



DRC 3500

Versatile Ka-Band Transceiver



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 – 50 V
- Auto-detect 10 MHz and 50 MHz TX reference
- IP67 rated housing and feed
- OpenBMIP Monitoring and Control - other protocols through firmware update
- 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
- High stability Rx LO with 10 MHz reference conversion
- Auxiliary Power Supply Unit

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Technical Specification

Feed and Polariser

Parameter	Min	Typical	Max	Unit	Note
Feed and Polariser Subsystem	integrated				Field configurable
Polarisation	RHCP/LHCP & co-/x-polar				Switchable via M&C
XPD	TX	27		dB	
	RX	26		dB	

TX Subsystem (BUC)

Parameter	Min	Typical	Max	Unit	Note
IF Input Frequency Range	950		1950	MHz	
RF Output Frequency Range	Low	29.0	29.5	GHz	
Commercial	High	29.5	30.0	GHz	
RF Output Frequency Range	Low	30.0	30.5	GHz	
Military	High	30.5	31.0	GHz	
Local Oscillator Frequency	28.05/29.05			GHz	Switchable via M&C
Local Oscillator Phase Noise	1.3		2.3	deg	100 Hz – 100 kHz
Local Oscillator Reference Frequency	10 & 50			MHz	Auto-detect
RF Output Power	ACPR >20 dBc	37		dBm	
Conversion Gain	58			dB	
RF Output Spurious	EN 301459 and FCC 47 CFR 25				With 53 dBi antenna
IF Input Connector	N or F-Type				50 or 75 Ohm
Supply Voltage	18		51	V	DC via M&C port or TX IF port
Supply Current at 48 V @ full RF power, CW	1.3		1.5	A	
Supply Current at 48 V, RF off			1	A	

Rx Subsystem (LNB)

Parameter	Min	Typical	Max	Unit	Note
RF Input Frequency	Commercial	19.2	20.2	GHz	RX LO 18.25 GHz
	Military	20.2	20.7	GHz	RX LO 19.25 GHz
	Military	20.2	21.2	GHz	RX LO 19.25 GHz
	Commercial & Military	19.2	21.2	GHz	RX LO 18.25/19.25 GHz
IF Output Frequency Range	950		1950	MHz	
Local Oscillator Frequency	18.25/19.25			GHz	Switchable via M&C
Local Oscillator Frequency Tolerance	±0.7 ppm, ± 3 ppm or external REF				Int / Ext Auto-detect
Local Oscillator Phase Noise	0.9		2.0	deg	1 kHz - 1 MHz
Noise Figure			1.3	dB	
Conversion Gain	60			dB	
IF Output Connector	N or F-Type				50 or 75 Ohm
Supply Voltage	12		30	V	
DC over RX IF port Supply Current at 24 V			150	mA	

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Technical Specification

Frequency Conversion Table

TRANSMIT					RECEIVE					
BAND	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
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

- Notes. 1. Transmit and receive IF strips use low side LOs for no spectrum inversion.
2. All frequency sub-bands (options) are shown.

Monitoring and Control

Parameter	Min	Typical	Max	Unit	Note
M&C Communication		RS422 serial bus			
M&C Protocol		OpenBMIP			
M&C Connector		Amphenol PT02E-14-12P			

General

Parameter	Min	Typical	Max	Unit	Note
Operational Temperature	-40		60	°C	
Moisture/Humidity Protection Class		IP67			
Weight		3.7		kg	
Colour		White Satin			

Accessories

Item	Description	Part No.
Aux AC - 48V DC Power Supply	Indoor PSU 48V 160W (3.34A max) to power transceiver via TX IF cable	3112 290 21621
Bias-Tee (indoor) N-type 50 Ohm	Connects directly with the indoor Aux power supply	3112 298 06401
Bias-Tee (indoor) F-type 75 Ohm	Connects directly with the indoor Aux power supply	3112 298 06391

Note

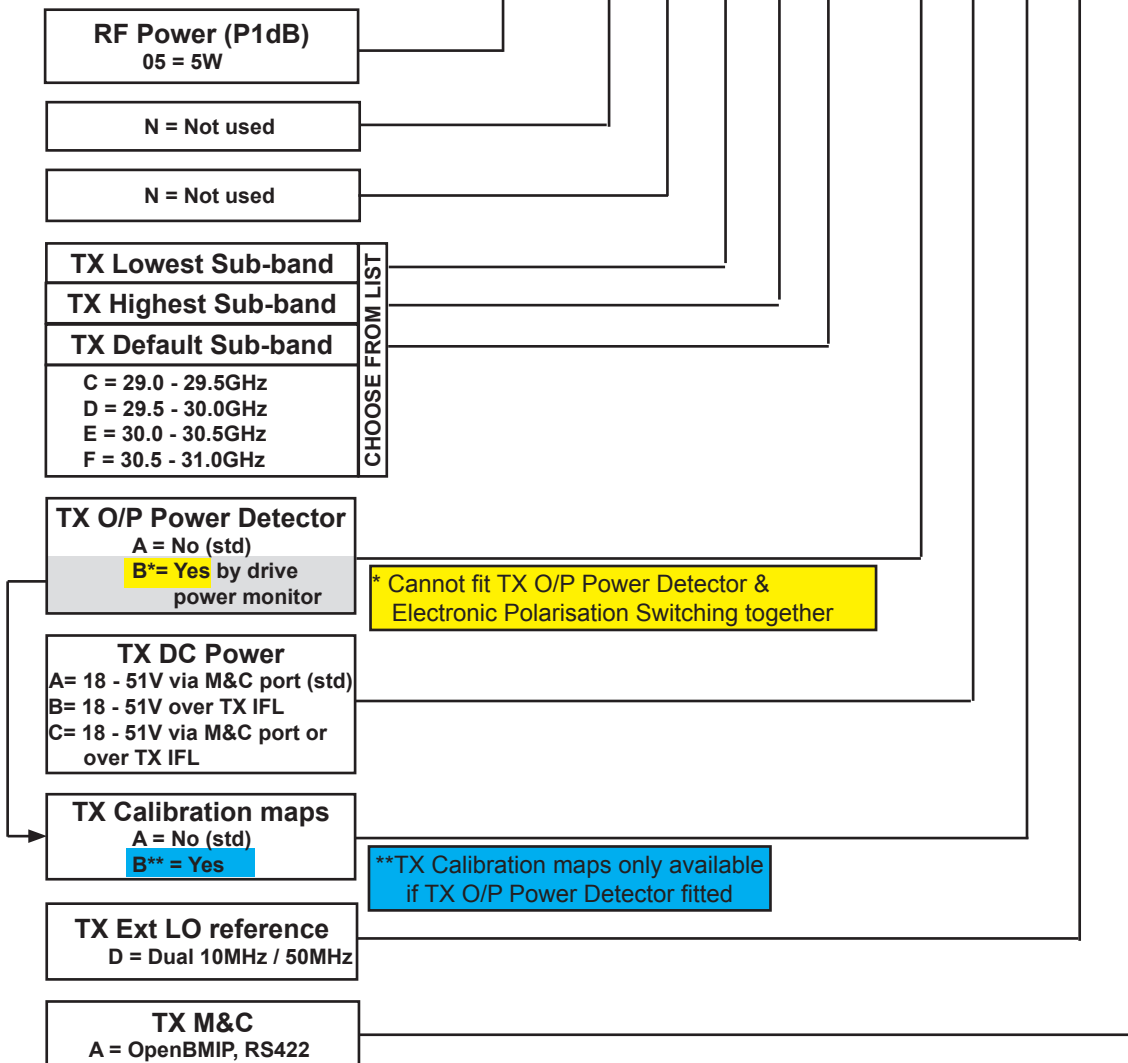
Other variations to technical parameters, options and accessories may be available. Contact our sales team to discuss your requirements.



DRC Family Transceivers Part Number Configurator sheet 1

See sheet 2 for remaining choices

DRC 3 05 - N N - - - - D A -



An Excel version of this configurator is available to download from our website www.skywaretechnologies.com.

Other options, e.g. TX frequency sub-band frequencies, may be available - contact our sales team on +44 161 2600 195 to discuss your requirements.

Note: The full part number is defined by configurator sheet 1 plus sheet 2.
Example part code is DRC305-NNCEC-AAADA-JFANA-DBAWM

