# SED

Multi - Port Decimator D3

SED's Multi-Port Decimator D3 is a third generation spectrum measurement and analysis unit in a 1U chassis with an integrated 8-port RF switching capability. It is ideal for either local or remote monitoring of multiple feeds and carriers in satellite, cable or terrestrial wireless networks. The Multi-Port Decimator D3 can function as an independent spectrum analyzer or can be easily integrated into a larger measurement network.
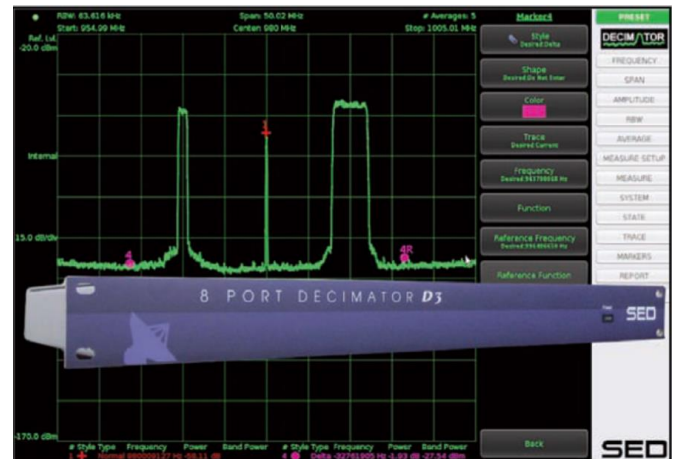
The Multi-Port Decimator D3 uses state of the art digital technology and Fast Fourier Transformations to make lightning fast and accurate measurements. With a very low noise floor and large dynamic range, it is well- suited to measure any type of satellite, cable or terrestrial wireless carrier, including very small carriers, beacon signals and for carrier monitoring applications. Decimator accepts all signals from 5 MHz to 3 GHz and input power lev-els ranging from –110 to +5 dBm. RBW varies from 1 Hz to 15 MHz. The Decimator can be connected to an external 10 MHz reference for improved frequency accuracy and stability. All data communications with the Decimator occurs via its built-in Ethernet port.

It can be installed anywhere, occupying only 1U in a standard equipment rack, allowing you to monitor up to 8 different feeds. This is ideal for a teleport, VSAT hub cable head end, cell tower or broadcast facility with multiple feeds to monitor. It is available with 75-ohm F- type connectors or 50-ohm SMA connectors on the inputs. It can also be provided as a 4-Port Decimator, which is the same unit limited to 4 operational ports, allowing expansion to the other 4 ports in the future if required. No need to install additional hardware.

The 8-Port Decimator's powerful Graphical User Interface (GUI) is available using any standard web browser. No additional software is required. The GUI is very easy to use and operates like most traditional spectrum analyzers. It provides user -selectable colors for markers and traces, allows storage of multiple traces and provides measurement reporting. The Decimator GUI also includes two powerful applications: The built-in Carrier Monitoring function provides notification via email or SNMP of carrier measurements that exceed user-defined limits, offering you peace of mind that up to 100 of your carriers are operating as expected. The 8-Port Decimator also includes a convenient Cross-Pol Isolation measure-ment function, allowing you to display both Co-Pol and Cross-Pol signals simultaneously, along with the isolation value.

The 8-Port Decimator provides network access to all technical staff connected to the facility network or a corporate wide area network. This allows all technical staff the ability to 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 8-Port Decimator can be operated via its built-in GUI or the user can create a separate user interface using the publicly available API. An SNMP status interface is also provided.

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For further information on this innovative product please contact our authorized Distribution Partner:

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Features

Overview
- 8 user selectable input ports
- covers full satellite L-band plus cable and wireless bands from 5 MHz to 3 GHz
- built-in Carrier Monitoring and Cross-Pol Isolation functions
- External 10 MHz reference or internal reference
- Web browser or API control
- SNMP status interface
- Standard 19" 1U Rack Mount Chassis
- available as 4-Port unit

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
Mechanical:	1.75"H x 19"W x 10"D

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

Private labelling, as well as custom designed versions supporting other frequency bands or form factors are available. Contact Village Island for more information.

RF Input:

Input Frequency Range:	5 MHz to 3,000 MHz
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 3 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):	45 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 220 MHz
Spurious:	
Images:	< -55 dBc (typical)
Aliasing:	< -55 dBc (typical)
DC Offset:	< -30 dBc (typical)
Averaging:	up to 255 averages
Measurement Speed3:	
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, HTTP
Power Requirements:	120/240 VAC, 50/60 Hz, 25W
Operational Temperature Range:	0 to 40°C

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 25°C unless otherwise noted and are subject to change without notice.

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SED

Decimator D3 CarrierWatch

CarrierWatch is a cost effective add-on option for the Decimator D3 spectrum analyzer which enhances the Decimator's carrier monitoring capabilities.
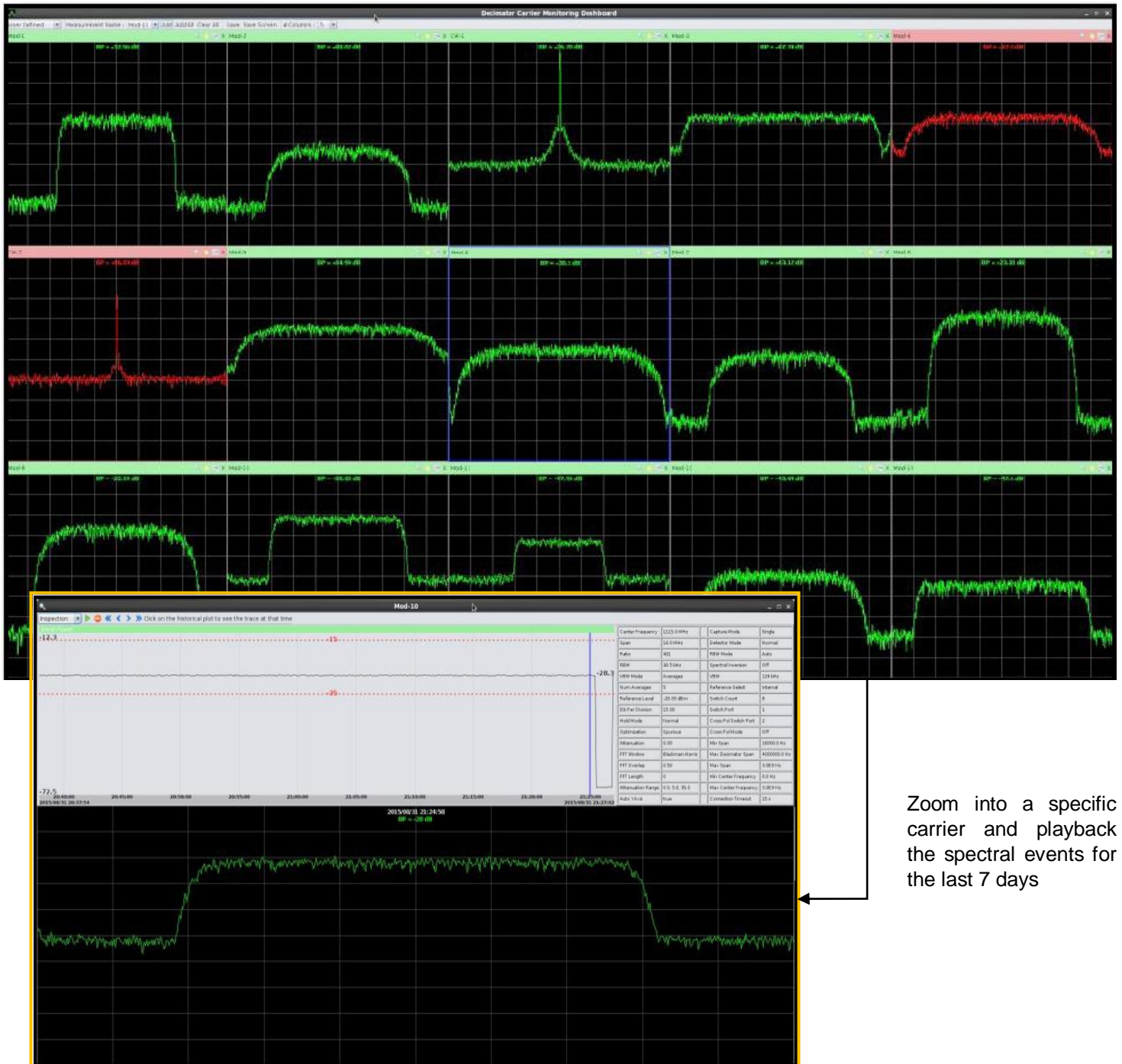
Zoom into a specific carrier and playback the spectral events for the last 7 days

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Summary

- View all your carriers at a glance

- Up to 100 carriers in a single window

- Colors indicate when carriers are in alarm

- Display updates in real-time as the carriers are measured

- Zoom into a carrier to play back traces and view the trend plot

- The trace is displayed as an overlay on top of the multiple carrier display

- A trend plot is available to show the carrier power over time so you can quickly spot any power fluctuations

- Alarm lines indicate when the carrier power has crossed the threshold

- Review previous traces from the trend plot history

- Playback traces to determine whether the power change was sudden or gradual

- Overview of the carrier specifications like expected power and measurement parameters such as span and resolution bandwidth

Key Features

The display is easily configurable

- Easy to set up based on the carriers already defined in the monitoring plan

- The display can be configured in multiple ways – show all carriers, show only alarmed carriers or show a custom list of carriers

- The display can be set up to show all carriers in the monitoring plan
    - ❖ Highlighting indicates alarmed and nominal carriers
    - ❖ A one-button selection shows all carriers

- The display can be configured to show alarmed carriers only
    - ❖ The most recently alarmed carrier is automatically moved to the top-left corner of the screen
    - ❖ As carrier issues are resolved, the non-alarmed carriers are no longer shown on the display when the carrier reverts to a nominal state
    - ❖ At- a-glance view of the alarmed carriers includes the duration of the alarm so you know if it's a persistent or transient issue

- Focus on priority carriers by creating a custom list of carriers to display by selecting the carriers of interest from the monitoring plan

- Live display can be sized to look good on your monitor or on a large operations centre screen

- Save different display configurations to project files for fast recall at a later time

- Can run as a standalone application or from within the web brower

Perfect complement to your Decimator real-time monitoring and generation of SNMP traps and e-mail alarm notification

- Automated notifications occur while you watch the overview of all of the live carriers

- Save pictures of the overall view or a particular carrier to PNG files
    - ❖ Use to generate your carrier reports
    - ❖ Can be emailed to external carrier providers to highlight issues or indicate compliance to the carrier power over time

Note:
Can be ordered as an option for new or existing Decimators.

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