

# Model 8656 SSB/SEB PAL B/G Scrambler



21914

## DESCRIPTION

The Model 8656-SSB/SEB PAL-B/G Scrambler provides dynamic switched sync suppression, video inversion, and drop field scrambling, as well as data transmission for Scientific-Atlanta's PAL-B/G home terminals. The unit is compatible with all existing Scientific-Atlanta scrambling systems.

The Model 8656-SSB/SEB PAL-B/G Scrambler can be configured to operate in more than 30 scrambling modes. The scrambler receives data transactions from the Headend Controller and transmits the data to the home terminals. Home terminal control and descrambling information is transmitted in the form of amplitude-modulated pulses on the audio subcarrier of each scrambled channel. Data can be received at either 38,400 bps or 9600 bps utilizing RS-485 synchronous communication.

The data is encoded for increased security. Scrambler setup and operation is made easy by means of a front panel, programmable keyboard, and a 16 x 2 character display. The scrambler can be programmed to automatically change from sync suppression scrambling to video and/or sync inversion scrambling.

## FEATURES

- Secures premium video with more than 30 scrambling modes
- Compatible with all Scientific-Atlanta PAL-B/G addressable systems
- Remote setup via System Manager
- Front panel LCD screen improves control and diagnostics
- Supports messaging with 32 kb (SSB) and 128 kb (SEB) memory

# Model 8656 SSB/SEB PAL B/G Scrambler

## SPECIFICATIONS

### **Electrical**

#### **Baseband Video**

Input level

0.5 V p-p to 2 V p-p (1 V p-p nominal)  
(neg going sync)

Output level

1 V p-p  $\pm 10\%$

Input impedance

75  $\Omega$

Chrominance-to-luminance delay

35 ns, max

Group delay

80 ns p-p (max) up to 4.43 MHz

Differential gain

1.5%, max

Differential phase

2°

Frequency response

0.5 dB p-p max ripple up to 4.43 MHz,  
>26 dB attenuation at 5.3 MHz

Response slope

0.3 dB/MHz max up to 5.1 MHz

#### **Audio IF**

Input level

+34 dBmV  $\pm 6$  dB

Insertion loss

0 dB  $\pm 0.5$  dB (at 33.4 MHz)

Impedance

75  $\Omega$

Hum and noise

-60 dB

Data pulse

6 dB  $\pm 0.1$  dB

Buzz reduction level

5.8 dB

#### **Video IF**

Input level

+46 dBmV  $\pm 6$  dB

Insertion loss

0 dB  $\pm 1.0$  dB (at 38.9 MHz)

Video sync suppression

5.4 dB, 5.8 dB, and 6.0 dB  $\pm 0.1$  dB

Impedance

75  $\Omega$

Frequency response

$\pm 0.25$  dB

Differential gain

$\pm 0.25$  dB

Differential phase

0.5 degrees

Hum and noise

-60 dB

#### **Power Supply**

Input voltage

220 V AC  $\pm 20\%$ , 50 Hz to 60 Hz

Power consumption

85 W, max

#### **Audio Pulse Timing**

Audio pulse to sync delay

Variable in 70 ns steps

Timing pulse to data pulse delay

50  $\mu$ s  $\pm 1.0$   $\mu$ s

Timing pulse width

6  $\mu$ s  $\pm 0.1$   $\mu$ s

#### **Mechanical**

Size

Standard 483 mm, rack-adaptable chassis, 89 mm high

Fits the EIA standard 610-mm deep rack

Weight

4.5 kg

#### **Environmental**

Temperature

0°C to 50°C (32°F to 120°F)

Humidity

95% non-condensing

Note: All pulse widths and delay times use 50% point.

Specifications and product availability are subject to change without notice.



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