MAXNET® II

Platinum Series

Ultra-Dense RF & Optical Active Modules Return Path Receivers

MPSRX-8

- 5-200 MHz return path receiver with integrated, lossless 8-way splitter
- Up to 20 MPSRX-8's will fit into a single 3RU MAXNET[®] II Ultra-dense Active Chassis (MP3BAS) NOTE: Ultra-dense active modules not compatible with standard MAXNET II active chassis
- Front access -10 dB splitter test point (bi-directional to allow test insertion)
- Front access to plug-in locations for pads/EQs

Return Path Receiver	MPSRX-8	
OPTICAL		
WAVELENGTH	1290-1600nm	
INPUT POWER	-17 to +3 dBm	
CONNECTOR TYPE	SC/APC (std.), Others on Special Order	
RF OUTPUT PERFORMANCE		
BANDWIDTH	5-200 MHz	
NOMINAL OUTPUT LEVEL ⁽¹⁾	26 +/- 2 dBmV	
RESPONSE FLATNESS	+/- 0.5 dB / 6 MHz	
RF TEST POINT (Relative to RF Out)	-10 +/- 1 dB	
RF OUTPUT LEVEL ADJUST	31.5 dB in 0.5 dB increments	
	HMS SNMP v2c, Web Browser	
PORT-TO-PORT ISOLATION	> 30 dB, 5-200 MHz	
RECEIVER MUTE (Isolation)	> 70 dB, 5-85 MHz	
	> 60 dB, 85-200 MHz	
	HMS SNMP v2c, Web Browser	



Patented U.S.# 7,142,414

> MP3BAS 3RU Active Chassis (front view)



- High performance MCX connector receptacles
- Optimized RF performance
- Module voltage, current, temperature, nominal optical input power and alarm threshold are easily monitored and controlled over the network (HMS compliant SNMP v2c) or through a web browser; email alarm notification is also supported

Return Path Receiver	MPSRX-8	
RF OUTPUT PERFORMANCE (cont'd)		
SECOND ORDER DISTORTION ⁽²⁾	> 60 dBc	
THIRD ORDER DISTORTION ⁽²⁾	> 60 dBc	
OUTPUT RETURN LOSS	20 dB	
OTHER		
RECEIVER STATUS INDICATION	Front LEDs, HMS SNMP v2c, Web Browser	
INPUT CURRENT	140mA (24 VDC)	
POWER CONSUMPTION	3.4W	
OPERATING TEMPERATURE	0°C to +50°C (+32°F to +122°F)	
HUMIDITY	5-95% (without condensation)	
DIMENSIONS	4.9"H x 0.69"W x 9.4"D (12.45H x 1.75W x 23.88D cm)	
WEIGHT	1.92 lbs (0.87 kg)	

NOTES:

(1) -9 dBm and 7% OMI per channel, no RF attenuation.

(2) Two laser test: -3 dBm and 40% OMI per laser. Measurement made with 40 dBmV carrier level at internal receiver output, before any splitting circuitry.



Functional Schematic

Front access to p

Specifications

Return Path Receivers - Low Noise Input

MPSARXL2 & MPSARXL2F

- 5-85 MHz low noise, dual return path receiver
- Ideal for RFoG and PON applications
- Up to 20 modules (40 receivers) will fit into a single 3RU MAXNET II Ultra-dense Active Chassis (MP3BAS) NOTE: Ultra-dense active modules not compatible with standard MAXNET II active chassis
- Industry leading 0.9pA/\/Hz Effective Input Noise (EIN) yields best NPR dynamic range at -27 dBm optical input
- High performance MCX connector receptacles

Specifications

Return Path Receivers	MPSARXL2	MPSARXL2F
OPTICAL		
WAVELENGTH	1260-1620nm	
INPUT POWER	-10 to -27 dBm	
CONNECTOR TYPE	SC/APC (std.), Others on Special Order	
RF OUTPUT PERFORMANCE		
BANDWIDTH ⁽¹⁾	5-85 MHz	
NOMINAL OUTPUT LEVEL ⁽²⁾	38 dBmV (min)	
RESPONSE FLATNESS	+/- 0.5 dB / 6 MHz	
RF TEST POINT (Relative to RF Out)	-20.0 +/- 0.75 dB	
RF OUTPUT LEVEL ADJUST ⁽³⁾	30 dB, 1 dB step	
RX-TO-RX ISOLATION	> 60 dB	
RECEIVER MUTE (Isolation)	> 70 dB	
EIN	< 0.9pA/√Hz	
NPR/DYNAMIC RANGE ⁽⁴⁾	30/16 dB @ -20 dBm	
OUTPUT RETURN LOSS (5-10 MHz)	> 18 dB	
OUTPUT RETURN LOSS (10-85 MHz)	> 20 dB	
OTHER ⁽³⁾		
RECEIVER STATUS INDICATION	Front L	EDs
INPUT CURRENT (Max) at 24 VDC	150mA	
POWER CONSUMPTION	3.6W	
OPERATING TEMPERATURE	0°C to +50°C (+32°F to +122°F)	
HUMIDITY	5-95% (without o	condensation)
DIMENSIONS	4.9"H x 0.69"W x 9.4"D (12.45H x 1.75W x 23.88D cm)	
WEIGHT	1.92 lbs (0	0.87 kg)

NOTES:

(1) Unless otherwise stated, all specifications apply over this bandwidth.

(2) -20 dBm and 17% OMI per channel, no RF attenuation.

(3) These parameters are remote monitorable/settable via HMS SNMP v2c and/ or Web Interface.

(4) @ Optical Input Power of -20 dBm.

- Front access -20 dB test points
- Optimized RF performance
- Module voltage, current, temperature, nominal optical input power and alarm threshold are easily monitored and controlled over the network (HMS compliant SNMP v2c) or through a web browser; email alarm notification is also supported
- Now with front fiber and rear F connector option (MPSARXL2F)







MP3BAS 3RU Active Chassis featuring 20 MPSARXL2 Modules (front view)





Return Path Receivers - Standard Input

MPSARX2 & MPSARX2F

- 5-200 MHz low noise, dual return path receiver
- Ideal for standard HFC applications
- Up to 20 modules (40 receivers) will fit into a single 3RU MAXNET II Ultra-dense Active Chassis (MP3BAS) NOTE: Ultra-dense active modules not compatible with standard MAXNET II active chassis
- +1 to -15 dBm optical input range
- High performance MCX connector receptacles (MPSARX2)

Specifications

Return Path Receivers	MPSARX2	MPSARX2F
OPTICAL		
WAVELENGTH	1260-1620nm	
INPUT POWER	-20 to +1 dBm	
CONNECTOR TYPE	SC/APC (std.), Others on Special Order	
RF OUTPUT PERFORMANCE		
BANDWIDTH ⁽¹⁾	5-200 MHz	
NOMINAL OUTPUT LEVEL ⁽²⁾	38 dBmV (min)	
RESPONSE FLATNESS	+/- 0.5 dB / 6 MHz	
RF TEST POINT (Relative to RF Out)	-20.0 +/- 0.75 dB	
RF OUTPUT LEVEL ADJUST ⁽³⁾	30 dB, 1 dB step	
RX-TO-RX ISOLATION	> 60 dB	
RECEIVER MUTE (Isolation)	> 70 dB	
EIN	< 2pA/√Hz	
NPR/DYNAMIC RANGE ⁽⁴⁾	TBD	
OUTPUT RETURN LOSS (5-200 MHz)	> 18 dB	
OTHER ⁽³⁾		
RECEIVER STATUS INDICATION	EIVER STATUS INDICATION Front LEDs	
INPUT CURRENT (Max) at 24 VDC	180mA	
POWER CONSUMPTION	4.4W	
OPERATING TEMPERATURE	0°C to +50°C (+32°F to +122°F)	
HUMIDITY	5-95% (without condensation)	
DIMENSIONS	IMENSIONS 4.9"H × 0.69"W × 9.4"D (12.45H × 1.75W × 23.88D c	
WEIGHT	1.92 lbs	(0.87 kg)

NOTES:

(1) Unless otherwise stated, all specifications apply over this bandwidth.

(2) -8 dBm and 17% OMI per channel, no RF attenuation.

(3) These parameters are remote monitorable/settable via HMS SNMP v2c and/

or Web Interface.

(4) @ Optical Input Power of -9 dBm.

- Front access -20 dB test points (MCX)
- Optimized RF performance
- Module voltage, current, temperature, nominal optical input power and alarm threshold are easily monitored and controlled overthe network (HMS compliant SNMP v2c) or through a web browser; email alarm notification is also supported
- Now with front fiber and rear F connector option (MPSARX2F)







MP3BAS 3RU Active Chassis featuring 20 MPSARX2 Modules (front view)



MP3BAS 3RU Active Chassis featuring 20 MPSARX2 Modules (rear view)



Chassis

MP3BAS

- Rugged 3RU design
- Can accommodate up to two power supplies that will work redundantly, as well as up to 20 single-width active modules or MAXNET II passive modules
- Same cable management options as available with MP3*A chassis series
- Modules push and lock into chassis; no mounting hardware necessary
- Chassis can be powered from 110 VAC, 220 VAC or -48 VDC plug-in power supply modules or remotely via the rear access 24 VDC A and B (redundant) terminal block
- Ultra-dense Active Chassis is provisioned to accommodate set-up, monitoring and control for modules and chassis over the network (HMS compliant (SNMP v2c)) or through a web browser; email alarm notification is also supported
- Rear mount N/O relay contact provided as an alternative alarming scheme

ATX recommends leaving a 1RU air gap between each active chassis.



3RU Chassis Dimensions 5.25"H x 19.0"W x 14.75"D (13.34H x 48.26W x 37.47D cm) (without cable management)



Ordering Information

Part Number	Description
MPSRX-8	Return Path Receiver with 8-way Splitter
MPSARXL2	Dual, Low Noise RFoG Return Path Receiver, MCX Connectors
MPSARXL2F	Dual, Low Noise RFoG Return Path Receiver, F Connectors, Front Fiber
MPSARX2	Dual, HFC Return Path Receiver, MCX Connectors
MPSARX2F	Dual, HFC Return Path Receiver, F Connectors, Front Fiber
MP3BAS	Active 3RU Chassis with Dual Cable Management Bar for Ultra-dense Actives

Also in the same Ultra-dense Active series:

MPSA8x2 Active 8-Way Combiner MPSA2-12 Forward Amplifier see MAXNET II Ultra-dense Active RF Products data sheet (#ANW0805)

Plug-in Pads/EQs

- Pads and EQs can be easily inserted or removed with fingertips or by using the pad tool (pad tool part # MPPT, see MAXNET II MCX to F & BNC Adapters data sheet)
- Plug-in pads are available from 0-20 dB in 1 dB increments, 16-20 dB recommended for return band only



* = EQ Value

MP*EQ

Ordering Information

Part Number	Description
MP*PAD	Plug-in Pad, 1218 MHz (* = dB value, 0-20 dB) (must order in quantities of 10)
MP*EQ	Plug-in EQ, 1000 MHz (* = dB value, 1.5-10.5 dB) (must order in quantities of 10)

For Pad/EQ specifications,

see MAXNET II MCX to F & BNC Adapters data sheet (#ANW0618)

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