

# DRC 3500

## Versatile Ka-Band Transceivers

### Key Features:

- Flexible Polarisation: RHCP/ LHCP and cross/co-polar
- 2 GHz operation by switchable sub-bands
- Optimised, integrated feed chain for highest EIRP and G/T
- True 5 Watt P1dB at the feed
- L-Band IFL
- Wide DC supply voltage range 18 V – 50 V
- Auto-detect 10 MHz & 50 MHz TX reference
- IP67 rated housing & feed
- Open BMIP monitoring and control
- Fan-less design



The new DRC 3500 is a high performance Ka-Band transceiver with unprecedented versatility. The product includes the complete antenna feed chain with polariser, a true 5 Watt BUC, a wide-band PLL LNB and an OpenBMIP Monitoring and Control facility – all in a single, IP67 rated, enclosure.

The unit is convection cooled (fan-less) to ensure best reliability. The DRC has the capability to operate over commercial and military Ka-Band frequencies by electronic sub-band switching. It also features electronic polarisation switching between RHCP/LHCP as well as co-polar and cross-polar modes.

All this versatility allows the DRC to switch between any satellite without changing hardware. Standard L-Band RX-IF and TX-IFL interfaces match common VSAT modems. All production units are 100 % RF tested under environmental extremes.

### Options:

- Electronic Polarisation and band switching
- External 10 MHz RX LO reference
- Auxiliary Power Supply Unit
- Up to 4 TX bands addressing a total minimum of 2 GHz



**DRC 3500 Versatile Ka-band Transceivers**

**Feed and Polarizer**

Parameter		Minimum	Typical	Maximum	Unit	Note
Feed and Polariser Subsystem			integrated			Field configurable
Polarisation			RHCP/LHCP & co-/x-polar			Switchable via M&C
XPD	TX band	22	25		dB	Circular polarization
	RX band	20			dB	

**TX Subsystem (BUC)**

Parameter		Minimum	Typical	Maximum	Unit	Note	
Integrated Phase Noise	100 Hz - 100 kHz		1.3	2.3	°	DSB rms phase jitter	
	1 kHz - 1 MHz		1.4	1.7	°		
	5 kHz - 5 MHz		1.3	1.7	°		
Local Oscillator Reference Frequency			10 / 50 MHz auto-detect				
RF Output Power	P1dB, CW	37.0	38.0		dBm	> 5 W	
Conversion Gain		54	58	62	dB		
RF Output Spurious		EN 301459 & FCC 47 CFR 25					
IF Input Connector		N-Type, female (F-type option)					
Supply Voltage		18		52	V		
Supply Current @ 48 V, REF on, TX carrier at P1dB				1.5	A	< 70 Watt	
Supply Current at 48 V, REF off			50		mA	"sleep mode"	

**RX Subsystem (LNB)**

Parameter		Minimum	Typical	Maximum	Unit	Note	
Local Oscillator Frequency Tolerance				±3	ppm	other precision options available	
Local Oscillator Phase Noise	@ 100 Hz		-56	-50	dBc/Hz		
	@ 1 kHz		-75	-70	dBc/Hz		
	@ 10 kHz		-88	-80	dBc/Hz		
	@ 100 kHz		-97	-90	dBc/Hz		
	@ 1 MHz		-107	-105	dBc/Hz		
Noise Figure @ 25° C			1.4	1.8	dB		
Conversion Gain		55	60	65	dB		
IF Output Connector		N-Type, female (F-type option)					receptacle
Supply Voltage		15		52	V		
Supply Current @ 24 V			95	120	mA	< 3 W	

**Monitoring and Control**

Parameter		Minimum	Typical	Maximum	Unit	Note	
M&C Communication			RS422 Serial Bus			Open BMIP	
M&C File Transfer Protocol			Kermit				
M&C Connector		Amphenol PT02E-14-12P					

**General**

Parameter		Minimum	Typical	Maximum	Unit	Note
Operational Temperature		-40		+55	°C	
Moisture/Humidity Protection Class			IP67			
Weight			3.8		kg	
Colour			RAL 9003			Standard white

**Frequency Conversion Table**

BAND	TRANSMIT				RECEIVE					
	IF (MHz)		LO (GHz)	RF (GHz)		RF (GHz)		LO (GHz)	IF (MHz)	
	MIN	MAX		MIN	MAX	MIN	MAX		MIN	MAX
C	950	1450	28.05	29.0	29.5	19.2	20.2	18.25	950	1950
D	1450	1950		29.5	30.0	20.2	20.7	19.25	950	1450
E	950	1450	29.05	30.0	30.5	20.2	21.2	19.25	950	1950
F	1450	1950		30.5	31.0	19.2	21.2	18.25/19.25	950	1950

**Note**

Other variations to technical parameters, options and accessories may be available. Contact our sales team to discuss your requirements.