High Performance
Up/Down Converter
ARMT Series

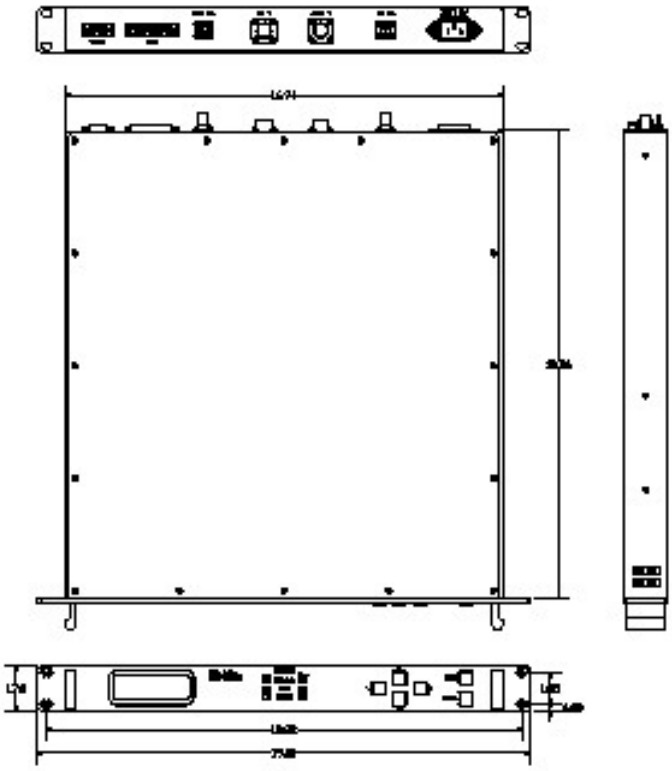
HP Frequency Converter Series

FEATURES:

- Low phase noise
- High linearity
- Local/Remote Monitor & Control
- No Spectral inversion
- 20 dB gain control
- 1MHz step size
- Down-converts L-band (950 – 2000 MHz) to 70 MHz
- Up-converts 70 MHz to L-band (950 – 2000 MHz)
- Compact rackmount package (1RU)

OPTIONS:

- 125 kHz step size
- 140 MHz IF frequency
- Power and refence supplied to LNB/BUC
- Automatic lock to external 5 or 10 MHz reference



Assembly Drawing of the Up/Down Converter Shown

DESCRIPTION

The 70 MHz/L-Band Indoor Rackmount Up/Down Converter consists of a single 19" wide, 1 RU shelf assembly which contains the following subsystem:

- 70 MHz to L-Band Up-Converter
- L-Band to 70 MHz Down-Converter
- Monitoring and Control (including remote BUC & LNB)
- Reference source and distribution
- Power supply
- Front panel display

APPLICATION

The 70 MHz/L-Band Indoor Rackmount Up/Down Converter is designed as the interface between 70 MHz modems and L-band transmitters and receivers. With the addition of an L-Band outdoor BUC and LNB a complete satellite uplink station can be implemented with minimum effort.

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AMT ADVANTECH™

Up-Converter

IF input

Frequency Range	70 ± 18 MHz or 140 ± 36 MHz
Input Power	-30 dBm to -5 dBm
Impedance	50 Ω
Return Loss	16 dB
Frequency Step Size	1 MHz, 125 kHz optional

RF output

Frequency Range	950 – 2000 MHz
Output Power (P1dB)	+5 dBm
Third Order Intercept	+15 dBm
Impedance	50 Ω
Return Loss	16 dB
Spurious (in 36 MHz band)	-55 dBc

Transfer Characteristics

Conversion Gain	10 dB @ max gain setting
Gain Adjustment Range	20 dB (-10 dB to + 20 dB)
Attenuator Step Size	0.1 dB
Noise Figure	20 dB @ max gain setting
Freq. Response Flatness	70 ± 18 MHz: 1.0 dB p-p
	140 ± 36 MHz: 1.5 dB p-p
Phase Noise	-42 @ 10Hz
	-72 @ 100 Hz
	-82 @ 1 kHz
	-92 @ 10 kHz
	-102 @ 100 kHz
	-112 @ 1 MHz
	-118 @ 10 MHz
	-118 @ 100 MHz

Reference

Frequency Stability	+/-1 x 10^{-8} / day
Aging	+/-3 x 10^{-7} / year

Environmental

Operational	0°C to +50°C standard
Gain vs. Temp. Variation	1 dB p-p for Up-converter
	0.75 dB/15°C for Down-converter
Storage	-55°C to +85°C
Humidity	Non-condensing
Altitude	3,000m AMSL

Power Supply

Voltage	90 – 264 VAC (47 – 63 Hz)
Power	45W (typical)
Output Level @ mute	-65 dBm max.
Power Available @	+24 VDC@ 3.5A
L-band Connectors	+48VDC @ 2.2 A for BUC
	+20VDC @ 400mA for LNB

Down-Converter

RF input

Frequency range	950 – 2000 MHz
Input Power	-60 dBm to -30 dBm
Impedance	50 Ω
Return loss	16 dB
Frequency Step Size	1 MHz, 125 kHz optional

IF output

Frequency range	70 ± 18 MHz or 140 ± 36 MHz
Output power (P1dB)	0 dBm
Third order intercept	+10 dBm
Impedance	50 Ω
Return loss	16 dB
Spurious (in 36 MHz band)	-55 dBc

Transfer Characteristics

Conversion Gain	20 dB @ max gain setting
Gain Adjustment Range	20 dB
Attenuator Step Size	0.1 dB
Noise Figure	20 dB @ 0 dB attenuation
Freq. Response Flatness	70 ± 18 MHz: 1.0 dB p-p
	140 ± 36 MHz: 1.5 dB p-p
Phase Noise	-38 @ 10Hz
	-68 @ 100 Hz
	-78 @ 1 kHz
	-88 @ 10 kHz
	-98 @ 100 kHz
	-108 @ 1 MHz
	-118 @ 10 MHz
	-118 @ 100 MHz

Mechanical

Dimensions	Width	19” (482.6 mm)
	Height	1U 1.75” (44.45 mm)
	Depth	20” (508 mm)
Weight	6 kg (13.2 lbs)	

Interfaces

70 MHz Input	BNC female
L-Band Output	Type-N female
L-Band Input	Type-N female
70 MHz Output	BNC female
Serial Port	D-sub9 (RS485)
Serial to PC	D-sub9 (RS232)
Serial BUC Control	D-sub9 (RS485)
Alarm Contacts	Form C
Alarm and Mute	D-sub9
Power	IEC 60320 10 amp

Specifications are subject to change without notice

CE **An ISO9001: 2000 Company**

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