



CROSSFIRE

# MP-PS

## MID POWER

Dual Band Digital Radios for 700/800/900MHz

Single Band Digital Radios for 400MHz

37dBm per Band

Supports Tetra/P25/DMR/PMR/LTE/Tetrapol/GSM-R

Passive Cooling

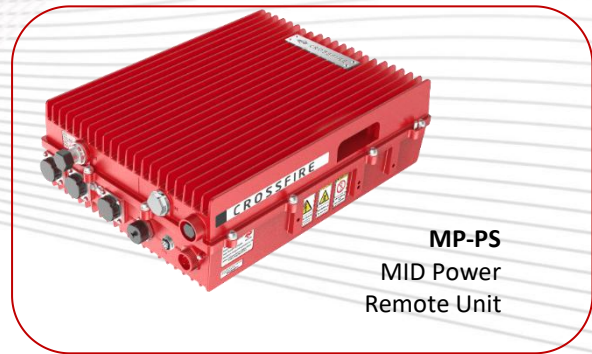
## OVERVIEW

CrossFire MP-PS is a dual-port digital transmission platform supporting CPRI protocol on fiber optic cable for public safety coverage. It leverages Feed-Forward technology, allowing for deployment of legacy narrow band solutions while still providing the digital transmission and filtering functionality. This platform is ideal for P25, DMR, PMR, LTE & Tetra technology as standalone solution or complimentary part with wideband cellular deployments.

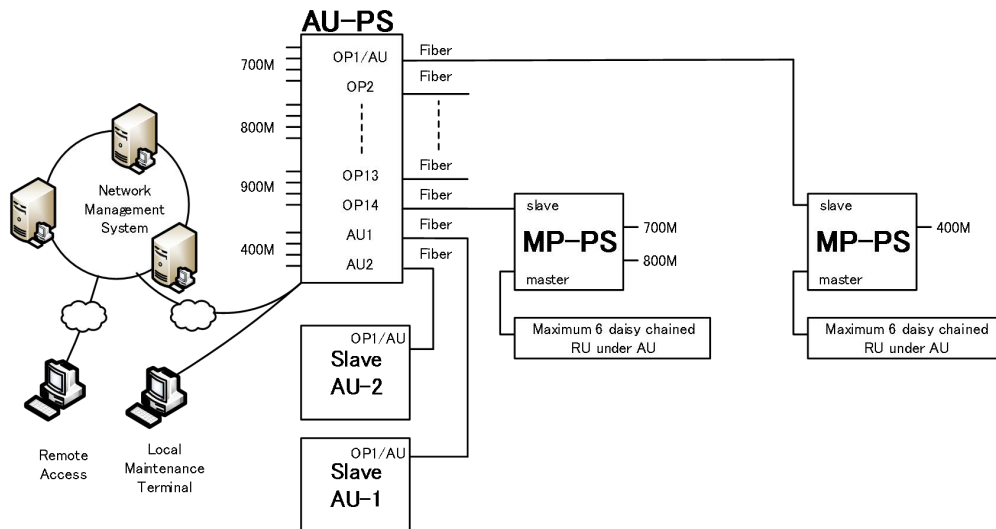
## KEY FEATURES

- Up to 37dBm Output Power
- Supports Band Selective Mode
- External Alarm Interface
- Wired RF Feeds
- Time Slot Based AGC
- PS700/800/900MHz dual Modules per Unit
- PS400MHz one Module per Unit

## SYSTEM ELEMENTS



## BLOCK DIAGRAM





TECHNICAL SPECIFICATION		
System		
Maximum RF Bands per Access Unit	4	
Maximum RF Bands per Remote Unit	2 for 700/ 800/ 900MHz, 1 for 400MHz	
Maximum Access Units per System	3 (1 x Master AU / 2 x Slaves AU)	
Maximum RUs per Master AU	16	
Maximum RUs cascaded	6	
Band Selective Mode	Filter Bandwidth	1 - 18 MHz @ 1 MHz Step
	System Delay	11us
System Delay Adjustment	Up to 100.00µs @ 1us step, manual & auto, Band based.	
Features	Supports Digital Time Slot Based AGC	
Redundancy	Fiber Loopback and Fiber Bypass (option) PSU Redundancy in AU-PS	
VSWR	1.5	

FORWARD PATH (DOWNLINK)					
Number of Carriers <sup>1</sup>	1	2	4	8	16
Output Power per Carrier(dBm)	37	34	31	28	25
Maximum Gain	47 ± 2dB for wired access, 87 ± 2dB for wireless access				
Maximum Input Power	+10dBm for wired access, -30dBm for wireless access				
IMD	- 60dBc				
Ripple	± 1dB				
Manual Gain Control	40dB @ 1dB/step				

Note1: The carrier output power of GSMR is 30dBm, which ensures full compliance with ETSI requirements.

REVERSE PATH (UPLINK)					
Number of Carriers	1	2	4	8	16
Output Power per Carrier(dBm) wire/ wireless access	-3/ 37	-6/ 34	-9/ 31	-12/ 28	-15/ 25
Maximum Gain	47 ± 2dB for wired access, 87 ± 2dB for wireless access				
Maximum Input Power	-10dBm				
IMD	-60dBc				
Ripple	±1dB				
Manual Gain Control	40dB @ 1dB/step				
Noise Figure	≤5dB @ Maximum Gain				

SUPPORTED BANDS					
Band	Downlink	Uplink	Band	Downlink	Uplink
380-400MHz	390-395	380-385	700MHz	758-775	788-805
	395-400	385-390	800MHz	851-869	806-824
410-430MHz	420-425	410-415	900MHz B	929-941	896-902
	425-430	415-420	406-421MHz	410-414	415-419
450-470MHz	460-465	450-455	421-430MHz	421-425	426-430
	465-470	455-460	450-470MHz	451-453	456-458
900MHz A	918-925	873-880		460-464	465-469



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INTERFACES	
Antenna Interface (All bands)	4.3-10 Female
Access Unit RF Interface	QMA Female
Optical Connector Type	SFP+, Standard LC
Optical Fiber Length	10km/ 40km
Dry Contact	AU-PS: 4 Inputs & 4 Outputs, NO and NC Mode MP-PS: 2 Inputs & 2 Outputs, NO and NC Mode
Maintenance Interface	Ethernet RJ45

ELECTRICAL	
Complies with	ETSI TS 101 789-1, ETSI EN 302561, FCC Part 90
EMC	EN 301489-1/ -50, EN 50121-4, FCC Part 15, ICES-003
Safety	IEC/ UL/ EN 62368-1
Standards	CE, UL, IC, FCC, NFPA, IFC
Maximum Power Consumption (AU/RU)	80W/ 200W <sup>2</sup>
Power Supply	100-240V AC, 50/60Hz   48VDC ± 20%

Note2: It's 125W for RU assembled with single PA module.

ENVIRONMENTAL	
Mean Time Between Failure (MTBF)	>100,000 hours
Operating Temperature (AU)	-10°C ~ 50°C / 14°F ~ 122°F
Operating Temperature (RU)	-40°C ~ 55°C / -40°F ~ 131°F
Humidity	5% ~ 100% (Non-Condensing)
Altitude during operation (m)	4000 m or less
Vibration and Shock	IEC 60721-3-1/ -2/ -3/ -4
Cooling	Passive
Installation	AU: Wall or 19" Rack   RU: Wall or Pole
Ingress Protection Rating	AU: IP30 (Indoor)   RU: IP67 (Outdoor)

MECHANICAL	
AU: Width x Height x Depth (Weight)	440mm x 44mm x 370mm (9.0kg)/ 17.32in x 1.73in x 14.57in (19.84lbs)
RU: Width x Height x Depth (Weight)	400mm x 135mm x 300mm (19.0kg)/ 15.75in x 5.31in x 11.81in (41.89lbs)



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ORDERING INFORMATION	
Part Code	Part Description
<b>Access Unit Chassis</b>	
AU-PS-4-AC	Access Unit Chassis for Public Safety, 4 Bands, 380 - 1000MHz supported, AC Powered
<b>Access Unit Modules</b>	
AU-AC-M380	Access Unit Module, 4 Way Active Combiner 380MHz (UL 380-385/ DL 390-395)
AU-AC-M390	Access Unit Module, 4 Way Active Combiner 390MHz (UL 385-390/ DL 395-400)
AU-AC-M400	Access Unit Module, 4 Way Active Combiner 400MHz (UL 410-415/ DL 420-425)
AU-AC-M410	Access Unit Module, 4 Way Active Combiner 410MHz (UL 415-420/ DL 425-430)
AU-AC-M410B	Access Unit Module, 4 Way Active Combiner 410MHz B (UL 415-419/ DL 410-414)
AU-AC-M420	Access Unit Module, 4 Way Active Combiner 420MHz (UL 426-430/ DL 421-425)
AU-AC-M450	Access Unit Module, 4 Way Active Combiner 450MHz (UL 459.5-462.5/ DL 453-457)
AU-AC-M450A	Access Unit Module, 4 Way Active Combiner 450MHz A (UL 450-455/ DL 460-465)
AU-AC-M450B	Access Unit Module, 4 Way Active Combiner 450MHz B (UL 456-458/ DL 451-453)
AU-AC-M460	Access Unit Module, 4 Way Active Combiner 460MHz (UL 455-460/ DL 465-470)
AU-AC-M460B	Access Unit Module, 4 Way Active Combiner 460MHz B (UL 465-469/ DL 460-464)
AU-AC-M700PS	Access Unit Module, 4 Way Active Combiner PS700MHz (UL 788-805/ DL 758-775)
AU-AC-M800PS	Access Unit Module, 4 Way Active Combiner PS800MHz (UL 806-824/ DL 851-869)
AU-AC-M900APS	Access Unit Module, 4 Way Active Combiner PS900MHz A (UL 873-880/ DL 918-925)
AU-AC-M900BPS	Access Unit Module, 4 Way Active Combiner PS900MHz B (UL 896-902/ DL 929-941)
AU/RU-NC	Blanking Card to suit AU or Indoor Low Power RU
<b>Remote Unit Chassis</b>	
MP-PS-OD-AC	Outdoor Mid Power Remote Unit Chassis for Public Safety, AC Powered
<b>Remote Unit Modules</b>	
MP-PS-OD-M380	Mid Power Remote Unit PA Module for Public Safety, 380MHz (UL 380-385/ DL 390-395)
MP-PS-OD-M390	Mid Power Remote Unit PA Module for Public Safety, 390MHz (UL 385-390/ DL 395-400)
MP-PS-OD-M400	Mid Power Remote Unit PA Module for Public Safety, 400MHz (UL 410-415/ DL 420-425)
MP-PS-OD-M410	Mid Power Remote Unit PA Module for Public Safety, 410MHz (UL 415-420/ DL 425-430)
MP-PS-OD-M410B	Mid Power Remote Unit PA Module for Public Safety, 410MHz B (UL 415-419/ DL 410-414)
MP-PS-OD-M420	Mid Power Remote Unit PA Module for Public Safety, 420MHz (UL 426-430/ DL 421-425)
MP-PS-OD-M450	Mid Power Remote Unit PA Module for Public Safety, 450MHz (UL 459.5-462.5/ DL 453-457)
MP-PS-OD-M450A	Mid Power Remote Unit PA Module for Public Safety, 450MHz A (UL 450-455/ DL 460-465)
MP-PS-OD-M450B	Mid Power Remote Unit PA Module for Public Safety, 450MHz B (UL 456-458/ DL 451-453)
MP-PS-OD-M460	Mid Power Remote Unit PA Module for Public Safety, 460MHz (UL 455-460/ DL 465-470)
MP-PS-OD-M460B	Mid Power Remote Unit PA Module for Public Safety, 460MHz B (UL 465-469/ DL 460-464)
MP-PS-OD-M700PS	Mid Power Remote Unit PA Module for Public Safety, PS700MHz (UL 788-805/ DL 758-775)
MP-PS-OD-M800PS	Mid Power Remote Unit PA Module for Public Safety, PS800MHz (UL 806-824/ DL 851-869)
MP-PS-OD-M900APS	Mid Power Remote Unit PA Module for Public Safety, PS900MHz A (UL 873-880/ DL 918-925)
MP-PS-OD-M900BPS	Mid Power Remote Unit PA Module for Public Safety, PS900MHz B (UL 896-902/ DL 929-941)
<b>Other Items</b>	
FAN-1U-AC	AC Fan Unit to support AU & LPRU Chassis, 1U Rack Unit Height, 100-240v AC Powered
FAN-1U-DC	DC Fan Unit to support AU & LPRU Chassis, 1U Rack Unit Height, ± 48v DC Powered
SFP+10-DS-2	10.0km Optical SFP+ Module, Duplex(one fiber needed), Single-Mode (including one pair)
SFP+40-DS-2	40.0km Optical SFP+ Module, Duplex(one fiber needed), Single-Mode (including one pair)
MPPS-EXL	IP65 Cable Accessories for External Alarm Port



MID POWER – PS DATASHEET  
37dBm Output Power  
Support Tetra/P25/DMR/PMR/LTE

### Contact Us

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