Datasheet

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Transporter-L RF digitizer

Ideal for converting analog signals to and from digital packets to stream satellite signals across the world

Transporter-L converts analog signals to and from digital signals that can be transferred across any IP network. When the packets arrive at their destination, the samples can be processed digitally or restored to the original analog signal.

Transporter-L has a very low noise floor and a large dynamic range that's ideal for digitizing any type of satellite carrier in a gateway, teleport or broadcast facility. It accepts all signals from 950 MHz to 2150 MHz, and input power levels can range from -60 to +5 dBm, making Transporter-L ideal for digitizing both high and low power satellite signals. Transporter-L is signal agnostic, so FDMA, TDMA and CDMA signals from satellites of all different types of orbits (GEO, MEO, LEO) are supported. Transporter-L can be connected to an external 10 MHz reference for improved frequency accuracy and stability, and to assist in preserving signal timing.

The HTML5-based user interface allows Transporter-L to be operated from all browsers and on all platforms including Android and IOS devices. With powerful internal FPGA processing, Transporter-L uses state-of-the-art digital technology to preserve signal quality and timing.

The powerful Graphical User Interface (GUI) is available using any HTML5 standard web browser, no additional software is required. All data communications from the user interface occurs securely via the built-in Ethernet port using HTTPS. Transporter-L provides network access to all staff connected to the facility network or a corporate wide area network, so users can configure and monitor the unit any time and from any location in the world using only a web browser. For integration into a larger system, Transporter-L can be automated through a REST or SNMP API.

Potential applications for the Transporter-L satellite communications digitizer are numerous, but some of the potential uses cases are:

- Virtualization
- Digitalization
- Site diversity
- Security
- Monitoring
- Recording

Advantages of the Digital IF (RF over IP) technology found inside Transporter-L include:

- Scalability
- Flexibility
- Efficiency
- Enhanced signal quality
- Resiliency
- Reliability
- Interoperability (DIFI standards-based)
- Mechanical performance

Transporter-L specifications

Overview

- Full satellite L-Band from 950 MHz to 2150 MHz
- 2 input and 2 output ports, 50 ohm SMA
- Up to 500 MHz bandwidth per port
- 2 SFP 1/10/25 GbE ports
- DIFI standards compliant
- Standard 19" 1RU
- External 10 MHz reference or internal reference
- Web browser and/or REST API control
- SNMP status interface

Physical interfaces

RF inputs	• 4 x SMA 50 ohms
RF outputs	• 4 x SMA 50 ohms
Data interface	• 2SFP/QSFP 1/10/25/100GbE ports
Control	• RJ-45, 1 GigE
Reference	• BNC, 50 ohms
AC power	• IEC 60320 (qty 2, redundant)

Chassis

Height	• 4.4 cm (1.75")
Width	• 48.5 cm (19 1/8")
Depth	• 30.0 cm (12")
Weight	• 4.4 kg (10 lbs)

Data interface

Sample rate	• 12.5 ksps–625 Msps
Bandwidth	• 10KHz – 500 MHz
Input channels	• Up to 4
Output channels	• Up to 4
Signal resolution	• 4–16 bits
Frequency resolution	• 1 Hz

RF input / output

Frequency range	• 950 MHz to 2150 MHz
Input range	• -60 to +5 dBm (aggregate)
Output range	• -30 to +5 dBm (aggregate)
Maximum safe input	• +10 dBm
Input isolation (port to port)	• 60 dB (min)

RF input / output

Input return loss	• -15 dB (min)
Output isolation (port to port)	• 55 dB (min)
Output return loss	• -15 dB (min)
Spurious images	• < -50 dBc (typical)
Spurious aliasing	• < -50 dBc (typical)
Phase noise (worst case at 4 GHz)	• -89 dBc/Hz at 1 kHz offset • -91 dBc/Hz at 100 kHz offset • -124 dBc/Hz at 1 MHz offset

Certifications

EMC/EMI	• EN 61326–1 • FCC Title 47, Part 15
Safety	• EN 61010–1 • UL 61010–1 • CSA22.2 No. 61010–1
Compliance	• CE, ROHS3, REACH

Other specifications

Power requirements	• 90–264 VAC, 50/60 Hz, 75W
Operational temperature	• 0 to 40°C
Operating humidity	• 0% to 85% (non-condensing)
Reference input	• 10 MHz, -3 dBm to +13 dBm • +3 dBm to +13 dBm (auto-sensing)
Other specifications	• TCP/IP, API, SNMP, HTTPS
1 PPS	• TTL level input • Maximum safe operating levels: -0.5 V to 6.0 V

Note: All specification at 25°C unless otherwise noted and are subject to change without notice.

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