

# MPEG Test and Monitoring Generator

## ▶ MTG300



The MTG300 MPEG-2 Generator is a flexible, cost-effective source of MPEG-2 transport streams for design evaluation and conformance testing of compressed digital video products. This instrument offers storage and playback of MPEG-2 transport streams compliant with the ATSC, DVB and ISDB standards. The MTG300 generates error-free, seamless transport streams for long term playout. To facilitate complete stress testing, the MTG300 features the most comprehensive capabilities for customizing transport streams on the market. The basic functionality of the MTG300, combined with the customization features of the MTG300, makes this MPEG generator ideally suited for use in research, design and manufacturing applications.

### ▶ Characteristics

#### Performance

**Maximum Data Rate** – 80 Mb/s.

**Minimum Data Rate** – 0.5 Mb/s.

**Output Rate Resolution** – 1 Hz or 10 ppm, whichever is larger.

#### Clock

**Internal Reference** – 27 MHz  $\pm$  1 ppm.

**Output Clock Frequency** – 0.5 MHz to 80 MHz locked to reference clock.

**External Reference Input** – 27 MHz  $\pm$  1 ppm (recommended).

#### Transport Stream Interfaces

**ASI** – Burst and non-burst, user selectable.

**SSI** – SMPTE 310.

**DHEI**.

**ECL** – Parallel and Serial.

**TTL** – Parallel and Serial.

**LVDS** – Parallel and Serial.

#### Packet Length

188, 204 or 208 bytes.

#### Control Interfaces

The instrument can be controlled through the Ethernet port.

### ▶ Features & Benefits

High Capacity Storage and Playback of MPEG Transport Streams Files Let you Build, Maintain and Use a Large Local Library

Real-time Updating of Time Stamps and Time Tables for Error-free Looping

DVB, ATSC and ISDB Sample Transport Streams Provided To Get You Started

Easy Integration with MTS300 for Transport Stream Creation to Support Compliance and Stress Testing of Video Products Using MPEG-2 Technology

100Base-T Ethernet Download of Transport Streams for Optimal Flexibility

Color Hierarchical Display of Transport Stream Components for Quick and Easy Interpretation of Complex Structures

A Full Suite of Electrical Interfaces Let You Address a Wide Range of Applications

PSI/SI/PSIP Editor to Create Streams That Simulate Marginal Conditions

Dynamic Insertion of System Information for “On-the-fly” Stream Modification to Reduce Test and Troubleshooting Time

Locally Edit Transport Stream Headers to Help You Fully Exercise Designs

Extensive and Flexible Control of PCR Value and Interval Jitter Lets You Stress and Characterize Product Performance

Delete or Replace Transport Stream Packets and Sections in Real Time to test Products Under a Wide Range of Conditions

### ▶ Applications

IRD/STB Design Test

IRD/STB Manufacturing Test

Evaluation of Professional MPEG Equipment

Performance Verification of MPEG Systems

Substitution Generator for Digital TV Transmitters

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### Seamless Looping

Any transport stream can be looped, with real-time update of all time stamps, continuity counters and time tables (TDT or STT).

### PSI, SI or PSIP Tables Manipulation

PSI/SI/PSIP tables can be dynamically deleted, inserted or replaced by user-defined tables. Tables can be created by the MTS300 Series. The starting and ending time of the table changes can be set to any value within PCR reference time.

### Real-time Stress Addition

The following can be applied to any transport stream:

#### TS Header Stress –

The packet headers for any TS element can be modified to any value.  
Packets from any PID can be deleted over a user-specified interval.  
Time tables (TDT or STT) can be inserted, including real-time updating of the time.  
Undefined PIDs (i.e., not default PID numbers, or those referenced by the PAT or any PMT) can be inserted.

#### PCR Stress –

PCR Jitter: For a PCR value change, pattern, period, duration and amplitude can be defined.  
PCR Period: For a PCR packet period change, both period and period jitter are supported; pattern, period, duration and amplitude can be defined.

### Transport Stream Storage

At least 18 GB standard. Any transport stream length, up to the entire storage amount, can be generated.

### Sample Transport Streams

Sample streams can be seamlessly looped, including updating of all time stamps, continuity counters and time tables (TDT or STT), without buffer under- or overflow.

### Transport Stream Creation

Compatible with transport stream recorders, such as the MTS300 Series, that can export a captured file in \*.trp format. Also compatible with custom transport streams created by the MTS300, the MTS300 Stream Application Creation or any other software package that creates files in \*.trp format.

### Networking

#### 100Base-T

MTG Comm, an included standard accessory PC software program, can download and upload transport streams through the Ethernet port to/from the MTG300.

### Remote Control

MTG Comm, an included standard accessory PC software program, can control MTG300 through the Ethernet port. Stream generation start/stop, output stream selection and the recall of user presets can be controlled.

## General Specifications

### Environmental Characteristics

#### Temperature –

Operating: +5°C to +40°C.  
Nonoperating: –20°C to +60°C.

#### Humidity –

Operating: 20% to 80% (noncondensing).  
Nonoperating: 5% to 90% (noncondensing).

### Power Requirements

AC Line – 90 to 250 VAC, auto switching.

Line Frequency – 48 to 63 Hz.

Power Consumption – 200 Watts Max.

### EMC

Meets intent of Directive 89/336/EEC.

### Safety Certification

Complies with the following safety standards:

**UL3111-1** – Standard for electrical measuring and test equipment.

**Can/CSA c22.2 No.1010.1** – Safety requirements for electrical equipment for measurement, control and laboratory use.

**IEC61010-1** – Safety requirements for electrical equipment for measurement, control and laboratory use.

Warranty – 1 year.

## Physical Characteristics

Dimensions	mm	in.
Height	132	5.2
Width	430	16.9
Depth	560	22.0
Weight	kg	lbs.
Net	14.5	32.0

## ▶ Ordering Information

MTG300

MPEG-2 Generator.

**Includes:** User manual, Application software disk, 3.5 in., Interface cable, D-sub 25-pin, twisted pair.

**Opt. D1** – Calibration data report.

**Opt. 1H** – High capacity 36 GB HDD.

**Opt. 1R** – Rackmount kit.

### Support Options

**Opt. C3** – Three years of Calibration Services.

**Opt. D3** – Test data (requires Opt. C3).

**Opt. R3** – Repair warranty extended to cover three years.

## Contact Tektronix:

**ASEAN Countries & Pakistan** (65) 6356 3900

**Australia & New Zealand** (65) 6356 3900

**Austria** +43 2236 8092 262

**Belgium** +32 (2) 715 89 70

**Brazil & South America** 55 (11) 3741-8360

**Canada** 1 (800) 661-5625

**Central Europe & Greece** +43 2236 8092 301

**Denmark** +45 44 850 700

**Finland** +358 (9) 4783 400

**France & North Africa** +33 (0) 1 69 86 80 34

**Germany** +49 (221) 94 77 400

**Hong Kong** (852) 2585-6688

**India** (91) 80-2275577

**Italy** +39 (02) 25086 1

**Japan** (Sony/Tektronix Corporation) 81 (3) 3448-3111

**Mexico, Central America & Caribbean** 52 (55) 56666-333

**The Netherlands** +31 (0) 23 569 5555

**Norway** +47 22 07 07 00

**People's Republic of China** 86 (10) 6235 1230

**Poland** +48 (0) 22 521 53 40

**Republic of Korea** 82 (2) 528-5299

**Russia, CIS & The Baltics** +358 (9) 4783 400

**South Africa** +27 11 254 8360

**Spain** +34 (91) 372 6055

**Sweden** +46 8 477 6503/4

**Taiwan** 886 (2) 2722-9622

**United Kingdom & Eire** +44 (0) 1344 392400

**USA** 1 (800) 426-2200

For other areas contact Tektronix, Inc. at: 1 (503) 627-7111

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