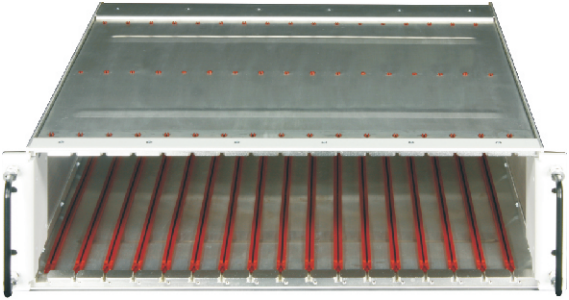
OPTICAL HEADEND PLATFORM

OTOHP-CH 3RU CHASSIS
OTOHP-PS POWER SUPPLY MODULE
OTOHP-BP BLANK PANEL

INSTRUCTION MANUAL



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PRECAUTIONS

Failure to comply with these general safety precautions and with the specific precautions described elsewhere in this manual violates the safety standards of the design, manufacture, and intended use of the device. Olson Technology Inc. assumes no liability for the customer's failure to comply with these precautions.

CAUTION: Ensure that the voltage visible through the Line Voltage Indicator window on the AC power entry port of the power supply module corresponds to the range in the specifications (85 to 264 V_{AC}).

CAUTION: Do not operate the chassis or power supply outside of their maximum ratings. Doing so may result in unsatisfactory performance, unit failure, shortened unit life span, or a safety hazard.

CAUTION: Do not attempt to modify or service any part of this chassis not specifically referred to as replaceable in this manual. Doing so voids the warranty. Return the chassis to Olson Technology Inc. for service and repair.

CAUTION: No chassis should be operated in an ambient environment above 50ºC (122ºF).

CAUTION: Do not restrict airflow in front or back of the chassis. The OTOHP-PS power supply module should be operated in an ambient environment between 0 and 50ºC (32 and 122ºF) for a continuous output of 200 watts.

CAUTION: Store the chassis and power supply module away from corrosive materials, at a temperature between -40 and +70ºC (-40 to +158ºF), and with no more than 85% humidity, non-condensing.

INTRODUCTION

The Olson Technology, Inc. Model OTOHP-CH is a standard 19-inch width, 3RU high chassis that is the heart of Olson Technology's OHP (Optical Headend Platform) system. The chassis is 3RU high and has seventeen(17) slots to accommodate all module types. The chassis will hold up to fifteen (15) modules and one (1) OTOHP-PS power supply or thirteen (13) modules and two redundant power supplies. A backplane interface provides inter-module communication and power distribution. OTOHP-BP blank panels can be ordered to cover the slots not being used by a module.

The OTOHP-PS power supply module provides stable powering for all modules in the chassis. The auto-recovery short circuit protection function of the power supply improves the reliability of the platform. On the front panel, LED's indicate the module status and health and DC voltage output status. OTOHP-PS also provides a +24VDC test point voltage testing for output.

POWER SUPPLY ELECTRICAL & ENVIRONMENTAL CHARACTERISTICS

	Min	Typ	Max	Units
Input AC Voltage	85		264	V_{AC}
Output DC Voltage		24		V_{DC}
Output Pwr. Capability		300		W
Efficiency$_1$		86		%
Efficiency$_2$		84		%
Operating Temp. Range	0		+50	°C
Storage Temp. Range	-40		+70	°C
Relative Humidity$_3$	5		85	%
Weight		2		kg
		4.4		lbs.
Input Connector	IEC Male			
Short Circuit Protection	Yes			
Dimensions	395 x 48 x 128			mm
	15.6 x 1.89 x 5.04			in.

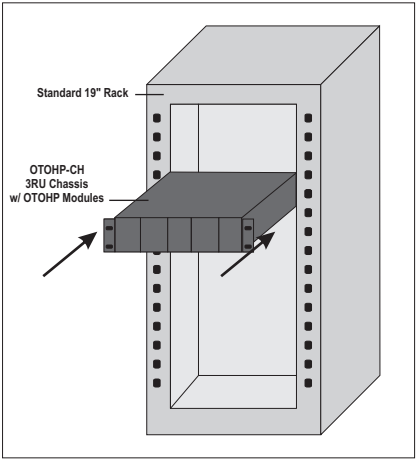
NOTES

1) 230V_{AC} - Full Loading
2) 115V_{AC} - Full Loading
3) Non-condensing

INSTALLATION / ENVIRONMENTAL CONSIDERATIONS

CAUTION: Two people are required to install the chassis. Due to the weight of a loaded chassis, the chassis should be installed without modules. The chassis is designed to be installed into a standard EIA 19 inch rack in an indoor environment following the guidelines below.

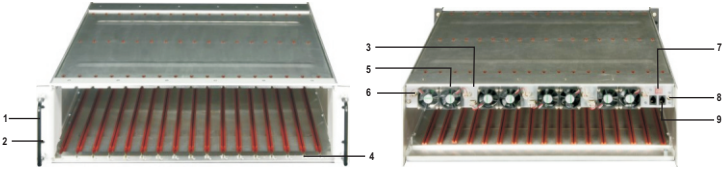
1. Do not block the front or back panel of any chassis and maintain sufficient space in front of and behind the rack for air circulation.
2. Align the mounting holes in each of the front flanges of the chassis with holes in the rack.
3. Install and tighten all four mounting flange screws securely.
4. If one or two OTOHP-PS power supply modules will be installed in the chassis, verify that the voltage visible through the Line Voltage Indicator window on the AC power entry port of the power supply module corresponds to the range in the specification sheet (85 to 264 V_{AC}).



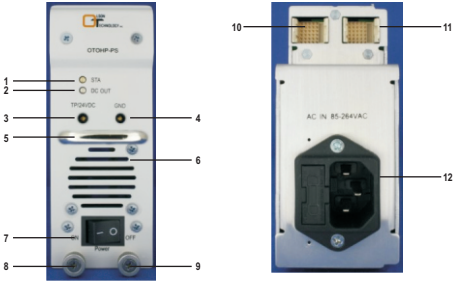
5. Install the power supply module(s) into the chassis. The OTOHP-PS power supply module is a dual-width module requiring two adjacent slots (slot 1 can only be used for OTOHP-NMS installation).
6. Set the power switch on the front of the power supply module to the “ON” position. The power indicator should light and the eight (8) cooling fans located on the rear panel of the chassis should run, indicating proper operation of the chassis.
7. Install all the appropriate modules into the chassis.

OPERATION PANEL DESCRIPTIONS

The components and features of the chassis and power supply are described below.



1. Handle: For handling the chassis when installing or uninstalling from the rack.
2. Mounting hole (four locations): Fixes the chassis to the standard rack.
3. Chassis backplane: Provides signal and power connections to modules.
4. Slot: Guide for application module installation.
5. Fan: For heat dissipation.
6. Grounding Screw: For chassis grounding.
7. ID Selector: Select chassis ID for cascade application.
8. Grounding Screw: For chassis grounding.
9. RS-485 Port: Provide connect port for cascade application.



1. STA LED: Green indicates the module is operating properly. Red indicates the module has alarms.
2. DC Out LED: Green indicates the module is putting out DC power. If the LED is dark, the power supply is not putting out DC power.

OPERATION PANEL DESCRIPTIONS (CONT.)

3. TP/24VDC: Anode for $24V_{DC}$ out test point.
4. GND: Ground for $24V_{DC}$ out test point.
5. Handle: Used to handle the module when being installed or uninstalled.
6. Heat dissipation hole: Air flow out of holes dissipates heat from the module.
7. Power switch: Turns the power supply module on and off.
8. Thumbscrew: Fixes the power supply module to the chassis.
9. Thumbscrew: Fixes the power supply module to the chassis.
10. 30-pin Connector: Provides power and signals to the chassis backplane; connector type is male.
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12. IEC Male Plug: Provides input of AC power to the power supply.

UNPACKING AND CHECKING

All units are tested and inspected before shipment and found to be free of mechanical and electrical defects. However, upon receiving your products.

1. Examine all shipping containers for any damage caused by shipping.
2. Unpack all modules and chassis.
3. Keep all packing materials until your inspection is complete. When possible, save the shipping container for future reshipment and/or storage.

If damage is discovered, file a claim with the carrier immediately and notify your Olson Technology, Inc. representative as soon as possible. Products deemed defective by the original purchaser must be returned to Olson Technology, Inc. prepaid in the original packing material (or equivalent) with a Return Material Authorization (RMA) from the Olson Technology, Inc.

INSTALLING MODULES

If only a single power supply module is to be installed in the chassis, refer to the section above for powering considerations.

CAUTION: Some components are sensitive to electrostatic discharge (ESD)! Use a grounding strap to prevent damage to electronic components by ESD. Do not touch any components not specifically referred to in these instructions.

INSTALLING MODULES (CONT.)

CAUTION: Some module pins are sensitive to electrostatic discharge (ESD)! Use a grounding strap to prevent damage to the module by ESD.
CAUTION: Installing a module with bent pins will damage the backplane connector pins on the module and may damage the mating chassis backplane connector.

CAUTION: If the OTOHP-NMS module is used, it should be installed in Slot 1 only.
Note: Modules can be installed and removed with the chassis powered. A power supply module can also be placed in two adjacent slots.
Tip: It may be beneficial to install, connect, and configure one module at a time. Also, installing similar type modules (i.e. Forward Transmitters or Return Receivers) in groups can make the process easier because you will be dealing with the same types of connections and configurations.

1. Inspect for bent pins on the backplane connector at the rear of the module. Straighten any bent pins before installing the module.
2. Gently insert each module into a slot in the front of the chassis. Be careful to align the metal guide rails on the top and bottom of the module with the nylon guides in the interior of the chassis housing.
3. Tighten the thumbscrew on the front of the module.
4. Repeat Steps 1 through 3 to install the remaining modules in the chassis.
5. On the power supply module(s) plug the power cord (shipped with the power supply module) into the IEC male receptacle and turn the power switch to the “ON” position. The module will start to work.
6. The application modules available for installation in the OTOHP-CH chassis are listed below.

Module	Part Number
Forward Path 1310nm Tx	OTOHP-FTX
Forward Rx w/ Redundant Inputs	OTOHP-FRX
QAM 1550nm DM Tx (future)	OTOHP-FTX5
Quad RFoG Return Path Rx	OTOHP-RFG
Quad Reverse Return Path Rx	OTOHP-RRX
EDFA (future)	OTOHP-EDFA
Network Management System	OTOHP-NMS
Blank Panel for Unused Chassis Slot	OTOHP-BP

UNINSTALL THE POWER SUPPLY MODULE

Note: A service outage will occur if a power Supply module is removed from a chassis if no other power supply module is installed in the chassis.

1. Turn the Power Supply module off.
2. Disconnect the power cord from the power supply module receptacle at the rear of the OTOHP-CH chassis.
3. Loosen the two thumbscrews on the front panel of the module. CAUTION: Do not pull on the thumbscrews to remove the module. Pull on the handle that the thumbscrew goes through to remove the module.

TROUBLESHOOTING

STATUS LED LIGHT RED

1. Check to verify that fans are running on back panel.
2. Check DC test point output voltage (spec. $24V_{DC}$ 1.8V). If module has any one condition, please call customer service department.

DC OUT LED NOT LIT

Installation of the AC Power Supply module is explained above. Periodically verify that the DC OUT LED on the front panel of the Power Supply module(s) is lit. If this LED is not green, please check DC test point on front panel. There is a fault on a power supply module, or a short circuit in one of the modules installed in the chassis.