2102
```

IOS Version.

Add the two values to get the total memory.

Interfaces recognized by IOS

Amount of system flash

Shows the current configured hex value of the software configuration register the system boots. Common configuration register settings:
 0x2102 → Boots IOS from flash, loads config
 0x2142 → Boots IOS from flash, does not load config
 0x0 → Boots to rommon

show ip interface brief:

```
Router# show ip interface brief
```

Interface	IP-Address	OK?	Method	Status	Protocol
Ethernet0	10.108.00.5	YES	NVRAM	up	up
Ethernet1	unassigned	YES	unset	administratively down	down
Loopback0	10.108.200.5	YES	NVRAM	up	up
Serial0	10.108.100.5	YES	NVRAM	up	up
Serial1	10.108.40.5	YES	NVRAM	up	down
Serial2	10.108.100.5	YES	manual	down	down
Serial3	unassigned	YES	unset	administratively down	down

"Yes" means that the IP Address is currently valid. "No" means that the IP Address is not currently valid.

Indicates the status of interface.
 •**up and up** means interface is up and active and line protocol is working (keepalives are successful)
 •**administratively down and down** means interface is currently shutdown by the administrator and line protocol is not working.
 •**up and down** means the following: No keepalives between router and switch, local router or switch misconfigured, leased-line or other carrier service problem, timing problem on facility, router hardware failure, or problem on local or remote dsu/csu, wrong LMI type, wrong DLCI
 •**down and down** means one of the following: disconnected, faulty, or incorrect cable. It could also mean Service provider problem – hardware failure at the local loop.

See the "Loopback Test" section for troubleshooting

Field Service Quick Reference



Show IOS Commands and Outputs

show interface serial 0:

Router# show interfaces serial 0

```
Serial 0 is up, line protocol is up
Hardware is MCI Serial
Internet address is 192.168.10.203, subnet mask is 255.255.255.0
MTU 1500 bytes, BW 1544 Kbit, DLY 20000 usec, rely 255/255, load 1/255
Encapsulation HDLC, loopback not set, keepalive set (10 sec)
Last input 0:00:07, output 0:00:00, output hang never
Output queue 0/40, 0 drops; input queue 0/75, 0 drops
Five minute input rate 0 bits/sec, 0 packets/sec
Five minute output rate 0 bits/sec, 0 packets/sec
    16263 packets input, 1347238 bytes, 0 no buffer
    Received 13983 broadcasts, 0 runts, 0 giants
    2 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored, 2 abort
1 carrier transitions
    22146 packets output, 2383680 bytes, 0 underruns
    0 output errors, 0 collisions, 2 interface resets, 0 restarts
```

Check interface status. **up** and **up** means interface is up and working.

Check this for errors, make sure errors don't increment.

show service-module serial 0 :

Router1# show service-module serial 0

```
Module type is T1/fractional
Hardware revision is B, Software revision is 1.1 ,
Image checksum is 0x2160B7C, Protocol revision is 1.1
Receiver has AIS alarm,
Unit is currently in test mode:
line loopback is in progress
Framing is ESF, Line Code is B8ZS, Current clock source is line,
Fraction has 24 timeslots (64 Kbits/sec each), Net bandwidth is 1536 Kbits/sec.
Last user loopback performed:
remote loopback
Failed to loopup remote
Last module self-test (done at startup): Passed
Last clearing of alarm counters 0:05:50
    loss of signal      : 1, last occurred 0:01:50
    loss of frame       : 0,
    AIS alarm          : 1, current duration 0:00:49
    Remote alarm        : 0,
    Module access errors : 0,
Total Data (last 0 15 minute intervals):
Line Code Violations, 0 Path Code Violations
    0 Slip Secs, 0 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins
    0 Errored Secs, 0 Bursty Err Secs, 0 Severely Err Secs, 0 Unavail Secs
Data in current interval (351 seconds elapsed):
    1466 Line Code Violations, 0 Path Code Violations
    25 Slip Secs, 49 Fr Loss Secs, 40 Line Err Secs, 1 Degraded Mins
    0 Errored Secs, 0 Bursty Err Secs, 0 Severely Err Secs, 49 Unavail Secs
```

CSU/DSU module type installed in the router. This particular module has T1/fractional type. The possible modules:
•T1/fractional
•2-wire switched 56-kbps
•4-wire 56/64-kbps.

This tells you the this particular module is currently in loopback test.

Field Service Quick Reference



Show IOS Commands and Outputs

show ip route:

Router# show ip route

Codes: I - IGRP derived, R - RIP derived, O - OSPF derived,
C - connected, S - static, E - EGP derived, B - BGP derived,
- candidate default route, IA - OSPF inter area route,
i - IS-IS derived, ia - IS-IS, U - per-user static route,
o - on-demand routing, M - mobile, P - periodic downloaded static route,
D - EIGRP, EX - EIGRP external, E1 - OSPF external type 1 route,
E2 - OSPF external type 2 route, N1 - OSPF NSSA external type 1 route,
N2 - OSPF NSSA external type 2 route

Codes definition.

Gateway of last resort is 10.119.254.240 to network 10.140.0.0

O E2 10.110.0.0 [160/5] via 10.119.254.6, 0:01:00, Ethernet2
E 10.67.10.0 [200/128] via 10.119.254.244, 0:02:22, Ethernet2
O E2 10.68.132.0 [160/5] via 10.119.254.6, 0:00:59, Ethernet2
O E2 10.130.0.0 [160/5] via 10.119.254.6, 0:00:59, Ethernet2
E 10.128.0.0 [200/128] via 10.119.254.244, 0:02:22, Ethernet2
E 10.129.0.0 [200/129] via 10.119.254.240, 0:02:22, Ethernet2
E 10.65.129.0 [200/128] via 10.119.254.244, 0:02:22, Ethernet2
E 10.10.0.0 [200/128] via 10.119.254.244, 0:02:22, Ethernet2
E 10.75.139.0 [200/129] via 10.119.254.240, 0:02:23, Ethernet2
E 10.16.208.0 [200/128] via 10.119.254.244, 0:02:22, Ethernet2
E 10.84.148.0 [200/129] via 10.119.254.240, 0:02:23, Ethernet2
E 10.31.223.0 [200/128] via 10.119.254.244, 0:02:22, Ethernet2
E 10.44.236.0 [200/129] via 10.119.254.240, 0:02:23, Ethernet2
E 10.141.0.0 [200/129] via 10.119.254.240, 0:02:22, Ethernet2
E 10.140.0.0 [200/129] via 10.119.254.240, 0:02:23, Ethernet2

Known routes by this router and route information.

show cdp neighbors:

Router# show cdp neighbors

Capability Codes: R - Router, T - Trans Bridge, B - Source Route Bridge S - Switch,
H - Host, I - IGMP, r - Repeater

Device ID	Local Intrfce	Holdtme	Capability	Platform	Port ID
joe	Eth 0	133	R	4500	Eth 0
sam	Eth 0	152	R	AS5200	Eth 0
terri	Eth 0	144	R	3640	Eth0/0
maine	Eth 0	141		RP1	Eth 0/0
sancho	Eth 0	164		7206	Eth 1/0

Device ID = The name of the neighbor device and either the MAC address or the serial number of this device.
Local Intrfce = The local interface through which this neighbor is connected.
Holdtme = The remaining amount of time (in seconds) the current device will hold the Cisco Discovery Protocol advertisement from a sending router before discarding it.
Capability = The type of the device listed in the CDP Neighbors table
Platform = The product number of the device.
Port ID = The interface and port number of the neighboring device.

Field Service Quick Reference



Show IOS Commands and Outputs

show frame-relay pvc:

Router# show frame-relay pvc

PVC Statistics for interface Serial2/2 (Frame Relay NNI)

DLCI = 16, DLCI USAGE = SWITCHED, PVC STATUS = INACTIVE, INTERFACE = Serial2/2
LOCAL PVC STATUS = INACTIVE, NNI PVC STATUS = INACTIVE

```

input pkts 0      output pkts 0      in bytes 0
out bytes 0      dropped pkts 0    in FECN pkts 0
in BECN pkts 0   out FECN pkts 0   out BECN pkts 0
in DE pkts 0     out DE pkts 0     out bcast pkts 0
out bcast pkts 0 out bcast bytes 0
switched pkts0
Detailed packet drop counters:
no out intf 0    out intf down 0    no out PVC 0
in PVC down 0   out PVC down 0     pkt too big 0
shaping Q full 0  pkt above DE 0     policing drop 0
pvc create time 00:00:07, last time pvc status changed 00:00:07
    
```

DLCI = One of the DLCI numbers for the PVC.
DLCI USAGE = Lists SWITCHED when the router or access server is used as a switch, or LOCAL when the router or access server is used as a DTE device.

PVC STATUS = Status of the PVC: ACTIVE, INACTIVE, or DELETED.

INTERFACE = Specific subinterface associated with this DLCI.

LOCAL PVC STATUS₁ = Status of PVC configured locally on the NNI interface.

NNI PVC STATUS₁ = Status of PVC learned over the NNI link.

NOTE: ₁ The LOCAL PVC STATUS and NNI PVC STATUS fields are displayed only for PVCs configured on Frame Relay NNI interface types. These fields are not displayed if the PVC is configured on DCE or DTE interface types.

Show frame-relay lmi:

Router# show frame-relay lmi

LMI Statistics for interface Serial3 (Frame Relay NNI) LMI TYPE = CISCO

```

Invalid Unnumbered info 0      Invalid Prot Disc 0
Invalid dummy Call Ref 0      Invalid Msg Type 0
Invalid Status Message 0      Invalid Lock Shift 0
Invalid Information ID 0      Invalid Report IE Len 0
Invalid Report Request 0      Invalid Keep IE Len 0
Num Status Enq. Rcvd 11       Num Status msgs Sent 11
Num Update Status Rcvd 0      Num St Enq. Timeouts 0
Num Status Enq. Sent 10       Num Status msgs Rcvd 4
Num Update Status Sent 0      Num Status Timeouts 0
    
```

Signalling or LMI specification: CISCO, ANSI, or ITU-T.

This sample output from the **show frame-relay lmi** command when the interface is a Network-to-Network Interface (NNI) and the LMI TYPE = CISCO.

When the interface is a data terminal equipment (DTE) device, then LMI TYPE = ANSI.

Value of status inquiry received and message sent.

show flash:

Router# show flash:

```

#- ED --type-- ----crc--- ----seek-- -nlen --length- -----date/time----- --name
1 .. unknown 317FBA1B 4A0694 24 4720148 Dec 15 2003 17:49:36 -08:00
hampton/nitro/c7200-j-mz
2 .. unknown 9237F3FF 92C574 11 4767328 Jan 02 2004 18:42:53 -08:00 c7200-js-mz
3 .D unknown 71AB01F1 10C94E0 10 7982828 Jan 02 2004 18:48:14 -08:00 rsp-jsv-mz
4 .D unknown 96DACD45 10C97E0 8 639 Jan 03 2004 12:09:17 -08:00 the_time
5 .. unknown 96DACD45 10C9AE0 3 639 Jan 03 2004 12:09:32 -08:00 the_time
6 .D unknown 96DACD45 10C9DE0 8 639 Jan 03 2004 12:37:01 -08:00 the_time
7 .. unknown 96DACD45 10CA0E0 8 639 Jan 03 2004 12:37:13 -08:00 the_time
3104544 bytes available (17473760 bytes used)
    
```

= Index number for the file.

ED = Whether the file contains an error (E) or is deleted (D).

type = File type (1 = configuration file, 2 = image file). The software displays these values only when the file type is certain. When the file type is unknown, the system displays "unknown" in this field.

crc = Cyclic redundant check for the file.

seek = Offset into the file system of the next file.

nlen = Name length—Length of the filename.

length = Length of the file itself.

date/time = Date and time the file was created. In the example, -08:00 indicates that the given date and time is 8 hours behind Coordinated Universal Time (UTC).

name = Name of the file.

Field Service Quick Reference



Show CATOS Commands and Outputs

show system:

Console> show system

PS1-Status PS2-Status

Status of the power supply 1 and 2.

none ok

Fan-Status Temp-Alarm Sys-Status Uptime d,h:m:s Logout

Fan status, System status, Temperature Alarm status, Uptime information, and logout information.

ok off ok 1,22:38:21 20 min

PS1-Type PS2-Type

Part number information of the power supply.

none WS-CAC-1300W

Modem Baud Traffic Peak Peak-Time

Modem information.

disable 9600 0% 0% Mon Jan 10 2000, 15:23:31

PS1 Capacity: 1153.32 Watts (27.46 Amps @42V)

System Name System Location System Contact CC

System name, location, and contact information.

Information Systems Closet 230 4/F Xena ext. 24

No active fabric module in the system.

States that either the fabric module is inactive or not installed on the system.

Core Dump Core File

enabled bootflash:crashinfo

System Logging Host File Interval

Disabled - tftp:sysinfo 1440

Index System Command

1 show version

Syslog Dump Syslog File

enabled bootflash:sysloginfo

show system:

Router# show module

Mod Ports Card Type Model Serial No.

Mod	Ports	Card Type	Model	Serial No.
5	2	Supervisor Engine 720 (Active)	WS-SUP720-BASE	SAD0644030K
8	48	aCEF720 48 port 10/100/1000 Ethernet	WS-X6748-GE-TX	SAD07010045
9	32	dCEF720 32 port Gigabit Ethernet	WS-X6832-SFP	SAD07010045

Mod MAC addresses Hw Fw Sw Status

Mod	MAC addresses	Hw	Fw	Sw	Status
5	00e0.aabb.cc00 to 00e0.aabb.cc3f	1.0	12.2(2003012)	12.2(2003012)	Ok
8	0005.9a3b.d8c4 to 0005.9a3b.d8c7	0.705	7.1(0.12-Eng)	12.2(2003012)	Ok
9	00e0.b0ff.f0f4 to 00e0.b0ff.f0f5	0.207	12.2(2002082)	12.2(2003012)	Ok

Mod Sub-Module Model Serial Hw Status

Mod	Sub-Module	Model	Serial	Hw	Status
5	Policy Feature Card 3	WS-F6K-PFC3	SAD0644031P	0.302	Ok
5	MSFC3 Daughtercard	WS-SUP720	SAD06460172	0.701	

Mod Online Diag Status

5 Not Available

7 Bypass

8 Bypass

9 Bypass

Router#

Module Information:
Slot location, Number of ports, Type of module, Model #, and Serial #

Module Information:
MAC address, Hardware, Firmware, and Software revisions, and Status.

Sub-Module Information:
Sub-Module type, Model #, Serial #, Hardware revision, and Status.