

## 50W Solid State BUCs

CPI Solid Inside and Out

### Model B3UO

*50 watt 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 SSPA is rock-solid, highly efficient and easy to maintain.

#### High Linearity

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

#### Simple to Operate

User-friendly microprocessor-controlled logic with both integrated serial (RS-232 and RS-422/485) and Ethernet computer interfaces. Also contains digitally controlled attenuator.

#### Extended Band Operation

Provides 45 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 International Safety Standard EN-60950, Electromagnetic Compatibility 89/336/EEC 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.

Ku-Band

50W Solid State BUCs

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## SPECIFICATIONS, 50 W Ku-Band Outdoor Solid State BUC (Model B3UO)

### Electrical

Frequency	13.75 to 14.50 GHz
L-Band Input	950 to 1700 MHz
Output Power	50W (47.0 dBm) Psat 45W (46.5 dBm) P1dB
Local Oscillator Frequency	12,800 MHz or 13,050 MHz (select either)
Internal 10 MHz Reference	standard
Small Signal Gain	70 dB min. (higher gain options available)
Gain Stability	
Over temp., constant drive	±1.0 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 80 MHz band	±0.85 dB pk-pk max.
Across the full band	±1.25 dB
Gain Adjustment Range	17 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.	
100 Hz	-63 dBc/Hz
1 kHz	-73 dBc/Hz
10 kHz	-83 dBc/Hz
100 kHz	-93 dBc/Hz
1 MHz	-103 dBc/Hz
AM/PM Conversion	2.5°/dB max. for a single-carrier at 2.5 dB backoff from P1dB
Harmonic Output	-60 dBc max. at P1dB
Spurious Response at P1dB	-60 dBc max. in band
Intermodulation Distortion	-25 dBc max. with two equal carriers and 5 MHz apart at 3.0 dB total backoff from 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	Single phase, 100-250 VAC ±10% 47-63 Hz
Power Consumption	428 VA typ.
Power Factor	0.95 min.

### OPTIONS:

- 14.0 - 14.5 GHz operation
- Front Panel Display

### Monitor and Control

Remote Control	Transmit ON/OFF Fault Reset Attenuator Setting
Computer/Network Interface	RS-232C, 422/485 and Ethernet
Remote Status	Transmit ON/OFF, Summary Fault Temperature, Fault Identification RF Inhibit (ON/OFF), Lock Detect

### Environmental

Ambient Temperature	-40°C to +60°C operating, solar loading immune; -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, 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
M&C Connection	12 Pin Circular (LF10WBR-12S)
Dimensions	6 x 6 x 16 in. (142 x 142 x 406 mm)
Weight	25 lbs (11.4 kg) typ.



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.

