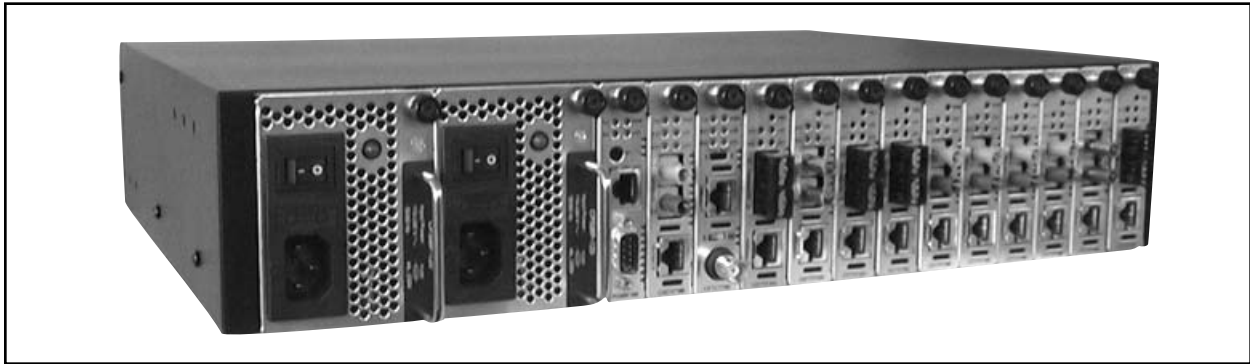


Transition Networks
CPSMC13xx-100
13-Slot *PointSystem*™ Chassis

User's Guide
Revision D



CPSMC1300-100
CPSMC1310-100
CPSMC1320-100

Compliance Information

UL Listed

C-UL Listed (Canada)

CISPR22/EN55022 Class A + EN55024

CE Mark

FCC Regulations

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at the user's own expense.

Canadian Regulations

This digital apparatus does not exceed the Class A limits for radio noise for digital apparatus set out on the radio interference regulations of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la Class A prescrites dans le Règlement sur le brouillage radioélectrique édicté par le ministère des Communications du Canada.

European Regulations

Warning

This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Achtung !

Dieses ist ein Gerät der Funkstörgrenzwertklasse A. In Wohnbereichen können bei Betrieb dieses Gerätes Rundfunkstörungen auftreten. In diesem Fall ist der Benutzer für Gegenmaßnahmen verantwortlich.

Attention !

Ceci est un produit de Classe A. Dans un environnement domestique, ce produit risque de créer des interférences radioélectriques, il appartiendra alors à l'utilisateur de prendre les mesures spécifiques appropriées

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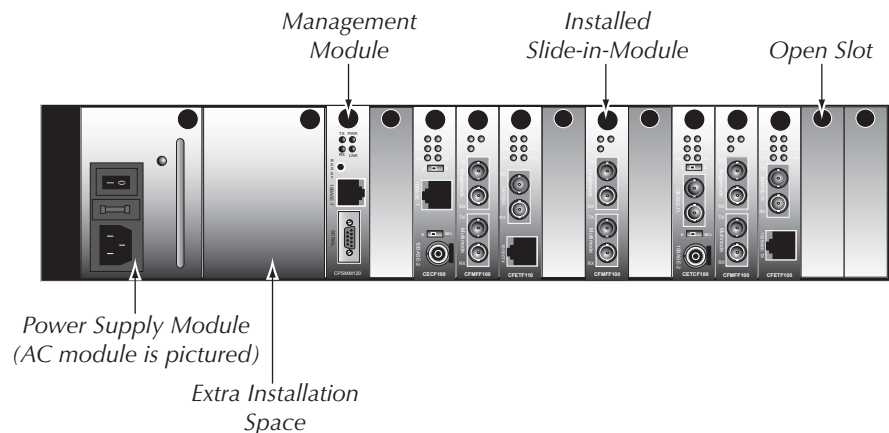
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1 Introduction

1.1 Description

The Transition Networks CPSMC13xx-100 13-Slot *PointSystem*™ chassis is a 19-inch, rack-mountable chassis for selected Transition Networks media converter slide-in-modules. The CPSMC13xx-100 chassis allows the network administrator to connect various copper and fiber-optic network media over protocols that include Ethernet, Fast Ethernet, DS3/E3, and OC-12 and many others. The chassis provides installation space for up to 13 single-slot media converter slide-in-modules in the front of the unit.



The CPSMC13xx-100 also comes equipped with an AC or DC power supply installed in the front of the chassis. An extra installation space is available for an optional redundant AC or DC power supply.

With installed *PointSystem*™ management module(s) (P/N CPSMM-120, -200, or -210), the CPSMC13xx-100 can be managed and monitored via:

- An SNMP application such as Transition Networks *FocalPoint*™ management software installed at a remote Network Management Station (NMS).
- A remote Web browser.
- A command-line interface (CLI) at an attached terminal.
- A command-line-interface (CLI) at a remote Telnet connection.

The management modules also make it possible to control up to eight (8) cascaded chassis fully populated with installed media converter slide-in-modules.

1.2 Unpacking the CPSMC13xx-100 Equipment

Use the following list to verify the shipment:

Item	Part Number
13-Slot chassis with AC Power Supply	CPSMC1300-100
13-Slot chassis with 48-VDC Power Supply	CPSMC1310-100
13-Slot chassis with 24-VDC Power Supply	CPSMC1320-100
PointSystem™ chassis face plates (10)	CPSFP-200
Power Cord	(varies by country)
User's Guide	33208

The following items are optional accessories for the CPSMC13xx-100 13-Slot PointSystem™ chassis:

Item	Part Number
Redundant AC Power Supply 120/240 VAC	CPSMP-120 (optional)
Redundant 48-VDC Power Supply	CPSMP-130 (optional)
Redundant 24-VDC Power Supply	CPSMP-140 (optional)
Single-Slot Master Management Module	CPSMM-120 (optional)
Dual-Slot Master Management Module	CPSMM-200 (optional)
FocalPoint™ Software Disk (included with the Master Management Modules)	7223
Expansion Management Module	CPSMM-210 (optional)
Management Module Cascade Connector	6026 (optional)
23-inch Rack Mount Ears	CPSRE-230 (optional)
Selectable Media Converter Slide-in-Module(s)	(various P/N) - (optional)

2 Slide-in-Modules

2.1 Media Converter Slide-in-Modules

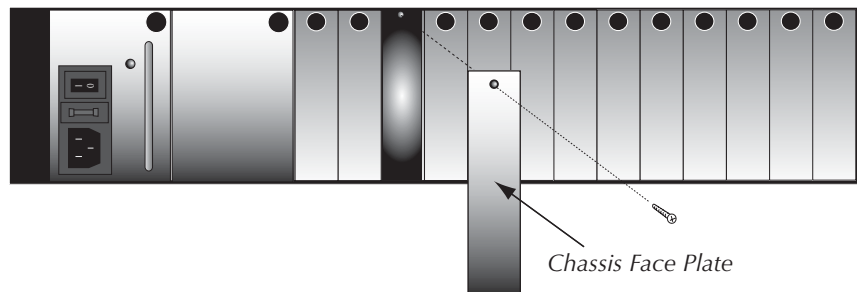
Transition Networks media converter slide-in-modules, installed in slots at the front of the chassis, allow the network administrator to connect various copper and fiber-optic network media over protocols that include Ethernet, Fast Ethernet, DS3/E3, and OC-12 as well as many others (see www.transition.com for a complete listing).

NOTE: Refer to the specific user's guide that comes with each media converter slide-in-module for cable, connector, and LED indicator information.

2.1.1 Chassis Face Plates

CAUTION: Slots in the CPSMC13xx-100 chassis without a slide-in-module installed **MUST** have a protective chassis face plate (P/N CPSFP-200) covering the empty slot for Class A compliance.

Install a chassis face plate over any unused chassis slot by aligning the hole in the face plate with the threaded hole in the chassis. Secure the face plate with the enclosed bolt.



2.1.2 Calculating the Power Consumption

CAUTION: Before installing the media converter, refer to the power consumption data for each individual media converter (provided in the user's guide shipped with each media converter). **The combined power consumption of all devices must not exceed the available power supply.** Failure to observe this caution could result in diminishing system reliability.

In other words, the combined power requirements of the CPSMC13xx-100 chassis **plus** all slide-in-modules must be **less than** the available power.

In addition, the maximum power delivery capacity for each chassis slot is 12 Watts, with an aggregate chassis maximum of 6 Watts per slot. For example, a 12-Watt slide-in-module media converter would require the power of two slots. Therefore, only six (6) 12-Watt converters could be installed into the CPSMC13xx-100 chassis. Six (6) slots must remain unused and the remaining slot can accommodate a slide-in-module up to 6 Watts.

Contact Transition Networks Tech Support to ensure the power requirements for your specific application do not exceed the available power.

2.2 Management Modules

Optional network management is provided by SNMP software embedded in Transition Networks *PointSystem*™ management module(s) that can be installed in the CPSMC13xx-100 chassis.

Transition Networks provides two such modules:

- CPSMM-120 Single-Slot Master Management Module.
- CPSMM-200 Dual-Slot Master Management Module.

Along with an additional expansion module:

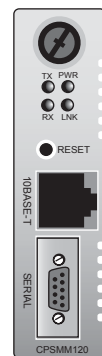
- CPSMM-210 Single Slot Expansion Management Module.

2.2.1 Three Types of Management Modules

CPSMM-120 Single-Slot Master Management Module

The optional CPSMM-120 Single-Slot Master Management Module can be installed to enable network management of a single CPSMC13xx-100 chassis.

Refer to the CPSMM-120 user's guide for more information on the CPSMM-120 Single-Slot Master Management Module.



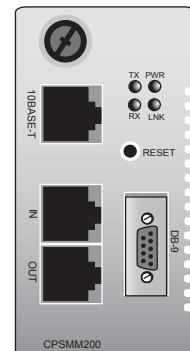
CPSMM-200 Dual-Slot Master Management Module

The optional CPSMM-200 Dual-Slot Master Management Module can also be installed in the CPSMC13xx-100 chassis to enable network management.

This module has all of the features of the CPSMM-120 plus a pair of cascade ports, which allow multiple *PointSystem*™ chassis to be connected.

Note also that this module requires **two** adjacent slots in the chassis for installation.

Refer to the CPSMM-200/-210 user's guide for more information on the CPSMM-200 Dual-Slot Master Management Module.

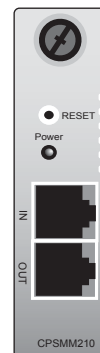


CPSMM-210 Single-Slot Expansion Management Module

The CPSMM-210 is used with the CPSMM-200 to connect up to eight (8) *PointSystem*™ chassis into one manageable stack.

Refer to the CPSMM-200/-210 user's guide for more information on the CPSMM-210 Single-Slot Expansion Management Module.

NOTE: See section 4.2 *Cascade Option* for details on connecting multiple chassis.



2.2.2 Installing the Management Modules

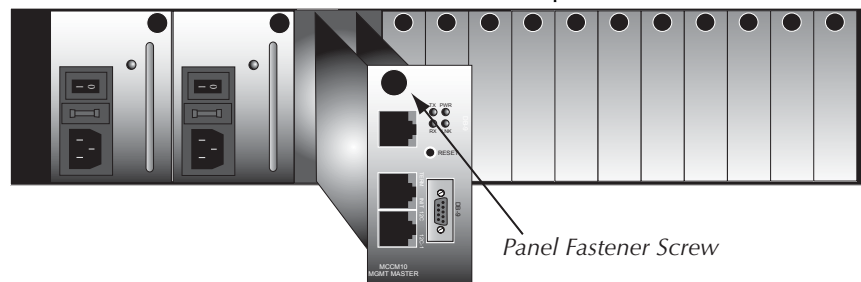
CAUTION: Wear a grounding device and observe electrostatic discharge precautions when installing the management module into the CPSMC13xx-100 chassis. Failure to observe this caution could result in damage to, and subsequent failure of, the management module.

NOTE: Transition Networks recommends installing the management module into the left-most installation slot to keep the management module cables separate from the media converter cables.

To install a management module into the CPSMC13xx-100 chassis:

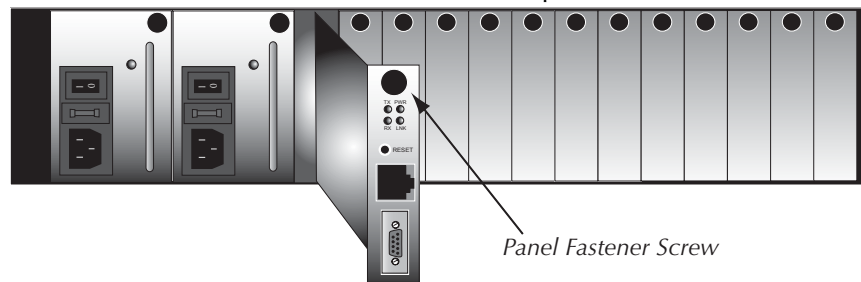
1a. CPSMM-200 Dual-Slot Master Management Module:

If chassis face plates are covering the installation slots, remove the face plates from the two (2) installation slots at the far-left position of the chassis.



1b. CPSMM-120 Single-Slot Master Management Module OR CPSMM-210 Single-Slot Expansion Management Module:

If chassis face plates are covering the installation slots, remove the face plate from the one (1) installation slot at the far-left position of the chassis.



2. Align the management module with the chassis installation slot so that the panel fastener screw is at the top of the module.
3. Carefully slide the management module into the installation slot, while aligning the module's circuit board with the installation guides.

NOTE: Ensure that management module is firmly seated inside the chassis.

4. Rotate the attached panel fastener screw clockwise to secure the management module to the chassis.

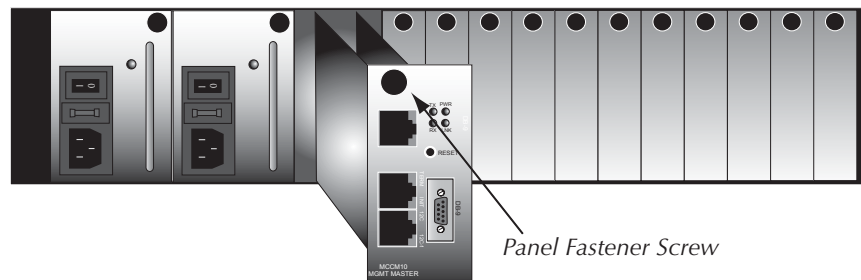
2.2.3 Replacing the Management Modules

CAUTION: Wear a grounding device and observe electrostatic discharge precautions when replacing the management module(s). Failure to observe this caution could result in damage to, and subsequent failure of, the management module(s).

NOTE: The management modules can be replaced while the chassis remains powered. However, **you must configure a new IP address for the replacement management module.** For more information, see the *FocalPoint™ 2.0* user's guide on the enclosed application CD or on-line at www.transition.com.

To replace a management module in the CPSMC13xx-100 chassis:

1. Remove the management module to be replaced by loosening the panel fastener screw that secures the module to the chassis front. Slide the module



from the chassis.

2. Align the replacement module with the installation slot so that the panel fastener screw is at the top.
3. Carefully slide the replacement management module into the installation slot, while aligning the module's circuit board with the installation guides.

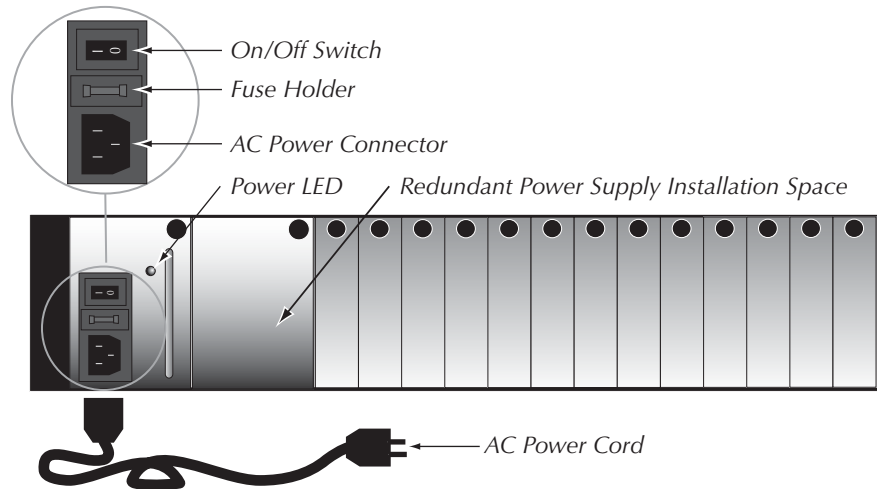
NOTE: Ensure that the management module is firmly seated inside the chassis.

4. Rotate the attached panel fastener screw clockwise to secure the module to the chassis.

3 Powering the CPSMC13xx-100

3.1 CPSMP-120 Power Supply Module (AC)

The **CPSMC1300-100 PointSystem™** chassis is equipped with an AC power supply module (P/N **CPSMP-120**) installed in the front of the chassis. The power supply module supplies power to the chassis, installed media converter slide-in-modules, and management modules.



The components of the **CPSMP-120** AC power supply module include:

- An **AC power cord** that distributes power from an external outlet to an **AC power connector** on the power supply module.
- An **On/Off switch** that, when set to "I", allows the module to supply power to the chassis and any installed modules.
- A **power LED** indicator.
- An **fuse** installed in a fuse holder.

Optional Redundant AC Power Supply Module

An extra installation space is available in the front of the chassis for installing an optional redundant AC power supply module (P/N **CPSMP-120**). See section 3.5.1 *Installing the Power Supply Module* for instructions on installation.

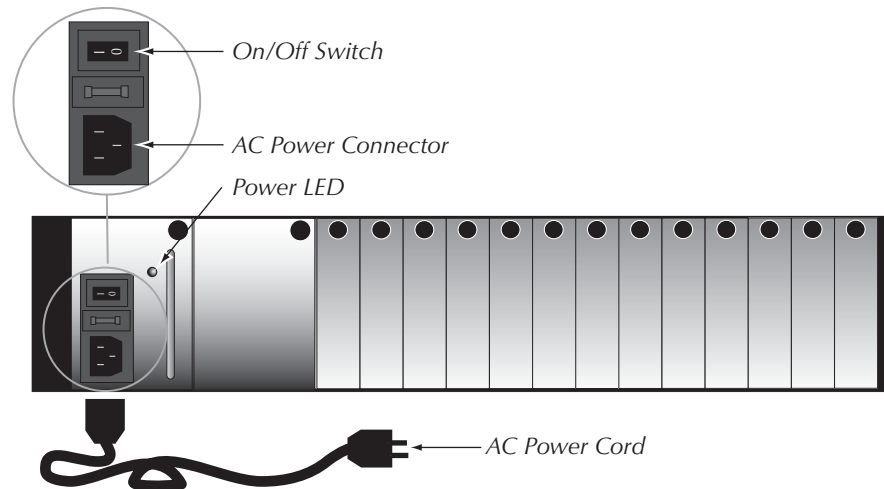
Instant Fail-Over

The Instant Fail-Over feature ensures uninterrupted power to the chassis. If one of the power supply modules loses power, the chassis mother board automatically switches to the other power supply.

Powering the AC Power Supply Module

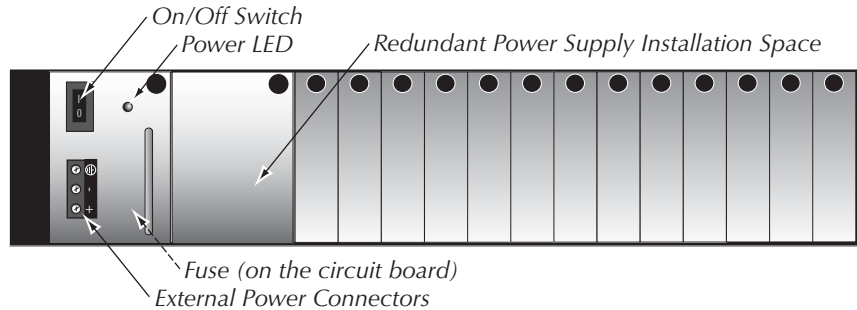
To power the **CPSMC1300-100** chassis through the **CPSMP-120** AC power supply module:

1. Set the On/Off switch to “0”.
2. Connect the female end of power cord to the power receptacle on the power supply module.
3. Plug the end of the power cord into the correct voltage AC rack or wall socket.
4. Set the On/Off switch to “1”.
5. Verify that the chassis is powered by observing the illuminated power LED.



3.2 CPSMP-130 Power Supply Module (48-VDC)

The **CPSMC1310-100** chassis is equipped with a 48-VDC power supply module (P/N **CPSMP-130**) installed in the front of the chassis. The power supply module supplies power to the chassis, installed media converter slide-in-modules, and management modules.



The components of the **CPSMP-130** 48-VDC power supply module include:

- A set of three (3) **external power connectors** that distribute power from an external 48-VDC outlet to a chassis ground connector, a positive (+) connector, and a negative (-) connector on the power supply module.
- An **On/Off switch** that, when set to “I”, allows the module to supply power to the chassis, and any installed modules.
- A **power LED** indicator.
- A **fuse** installed on the power supply module’s circuit board.

power supply

Optional Redundant 48-VDC Power Supply Module

An extra installation space is available in the front of the chassis for installing an optional redundant 48-VDC power supply module (P/N **CPSMP-130**). See section 3.5.1 *Installing the Power Supply Module* for instructions on installation.

Instant Fail-Over

The Instant Fail-Over feature ensures uninterrupted power to the chassis. If one of the power supply modules loses power, the chassis mother board automatically switches to the other power supply.

Read and follow all warning notices & instructions marked on the product or included in the manual.

CAUTION: All installation and service must be performed by qualified service personnel.

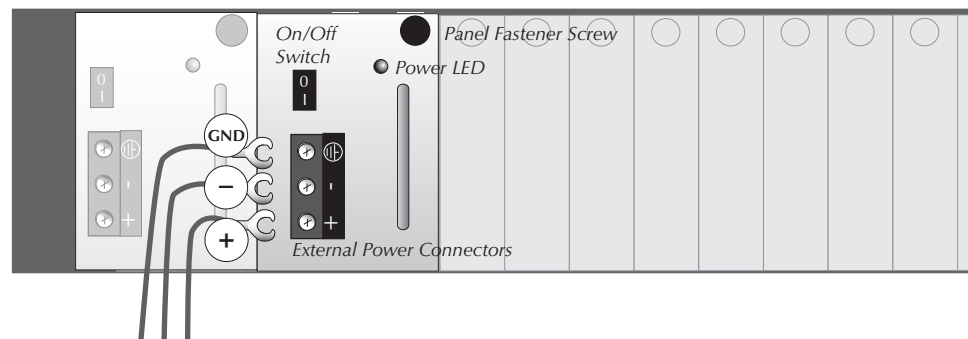
CAUTION: Ensure that the external power source is NOT powered and that the On/Off switch is set to “0” when connecting the 48-VDC power supply module. Failure to observe this caution could result in damage to, and subsequent failure of, the power supply module.

Powering the 48-VDC Power Supply Module

- This product is intended to be used in a restricted access location. Proper earthing (grounding) is required to ensure safe operation. Grounding terminals are provided (section 4.1.3) for proper grounding of the device as per customer installation requirements and local electrical codes. Prior to installation, use a voltmeter/ohmmeter to check the wiring for the presence of earth ground.
- A readily accessible disconnect device as part of the building installation shall be incorporated into the fixed wiring. The disconnect device (a 48 VDC, 15 or 20A circuit breaker or switch) must be included in the ungrounded supply conductor. Overcurrent protection must be a 48 VDC, 15 or 20A fuse or circuit breaker.

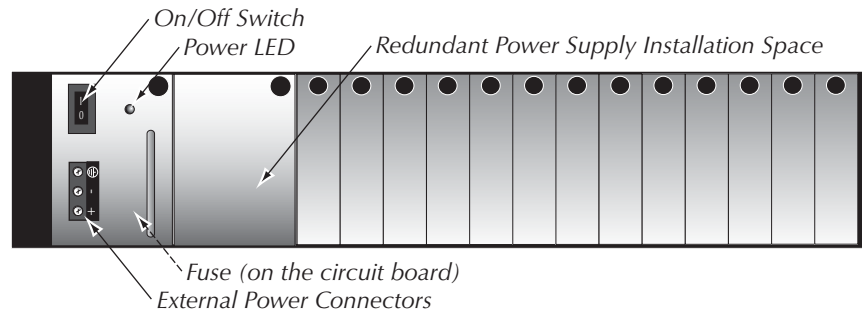
To power the **CPSMC1310-100** chassis through the **CPSMP-130** 48-VDC power supply module:

1. Set the On/Off switch to “0”.
2. Connect the +48-VDC terminal to the chassis external power connector marked “+”. Turn the terminal screw clockwise to secure.
3. Connect the -48-VDC terminal to the chassis external power connector marked “-”. Turn the terminal screw clockwise to secure.
4. Connect the ground terminal to the chassis external power connector marked “chassis ground”. Turn the terminal screw clockwise to secure.
5. Set the On/Off switch to “1”.
6. Verify that chassis is powered by observing the illuminated power LED.



3.3 CPSMP-140 Power Supply Module (24-VDC)

The **CPSMC1320-100** chassis is equipped with a 24-VDC power supply module (P/N **CPSMP-140**) installed in the front of the chassis. The power supply module supplies power to the chassis, installed media converter slide-in-modules, and management modules.



The components of the **CPSMP-140** 24-VDC power supply module include:

- A set of three (3) **external power connectors** that distribute power from an external 24-VDC outlet to a chassis ground connector, a positive (+) connector, and a negative (-) connector on the power supply module.
- An **On/Off switch** that, when set to “I”, allows the module to supply power to the chassis, and any installed modules.
- A **power LED** indicator.
- A **fuse** installed on the power supply module’s circuit board.

power supply

Optional Redundant 24-VDC Power Supply Module

An extra installation space is available in the front of the chassis for installing an optional redundant 24-VDC power supply module (P/N **CPSMP-140**). See section 3.5.1 *Installing the Power Supply Module* for instructions on installation.

Instant Fail-Over

The Instant Fail-Over feature ensures uninterrupted power to the chassis. If one of the power supply modules loses power, the chassis mother board automatically switches to the other power supply.

Read and follow all warning notices & instructions marked on the product or included in the manual.

CAUTION: All installation and service must be performed by qualified service personnel.

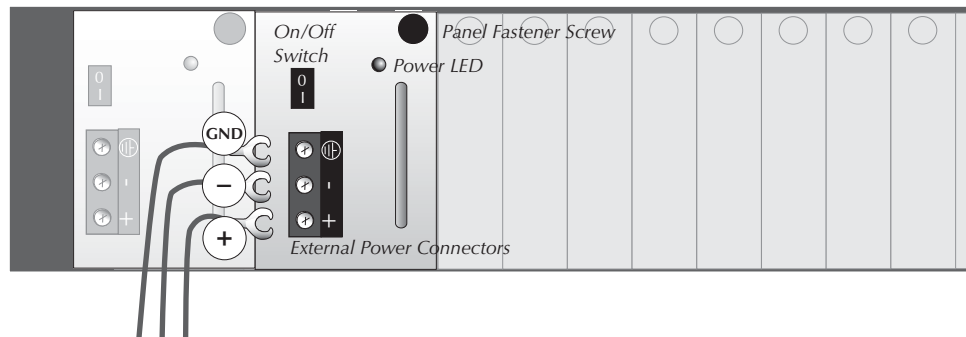
CAUTION: Ensure that the external power source is NOT powered and that the On/Off switch is set to “0” when connecting the 24-VDC power supply module. Failure to observe this caution could result in damage to, and subsequent failure of, the power supply module.

Powering the 24-VDC Power Supply Module

- This product is intended to be used in a restricted access location. Proper earthing (grounding) is required to ensure safe operation. Grounding terminals are provided (section 4.1.3) for proper grounding of the device as per customer installation requirements and local electrical codes. Prior to installation, use a voltmeter/ohmmeter to check the wiring for the presence of earth ground.
- A readily accessible disconnect device as part of the building installation shall be incorporated into the fixed wiring. The disconnect device (a 24 VDC, 15 or 20A circuit breaker or switch) must be included in the ungrounded supply conductor. Overcurrent protection must be a 24 VDC, 15 or 20A fuse or circuit breaker.

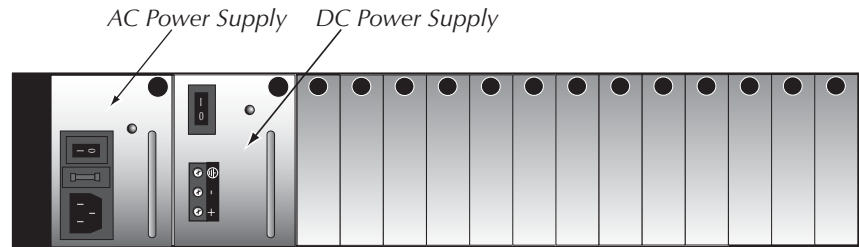
To power the **CPSMC1320-100** chassis through the **CPSMP-140** 24-VDC power supply module:

1. Set the On/Off switch to “0”.
2. Connect the +24-VDC terminal to the chassis external power connector marked “+”. Turn the terminal screw clockwise to secure.
3. Connect the -24-VDC terminal to the chassis external power connector marked “-”. Turn the terminal screw clockwise to secure.
4. Connect the ground terminal to the chassis external power connector marked “chassis ground”. Turn the terminal screw clockwise to secure.
5. Set the On/Off switch to “1”.
6. Verify that chassis is powered by observing the illuminated power LED.



3.4 Optional Dual Power Supply modules

Alternatively, two different types of power supplies may be installed in any of the CPSMC13xx-100 chassis, where one power supply is the primary and the other is the back up.



The drawing above shows one AC power supply and one DC power supply. However, the CPSMC13xx-100 chassis can accommodate any combination of AC, 48-VDC and 24-VDC power supplies. See section 3.5 *Power Supply Module Maintenance* for instructions on installation.

Instant Fail-Over

The Instant Fail-Over feature ensures uninterrupted power to the chassis. If one of the power supply modules loses power, the chassis mother board automatically switches to the other power supply.

power supply

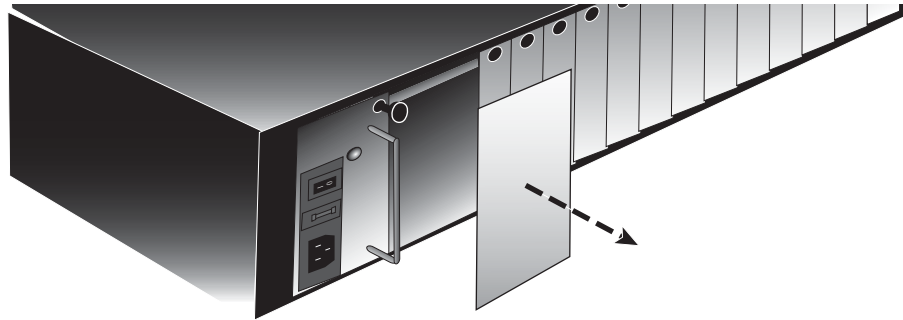
Warning: Do NOT connect the power supply module to the external power source before installing it into the chassis. Failure to observe this caution could result in equipment damage and/or personal injury or death.

3.5 Power Supply Module Maintenance

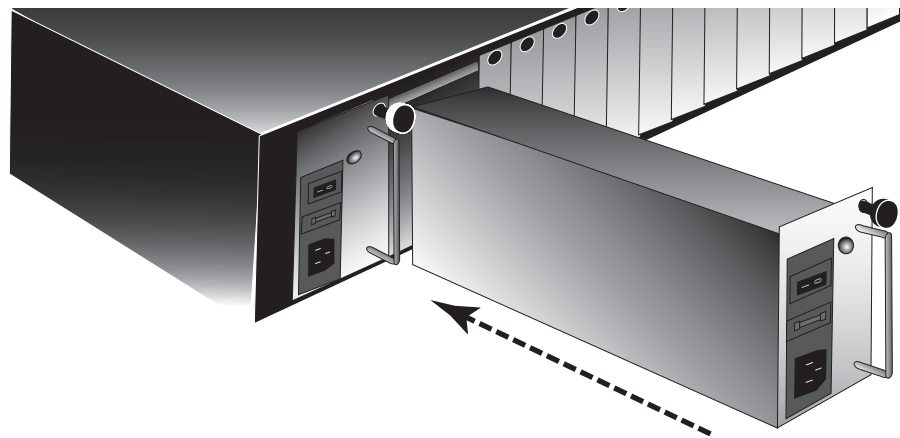
3.5.1 Installing the Power Supply Module

The AC and DC modules are installed in the same manner:

1. Remove the power supply module protective plate from the installation slot by removing and retaining the screw that secures the protective plate to the front of the chassis.



2. Carefully slide the power supply module into the installation slot, aligning the power supply module with the installation guides.



3. Ensure that the power supply module is firmly seated inside the chassis. If the power supply module does not fit flush against the frame, remove the module and ensure that it is aligned with the installation guides before installing.
4. Rotate the attached panel fastener screw clockwise to secure the power supply module to the chassis.
5. Connect the power supply module to the external power source.
(AC: see page 13 / 48-VDC: see page 15 / 24-VDC: see page 17.)

power supply

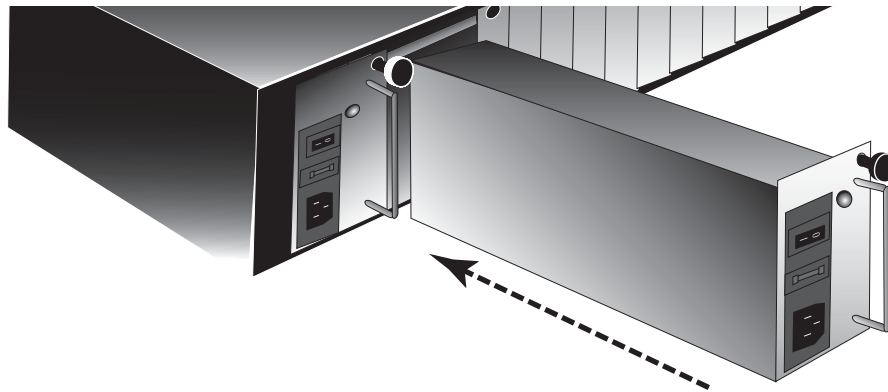
Warning: Do NOT connect the power supply module to the external power source before installing it into the chassis. Failure to observe this caution could result in equipment damage and/or personal injury or death.

3.5.2 Replacing the Power Supply Module

NOTE: Any of the power supply modules may be “hot swapped” **provided the module to be swapped has been disconnected from the external power source and the On/Off switch has been set to “0”.**

The AC and DC modules are replaced in the same manner:

1. Set the On/Off switch on the power supply module to be replaced to “0”.
2. **Disconnect the power supply module to be replaced from the external power source.**
2. Loosen the panel fastener screw that secures the power supply module to the chassis.
3. Slide the power supply module from the chassis.
4. Carefully slide the replacement power supply module into the installation slot, aligning the power supply module with the installation guides.



power supply

5. Ensure that the the power supply module is firmly seated against the back of the chassis. If the power supply module does not fit flush against the frame, remove the module and ensure that it is aligned with the installation guides before installing.
6. Rotate the attached panel fastener screw clockwise to secure the power supply module to the chassis.
7. Connect the power supply module to the external power source.
(AC: see page 13 / 48-VDC: see page 15 / 24-VDC: see page 17.)

Warning: Do NOT connect the power supply module to the external power source before installing it into the chassis. Failure to observe this caution could result in equipment damage and/or personal injury or death.

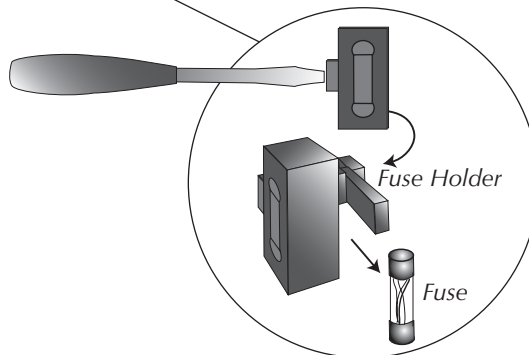
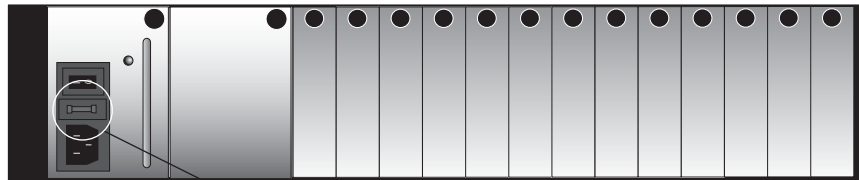
3.5.3 Replacing the Power Supply Fuse

Replacing the AC Fuse

CAUTION: Wear a grounding device and observe electrostatic discharge precautions when replacing the fuse in the power supply module. Failure to observe this caution could result in damage to, and subsequent failure of, the power supply module.

NOTE: Replace the fuse only with the same size and rating. Failure to observe this caution could result in equipment damage.

1. Set the On/Off switch on the power supply module to “0”.
2. **Disconnect the power supply module from the external power source.**
3. From the inside edge of the power receptacle, insert a small flat blade screwdriver into the groove on the front, inside edge of the fuse holder and carefully pry the fuse holder from the power supply module.



4. Carefully remove the fuse from the fuse holder.
5. Install a **same size and rating** replacement fuse in the fuse holder.
6. Return the fuse holder and fuse to the installation position in the power supply module. **Snap the fuse holder into place.**
7. Connect the power supply module to the external power source (see page 13).

power supply

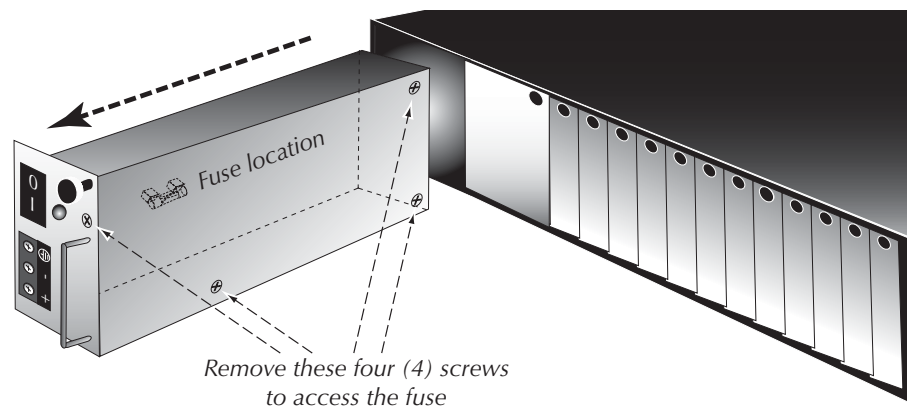
Warning: Do NOT connect the power supply module to the external power source before installing it into the chassis. Failure to observe this caution could result in equipment damage and/or personal injury or death.

Replacing the 48-VDC or 24-VDC Fuse

CAUTION: Wear a grounding device and observe electrostatic discharge precautions when replacing the fuse in the power supply module. Failure to observe this caution could result in damage to, and subsequent failure of, the power supply module.

NOTE: Replace the fuse only with the same size and rating. Failure to observe this caution could result in equipment damage.

1. Set the On/Off switch on the power supply module to “0”.
2. **Disconnect the power supply module from the external power source.**
3. Loosen the panel fastener screw that secures the module to the chassis.
4. Slide the module from the chassis and place it on a flat surface.
5. Remove the four (4) screws that secure the panel to the module (see drawing below) and remove the panel from module.



6. The fuse is located inside the power supply module on the circuit board. Remove the fuse from the fuse holder.
7. Install a **same size and rating** replacement fuse in the fuse holder.
8. Replace the panel to the power supply module and secure it in place with the four (4) screws.
9. Slide the power supply module into the installation slot, aligning the module with the installation guides. Ensure that the module is firmly seated inside the chassis.
10. Rotate the attached panel fastener screw clockwise to secure the power supply module to the chassis.
11. Connect the power supply module to the external power source.
(48-VDC: see page 15 / 24-VDC: see page 17.)

4 CPSMC13xx-100 Chassis

4.1 Installing the CPSMC13xx-100 Chassis

The CPSMC13xx-100 can be installed in a standard 19-inch rack or on a table, shelf, or other stable surface.

CAUTION: Install the chassis so that the air flow around it is not restricted.

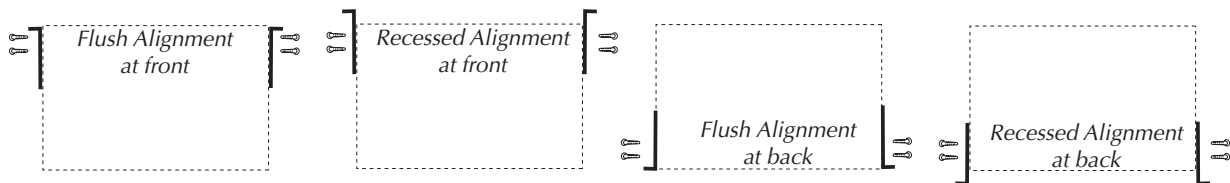
4.1.1 Table-Top Installation

The CPSMC13xx-100 chassis is shipped with nine (9) rubber feet for optional installation on a table or other flat, stable surface in a well-ventilated area. If table-top installation is desired, remove the rubber feet from the card and place them on the bottom of the chassis. Distribute the feet evenly so that the chassis is level when placed upright.

4.1.2 Standard 19-inch Rack Installation

The maximum recommended ambient temperature (T_{mra}) for the CPSMC13xx-100 chassis is **50°C**. If the chassis is installed in a closed or multi-unit rack assembly, **the operating ambient temperature of the the rack environment may be greater than room ambient.**

NOTE: Reliable earthing of rack-mounted equipment should be maintained. Particular attention should be given to supply connections **other than direct connections** to the branch circuit (e.g., use of power strips).



The chassis is designed so that the installation brackets can be installed to align the chassis either **flush** against the front or back edge of the rack or **recessed** from the front or back edge of the rack.

Warning: Select mounting bracket locations on the chassis that will keep the chassis balanced when mounted in the rack. Failure to observe this warning could allow the chassis to fall, resulting in equipment damage and/or possible injury to personnel.

To install the CPSMC13xx-100 chassis into a standard 19-inch rack:

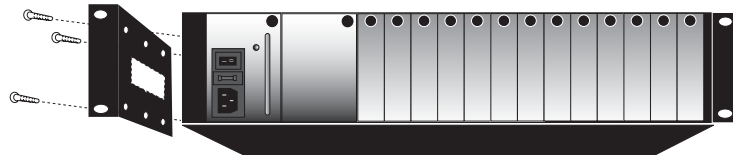
1. Determine the preferred alignment of the chassis in the rack.

NOTE: Installation bracket mounting screws are provided. Rack mount screws and clip nuts are NOT provided.

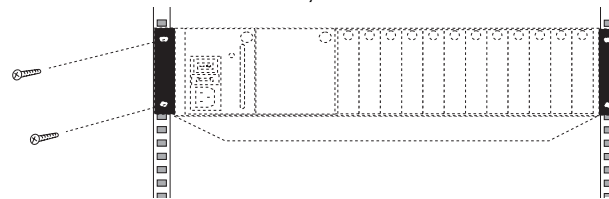
2. Locate six (6) installation bracket mounting screws (provided) for each chassis to be installed.

Warning: Mount the chassis evenly and securely onto the rack. Failure to observe this warning could allow the chassis to fall, resulting in equipment damage and/or possible injury to personnel.

3. Align the universal mounting bracket in the selected position against the side of the chassis so that the chassis installation holes are visible through the universal bracket installation holes.
4. Using a Phillips screwdriver, install the three (3) screws through the mounting bracket into the installation holes on side of the chassis.



5. Repeat steps 3 and 4 for the second mounting bracket.
6. Locate four (4) screws (not provided) and optional clip-nuts (not provided) for each chassis to be installed.
7. Carefully align the chassis at a secure and level position between the 19-inch site rack mounting rails.
8. Install two (2) screws through the right bracket into the right mounting rail and two (2) screws through the left bracket into the left mounting rail, using the clip nuts to secure, if necessary.



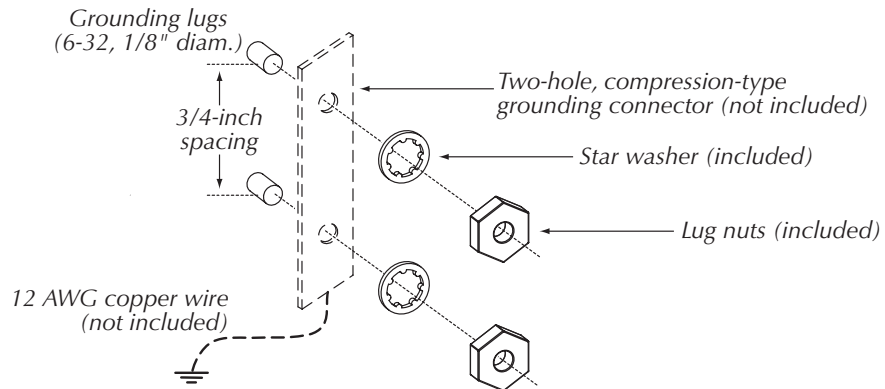
4.1.3 Grounding Lugs

The CPSMC13xx-100 comes equipped with grounding lugs, which are provided for a grounding conductor wire terminated with a **two-hole, compression-type, grounding connector**. The grounding wire -- which must be a copper conductor -- is not included with the chassis and must be provided by the customer/installer.

The electrical conducting path from the chassis must:

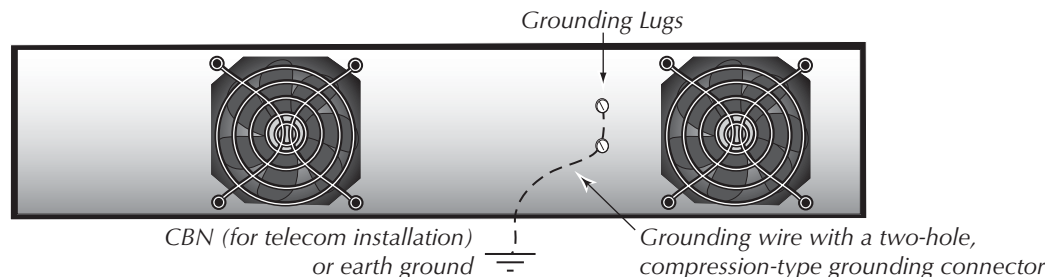
- Flow via the grounding lugs to the Common Bonding Network (CBN) for telecom installations; or to an alternate approved grounding system (if required) for non-telecom installations,
- Be of sufficiently low impedance to conduct fault currents likely to be imposed on the chassis, and
- Enable proper operation of any over-current protection devices.

The two-hole, compression-type, grounding connector **must be fastened to the grounding lugs with the enclosed, anti-rotation star-washers and lug-nut fasteners**. The required torque to the fasteners is specified by the connector's manufacturer.



To properly ground the CPSMC13xx-100 chassis:

1. Obtain one (1) properly-terminated, grounding conductor (12 AWG copper wire gauge or larger) with a two-hole, compression-type, grounding connector. Note the manufacturer's applied torque that is required for the connector.
2. Attach the grounding conductor to the chassis by placing the two-hole, compression-type connector onto the grounding lugs and fasten with appropriate lock-washers and lug-nuts at the proper torque.
3. Attach the opposite end of the properly-terminated grounding conductor to the Common Bonding Network (CBN) for telecom installations, or to an approved grounding system (if required) for non-telecom installations.

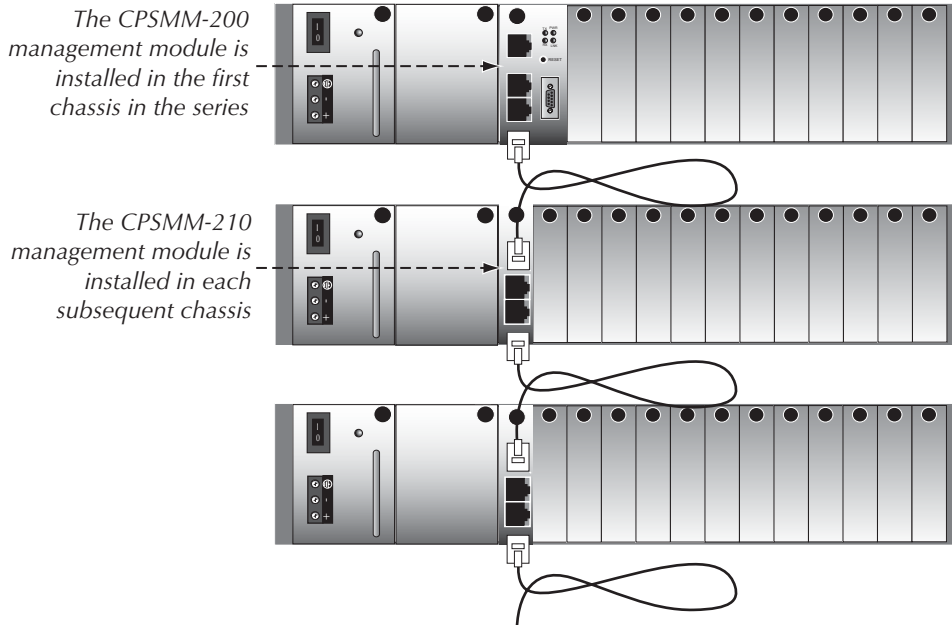


chassis

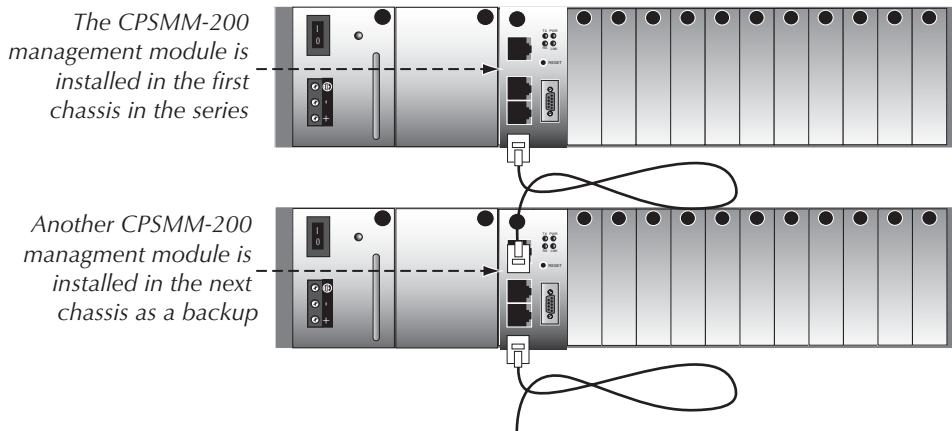
4.2 Cascade Option

The management module cascade option allows the network administrator to connect up to eight (8) chassis into one manageable stack, providing a single management source for up to 95 conversion devices.

To create the cascade option, the CPSMM-200 Dual Slot Master management module is installed in the first chassis in the series. The CPSMM-210 Single-Slot Expansion Management Module is installed in each subsequent chassis.



An alternative setup involves installing two CPSMM-200 Dual-Slot Master Management Modules into two adjacent chassis for redundant management.



In this set-up, the two CPSMM-200 management modules auto-negotiate so that one module is the primary while the other is in stand-by mode. If the primary module fails, the stand-by module automatically takes over and manages the network.

chassis

Cascading multiple CPSMC13xx-100 chassis

To cascade two or more chassis:

1. Locate one (1) Transition Networks management module cascade cable (with RJ-45 connectors installed at both ends) (P/N 6026) for each set of two (2) chassis to be cascaded.

NOTE: Transition Networks management module cascade cables are one (1) meter long. Ensure that the chassis are installed within one (1) meter of each other.

2. At the first chassis in the series: Plug the RJ-45 connector at one end of the cascade cable into the management module's RJ-45 port labeled "OUT".
3. At the next chassis in the series: Plug the RJ-45 connector at the other end of the cascade cable into the management module's RJ-45 port labeled "IN".
4. At the same chassis as in step 3: Plug the RJ-45 connector at one end of the cascade cable into the management module's RJ-45 port labeled "OUT".
5. At the next chassis in the series: Plug the RJ-45 connector at the other end of the cascade cable into the management module's RJ-45 port labeled "IN".
6. Repeat steps 4 and 5 until all chassis have been connected.

4.3 Connecting the Slide-in-Modules to the Network

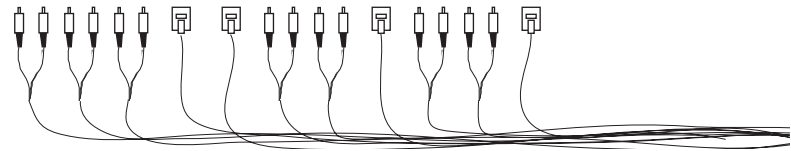
Once the CPSMC13xx-100 chassis has been installed, the media converter slide-in-modules may be connected to the network.

CAUTION: Connect input/output network cables **ONLY** to media converter connectors within the same network protocol (such as Ethernet-to-Ethernet, Fast Ethernet-to-Fast Ethernet, ATM-to-ATM). Failure to observe this caution will cause data transfer to fail.

Refer to the user's guide included with each media converter slide-in-module for cabling specifications and instructions.



Check the individual user's guides for specific information on how to connect each slide-in-module to the network.

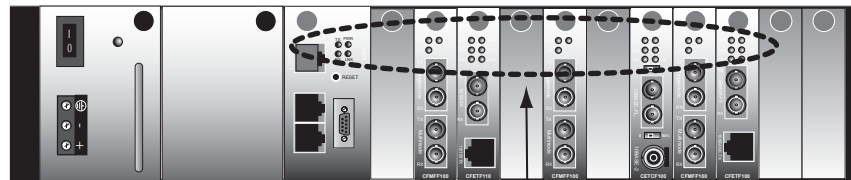


4.4 Operation

Daily operation of the CPSMC13xx-100 chassis requires no network administrator activity except for the occasional monitoring of the status LED indicators on the installed media converter slide-in-modules.

Each media converter and each management module has one or more LED indicators to help monitor the CPSMC13xx-100 chassis network.

Refer to the individual user's guide included with each Transition Networks slide-in-module to interpret the LED indicators.



LED indicators on the management module and slide-in-modules

5 Network Management

The CPSMM100 firmware and the *FocalPoint*™ application are described in the ***FocalPoint*™ 2.0 Management Application and CPSMM100 Firmware** user's guide (P/N 33293). This manual is included on the application CD and is also available on-line at www.transition.com.

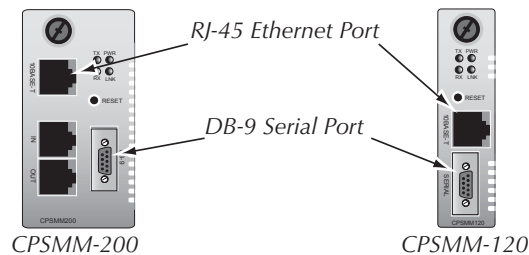
Transition Networks CPSMM100 firmware is embedded in the optional management modules (see section 2.2). The firmware allows the network administrator to configure and manage the CPSMC13xx-100 chassis from an attached terminal or from a remote, networked computer.

The firmware includes the Transition Networks **Command Line Interface (CLI)**, a **telnet server**, a **Web browser**, and an **SNMP** (Simple Network Management Protocol) agent.

In addition, Transition Networks ***FocalPoint*™ application** can be installed in the networked computer to provide a graphical user interface to monitor the *PointSystem*™ chassis.

5.1 Hardware Connections

Network Management can be implemented either through the DB-9 serial port or through the RJ-45 Ethernet port of the management modules.



DB-9 Serial Port

The DB-9 serial port allows the network administrator to configure and manage the CPSMC13xx-100 chassis using the SNMP Command-Line Interface (CLI) at an attached terminal or terminal emulator.

Use a **null modem cable** to attach a terminal to the DB-9 serial port on the management module as shown.



Attached terminal or terminal emulator connected to the DB-9 serial port via a **null modem cable**.

RJ-45 Ethernet Port

The RJ-45 Ethernet port allows the network administrator to manage the CPSMC13xx-100 chassis via a remote Network Management Station (NMS) in one of two ways:

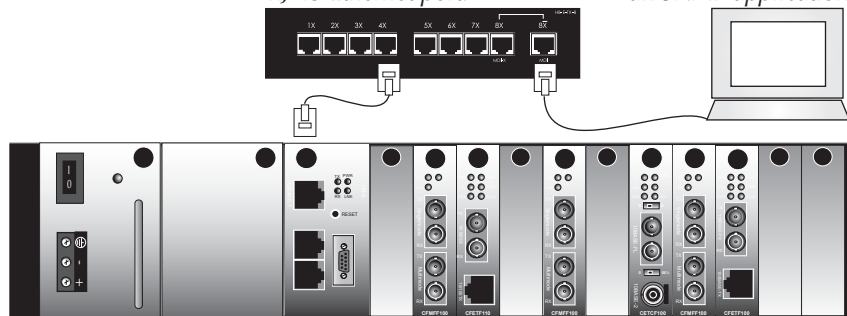
1. Using the Transition Networks *FocalPoint*™ graphical user interface.
2. Using a remote Telnet connection.

Use an RJ-45 network cable to attach a terminal (via a network hub or switch) to the RJ-45 Ethernet port on the management module as shown.

NOTE: To manage the chassis via a remote NMS, both the RJ-45 Ethernet port and the NMS must be connected to a network with Internet access.

Network hub or switch connected to the RJ-45 Ethernet port.

Remote Telnet connection or Remote NMS with an SNMP application



network mgmt

6 Troubleshooting

1. **Are any of the POWER LEDs on any of the slide-in-modules illuminated?**
YES
 - The chassis is receiving power. Proceed to the next step.**NO**
 - Check all power supply cables for proper connection.
 - For AC power: Ensure the AC receptacle on the wall is supplying power.
 - If the fuse for the AC receptacle on the wall blows repeatedly, have the AC receptacle inspected by a qualified electrician.
 - For DC power: Ensure the DC power supply is supplying power.
 - Contact Technical Support: U.S./Canada: 1-800-260-1312, International: 00-1-952-941-7600.

2. **For the management modules (CPSMM120, CPSMM200, CPSMM210), are ANY of the POWER LEDs NOT illuminated?**
NO
 - All management modules are receiving power. Proceed to the next step.**YES**
 For those management modules where the POWER LED is NOT illuminated:
 - Ensure the management module is firmly seated in the slot.
 - Press the RESET button on the management module.
 - Contact Technical Support: U.S./Canada: 1-800-260-1312, International: 00-1-952-941-7600.

3. **For the remaining slide-in-modules, are ANY of the POWER LEDs NOT illuminated?**
NO
 - All slide-in-modules are receiving power. Proceed to the next step.**YES**
 For those slide-in-modules where the POWER LED is NOT illuminated:
 - Ensure the slide-in-module is firmly seated in the slot.
 - Contact Technical Support: U.S./Canada: 1-800-260-1312, International: 00-1-952-941-7600.

4. **To determine if a fault is due to a software problem, consult the troubleshooting section of the *FocalPoint™ 2.0 Management Application and CPSMM100 Firmware User's Guide* (P/N 33293). This manual is available on the enclosed application CD and on-line at www.transition.com.**

5. **To determine if a fault is due to an individual management module or slide-in-module, consult the troubleshooting section of the user's guide for that particular module.**

6. **If none of the solutions listed in this section resolves the problem, contact Technical Support: U.S./Canada: 1-800-260-1312, International: 00-1-952-941-7600.**

Technical Specifications

For use with Transition Networks Model CPSMC13xx-100 or equivalent.

Dimensions 17 x 14.3 x 3.5 inches (430 x 363 x 89 mm)

Weight 17.5 lbs. (8.0 kg)

MTBF (Mean Time Before Failure)

Chassis w/ AC Power 88,550 hours (MIL217F2 V5.0 / MIL-HDBK-217F)
223,169 hours (Bellcore 7 V5.0)

Chassis w/ DC Power 277,359 hours (MIL217F2 V5.0 / MIL-HDBK-217F)
577,982 hours (Bellcore 7 V5.0)

CPSMP-120 Power Supply Module

Power Input: 100-240 V, 50/60 Hz, 0.4-1.0 Amp (typical with a fully-loaded chassis)
Power Output: +12 VDC at 10.83 Amp maximum.

CPSMP-130 Power Supply Module

Power Input: 48-VDC (38 to 58VDC) @ 2.63 Amp (typical with a fully-loaded chassis)
Power Output: +12 VDC at 12.5 Amp maximum.

CPSMP-140 Power Supply Module

Power Input: 24-VDC (20 to 31VDC) @ 4.83 Amp (typical with a fully-loaded chassis)
Power Output: +12 VDC at 8.3 Amp maximum.

Environment

Tmra: 0 to 50°C (32 to 122°F) (manufacturer's rated ambient temperature)
Storage Temperature: -40 to 80°C (-40 to 176°F)
Humidity 5 to 95%, non condensing
Altitude 0 to 10,000 feet

Compliance

EN 55022:1998 Class A; EN 55024:1998; FCC Part 15 Subpart B
UL Listed; 21 CFR Subpart J; CE Mark

Warranty Lifetime

Product is certified by the manufacturer to comply with DHHS Rule 21/CFR, Subchapter J applicable at the date of manufacture.

The fiber optic transmitters installed in this device meet Class I Laser safety requirements per IEC-825/CDRH standards and comply with 21 CFR1040.10 and 21CFR1040.11

CAUTION: Visible and invisible laser radiation when open. Do not stare into beam or view directly with optical instruments.

CAUTION: Use of controls, adjustments or the performance of procedures other than those specified herein may result in hazardous radiation exposure.

Cable Specifications

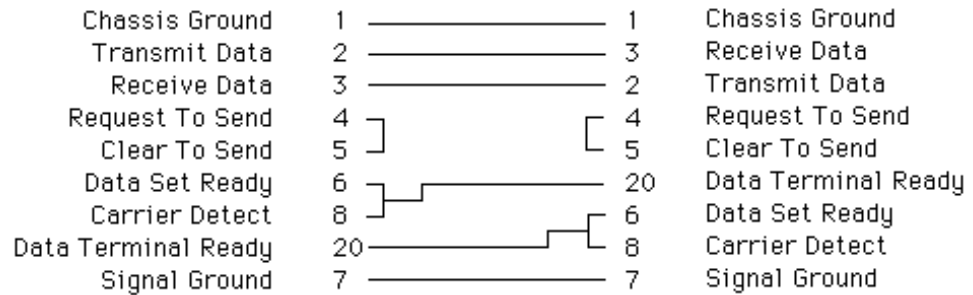
Null Modem Cable

The Null Modem Cable is used for connecting a terminal or terminal emulator to the management module's DB-9 connector to access the command-line interface.

The table below shows the pin assignments for the DB9 cable.

Function	Mnemonic	Pin
Carrier Detect	CD	1
Receive Data	RXD	2
Transmit Data	TXD	3
Data Terminal Ready	DTR	4
Signal Ground	GND	5
Data Set Ready	DSR	6
Request To Send	RTS	7
Clear To Send	CTS	8

25 Pin RS-232 Null Modem Cable



RJ-45 Cable

Category 5:

Gauge:	24 to 22 AWG
Attenuation:	22.0 dB /100m @ 100 MHz
Maximum Cable Distance:	100 meters

- Straight-through or crossover cable may be used.
- Shielded twisted-pair (STP) or unshielded twisted-pair (UTP) may be used.
- Pins 1&2 and 3&6 are the two active pairs in an Ethernet network.
(RJ-45 Pin-out: Pin 1 = TD+, Pin 2 = TD-, Pin 3 = RD+, Pin 6 = RD-)
- All pin pairs (1&2, 3&6, 4&5, 7&8) are active in a Gigabit Ethernet network.
- Use only dedicated wire pairs for the active pins:
(e.g., blue/white & white/blue, orange/white & white/orange, etc.)
- Do not use flat or silver satin wire.

COAX Cable

Coaxial cable media is used for circuits such as DS3, E1 and 10Base-2 Ethernet. The impedance of the coaxial cable is determined by the interface type, for example:

- 75 ohm for DS3.
- 50 ohm for 10Base-2 Ethernet.

Special attention should be given to the grounding requirements of coaxial cable circuits. Installation may require grounding at both cable ends or only one cable end or neither cable end.

Cable Shield Grounding

Media converter network cabling may be shielded or unshielded. Shielded cables **MUST** be grounded according to the specific requirements of the media and port type. For example:

- Shielded RJ-45 cable used for 100Base-Tx Ethernet **MUST** be grounded at both cable endpoints via shielded RJ-45 jacks.
- Shielded RS-232 cable **MUST** have the shield grounded at both cable endpoints via shielded RS-232 connectors.
- COAX cable used for 10Base-2 Ethernet **MUST** only be grounded at a single point.

The media converters provide a jumper option or other grounding mechanism as required. Special attention should be given to the grounding requirements of coaxial cable circuits. Installation may require grounding at both cable ends or only one cable end or neither cable end. See the individual media converter user's guide for cable/port grounding requirements.

Contact Us

Technical Support

Technical support is available 24 hours a day.

United States: **1-800-260-1312**

International: **00-1-952-941-7600**

Transition Now

Chat live via the Web with a Transition Networks Technical Support Specialist.

Log onto **www.transition.com** and click the **Transition Now** link.

Web-Based Seminars

Transition Networks provides 12-16 seminars per month via live web-based training.

Log onto **www.transition.com** and click the **Learning Center** link.

E-Mail

Ask a question anytime by sending an e-mail message to our technical support staff.

techsupport@transition.com

Address


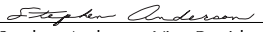
Transition Networks

6475 City West Parkway
Minneapolis, MN 55344, USA

telephone: 952-941-7600

toll free: 800-526-9267

fax: 952-941-2322

	Declaration of Conformity
Name of Mfg:	Transition Networks 6475 City West Parkway, Minneapolis MN 55344 USA
Model:	PointSystem™ Chassis
Part Number:	CPSMC1300-100, CPSMC1310-100, CPSMC1320-100
Regulation:	EMC Directive 89/336/EEC
Purpose: To declare that the PointSystem™ Chassis to which this declaration refers is in conformity with the following standards. CISPR 22:1993; EN 55022:1998; EN 55024:1998 Class A; UL 60950:2000; 21 CFR subpart J; <i>I, the undersigned, hereby declare that the equipment specified above conforms to the above Directive(s) and Standard(s).</i>	
 Stephen Anderson, Vice-President of Engineering	June 14, 2001 Date

Warranty

Limited Lifetime Warranty

This warranty is effective for products shipped May 1, 1999 and after. Every Transition Networks' labeled product purchased after May 1, 1999 will be free from defects in material and workmanship for its lifetime. This warranty covers the original user only and is not transferable.

This warranty does not cover damage from accident, acts of God, neglect, contamination, misuse or abnormal conditions of operation or handling, including over-voltage failures caused by use outside of the product's specified rating, or normal wear and tear of mechanical components. If the user is unsure about the proper means of installing or using the equipment, contact Transition Networks' free technical support services.

To establish original ownership and provide date of purchase, please complete and return the registration card accompanying the product or register the product online on our product registration page.

Transition Networks will, at its option:

- Repair the defective product to functional specification at no charge,
- Replace the product with an equivalent functional product, or
- Refund the purchase price of a defective product.

To return a defective product for warranty coverage, contact Transition Networks' technical support department for a return authorization number. Transition's technical support department can be reached through any of the following means:

Contact Tech Support 24-hours a day:

- 800-260-1312 x 200 or 952-941-7600 x 200
- fax: 952-941-2322
- email: techsupport@transition.com
- live web chat: Transition Now
- voice mail: 800-260-1312 x 579 or 952-941-7600 x 579
- All messages will be answered within one hour.

Send the defective product postage and insurance prepaid to the following address:

CSI Material Management Center

c/o Transition Networks

6103 Blue Circle Drive

Minnetonka, MN 55343 USA

Attn: RETURNS DEPT: CRA/RMA # _____

Failure to properly protect the product during shipping may void this warranty. The return authorization number must be written on the outside of the carton to ensure its acceptance. **We cannot accept delivery of any equipment that is sent to us without a CRA or RMA number.**

The customer must pay for the non-compliant product(s) return transportation costs to Transition Networks for evaluation of said product(s) for repair or replacement.

Transition Networks will pay for the shipping of the repaired or replaced in-warranty product(s) back to the customer (any and all customs charges, tariffs, or/and taxes are the customer's responsibility).

Before making any non-warranty repair, Transition Networks requires a \$200.00 charge plus actual shipping costs to and from the customer. If the repair is greater than \$200.00, an estimate is issued to the customer for authorization of repair. If no authorization is obtained, or the product is deemed not repairable, Transition Networks will retain the \$200.00 service charge and return the product to the customer not repaired. Non-warranted products that are repaired by Transition Networks for a fee will carry a 180-day limited warranty. All warranty claims are subject to the restrictions and conventions set forth by this document.

Transition Networks reserves the right to charge for all testing and shipping incurred, if after testing, a return is classified as "No Problem Found."

THIS WARRANTY IS YOUR ONLY REMEDY. NO OTHER WARRANTIES, SUCH AS FITNESS FOR A PARTICULAR PURPOSE, ARE EXPRESSED OR IMPLIED. TRANSITION NETWORKS IS NOT LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES OR LOSSES, INCLUDING LOSS OF DATA, ARISING FROM ANY CAUSE OR THEORY. AUTHORIZED RESELLERS ARE NOT AUTHORIZED TO EXTEND ANY DIFFERENT WARRANTY ON TRANSITION NETWORKS' BEHALF.

