



C-Band 7700 & Ku-Band 7900 series BLOCK UP CONVERTER

➤ FEATURES AT A GLANCE

- Ideally suited to rapid deploy or offshore applications
- Includes entire feature set of existing BUC families
- Uniquely designed cooling system
- AC and DC powered versions
- Suitable 48 V DC power supplies available as options
- Available in single thread and 1+1 redundant configurations

The CODAN™ RBUcs are purpose-built for satcom-on-the-move customers, while also offering benefits for fixed site and offshore applications.



RBUc Web server M&C



40 W Ku-Band BUC 7900 series

Rugged & Reliable

- Design MTBF exceeds 100,000 hours
- IP67 rating that provides protection from water or dust storms
- Dual cooling fans for redundant fan operation
- Sealed to 34 kPa (5 Psi)

Specifically Designed

- Military applications
- Broadcast applications
- Size limited applications
- Highly mobile ground systems
- Remote area, install-and-forget applications
- Harsh environment operation
- Best RF power efficiency

Guaranteed Specifications

Guaranteed operation to specifications throughout the environmental operating range:

- Temperature (-40°C to +55°C)
- Humidity (100%)

Most Comprehensive Monitor & Control

- Ethernet (HTTP Web server, Telnet and SNMP)
- RS232, RS422/485
- FSK
- Dry-contact closure
- RF Power Meter

A large choice of management protocols are also built into the RBUc.

Unique Thermal Design

Unique billet aluminium casing that offers:

- Reduced weight with a machined, lighter casing
- Highly efficient cooling fins in "sandwich" design
- Huge increase in thermal efficiency

Configuration Options

- Standalone
- Redundant 1+1 with Ethernet M&C
- Optional AC Power Supplies

Complementary Range of BUCs

- 8 and 16 W Ku-Band BUCs
- 10, 20 and 40 W C-Band BUCs
- Identical mounting and accessories

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Specifications

	Ku-Band				C-Band			
	25 W		40 W		100 W		200 W	
RF power rating	25 W		40 W		100 W		200 W	
Platform	DC-powered		DC-powered		AC-powered		AC-powered	
Model numbers	7925-W/S-48/EX-NI	7925-W/E-48/EX-NI	7940-W/S-48/EX-NI	7940-W/E-48/EX-NI	7710H-W/S-AC/EX	7710H-W/E-AC/EX	7720H-W/S-AC/EX	7720H-W/E-AC/EX
RF output connector	WR75, PBR120 flange		WR75, PBR120 flange		WR137, CPR137G flange	WR137, CPR137G flange	WR137, CPR137G flange	
RF output VSWR	1.5:1 max		1.5:1 max		1.5:1 max	1.5:1 max	1.5:1 max	
RF output frequency range	Std Band 14000 to 14500 MHz	Ext Band 13750 to 14500 MHz	Std Band 14000 to 14500 MHz	Ext Band 13750 to 14500 MHz	Std Band 5850 to 6425 MHz	Ext Band 5850 to 6725 MHz	Std Band 5850 to 6425 MHz	Ext Band 5850 to 6725 MHz
Input frequency range	950 to 1450 MHz	950 to 1700 MHz	950 to 1450 MHz	950 to 1700 MHz	950 to 1525 MHz	950 to 1750 MHz	950 to 1525 MHz	950 to 1750 MHz
RF output power @ 1 dB GCP	+43.0 dBm min		+45.5 dBm min	+45.0 dBm min	+50.0 dBm min	+49.5 dBm min	+53.0 dBm min	+52.5 dBm min
LO frequency	13050 MHz	12800 MHz	13050 MHz	12800 MHz	7300 & 7375 MHz	7300, 7375, 7600 & 7675 MHz	7300 & 7375 MHz	7300, 7375, 7600 & 7675 MHz
Transmit attenuator steps	0 dB to 15 dB in 1 dB steps		0 dB to 15 dB in 1 dB steps		0 dB to 15 dB in 1 dB steps		0 dB to 15 dB in 1 dB steps	
Gain	74 dB nominal		77 dB nominal		81 dB nominal		84 dB nominal	
Gain flatness over any 40 MHz band	±0.75 dB max		±0.75 dB max		±0.75 dB max		±0.75 dB max	
Gain flatness over full band	±1.50 dB max		±1.50 dB max		±1.50 dB max		±1.50 dB max	
Gain stability over any 50°C temperature range when frequency set	±1.50 dB max		±1.50 dB max		±1.50 dB max		±1.50 dB max	
Gain stability over entire temperature range when frequency set	±2.0 dB max		±2.0 dB max		±2.0 dB max		±2.0 dB max	
Gain stability over entire temperature range when frequency not set	±3.0 dB max		±3.0 dB max		±4.0 dB max	±3.0 dB max	±3.0 dB max	
Reference frequency (External)	10 MHz		10 MHz		10 MHz		10 MHz	
Reference frequency input (External)	Multiplexed on N-type transmit IF input		Multiplexed on N-type transmit IF input		Multiplexed on N-type transmit IF input		Multiplexed on N-type transmit IF input	
Reference frequency level	-10 to +5 dBm		-10 to +5 dBm		-10 to +5 dBm		-10 to +5 dBm	
Reference frequency connector	Via N-type transmit IF input		Via N-type transmit IF input		Via N-type transmit IF input		Via N-type transmit IF input	
Frequency conversion	Non-inverting		Non-inverting		Inverting		Inverting	
Power supply voltage @ 48 V	+36 V to +72 V DC via external DC connector		+36 V to +72 V DC via external DC connector		N/A		N/A	
Power supply minimum turn-on voltage @ 48 V	+41 V		+41 V		N/A		N/A	
Power supply voltage (AC-powered BUCs only)	N/A		N/A		95 to 275 V AC via Amphenol T 3110 000		176 to 275 V AC via Amphenol T 3110 000	
Power supply consumption	310 W typ 350 W max		430 W typ 570 W max		560 W typ 700 W max		1000 W typ 1200 W max	
Volume	323 mm L x 182 mm W x 150 mm H		323 mm L x 182 mm W x 150 mm H		402 mm L x 198 mm W x 170 mm H		490 mm L x 220 mm W x 220 mm H	
Weight	7 kg		7 kg		12 kg		21 kg	

Values noted are typical at 25°C unless otherwise stated. Equipment descriptions and specifications are subject to change without notice or obligation.

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Common Specifications

IF input connector	N-type
IF input impedance	50 Ω
IF input VSWR	1.7:1 max
RF output IMD ratio with 2 carriers each @ 6 dB OPBO	-25 dBc max
Spurious/harmonic output @ 3 dB OPBO	-50 dBc max
* Maximum phase noise (SSB) of reference frequency: 100 Hz 1 kHz 10 kHz 100 kHz	-135 dBc/Hz -145 dBc/Hz -155 dBc/Hz -155 dBc/Hz
Phase noise (SSB) of BUC with reference frequency defined above *: 100 Hz 1 kHz 10 kHz 100 kHz	-63 dBc/Hz -73 dBc/Hz -83 dBc/Hz -93 dBc/Hz
Group delay Linear (over any 10 MHz band) Parabolic (over any 80 MHz band) Ripple (over full band)	2 nsec _{pp} max 0.00025 nsec/MHz ² _{pp} max 1 nsec _{pp} max
AM/PM conversion	2.0°/dB max @ 2 dB OPBO
Monitor & Control Ethernet Interface Digital data format RS232 Digital data format RS485 Digital connector FSK data format FSK data transmitter frequency FSK data transmitter deviation FSK data transmitter sense FSK output level FSK start tone time FSK data receiver nominal frequency FSK data receiver locking range FSK data receiver input sensitivity	TCP/IP Protocol, 10/100 BaseT via 8 pin 62IN-16J-10-8S-622 connector to RJ45 Embedded HTTP Web server, Telnet, and SNMP 9600 bps, 8 bits, no parity, 1 stop bit, ASCII protocol User selectable protocols MIL-C-26482 12-14S socket User selectable protocols 650 kHz \pm 1% \pm 60 kHz \pm 1% +60 kHz=mark; -60 kHz=space -8 dB nominal 10 ms min 650 kHz \pm 30 kHz -15 dBm min
Operating temperature range	-40 to +55°C
Non-operating/storage temperature range	-40 to +70°C
Relative humidity	100%
Weatherproofing	Sealed to 34 kPa



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