

Using technology developed for ModuMAX™ amplifiers, these rack-mount SSPAs offer output powers of 50, 70 or 100 watts accross the standard 14.00-14.50 GHz or extended 13.75-14.50 GHz satellite uplink bands

The SSPAs incorporate a modular architecture that includes the RF modules, power supplies, logic, fans, and front panel assembly. The amplifiers are designed for reliable service in fixed and mobile applications.

FEATURES:

- 50, 70, or 100 W saturated output power
- Digital gain adjustment (20 dB range)
- Forward and reflected power monitoring
- Microprocessor based monitor and control
- Serial interface (RS-232/-422/-485) standard
- 10 Base-T network interface (SNMP, HTTP)
- RF input and output sample port
- Integral 1:1 redundancy control

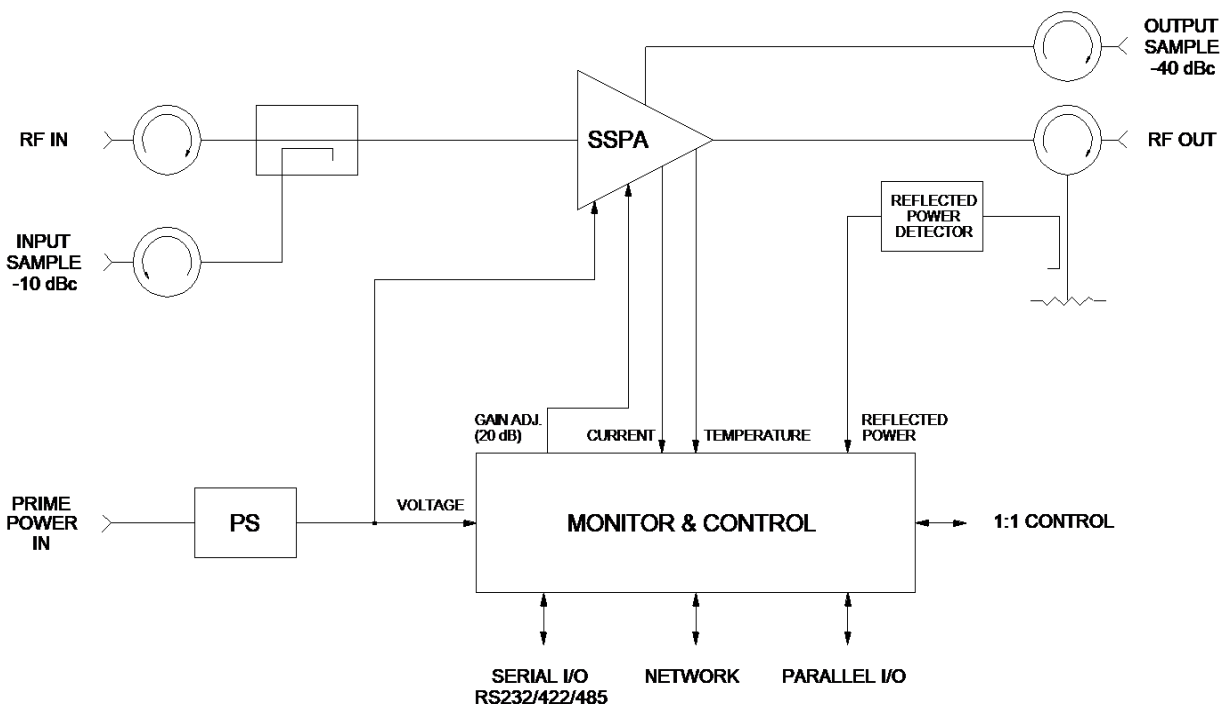
APPLICATIONS:

- Single-thread SSPA
- Redundant systems (1:1, 1:2)
- Fixed installations
- Mobile terminals
- Satellite News Gathering (SNG)

ACCESSORIES:

- RCP-2001 remote panel

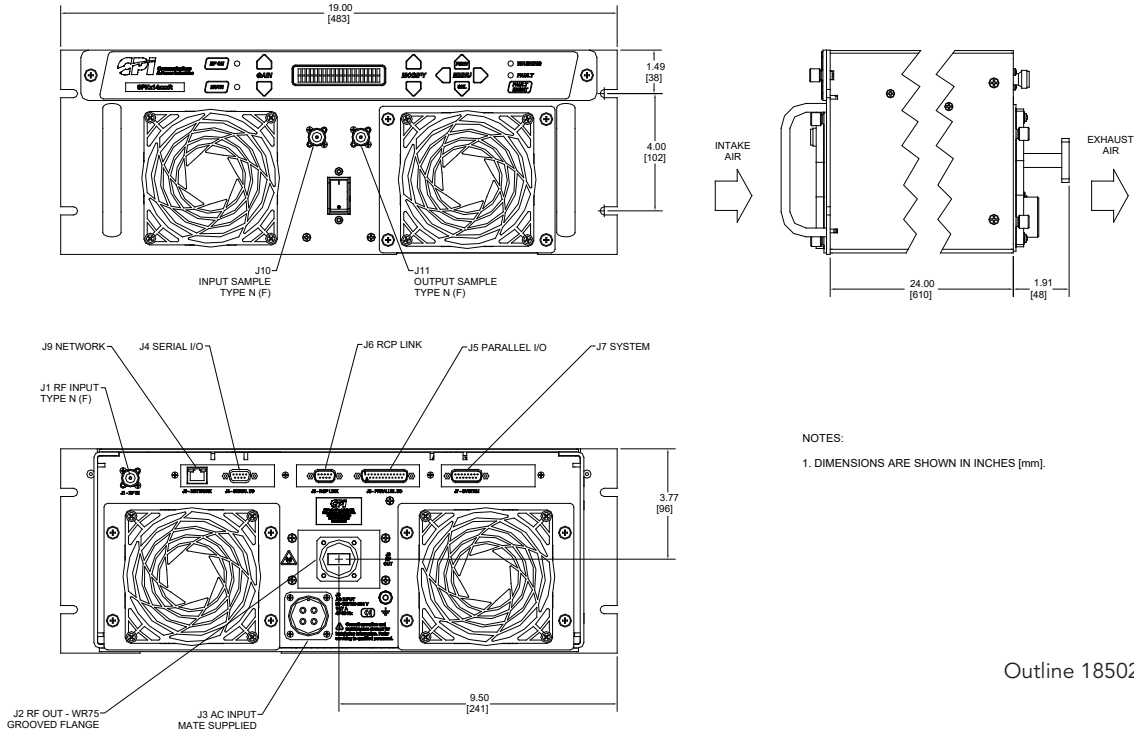
Block Diagram



Parameter	Notes	Specification
Frequency Range	Band "M" Band "O"	14.00 to 14.50 GHz 13.75 to 14.50 GHz
Gain, at Maximum Setting		70 dB min., Standard
Gain Adjustment Range	Digital	20 dB min. in 0.1 dB steps
Gain Flatness		±0.75 dB over the full band; ±0.3 dB over any 40 MHz
Saturated Power Output	50 W 70 W 100 W	+47 dBm typ. (50 W) +48.5 dBm typ. (70 W) +50 dBm typ. (100 W)
Power Output at 1dB compression (P_{1dB})	50 W 70 W 100 W	+46 dBm min. (40 W) +47.5 dBm min. (56 W) +49.0 dBm min. (80 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 _{1dB})
Noise Figure		8 dB typical at maximum gain
VSWR	Input Output	1.25:1 typical, 1.30:1 max. 1.20:1 typical, 1.30:1 max.
Front Panel Sample Ports	Input Output	-10 dB typical -40 dB typical
Connectors	RF Input RF Output Sample Ports Serial I/O Parallel I/O System RCP Link Network Power	Type N Female WR75G Waveguide Type N Female 9-pos D-sub Female, mate supplied 25-pos D-sub Male, mate supplied 15-pos D-sub, Male 9-pos D-sub, Male RJ-45 Jack 4-pos CE05, mate supplied
Power Requirements	Voltage Frequency Power, 50 W Power, 70 W Power, 100 W Power factor corrected	90 to 135 VAC or 180 to 270 VAC 63 Hz max., 47 Hz min. 500 W typical, 650 W max. (1) 650 W typical, 800 W max. (1) 900 W typical, 1200 W max. (1) .99 typical
Cooling System		Forced Air, Intake on front panel
Operating Temperature Range	Ambient air temperature	0°C to +50°C
Dimensions	See outline drawing	7" H x 19" W x 24" D; 178 mm H x 483 mm W x 610 mm D
Weight	Approximate	70 lb (32 kg)

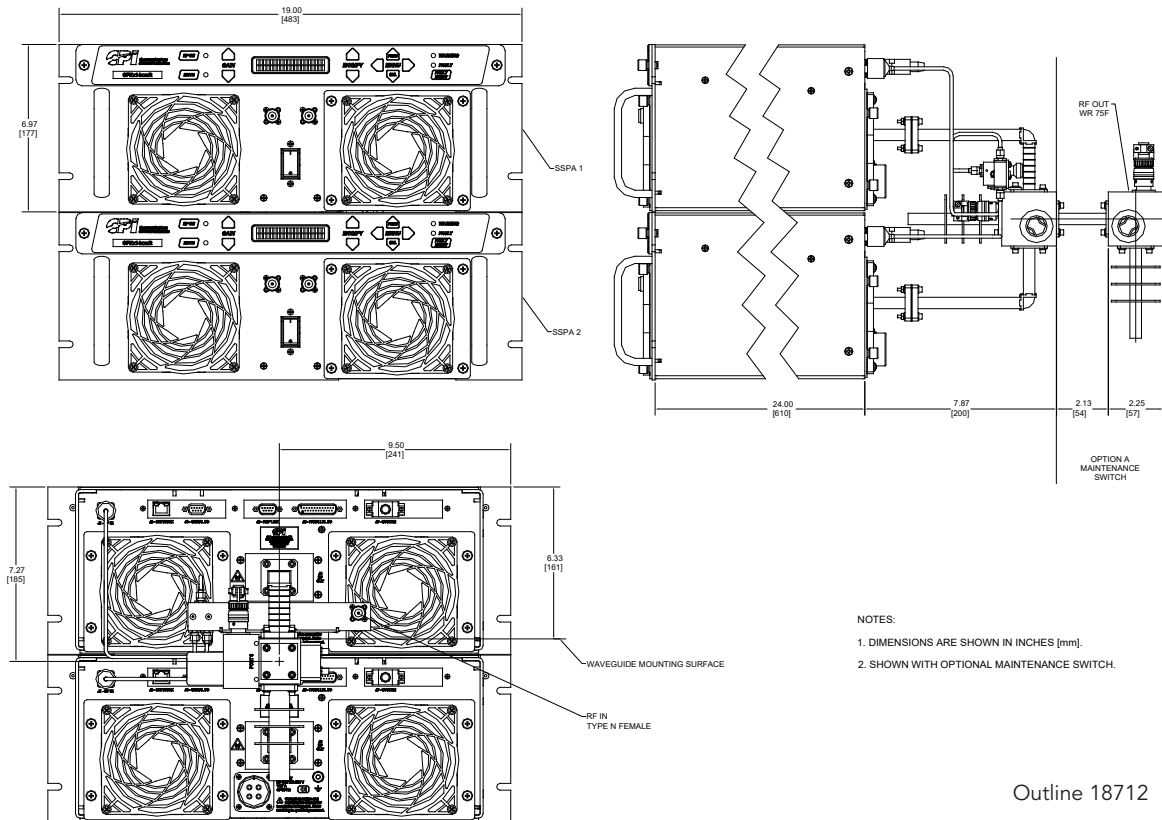
(1) Cold start, at -40 °C and P_{OUT} in saturation.

Outline Drawing, SSPA



Outline 18502

Outline Drawing, Typical 1:1 Redundant System



Outline 18712

Connector Interface

Ref. Des.	Function	Connector Type	Mating Connector	Comment
J1	RF Input	Type N Female	Type N Male	
J2	RF Output	WR75G Waveguide	WR75 Flange	
J3	AC In	4-pos CE05, Male	4-pos MS or CE05, Female	Mate supplied
J4	Serial I/O	9-pos D-sub, Female	9-pos D-sub, Male	Mate supplied
J5	Parallel I/O	25-pos D-sub, Male	25-pos D-sub, Female	Mate supplied
J6	RCP Link	9-pos D-sub, Male	9-pos D-sub, Female	
J7	System	15-pos D-sub, Male	15-pos D-sub, Female	
J9	Network	RJ-45 Jack	RJ-45 Plug	
J10	Input Sample	Type N Female	Type N Male	Front panel mounted
J11	Output Sample	Type N Female	Type N Male	Front panel mounted

Part Number Ordering Information

<p>SSPA: Part/Model No. SPK <input type="checkbox"/> 14 <input type="checkbox"/> R</p> <p>14.00–14.50 GHz = M 13.75–14.50 GHz = O</p> <p>50 Watts = 050 70 Watts = 070 100 Watts = 100</p> <p><small>* 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.</small></p>	<p>1:1 Redundant System*: Part/Model No. SPRK1 <input type="checkbox"/> <input type="checkbox"/> R-X</p> <p>14.00–14.50 GHz = M 13.75–14.50 GHz = O</p> <p>50 Watts = 050 70 Watts = 070 100 Watts = 100</p> <p>Option: Maintenance SwitchA Selects antenna or dummy load at system output</p>
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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. (One panel is required for each SSPA in a redundant system, for full remote manual control.)



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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.

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