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.

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

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.

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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. gain): 70 dB min. (at max. gain setting)
- Gain Adjustment Range: 23 dB
- Gain Setting Resolution: 0.1 dB
- Gain Stability: ±0.15 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
- Noise Power Density: -70 dBW/Hz 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.
- 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); 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

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.

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