

SDI and AES Test Signal Generator

Description

Featuring 4 independent simultaneous SDI test pattern outputs with both embedded AES audio and external AES audio support the P TG 5010 provides a low cost flexible solution for any broadcast and professional video test and calibration application. The module contains a large library of standard static video test signals as well as dynamic audio / video test signals which includes a circular Zoneplate generator and the new IRT pattern for audio timing and lip synchronization.

The audio test generator will generate 4 separate channels of audio combined into 2 AES streams which is available external AES signals as well as embedded into the test signals. Each audio channel has adjustable frequency (20Hz..20KHz in 1Hz steps) as well as adjustable gain (0 to -60dBu) and selectable momentary pause for left channel.

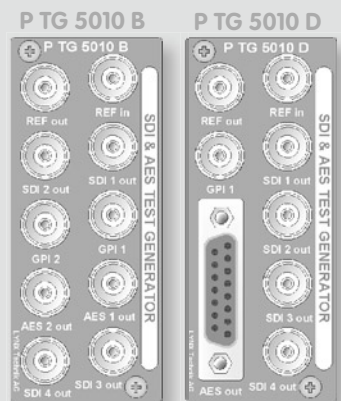
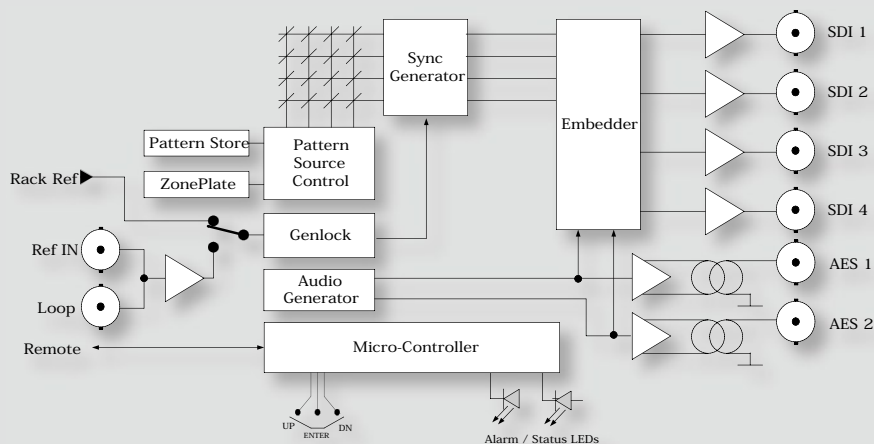
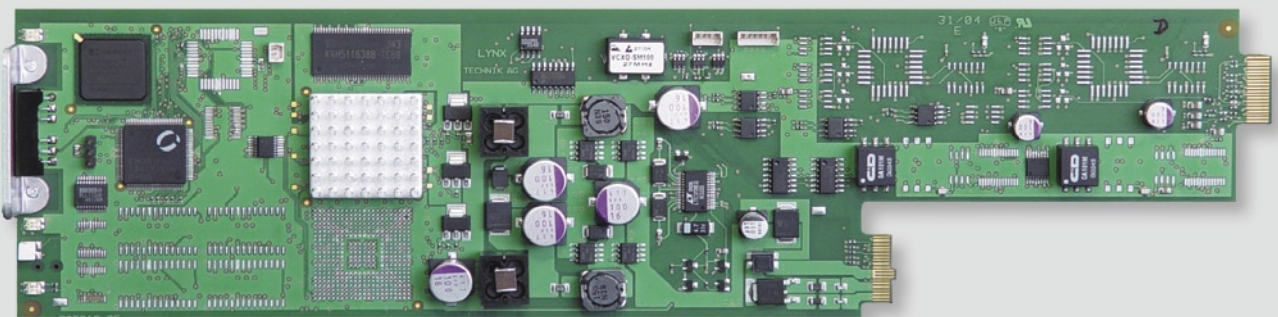
Integrated character generator allows a user definable text overlay (8 character max) which can be independently defined for each of the 4 video outputs. Text color, background color and position are also fully programmable.

Genlock capability allows the module to be locked to studio reference or left free running. Outputs can be timed over one frame adjustable in pixel and line increments.

Microprocessor control and on board flash ram provides local control capability via the integrated switches, on board indicators and matrix display. Full remote control, status monitoring and error reporting is possible when using the LYNX control system.

Features

- 4 independent and programmable 10 bit SDI outputs.
- Large included library of standard static video test patterns.
- Dynamic pattern generator includes circular Zoneplate generator and new IRT audio synchronization test pattern.
- 4 channel audio test generator combined into 2 AES streams.
- 20 or 24 bit 48KHz digital audio.
- Independently adjustable audio test tone frequency (20 to 20KHz in 1 Hz steps) for each channel.
- Independently adjustable audio gain (0 to -60dB) for each channel.
- Selectable momentary pause (silence) for left channel.
- 2 External AES outputs, transformer coupled.
- Audio embedded into all video outputs.
- Character generator overlay, with 8 characters (max) and programmable text color, background color and screen position. Independent for each of the 4 outputs.
- Genlock with one frame of adjustable timing in pixels and lines
- Microprocessor controlled with internal flash ram for storing configuration and integrated matrix display for local setup.
- Remote control, status monitoring and error reporting possible when used with LYNX control system.
- Full SNMP support when used with master controller option
- Hot swappable.



Backplanes

SDI and AES Test Signal Generator

Specifications

Reference Input

Signal Type	Composite analog sync (with passive loop through)
Input standards	525/60Hz or 625/50Hz - auto detect
Connection	BNC
Impedance	75 Ohm

Video Outputs

Signal Type	Serial digital video SMPTE 259M-C (270Mbit)
Output standards	525 / 625 (selectable)
No. Of outputs	4 x independent programmable outputs.
Connector	BNC
Impedance	75 Ohms
Jitter	<= 0.2 ui
Return Loss	> 15 dB (270MHz)

Audio Outputs

Signal type	P TG 5010 B = AES3id unbalanced P TG 5010 D = AES3 balanced
No. of outputs	2
Bit count	20 or 24 bit (selectable for each AES channel)
Sample rate	48KHz
Connector / impedance	P TG 5010 B = BNC - 75 Ohm PTG 5010 D = 15 pin female SubD -110 Ohm
Coupling	Transformer coupling (isolated)
Embedded Audio	Audio is also embedded into all 4 SDI outputs. SMPTE 259M-C

Performance

Output video timing	One frame of programmable delay relative to input reference adjustable in pixels and lines.
Embedding	AES 1 and 2 are embedded into audio group 1 in all 4 test outputs
Audio gain	Adjustable: 0 to -60dB independent in all four channels*
Audio frequency	Adjustable: 20Hz to 20KHz independent for all four channels*
Audio pause	Selectable momentary left channel pause (silence)*

Control

Local Controls	Local alphanumeric display with integrated menu system for setting module parameters
Remote Control	Comprehensive remote control and status monitoring supported when used with a LYNX Controller option

Electrical Specifications

Operating Voltage	12 VDC
Power Consumption	7 W
Safety	IEC 950/ EN 60950/VDE 0805

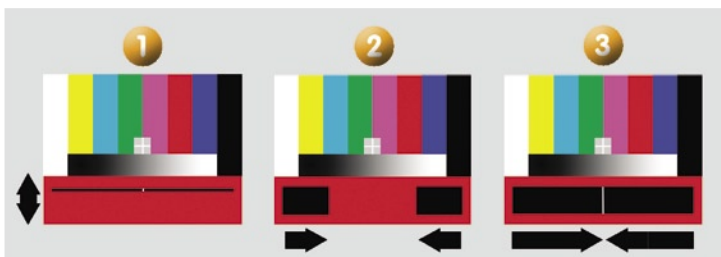
Mechanical

Size	283mm x 78mm
Weight	CardModule 120g, connector plate 50g

Ambient

Temperature	5°C to 40°C Maintaining specifications
Humidity	90% Max non condensing

Specifications subject to change



Settings and Control

Local Settings (using local matrix display and menus)

Input standard	525 / 625 / Auto
Reference	External ref / Rack ref / Internal ref
Output line delay	Adjustable 0...524 / 624
Output pixel delay	Adjustable 0..1715 / 1727
Character Text	Adjust X position / Adjust Y position
Character foreground	Select color of characters
Character background	Select text box background color
Character Overlay	None / User (per GUI) / LYNX
Background text box	ON / OFF (transparent)
AES 1 Bit count	20 / 24 bit
AES 2 Bit count	20 / 24 bit
AES 1 Frequency	Set test tone frequency for AES 1 channel 20hz...20KHz
AES 2 Frequency	Set test tone frequency for AES 2 channel 20hz...20KHz
AES 1 left channel pause	ON / OFF
AES 2 left channel pause	ON / OFF
AES 1 gain left	Adjustable 0...-60dB
AES 1 gain right	Adjustable 0...-60dB
AES 2 gain left	Adjustable 0...-60dB
AES 2 gain right	Adjustable 0...-60dB
Embedding	ON / OFF
SDI output 1 pattern select	Select from test pattern library
SDI output 2 pattern select	Select from test pattern library
SDI output 3 pattern select	Select from test pattern library
SDI output 4 pattern select	Select from test pattern library
Restore Factory Defaults	Yes / No

Settings Available from Control System

Overlay Text	Enter character overlay text. Independent for all four channels.
Audio Frequency	Set left and right AES tone frequency independently.
Embedding	Select each SDI output independently.

On Board Indicators / LEDs

Reference : 525 / 625 / input missing
4 Digit Alphanumeric Display : Used for module configuration
General Alarm Indicator – Normal / module failure

Video Test Patterns

75% Bars over red	100% full field bars	75% Full field bars	SMPTE bars
Cr Sawtooth	Cb Sawtooth	Y Sawtooth	Zoneplate
Y,Cr,Cb Sawtooth	Frequency Sweep	Center Sweep	Multiburst
Full field Black	Full field White	Full field Red	Full field Green
Full field Blue	Full field Yellow	Full field Cyan	Full field Magenta
Pathological EQ	Pathological PLL	Pathological PLL/EQ	Starstep
Convergence	EIA resolution chart	Transmitter ID chart 1	Transmitter ID chart 2

IRT Audio Synchronization / Lip Sync Dynamic Pattern

1. Black line cycles up and down - Continuous AES tone.
 2. Black bars move to center - No AES tone (silence).
 3. Bars meet in middle - One frame duration AES tone then silence.
- Cycle continuously repeats...

Ordering Information

Model #	Part Number	Description	Includes
P TG 5010 B	5155007300	SDI and AES Test Generator - BNC audio	CardModule, Rear termination Panel, + Mounting Screws, and Reference Manual
P TG 5010 D	5155007320	SDI and AES Test Generator - SubD audio	CardModule, Rear termination Panel, + Mounting Screws, and Reference Manual