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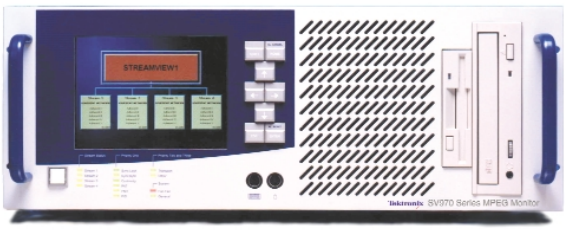
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Find the *Tektronix SV970-2* at our website: *Click HERE*

MPEG Transport Stream Monitor

▶ SV970



▶ Features & Benefits

- One to Four Stream Monitoring
- TR 101 290 DVB First, Second and Third Priority Measurements with User Configurable Settings
- Graphical Representation of PCRs
- Complete Remote Control Via Web Browser Using Industry Standard SNMP on Ethernet
- Template Checks
- DVB, MHP, SI Interpretation
- Transport Stream Error Status Available at a Glance
- Configurable Alarm Outputs, TTL and Closed Contact Relay
- Multiple Industry Standard Transport Stream Interfaces Available L Band, ASI and DVB Parallel Interfaces

SV970 Designed For The Broadcast Environment

SV970 Transport Stream Monitor has been specifically designed to meet the exacting requirements of real time DVB monitoring in a transmission environment. With the rapid deployment of digital satellite, terrestrial and cable television, the requirement to ensure that digital broadcasts can be decoded by subscribers set-top boxes (IRDs) and that pictures are of optimum quality is paramount.

SV970 achieves this by continuously monitoring up to four separate transport streams in real time – verifying they conform to the specifications.

In a modern broadcast environment, transport streams originate from a variety of sources including contribution links and pre-encoded material. These sources need to be monitored in real time prior to the final multiplex and transmission. SV970 Transport Stream Monitor is designed to meet your complete real-time monitoring requirement, forming part of a network control system solution. SV970 provides you with a cost effective, flexible and upgradable monitoring architecture.

Put simply, SV970 future proofs and protects your investment in network monitoring.

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SV970 Transport Stream Monitor provides continuous real-time monitoring of a DVB transport stream performing DVB first, second and third priority measurements with user defined error limits.

Our experience of transmission monitoring has shown that simply monitoring the parameters defined in the DVB Measurement Guidelines TR 101 290 is not enough to guarantee that a viewer's decoder will successfully present a picture on their television. All that TR 101 290 will guarantee is that a transport stream is basically syntactically correct, but if a program is not being broadcast or signaled in the SI it will not report an error.

The purpose behind template checking is to fill in the monitoring gap left by TR 101 290. A template enables the broadcaster to define certain Transport Stream properties such as the number of programs within a multiplex, the value of the transport_stream_id, etc. The SV970 Transport Stream Monitor unit extracts these values from the transport stream which it is monitoring and checks that they match the template defined by the broadcaster. Using template tests, the broadcaster can be certain that the correct transport stream is being broadcast and that it is complete.

Designed to integrate seamlessly into a broadcast environment with local display from the front panel, or remote control using industry standard SNMP via Ethernet the SV970 Transport Stream Monitor is supplied ready to mount into a 19" rack.

Real Time Measurements

SV970 Transport Stream Monitor performs all of the DVB and ETSI recommended 1st, 2nd, and 3rd priority measurements as specified in Measurement Guidelines for DVB Systems TR 101 290*[1]. This ensures that the transport stream is present and compliant with the DVB, MPEG-2 standards.

SV970 Transport Stream Monitor also monitors program bit rate against user defined limits, providing early indication of multiplexer malfunctions or infringement of minimum bit-rate limits for statistically multiplexed streams.

Remote Monitoring and Control

For broadcasters requiring a fully integrated monitoring tool, SV970 Transport Stream Monitor is the solution; providing full remote control and monitoring via Ethernet using either Microsoft Windows NT or Simple Network Management Protocol (SNMP). Multiple SV970 Transport Stream Monitor can be linked to the global control network. The status of the broadcast chain can be checked by simply connecting to the monitoring network using a PC with a web browser. For applications where networking and remote control is not required SV970 Transport Stream Monitor can be used stand-alone.

Front panel LED indicators provide transport stream error status at a glance.

Error Logging

With SV970, each stream has its own dedicated error log providing a history of the status of each transport stream.

Alarms

SV970 Transport Stream Monitor provides both remote and local error alarms for each monitored transport stream. Remote alarms are provided by the remote control protocol with local alarm outputs as TTL and closed contact relay alarm outputs.

All alarms are user configurable, and can be used to trigger other equipment like the Tektronix AD953-II which can record the transport stream or to drive other equipment like audible alarms which can alert operatives to error conditions.

Transport Stream Interfaces

SV970 Transport Stream Monitor has been designed to integrate into a transmission environment and supports all of the following transport stream interfaces:

- ▶ DVB Parallel Interface (SPI)
- ▶ DVB ASI
- ▶ L-Band, QPSK
- ▶ DHEI

*[1] With the exception of T-STD buffer model analysis.

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▶ Characteristics

Monitoring

Max Data Rate – 60 Mb/s*[1].

Network Interfaces – Ethernet interfaces allowing remote control and monitoring via SNMP or Microsoft Windows NT.

Transport Stream Interfaces – DVB Parallel input and output, in accordance with DVB-A010. Accepts 188 or 204 byte MPEG-2 transport streams.
DVB Asynchronous Serial Interface (ASI):
L-Band. SMPTE 310M, DHEI Receive.

Additional Measurements

Template Checking.
Bit Rate Testing –
On a transport streams and per PID basis.

SFN Tests.

*[1] The maximum bit rate of the monitored stream depends on the information content of the transport stream.

Physical Characteristics

SV970

Dimensions	**cm**	**in.**
Height	17.4	6.85
Width	43.5	17.13
Depth	60	23.62
Weight	**kg**	**lb.**
Net	18	39.68

▶ Real Time Measurements

Measurement	Priority	Error Number
TS_sync_loss	1	1.1
Sync_byte_error	1	1.2
PAT_error	1	1.3
Continuity_count_error	1	1.4
PMT_error	1	1.5
PID_error	1	1.6
Transport_error	2	2.1
CRC_error	2	2.2
PCR_error	2	2.3
PCR_accuracy_error	2	2.4
PTS_error	2	2.5
CAT_error	2	2.6
NIT_error	3	3.1
SI_repetition_error	3	3.2
Unreferenced_PID	3	3.4
SDT_error	3	3.5
EIT_error	3	3.6
RST_error	3	3.7
TDT_error	3	3.8

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Ordering Information

SV970 Platform

SV970-1 DVB Single Stream Monitor System

Options:

ASI – ASI/M2S Interface.

LBND – L-Band + Card.

GPSI – GPSI II Card (SMPTE 310M, DVB SSI, DHEI REC).

AD976 – MPEG Management System Software – Minimum order comprises 4 licenses.

AD976A – Additional single licenses.

SV970-2 DVB Two Stream Monitor System

Options:

ASI – ASI/M2S Interface.

LBND – L-Band + Card.

GPSI – GPSI II Card (SMPTE 310M, DVB SSI, DHEI REC).

AD976 – MPEG Management System Software – Minimum order comprises 4 licenses.

AD976A – Additional single licenses.

SV970-3 DVB Three Stream Monitor System

Options:

ASI – ASI/M2S Interface.

LBND – L-Band + Card.

GPSI – GPSI II Card (SMPTE 310M, DVB SSI, DHEI REC).

AD976 – MPEG Management System Software – Minimum order comprises 4 licenses.

AD976A – Additional single licenses.

SV970-4 DVB Four Stream Monitor System

Options:

ASI – ASI/M2S Interface.

LBND – L-Band + Card.

GPSI – GPSI II Card (SMPTE 310M, DVB SSI, DHEI REC).

AD976 – MPEG Management System Software – Minimum order comprises 4 licenses.

AD976A – Additional single licenses.

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