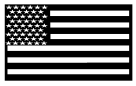
The SG-8

SG-8 Loss of Signal Audio/Video ID Inserter

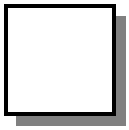
Manual Version 2.0

BURST
burstelectronics.com

BURST ELECTRONICS INC
CORRALES, NM 87048 USA
(505) 898-1455 VOICE
(505) 898-0159 FAX
www.burstelectronics.com



Made in USA



SG-8 Loss of Signal (LOS) Audio/Video (A/V) ID Inserter

Introduction

Congratulations on your purchase of the Burst Electronics model SG-8 LOS A/V ID Inserter. The SG-8 is an option to the SG-3 Color Bar/Black Burst Generator. This product includes the addition of a Loss of Signal detector/switch and a 1 kHz tone generator. Also included are three Black Burst outputs.

Operation

Program video and audio (balanced mono or unbalanced stereo) is routed through the SG-8. With program video present at the input to the SG-8, the video and audio outputs of the SG-8 are the program input signals. Upon loss of the video portion of the program input, the SG-8 automatically switches to the internal SMPTE Color Bars and 1 kHz tone.

The program audio does not need to be routed through the SG-8. Route the audio through if, upon loss of video, you wish to have a 1 kHz tone appear on the program line.

The 1 kHz tone generator has the option of either

constant on, or an alternating 5 second on, 5 second off. Factory default is constant on. Cut jumper SW1 on the output connector board to have a 5 second duty cycle on/off.

There are also three Black Burst outputs. These are present at all times and are genlocked to the internal Color Bar generator.

An ID (example “WPBS #2”) can be programmed into the SMPTE Color Bar pattern. Consult Burst Electronics for details.

Loss of Video

The video detection process utilizes a sophisticated sync separator circuit and a micro controller IC to analyze the “A” input. The composite sync tip amplitude, vertical sync, horizontal sync, and frame pulse are all analyzed by the micro controller to determine the quality of the incoming video on the “A” input.

Setting the DIP Switch

The DIP Switch sets the video accept/reject criteria. To set the switch, first remove the SG-8’s front panel and top cover. There is a four position DIP switch on the board that is suspended upside down above the main board. The switch is factory preset to (from left to right) Closed, Open, Open, Open or Up, Down, Down, Down. The sync

amplitude is set to a trigger point of –20 IRE or –6 dB. This, most strict setting, will only pass program video with near RS-170A quality. If you would like to accept less than perfect video, such as a VCR in Pause mode or Non-interlaced video, then follow the table listed below titled DIP Switch Function.

The composite sync tip trigger threshold may be adjusted from the factory preset of –20 IRE (-6 dB). To facilitate this adjustment, you will need a small non-conductive screwdriver, a stable source of video, a waveform monitor, and an attenuator. Remove the printed circuit board from it's case. Input your stable source of video into the attenuator and from the attenuator to the video input of the SG-8. Run the video output of the SG-8 to your waveform monitor and terminate the monitor's loop-out. Apply power to the SG-8. Change DIP switch SW1-#1 to Closed. Use the attenuator to reduce the amplitude of the incoming video signal to the your desired trigger level. Adjust R5 fully clockwise. Flip DIP switch SW1-#1 to Open. Now, adjust R5 Counter Clockwise until the SG-8 switches to it's internal SMPTE Bar generator (you will hear a relay click). Remove -1 dB of attenuation, this should be detected by the SG-8 as good video and switch back to your stable video source. If it doesn't, slowly adjust R5 clockwise until your stable video source triggers the SG-8. Confirm that the difference of 1 dB is enough to trigger the SG-8. Replace the SG-8 main/piggy back board

into it’s case.

When any of the first three switches are Open, the micro controller will test the associated input pins for valid signals. When a switch is closed, the test for that signal will be skipped. All enabled tests must pass consecutively before input “A” is considered good.

If SW1-#1 is Open, the sync tip level test is enabled. This test detects the presence of sync tip. The trigger point for this test can be modified by the adjustment of R5. Burst Electronics sets this trigger point for –20 IRE (-6 dB). If –20 IRE or less is obtained, this test will cause the SG-8 to switch to internal Color Bars.

If SW1-#2 is Open, the vertical sync test is enabled. This test will detect the presence of white noise (snow) and cause the SG-8 to switch.

If SW1-#3 is Open, the frame test is enabled. Progressive scan video signals (VCR Blue Screen) and VCR search/scan and pause modes will be detected as bad video and cause the SG-8 to switch.

Detection time will increase in relation with how many signal tests are enabled. Detect time will substantially increase if SW1-#4 is Open. This switch will resample the video several times, the delay is approximately 4 seconds.

DIP Switch Function

SW1-#1 Open	Enabled Sync Amplitude Test (Low Amplitude Detect)
SW1-#2 Open	Enabled Vertical Interval Sync Test (White Noise Detect)
SW1-#3 Open	Enabled Frame Signal Test (Progressive Scan Detect)
SW1-#4 Open	Resample Video Tests (Gives 4 second delay before switching)

Options: ID, Rack Mount

Specifications

Output:	1 volt standard NTSC
Output Impedance:	75 Ohms 1%
Sync Tip:	-40 IRE
Color Burst:	±20 IRE (3.579545 MHz)
Setup:	7.5 IRE
Tone Output:	1 volt, 1 kHz, 0 dBm, 1% THD (Mono)
Video Connectors:	BNC
Audio Connectors:	4 Pin MiniDIN
Output Protection:	Open or Short, infinite duration

SMPTE Bars:
Fully Saturated 75% Bars (gray, yellow, cyan,

	green, magenta, red, blue)
Reverse Blue Bars	(blue, black, magenta, black cyan, black, gray)
100 IRE White Bar -I and +Q signals	
Pluge pulse signal:	Whiter than Black at 11.5 IRE, Black at 7.5 IRE, Blacker than Black at 3.5 IRE
Black Burst:	Sync, Color Burst and 7.5 IRE Setup
Wall Module: (included)	120 Vac 60 Hz, 12 Vdc 500 mA, UL Listed
DC Powered:	11—18 Vdc
Warranty:	1 Year Parts and Labor