



CHP Max™ Headend Optics Platform

CHP Max5000® Optical Headend Chassis and Components



Deliver new, revenue generating services

- Dense, space saving footprint
- 2RU scalable system
- Front or rear fiber connection options
- High speed backplane to support data communication in gigabit EPON applications
- High speed shelf interconnect option with 100 BaseT Ethernet connection
- Supports all CHP application modules
- Simplified installation and management
- Local and remote monitoring capability

Accelerate Deployment of New Revenue Generating Services

To help cable operators who look for new subscriber revenue and higher average revenue per subscriber without major CAPEX, ARRIS offers a suite of products and solutions that help them seamlessly and easily stay in line with future goals, add new services and strongly position against the competition.

As part of the CHP Max headend optics platform, the CHP Max5000 headend chassis converges HFC and digital transport onto a single scalable system, allowing service providers to accelerate deployment of advanced services such as VOD, high speed data, and telephony in a space saving footprint.

Flexible Options

The CHP Max5000 offers 13 module slots in a 2RU chassis, providing 10 module slots for application modules, 2 for isolated redundant power supplies, and 1 for a local or remote management module. The high speed backplane supports data communication in gigabit EPON applications. A high speed shelf interconnect option with a 100 BaseT Ethernet connection provides daisy chaining capability for multiple chassis. Front or rear fiber connection options provide flexibility in installation and maintenance.

Increase Subscriber Satisfaction

CHP Max5000 isolated, load-sharing, redundant power supplies are efficient, switched mode modules that accept either AC or DC input. One power supply supports a completely loaded chassis, while two offer power redundancy that eliminates service interruption if one power supply or line-in feed service fails.

Universal management is provided through the Craft interface, SNMP with HMS, or remote IP access via a Craft Management Module (CMM) or System Management Module (SMM).

CHP Max5000 Chassis

The CHP Max5000 (2RU) chassis fits into a 19-inch or 23-inch rack that holds 10 single-width application modules, and routes power and element management signals. An optional bracket kit is available. Each chassis requires one power supply module and accepts a second for redundancy. The high speed backplane supports data communication in gigabit EPON applications. A high speed shelf interconnect option with a 100 BaseT Ethernet connection provides daisy chaining capability for multiple chassis.

Modules slide into the chassis from the front of the rack, with either front or rear optical connections. Separate interfaces built into the back panel of each chassis provide power and data communications to/from installed application modules. Universal slots accept the plug-in application modules in virtually any combination to accommodate a variety of service delivery requirements.

Designed for thermal efficiency, the CHP Max5000 chassis provides a wide operational temperature range for maximum reliability. A plenum with eight cooling fans offers better reliability than module-based fans; in the event of a fan failure, application modules—and the services provided—remain in operation.



CHP Max5000 Rear Fiber Chassis



CHP Max5000 Front Fiber Chassis

CHP Max5000 Power Supply*

The CHP Max5000 switched-mode AC power supplies accepts AC input from 85 to 264 VAC (47 to 63 Hz) and provides DC voltages to drive application modules. Each chassis accepts a second backup AC power supply for load sharing and redundancy. The power supplies are fully isolated, which eliminates a single point of power failure.

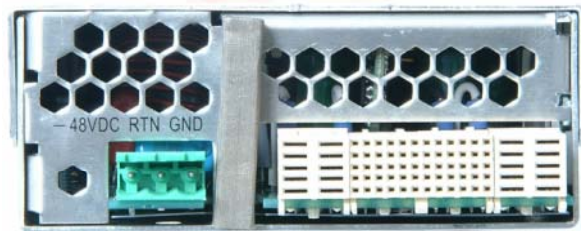
The CHP Max5000 switched-mode DC power supplies, mode accepts DC input from -72 to -36 VDC and produces 246 W or 475 W to power a fully-loaded chassis of application modules. Each chassis accepts a second backup DC power supply for load sharing and redundancy. These power supplies are fully isolated, eliminating a single point of power failure.

CHP power supplies are located on the far right side of the chassis behind the Craft Management Module (CMM) or System Management Module (SMM). Isolated outputs allow the primary and redundant supplies to operate in a power-sharing configuration. Should the primary power source fail, a second power supply provides all necessary DC power.

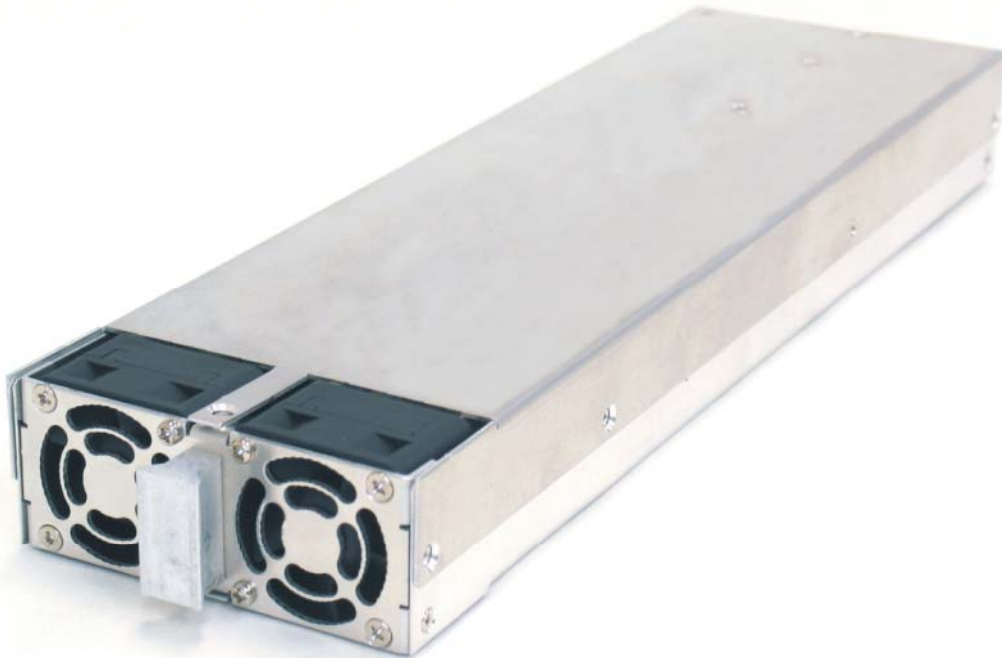
**AC power supply with or without US power cord. International customers will need to order the power supply without the power cord and select the appropriate power cord for their application from the ordering matrix in the CHP System technical specification.*



CHP Max5000 Power Supply Front View



CHP Max5000 Power Supply Back View



CHP Max5000 Management Modules

The CHP Max5000 Craft Management Module (CMM) offers local monitoring and configuration along with a provided PC compatible graphical user interface (GUI). The CHP Max5000 GUI simplifies system installation, provides monitoring on easy to read screens and displays all critical module information to assist in operational management. A complete equipment manual is also included in the Craft Management Software (CMS) bundle for access on a PC with compatible Windows® operating systems.

The System Management Module (SMM) offers all the functionality of the CMM plus remote management using SNMP with HMS-compliant MIBs through the Ethernet interface for use with an external element manager. The SMM also provides remote access to the CMM interface using an IP connection through the Ethernet interface from the remote GUI software without requiring the capital expenditure of SNMP element manager. Both management modules offer an RS-485 interface for interconnecting multiple chassis at one site for single point control from an SMM. The SMM provides SNMP access for remote management and monitoring of the CHP Max5000 headend equipment via both HMS public domain and enterprise MIBs. To monitor up to 10 chassis, install 1 CMM in up to 9 chassis and 1 SMM in a tenth chassis. The chassis can then be daisy-chained and an Ethernet connection used to program, provision, monitor, and manage the CHP Max5000 equipment via an SNMP element manager. Managing more than 10 chassis is accomplished by using a 10baseT Ethernet hub or switch between the Remote Management System and the chassis containing the SMM module.



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CHP Max5000 Management Modules (cont)

A new System Management Module (SMM-2) has been developed to support feature rich modules such as the FTMax™ EPON OLT, CHP CORWave II full spectrum C-Band forward transmitter and the CHP digital return receivers. Backwards compatibility with legacy modules will be enabled through regularly scheduled software releases. The chart below has been developed for compatibility clarification. Please contact your ARRIS professional sales person to be sure you are receiving regularly scheduled updates.

	CHP U Series Chassis	CHP S Series Chassis	CHP Earlier Chassis	CHP-SMM-2	CHP-SMM1	CHP-CMM-1	Legacy Controllers (SMM/CMM)	475 Watt Power Supply	250 Watt Power Supply	Aux-2 Card (ethernet card for CHP chassis)
CHP CORWave II	Yes	Yes	Yes*	Required	No	No*	Not supported	Yes	Yes*	Not required
FTMax™ EPON OLT	Required	No	No	Required	No	No*	Not supported	Yes	Yes	Required
CHP-D2RRX	Required	No	No	Required	No	No*	Not supported	Yes	Yes	Required
CHP-SMM-2	Yes	Yes	Yes	Yes	No	(Q)	Not supported	Yes	Yes	Yes
CHP-SMM1	Yes	Yes	Yes	No	Yes	Yes	Not recommended	Yes	Yes	No
CHP-CMM1	Yes	Yes	Yes	(Q)	Yes	Yes	Not recommended	Yes	Yes	No
Legacy Controllers	Yes	Yes	Yes	(Q)	Yes	Yes	Yes	Yes	Yes	No
475 Watt Power Supply	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Not recommended	Yes
250 Watt Power Supply	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Not recommended	Yes	Yes

(Q) : RoadMap 4Q2010/1Q2012

Key: Yes*: Limit 5 Modules per chassis

No* : No daisy chain capability supported at this time

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Find more information about the CHP Max5000 Chassis, Power Supply, and Element Management :

- Product Specifications—Chassis, Power Supply, and Element Management CHP Max5000 Technical Specifications (Publication Code: CHPSYS_TS.pdf)

Customer Care—Contact Customer Care for product information and sales

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