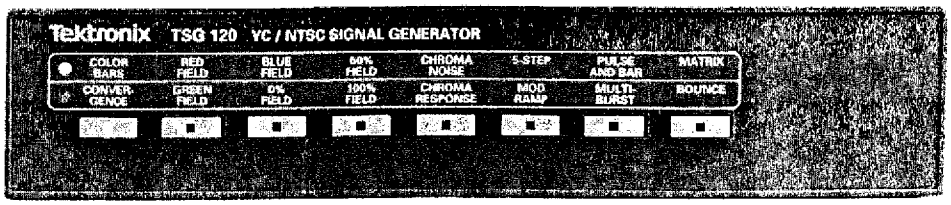


TSG 120 YC/NTSC Signal Generator

TSG 120
YC/NTSC Signal Generator

Low cost test signal generator

Tailored for service applications

Supports SVHS, Hi-8, and NTSC formats

Y/C, NTSC, and S-connector outputs

High accuracy test signal generation

Two channels of audio tone with channel one identification

Black burst output (option)

Compact and lightweight package

The TSG 120 is a low cost Y/C, NTSC test signal generator tailored for the servicing of SVHS, Hi-8, NTSC, and monochrome 525/60 video equipment. The 10-bit digital signal generation and internal architecture allow generation of signals with the accuracy and stability until now available only in higher cost generators.

With the TSG 120, you get all the signals you need to test levels, linearity, frequency response, phase response, clamp performance, chrominance noise, picture monitor alignment, and more.

For servicing convenience, the TSG 120 provides the NTSC and Y/C outputs simultaneously, with the Y/C outputs available on BNC connectors and the standard 4-pin S-connector. Two channels of 1 kHz audio tone are provided on balanced XLR outputs. These phase locked tones are easily identified with the selectable ID pulse in channel 1.

All this comes in a package size small enough not to clutter the service bench. And for field servicing, the TSG 120 fits nicely in a briefcase with the rest of the necessary service tools.

The TSG 120 test signal set includes:

- SMPTE Bars
- Convergence Pattern
- Red Field
- Green Field
- Blue Field
- Multiburst
- Pulse & Bar
- 5 Step Staircase
- Luminance Ramp
- Modulated Ramp
- Chroma Noise
- Chroma Response
- NTC 7 Composite (matrix only)
- 0, 50, 100 IRE Flat Fields
- Matrix
- 0 to 100 IRE Bounce

A black burst output is available as an option. This is useful in service applications where a reference signal is required for equipment synchronization. With the black burst output, the TSG 120 may also be suitable as a timing reference for Y/C and NTSC based post production systems.

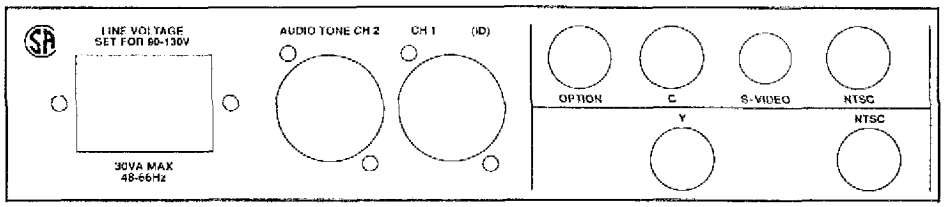
CHARACTERISTICS

TEST SIGNAL GENERATOR

Luminance Amplitude Accuracy	±1%
Chrominance Amplitude Accuracy (C Channel)	±1%
Chrominance-to-Luminance Gain	±1%
Chrominance-to-Luminance Delay	≤12 ns
Frequency Response	±2% to 4.2 MHz (NTSC output); ±1% to 5 MHz (Y and C outputs)
SCH Phase Accuracy	0° ±5°
Line Blanking Interval	10.9 μs ±0.2 μs
Output Impedance	75 Ω

TEST SIGNALS

Color Bars	SMPTE Bars
Convergence	14 lines per field 17 lines per horizontal
Red Field	
Luminance Pedestal	201.74 mV
Chrominance Amplitude	626.66 mV p-p
Green Field	
Luminance Pedestal	344.45 mV
Chrominance Amplitude	585.28 mV p-p
Blue Field	
Luminance Pedestal	110.06 mV
Chrominance Amplitude	443.76 mV p-p
Multiburst	
White Reference Bar Amplitude	70 IRE
Packet Amplitudes	60 IRE
Pedestal	40 IRE
Burst Frequencies	0.5, 1.0, 2.0, 3.0, 3.58, and 4.2 MHz
Pulse & Bar with Window	
2T Pulse HAD	250 ns ±25 ns
White Bar Amplitude	100 IRE
Field Tilt	≤0.5%
Line Tilt	≤0.5%
Ringing	≤1% peak



TSG 120 Rear Panel.

TEST SIGNALS (continued)

5-Step Staircase	
Amplitude	100 IRE
Linearity Error	≤1%
Ramp/Modulated Ramp	
Luminance Amplitude	100 IRE
Chrominance Amplitude	40 IRE
Differential Gain	0.3% maximum
Differential Phase	0.3° maximum
Chroma Noise	
Luminance Pedestal	50 IRE
Chroma Amplitude	100 IRE
Chroma Phase	Red
Chrominance Response	60 IRE sweep from 2.58 MHz to 4.58 MHz on a 50 IRE pedestal
NTC 7 Composite	100 IRE bar; 2T pulse and 12.5T mod pulse; 90 IRE 5-step staircase modulated with 40 IRE subcarrier
Flat Fields	0, 50, 100 IRE
Matrix	Multiburst, Chroma Response, 50 IRE Flat Field, Chroma Noise, Color Bar, NTC 7 Composite
Bounce	
Amplitude	0 or 100 IRE flat field
Rate	1 second high, 1 second low

INTERNAL REFERENCE

Frequency	3.579545 MHz
Stability Over Temperature	Within 10 Hz from 5° to 35°C

AUDIO TONE GENERATOR

Frequency	1 kHz
Amplitude	0 to +8 dBu into 600 Ω, or a high impedance load
Distortion	≤0.5% THD + noise
Click ID	Rate adjustable from 0.2 Hz to 4 Hz

POWER SOURCE

Mains	
Voltage Range	90-130 Vac 180-250 Vac
Frequency Range	48-62 Hz
Power Consumption	15 W max

PHYSICAL CHARACTERISTICS

Dimensions	**mm**	**in**
Width	205.7	8.1
Height	43.4	1.71
Depth	381.0	15.0
Weight	**kg**	**lbs**
Net	1.47	3.25
Shipping	3.20	7.06

ENVIRONMENTAL

Temperature	
Operating	0°C to +35°C
Non-Operating	−40°C to +65°C

ORDERING INFORMATION

TSG 120 YC/NTSC Signal Generator

OPTION

Option 01 — Adds black burst output