

# VITS INSERTERS AND TEST SIGNAL GENERATORS

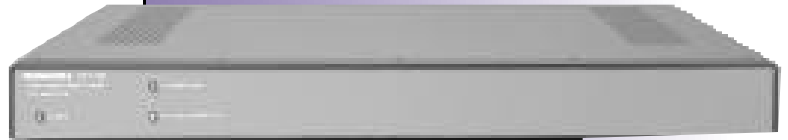
REFERENCE SIGNALS ARE KEY TO MONITORING VIDEO SYSTEMS

THE MAGNI GENERATOR SERIES PROVIDES A STABLE AND ACCURATE REFERENCE SIGNAL SOURCE FOR ALL VIDEO APPLICATIONS. THESE VERTICAL INTERVAL TEST SIGNAL INSERTERS AND TEST SIGNAL GENERATORS ARE THE PERFECT COMPANION TO THE MAGNI AVM-510 SERIES AND MAGNI SDM-500 SERIES SERIAL DIGITAL MONITORS.

## VIT-700 SERIES VITS INSERTERS

**LOW COST VERTICAL INTERVAL TEST SIGNAL (VITS) INSERTER FOR EITHER NTSC AND 525 Y/C VIDEO FORMATS, OR PAL AND 625 Y/C VIDEO FORMATS**

**LOSS OF PROGRAM SUBSTITUTION MODE AND POWER LOSS BYPASS MODE.  
VITS SIGNALS INCLUDE FCC, NTC7, CCIR AND UK NATIONAL INTERVAL TEST SIGNALS.**



THE VIT-700G VERTICAL INTERVAL TEST SIGNAL INSERTER GIVES YOU THE COST-EFFECTIVE CAPABILITY TO INSERT REFERENCE SIGNALS IN ALL PHASES OF VIDEO PRODUCTION AND ROUTING. The VIT-700G provides NTSC insertion test signals for evaluating video quality in operational applications. VITS sets include FCC, NTC7 and the Philips Ghost Cancelling Reference (GCR) signal for both transmission and routing. The VIT-701 ITS inserter provides PAL Insertion Test Signals. The VIT-700G/VIT-701 Inserters allow full utilization of the Magni WVM Series' automated measurement and monitoring capabilities during video production and routing, or for on-line testing.

## TSG-700 SERIES TEST SIGNAL GENERATORS

**LOW COST TEST SIGNAL GENERATORS:**

**PAL AND 625 Y/C VIDEO FORMATS  
NTSC AND 525 Y/C VIDEO FORMATS  
MULTI STANDARDS 525/625 VIDEO FORMATS  
COMPLETE WITH STEREO AUDIO TONE OUTPUTS**



**TSG-700/701/705 GENLOCKABLE TEST SIGNAL GENERATORS FOR STUDIO OFF LINE OR OUT-OF-SERVICE EQUIPMENT TESTING.** With genlock capability, the TSG-700/701 can serve as the main test generator for teleproduction studios, broadcast stations, and cable facilities. Its unique complement of 12 signals was selected for general studio applications. A stereo audio tone output completes the package. The dual-standard TSG-705 offers a solution for both NTSC and PAL on a single test signal generator, while the TSG-700 and TSG-701 are specific for NTSC and PAL applications respectively.

## SDG SERIAL DIGITAL OPTIONS

The Serial Digital Option (SDG) of the TSG-700 Series provides three (3) serial Digital 60i outputs simultaneously with the two analog composite and single Y/C (S-Video) outputs of the basic generators. The serial data is in 10 bit format and 8 bit resolution. The two least significant bits are set to zero.

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# SPECIFICATIONS

## VIT-700G NTSC VITS INSERTER

## VIT-701 PAL ITS INSERTER

### VITS GENERATION

Configuration	1 Y/C output, 2 composite outputs
Gain error	Less than +/-1%
Chroma/Luma gain error	Less than +/-2%
Chroma/Luma delay error	Less than +/-10 nsec
Frequency Response	Within +/-3% to 5.8 MHz
Output return loss	Greater than 30dB to 5 MHz
Power loss bypass mode	To composite output #1

### PROGRAM INPUT

Configuration	Composite or Y/C
Input impedance	75 W
Return loss	Greater than 36dB to 5 MHz
Input level range	1 V p-p +/-10%
Input signal-to-noise ratio	Greater than 40dB
Burst lock range	3.579545 MHz +/-50Hz 4.43361875 MHz +/-50Hz
Burst lock jitter	Less than 1° deg

### PROGRAM THROUGHPUT

Gain error	Less than +/-2%
Frequency response	Within +/-2% to 5.8 MHz
Pulse to bar ratio	1:1 within +/-1%
Line time distortion	Less than +/-0.5%
Field time distortion	Less than +/-0.5%
Differential gain error	Less than +/-0.5%
Differential phase error	Less than +/-0.5° deg
Insertion phase error	Less than +/-1.5° deg
Loss of program	Color Bars Signal Substitution

### NTSC VITS SETS (VIT-700G)

Set #1: FCC for transmission	FCC multiburst line 17, field 1 FCC color bars line 17, field 2 FCC composite line 18, field 1 & 2 GCR signal line 19, field 1 & 2
Set #2: NTC7 for transmission	NTC7 composite line 17, field 1 NTC7 combination line 17, field 2 GCR signal line 19, field 1 & 2
Set #3: NTC7 for routing	NTC7 composite line 17, field 1 NTC7 combination line 17, field 2
Set #4: Programable line select	

### PAL VITS SETS (VIT-701)

Set #1: CCIR ITS	CCIR line 17, 18 CCIR line 330, 331
Set #2: Programable line select	
Set #3: UK National ITS	UK ITS lines 19/332

### ENVIRONMENTAL (ALL UNITS)

Mechanical Dimensions	
HxWxD	1.75" x 19.0" x 13.3" (45mm x 480mm x 338mm)
Weight	5.5 lbs (2.5 Kg)
Line voltage range	90 - 250 Vac, 50/60 Hz
Maximum power consumption	20 watts
Operating temperature	0 - 50°C
Certification	UL/CUL, EC

### ORDERING INFORMATION

For Video Routing, Transmission and Production testing  
VIT-700G—NTSC and 525 Y/C, VIT-701—PAL and 625 Y/C  
For Video off line and equipment testing  
TSG-700—NTSC and 525 Y/C, TSG-701—PAL and 625 Y/C,  
TSG-705—NTSC and PAL and Y/C  
SDG adds Serial Digital Outputs

## TSG-700, NTSC TEST SIGNAL GENERATOR

## TSG-701, PAL TEST SIGNAL GENERATOR

## TSG-705, PAL/NTSC TEST SIGNAL GENERATOR

### GENERATOR OUTPUTS

Configuration	1 Y/C output, 2 composite outputs
Gain error	Less than +/-1%
Chroma/Luma gain error	Less than +/-2%
Chroma/Luma delay error	Less than +/-10 nsec
Frequency response	Within +/-3% to 5.8 MHz
Output return loss	Greater than 30 dB to 5 MHz
Subcarrier frequency (int ref)	3.579545 MHz +/- 50 Hz (NTSC) 4.43361875 MHz +/- 50 Hz (PAL)
SC/H accuracy	Within +/-10° deg

### GENLOCK INPUT

Input configuration	NTSC or 525 Y/C (NTSC) PAL or 625 Y/C (PAL)
Input impedance	75 W internal termination (no loop thru)
Return loss	Greater than 36 dB to 5 MHz
Input level range	1 V p-p +/-3 dB
Input signal-to-noise ratio	Greater than 35 dB
Burst lock range	3.579545 MHz +/-200Hz (NTSC) 4.43361875 MHz +/-200Hz (PAL)
Burst lock jitter	Less than 1° deg
Sync lock range	15.73426 kHz +/-0.001% (NTSC) 15.625 kHz +/-0.001% (PAL)
Sync Lock jitter	Less than 10 nsec

### AUDIO TONE OUTPUT (TSG-700, TSG-701, & TSG-705)

Configuration	one differential stereo channel
Frequency	1 kHz
Level	+4 dBm, balanced into 600 W

### TEST SIGNALS — TSG-700 (NTSC)

SMPTE color bars	EIA bars, reverse blue bars, IWQ
Multiburst	0.5, 1.5, 2.0, 3.0, 3.58, and 4.1 MHz
NTC7 combination	Multiburst and modulated pedestal
NTC7 composite	Pulse, bar, mod pulse, and mod staircase
Convergence	Cross hatch grid, no dots
Safe title	10% safe title area markers
Modulated ramp	40 IRE chroma on 100 IRE ramp
Linear ramp	100 IRE ramp, no chroma
5 step staircase	100 IRE luminance, no chroma
Window	Window 100% white
(Sin X) / X	4.75 MHz spectrum
Black Burst	Black Burst with 7.5 IRE setup

### TEST SIGNALS — TSG-701 (PAL)

EBU (75%, 100%) bars*	75%, 100% saturation, full field colour bars
75% bars/red*	75% bars in split field with Red field
Red field	Full field in 75% saturation red
CCIR 17, 18, 330, 331*	Standard CCIR VITS test signals
Black Burst	0 V full field Black Burst
White	100% white bar, full field
Pludge	4 white levels and +/- 2% black reference
Grille	Vertical and horizontal grid lines
*Above full field signals includes CCIR VITS	

### TEST SIGNALS — TSG-705 (NTSC & PAL)

NTSC signals	
FCC color bars w/FCC VITS	Full field 75% FCC color bars
FCC multiburst w/FCC VITS	Multiburst 0.5, 1.25, 2.0, 3.0, 3.58, & 4.1 MHz
NTC7 Composite w/NTC7 VITS	White bar, 2T pulse, mod 10T pulse, mod 5-step
Modulated ramp w/NTC7 VITS	0 to 100 IRE ramp w/40 IRE p-p modulation
PAL signals	
EBU 75% bars w/CCIR ITS	75% saturation, full field colour bars
Multiburst (CCIR 18) w/CCIR ITS	Multiburst 0.5, 1.0, 2.0, 4.0, 4.8, & 5.8 MHz
Composite w/UK National ITS	White bar, 2T pulse, mod 10T pulse, mod 5-step
Modulated ramp w/UK National ITS	0 to 0.7 V ramp w/0.3 V p-p modulation



*Making Technology Useful*