

**CBG-2655A**

COLOR BAR, TONE, & ID GENERATOR  
SERVICE MANUAL



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## GENERAL:

The CBG-2655A 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-2655A. 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 for a small setup charge upon the return of the module.

The CBG-2655A consists of a CBG-2155A module and the Sigma Stand-Alone Box, SSB-21. For proper operation this module should not be mounted into any other 2100 Series frame. Installation of this module into any other power supply/frame manufactured by Sigma or any other manufacturer may void the warranty.

## POWER:

The CBG-2655A operates from bus voltages of unregulated +20Vdc and -20Vdc. These voltages are supplied by the Sigma Stand-Alone Box SSB-21 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 thermistor on that line will open. Upon correction of the fault, the PTC thermistor will cool to an operational temperature and reset.

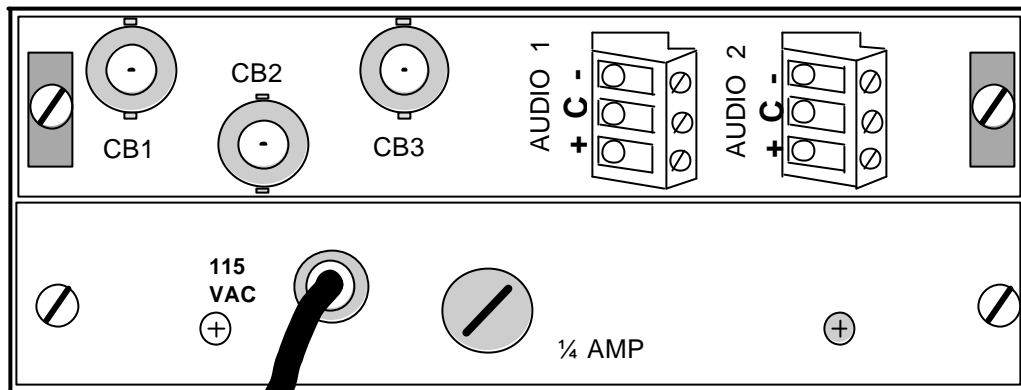
## FRAME:

The CBG-2655A module must reside in the Sigma Stand-Alone Box, SSB-21. This is a desk top box. Rack mounting is achieved with the optional RMK-26 rack mount kit. This will hold up to three stand-alone Boxes in 1 RU (1.75") without the need for blank panels when mounting only one or two boxes.

## CONNECTIONS:

Wiring to the module is performed via the connectors located on the rear panel. BNC connectors are used for the video outputs. Three-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 75 $\Omega$  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

## 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 this determination has been made, refer to the drawings provided in Figure 2 to select the proper audio configuration. Audio output impedance is 600 $\Omega$ , ideally suited for a balanced configuration. The output level is factory set for a balanced configuration, this assumes both outputs are terminated into a 600 $\Omega$  load.

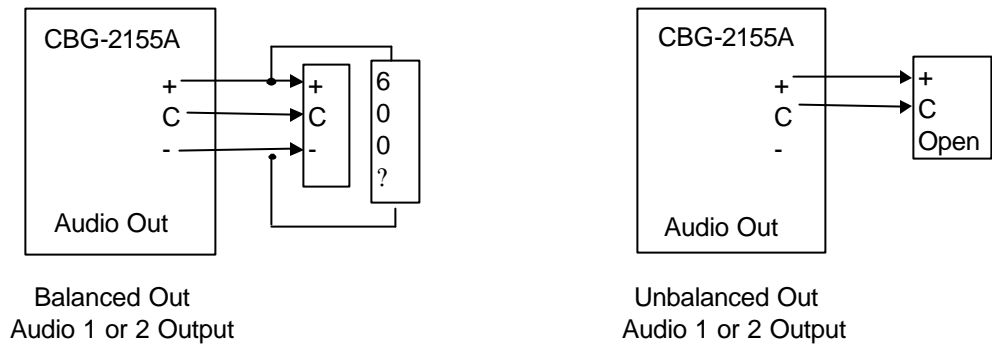


FIGURE 2

## 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 $\pm 2.5\%$ and $\pm 2.5$ IRE, (Small Boxes on vectorscope graticule).
TIMING: .....	per RS-170A
RESIDUAL SUBCARRIER: .....	< 1 IRE p-p
OVERSHOOT: .....	< 2 IRE
TILT: .....	< 1 IRE line or field
CONNECTORS: .....	3, BNC

### 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 (600 $\Omega$ ), $\pm 0.5$ dB
IMPEDANCE: .....	600 $\Omega$
CONNECTORS: .....	2 each, three-pin screw terminal

## **SPECIFICATIONS (cont.)**

### **POWER:**

Power Consumption:

### **ENVIRONMENTAL**

Operational Temperature Range:

### **MECHANICAL**

Size:

Weight:

## **TECHNICAL MANUAL:**

A manual including schematics, circuit description, parts list and setup guide 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.

## **NOTES:**

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

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