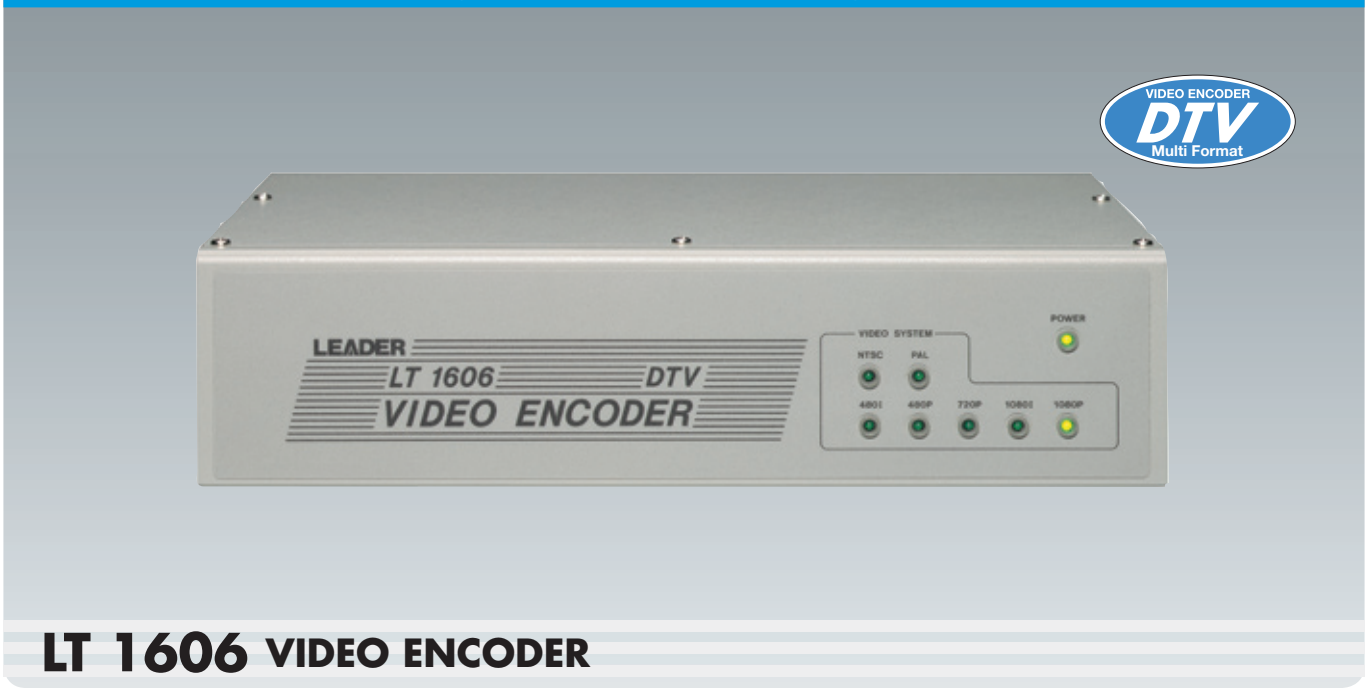
VIDEO VIDEO ENCODER

Converts Analog RGB Signal into Five formats for Digital TV Broadcasting System



LT 1606 VIDEO ENCODER

GENERAL

The LT 1606 extends the flexibility of programmable RGB generators, in terms of stock and custom patterns and raster parameters (within limits), into the testing of monitors and systems that operate in fully encoded NTSC, PAL and the new HDTV analog-component systems. NTSC and PAL outputs contain fully encoded subcarrier and burst and are available in full composite and separate Y/C using the standard 4-pin SVHS connector. Analog-component feeds Y,P_B,P_R as well as actively buffered RGB, are available at the same time, making the encoder an extremely useful tool for engineering, setup of HDTV projectors, service and QC applications.

FEATURES

- **Generates NTSC, PAL and HDTV Analog Components**
- **Operates from R, G, B, CS and Clock from RGB Generator**
  LT 1610A
- **NTSC, PAL or HDTV Set Up Automatically from Input Clock**
- **NTSC and PAL Outputs in Full Composite, Separate Y and C and Analog Components Y, P_B, P_R**
- **HDTV Includes 1080i, 1080p, 720p, 480i, 480p and Others**
- **HDTV Analog are 3-Wire Y, P_B, P_R with Tri-Level Sync**
- **Simultaneous Active RGB Outputs to Drive RGB Monitors**

- **LT 1606 Rear Panel**

SPECIFICATIONS LT 1606

Input Signals

Analog R, G, B

(Specifications are common to each signal)

Polarity: Positive

Amplitude

NTSC: 714 mV (pedestal level to 100 %)
(pedestal level: 0 mV)
*Input signal level required to obtain the Y output level of 714 mV (pedestal level to 100 % white)

PAL, 480i, 480p, 720p, 1080i, 1080p: 700 mV (pedestal level to 100 %)
(pedestal level: 0 mV)
*Input signal level required to obtain the Y output level of 700 mV (pedestal level to 100 % white)

Maximum Input Voltage: 1.5 Vp-p

Input Coupling: DC coupled

Impedance: 75 Ω

Sync Signal: Not required

Connector: BNC, 1 each

Composite Sync

Logic Polarity: Negative

Amplitude: C-MOS/ TTL level (H = ≥4 V, L = ≤1 V)

H Sync period

NTSC: 4.749 µs
PAL: 4.737 µs
480i: 4.667 µs
480p: 2.333 µs
720p: 0.539 µs
1080i: 0.593 µs
1080p: 0.297 µs

Connector: BNC, 1
*The sync should be positioned at the specified point on the blanking period of R, G, B signal.

Clock Signal

Frequency

NTSC: 14.318 MHz
PAL: 17.734 MHz
480i: 13.500 MHz
480p: 27.000 MHz
720p/ 1080i: 74.176 MHz Frame (Field) Frequency 59.94 Hz
74.250 MHz Frame (Field) Frequency 60 Hz
1080p: 148.352 MHz Frame Frequency 59.94 Hz
148.500 MHz Frame Frequency 60 Hz

Amplitude: ECL level (≥0.6 Vp-p)

Input Coupling: AC coupled

Impedance: 75 Ω

Connector: BNC, 1

Output Signals

Composite Signal, Y/C Signal

Video System: NTSC, PAL (automatic selection)
*In the PAL system, 25 Hz offsetting of the subcarrier is disabled.

Level: 1 Vp-p±50 mV (sync tip to 100 % white)

Sync Level

NTSC: 286 mV±15 mV
PAL: 300 mV±15 mV

Color Burst Level

NTSC: 286 mV±15 mV
PAL: 300 mV±15 mV

Phase Accuracy: ±3 °

Impedance: 75 Ω

Connector

Composite: BNC, 2
Y/C: S, 1

Y, P_B, P_R Output

Video System: NTSC, PAL, 480i, 480p, 720p, 1080i, 1080p (automatic selection)

Level: 1 Vp-p±50 mV (sync tip to 100 % white)

Sync Level

NTSC: 286 mV±15 mV
PAL, 480i, 480p: 300 mV±15 mV
720p, 1080i, 1080p: 300 mV±15 mV(Negative Polarity)
300 mV±15 mV(Positive Polarity)

Video Level

Y

NTSC: 714 mV±36 mV (pedestal to 100 % white)
Others: 700 mV±35 mV (pedestal to 100 % white)

P_B

NTSC: 714 mVp-p±36 mV
Others: 700 mVp-p±35 mV

P_R

NTSC: 714 mVp-p±36 mV
Others: 700 mVp-p±35 mV

Impedance: 75 Ω

Connector: BNC, 2 each

Analog R, G, B • Active Output

Output Signal: Active output for analog R, G, B

Level: Input level ±5 %

Frequency Response: ±3 dB(30 MHz)

Impedance: 75 Ω

Connector: BNC, 1 each

Environmental Conditions

Operating Temperature: 0 to 40˚C

Operating Humidity: ≤ 85 % RH (without condensation)

Spec-Guaranteed Temperature: 10 to 30˚C

Spec-Guaranteed Humidity: ≤ 85 % RH (without condensation)

Operating Environment: Indoor use

Operational Altitude: Up to 2,000 m

Overvoltage Category: II

Pollution degree: 2

Power Requirements

100, 115, 230 VAC, ±10%, 250 V max. (selectable), 50/ 60 Hz, 15 VA max.

Dimensions and Weight

295 (W) x 72 (H) x 210 (D) mm
2 kg

Accessories

Power cord 1
Sample Data(3.5 inch FD)..... 1
(For LT 1610 Series Programmable Video Generators)
Instruction manual 1