These high power solid-state amplifiers offer output powers of 25, 35, 50, 70 or 100 watts accross the standard 14.0- 14.5 GHz (“M”)or extended 13.75-14.5 GHz (“O”) satellite uplink bands

Housed in a compact weatherproof 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.

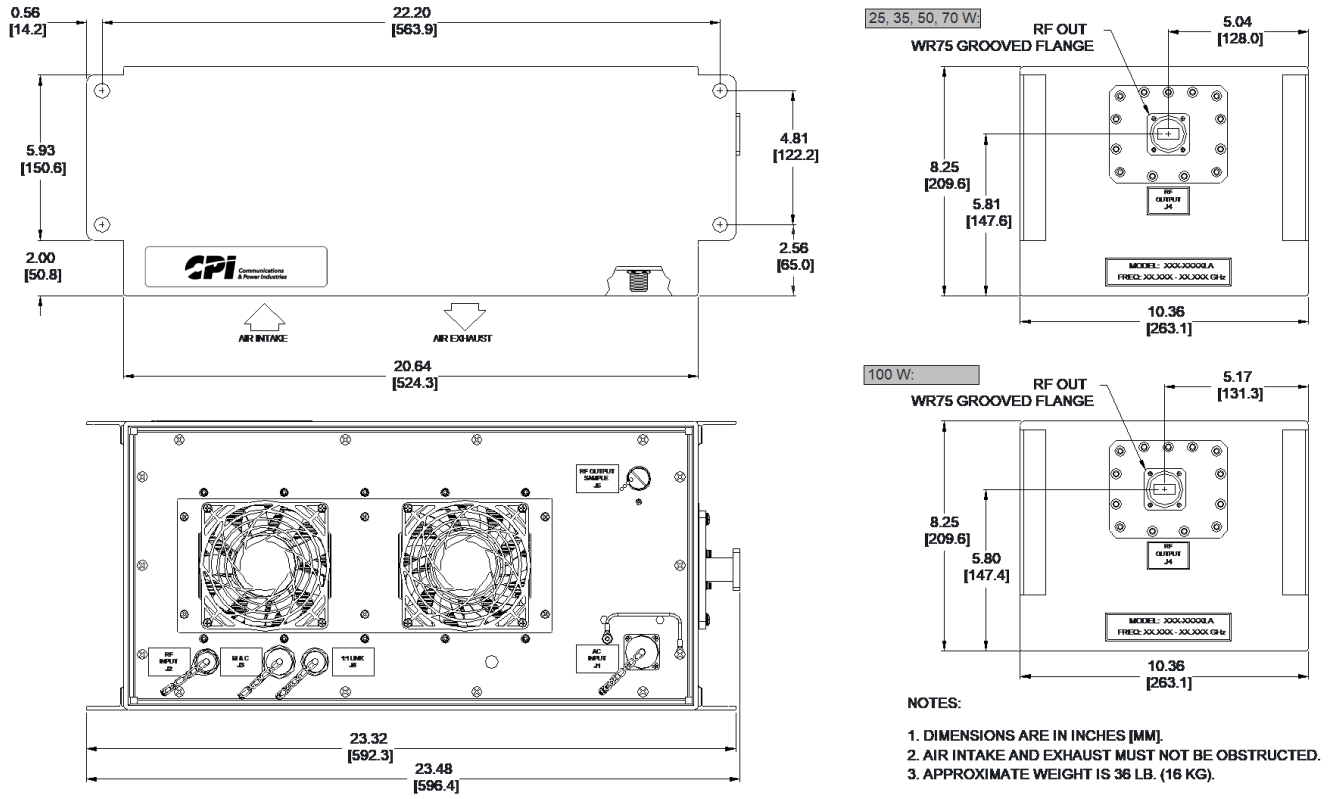
FEATURES:

- 25, 35, 50, 70 or 100 W saturated output power
- 70/75 dB gain
- Built-in monitor and control
- Temperature-compensated gain from -40 to +50°C
- Serial interface (RS-232/-422/-485) standard
- 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, nominally 36 lb (16 kg)
- Mounts on small antennas

OPTIONS:

- Redundant systems (1:1, 1:2)
- Integrated block upconverter with L-band input

Outline Drawing, SSPA

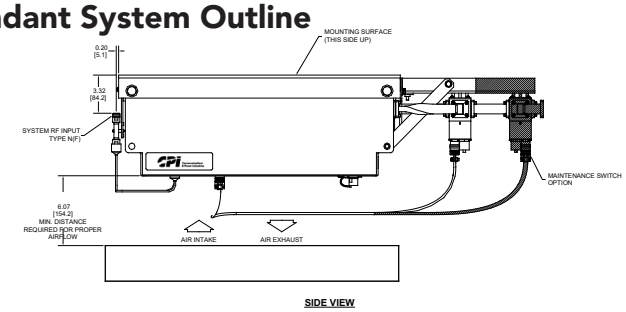


Outline 16329

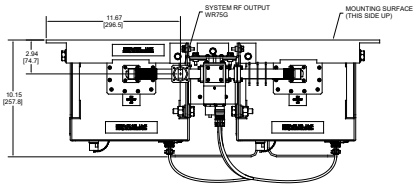
Parameter	Notes	Specification
Frequency Range	Band "M" Band "O"	14.00 to 14.50 GHz 13.75 to 14.50 GHz
Input Frequency Range with Option 7, Block Upconverter	Band "M" Band "O"	950 MHz min., 1450 MHz max. 950 MHz min., 1700 MHz max.
Gain, at Maximum Setting		70 dB min. at 25W, 35 W, 75 dB min. at 50W, 70 W, 100 W
Gain Adjustment Range		20 dB min.
Gain Flatness		±1.0 dB over the full band, standard; ±1.5 dB full band, with Option 7 ±0.3 dB per 40 MHz, standard, ±0.5 dB per 40 MHz, with Option 7
Gain Stability vs. Temperature	-40 to +50°C, standard -40 to +50°C, with Option 7	±1.0 dB typical, ±1.5 dB max. ±2.0 dB typical, ±2.5 dB max.
Saturated Power Output (1)	25 W 35 W 50 W 70 W 100 W	+44 dBm typ. (25 W) +45.5 dBm typ. (35 W) +47 dBm typ. (50 W) +48.5 dBm typ. (70 W) +50 dBm typ. (100 W)
Power Output at 1dB compression ($P_{1\ dB}$) (1)	25 W 35 W 50 W 70 W 100 W	+43 dBm min. (20 W) +44.5 dBm min. (28 W) +46 dBm min. (40 W) +47.5 dBm min. (56 W) +49.3 dBm min. (85 W)
Two Tone Intermodulation		-25 dBc max.,-30 dBc typical at 3 dB total backoff from 1dB compression point
Group Delay	Linear Parabolic Ripple	0.03 ns/MHz 0.003 ns/MHz^2 1.0 ns peak to peak
AM/PM Conversion		2.5°/dB typical, 3.5°/dB max. at ($P_{1\ dB}$)
Noise Figure		8 dB typical at maximum gain, standard 20 dB typical at maximum gain, with Option 7
VSWR	Input Input, with Option 7 Output	1.20:1 typical, 1.30:1 max. 1.35:1 typical, 1.50:1 max. 1.20:1 typical, 1.30:1 max.
Noise Power Density	13.75 to 14.50 GHz 10.70 to 12.75 GHz (25-70 W) 10.70 to 12.75 GHz (100 W	-75 dBm/Hz at maximum gain -160 dBm/Hz at maximum gain -155 dBm/Hz at maximum gain
Output Sample Port		-40 dBc typical
Connectors	Input Output Sample Port I/O Power	Type N Female WR75G Waveguide Type N Female 10-pin MS, mate supplied 3-pin MS, mate supplied
Power Requirements	Voltage Frequency Power, 25 W Power, 35 W Power, 50 W Power 70 W Power 100 W Power factor corrected	100 to 242 VAC 63 Hz max., 47 Hz min. 300 W typical, 375 W max. 450 W typical, 475 W max. 580 W typical, 675 W max. 650 W typical, 750 W max. (1) 900 W typical, 1200 W max .97 typical
Cooling System		Forced Air
Operating Temperature Range	Ambient air temperature	-40°C to +50°C
Dimensions	See outline drawing	8.25" H x 23.48" W x 10.36" D; 210 mm H x 596 mm W x 263 mm D
Weight		36 lb, 16 kg)

(1) Between 14.0 and 14.5 GHz, 1 dB lower between 13.75 and 14.0 GHz for Band "O" amplifiers

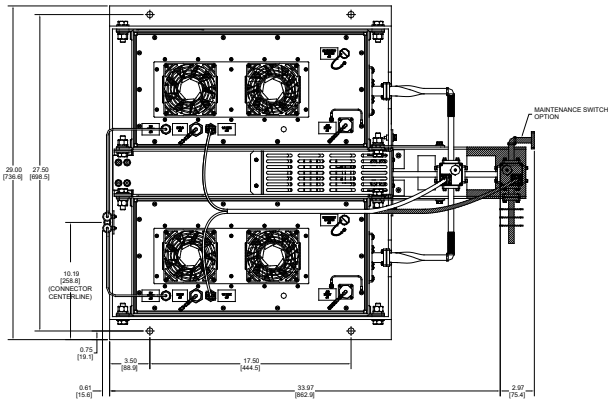
Typical 1:1 Redundant System Outline



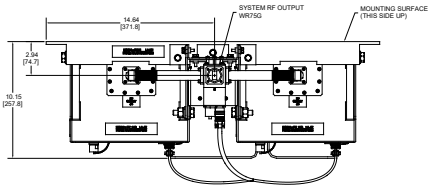
SIDE VIEW



OUTPUT VIEW w/ MAINTENANCE SWITCH



BOTTOM VIEW



OUTPUT VIEW w/o MAINTENANCE SWITCH

NOTES:
1. OUTLINE OF PRK1___LA SSPA SYSTEM WITH MOUNTING FRAME AND OPTIONAL MAINTENANCE SWITCH.
2. ALL DIMENSIONS ARE IN INCHES AND [MILLIMETERS].
3. APPROXIMATE WEIGHT: 100 LBS. [45 Kg].

Outline 21227

Part Number Ordering Information

SSPA:

Part/Model No. PK□14S□□LA-XX

14.00–14.50 GHz = M
13.75–14.50 GHz = O

25 Watts = 25
35 Watts = 35
50 Watts = 50
70 Watts = 70
100 Watts = 100

Options:
1:1 Redundancy.....4
Redundant Capability
(required for units in 1:1 systems)
Block Upconverter.....7
L-Band IF Input

1:1 Redundant System*: Consists of 1:1 switching assembly, two SSPAs, and interconnecting cables

Part/Model No. PRK1□□LA-XX

14.00–14.50 GHz = M
13.75–14.50 GHz = O

25 Watts = 25
35 Watts = 35
50 Watts = 50
70 Watts = 70
100 Watts = 100

Options:
Block Upconverter.....7
L-Band IF Input
Maintenance Switch.....A
Selects antenna or dummy load at system output

*Performance specifications of a redundant system depend on the installed configuration and optional accessories. Contact the factory for more information and for 1:2 system capabilities.

Related Accessory:

RCP-2001, SSPA Remote Control Panel

1U-high rack-mount panel enables remote manual control of the SSPA. Can be located up to 1.3 km (4000 ft.) away and interconnects with inexpensive cable.

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For more detailed information, please refer to the corresponding CPI technical description if one has been published, or contact CPI. Specifications may change without notice as a result of additional data or product refinement. Please contact CPI before using this information for system design.