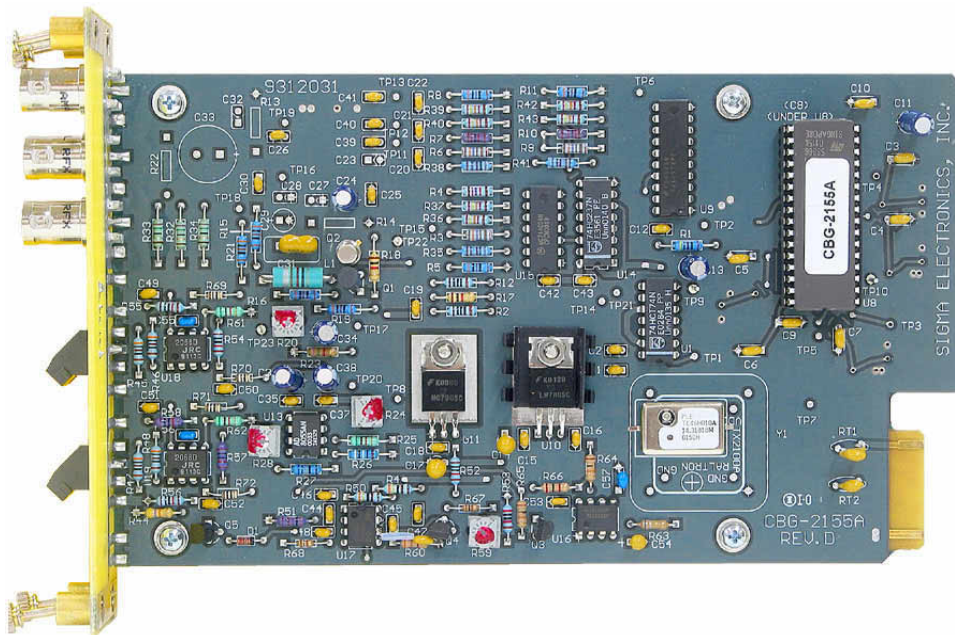


CBG-2155A2

COLOR BAR, TONE, & ID GENERATOR INSTRUCTION MANUAL



SIGMA ELECTRONICS, INC.
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CBG-2155A2 COLOR BAR, TONE, and ID GENERATOR

GENERAL:

The CBG-2155A2 provides three (3) identical outputs of EIA Split-field Color Bars with Reverse Bars, Pluge Signal, and 100% White Signal for system and monitor setup. A stereo audio tone generator is also provided by the CBG-2155A2. The module is compatible with either balanced or unbalanced audio signal configuration. A twelve (12) character ID is available. The character generator must be programmed by Sigma Electronics at the time of the order. If the character generator ID needs to be changed or added after the module is delivered, Sigma Electronics will perform this task at a small setup charge upon the return of the module.

This module must be installed in a Sigma Frame for proper operation. Power is provided by the power supply within the frame. A Sigma frame is designed to accommodate any 2100 Series module. This allows the CBG-2155A2 to be resident with any other Sigma 2100 Series module in a common frame.

POWER:

The CBG-2155A2 operates from bus voltages of unregulated +20Vdc and -20Vdc. These voltages are supplied by the Sigma frame/ power supply. The module regulates the bus voltage to +5Vdc and -5Vdc. Circuit protection is provided by PTC Thermistors (Positive Temperature Coefficient Thermal Resistor) which serve as a permanent self resetting fuse. In the event of excessive current draw on either of the two bus lines the PTC on the line will open. Upon correction of the fault, the PTC Thermistor will cool to an operational temperature and reset.

FRAMES:

The CBG-2155A2 module can reside in any of four different frames provided by Sigma Electronics, Inc. If this module is purchased as a component of a system, please refer to the SERIES 2100 FRAMES Instruction Manual. If the module was purchased separately, an existing frame must be present for proper operation. Sigma would like to emphasize the fact that any of the Series 2100 modules can be installed with any other Series 2100 module within any of the 2100 Series frames.

The SS-2100-2 frame is also designed for desk-top applications. This frame provides two (2) card slots which allow installation of a single CBG-2155A2. An optional tray (RMT-2100-2A) is available for rack installation.

The SS-2100-6 frame is designed for 19 inch EIA rack installations. It provides six (6) card slots for modules in 1 rack unit of space. Due to the card slot configuration modules may not exceed two card slots per module.

The SS-2100-12 frame provides a redundant power supply in a 3 RU frame for 19 inch EIA rack applications. This frame has twelve (12) card slot positions for modules.

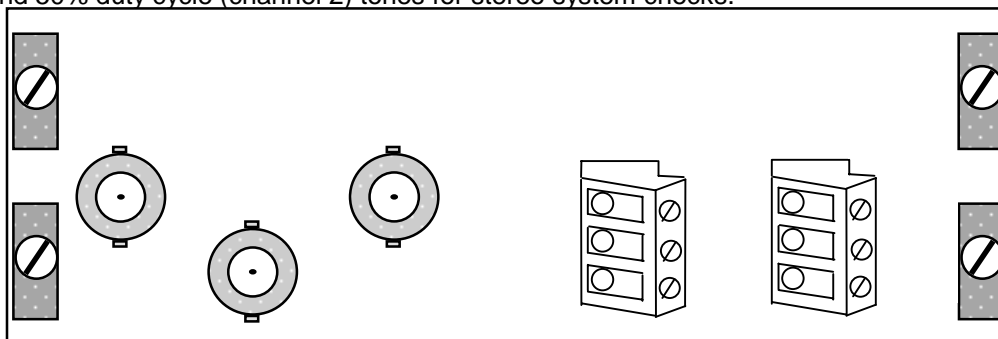
The SS-2100-16 and SS-2100-16 Plus frames are also available for installations in a 19 inch EIA rack. These frames provide sixteen (16) or seventeen (17) card slots respectively. Both frames are 3 RU high.

Additional information on the various frames is available. Please refer to the manual section on frames. If this information is not provided with this shipment, contact Sigma Electronics for assistance.

CONNECTIONS:

Wiring to the module is performed via the connectors located on the rear panel. BNC connectors are used for the video outputs. 3 Pin screw terminal connectors are provided for the audio. (Figure 1)

OUTPUT: There are three (3) video outputs on the rear panel of the unit. Each output is designed to drive a 75Ω load. The outputs are common in signal content. The audio screw terminals provide both continuous (channel 1) and 50% duty cycle (channel 2) tones for stereo system checks.



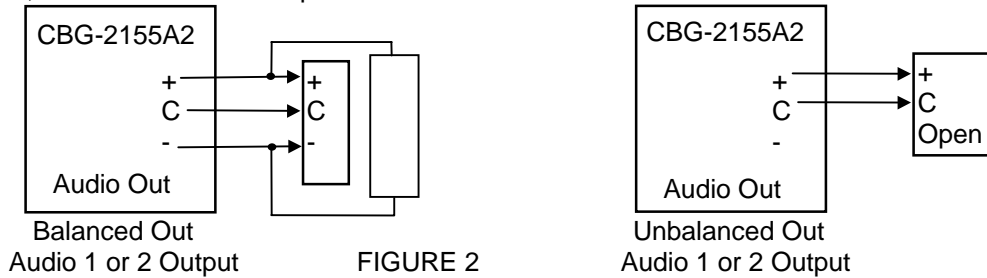
REAR PANEL CONNECTIONS

Figure 1

CBG-2155A2 COLOR BAR, TONE, and ID GENERATOR

AUDIO CONFIGURATIONS:

The audio outputs provide a 1 kHz Tone. The connector labeled AUDIO 1 provides a continuous 1 kHz tone. The connector labeled AUDIO 2 provides a 1 kHz tone at a 50% duty cycle operating at one (1) cycle per second. Equipment receiving the audio signal must be evaluated to determine if it is Balanced or Unbalanced. After determination is made, refer to the drawings provided in Figure 2 to select the proper audio configuration. Audio output impedance is 600Ω, ideally suited for a Balanced configuration. The output level is factory set for a Balanced configuration, this assumes both outputs are terminated into a 600Ω load.



ADJUSTMENTS:

YC balance, DC offset, Video gain, and Audio level are all set for optimum performance by Sigma Electronics. If necessary, these parameters may be readjusted via the controls listed below.

R20:YC Balance. Luminance signal to Chroma signal balance.

R24:DC Offset adjustment.

R28:Video Gain. Factory adjusted for 1 Vp-p-P output

R59:Audio level. Optimized by factory setup for Balanced configuration.

SPECIFICATIONS:

VIDEO:

OUTPUT: (3) EIA Split field Color Bars with Reverse Bars, Pluge Signal and 100% White Signal

VECTOR ACCURACY: Within $\pm 2.5^\circ$ and ± 2.5 IRE, Small Boxes of Vectorscope.

TIMING: per RS-170A

RESIDUAL SUBCARRIER: < 1 IRE p-p

OVERSHOOT: < 2 IRE

TILT: < 1 IRE line or field

AUDIO:

OUTPUTS: 1 Stereo Tone, Balanced

FREQUENCY: 1 kHz $\pm 10\%$, 1 channel continuous, 1 channel pulsed 50% duty cycle, 1 sec. pulse rate

LEVEL: 0 dBm (600Ω), ± 0.5 dB

IMPEDANCE: 600Ω

GENERAL:

OPERATIONAL TEMPERATURE: 0° to 50° C (+32° to +122° F)

MECHANICAL: 2 card slots, requires two adjacent card slots in a Sigma 2100 frame.

CONNECTORS: Video; BNC, 3 each
Audio, 3 Pin Screw Terminal, 2 each

TECHNICAL MANUAL:

A manual including schematics and parts list is available upon request. This information is intended for the service of the module. Modules should be serviced by Qualified Personnel only. Sigma Electronics, Inc. recommends service to be performed by our Factory Service Center.

All specifications, drawings, dimensions, weights and other details are subject to change without notification. Information is intended to give a general performance and operation guideline of the product.

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