

# 100W Outdoor Solid State Power Amplifier

CPI Solid Inside and Out

**Ku-Band**

## High Power SSPAs

Model S4UO 100 watt  
Ku-band Solid State Power  
Amplifier— Environmentally  
sealed compact design for  
outdoor operation



### CPI-Built RF Brick Inside

With CPI-built RF brick inside and plenty of thermal margin, this SSPA is rock-solid, highly efficient and easy to maintain.

### 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 RS-232 or RS422/485 computer interface and digitally controlled attenuator.

### Modular for Easy Maintenance

Highly modular design enables fan, power supply and SSPA brick replacements in less than 30 minutes. RF Module can be replaced with C- or X-band module in minutes.

### 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.

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**High Power Outdoor Solid State Power Amplifier**

## SPECIFICATIONS, S4UO Outdoor-Mount SSPA Electrical

Frequency Range	13.75 - 14.50 GHz
RF Output	
Saturated, min.	100 W (50.00 dBm)
P1dB, min.	80 W (49.03 dBm)
Small Signal Gain	70 dB min. (at max. gain setting)
Gain Adjustment Range	23 dB
Gain Setting Resolution	±0.1 dB
Gain Stability	
Over -30°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. (1.5:1 max. with optional BUC)
Output VSWR	1.3:1 max.
3rd Order Intermod	-25 dBc max. at 3 dB total backoff from P1dB
Harmonic Output	-60 dBc max. at P1dB
Spurious	-60 dBc max. at P1dB
Residual AM	-50 dBc below 10 kHz -20 [1 + 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. (3 dB below with optional BUC)
AM/PM Conversion	2.5°/dB max. at 3dB backoff from P1dB

### OPTIONS :

- Remote Control Panel
- Integrated 1:1 Switch Control
- Redundant Switch Subsystems
- Integral Block Upconverter (BUC)
- Advanced Ethernet Interface
- Dry Contact M&C Interface

## Electrical (continued)

Group Delay	0.03 ns/MHz linear max. (in any 80 MHz band) 0.003 ns/MHz <sup>2</sup> 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	-30 dB ±2 nom. wrt output

## Environmental (Operating)

Ambient Temperature	-40°C to +60°C operating
Relative Humidity	100% condensing
Altitude	10,000 ft. max. operating

## 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
M&C Interface	Serial and Basic Ethernet
Dimensions (W x H x D)	12.0 x 9.1 x 14.0 in. (305 x 232 x 356 mm)
Weight	43 lbs (19.5 kg) typ, no options



**Field Replaceable Modules (FRMs)**  
Enable Easy Maintenance and  
Frequency Flexibility

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

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