



Appendix

Certain troubleshooting aids of the Cisco N540-FH-CSR-SYS and Cisco N540-FH-AGG-SYS enable you to perform these tasks that assist the troubleshooting process:

- [LEDs, on page 1](#)
- [System Specifications, on page 2](#)

LEDs

The Cisco N540-FH-CSR-SYS Router LEDs are similar for most of the variants, and any differences between the routers are specifically called out.

Router LEDs

All the data port LEDs in the Cisco N540-FH-CSR-SYS Router are at the front panel. There are five LEDs that reflect the different statuses of the system.

Table 1: Router LED Descriptions

LED	Color	Status
Alarm	Red	Critical alarm - system-scope (including RP0).
	Amber	Major alarm - system-scope (including RP0).
	Flashing Amber	Minor alarm - system-scope (including RP0).
	Off	No alarm.
Status	Green	The module is operational but has no active major or critical alarms.
	Amber	Host kernel booted and XR is booting.
	Flashing Red	Not Applicable.

Power Supply LEDs



Note The following table is applicable only for Cisco N540-FH-CSR-SYS variants.

Table 2: Power Supply LED Descriptions

LED	Color	Status
STATUS	Green	Power Supply ON and operating normally.
	Off	Not receiving power or PSU-12V fail or 3V3 STDBY failure.
	Red	Power failure with one of the input power feeds failed or one of the on-board voltage rails has failed.
	Amber	STDBY FPGA upgrade is in progress due to post Reload/Power cycle after HW FPD upgrade All. Note Upgrade of the STDBY FPGA takes three to five minutes.

Port LED

Table 3: Port LED

Port LED Color	Status
Off	Port is shut down or admin is down
Amber	Link is down
Green	Link is up

System Specifications

Certain troubleshooting aids of the Cisco N540-FH-CSR-SYS and Cisco N540-FH-AGG-SYS enable you to perform tasks that assist the troubleshooting process:

Weight and Power Consumption

For information on physical specifications and power consumption, see table *Cisco NCS 540 chassis specification* on the [Cisco Network Convergence System 540 Router Data Sheet](#).

Environmental Specifications

For information on environmental specifications, see table *Environmental properties for NCS 540 fixed systems* on the [Cisco Network Convergence System 540 Router Data Sheet](#).

Transceiver and Cable Specifications

To determine which transceivers and cables are supported by this router, see [Cisco Transceiver Modules Compatibility Information](#).

To see the transceiver specifications and installation information, see [Cisco Transceiver Modules Install and Upgrade Guides](#).

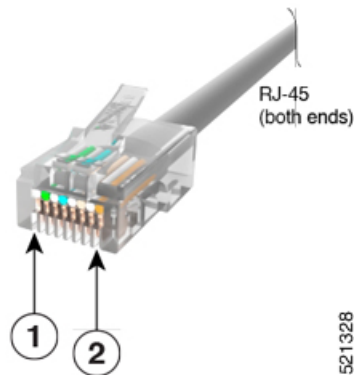
RJ-45 Connectors

The RJ-45 connector connects Category 3, Category 5, Category 5e, Category 6, or Category 6A foil twisted-pair or unshielded twisted-pair cable from the external network to the following module interface connectors:

- Router chassis
 - CONSOLE port
 - MGMT ETH port

The following figure shows the RJ-45 connector.

Figure 1: RJ-45 Connector



GPS Port Pinouts

The platform is capable of receiving or sourcing GPS signals of 1 PPS & 10 MHz. Same 2 mini-coax 50-ohm connectors are used for output and input.

This table below summarizes the GPS port pinouts:

Table 4: GPS Port Pinouts

	10 MHz (Input and Output)	1PPS (Input and Output)
Waveform	Input—Sine wave Output—Square wave	Input—Rectangular pulse Output—Rectangular pulse
Amplitude	Input— > 1.7 volt p-p(+8 to +10 dBm) Output— > 2.4 volts TTL compatible	Input— > 2.4 volts TTL compatible Output— > 2.4 volts TTL compatible

	10 MHz (Input and Output)	1PPS (Input and Output)
Impedance	50 ohms	50 ohms
Pulse Width	50% duty cycle	50% duty cycle
Rise Time	Input—AC coupled Output—5 nanoseconds	40 nanoseconds

Time-of-Day Port Pinouts

This table summarizes the ToD/1-PPS port pinouts:

Table 5: RJ-45 ToD/1-PPS Port Pinouts

Pin	Signal Name	Direction	Description
1	—	—	—
2	—	—	—
3	1PPS_N	Output or Input	1PPS RS422 signal
4	GND	—	—
5	GND	—	—
6	1PPS_P	Output or Input	1PPS RS422 signal
7	TOD_N	Output or Input	Time-of-Day character
8	TOD_P	Output or Input	Time-of-Day character

BITS Interface

This table summarizes the BITS interface RJ48 port pinouts:

Table 6: BITS Interface RJ48 Port Pinouts

Pin	Signal Name	Direction	Description
1	RX Ring	Input	Receive Ring
2	RX TIP	Input	Receive TIP (T1/E1)
3, 6, 7, 8	—	NC	—
4	TX Ring	Output	Transmit Ring

Pin	Signal Name	Direction	Description
5	TX TIP	Output	Transmit TIP (T1/E1)

Management Ethernet Port Pinouts

The following table summarizes the Management Ethernet port pinouts:

Table 7: Management Ethernet Port Pinouts

Pin	Signal Name
1	TRP0+
2	TRP0-
3	TRP1+
4	TRP2+
5	TRP2-
6	TRP1-
7	TRP3+
8	TRP3-

USB Port Pinouts

The following table summarizes the USB port pinouts:

Table 8: USB Port Pinouts

Pin	Signal Name	Description
A1	Vcc	+5 VDC
A2	D-	Data -
A3	D+	Data +
A4	Gnd	Ground

Alarm Port Pinouts

The following table summarizes the external alarm input pinouts:

Table 9: External Alarm Input Pinouts

Pin	Signal Name	Description
1	ALARM0_IN	Alarm input 0
2	ALARM1_IN	Alarm input 1
3	—	—
4	ALARM2_IN	Alarm input 2
5	ALARM3_IN	Alarm input 3
6	—	—
7	—	—
8	ALARM_IN_COMMON	Alarm Input Common

Console Port Pinouts

This following table summarizes the Console port pinouts:

Table 10: Console Port Pinouts

Pin	Signal Name	Direction	Description
1	ACONS-TX	Output	Aux Consoles transmit output, RS232
2	NC	NA	NA
3	CONS-TX	Output	Console RS232 transmit
4	Gnd	NA	Ground
5	Gnd	NA	Ground
6	CONS-RX	Input	Console RS232 receive
7	ACONS-RTX	Input	Aux Consoles receive input, RS232
8	NC	NA	NA

AC Power Cord Specifications

For more information on the supported power cables, see *Ordering information for power cables supported on NCS 540* on the [Cisco Network Convergence System 540 Small Density Router Data Sheet](#).