

SATELLITE TV SIGNAL TRANSMITTER

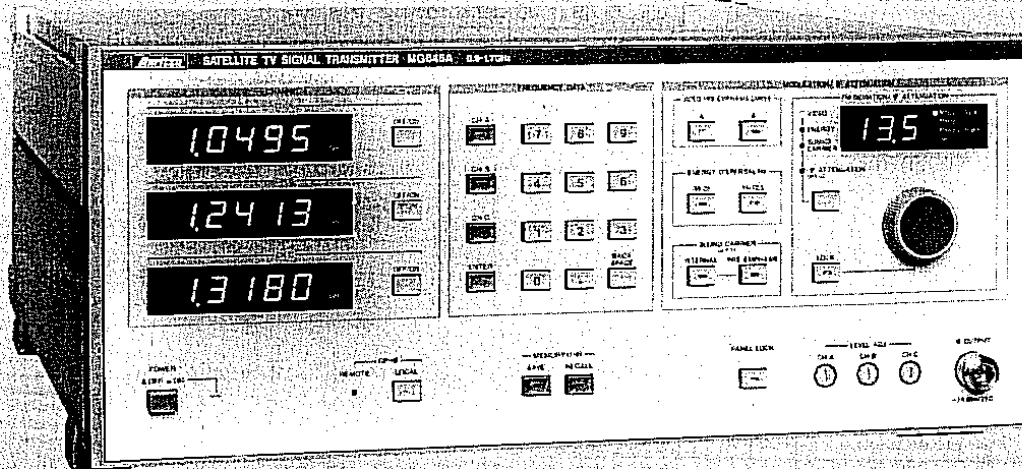
MG646 Series

0.9 to 1.75 GHz

With compliments

Helmut Singer Elektronik

www.helmut-singer.de info@helmut-singer.de
 fon +49 241 155 315 fax +49 241 152 066
 Feldchen 16-24 D-52070 Aachen Germany



«GP-18»

The MG646 series is an IF-band FM-TV signal generator designed and engineered especially for 12 GHz band DBS TV receivers in accordance with 1979 WARC*¹ and 1983 RARC*²

*¹: World Administrative Radio Conference

*²: Regional Administrative Radio Conference

Features

- Arbitrary setting of FM deviation due to video signals, energy dispersal and sound subcarriers
- Internal emphasis
- Internal attenuation from 0 to 70 dB in 1 dB steps (common to each 3 channel, MG646A/A1/F/F1, Option 02)

- The memory can store up to 9 front panel settings that may be saved or recalled as required.

Main applications

- Testing DBS tuners
- Testing UHF (FM) transmission equipment for community DBS TV receiving system
- Testing tuners with TVRO blocking-down system
- Testing DBS converters in conjunction with an up converter.
- Testing 2.5, 4 and 11 GHz TVRO receivers in conjunction with an up converter.

Specifications

Number of output channels	3 channels for MG646A/A1/F/F1 (Capable of simultaneous output) 1 channel for MG646C/C1/G/G1	
Output frequency	Setting range	0.9 to 1.7 GHz (MG646A/C/F/G), 0.9 to 1.75 GHz (MG646A1/C1/F1/G1)
	Setting resolution	100 kHz
Output level	-20 dBm/CH	
Output spurious	≧ -55 dBc (0.9 to 1.7 GHz), ≧ -30 dBc (outside 0.9 to 1.7 GHz)	
Differential gain (DG)	≧ 2% per ±13.5 MHz (fm: 4.43 MHz, frequency deviation: 500 kHz rms)	
Differential phase (DP)	≧ 2° per ±13.5 MHz (fm: 4.43 MHz, frequency deviation: 500 kHz rms)	
Waveform distortion	Field time	Sag: ≧ 2%
	Line time	Bar tilt: ≧ 2%
Video signal S/N ratio	≧ 60 dB	
FM frequency deviation	Video	1.0 to 25.0 MHz p-p (input level: 1 Vp-p/75 Ω)
	Energy dispersal	0.5 to 3.0 MHz
	Sound subcarrier	1.0 to 8.0 MHz p-p (input level 0 dBm/75 Ω)
	Display accuracy	≧ ±(5% on display value + 200 kHz)
Video	Frequency characteristics	≧ ±0.5 dB (50 Hz to 8 MHz), ≧ +0.5/-1.5 dB (8 to 10 MHz)
	Pre-emphasis	MG646A/A1/C/C1: Conform to CCIR Rec. 405-1 Curve A (525 lines), Curve B (625 lines), and OFF MG646F/F1/G/G1: D2-MAC, 625 lines and OFF
	Modulation polarity	Positive (negative with MH369A Video Signal Polarity Switcher)
Energy dispersal	30/25 Hz, 15/12.5 Hz synchronized with vertical sync signal, and OFF	

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VIDEO & DBS MEASURING INSTRUMENTS

Voice FM modulation (Option 01)	Subcarrier	Designated one frequency (within 4.5 to 8.5 MHz)
	Subcarrier frequency accuracy	$\leq \pm 2$ kHz
	Subcarrier deviation	150 kHz p-p (input level: 0 dBm/600 Ω)
	Subcarrier deviation accuracy	$\leq \pm 5\%$
	Pre-emphasis	50 or 75 μ s and OFF
	Frequency deviation due to subcarrier	1.0 to 8.0 MHz p-p
Output attenuator (Option 02)	Attenuation	0 to 70 dB (1 dB steps, common channels)
	Accuracy	$\leq \pm 0.4$ dB (1 to 4 dB), $\leq \pm 0.7$ dB (5 to 10 dB), $\leq \pm 0.9$ dB (11 to 30 dB), $\leq \pm 1.2$ dB (31 to 70 dB)
Input connector	Video input: BNC-type, Voice subcarrier input: BNC-type, Voice input (Option 01): XLR-type	
Output impedance	50 Ω (connector: N-type)	
Function setting memory	Stores up to 9 front panel settings which can be called as required.	
External control	GP-IB (IEEE488, IEC625-1, 24 pins) All functions except power switch and level calibration knob are controllable.	
Power	AC 100 V $\pm 10\%$, 50/60 Hz	
Dimensions and weight	177H x 426W x 451D mm, <25 kg	

Specify the following when ordering

• Model number

Model	Frequency range	Video pre-emphasis	Number of output channels
MG646A	0.9 to 1.7 GHz	For 525 and 625 lines	3 (simultaneous output)
MG646C			1
MG646F		For D2-MAC and 625 lines	3 (simultaneous output)
MG646G			1
MG646A1	0.9 to 1.75 GHz	For 525 and 625 lines	3 (simultaneous output)
MG646C1			1
MG646F1		For D2-MAC and 625 lines	3 (simultaneous output)
MG646G1			1

• Selection of optional functions

Option No.	Function
01	Designates one frequency from 4.5 to 8.0 MHz in FM subcarrier frequency for voice, and pre-emphasis (50 or 75 μ s) for each channel
02	Output attenuator (0 to 70 dB in 1 dB steps, common 3 channels)

Ordering information

Please specify model/order number, name and quantity when ordering.

Model/Order No.	Name	Remarks
MG646A MG646C MG646F MG646G MG646A1 MG646C1 MG646F1 MG646G1	Main frame Satellite TV Signal Transmitter	
J0134 F0023 W008BAE W008BBE W0090AE W0090BE	Standard accessories Power Cord, 2.5 m: 1 pc Fuse, 3.15 A: 2 pcs MG646A/C Operation Manual: 1 copy MG646A/C Service Manual: 1 copy MG646A1/C1 Operation Manual: 1 copy MG646A1/C1 Service Manual: 1 copy MG646F/G Operation Manual: 1 copy MG646F1/G1 Operation Manual: 1 copy	MF51NN250V3.15AAC05
MG646A/A1/F/F1-01 MG646C/C1/G/G1-01 MG646-02	Options Subcarrier for Sound FM Subcarrier for Sound FM Output Attenuator	3 channels 1 channel 0 to 70 dB (1 dB step)
MH369A	Application equipment Video Signal Polarity Switcher	
J0110 J0239 J0038 J0237 G0023 J0238	Application units Coaxial Cord, 1 m Coaxial Directional Coupler Coaxial Adaptor 50 Ω \rightarrow 75 Ω Impedance Transformer DC Block 75 Ω Terminator	50 Ω , N-P-3D-2W-N-P 1 to 4 GHz, coupling 10 dB N-P-N-P N-P-F-J F-P-F-J BNC-J-BNC-P