

RF-S/S2

Your own world's finest Analyzer

DVB-S/S2



THE **RF-S/S2** IS A POCKET ANALYZER CUMULATING DVB-S/S2 LIVE RECEPTION WITH MPEG-2 TS REAL-TIME ANALYSIS, RECORDING AND STREAM PLAYING. THE DIVICATCH RF-S/S2 CAN RECEIVE DTH STREAMS AND ALL MODES OF SATELLITE DISTRIBUTION LINKS.

The DiviCatch RF-S/S2 can **receive** DTH streams and all modes of satellite distribution links.

The DiviCatch RF-S/S2 provides **real-time analysis** at different levels:

- **RF**: measures key RF signal parameters (Level, SNR, BER, PER) and indicates the modulation parameters and constellation.
- **MPEG-2 TS**: the 3 priority levels of ETSI TR 101 290 are implemented. Bitrate can be analyzed globally, by service, by PID. Alarm thresholds are customizable.
- **T2-MI**: complete multi-PLP analysis: T2 L1 pre/post signaling, PLP allocation (BB frame, TS, padding/overflow), T2 timestamp, BB frame, ISSY field, PLP extraction. Baseband streams can be captured using the **ASI input** or the PC's **IP input**. File-based **offline analysis** is also available.

The alarm events and RF measurements (trends) can be stored into **report files**.

In addition, the RF-S/S2 can be used as a **gateway** which retransmits **over ASI** or **IP** the baseband stream coming from the RF input. The TS file **player** functionality allows to have an **ASI output** on the same device, which represents a real added value.

TestTree proposes a real-time analysis application, **DiviSuite**, running on **MS Windows**, connected to the DiviCatch S/S2 via **USB connectivity**, with customizable monitoring screens. The application integrates a video decoder enabling **real-time decoding** of all unencrypted services (**H.265/HEVC, H.264/MPEG-4 AVC, MPEG-1/2, AAC, MP3...**). It also features live stream capture capabilities for baseband multiplex **recording** into a TS file.

The RF-S/S2, a 4-in-1 product featuring both **RF** and **baseband** analysis, and both **TS recording** and **player** capabilities, offers a cost-effective test solution for field, lab or head-end applications.

CHARACTERISTICS

1x RF input for DVB-S/S2
1x ASI input/output
IP source analysis (from PC)
RF measurements: signal level, SNR, BER, PER
Graphical constellation display
PIDs and PSI/SI parsing, PCR graphs
ETSI TS 101 290 validation (priority 1, 2, 3)
Audio/Video player (H.265/HEVC, H.264/MPEG-4 AVC, MPEG-1/2, AAC, MP3...)
MPEG-2 TS record and playback
MPEG-2 TS over IP forward (PC's Ethernet interface selection)
Compatible MS Windows XP/Vista/7/8/10
USB self-powered, 160 g



- TO TEST APPLICATIONS
- TO VALIDATE BOTH RF & BASEBAND
- TO ACHIEVE COST-EFFICIENCY ON BROADCAST NETWORKS

APPLICATIONS

- R&D Streams or Signal Analysis
- DVB-S/S2 Broadcast Troubleshoot
- Installation & Maintenance Test Tool
- Portable Demonstration Setup
- Head-End/TX site analysis
- RF Reception Quality

KEY BENEFITS

- 4-in-1 product: RF + Baseband + Recorder + Player
- **Compact** (pocket size, **160 g**) and USB self-powered
- Receive live DVB-S/S2 signals, stream selection
- Allows antenna **LNB powering & configuration**
- **All modulation schemes supported** (from QPSK to 32APSK)
- CCM, VCM, ACM modes supported
- Assess the quality of reception & transmission
- Analyze/Validate MPEG-2 TS/T2-MI Layer in real-time
- Add your own table and specifications Analysis (PSI/SI,...)
- A must-have Lab Tool



TECHNICAL CHARACTERISTICS

RF	
Connector In	1x F-type female - 75 Ω
Sensitivity	-80 to -5 dBm / 28 to 104 dBμV
Frequency range	950 to 2150 MHz (1 KHz resolution)
DVB-ASI	
Connector In/Out	1x BNC female - 75 Ω
Max bitrate	140 Mbps
USB	
Data connector	1x USB3 B-Type (USB2 compatible)
Auxiliary power connector	1x USB3 B-Type (USB2 compatible)
Power supply	
USB self-powered	Allows antenna LNB powering (up to 7W)
Environment	
Operating temperature	-20 to +55 °C / -4 to 131 °F
Physical	
Dimensions	135 x 62 x 27 mm / 5.3 x 2.4 x 1 in
Weight	160 g

MODE CODES

DVB-S	QPSK, puncture rates: 1/2, 2/3, 3/4, 5/6, 7/8
DVB-S2	CCM, VCM and ACM modes supported QPSK, code rates: 1/4, 1/3, 2/5, 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10 8PSK, code rates: 3/5, 2/3, 3/4, 5/6, 8/9, 9/10 16APSK, code rates: 2/3, 3/4, 4/5, 5/6, 8/9, 9/10 32APSK, code rates: 3/4, 4/5, 5/6, 8/9, 9/10
Symbol rates	DVB-S: QPSK 1 to 65Msps DVB-S2: QPSK 1 to 65Msps, 8PSK 1 to 60Msps, 16APSK 1 to 45Msps

ORDERING CODES

RF-S/S2

DVB-S/S2 Pocket Analyzer

Shipped bundled with DiviSuite Base software for MS Windows XP/Vista/7/8/10

Software options

RF Scope
TS Analyzer
T2-MI Analyzer

RF Analysis
MPEG-2 TS Analysis
T2-MI Analysis

RF + TS Bundle

48HMAX SHIPMENT

All Options Bundle (RF + TS + T2-MI)

RF MEASUREMENTS

All measurements are made in real-time

Graphical display	Constellation
Signal level	-90 to 0 dBm / 18 to 109 dBμV (0.1 dBm resolution)
CNR	0 to 25 dB (0.1 dB resolution)
Bit Error Rate (DVB-S)	Post-Viterbi
PER (DVB-S2)	

BASEBAND TRANSPORT MONITORING

MPEG-2 TS features analyzed in real-time from either source:

- RF or DVB-ASI through USB from the DiviCatch
- IP from the PC's Ethernet interface

Or analyzed offline from TS file source

ETSI TR 101 290: priorities 1, 2, 3

Service information

- PSI/SI table display for MPEG, DVB, BTS; including private tables
- Service components type and structure
- PID summary

T2-MI

- T2 L1 pre/post signaling: frame, cells, OFDM symbols, # FEC, interleaving, T1 block size
- PLP allocation: BB frame padding, TS padding, TS overflow
- BB frame, ISSY field, T2 timestamp
- Single & Multi-PLP, PLP extraction

Bitrate monitoring

- Overall, by Service (Program), by PID

PCR Accuracy graphs

BASEBAND TRANSPORT PROCESSING

Audio/video decoding (unencrypted programs): stream display

- H.265/HEVC, H.264/MPEG-4 AVC, MPEG-1/2, AAC, MP3...

Recording of the entire multiplex (MPTS/SPTS, extracted PLP) into a TS file

Real-time forward of the entire multiplex to **ASI** or **IP** (unicast or multicast over UDP streaming)

TS files playback:

- Loop/segment play modes
- Stream playlist handling, bitrate auto-detection with PCRs
- Null packet removal