

# Courtyard

## CY440 Master SPG/TPG & Timecode Generator

Designed to the same rigorous standards as the flagship CY460, the CY440 is a cost effective Master sync, test pattern & reference generator which meet the needs of broadcast serial digital (Standard, High Definition & 3G) and mixed digital/analogue, post-production, OB and other operational environments. It provides the video reference (Colour Black, Tri-Level Sync), timing and test signals, plus LTC and VITC, unbalanced AES audio, Wordclock, and DARS needed to satisfy many applications in PAL, NTSC, SD SDI, HD SDI, & 3G SDI and mixed standard installations.

The unit is supplied with **external** dual "hot swap" redundant power supplies for maximum security.



The CY440 is designed for use either as a master or, when genlocked, as a slave SPG. Where it is critical to have a backup SPG, the CY445A auto changeover unit complements the CY440. This can be user configured to monitor and changeover analogue, SDI video, Timecode and AES/EBU digital audio signals.

### FEATURES

Outstanding performance, stability and reliability  
PAL/NTSC/625/525  
switchable/simultaneous  
Comprehensive range of test patterns for all analogue and digital applications  
Lip-Sync Test Signals  
±4 field (PAL) / ±2 field (NTSC) timing range  
Multiple & configurable reference outputs (PAL/NTSC/Tri-Level Sync in all HD formats)  
LTC (standard and offset)  
VITC on all SD outputs (User Select)  
Embedded audio  
Lock time to VITC on genlock ref input

User programmable & animated text idents (3) (independent on each test out)  
Text idents  
Multiple user configurable and independently adjustable reference outputs (NTSC colour black, PAL Colour Black & Tri-level Sync)  
Genlock to Colour Black or Tri-Level Sync  
SD, HD & 3G SDI colour black and Test patterns (with embedded tone/silence)  
AES digital tone, DARS, Wordclock  
Ethernet – Remote control, NTP Client including remote control via Ross Video Dashboard GUI  
SNMP Supported

### Courtyard Electronics Limited

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## SPECIFICATION

Conforms to relevant EBU, CCIR or SMPTE specifications.

### Video Inputs (BNC)

75 Ohm looping reference

### Video Outputs (BNC)

Analogue Composite test (1)

Colour Black/Tri-Level (3)

SDI (SD/HD or 3G) Colour Black with embedded silence (1)

SDI (SD/HD or 3G) Test Pattern with embedded tone (1)

### Unbalanced AES Audio

AES (2)

DARS (1)

### WordClock (TTL) 1 BNC

### Controls and Indicators

LCD Display, Rotary Knob & Switch

### Ethernet 100Base T RJ45

### Timecode outputs

LTC (1)

VITC (user select)

### Colour black outputs

Fsc stability:  $\pm 1$  Hz over temperature range\*

SCH phase: 0 degrees  $\pm 5$  degrees

Return loss: >35dB to 5 Mhz

### Sync Pulse Generator

Subcarrier output

Frequency: 4.43361875MHz after warm up (PAL)

Stability:  $\pm 1$ Hz over temperature range\*

Amplitude: 1Vp-p

Return loss: >35dB to 5 Mhz

### Pulse and pattern outputs

Signals: meet or exceed relevant EBU, CCIR and SMPTE specifications

### Genlock

H range:  $\pm 4$  fields (PAL). Moves all timing relative to the reference input.

Subcarrier: 0 to 360 degrees

Resolution: <0.5 degrees of subcarrier

### Mechanical

Height: 1 rack unit

Width: 19" rack mounting

Depth: 245 mm (overall)

Weight: 3 Kg (unpacked)

### Input Voltage: DC +12V

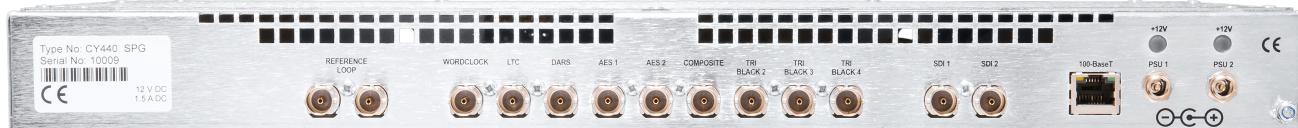
### Ordering information

CY440 : SPG/TPG

CY440/05: NTP - Option

\*Operational temperature range is 0 to +40°C

Courtyard Electronics reserve the right to alter the specification without prior notice



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