ELPAS

P E R S O N A L S T R E A M T O O L

Universal tool for specialists who have been working in the field of DVB	CableWorld
ANALYZER - GENERATOR - CONVERTER	2018

Versions

The Personal Stream Tool is the essential gadget of specialists who have been working in the field of digital television broadcasting. This small device in spite of its reasonable price provides its owner with all the functions and services which are extremely useful during troubleshootings and the everyday work.


The Personal Stream Tool is not just a single device, it is a complete product family. There are three portable and two rack mounted versions. The significant difference between the versions are the interfaces.

The rack verison was made for continous service period, its power supply can be switched easily, it is not neccessary to unmount the device from the rack cabinet.

There is an E-ink display on the front of the device what shows the IP address of the management port and other data. The speciality of the display is that it shows the settings in case of unplugged device so the users always know the IP address of the management port.

Handlers are located on the devices' front and they make the unmount from the cabinet very easy.

CableWorld's Stream Monitoring System is an affordable solution to supervision of digital head-ends and transmission chains. The measurement data are provided by many PSTs used as network probes in different locations. They are periodically gathered and evaluated by a central data processing unit. For supporting a later troubleshooting or debugging, the central unit logs measurement data and the error events and sends alerts in case of any failure.
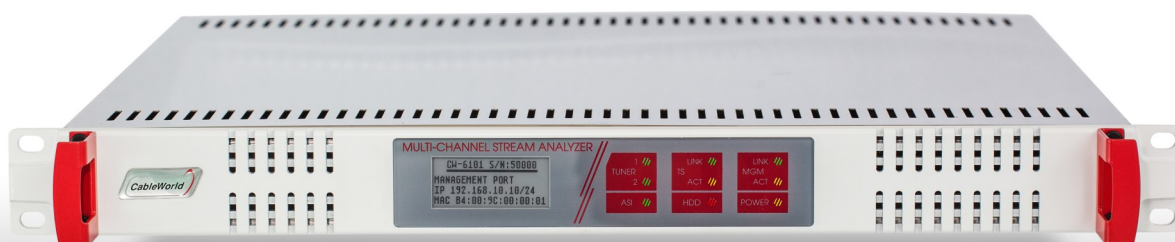
Interfaces

The Personal Stream Tool's separate management port is Fast Ethernet, the transport stream port is Gigabit Ethernet, in which a copper cable or, through an SFP module, an optical cable can be connected. The device's management is based on HTML5 web interface. It is important to note that - thanks to the use of FPGA circuits - you can use the 64 TS IP input/output at real gigabit data process speed.

We use loop through F connectors at the RF inputs, the number of tuners varies (DVB-T/T2/C and/or DVB-S/S2X) depending on the version. The ASI output and ASI input are separate interfaces, that's why, if looped, they must be configured on the user interface.

The device can be operated from a 12 V power supply. The device - including a satellite tuner - is capable of being fed LNB, so it can be used with a universal LNB head. The maximum power intake of the LNB head can be 1 A.
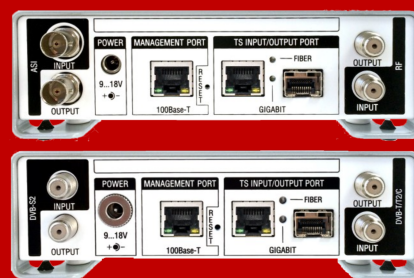
Functions

The functions of the PST can be listed in three groups: measurements, conversions and generating different data streams.

Converter

You can convert the data streams between the interfaces of the device in any direction. You can even set different conversions at the same time (e.g. from DVB-C to IP, meanwhile from ASI to IP). Beside the conversions, you also have the opportunity to modify the streams. You can optionally filter the PIDs or separate the multiple program MPTS streams to single program SPTS streams. On the 64 IP input you can filter according to source/destination IP/port addresses (IGMPv3), receive VLAN tagged streams, or remove Null packets. On the 64 IP output, you can set how many TS packets you want in one IP packet (1...7), if you want the stream to be sent out with UDP or RTP protocol, and you can also attach VLAN tag to the stream. The device can execute all these operations at real gigabit speed.

You can forward the signal - arrived at any input of the device - to even four different destinations with the Multiple Streaming function.

The ASI input can receive burst and continuous signal too. You can set the clock signal of the ASI output to the source clock signal, or, with an inner NCO, you can increase the clock signal up to 200 Mbit/s speed.

The back of the portable PSTs as different versions
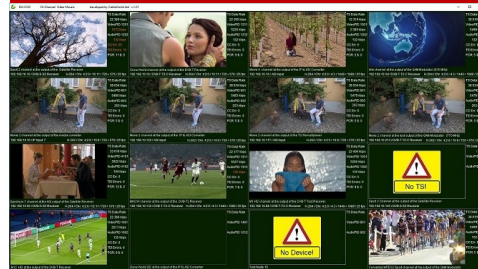
Video Mosaic analyzer function in PST.

We expand the functions of the PST continuously, thanks to this, we publish new firmwares every few month. The updates can be downloaded freely from the www.cableworld.hu website.

Subscribe to our newsletter, where we inform you about our novelties.

We put effort into details such as the packaging during the development of the Personal Stream Tool. The device is placed in a practical bag with its accessories. The bag is in a cardboard box to be protected from harm when transporting. The accessories are: one 12 V 1 VA adapter (in case of satellite tuner, 2 VA adapter) and a UTP cable.

The rack version is packed into the well-known pizza delivery box, and its accessories are: power supply cable and UPT cable.

Analyzer

RF measurement

The built-in tuner tunes automatically, you only have to set the receiving frequency. After tuning, you will have the important parameters, such as, the signal level, the signal quality, the CNE and BER values.

IP measurement

The most important function, when analyzing IP networks, is measuring the IP jitter, which can show the change in the arrival time of the packets, and calculates the necessary size of the temporary buffer on the receiver side to avoid packet loss coming from overflow. The device can measure jitter on up to 64 arriving IP streams, and make documentation of the measurement.

Transport Stream measurement

The device can analyze streams arriving from RF, ASI and IP sources, or samples from files. Beside analyzing one given source by the TR 101 290 standard, you can measure data speed, the number of TEI errors, continuity errors, the number of coded streams on up to 64 streams. A documentation can be generated from the measurement results. PSI tables can be analyzed during the deeper analyzation of the streams. The data speed and continuity of packets can be analyzed by PID, too. The minimum and maximum value of the data speed can be monitored by elementary streams.

Generator

You can generate different measuring signals with the use of the PST Transport Stream Generator function. The High Speed TS Generator has been developed for even 900 Mbps speed transport technique measurements.

The built-in EPG generator allows anyone to generate an own EPG for the program made by one (e.g. teletext, local TV channel).

The HbbTV (Hibrid broadcast broadband TV) is a new service of digital television systems. Its application joins the traditional broadcasting with the contents available via the internet. To achieve this, beside creating the content, you have to place a signal in the PMT table, that shows that there is available additional content, and you also have to give the necessary data to reach the content.

Technical Data

Portable versions

PST-6101

DVB-T2/C tuner, ASI in/out, IP in/out, portable TS analyzer, converter, generator, and inserter

PST-6201

DVB-S2 tuner, ASI in/out, IP in/out, portable TS analyzer, converter, generator, and inserter

PST-6300

DVB-T2/C tuner, DVB-S2 tuner, IP in/out, portable TS analyzer, converter, generator, and inserter

DVB-S/S2 (S2X optional)	SP2246T (FTS-3166)
Input frequency range	925 … 2150 MHz
RF input impedance/connector	75 Ω, F socket (female), loop-through
Input Level	min. -65 dBm … max. -25 dBm
Symbol Rate	1..45 MSps (<40 MSymbol/s in 32APSK)
Modulation	QPSK/8PSK (8/16/32APSK)
Code ratio	1/2 to 9/10, with automatic recognition
DVB-T/T2/C	MxL603 Silicon Tuner
Input frequency range (Bandwidth)	44 … 1002 MHz (6, 7, 8 MHz)
RF input impedance/connector	75 Ω, F socket (female), loop-through
Return loss	typically 10 dB (max. 8 dB)
TS input/output	
Link speed	10-, 100- and 1000Base-T
Number of inputs	64 UDP/RTP stream (MPTS, SPTS)
Number of outputs	64 UDP/RTP stream (MPTS, SPTS)
VLAN tagging	for all in/outputs
Connector type	RJ-45 / SFP (Mini GBIC) module
ASI input/output	
Standard	according to EN 50083-9
Impedance/connector	75 Ω, BNC socket
Input /output data rate	max. 200 Mbit/s
Packet format	188 or 204 Bytes/packet
Null packet inserter (output only)	Adjustable
TS clock source selector (output only)	from input, userd defined, max. 27 MHz
Management port	
Link speed	10-, 100Base-T
Connector type	RJ-45
User interface	Web based (HTML5, JavaScript)
Protocols	SNMP, ICMP, IGMPv2, IGMPv3
General data (PST)	
Mass	about 0,6 kg
Physical dimensions W × H × D	154 × 50 × 138 mm
Power requirement, consumption	12 V DC (17 W)
General data (PST-Rack)	
Mass	about 4,2 kg
Physical dimensions W × H × D	19” × 1 RU, 483 × 43,6 × 473 mm
Power requirement, consumption	90 … 264 V, 47 … 440 Hz (70 VA)

Rack versions

PST-6301

DVB-T2/C tuner, DVB-S2 tuner, IP in/out, rack-mountable DVB analyzer

PST-6321

DVB-T2/C tuner, DVB-S2 tuner, ASI in/out, IP in/out, rack-mountable DVB analyzer with built-in PC

*DVB-S2X tuner is optional