X-Band Antenna-Mount SSPAs

These high power solid-state amplifiers offer output powers of 50, 100, 125 or 200 watts across the standard 7.90 to 8.40 GHz satellite uplink band. Housed in a compact weather-proof enclosure, the amplifiers can be mounted in an antenna hub or outdoors in applications where it is desirable to reduce cable losses by mounting the SSPA close to the antenna. The amplifiers feature a microprocessor-based M&C system that facilitates easy setup and control.

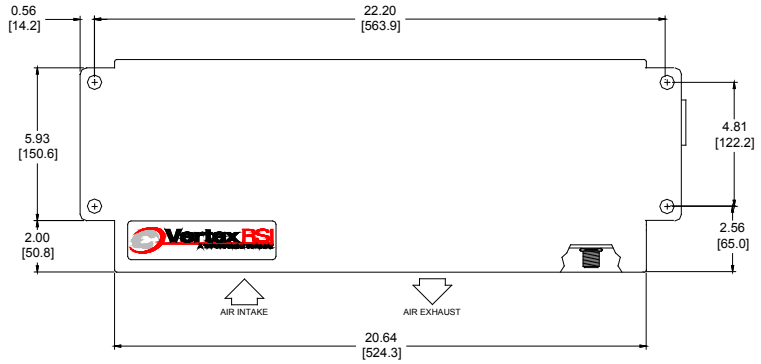
Features

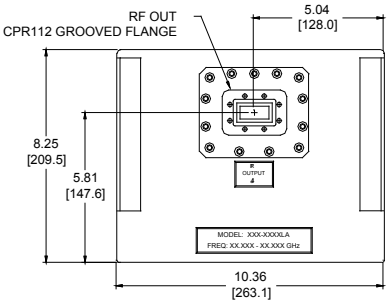
- 50/100/125/200 W saturated output power
- 70 dB gain
- Built-in monitor and control
- Temperature-compensated gain from -40 to +50 °C
- Serial interface (RS-232/-422/-485)
- Output isolator for high load VSWR protection
- 20 dB range digital gain adjustment
- RF output sample port (-40 dBc)
- Output power monitor
- Extremely light weight, typically 36 lb (16 kg)
- Mounts on small antennas

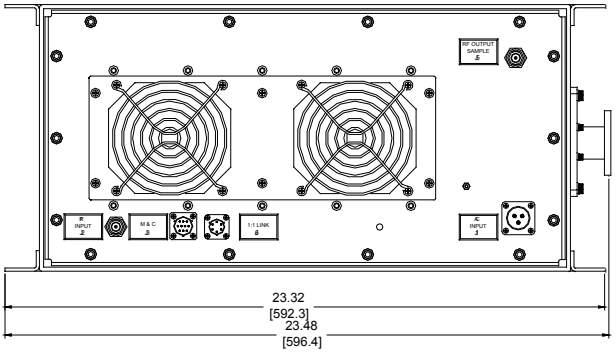
Options

- 1:1 redundancy
- Integrated block upconverter with L-band

Outline Drawing







M&C (J3) Pinout

Serial I/O Tx +	A
Serial I/O Tx -	B
Serial I/O Rx -	C
Serial I/O Rx +	D
Serial I/O Rx Termination	J
Ground	E
Service Request (Form 'C' Output)	F - Closed on Svc Req
.	G - Common
.	H - Open on Svc Req
no connection/Ext. Fault (Opt.)	K

NOTES:

1. DIMENSIONS ARE IN INCHES [MM].
2. AIR INTAKE AND EXHAUST MUST NOT BE OBSTRUCTED.
3. APPROXIMATE WEIGHT IS 36 LB. (16 KG).

Outline 16015

Part Number/Ordering Information

SSPAs:

Part/Model No.: **PXB8S☐LA-XX**

7.90-8.40 GHz = B

50 watts = 050
100 watts = 100
125 watts = 125
200 watts = 200

Options:

1:1 Redundancy **4**
Redundant Capability
(Required for units in 1:1 systems)

Block Upconverter **7**
L-Band IF Input

Redundant Systems (Consists of 1:1 switching assembly, two SSPAs, and interconnecting cables.):

Part/Model No.: **PRX1B☐LA-XX**

7.90-8.40 GHz = B

50 watts = 050
100 watts = 100
125 watts = 125
200 watts = 200

Options:

Block Upconverter **7**
L-Band IF Input

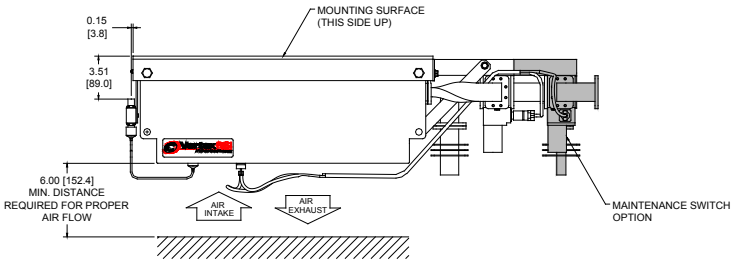
Maintenance Switch . . . . . **A**
Selects antenna or dummy load at system output.

Related Accessories:

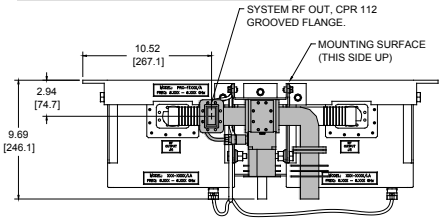
- **RCP-2001** SSPA Remote Control Panel
  1U-high rack-mount panel duplicates all menus and functions available at SSPA front panel. Can be located up to 1.3 km (4000 ft.) away and interconnects with inexpensive cable.
- **AMSETUP** Antenna-Mount SSPA configuration software (supplied with each unit). WIN98/2000/XP compatible.

1:1 System Outline

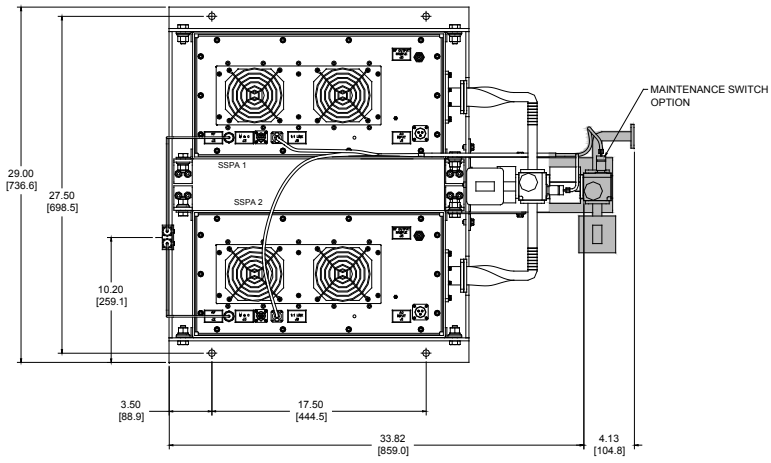
SIDE VIEW



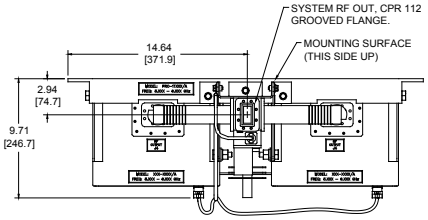
OUTPUT VIEW w/ MAINTENANCE SWITCH



BOTTOM VIEW



OUTPUT VIEW w/o MAINTENANCE SWITCH



NOTES:

1. OUTLINE OF PRX1_XXXLA SSPA SYSTEM WITH MOUNTING FRAME & OPTIONAL MAINTENANCE SWITCH.
2. ALL DIMENSIONS ARE IN INCHES AND [MILLIMETERS].
3. APPROXIMATE WEIGHT: 81 LBS. [179 kg].

SPECIFICATIONS PXB8SxxxLA

Parameter	Notes	Min	Nom/Typ*	Max	Units
Frequency Range	Band "B"	7.90		8.40	GHz
Input Frequency Range with Option 7, Block Upconverter	Band "B"	950		1450	MHz
Gain	At maximum gain setting	70			dB
Gain Adjust Range		20			dB
Gain Flatness	Full band, standard			±1.0	dB
	Full band, with Option 7			±1.5	dB
	Per 40 MHz, standard			±0.3	dB
	Per 40 MHz, with Option 7			±0.5	dB
Gain Stability vs. Temperature	-40 to +50 °C, standard		±1.0	±1.5	dB
	-40 to +50 °C, with Option 7		±2.0	±2.5	dB
Saturated Power Output	*50 W*		+47 (50)		dBm (W)
	100 W		+50 (100)		dBm (W)
	125 W		+51 (125)		dBm (W)
	200 W		+53 (200)		dBm (W)
Power Output, at 1 dB compression ($P_{1\ dB}$)	*50 W*	+46.5 (45)			dBm (W)
	100 W	+49.0 (80)			dBm (W)
	125 W	+50.0 (100)			dBm (W)
	200 W	+52.0 (158)			dBm (W)
Two-tone Intermodulation	At 3 dB total backoff from 1 dB compression point		-30	-25	dBc
Group Delay	Linear			0.03	ns/MHz
	Parabolic			0.003	ns/MHz^2
	Ripple			1.0	ns p-p
AM/PM Conversion	At $P_{1\ dB}$		2.5	3.5	°/dB
Noise Figure	At maximum gain, standard		8		dB
	At max. gain, with Option 7		15		dB
VSWR	Input		1.20	1.30	:1
	Input, with Option 7		1.35	1.50	:1
	Output		1.20	1.30	:1
Output Sample Port			-40		dBc
Connectors	Input		Type N Female		
	Output		CPR112G Waveguide		
	Sample Port		Type N Female		
	I/O		10-pin MS, mate supplied		
	Power		3-pin MS, mate supplied		
Power Requirements	Voltage		90-135 or 180-265		Vac
	Frequency	47		63	Hz
	Power, *50 W*		375	500	W
	Power, *100 W*		600	800 [A]	W
	Power, *125 W*		750	1000 [A]	W
	Power, *200 W*		850	1200 [A]	W
	Power factor corrected		0.97		
Cooling System			Forced air		
Operating Temperature Range	Ambient air temperature	-40		+50	°C
Weight			36 (16)		lb (kg)
Dimensions	See outline drawing		8.25 x 23.48 x 10.36		inches
			210 x 596 x 263		mm

* When there is only one value on a line, this column is a nominal value. Otherwise it is a typical value. Typical values are intended to illustrate typical performance, but are not guaranteed.

[A] Cold start, at -40 °C and P_{OUT} in saturation.

OTHER VertexRSI PRODUCTS

- **Low Noise Amplifiers and LNA Systems**
- **Solid-State Power Amplifiers and**
- **SSPA Systems**
- **General Purpose Converters**
- **Satellite Communications Equipment**
- **Custom Subsystems**

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