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Multiport Decimator D4
Spectrum & Signal Analyzer

Ideal for local or remote monitoring of multiple feeds and carriers in satellite, cable or terrestrial networks.

The Multi-Port Decimator D4 is a fourth generation spectrum measurement and signal analyzer unit with several built-in features like carrier monitoring, cross-pol measurements and DVB S/S2/S2X signal demodulation and signal analysis.

The HTML5-based user interface allows the D4 to be operated from all browsers and on all platforms including Android and IOS devices. With a powerful internal dual-core processor, D4 uses state-of-the-art digital technology and Fast Fourier transformations to perform fast and accurate measurements.

Decimator has a very low noise floor and a large dynamic range that's ideal for measuring any type of satellite, cable or terrestrial wireless carrier in a teleport, cable headend, wireless or broadcast facility. It accepts all signals from 5 MHz to 6.5 GHz, and input power levels can range from -110 to +5 dBm, making the D4 ideal for measuring both high and low power signals in carrier monitoring applications. The D4 can be connected to an external 10 MHz reference for improved frequency accuracy and stability.
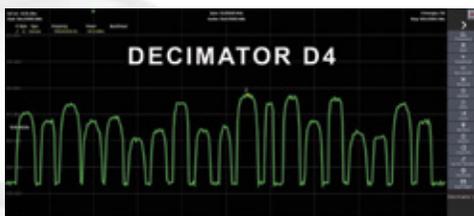
The Multi-Port D4 comes with an integrated 8-port RF switching capability and is available with either a 4-port or 8-port license. A 4-port can be remotely upgraded after deployment to an 8-port license via a software license key. The powerful Graphical User Interface (GUI) is available using any HTML5 standard web browser, no additional software is required.

The GUI is easy to use and operates like a traditional spectrum analyzer. It provides user-selectable colors for markers and traces, allows storage of multiple traces and provides measurement reporting.

The GUI has powerful built-in applications:

- The Carrier Monitoring function provides notification via email or SNMP of carrier measurements that exceed user-defined thresholds, offering peace of mind that carriers are operating as expected.

- The Carrier Monitoring set-up is easy to configure with the built-in carrier extraction feature.

- The signal analysis engine demodulates and decodes the MPEG transport stream based DVB-S/S2/S2X signal and provides signal characteristics, modulation accuracy, power measurements and constellation display.

- Numerous RF displays, calculations and monitoring settings include min/max hold and waterfall display.

- The Cross-Pol Isolation measurement function allows display of Co-Pol and Cross-Pol signals simultaneously, along with the isolation value.

All data communications from the user interface occurs securely via the built-in Ethernet port using HTTPS. The D4 provides network access to all staff connected to the facility network or a corporate wide area network. Staff can monitor feeds and carriers at any time and from any location in the world using only a web browser. For integration into a larger measurement or carrier monitoring system, the Decimator can be operated via its built-in GUI or the user can create a separate user interface using the publicly available API.

Multiport Decimator D4 Specifications

Overview

- 4/8 user-selectable input ports. Standard 19" 1RU
- Full satellite L-band, standard C-band, plus cable & wireless bands from from 5 MHz to 6.5 GHz   (50 Ohm SMA)
- Built-in Cross-Pol Isolation
- External 10 MHz reference or internal reference
- Web browser or API control
- SNMP status interface

Add-On Options

Options available at time of order or later via license key

- **Spectator Software.** Enhanced Carrier monitoring for a single Decimator
- **Detector Software.** View multiple signal constellation displays on a single screen

Physical Interfaces

RF Inputs:	8 x Type F, 75 ohms or 8 x SMA, 50 ohms
Control:	RJ-45
Reference:	BNC, 50 ohms
AC Power:	IEC 60320

50 Ohm unit:

Height:	5 cm (2")
Width (with mounting brackets):	48.5 cm (19 1/8")
Width (without mounting brackets):	44 cm (17 3/8")
Depth:	27.5 cm (10 7/8")
Weight:	3.17 kg (7 lbs)

75 Ohm unit:

Height:	5 cm (2")
Width (with mounting brackets):	48.5 cm (19 1/8")
Width (without mounting brackets):	44 cm (17 3/8")
Depth:	28.5 cm (11 1/4")
Weight:	3.17 kg (7 lbs)

Certifications

EMC/EMI:	EN 61326-1
	FCC Title 47, Part 15
Safety:	EN 61010-1
	UL 61010-1
	CSA22.2 No. 61010-1

Notes

1. Measurement conditions: 10 averages, input level between -8 dBm and -68 dBm, 3 sigma.
2. Resolution bandwidths auto or manual adjustable.
3. Expected rates with 10 averages, speed optimization.
4. All specification at 25ºC unless otherwise noted and are subject to change without notice.
5. Specifications are stated for performance up to 3 GHz.

RF Input

Input Frequency Range:	5 MHz to 6.5 GHz (with 50 Ohm SMA)
	5 MHz to 3GHz (with 75 Ohm F connector)
Useable Dynamic Range:	-110 to +5 dBm (aggregate)
Noise Floor:	-150 dBm/Hz (typical at min atten)
	-130 dBm/Hz (typical at max atten)
Phase Noise:	- 80 dBc/Hz at 1 kHz offset
(worst case at 6 GHz)	- 95 dBc/Hz at 100 kHz offset
	-125 dBc/Hz at 1 MHz offset
Maximum Safe Input:	+10 dBm
Input Isolation (port to port):	55 dB (min)
Input Return Loss:	-15 dB (min)

Measurements

Amplitude Accuracy:	± 0.5 dB (at 25°C)1
	± 1.0 dB (0 to 40°C)
Frequency Accuracy:	± 2.6 ppm (internal)
	or as per external
Frequency Resolution:	1 Hz
Resolution Bandwidth:	1 Hz to 15 MHz
Analysis Bandwidth:	up to 260 MHz

Spurious

Images:	< -55 dBc (typical)
Aliasing:	< -55 dBc (typical)
DC Offset:	< -30 dBc (typical)
Averaging:	up to 255 averages

Measurement Speed[3]

500 MHz span, 1 MHz RBW	200 ms
200 MHz span, 30 kHz RBW	630 ms
80 MHz span, 100 kHz RBW	170 ms
3.5 MHz span, 8 kHz RBW	90 ms

Other Specifications

Reference Input:	10 MHz, -5 dBm to +13 dBm,
	+3 dBm to +13 dBm (auto-sensing)
Control Interface:	TCP/IP, API, SNMP, HTTPS
Power Requirements:	90-264 VAC, 50/60 Hz, 25W
Operational Temperature:	0 to 40°C

MODCODs Supported:

DVB-S: QPSK ½, 2/3, ¾, 5/6, 7/8 DVB-S2: QPSK ¼, 1/3, 2/5, ½, 3/5, 2/3, ¾, 5/6, 8/9, 9/10; 8PSK 3/5, 2/3, ¾, 5/6, 8/9, 9/10; 16APSK 2/3, ¾, 4/5, 5/6, 8/9, 9/10; 32APSK ¾, 4/5, 5/6, 8/9, 9/10

DVB-S2: QPSK ¼, 1/3, 2/5, ½, 3/5, 2/3, ¾, 5/6, 8/9, 9/10; 8PSK 3/5, 2/3, ¾, 5/6, 8/9, 9/10; 16APSK 2/3, ¾, 4/5, 5/6, 8/9, 9/10; 32APSK ¾, 4/5, 5/6, 8/9, 9/10

DVB-S2X: QPSK 13/45, 9/20, 11/20; 8APSK 5/9L, 26/45L, 23/36, 25/36, 13/18; 16APSK 1/2L, 8/15L, 5/9, 26/45, 3/5, 3/5L, 28/45, 23/36, 2/3L, 25/36, 13/18, 7/9, 77/90; 32APSK 2/3L, 32/45, 11/15, 7/9

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