

Description

This high performance down converter is intended for use in professional applications in S band such as satellite earth stations. This device includes a double conversion downconverter module with common low phase noise local oscillators, a microprocessor based monitor and control circuitry, a front panel with control keys and status display and own AC / DC power supply. The equipment can be controlled from the front panel (manual control) and via Ethernet (remote control) and serial interface (RS-232).

Specifications

3 Channel S-Band to 70 M Hz Down Converter	
Input Frequency	2200 to 2300 MHz
Type of Conversion	Double Conversion without Inversion
Frequency Sense	No Inversion
Frequency selection step size	1 KHz
Number of Channels	3
Tunability	First LO in 1 KHz step
Output Frequency	70 M Hz
3-dB Bandwidth (for IF O/P)	± 20 MHz
Number of O/P ports	2 per channel equal level
Isolation b/w I/P and O/P ports	≥ 60 dB
Isolation b/w two O/P ports of same channel	≥ 30 dB
Isolation b/w O/P ports of two different channels	≥ 60 dB
I/P or O/P Impedance	50 ohms
I/P & O/P VSWR	≤ 1.4:1 max.
LO Leakage	- 60 dBm max.
O/P 1dB Compression Point (P1)	+10 dBm min.
Gain	30 dB adjustable
Gain Adjustment	within 30dB range in 0.5 dB step
Noise Figure	8 dB at max. gain 10 dB at 10 dB lower gain
Image Rejection	60 dB min.
Level Stability	± 0.5 dB over day at constant temperature
Group Delay Stability with temperature	< 5 ns for temperature range 22 ± 3 deg C
3rd Order IM Distortion	60 dBc at 0 dBm O/P
Gain tracking b/w channels	up to 1 dB max.
Phase tracking b/w channels	< 5 deg
Group delay variation	for temperature range 22 deg ± 3 deg C
Linear	≤ 0.8 ns / MHz
Parabolic	≤ 0.2 ns / MHz ²
Ripple	≤ 1 ns p-p within ± 10 MHz of center frequency

3 Channel X-Band to 70 M Hz Down Converter	
Spurious Outputs	Signal Related: - 60 dBc Signal Independent: - 80 dBm max.
Phase Noise	100 Hz away: -80 dBc / Hz 1 KHz away: -90 dBc / Hz 10 KHz away: -98 dBc / Hz
Internal Reference Stability	5×10^{-8} over temperature range
External Reference Input	5 / 10 MHz, 0 ± 3 dBm, 50 ohms Internal/ External auto selection
Local & Remote Functions	Frequency selection & display 1st & 2nd LO monitor O/p LO lock indication Channel gain adjustment & display Reference Int./ext. Failures / Alarms Local / Remote
M & C Interface	TCP/IP-LAN (100 Mbps) at rear panel, RJ45 connector
RF / IF Connectors	SMA / N-type, Rear Panel
LO Monitor	SMA Front Panel
Input Power	230 V , 50 Hz \pm 10%
Operating ambient temperature	0 to 50 deg C
Humidity	Up to 95 %
Mechanical	19" Rack Mountable (2U Unit)
Colour	Light Grey (RAL 7035)
MTBF	> 50,000 Hours
MTTR	< 1 hour

Online Drawings

