Subscriber Systems

Model 8656-XEU-AM Scrambler

21914

Scientific-Atlanta's Model 8656 -XEU-AM Scrambler provides dynamic switched sync suppression, video and sync inversion, and high-speed encrypted data transmission to the 8600^{X}™ Advanced Analog Home Communications Terminal (HCT) and Model 8600 Home Terminal (data transmission only) addressable systems. In addition, the Model 8656-XEU-AM Scrambler includes the SoundProtect audio masking capability.

DESCRIPTION

The Model 8656-XEU-AM Scrambler provides all of the features and functions of the Model 8656-XEU-AMC Scrambler plus it includes the SoundProtect audio masking feature. SoundProtect audio masking provides a method to scramble or fully block the audio programming on scrambled channels.

When a channel is scrambled by the 8656 XEU-AM and the SoundProtect audio masking feature is enabled, only authorized audio de-masking capable 8600^{X} HCT will allow the audio to be heard by the subscriber. When tuned to a SoundProtect audio masked channel, "cable-ready" TV's or non-audio de-masking capable HCTs will provide sound consisting of either a 400 Hz tone, generated internally by the Model 8656-XEU-AM Scrambler, or an audio barker provided to the rear terminals of the scrambler by the Network Operator. The audio barker can be promotional/advertising information or a local radio broadcast feed.

Only channels that need to have the audio signal masked need to use the Model 8656-XEU-AM Scrambler. Non-audio demasking HCTs may be used in cable networks which employ audio masking; however, these HCTs will not provide program audio on the audio masked channels.

FEATURES

- Includes SoundProtect™ audio masking capability
- Secures premium video and pay-per-view services with more than 50 scrambling modes
- Supports 8600^{X} HCT (VBI) and Model 8600 Home Terminals (Audio) type data transactions
- Supports 8600^{X} HCT and Model 8600 Home Terminals messaging,as well as interactive viewing guide and virtual channel data transmission with 512 kB memory.
- Video scrambling compatible with all new and existing Scientific-Atlanta addressable and non-addressable descrambling systems
- Remote control via System Manager
- Front panel setup and calibration

Model 8656-XEU-AM 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 ± 10%
Input impedance
75 Ω, unbalanced
Input return loss
30 dB (min) from 100 kHz to 4.5 MHz
Chrominance-to-luminance delay
70 ns (max)
Differential group delay
70 ns p-p (max) up to 3.7 MHz
Differential gain
1.5% (max)
Differential phase
2° (max)
Frequency response
0.5 dB p-p max. ripple from 100 kHz to 3.7 MHz,
>26 dB attenuation from 4.4 to 10 MHz
Response slope
0.3 dB/MHz max from 100 kHz to 3.7 MHz

Audio IF

Input level
+37 dBmV ± 6 dB
Insertion loss
0 ± 0.5 dB (at 41.25 MHz, ±73 kHz)
Impedance
75 Ω, unbalanced
Hum and noise
-60 dB
Data pulse height
4.0 to 7.0 dB, adjustable
Sync buzz reduction level
5.8 dB ± 0.2 dB
Harmonic distortion
< 0.2% THD
Spurious outputs
< -57 dB

Power Supply

Input voltage
115 V AC ± 20%, 50 to 60 Hz
Power consumption
50 W max
Supplies
5 V ± 0.5 V, ± 15 V ± 0.5 V
Ripple
5 V: 100 mV p-p max
± 15 V: 225 mV p-p max

Video IF

Input level
+46 dBmV ± 6 dB
Insertion loss
0.0 dB ± 1.0 (over 41.5 to 47.0 MHz range)
Video sync suppression
5.4, 5.8, or 6.0, ± 0.1 dB
Impedance
75 Ω, unbalanced
Input return loss
16 dB (min) from 33.0 to 47.0 MHz
Hum and noise
-60 dB
Frequency response
± 0.25 dB from 4.15 to 47.0 MHz
Differential gain
± 0.25 dB
Differential phase
0.5 degrees
Spurious and harmonic outputs
< -57 dBc

Vertical Blanking Interval

Data amplitude
68 ± 5 IRE
Data lines
Selectable; lines 9 through 262 may have data;
System Manager supports lines 11 through 22

Mechanical

Size
Housed in standard 19-inch (483 mm) rack-adaptable chassis, 3.5 in. (89 mm) high. Fits EIA-standard 24-inch (610 mm) deep rack.
Weight
Approximately 10 lbs (4.5 kg)

Environmental

Temperature
32°F to 120°F (0°C to 50°C)
Humidity
95%, non-condensing

Specifications and product availability subject to change without notice.

Scientific Atlanta

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