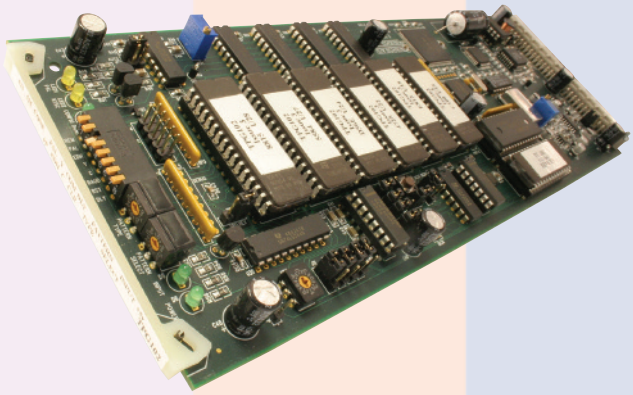
Crystal Vision

TPG102

Test Pattern Generator



The TPG102 is a fully-featured 10 bit serial digital test pattern generator which provides a source of signals designed to test the performance of studio signal paths.

It provides 32 SDI patterns to enable the broadcast engineer to check equipment is recording, playing back or monitoring to specifications.

The test patterns are split into pattern banks so that similar patterns are grouped together for easy retrieval.

100% Colour Bars, EBU Colour Bars, 95% Colour Bars, Split Bars
Peak White, Black, Hard Grey, Red, Field 1 Only, Field 2 Only
Luma Only Ramp, Valid Ramp, Limit Ramp, 10 Bit Blue Ramp, Shallow Ramps, Steps, Modulated Ramp
Luma Only Multi-frequency Burst, Multi-frequency Burst, Luma Only Frequency Sweep, Frequency Sweep, Bow Tie
Mixed Selection of Patterns, SDI Test, Pulse and Bar, Edge of Frame Markers, Cross Hatch
PLUGE, SPLUGE, Co-site, 50Hz Rectangle, Safe Area
Crystal Vision Logo

Patterns can be forced to be luminance or chrominance only.

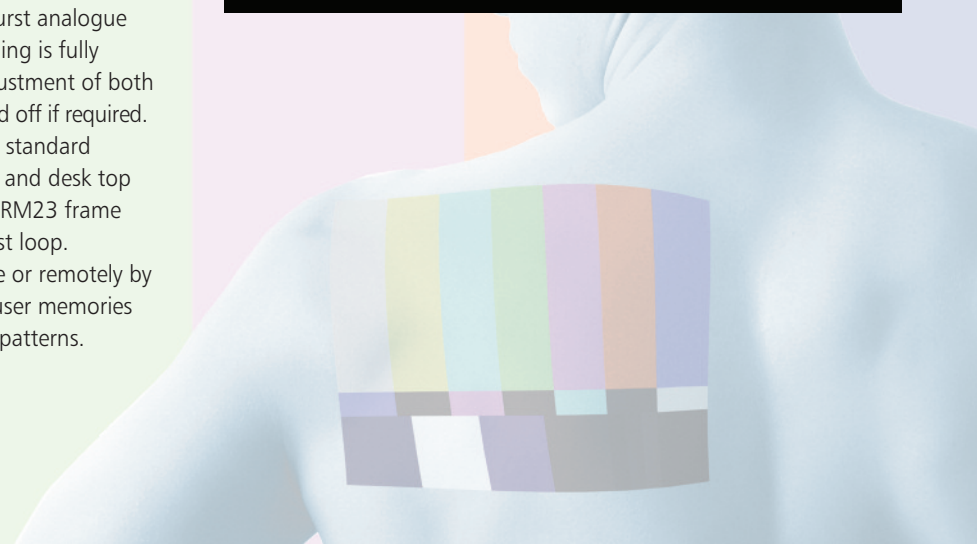
Moving test patterns are also available and can be created by rotating a strip of the static patterns. These are useful for signal paths that contain synchronisers or other modules incorporating a framestore, and also allow the testing of equipment such as D to A converters and monitors.

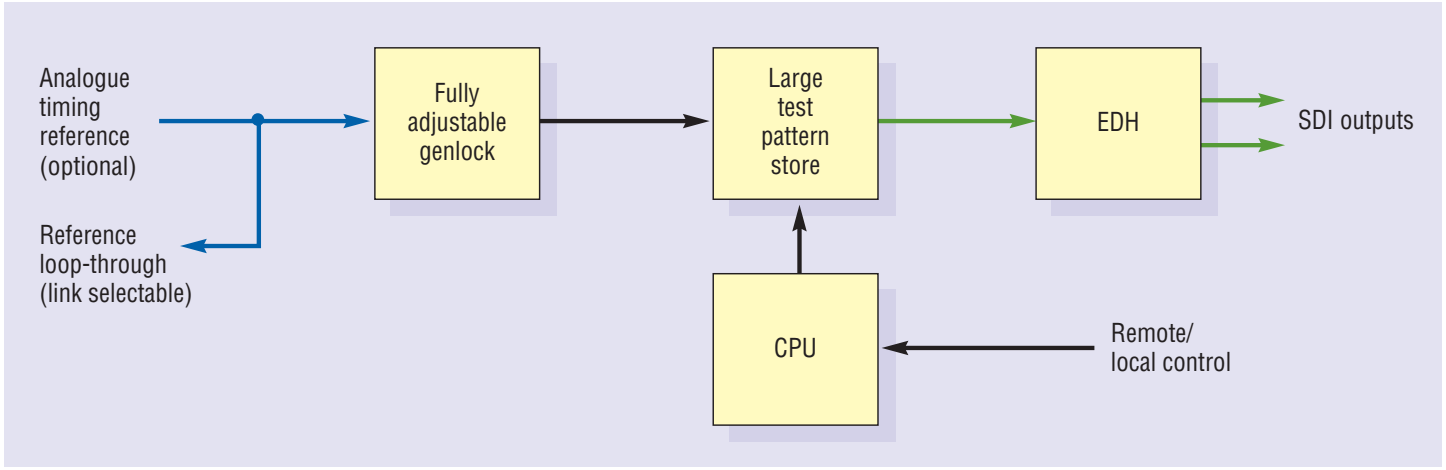
The output may be timed to an external Black and Burst analogue reference or free run with no reference. The output timing is fully adjustable in relation to the reference, with flexible adjustment of both horizontal and vertical picture position. EDH can be turned off if required.

TPG102 is a 100mm x 266mm module, fitting in the standard Crystal Vision frames which are available in 4U, 2U, 1U and desk top box sizes - and with up to 12 boards fitting in 2U. The RM23 frame rear module gives two SD outputs and a Black and Burst loop.

TPG102 can be controlled manually from board edge or remotely by GPI or using the Statesman PC software or SNMP. Ten user memories can be programmed for quick remote recall of specific patterns.

- 10 bit Standard Definition test pattern generator – used to check equipment is recording, playing back or monitoring to specifications
- Provides 32 SDI test patterns
- Moving patterns available – useful for signal paths that contain framestores
- Patterns can be luminance or chrominance only
- Option to time it to an external analogue reference with fully adjustable output timing
- Easy to recall specific patterns: ten user memories available
- Space-saving: 100mm x 266mm module allows 12 TPG102 in 2U (24 in 4U, six in 1U, two in desk top box)
- Flexible control – select from board edge, GPIs, SNMP and PC software





SPECIFICATION

MECHANICAL

Standard Crystal Vision module 266mm x 100mm

Weight: 270g

Power consumption: 6.25 Watts

ANALOGUE REFERENCE

Output may be timed to an external analogue reference or free run with no reference

Mixed syncs input 300mV to 2 volt or 300mV Black and Burst into 75 ohm

Auto or manual 625/525 line selection

Reference rear module loop-through available on RM23 – loop does not need TPG102 to be fitted as rear module has passive circuitry required

Free-run frequency + or - 15 ppm

VIDEO OUTPUTS

Two SD outputs using the RM23 frame rear module

270Mb/s serial compliant to EBU 3267-E and SMPTE 259

TEST PATTERNS

32 digital test patterns plus a full frame logo, divided into seven pattern banks:

100% Colour Bars, EBU Colour Bars, 95% Colour Bars, Split Bars

Peak White, Black, Hard Grey, Red, Field 1 Only, Field 2 Only

Luma Only Ramp, Valid Ramp, Limit Ramp, 10 Bit Blue Ramp, Shallow Ramps, Steps, Modulated Ramp

Luma Only Multi-frequency Burst, Multi-frequency Burst, Luma Only Frequency Sweep, Frequency Sweep, Bow Tie

Mixed Selection of Patterns, SDI Test, Pulse and Bar, Edge of Frame Markers, Cross Hatch

PLUGE, SPLUGE, Co-site, 50Hz Rectangle, Safe Area

Crystal Vision Logo

A section of each test pattern can be made to rotate to create a moving pattern

ADJUSTMENTS

0 to 1 line adjustment of horizontal picture position from syncs in 74ns steps

0 to 624 lines adjustment of vertical picture position in 1 line steps for PAL

0 to 524 lines adjustment of vertical picture position in 1 line steps for NTSC

BLANKING

To 601 specification vertically

One test pattern is available with signals on vertical lines 7 to 22 and 320 to 335 in PAL and 10 to 20 and 273 to 282 in NTSC

GPI INPUT LEVELS

Active pull to ground, pulled up to +5V through 10 kohm

GPI INPUTS

Pattern bank selection

LED INDICATION OF:

Power supplies on board

PAL/NTSC standard

Board configured and ready for use

Valid reference syncs input detected

LOCAL CONTROL

Rotary switch selection of pattern banks, static patterns and rotating patterns. Piano switch selection of line standards (when no reference syncs), EDH transmission, Y only or C only, horizontal and vertical delay adjustments

REMOTE CONTROL

RS422/485

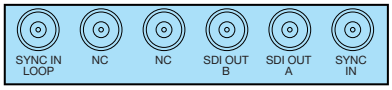
19200 baud, 8 bits, 1 stop no parity

Statesman allows control from any PC on a network

SNMP monitoring and control available as a frame option

Remote control of pattern selection, 10 non-volatile user memory locations, Y only or C only, pattern rotation, horizontal and vertical delay adjustments

Note: No operation from frame active front panel nor REMIND-E Ethernet control panel



RM23

ORDERING INFORMATION

TPG102	10 bit Standard Definition test pattern generator with 32 SDI patterns
Indigo 4SE	4U frame with active front panel featuring Statesman CPU for up to 24 Crystal Vision modules
Indigo 2AE	2U frame with active front panel featuring Statesman CPU and integrated control panel for up to 12 Crystal Vision modules
Indigo 2SE	2U frame with active front panel featuring Statesman CPU for up to 12 Crystal Vision modules
Indigo 1AE	1U frame with active front panel featuring Statesman CPU and integrated control panel for up to six Crystal Vision modules. Power supply redundancy available with Indigo 1AE-DP
Indigo 1SE	1U frame with active front panel featuring Statesman CPU for up to six Crystal Vision modules. Power supply redundancy available with Indigo 1SE-DP
Indigo DT	Desk top box with passive front panel for up to two Crystal Vision modules
Indigo DTSE	Desk top box with active front panel featuring Statesman CPU for up to two Crystal Vision modules
RM23	Single slot frame rear module. Allows maximum number of TPG102 in frame (24 in 4U, 12 in 2U, six in 1U, two in desk top box). Gives access to two SD outputs, a Black and Burst reference and a rear module Black and Burst loop-through
Statesman	PC Control System
SNMP	SNMP monitoring and control

Performance and features are subject to change. Figures given are typical measured values. TPG1020613

Crystal Vision

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