

Provides six black burst outputs



410BB NTSC SYNC GENERATOR

● GENERAL

The 410BB is an NTSC Sync Generator that provides sync generator signal for other video equipments.

● FEATURES

- Provides six black outputs
- Provides composite sync and subcarrier outputs
- Provides SMPTE color bars output
- Digital waveform generation provides highly accurate and stable signals.
- Supplies two 1 kHz outputs of audio tone
- The low-profile rackmount size easily fits into system configuration

● SPECIFICATIONS

Black Burst

- (1) System and other System NTSC-M, conforms to SMPTE 170M standards
- Number of Scanning Lines 525, interlaced
 - Field Frequency: 59.94 Hz
 - Line Frequency: 15.73426 kHz
 - Subcarrier Frequency: 3.579545 MHz ± 10 Hz
 - Output Impedance: 75 Ω
 - Number of Outputs: 6

(2) Sync Signal and Color Burst

Sync Signal

- Amplitude 286 ± 14.3 mV
- Blanking Level: 0 ± 20 mV
- Rise/Fall Times: 140 ± 20 ns
- Horizontal Sync Pulse Width: 4.7 $\mu\text{s} \pm 100$ ns
- Vertical Sync Pulse Width: 3H
- Equalizing Pulse Width: 2.3 $\mu\text{s} \pm 100$ ns
- Vertical Serration Pulse Width: 4.7 $\mu\text{s} \pm 100$ ns
- Vertical Blanking Period: 20H + 1.5 μs

Color Burst

- Amplitude 286 ± 14.3 mVp-p

- Number of Cycles 9
- Rise/Fall Times 300+200 ns, or 300-100 ns
- SCH Phase $\pm 10^\circ$

Composite Sync

- Amplitude 4 ± 0.2 V into 75 Ω
- Output Impedance 75 Ω
- Polarity Negative
- Timing ± 100 ns, compared with black burst
- Rise/Fall Times 140 ± 20 ns
- Number of Outputs 1

Subcarrier

- Amplitude 2 ± 0.2 Vp-p into 75 Ω
- Output Impedance 75 Ω
- Frequency 3.579545 MHz ± 10 Hz
- Phase $\pm 10^\circ$, compared with black burst
- Number of Outputs 1

SMPTE Color Bar

- Specifications Conforms to SMPTE EG1-1990 standards.
- Full Amplitude 1 Vp-p ± 20 mVp-p into 75 Ω
- Number of Outputs 2

Analog Audio Tone

- Frequency 1 kHz ± 100 Hz
- Output Waveform Sine Wave
- Output Amplitude 0 ± 0.5 dBm, or 4 ± 0.5 dBm, selectable by internal switching
- Output Impedance 600 Ω , balanced
- Output Connector XLR type (3-pin), cannon
- Number of Outputs 2

Others

- Power Requirements 100, 120, 220, 240 VAC, 50/60 Hz, 20 Wmax. selectable by internal wiring

- Dimensions and Weight 426 (W) $\times$ 44 (H) $\times$ 400 (D) mm
- 6 kg

Environmental Conditions

- Operating Temperature: 0 to 40 $^\circ\text{C}$
- Humidity: $\leq 85\%$ RH (without condensation)
- Temperature: -10 to 50 $^\circ\text{C}$

Storage

Accessories

- Rack support 1 set
- Power cord 1
- Instruction manual 1

■ 410BB REAR PANEL

