C-Band 7700 and Ku-Band 7900 Series RBUCs

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 VDC power supplies available as options
- Available in single thread and 1+1 redundant configurations

Product photos are representative; actual product sold may vary slightly from product photos on this datasheet.

Rugged

Design MTBF exceeds 100,000 hours. IP66 rating against water and dust storms. Dual cooling fans for redundancy. Sealed to 34 kPA (5 psi)

Most Comprehensive M&C

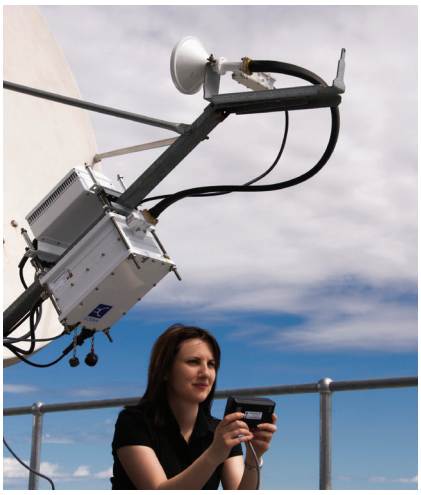
Ethernet (HTTP web server, Telnet and SNMP). RS232, RS422/485 serial interface, FSK, dry contact closure, RF power meter. Large selection of management protocols also included.

Global Applications

Meets Electromagnetic Compatibility Directive 2004/108/EC to satisfy worldwide requirements and is CE-marked.

Worldwide Support

Backed by over 35 years of satellite communications experience, and CPI's worldwide 24-hour customer support network that includes more than 20 regional factory service centers.



7700 and 7900 Series

40 W to 200 W BUCs
for maritime, VSAT and SOTM
satellite uplink applications

OPTIONS

- 1:1 redundant switching
- One-stop shop for complete satellite system (refer to BUC accessories data sheet)
- LAN Interface
- FSK to USB interface
- Reference Source
- Handheld Controller
- Remote Controller
- LNBs
- Waveguide Components

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40 W Ku-band, 100 and 200 W C-band RBUCs

	Ku-Band		C-Band			
Model Number	7940		7710H		7720H	
RF Power Rating	40 watts		100 watts		200 watts	
Platform	DC powered		AC powered			
RF Input Connector	N-type		N-type			
RF Output Connector	WR-75, PBR 120 flange		WR-137, CPR-137G flange			
VSWR (max.)	1.7:1 output, 1.5:1 input		1.7:1 output, 1.5:1 input			
RF Output Frequency Range (GHz)	14.0 - 14.5	13.75 - 14.50	5.850 - 6.425	5.850 - 6.725	5.850 - 6.425	5.850 - 6.425
RF Input Frequency Range (MHz)	950 - 1450	950 - 1700	950 - 1525	950 - 1750	950 - 1525	950 - 1750
LO Frequency (MHz)	13050	12800	7300 & 7375	7300, 7375, 7600 & 7675	7300 & 7375	7300, 7375, 7600 & 7675
Transmit Attenuator Steps	0 dB to 15 dB in 1 dB steps		0 dB to 15 dB in 1 dB steps			
IF Input Impedence	50 Ω		50 Ω			
IF Input Power @1 dB GCP, CW and max. gain	-31 dBm nominal		-31 dBm nominal			
RF Output Power @1 dB GCP, CW (min)	45.5 dBm	45.0 dBm	50.0 dBm	49.5 dBm	53.0 dBm	52.5 dBm
Gain @0 dB Attenuation	77 dB nom.		84 dB nom.		87 dB nom.	
Gain Flatness	±0.75 dB max. over any 40 MHz band; ±1.50 dB max. over full band		±0.75 dB max. over any 40 MHz band; ±1.50 dB max. over full band			
Gain Stability Over any 50°C Temperature Range	±1.50 dB max. when frequency set		±1.50 dB max. when frequency set			
Gain Stability Over Full Temperature Range (freq. set)	±2.0 dB max.		±2.0 dB max.			
Gain Stability Over Full Temperature Range (freq. not set)	±3.0 dB max.		±4.0 dB max.	±3.0 dB max.	±3.0 dB max.	
Intermodulation	-25 dBc with respect to each of two carriers @6 dB OBO		-25 dBc with respect to each of two carriers @6 dB OBO			
Spurious/Harmonic Output	-50 dBc max. @ 3 dB OBO		-50 dBc max. @ 3 dB OBO			
AM/PM Conversion	2.0°/dB max @ 2 dB OPBO		2.0°/dB max @ 2 dB OPBO			
Reference Frequency (external)	10 MHz		10 MHz			
Ref. Frequency Input (external)	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			
Reference Frequency Connector	Via N-type transmit IF input		Via N-type transmit IF input			
Frequency Conversion	Non-inverting		Inverting			
Maximum Phase Noise (SSB) of Reference Frequency	-135 dBc/Hz at 100 Hz -145 dBc/Hz at 1 kHz -155 dBc/Hz at 10 kHz -155 dBc/Hz at 100 kHz		-135 dBc/Hz at 100 Hz -145 dBc/Hz at 1 kHz -155 dBc/Hz at 10 kHz -155 dBc/Hz at 100 kHz			
Phase noise (SSB) of BUC with reference frequency defined above	-63 dBc/Hz at 100 Hz -73 dBc/Hz at 1 kHz -83 dBc/Hz at 10 kHz -93 dBc/Hz at 100 kHz		-63 dBc/Hz at 100 Hz -73 dBc/Hz at 1 kHz -83 dBc/Hz at 10 kHz -93 dBc/Hz at 100 kHz			
Output Power Meter Range	15 dB		15 dB			
Output Power Meter Absolute Accuracy	±1.0 dB max. when compensation frequency set; ±2.0 dB max. when compensation frequency not set		±1.0 dB max. when compensation frequency set; ±2.0 dB max. when compensation frequency not set			
Output Power Meter Relative Accuracy	±0.5 dB max. when compensation frequency set; ±1.0 dB max. when compensation frequency not set		±0.5 dB max. when compensation frequency set; ±1.0 dB max. when compensation frequency not set			
Power Meter Modes	CW and burst (>100 uS) with adjustable threshold		CW and burst (>100 uS) with adjustable threshold			
Power Supply Voltage	+36 V to +72 V DC via external DC connector		95 to 275 VAC via Amphenol T 3110 000		176 to 275 VAC via Amphenol T 3110 000	

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40 W Ku-band, 100 and 200 W C-band RBUCs

	Ku-Band	C-Band	
Model Number	7940	7710H	7720H
Power Supply Minimum Turn On Voltage	+41 V	N/A	
Monitor and Control			
Ethernet Interface	TCP/IP Protocol, 10/100 BaseT via 8 pin 62IN-16J-10-8S-622 connector to RJ45 Embedded HTTP Web server, Telnet, and SNMP	TCP/IP Protocol, 10/100 BaseT via 8 pin 62IN-16J-10-8S-622 connector to RJ45 Embedded HTTP Web server, Telnet, and SNMP	
Digital data format RS232	9600 bps, 8 bits, no parity, 1 stop bit, ASCII protocol	9600 bps, 8 bits, no parity, 1 stop bit, ASCII protocol	
Digital data format RS485	User selectable protocols	User selectable protocols	
Digital connector	MIL-C-26482 12-14S socket	MIL-C-26482 12-14S socket	
FSK data format	User selectable protocols	User selectable protocols	
FSK data transmitter frequency	650 kHz ±1%	650 kHz ±1%	
FSK data transmitter deviation	±60 kHz ±1%	±60 kHz ±1%	
FSK data transmitter sense	+60 kHz=mark; –60 kHz=space	+60 kHz=mark; –60 kHz=space	
FSK output level	–8 dB nominal	–8 dB nominal	
FSK start tone time	10 ms min	10 ms min	
FSK data receiver nominal frequency	650 kHz	650 kHz	
FSK data receiver locking range	±30 kHz	±30 kHz	
FSK data receiver input sensitivity	–15 dBm min	–15 dBm min	
Temperature Range	–40 to +55°C operating, –40 to +70°C non-operating	–40 to +55°C operating, –40 to +70°C non-operating	
Relative Humidity	100% condensing	100% condensing	
Weatherproofing	Sealed to 34 kPa	Sealed to 34 kPa	
Power Supply Consumption	430 W typ, 570 W max.	560 W typ, 700 W max.	1000 W typ, 1200 W max.
Volume (L x W x H)	323 x 182 x 150 mm (12.7” x 7.2” x 5.9”)	402 x 198 x 170 mm (15.8” x 7.8” x 6.7”)	490 x 220 x 220 mm (19.3” x 8.7” x 8.7”)
Weight	8 kg (17.6 lbs)	13 kg (28.7 lbs)	23 kg (50.7 lbs)

Configure your 7000 Series RBUCs

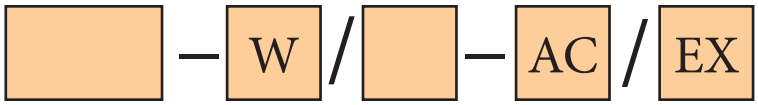
Configuring your RBUC is easy. Much of the configuration is already predetermined. Use the the C-band configuration line below if configuring a C-band BUC, or use the Ku-band configuration line below if configuring model 7940 Ku-band BUC. All that is left to determine is which model of C-band unit is required (if applicable), which frequency range, and for the Ku-band only, the type of input power desired.

Box 1: **C-Band only** - Output Power Level/Model Number
- Enter "7710H" for 100 W model
- Enter "7720H" for 200 W model

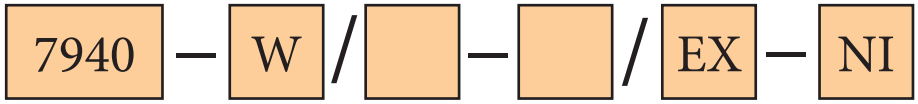
Box 3: Output frequency range (within the C-band or Ku-band)
- Enter "S" for 5.850 to 6.425 GHz, or 14.00 to 14.50 GHz
- Enter "E" for 5.850 to 6.725 GHz, or 13.75 to 14.50 GHz

Box 4: **Ku-Band only** - Input power
- Enter "48" for 36-60 V DC input power
- Enter "AC" for AC power

C-Band



Ku-Band



Examples: 7710H-W/E-AC/EX indicates a 100 W C-band RBUC operating in the 5.850 to 6.725 GHz frequency range. 7940-W/S-48/EX indicates a 40 W Ku-band RBUC operating in the 14.0 - 14.5 GHz frequency range, with 48 V DC input.

Notes: Box 2 indicates a waveguide RF output connection. Box 5 indicates that power is fed via an external connector. Box 6 indicates that this product is a non-inverting BUC.