

TG39A Series

TELEVISION INSTRUMENTS

MULTI TEST SIGNAL GENERATOR



General

This TG39A series of Multi Test Signal Generators is designed to support the testing requirements of eight television systems to add a new function to the TG19C series. Over 100 kinds of test signals can be generated with the video signal section, and an SCART connector output has been added as standard equipment to the output ports of the TG19C series. In the RF signal generation section, the output level can be varied in 0.5 dB steps, and SAW filters for each TV system have been built in to improve signal accuracy. A lineup of 4 models has been prepared ranging from a model exclusively for video signals to a Teletext-compliant model, to provide the optimum support for the development, design, production and testing of devices such as TVs, DVD recorders and TV tuners for any country in the world.

Specifications

● Selection guide

Model name	TG39AV	TG39AA	TG39AB	TG39AC
Output signal				
Video signal	A	A	A	A
RF signal	N/A	A	A	A
Sound MPX signal	N/A	N/A	A	A
Teletext	N/A	N/A	N/A	A

A : Available
N/A : Not available

Features

- Support the testing requirements of eight television systems - NTSC, NTSC-50, NTSC-4.43 MHz, PAL, PAL-60, PAL-M, PAL-N, SECAM.
- Equipped with SCART connector output (for European systems).
- A WSS (Wide Screen Signalling) signal can be superimposed. The information in the 14 bits can be set individually.
- The Monoscope pattern signal has the 4:3 and 16:9 aspect ratios.
- Equipped with a Combination function. This allows signal output by combining multiple patterns.
- As for sound signals, the built-in oscillator can modulate a 400 Hz, 1 kHz or 3 kHz sine wave signal (TG39AA/AB/AC).
- Since the vision carrier and sound carrier have an inverting function, this equipment can be used for the French LOW channel (TG39AA/AB/AC).
- The channel characters of RF signal can be superimposed (TG39AA/AB/AC).
- One audio signal input is equipped. So, the TG39A series can be connected with an external audio signal generator, ShibaSoku's TA35C or AS953B (TG39AA/AB/AC).
- Since input and output of sound IF signals is possible, signals from ShibaSoku's 2-carrier system and NICAM system (TA03D/TA05C) can be superimposed on the RF signal from this equipment (TG39AA/AB/AC).
- Sound MPX functions corresponding to various nations can be equipped (TG39AB/AC).
- The TG39A Series Multi Test Signal Generators also includes models equipped with the Teletext and Closed Caption functions (TG39AC).
- The memory function can store up to 256 signal combinations, and the auto switching mode can automatically switch between memorized signals at intervals of between 1 second and 3,600 seconds.
- The RS232C remote interface is equipped standard. As an option, GP-IB Unit can be built-in.

● Specifications

Output signal	Specifications
VBS output signal	Front: 1 output, Rear: 2 outputs
VBS output signal level	Front :1 Vp-p (0 to 150% variable) 75 Ω, Rear:1 Vp-p 75 Ω
GBR/Y Cb Cr output signal	Rear: 1 output each (switchable)
GBR/Y Cb Cr output signal level	NTSC (STD, 4.43): 1 Vp-p (0.714+0.286 Vp-p) PAL (STD, 60, M, N), NTSC-50: 1 Vp-p (0.7+0.3 Vp-p)
S-VHS output signal	Rear 1 output
S-VHS output signal level	NTSC (STD, 4.43): 1 Vp-p (0.714+0.286 Vp-p)
Y+S signal	PAL (STD, 60, M, N), NTSC-50, SECAM: 1 Vp-p (0.7+0.3 Vp-p)
S-VHS output signal level	NTSC (STD, 4.43): 0.681 Vp-p (cyan signal)
C signal	PAL (STD, 60, M, N), NTSC-50: 0.664 Vp-p (cyan signal)
HS, VS, C.SYNC output signal	Rear: 1 output each 1.5 Vp-p or higher (75 Ω terminated)
RF output signal frequency	30 to 950 MHz (in steps of 50 kHz)
RF output signal level	29 to 109 dB μ/75 Ω (in steps of 0.5 dB)
RF output signal characteristic	Spurious -40 dB or lower, DG/DP: 3%/3 degrees
RF output signal P/S ratio	-30 to 0 dB (in steps of 0.5 dB)
Video modulation	0 to 100% (in steps of 0.5%)
Audio modulation	0 to 100 kHz (in steps of 0.5 kHz)

● Sound MPX signal
Two-carrier system

TV SYSTEM	NTSC-M	PAL-B, G	SECAM-D, K PAL-D, K
Country	KOREA	GERMAN	CZE
First sound carrier frequency	4.5 MHz	5.5 MHz	6.5 MHz
Second sound carrier frequency	4.724213 MHz	5.7421875 MHz	6.2578125 MHz
First sound carrier level	-13 dB	-13 dB	-13 dB
Second sound carrier level	-20 dB	-20 dB	-20 dB

NICAM system

TV SYSTEM	PAL-B, G / D, K SECAM-L	PAL-I
Country	SCANDINAVIA CHINA FRANCE	U.K.
Sound carrier frequency	5.85 MHz	6.552 MHz
First sound carrier level	-13 dB (SCA, CHN) -10 dB (FRA)	-10 dB
Second sound carrier level	-20 dB (SCA) -25 dB (CHN) -27 dB (FRA)	-20 dB

BTSC/FM-FM system

TV SYSTEM	NTSC-M	PAL-M	NTSC-M
Country	USA	BRAZIL	JAPAN
Sound carrier frequency	4.5 MHz	4.5 MHz	4.5 MHz
Sound carrier level	-10 dB	-10 dB	-6 dB

● Teletext, Closed caption (TG39AC)

	FLOF/TOP	VBI	CC
TV system	PAL-B, G, D, H, I	NTSC-M	NTSC-M
Superimposition line	20H, 21H, 333H, 334H	16H, 279H	21H, 284H (XDS is added)
Number of pictures	21 pages each	9 pages	—
PDC	4 patterns	—	—
VPS	4 patterns	—	—

● Standard video signals

Signal select	Aspect ratio	Types of signals	W/B	COMBI	Remarks
CIRCLE	4:3/16:9	1	A	N/A	All patterns can be superimposed.
MARKER	4:3/16:9	1	A	N/A	All patterns can be superimposed.
DOT	4:3/16:9	1	A	N/A	All patterns can be superimposed.
CROSS	4:3/16:9	1	A	N/A	All patterns can be superimposed.
COLORBAR	4:3	8	N/A	A	
CHECKER	4:3/16:9	4	N/A	A	
RESOLUTION	4:3	4	N/A	A	
WHITE	4:3	12	N/A	A	
PURITY	4:3	9	N/A	A	
STAIR	4:3	12	N/A	A	
RAMP	4:3	2	N/A	A	
CROSS	4:3/16:9	10	N/A	A	
PATTERN	4:3	15	N/A	N/A	
HLINE	4:3	6	N/A	N/A	
WINDOW	4:3	16	N/A	N/A	
MONOSCOPE	4:3/16:9	2	N/A	N/A	
COMBINATION	4:3/16:9	1	N/A	N/A	

W/B : White/Black inversion

COMBI : Signal where COMBINATION pattern is possible

A : Available

N/A : Not available

● Option

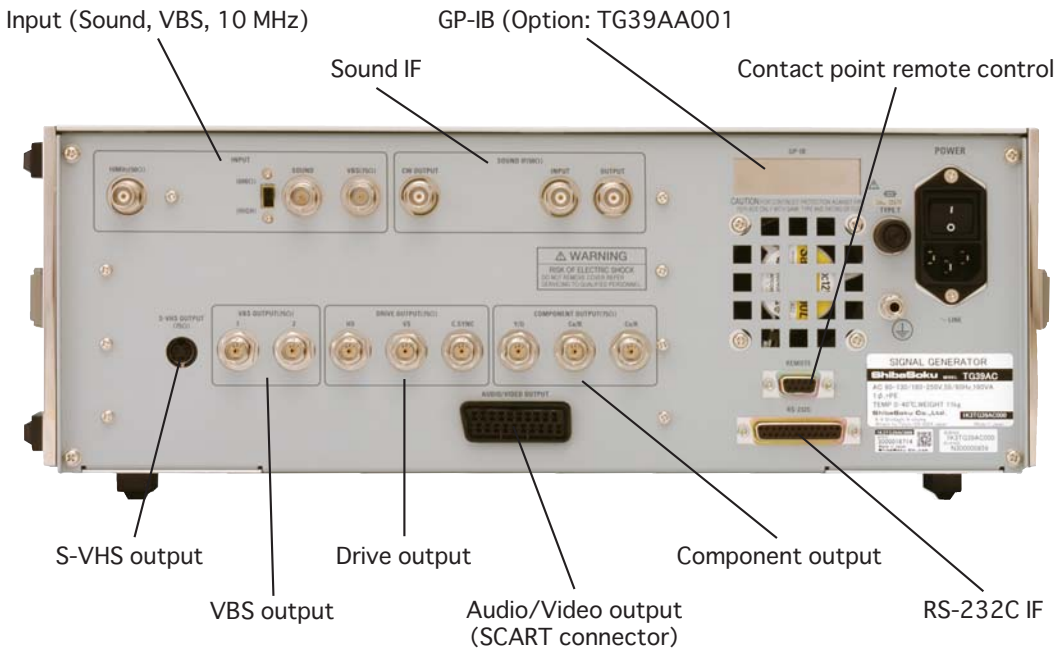
Model name	Items or Content
TG39AA001	GP-IB unit
TG39AA010	Special pattern (composite color pattern)
TG39AA011	Natural picture (Dining table)
TG39AA012	Natural picture (Stationery)
TG39AA013	Natural picture (Toys)
TG39AA014	Natural picture (Presidential residence)
TG39AA015	Natural picture (Lobster and fruits)
TG39AA016	Natural picture (Chestnuts)
TG39AA017	Natural picture (New year' s gift)
TG39AA018	CZP (525 systems: 4.2 MHz max/625 systems: 4.8 MHz max)
TG39AA019	VSWEEP (525 systems: 4.2 MHz max/625 systems: 4.8 MHz max)
TG39AA020	Natural picture (Skin color chart)
TG39AA021	RETMA pattern
TG39AA022	Multi pattern (composite color pattern)

[NOTE] Factory installation required.

Specifications

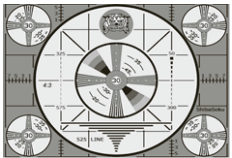
● General specifications

Memory backup time	longer than 1,000 hours
Operating temperature range	0 to 40 degrees C
Relative humidity	25% to 90% RH (no dew condensation)
Power supply	AC 90 to 130/180 to 250 V, 50/60 Hz
Power consumption	
TG39AV	Max. 100 VA
TG39AA	Max. 160 VA
TG39AB	Max. 180 VA
TG39AC	Max. 180 VA
Dimensions	426(W)×149(H)×360(D) mm
Weight	
TG39AV	Approx. 10 kg
TG39AA	Approx. 11 kg
TG39AB	Approx. 11 kg
TG39AC	Approx. 11 kg
Accessories	
AC power cable	1
3P-2P conversion connector	1
Instruction manual	1

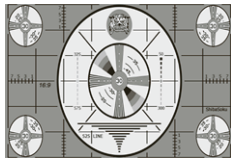


Specifications

● Examples of video signals



Monoscope Pattern 4:3



Monoscope Pattern 16:9



Circle 4:3



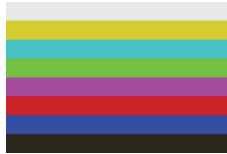
Circle 16:9



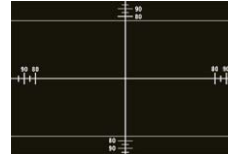
Full Colorbar



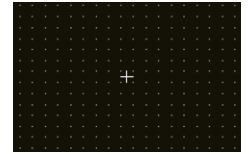
8 Colorbar



Horizontal Colorbar



Marker



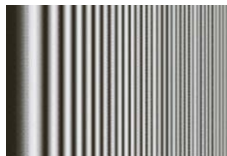
Dot



Checker2



Multi Burst



Hsweep



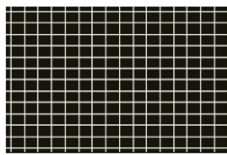
3Line Zebra



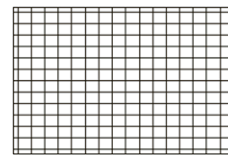
Stair5



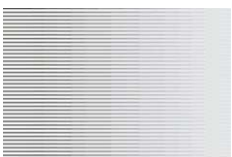
Vstair10



Cross Hatch



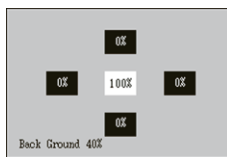
Cross Hatch BK



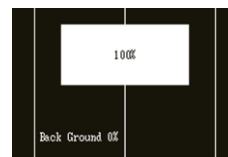
Apl



Pluge



Window Pattern



Line&Window



Line Window



Special Pattern
TG39AA010



Dining Table
TG39AA011



Stationery
TG39AA012



Toys
TG39AA013



Presidential Residence
TG39AA014



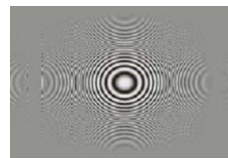
Lobster and Fruits
TG39AA015



Chestnuts
TG39AA016



New Year's Gift
TG39AA017



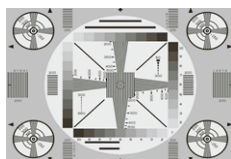
CZP
TG39AA018



Vsweep
TG39AA019



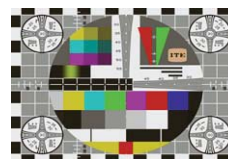
Skin Color Chart



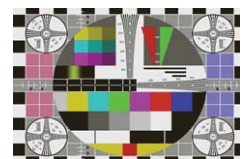
Retma Pattern (NTSC)
TG39AA021



Retma Pattern (PAL)
TG39AA021



Multi Pattern (NTSC)
TG39AA022



Multi Pattern (PAL)
TG39AA022