

Frequency Down Converter X Band to 70MHz



M O D E L
D W X B 7 0 - D T A 1 K

DESCRIPTION

DTA SA offers a new line of Up & Downconverters based on the experienced gained over ten years faultless operation of our units with SAC D Aquarius, Cosmo Skymed, Landsat 8, SPOT 6, EROS B , Aqua and Terra Satellites.

The Up & Down converters are designed and built applying careful simulation techniques to optimize details featuring advanced technical capabilities for complex broadband signals that require: high linearity low pass band amplitude and group delay ripple.

The DTA S.A. Downconverter X-Band to 70 MHz, DWXB70-DTA1K model, combines the state-of-art of the communications converters, giving great flexibility to the operator.

The downconverter moves the frequency band of the RF signal to a IF band. The phase noise, amplitude flatness, group delay and spurious output have been considered to achieve an optimal frequency conversion for SATCOM ground station systems.

FEATURES

- Low Phase Noise.
- Synthesized Frequency Local Oscillators With 1KHz Step.
- Optional High Stability Reference Oscillator.
- Automatic switching to external 10 MHz Reference Optional 5 & 100 MHz
- High Linearity RF Chain for High Dynamic Range.
- 30dB level control in 1 dB steps, Optional 0.5 dB steps
- Low Component Count for Optimum MTBF.
- Remote Control Capabilities Through TCP/IP Protocol (Ethernet Interphase) With Web Server Page or RS232 Serial Interface
- Local Control Panel with Bright LCD Display.
- Interface to Redundancy Switchover system
- Wide Temperature Operating Range 0 to 45 °C.
- One Rack Unit Height for 19" Rack Mounting. Single channel version
- Low Power Dissipation.
- Power Supply ac input 230 Vac +/- 10% Optional 110Vac
- Microprocessor-based control logic that allows firmware upgrades in the field via the Ethernet or serial interface, and automatic restore last configuration on case of external power failure

All specifications are subject to change without notice.

SPECIFICATIONS

ELECTRICAL SPECIFICATIONS

Output spectrum	Dual conversion, no inverted
Frequency step size	1 kHz
Input Frequency	8400-8500 MHz
Input Impedance:	50 Ohms
Input Return Loss:	20 dB min
Input LO leakage	-80dBm
Input level (no damage):	5 dBm
Output Frequency:	70 MHz $\pm$ 25 MHz
Output Impedance:	50 Ohms
Output Return Loss	20 dB min
Power Output (P1dB)	+10 dBm
Third order intermodulation distortion	60 dBc with two signals @ -20dBm output
Gain:	30dB
Gain adjustment range:	30 dB
Gain step:	1 dB Optional 0.5 dB
Gain Flatness:	± 0.5 dB
Gain Slope:	Typical 0.05dB/MHz max
Spurious Output	
Signal related	-60dBc
Signal Independent	-80dBm
Noise Figure:	10 dB
Image Rejection:	80 dB

Linear Group Delay:	≤ 0.5 ns / MHz
Parabolic Linear Group Delay:	≤ 0.1 ns / MHz
Group Delay Ripple:	≤ 1 ns p-p within $\pm 5/10$ MHz of center freq.
Internal Reference	
Frequency:	10 MHz
Standard Stability:	2 ppm 10 ⁻⁷ 0 to 45 °C Optional ± 5 10 ⁻⁹ , 0 a 45 °C;
Standard Aging:	1 10 ⁻⁷ /day Optional 2 10 ⁻⁹

Phase Noise:	
100 Hz	-80 dBc/Hz
1 kHz	-90 dBc/Hz
10 kHz	-98 dBc/Hz

GENERAL SPECIFICATIONS:

RF Input connector:	SMA Female Optional N Female
RF Output connector :	SMA Female Optional N Female
RS-232 connector:	DB9 Male
Ethernet connector:	RJ-45
Redundancy Switch connector	DB9 Female
Primary power:	240 Vac, 50-60 Hz Optional 110Vac

PHYSICAL:

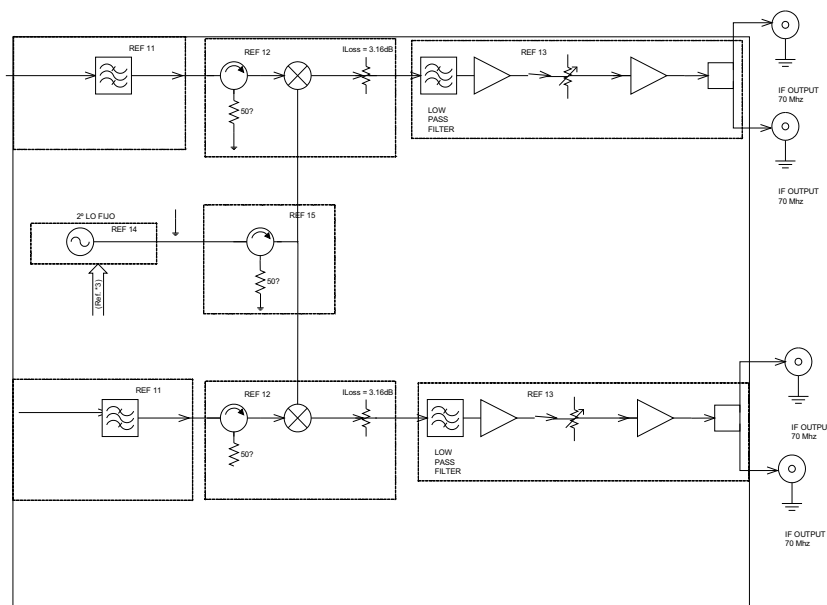
Chasis:	1.75" x 19" x 11"
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ENVIRONMENTAL:

Operating ambient Temperature:	0 to 45°C
Humidity :	95%

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BLOCK DIAGRAM



HEADQUARTERS

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