The SG-3 and SG-7

Color Bar & Black Burst Generator
(SMPTE Bars & Black Burst)

With ID Option

Manual Version 2.12

BURST ELECTRONICS INC

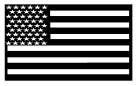
ALBUQUERQUE, NM 87109 USA

(505) 898-1455 VOICE

(505) 890-8926 Tech Support

(505) 898-0159 FAX

www.burstelectronics.com



Made in USA

Color Bar & Black Burst Generator (SMPTE Bars & Black Burst)

Introduction

Congratulations on your purchase of the Burst Electronics Model SG-3 or SG-7 Color Bar/Black Burst Generator. The SG-3 is a low cost Color Bar/ Black Burst Generator that produces the SMPTE Color Bar pattern or Black Burst signal. A front panel switch is installed to allow you to select either pattern. The SG-7 is a low cost Color Bar/Black Burst Generator that produces the SMPTE Color Bar pattern and six (6) outputs of Black Burst. These units may be used as a genlock reference, to "lay down" bars on tape, or to correctly set the color and brightness of video monitors. They may also be used as a video source for testing cables and equipment. The rear panel of the SG-3 has a single BNC connector that is selectable between SMPTE Color Bars and Black Burst. The rear panel of the SG-7 has seven (7) BNC connectors, 1 SMPTE Color Bars, and six (6) Composite Black Bursts.

Both units operate on 12 volts DC from an AC adapter (included). The output is a standard NTSC video signal (1 Vpp @ 75 Ohms). The SMPTE Color Bar output signal includes 75% color bars, reverse Blue bars, 100% White, Black, -I & +Q signals, and the pluge (pronounced "plooj") pulse signal.

Monitor Adjustment

To adjust a monitor using either the SG-3 or SG-7

SMPTE Color Bars, connect the Bars output to your monitor. If your monitor has a BLUE ONLY switch, set this switch to the BLUE ONLY position. If your monitor does not have a BLUE ONLY switch, you can still make the adjustments by looking at the monitor through a blue filter. Two suitable filters are: Kodak Wratten Blue 47B Gelatin filter and the Congo Blue #181 filter from Lee Colortran Inc. (phone#: 201-256-7666 or 818-843-1200). Looking at your monitor, you will see alternating blue bars in the positions of the 75% bars (upper) and the reverse blue bars (lower). Adjust the color intensity (saturation) so that the outer left and outer right bars are the same brightness as the corresponding bars just below them.

Chroma phase (tint or hue) is adjusted by matching the brightness of the two center bars with the bars just below, while rotating the tint control.

Return the BLUE ONLY switch to its normal position (if you are using the blue filter it will no longer be needed). Turn up the monitor brightness control. In the lower right corner you will notice three gray bars (the pluge pulse signal). These bars from left to right are called BLACKER THAN BLACK (Black –4), BLACK (Black), and WHITER THAN BLACK (Black +4). To set brightness, adjust the brightness control so that the WHITER THAN BLACK bar is visible and that the BLACK bar and the BLACKER THAN BLACK bar are not visible.

Note that the monitor should be viewed, and the brightness adjusted, with the room lights somewhat dimmed so that the colors won't seem washed out. The monitor might seem dimmer than you may be used to, however, the colors will be more accurate at

this brightness level.

The above is based on the SMPTE recommendation for adjusting color monitors with SMPTE color bars. More detail may be found in SMPTE recommendation ECR 1-1978.

Bars on Tape

The purpose for recording bars on tape is to provide a standard color signal that has the same color and brightness levels as the rest of the recording (your equipment must be properly calibrated). This way, if color or brightness needs correction on playback, you will have a stable signal (color bars) to work with. This may also be used as a confirmation that your VTR is working correctly. In addition, putting bars at the beginning of the tape gives it a more professional look.

As a Genlock Source

The SG-7 may be used as a genlock source to feed as many as 6 separate pieces of equipment. Each of the six black burst outputs is able to drive a 75 Ohm input. All outputs are synchronous. These outputs may be used to genlock VCR's, Edit Controllers, SEG's, Switchers, etc. Take care with cable lengths to assure correct timing to all equipment.

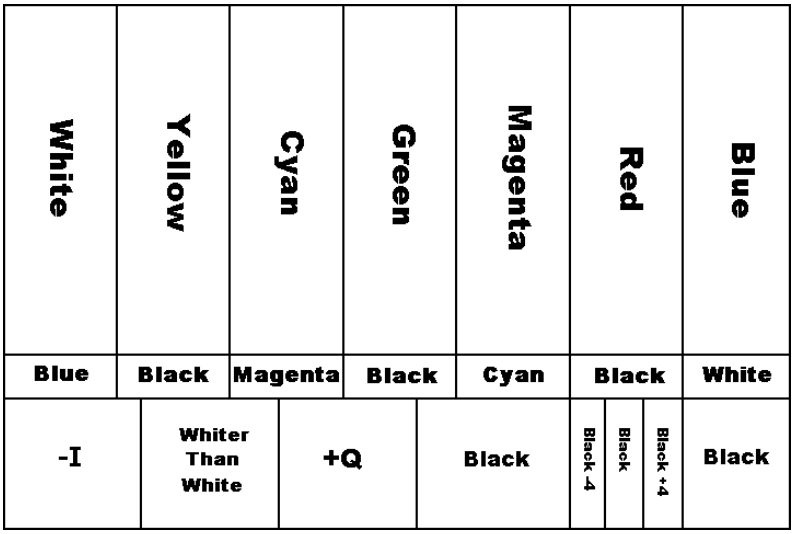
ID Option

Both the SG-3 and SG-7 may be factory programmed with an ID. An example would be

“WABC” or “REMOTE TRUCK 2”, or even a full color picture. The normal location of this ID would be in the upper center of the screen, although the ID can be located almost anywhere.

The ID can be written either as a small box of text (or picture) or as a full screen of text (or picture). These IDs are stored within a non-volatile RAM that can only be accessed by the factory. If you plan on changing the ID at a later date, you will need to send the unit in for reprogramming. The BG3 and BG7 generators have the added feature of field programmable IDs, as well as, 10 selectable test patterns.

SMPTE Color Bars



Specifications:

Input: 120Vac via wall module (12 Vdc 280mA)

Output: NTSC video, 1 Vpp into 75 Ohm, may be open or shorted indefinitely without harm

Video Signal: SMPTE Color Bars / Black Burst, consisting of the following;

Color Bars:

Sync at –40 IRE
Burst at +/- 20 IRE
Setup at 7.5 IRE
Fully saturated 75% bars (white, yellow, cyan, green, magenta, red, blue)
Reverse blue bars (blue, black, magenta black, cyan, black, white)
100 IRE whiter than white
-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:

Black at 7.5 IRE

NOTES