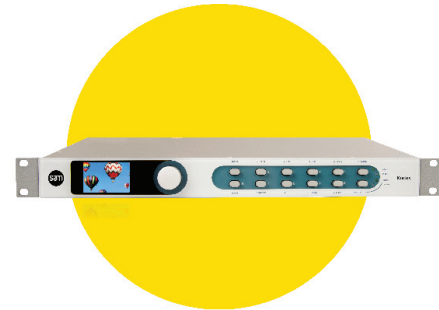


LC350 — Compact Synchronizer & Video / Audio Processor

Technical Data Sheet

LC350 is an easy to use, cost effective video and audio processing unit. Fitting in to 1RU of rack space the LC350 includes a wealth of processing and I/O including SDI, CVBS, AES and analog audio as well as fiber Tx/Rx and HDMI monitoring.



Applications

- Fast news integration - any frame rate, any format
- Corporate AV - international business conferences
- Campus TV - educational and informational
- House of Worship - management of multiple different sources

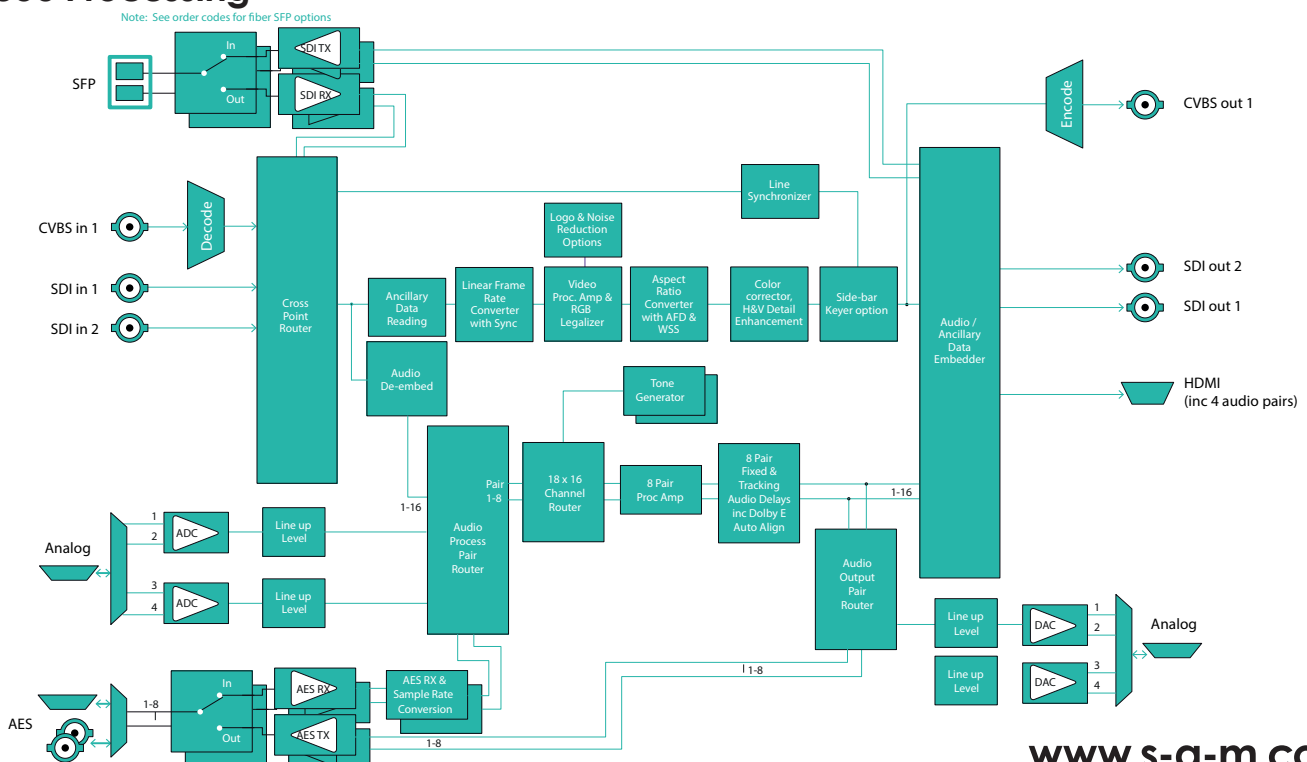
Features

- Frame Synchronization including continuous output on input standard changes
- Linear motion adaptive SD/HD/3G frame rate conversion

- SD/HD/3G up, down and cross conversion with clean cut feature
- Automatic Aspect Ratio Conversion (AFD, VI, L23) with user line choice for SMPTE 2016
- Optional Logo inserter, sidebar keyer and noise reduction
- Powerful picture enhancement tools and Dolby audio delay compensation
- Metadata support including Closed caption, WST, timecode and SMPTE2020 handling
- Easy to use control options inc. front panel with control lock, and remote via web interface and RollCall

- 3G/HD/SD-SDI inputs and outputs with 16-channel embedded audio processing
- Balanced AES and analog audio I/O, with unbalanced AES I/O option
- composite input / outputs along with an HDMI monitor output
- Support for fiber Tx and Rx
- Dual PSU as standard
- 8 x GPI/O support

LC350 Processing



Technical Specification

Signal Inputs

Serial digital 2 x 75 Ohm SD/HD/3Gb/s serial digital with embedded audio

Input standards: 3Gb/s HD-SDI, SMPTE425 level A, dual-link level B

1.5 Gbit/s HD-SDI SMPTE292M/
SMPTE299M

270 Mbit/s SD-SDI SMPTE259M

Composite PAL, NTSC, NTSC-J, PAL-M,
PAL-N, N4.4, SECAM

12-bit ADCs (LC350)

Analog component (LC350) YC

Reference 1 x loop-through HDTV Trisync/SD Bi-
sync (black & burst) SMPTE 240M/274M

Audio AES (LC350) up to 8 x Balanced AES inputs –
via 25 way D Type

Up to 8 x Un-balanced AES inputs – via 8 x BNC
(LC350 option)

Analog audio (LC350) 2 x Stereo Analog inputs via
25 way D Type

Signal Outputs

Serial digital 2 x 75 Ohm SD/HD/3Gb/s serial digital
with embedded audio

Output standards: 3Gb/s HD-SDI, SMPTE425 level A,
dual-link level B

1.5 Gbit/s HD-SDI SMPTE292M/
SMPTE299M

270 Mbit/s SD-SDI SMPTE259M

Composite PAL, NTSC, NTSC-J, PAL-M, PAL-N

12-bit DACs (LC350)

Audio AES (LC350) up to 8 x Balanced AES outputs
– via 25 way D Type

Up to 8 x Un-balanced AES outputs – via 8 x BNC
(LC350 option)

Analog audio (LC350) 2 x Stereo Analog outputs
via 25 way D Type

Input standard

Input standard

(auto detect) 525, 625

720 50/59.94/60p

1080 50/59.94/60i

1080 50/59.94/60p (Levels A and B)

720/1080 23/24/25/29.97/30p

1080 23/24/25/29.97psf, with film detection and
processing

Output standard

525, 625

720 50/59.94/60p

1080 50/59.94/60i

1080 50/59.94/60p (Levels A and B)

720/1080 23/24/25/29.97/30p

1080 23/24/25/29.97psf, with film detection and
processing

Video Functions

SD/HD/3Gb/s Linear Standards Conversion

Up Conversion, Down Conversion, Cross
Conversion

Noise Reduction (option)

Logo inserter (option)

Side-bar Keyer (option)

Manual or Automatic ARC

AFD (SMPTE 2016), VI (RP186), WSS (L23)

SD input format Normal 4:3, Anamorphic 16:9,

Letterbox 14:9, Letterbox 16:9

SD output format Normal 4:3, Anamorphic 16:9,

Letterbox 14:9, Letterbox 16:9

Auto zoom On/Off

Manual zoom Zoom +/- 20%

Safe area marker Off , 16:9, 4:3

Manual controls : size, aspect, pan, tilt
Wide range of ARC presets including 702 sample
line mode

Metadata

Closed caption CEA608 <> CEA708

Timecode conversions

WST/RDD8 conversion

SMPTE2020 embed/de-embed

Audio Functions

Analog Audio (LC350)

- Four pairs of analog inputs are individually available to the processing channel
- Headroom +24dBu; balanced connection

AES Audio (LC350)

- AES audio is accessible via 8 bidirectional ports which can be configured as inputs or outputs
- AES input is auto-detected as PCM (32-96kHz) or non-PCM (48kHz locked to relevant video input)

Embedded Audio

- 16-channel embedded audio processing
- PCM audio processing includes channel level gain and delay compensation, as well as channel level routing/shuffle with audio phase inversion
- Non-PCM processing features pair level routing and delay compensation.
- Dolby-E data is passed with a delay to match the video and with co-timed audio frame drop or repeat.

System

Pattern Off , Black, Ramp, Bars

Proc amp

Black Level +100 to -100mV (0) in 0.8mV steps

Contrast -6dB to +6dB (0) in 0.2dB steps

Saturation -6dB to +6dB (0) in 0.2dB steps

Y Gamma 0.4 to 1.7 (1) in 0.1 steps

Freeze On/Off

Genlock Reference lock, Input lock (same format),
Follow input (same frame rate), Free run

Memories 16 user memories

Adjustable Legalizer

EDH support

Communications

Remote control via web interface and
RollCall network (IP)

Power (Primary and Secondary)

Input voltage range 100 – 240 VAC,
50/60 Hz 1.5A (Max) via three pin IEC power socket

Mechanical

Temperature range 0 to 45° C operating

Cooling Internal Fan, side venting

Weight Approximately 2.4kg

Case type 1RU, Rack Mounting

Dimensions 44mm x 430mm x 170mm
(h, w, d)

GPIO : 8 available

Throughput Delay

Video processing delay
field = 16.7 or 20ms
frame = 33.3 or 40ms

With scaling active in same frame rate:

Ref lock / Free run - Between 3 and 5 fields + ~200us;
Input lock(SDI) – 3 fields + 1ms

***With scaling active in 525/59i output:**

Ref lock / Free run - Between 2 and 4 fields + ~200us;
Input lock(SDI) – 2 fields + 1ms

* Throughput delay increases with low frame rate (<=30Hz) inputs or outputs

With same standard in & out and Sync mode = Enabled:

Ref lock / Free run - Between ~200us and 1 frame + ~200us;
Input lock(SDI) – ~1ms

Frame rate conversion:

Any lock mode – 110ms typical

Audio processing delay

Automatically tracks the video processing delay

Ordering Information

Order Code:

Description:

- | | |
|---------|--|
| 6163500 | LC350 Single channel video & audio processing unit with SDI (BNC or Fiber), CVBS, GPI, AES and analog audio I/O. HDMI monitor output & Dual PSUs |
| 6163501 | LC350 + Option pack. Standard LC350 features plus noise reduction, side-bar keyer, logo inserter & unbalanced AES audio I/O |



