

TSG 90

Pathfinder TSG 90 NTSC Signal Generator

GENERATORS/INSERTERS

- 16 video test signals
- Extensive video ID capabilities
- Eight storable ID captions
- Two channels of audio tone
- 13 selectable audio tone frequencies
- Audio tone sweep
- Audio tone ID
- Front-panel-selectable tone levels
- Four front-panel user presets
- 10 to 16 hours alkaline battery life
- Optional rechargeable battery pack

For verifying microwave links, field servicing, or system installation, the Pathfinder NTSC Signal Generator is a great companion. Its powerful combination of test signals, ID capabilities, and audio tones makes it a must for every TV engineer's toolbox or workbench. And it fits in the palm of your hand.

The Pathfinder's intuitive interface offers quick and easy access to basic functions like selecting one of 16 test signals, choosing an audio tone, or writing an ID message. And for the more demanding user, the Pathfinder gives plenty of menu-driven flexibility to change and store your selections.

Menu-driven flexibility

From the Tone Menu, for example, you can select 13 audio tone frequencies (from 50 Hz to 20 kHz), select an audio sweep, and choose three tone levels (0, +4, and +8 dBu). And in the ID Menu you can select different ID positions or select the ID cycle, which displays four ID captions in a continuous loop at rates you can select.

Powerful text editing

Creating ID text with the Pathfinder is fast and simple — no tedious scrolling through the alphabet with arrow keys for each character in your ID message. The alphanumeric keypad works like a keyboard. Just type in your message (up to 32 characters) and check it on the Pathfinder's back-lit LCD display. You'll get clear, crisp feedback even in poor lighting conditions — no need to drag around a separate picture monitor.

Complete storage capability

You can store up to eight sets of ID captions. The Pathfinder's storage capability extends to the entire front panel. For custom applications you can store up to four unique front panel configurations as user presets. And if you forget to store your last selections before turning off the power, the Pathfinder automatically stores them for you.



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Multiple power options

The Pathfinder is powered to go where you go. You can run it for 10 to 16 hours on alkaline AA cells, or 4 to 6 hours on the optional rechargeable battery pack. For workbench use, you can run the Pathfinder from the AC adaptor, which also trickle charges the optional rechargeable battery pack.

The Pathfinder gives you power conservation choices, too. When selected, the auto power down mode automatically switches off the Pathfinder 10 minutes after you push the last front panel button. For further power savings, you can switch off the audio tone.

Sized and priced to fit in every toolbox, the Pathfinder will lighten the load on your next job.

CHARACTERISTICS

NTSC SIGNAL GENERATOR

Luminance accuracy	1% of 100 IRE
Y/C Gain	2% of 100 IRE
Frequency Response	± 2% to 4.2 MHz
SCH Phase Accuracy	0 degrees ± 5 degrees
Differential Phase	≤ 1 degree
Differential Gain	≤ 1%

TEST SIGNALS

SMPTTE Bars	
75% Color Bars	
Multiburst Amplitudes	
White Bar	70 IRE
Packets	60 IRE
Pedestal	40 IRE
Burst Frequencies	0.5, 1, 2, 3, 3.58, & 4.2 MHz
NTC7 Composite Bar	
Amplitude	100 IRE
Rise time	125 ns ± 12.5 ns
2T Pulse	
Amplitude	100 IRE
HAD	250 ns ± 25 ns
K Factor	≤ 0.5%
Modulated 12.5T Pulse	
Amplitude	100 IRE
HAD	1.563 μs ± 150 ns
Modulated Phase	60.8 degrees
Modulated 5-step	
Amplitude	90 IRE
Chroma Amplitude	40 IRE

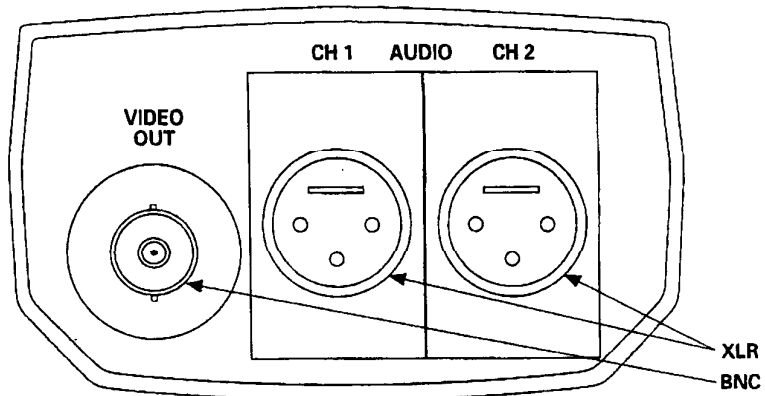
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GENERATORS / INSERTERS

TEST SIGNALS (CONTINUED)

NTC7 Combination	
Multiburst	
Bar Amplitude	100 IRE
Packet Amplitude	50 IRE
Pedestal	50 IRE
Burst Frequencies	0.5, 1, 2, 3, 3.58, & 4.2 MHz
Modulated Pedestal	
Pedestal Amplitude	50 IRE
Chroma Amplitudes	20, 40, 80 IRE
Phase	90 degrees
Risetime	400 ns ± 40 ns
FCC Composite	
Bar	
Amplitude	100 IRE
Rise time	250 ns ± 25 ns
2T Pulse	
Amplitude	100 IRE
HAD	250 ns ± 25 ns
K factor	≤ 0.5%
Modulated 12.5T Pulse	
Amplitude	100 IRE
HAD	1.563 μs ± 150 ns
Modulated Phase	60.8 degrees
Modulated 5-step	
Amplitude	80 IRE
Chroma Amplitude	40 IRE
5-Step Staircase	
Amplitude	100 IRE
Linearity Error	≤ 1%
Red Field	
Luminance Pedestal	28.3 IRE
Chrominance Pedestal	87.8 IRE
Chrominance Phase	103.5 degrees
Field Squarewave	
White Lines	70-213
Blanking Lines	Remaining active lines
Field Tilt	≤ 0.5 %
Line Tilt	≤ 0.5%
50 IRE Flat Field	
0 IRE No Burst	
Black Burst	
Amplitude	7.5 IRE
(Sin x)/x	
Spectrum	-3 dB at 4.75 MHz
Convergence	
H Lines	14
V Lines	17
Matrix	
Lines	
21-69	NTC7 Composite
70-117	NTC7 Combination
118-165	Color Bars
166-213	(Sin x)/x
214-262	50 IRE
Safe Area	
Safe Action	Lines 33 and 250
Safe Title	Lines 45 and 238



Pathfinder TSG 90 Connectors.

AUDIO TONE GENERATOR

Amplitude	0, +4, +8 dBu
Amplitude Accuracy	± 0.25 dBu
Frequency accuracy	± 0.5Hz
Frequencies	50 Hz, 63 Hz, 125 Hz, 250 Hz, 400 Hz, 1 kHz, 2 kHz, 4 kHz, 8 kHz, 10 kHz, 12.5 kHz, 16 kHz, 20 kHz
Sweep	40 Hz-20 kHz
Distortion	≤ 0.4% typical THD, @ 20 kHz BW
ID click	Channel 1 has 1 click; channel 2 has 2 clicks

INTERNAL REFERENCE

Subcarrier stability	Within 10 Hz
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POWER

DC input	
Range	9 to 15 V input
Polarity	Negative center
Typical Battery life	
Alkaline AA cells	10 to 16 hours
Rechargeable pack	4 to 6 hours

ENVIRONMENTAL

Temperature	
Operating	0 to +50°C
Nonoperating	-30 to +65°C

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

ORDERING INFORMATION

Includes protective case, instruction card, and AC adaptor

OPTIONAL ACCESSORIES

- 119-4488-00** Rechargeable battery pack
- 070-8706-00** Service manual
- Option M2** - Remedial Service Support
- Option M8** - Calibration Service