

## 50W and 35W Solid State Power BUCs

CPI Solid Inside and Out

### B3UO-2G Series

50 W and 35 W  
Ku-band Solid State  
Block Upconverters —  
Environmentally sealed  
compact design for  
outdoor operation

#### CPI-Built RF Brick Inside

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

#### High Linearity

Excellent AM/PM, phase noise and spectral regrowth performance.

#### Simple to Operate

User-friendly microprocessor-controlled serial interface with basic Ethernet interface (advanced Ethernet interface optional). Also contains digitally controlled attenuator. Redundant systems available.

#### Extended Band Operation

Provides 45 or 30 watts of P1dB output power at the flange over the entire 13.75 to 14.50 GHz frequency range.

### Ku-Band



#### Global Applications

Perfect for Satcom on the Move, Micro Flyaway Systems, VSATs, and antenna-mount applications. Meets Electromagnetic Compatibility Directive 2004/108/EC 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:** [satcommarketing@cpil.com](mailto:satcommarketing@cpil.com)  
[www.cpii.com/satcom](http://www.cpii.com/satcom)

Ku-Band

50W and 35W Solid State BUCs

## SPECIFICATIONS, 50 W and 35 W Ku-Band Outdoor Solid State Power BUC (SSPB) (Model B3UO-2G)

### Electrical

Frequency	13.75 to 14.50 GHz or 14.0 to 14.5 GHz
L-Band Input	950 to 1700 MHz or 950 to 1450 MHz
Output Power	50 W (47.0 dBm) or 35 W (45.4 dBm) Psat 45 W (46.5 dBm) or 30 W (44.7 dBm) P1dB
Local Oscillator Frequency	12,800 MHz or 13,050 MHz (select either)
Internal 10 MHz Reference	standard
BUC Stability	±1 ppm
Small Signal Gain	70 dB min.
Gain Stability	
Over temp., constant drive	±1.5 dB over oper. temp. range
Over 24 hours, fixed temp.	±0.25 dB
Gain Slope	±0.04 dB/MHz max.
Small Signal Gain Variation	
Across any 40 MHz band	±0.3 dB pk-pk max.
Across the full band	±1.25 dB
Gain Adjustment Range	20 dB
Input VSWR	1.5:1 max. (50 ohms)
Output VSWR	1.3:1 max.
Load VSWR	
Continuous operation	2.0:1
Full spec compliance	1.5:1
Residual AM, max.	-80 dBc > 100 kHz from carrier
Phase Noise, max.	
10 Hz	-33 dBc/Hz
100 Hz	-63 dBc/Hz
1 kHz	-73 dBc/Hz
10 kHz	-83 dBc/Hz
100 kHz	-93 dBc/Hz
1 MHz	-93 dBc/Hz
AM/PM Conversion	2.5°/dB max. for a single-carrier at 2.5 dB backoff from rated P1dB
Harmonic Output	-60 dBc max. at rated P1dB
Spurious Response at P1dB	-60 dBc max. in band
Noise Power Density	<-150 dBW/4 kHz, receive band <-70 dBW/4 kHz, passband
Intermodulation Distortion	-25 dBc max. with two equal carriers and 5 MHz apart at 3.0 dB total backoff from rated P1dB
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	40-52 VDC (AC Input Option: 100 - 240 VAC ±10%, single phase, 47-63 Hz)

### OPTIONS:

- External Multiplexed 10 MHz reference
- 1 RU Remote Control Panel
- 1:1 Redundant Switching
- Advanced Ethernet Interface
- External AC Input Module

### Electrical (continued)

Power Consumption	450 W typ. (AC input option, 50 W) 330 W typ. (AC input option, 35 W)
Power Factor Correction	.99 (with AC input option)
Remote Status	Transmit/Standby/Inhibit Status Control Point (local/CIF/Internet)

### Monitor and Control

Remote Control	Transmit ON/OFF Fault Reset Attenuator Setting
Computer/Network Interface	RS-232C and 422/485 with basic Ethernet (advanced Ethernet optional)
Remote Status	Transmit/Standby/Inhibit Status Control Point (local/CIF/Internet)

### Environmental

Ambient Temperature	-40°C to +55°C operating in direct sunlight; -40°C to +60°C operating out of direct sunlight; -50°C to +85°C non-operating
Relative Humidity	100% condensing
Altitude	12,000 ft. with standard adiabatic derating of 2°C/1000 ft., operating; 50,000 ft., non-operating
Cooling	Integral forced air
Shock and Vibration	20 g peak, 11 msec, 1/2 sine; 2.1 g <sub>rms</sub> , 5 to 500 Hz.

### Mechanical

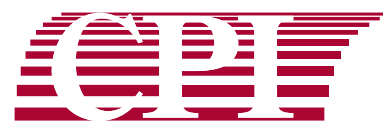
RF Output Connection	WR-75 waveguide flange, grooved with UNC 2B 6-32 threaded holes
L-Band Input Connection	Type N female
Dimensions (w x l x h)	6.5" x 13.1" x 6.2" (166 x 333 x 158 mm)
External AC Input Module	6.1" x 12.1" x 4.8" (155 x 308 x 122 mm)
Weight	16.5 lbs (7.5 kg) typ.
External AC Input Module	10 lbs (4.5 kg) without cables



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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