Advanced Microwave Technologies, Inc.
ADVANTECH

IS0 9001 certified

ARDQ-L70

L-Band/70MHz
Quad Down-Converter

Features:

- ***Down-converts L-Band (950 – 1750 MHz) to 70 MHz (140 MHz available)***
- ***Phase-locked local oscillator to internal 10 MHz reference source***
- ***Front Panel display of status and control functions***
- ***Remote Monitor & Control via serial interface (RS485)***
- ***1:12 redundant switching operation (with an Advantech 1:12 switching controller)***
- ***Compact rackmount package***
- ***CE marking***

The L-Band to 70 MHz Quad Converter consists of a single 19” wide, 1 RU shelf assembly. The unit contains four Down-converters from L-Band to 70 MHz, power supply, reference oscillator, monitoring and control to manage the converters.

The down-converter receives L-Band signals from an LNB or transceiver and converts them to 70 MHz for input to a 70 MHz demodulator. All necessary power and reference signals are provided by internal sources.

The enclosure is a compact 1 RU shelf of light but robust construction which houses the power supply, monitor and control and reference source.

The built-in monitoring and control subsystem allows readings of critical parameters and alarm signals to be retrieved from the down-converters. These may be used to activate front panel indicators or to be sent through a serial interface for remote controls. An internal reference signal (10 MHz) is built into the unit to lock the PLL oscillators of the down converters.

The front panel has an alphanumeric display, with LED indicators and 6 pushbuttons for interrogation, command and control operations. Control over the down-converters may be exercised from the front panel or extended remotely to a PC via the serial interface plug at the back of the shelf.

With the Advantech’s 1: N (up to 12 now) switching controller, down-converters can easily be configured to 1: N redundant operation .

Ordering information:

Quad Down Converter L-Band to 70 MHz	ARDQ-L70
Quad Down-Converter L-Band to 140 MHz	ARDQ-L140

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TECHNICAL SPECIFICATIONS

Parameter		Down-converter specifications
Input Frequency		950 – 1750 MHz
Input Power		-60 dBm to –30 dBm
Input Impedance		50 Ω, 75 Ω optional
Input Return Loss		16 dB
Frequency Set Step		1 MHz, 125 KHz optional
Output Frequency		70±18 MHz (OR 140±40 MHz OPTIONAL)
Output Power (P1dB)		0 dBm
Output Impedance		50 Ω, 75 Ω optional
Output Return Loss		16 dB
Output Spurious		- 55 dBc
Conversion Gain		30 dB @ maximum gain setting
Gain Adjustment Range		30 dB
Gain Adjustment Step		1 dB
Noise Figure		15 dB @ maximum gain setting
Frequency Response Flatness		70 ±18 MHz 1dB p.p. 140±36 MHz 1.5 dB p.p.
Image Rejection		60 dB
Intermodulation @ -10 dBm total output power		-40 dBc
Output Phase Noise dBc/Hz		-65 @ 100 Hz
		-75 @ 1KHz
		-85 @ 10 KHz
		-95 @ 100 KHz
Frequency stability		+/-2 x 10^{-8} / day
		+/-1 x 10^{-7} / year
Temperature Range		0°C to +50°C
Gain vs.Temperature Variation		1 dB p.p.
Reference Frequency		10 MHz
Reference Output Level		0 dBm min. Sine wave
Power Supply		Autoranging 90 – 264 VAC 47 to 63 Hz.
Power Consumption		30 Watts typical
Interfaces	L-Band Input	Type-N female
	70 MHz Output	BNC female or TBD
	Serial Port	D-sub 9 (RS485 packet interface to network NMS)
	Serial to PC	D-sub 9 (RS232 Terminal Mode)
	Power	IEC 60320 10 amp.
Weight		3.6 Kg (8 lbs.) max.
Panel Height		1 RU of 19” rack

ADVANTECH reserves the right to change the above specifications without prior notice

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