

# CHP Max Headend Optics Platform

CHP CORWave® 3 Dual Density  
1.2 GHz C-Band DWDM  
Forward Transmitters

## FEATURES

- 1.2 GHz full spectrum supporting DOCSIS® 3.1 upgrades
- Maximize fiber assets with up to 44 wavelengths
- Optimize headend and hub efficiencies with industry leading density and low power consumption
- Simplify sparing and inventory with tunable wavelengths
- Support multiple optical architectures including full spectrum, overlay, and RFoG
- Configure, monitor, and manage with CORView™ Element Management System



## PRODUCT OVERVIEW

ARRIS CHP CORWave® 3 1.2 GHz Forward Transmitters provide operators with significant operational and system benefits. Featuring the lowest power consumption among comparable forward transmitters in the industry, the CORWave 3 enables operators to decrease their headend footprint and significantly reduce powering costs. In addition, the CORWave 3's industry-leading Dual Density, with two transmitters in a single-wide application module, allows cable operators to add other application modules for new capacity and new services without increasing their current footprint. The CORWave 3's superior density also supports a 50% decrease in the number of physical devices operators need for forward path transmission, providing additional cost and power savings.

### Reduce Complexity and Headend Space

The CHP CORWave 3 Dual Density is optimized for analog and digital channel loading. Available with front and rear fiber connections, the CHP CORWave 3 is backwards compatible with all current and legacy CHP chassis. It features two wavelengths in one single-wide application module to simplify operations, provide less headend “plumbing,” and provide easier module management. In addition, the CORWave 3 multiwavelength plan allows operators to reclaim fiber by leveraging their existing fiber infrastructures for up to 44 multiplexed C-band wavelengths with a long reach over a single fiber.

Lower RF input allows for less amplification in the headend, which reduces space and power consumption. To further reduce space in the headend, the single Broadcast input is internally split to both lasers, which reduces the number of external splitters and external cabling that is required.

### Reduce Inventory

CORWave 3 transmitters come equipped with tunable lasers, which provide the ability to tune up or down. This feature reduces the required spares, saving operators capital and operational expenses.

### Add Value to Existing Assets

Operators with a large base of active CHP Headend Optics Platforms can transition seamlessly to CHP CORWave 3 Dual Density. By doing so, they can deploy new, revenue-generating services, reduce complexity for existing deployments, and transition easily to new CHP installs. For added operational value, operators can monitor CORWave 3 transmitters via the CORView Element Management System, which provides an intuitive and user-friendly interface for security, discovery, configuration, and inventory functions.

#### OPTIONS

CHP CORWave Dual Density Multiwavelength Transmitter

Front or rear fiber

CORView Element Management System

Flexible wavelength pairings

#### RELATED PRODUCTS

CHP Chassis                      Optical Patch Cords

Power Supplies                Optical Passives

Management Module        Installation Services

## GENERAL SPECIFICATIONS

### Transmitter Specifications

<b>Optical</b>	
Output Power	10 dBm typical
<b>RF</b>	
Bandwidth Operational Range	52 to 1218 MHz
Response flatness, P-V, typ./max.	1.0/2.0 dB
Input Return Loss	16 dB
RF Input Test Point	-20 ± 1.0 dB
Port-to-Port Isolation	50 dB
<b>Mechanical</b>	
Optical Connector, -L	LC/APC (8 degrees)
Optical Connector, -S	SC/APC (8 degrees)
RF Connector	F-type
Dimensions (W x H x D) in (cm) (Note 1)	1.25 x 3.4 x 18.5 in (3.2 x 8.7 x 47.0 cm)
Weight, Dual Density	3.0 lbs (1.4 kg)
<b>Environmental</b>	
Operating Temperature (Note 2)	32° to 122°F (0° to 50°C)
Storage Temperature	-40° to 158°F (-40° to 70°C)
Humidity	95% non-condensing, max

### RFoG Application

SBS Limit	20 dBm (20 km fiber)
Channel Loading	190 ITU-T J.83 Annex B QAM 256 channels, 54-1218 MHz

### HFC Application

<b>RF</b>	
Channel Loading	30 NTSC Analog channels from 55.25 MHz to 247.2625 MHz, 124 ITU-T J.83 Annex B QAM 256 channels (6 dB below analog) to 1002 MHz 154 ITU-T J.83 Annex B QAM 256 channels, 54-1002 MHz 190 ITU-T J.83 Annex B QAM 256 channels, 54-1218 MHz Note: Please contact your sales representative for higher analog channel loading count.
Nominal Input RF power	13 dBmV for 30 NTSC Analog channels from 55.25 MHz to 247.2625 MHz, 124 ITU-T J.83 Annex B QAM 256 channels (6dB below analog) to 1002 MHz 9 dBmV for 155 ITU-T J.83 Annex B QAM 256 channels, 54-1002 MHz 7 dBmV for 190 ITU-T J.83 Annex B QAM 256 channels, 54-1218 MHz
Minimum Input RF power	8 dBmV for 30 NTSC Analog channels from 55.25 MHz to 247.2625 MHz, 124 ITU-T J.83 Annex B QAM 256 channels (6 dB below analog) to 1002 MHz 4 dBmV for 155 ITU-T J.83 Annex B QAM 256 channels, 54-1002 MHz 2 dBmV for 190 ITU-T J.83 Annex B QAM 256 channels, 54-1218 MHz
Input Level Range	+3/-5 dB
<b>Typical Link Performance</b>	
CCNR	51 dB (Notes 3, 4, 7)
CSO	-60 dBc (Notes 3, 4, 7)
CTB	-60 dBc (Notes 3, 4, 7)
MER	38 dB (for all cases) (Notes 5, 6)
BER (Pre-FEC)	1E-8 (ITU-T J.83 Annex B QAM 256 channels) (Note 6)

#### NOTES:

1. Includes handles and connectors
2. Temperature measured at transmitter module's air inlet
3. CNR and CTB/CSO may degrade up to 0.5 and 2 dB, respectively, over full operating temperature range.
4. Link performance based on single wavelength over 40 km, and 0 dBm into the receiver.
5. Source contribution not included.
6. For all RF Channel Loadings listed above.
7. For 30 NTSC Analog channels from 55.25 MHz to 247.2625 MHz, 124 ITU-T J.83 Annex B QAM channels (6 dB below analog) to 1002 MHz.

**ORDERING INFORMATION**

				<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>		<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>		<b>9</b>	<b>10</b>		<b>11</b>
<b>C</b>	<b>H</b>	<b>P</b>	<b>-</b>	<b>D</b>	<b>D</b>	<b>x</b>	<b>x</b>	<b>-</b>	<b>x</b>	<b>x</b>	<b>x</b>	<b>x</b>	<b>-</b>	<b>1</b>	<b>0</b>	<b>-</b>	<b>L</b>

<b>1</b>	<b>Density</b>
D	Dual
S	Single
<b>2</b>	<b>Modulation</b>
D	DML (Directly Modulated)
<b>3</b>	<b>Fiber Location</b>
F	Front
R	Rear
<b>4</b>	<b>Output</b>
0	Fixed
V	Variable (future)

<b>5-8</b>	ITU Channel for Lasers 1 and 2 (may select one channel above the default channels listed below) (independently user-selectable via <i>CORView</i> )
2021	Laser 1: 20; Laser 2: 21
2223	Laser 1: 22; Laser 2: 23
2425	Laser 1: 24; Laser 2: 25
2627	Laser 1: 26; Laser 2: 27
2829	Laser 1: 28; Laser 2: 29
3031	Laser 1: 30; Laser 2: 31
3233	Laser 1: 32; Laser 2: 33
3435	Laser 1: 34; Laser 2: 35
3637	Laser 1: 36; Laser 2: 37
3839	Laser 1: 38; Laser 2: 39
4041	Laser 1: 40; Laser 2: 41
4243	Laser 1: 42; Laser 2: 43
4445	Laser 1: 44; Laser 2: 45
4647	Laser 1: 46; Laser 2: 47
4849	Laser 1: 48; Laser 2: 49
5051	Laser 1: 50; Laser 2: 51
5253	Laser 1: 52; Laser 2: 53
5455	Laser 1: 54; Laser 2: 55

<b>5-8</b>	ITU Channel for Lasers 1 and 2 (may select one channel above the default channels listed below) (independently user-selectable via <i>CORView</i> )
5657	Laser 1: 56; Laser 2: 57
5859	Laser 1: 58; Laser 2: 59
6061	Laser 1: 60; Laser 2: 61
6263	Laser 1: 62; Laser 2: 63
2122*	Laser 1: 21; Laser 2: 22
2128*	Laser 1: 21; Laser 2: 28
2261*	Laser 1: 22; Laser 2: 61
2452*	Laser 1: 24; Laser 2: 52
2636*	Laser 1: 26; Laser 2: 36
2833*	Laser 1: 28; Laser 2: 33
3339*	Laser 1: 33; Laser 2: 39
3639*	Laser 1: 36; Laser 2: 39
4448*	Laser 1: 44; Laser 2: 48
5254*	Laser 1: 52; Laser 2: 54
5457*	Laser 1: 54; Laser 2: 57
5760*	Laser 1: 57; Laser 2: 60
6062*	Laser 1: 60; Laser 2: 62
6162*	Laser 1: 61; Laser 2: 62

<b>9-10</b>	<b>Output</b>
10	10 dB
<b>11</b>	<b>Connector</b>
L	LC/APC (rear fiber only)
S	SC/APC (front fiber only)

## Customer Care

Contact Customer Care for product information and sales:

- United States: 866-36-ARRIS
- International: +1-678-473-5656

**Note:** Specifications are subject to change without notice.

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