

Rack-Mount Solid State Power Amplifiers

CPI Solid Inside and Out

Ku-Band

High Power SSPAs

100 watt S4UI series
Ku-band solid state
power amplifier—
efficient and compact
with CPI brick inside.



Ku-Band

CPI-Built RF Brick Inside

With CPI-built RF brick inside and plenty of thermal margin, SSPA is rock-solid, highly efficient and easy to maintain. Provides up to 100 watts of power in a 5.25" rack-mountable unit covering the 13.75 to 14.5 GHz or 14.0 to 14.5 GHz frequency bands.

Multi-Carrier Digital Operation

Highly linear: excellent AM/PM, phase noise and spectral regrowth performance.

Simple to Operate

User-friendly microprocessor-controlled logic with integrated RS422/485 computer interface, digitally controlled attenuator, and optional Ethernet interface.

Global Applications

Meets International Safety Standard EN-60215, Electromagnetic Compatibility 2004/108/EC and Harmonic Standard EN-61000-3-2 to satisfy worldwide requirements.

Worldwide Support

Backed by over three decades of satellite communications experience, and CPI's worldwide 24-hour customer support network that includes sixteen regional factory service centers.

satcom  **division**

811 Hansen Way
P.O. Box 51625, Palo Alto, CA 94303

tel: +1 (650) 846-3803
fax: +1 (650) 424-1744

e-mail: marketing@satcom.cpii.com
www.cpii.com/satcom

Rack Mount Solid State Power Amplifiers

SPECIFICATIONS, S4UI Rack-Mount SSPA

Electrical

Frequency Range	13.75 to 14.50 or 14.00 to 14.50 GHz
RF Output	
Saturated, min.	100 W (50.0 dBm)
P1dB, min.	80 W (49.0 dBm)
Small Signal Gain (at max.)	70 dB min. (at max. gain setting)
Gain Adjustment Range	23 dB
Gain Setting Resolution	0.1 dB
Gain Stability	
Over -10°C to +50°C	±1.5 dB
At constant temp. and drive	±0.25 dB
Small Signal Gain Slope	±0.04 dB/MHz max.
Small Signal Gain Variation	±0.3 dB pk-pk across any 40 MHz band; ±1.5 dB pk-pk across frequency band
Input VSWR	1.3:1 max.
Output VSWR	1.3:1 max.
3rd Order Intermod	-25 dBc max. at 3dB total backoff from P1dB
Harmonic Output	-60 dBc max. at P1dB
Spurious	-60 dBc max. at P1 dB (-55 dBc w/ BUC option)
Residual AM	-50 dBc below 10 kHz -20 [1.5 +log F(kHz)] dBc, 10 kHz to 500 kHz -85 dBc above 500 kHz
Noise Power Density	-70 dBW/4 kHz in transmit band
Phase Noise	12 dB below IESS phase noise profile, max.
AM/PM Conversion	2.5°/dB max. at 3dB backoff from P1dB

Electrical (continued)

Group Delay	0.03 ns/MHz linear max. 0.003 ns/MHz ² parabolic max. 1.0 ns pk-pk ripple max.
Primary Power	100-240 VAC ±10%, single phase; 47-63 Hz
Power Consumption	950 W typ.
Power Factor	0.95 min.
RF Output Monitor	-50 dB ±3 nom. wrt output

Environmental (Operating)

Ambient Temperature	-10°C to +50°C operating
Relative Humidity	95% non-condensing
Altitude	10,000 ft. max. operating
Low Power TVSS Option	
Clamp Voltage	440 VDC (line to line protection); 400 VDC (line to ground protection)
Energy Absorption	2 ms/250 J (line to line protection)
Peak Current Shunt	10,000 A repetitive

Mechanical

Cooling	Forced air with integral blower
RF Input Connection	Type N female
RF Output Connection	WR-75 waveguide flange, grooved
RF Output Monitor	Type N female
Dimensions (W x H x D)	19.0 x 5.25 x 26 in. (483 x 134 x 661 mm); 19.0 x 7.00 x 26 in. (483 x 178 x 661 mm) with DC Power Supply Redundancy Option
Weight	72 lbs (32.7 kg) typ, no options

OPTIONS:

- *1 RU Remote Control Panel*
- *Redundant and Power Combined Subsystems*
- *L-Band BUC*
- *RF Input and Output Sampling Ports*
- *Ethernet Interface*
- *DC Power Supply Redundancy Module*
- *Hardened Power Supply*
- *External Receive Band Reject Filter*
- *Low Power Transient Voltage Surge Suppressor (TVSS)*



SSPA with optional redundant hot-swappable power supplies

Mounting hardware is provided with each amplifier.



For more detailed information, please refer to the corresponding CPI Technical Description.

Note: Specifications may change without notice as a result of additional data or product refinement.

Please contact CPI before using this information for system design.



Communications & Power Industries

satcom division