

STRM Series MPEG Video Compliance Bitstreams

Independent Certification of MPEG Interoperability

The market for MPEG-based products and services is here and is expanding rapidly. Timely product introduction, compliance with standards, and interoperability provide a competitive advantage in today's marketplace. Sarnoff's compliance bitstreams are the key to reducing your time to market and establishing your product. They provide a rapid, independent certification of MPEG video decoders and are thorough and easy to use.

Sarnoff's Video Compliance Bitstreams are used to certify DSS® satellite receivers, the fastest selling consumer electronics product of all time.

Example showing visual confirmation of pass/fail for Quant Matrix test:



Title Screen indicates test being performed



VERIFY screen shows *successful* completion of exhaustive test



Corrupted VERIFY screen clearly shows *failure* of decoder under test

Applications

- System integration verification tool
- Interoperability testing
- Functional verification of:
 - set-top converters
 - decoder boards
 - decoder ICs
 - software decoder models

Bitstream Features

- Standards
 - MPEG-1
 - MPEG-2 (Main Profile/Main Level)
- Formats
 - CCIR-601 @ 4.5 Mbps
 - CIF/SIF @ 1.2 Mbps
- Syntactically and semantically compliant
- Verified with MPEG Simulation Software Group's decoder

Test Features

- Stresses decoders over the entire range of key MPEG parameters
- Rapidly isolates problems to a particular parameter
- Provides simple, highly visible indication of pass/fail

Benefits

- Full coverage of VLCs
- Rapidly isolates problems
- Real-time testing – no extensive computer analysis required

The Sarnoff Advantage

- A key contributor to the MPEG standardization process
- Designed and built MPEG systems, including DIRECTV®, AD-HDTV, and Digital Grand Alliance HDTV

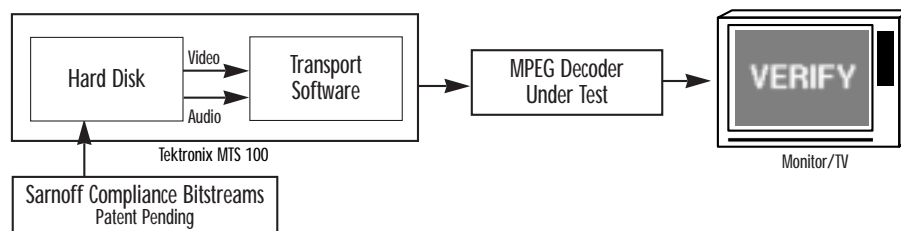
STRM Series Tests

Test Name	Standard(s) ¹	SIF	CIF	CCIR601	CCIR601
		352x240 525 @ 29.97 Hz	352x288 625 @ 25 Hz	720x480 525 @ 29.97 Hz	720x576 625 @ 25 Hz
Restricted Parameter Test	MPEG-1	•	•	•	•
Motion Vector Range	MPEG-1/MPEG-2	•	•	•	•
DC Differential Range	MPEG-1	•	•	•	•
Macroblock Pattern Range	MPEG-1	•	•	•	•
Dynamic Picture Size	MPEG-1	• ²	• ²	• ²	• ²
Macroblock Type Range	MPEG-1	•	•	•	•
AC Run/Level Range	MPEG-1/MPEG-2	•	•	•	•
Macroblock Address Range	MPEG-1	•	•	•	•
Downloadable Quant Matrices	MPEG-1	•	•	•	•
Dynamic GOP Structure	MPEG-1	•	•	•	•
Dynamic Slice Size	MPEG-1	•	•	•	•
Macroblock Stuffing	MPEG-1	•	•	•	•
Zero Stuffing	MPEG-1	•	•	•	•
3:2 Pulldown Insertion	MPEG-2	N/A	N/A	•	N/A
Postprocessing Functions	MPEG-1	•	•	•	•
Bit Rates	MPEG-1/MPEG-2	• ³	• ³	• ³	• ³
VBV Buffer Size	MPEG-2	•	•	•	•
MPEG-1 / MPEG-2 Sequences	MPEG-1/MPEG-2	•	•	•	•
Alternate AC Scan Pattern	MPEG-2	•	•	•	•
Field / Frame Coding Modes	MPEG-2	N/A	N/A	•	•
Field / Frame Prediction Modes	MPEG-2	N/A	N/A	•	•
Linear Quant Scale	MPEG-2	•	•	•	•
Non-linear Quant Scale	MPEG-2	•	•	•	•
Pan and Scan	MPEG-2	N/A	N/A	•	•

Notes:

- Available immediately
- ¹ MPEG-1 bitstreams can partially or fully test respective features in MPEG-2 decoders.
- ² Various image sizes are supported.
- ³ Various bit rates are supported.
- N/A Not Applicable/Not Available.

Typical Test Set-Up



Ordering Information

STRM100 – 525 line only.

STRM101 – 625 line only.

STRM102 – 525 and 625 line.

For further information, contact Tektronix:

World Wide Web: <http://www.tek.com>; ASEAN Countries (65) 356-3900; Australia & New Zealand 61 (2) 888-7066; Austria 43 (1) 7 0177-261; Belgium 32 (2) 725-96-10; Canada 1 (800) 661-5625; Denmark 45 (44) 53 54 55; Finland 358 (0) 4783 400; France & North Africa 33 (1) 69 86 81 81; Germany, Eastern Europe, & Middle East 49 (221) 94 77-0; Hong Kong (852) 2585-6688; India 91 (80) 2265470; Italy 39 (2) 250861; Japan (Sony/Tektronix Corporation) 81 (3) 3448-4611; Mexico, Central America, & Caribbean 52 (5) 666-6333; The Netherlands 31 23 56 95555; Norway 47 (22) 070700; People's Republic of China (86) 10-235-1186; Republic of Korea 82 (2) 528-5299; South America 55 (11) 543 1911; Spain & Portugal 34 (1) 372 6000; Sweden 46 (8) 629 6500; Switzerland 41 (42) 219192; Taiwan 886 (2) 765-6362; United Kingdom & Eire 44 (1628) 403300; USA 1 (800) 426-2200

From other areas, contact: Tektronix, Inc. Export Sales, P.O. Box 500, M/S 50-255, Beaverton, Oregon 97077-0001, USA (503) 627-1916



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