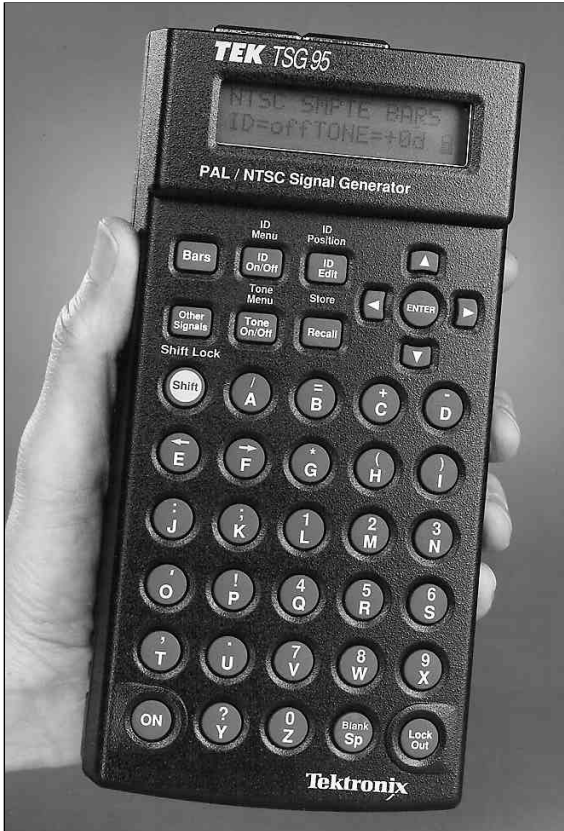**Tektronix**

TSG 95
PAL/NTSC Signal Generator

TSG 95 PAL/NTSC Signal Generator.

Tektronix is the worldwide leader supplying test equipment for the entire range of video and audio signal applications. Our video and audio test portfolio consists of signal processing, generation, and measurement equipment for broadcast, cable, production, manufacturing, and transmission applications.

The TSG 95 is a handheld PAL/NTSC Signal Generator designed for use in installation and maintenance of analog composite video systems. The TSG 95 supports both PAL and NTSC standards. It is a great companion for those verifying microwave links, installing studio or outside broadcast systems, or servicing in the field. Special signals are included for testing FCC baseband video parameters in cable television

systems and for verifying television transmitter automatic correction systems.

The TSG 95 Signal Generator provides a powerful combination of test signals, ID capabilities, and other features making it a must for the TV engineer's toolbox or workbench.

Test Signals

The TSG 95 generator provides 20 user-selected test signals in PAL, 20 in NTSC, and 21 in zero setup Japan NTSC.

PAL:

- 75% Color Bars
- 100% Color Bars
- 75% Bars over Red
- 100% Bars over Red
- Convergence
- Pluge
- Safe Area
- Green Field
- Blue Field
- Red Field
- 100% Flat Field
- 50% Flat Field
- 0% Flat Field
- Multiburst
- 60% Reduced Line Sweep
- 5 Step Gray Scale
- 4.43 MHz Modulated 5 Step
- Matrix of CCIR 17, CCIR 18, CCIR 330, CCIR 331, Sin(x)/x, 15 kHz Square Wave, Shallow Ramp, UK ITS 1, UK ITS 2
- Field Square Wave
- Bounce

NTSC and Japan NTSC:

- SMPTE Bars
- 75% Color Bars
- SNG Color Bars (Japan NTSC only)
- Convergence
- Safe Title/Safe Area
- Red Field
- 100 IRE Flat Field
- 50 IRE Flat Field
- Black Burst
- 5 Step Gray Scale
- Multiburst

PAL, NTSC, or Japan NTSC operating standards

Full set of test signals for system installation and setup

Stereo audio outputs with L/R identification

Video character ID for circuit identification

Battery or AC operation

- NTC7 Composite
- NTC7 Combination
- FCC Composite
- Cable Multiburst
- Cable Sweep
- Sin (x)/x
- Matrix of NTC7 Composite, NTC7 Combination, Color Bars, Sin(x)/x, 50 IRE Flat Field
- 0 IRE No Burst
- Field Square Wave
- Bounce

Vertical Interval Test Signals (VITS) may be included on Flat Field and Matrix test signals in single standard configurations. The TSG 95 may be configured for multiple signal standards by selecting up to 26 signals as a User Signal Set.

Character ID

Up to eight messages, each containing two 16-character lines, may be stored for later recall. One message may be inserted into the video test signal, and up to four may be cycled into the test signal in a continuous loop (displaying each message for 1 to 9 seconds). The message may be positioned anywhere within the safe-title area. Creating ID text is fast and simple using the alphanumeric keypad — no tedious scrolling through the alphabet with arrow keys for each character in the ID message. Just type in a message and verify it on the TSG 95's

The Tektronix TSG 95 is an ideal companion for the WFM 90 Series Waveform/Vector/Picture/Audio Monitors.

backlit LCD display.

User Presets

Up to four complete front panel configurations, including menu selections, current text message, and cycle information may be stored for later recall.

Analog Stereo Audio

Thirteen audio tone frequencies (from 50 Hz to 20 kHz) or an audio sweep are selectable from the Tone menu. Four tone levels (−10, 0, +4, and +8 dBu) are available as well. Special tone frequencies and levels within these ranges may be set up for special applications. An audio click sequence can also be selected as an aid in easily identifying and tracing left and right
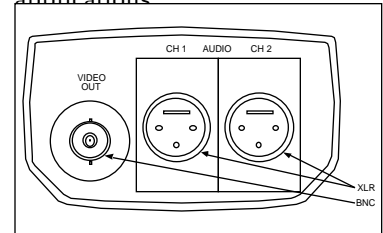
channels in an installation.

DC Powered

The TSG 95 may be operated from the AC adapter provided, from eight AA size batteries, or from an optional accessory 9.6 V NiCad battery pack. Battery recharging capability, utilizing the AC adapter, is provided for the NiCad battery pack only.

Application

The TSG 95 is focused towards installation, maintenance, and field performance verification applications.

TSG 95 Connectors.

TSG 95 Characteristics

PAL Test Signal Characteristics

Luminance Amplitude Accuracy — ±1% of 700 mV.

Chrominance-to-Luminance Gain — ±2% of 700 mV.

Subcarrier Stability — 4.43361875 MHz ±10 Hz.

Chrominance-to-Luminance Delay — 10 ns.

SCH Phase — 0° ±5°.

Frequency Response —
to 4.8 MHz — Flat within ±2%.
to 5.8 MHz — Flat within ±3%.

Field Tilt — 0.5%.

Line Tilt — 0.5%.

Differential Gain — 1%.

Differential Phase — 1°.

2T Pulse K-Factor — 0.5%.

NTSC Test Signal Characteristics

Luminance Amplitude Accuracy — ±1% of 714.3 mV (100 ±1IRE).

Chrominance-to-Luminance Gain — ±2% of 714.3 mV (100 ± 2IRE).

Subcarrier Stability — 3.579545MHz ±10 Hz.

Chrominance-to-Luminance Delay — 15ns.

SCH Phase — 0° ±5°.

Frequency Response — Flat within ±2% to 4.2MHz.

Field Tilt — 0.5%.

Line Tilt — 0.5%.

Differential Gain — 1%.

Differential Phase — 1°.

2T Pulse K-Factor — 0.5%.

Power

DC Input —
Range — 9 to 15 V input.
Polarity — Negative center.

Typical Battery Life —
Alkaline AA cells — 7 to 10 hours.
Rechargeable pack — 3 to 4 hours.

Physical Characteristics

Dimensions	mm	in
Height	190.5	7.5
Width	91.44	3.6
Depth	55.8	2.2
Weight	**kg**	**lb**
Net (no batteries)	0.48	1.06
Shipping	1.5	3.31

Environmental

Operating Temperature — 0°C to +40°C.

Nonoperating Temperature — −30°C to +65°C.

Ordering Information

TSG 95
PAL/NTSC
Signal
Generator

Options

01 — Rechargeable NiCad battery pack.

A1 — Universal Euro 220 V AC adapter.

A2 — United Kingdom 240 V AC adapter.

A3 — Australia 240 V AC adapter.

A6 — Japan 100 V AC adapter.

Accessories

119-4488-00 — Rechargeable NiCad battery pack.

070-8917-00 — Service manual.

For further information, contact Tektronix:

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ISO 9001
KEMA CERT. NR. 10001.04

3/96 FLG4894/XBS   20W-7233-5

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