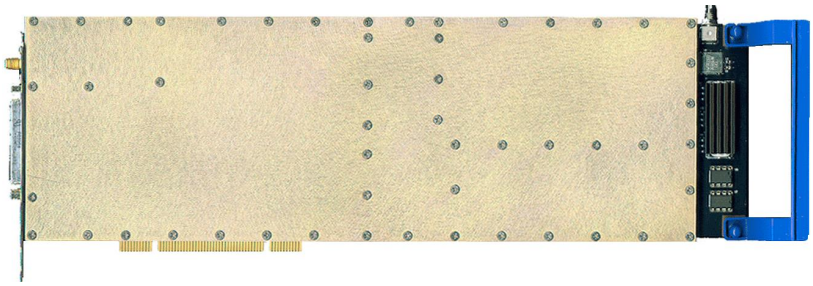
LUMISTAR

LS-25-D2 PCI Card Multi-Band Down Converter

Data Sheet

Description:

The Lumistar LS-25-D2 is the next generation tri-band, single-slot, full-length PCI down converter. The down converter is manufactured with one, two, or three frequency bands. This wideband designs supports PCM data rates up to 20 Mbps and includes a linear 70 MHz IF output, an AGC controlled 70 MHz IF output and filtered AM / linear AGC outputs. The design offers either 4 or 12 IF Bandwidths. Other down-converters are available (LS-27-D Dual-Band Two Channel, or LS-27-Q Quad-Band Single Channel) to be used with the LS-33-P Pre-D Diversity Combiner providing two or three-board solutions to Pre-Detection Diversity Reception with multi-mode demod formats. The 20 MHz Reference I/O allows the local oscillators of two down-converters to be locked together to achieve the high performance required in Pre-Detection Diversity Combining.



Key Features:

- **Single, Dual, or Tri-Band Single Slot PCI Down Converter**
- **AM Output doesn't compress from -10 to -100 dBm**
- **Linear AGC Outputs**
- **Supports data rates up to 20 Mbps**
- **8 dB Noise Figure (maximum); 6dB (typical)**
- **70 MHz IF Outputs: Linear and AGC controlled**
- **Spectral and Eye Pattern Display Option using LS-22-SE PCI Board**
- **Compatible with LDPS Software**

Frequency Band Options: Specify up to 3 bands from the table below

P 215-320 MHz
L 1435-1540 MHz
U 1710-1850 MHz
S 2200-2400 MHz
E 2185-2485 MHz
K Custom

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Tuner:

Input Bands	Specify up to 3: 2185 – 2480 MHz (E-Band) 2200 – 2400 MHz (S-Band) 1710 – 1850 MHz (UL-Band) 1435 – 1540 MHz (L-Band) 215-320 MHz (P-Band)
IF Bandwidths	4 or 12 depending on model 0.5, 1, 1.5, 2.5, 3.5, 4, 6, 8, 10, 12, 16, 20 MHz
Tuner Resolution	50 KHz
Frequency Accuracy	0.002%
Noise Figure	8 dB (Maximum); 6 dB (Typical)
Operating Input Level	-10 to threshold
Maximum Input Level	+18 dBm without damage

Outputs:

AGC Controlled 70 MHz IF	-15 +/- 5 dBm signal into 50 Ohms
Linear 70 MHz IF	35 dB Gain (typ) into 50 Ohms. Max output of +5 dBm
AGC Output	0-4 V into 1KΩ, 0 V is -100 dBm, 4V is 0 dBm
AGC Time Constant	4 selectable time constants 1, 10, 100, 1000 ms
AGC Linearity	+/- 2 dB into best fit straight Line -15 dBm to threshold +5 dB
AM Output	4 Vp-p into 10 KΩ 2.5 Vp-p into 75Ω
AM Freq Response	Selectable AM Low Pass Filters: 50, 500, 5K, and 50 KHz

Bus Outputs:

Signal Strength and Peak Deviation
AM Modulation Depth
AM Frequency

Environmental:

Operating Temperature	0º to +50º C
Non-Operating Temperature	-25º to +70º C
Operating Humidity	0 to 90% (Non-condensing)
Non-Operating Humidity	Protect from moisture and contamination

Physical:

Form Factor	Full Size PCI Board
IF Loop-back	Software controlled
Input Connections	SMA for RF in
Reference Connector	SMB for Ref I/O
Input/Output Connector	D-Series 13W3
D-Series to BNC/SMA cable	provided with: BNC for AM Out BNC for AGC Out SMA for 70 MHz IF Out1 SMA for 70 MHz IF Out2 SMA for Linear IF Out
Current Required	11 Watts Maximum 325 mA at +5V 530 mA at +12V 215 mA at -12V

Part Numbering: where X = Band

LS-25-DA(X)	Single Band 4IF/4Video
LS-25-DB(X)	Single Band 12IF/12Video
LS-25-DA(XX)	Dual Band 4IF/4Video
LS-25-DB(XX)	Dual Band 12IF/12Video
LS-25-DA(XXX)	Tri Band 4IF/4Video
LS-25-DB(XXX)	Tri Band 12IF/12Video

Part Number Examples:

LS-25-DBPS	P-Band and S-Band down converter with 12 IF BW and 12 Video Filters
LS-25-DALUS	Lower L-Band, Upper L-Band, and S-Band down converter with 4 IF BW and 4 Video Filters

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