GW6800 Digital Video/Audio Converter

GW6800 digital video/audio converter is a high density multifunction digital and analog signal processing system, which provides video/audio A/D or D/A conversion, distribution, embedding or de-embedding, re-clock or synchronous signal processing modules.

GW6800 digital video/audio converter includes the following versions:

Part Number	**Description**
VSD-6801	SDI/ASI Signal Splitter at 1 by 8 with equalization
VSE-6801	SDI/ASI Signal Splitter at 1 by 8 with equalization, 4 outputs with re-clock.
VSM-6804	SDI Monitoring Splitter, 4 SDI outputs with re-clock, 4 outputs in analog PAL/NTSC
VFS-6801	SDI Signal Splitter at 1 by 4 with Frame Synchronization (FS)
DEC-6801	10 bit PAL/NTSC CVBS converted as SDI, 4 SDI outputs
DES-6801	10 bit PAL/NTSC CVBS converted as SDI, 4 SDI outputs with FR
ADC-6801	10 bit YUV video converted as SDI signal
ADS-6801	10 bit YUV video converted as SDI signal with FS
ENC-6801	10 bit SDI Signal converted as NTSC/PAL YUV video
ENS-6801	10 bit SDI Signal converted as NTSC/PAL YUV video with FS synchrony
ENE-6801	10 bit SDI Signal converted as NTSC/PAL YUV video with clock recovery
ENX-6801	10 bit SDI Signal converted as NTSC/PAL YUV video with CR and FS
ADC-6880	Analog audio converted as AES/EBU digital audio
DAC-6880	AES/EBU digital audio converted as analog audio
MUX-6801A	Analog audio embedded
MUX-6801D	Digital audio embedded
DMX-6801A	Analog audio de-embedding with 4 analog audio outputs
DMX-6801D	Digital audio de-embedding with 2 AES/EBU digital audio outputs
GW6800-RU	1U compact chassis for one module only
GW6800-1U	1U 19” standard chassis for up to 3 modules
GW6800-3U	3U 19” chassis with main and standby power supply for up to 8 modules

Digital Video Splitter

Features:

- Re-Clock Option
- Frame Synchronization Option
- NTSC/PAL Analog Monitoring Output

VSD-6801 digital video distribution amplifier (One In and 8 Out)

VSD-6801 SDI distribution amplifier offers a low cost solution for SDI signal, which can be used in the SDI distribution with cable length less than 30 meter under no clock recovery.

VSE-6801 digital video distribution amplifier (One In and 8 Out)

VSE-6801 SDI distribution amplifier module offers 8 SDI outputs, 4 of the 8 outputs with re-clock for cable distance longer than 30 meters. VSE-6801 can process the SDI signal in composite or 16:9 format.

VFS-6801 digital video amplifier (One In and 4 Out with Frame Synchronization)

VFS-6801 SDI distribution amplifier offers 4 SDI outputs with frame synchronization. In frame synchronization mode, VFS-6801 can process the non standard VTR signal. VFS-6801 can process the SDI signal in composite or 16:9 format.

VSM-6804 digital video monitoring amplifier (One In and 8 Out)

VSM-6804 SDI monitoring and distribution amplifier offers 4 SDI outputs and 4 composite analog video outputs for monitoring. The D/A conversion uses 10Bit IC, supporting NTSC/PAL.

Specifications

Signal Input

SDI Input: One SMPTE 259M-A/B/C/D

Input Return Loss >18dB

Equalization: 200m Belden8281 Cable (270Mbit/s)

SDI Outputs:

Output Return Loss >18dB

Amplitude: 800mV±5%

Rise/Down Time: 400~700ps

Overshoot: <10%

Jitter <400ps (with clock recovery)

Analog Video Output

Outputs: 4 for VSM-6804K

Amplitude: 1V±10%

Frequency Response: ±0.2dB for up to 5.5MHz

Differential Gain: <0.5%

Differential Phase: <0.8°

Return Loss: >16dB

Video A/D Conversion Board

Features:

- NTSC/PAL Composite Video or YUV Input
- 4 SDI Outputs
- 5 Lines Auto Combing Filter
- 10bit or12bit Encoding
- Amplitude AGC
- Frame Synchronization Option

DEC-6801 PAL/NTSC To SDI Video Conversion Board

DEC-6801 has adopted the excellent encoding/decoding technology to ensure the high quality PAL/NTSC to SDI conversion. The data buffer technology enables the low jitter of the conversion board in case of poor quality video input. DEC-6801 can be used in the high quality conversion from CVBS to SDI without frame synchronization.

DES-6801 PAL/NTSC To SDI Conversion Board with Frame Synchronization

DES-6801 can convert CVBS to SDI in high quality with Frame Synchronization. It can also convert the VTR non-standard video into SDI when working at Frame Synchronization mode.

ADC-6801 YUV Video To SDI Video Conversion Board

ADC-6801 has 10bit conversion and 4X technology to achieve high conversion quality. The video input can also be EBU or Betacam.

ADS-6801 YUV Video to SDI Video Conversion Board with Frame Synchronization

ADS-6801 is designed for high quality YUV to SDI conversion by means of 10bit and 4X technology. The video input can also be EBU or Betacam. ADS-6801 can work at Frame Synchronization mode and time delay mode.

Specifications:

Analog Input

Flatness: 1Vp-p ±3dB

Encoding: 10bit or 12bit

Frequency Response: ±0.15dB to 5.5MHz

DG: <0.8%

DP: <0.5°

Digital Output

Output Return Loss: >18dB

Output Level: 800mV±5%

Output DC Offset: 0V±0.5V

Rise/Down Time: 400~700ps

Overshoot: <10%

Output Jitter: <540ps±10%

Digital Video to Analog Video Conversion Board

Features:

- NTSC/PAL, Y/C, YUV/RGB Video Selectable
- 10bit Decoding
- 4X Technology
- Built-in Color Bar Generator
- AGC
- Frame Synchronization, Re-Clock Optional
- Cable Equalization 300 m (Belden 8281 Cable)

ENC-6801 SDI To PAL/NTSC Conversion Board

ENC-6801 is designed to convert the SDI video into PAL/NTSC video without external frame synchronization. The 10bit and 4X technologies ensure the high quality conversion. The output of ENC-6801 can be set as CVBS, Y/C, YUV or RGB video. The YUV can be set as EBU or Betacam.

ENS-6801 SDI To PAL/NTSC Conversion Board with Frame Synchronization

ENS-6801 is designed to convert the SDI video into PAL/NTSC video with external frame synchronization. The 10bit and 4X technologies ensure the high quality conversion. The output of ENC-6801 can be set as CVBS, Y/C, YUV or RGB video. The YUV can be set as EBU or Betacam.

ENE-6801 SDI To PAL/NTSC Conversion Board with Re-clock

ENE-6801 is designed to convert the SDI video into PAL/NTSC video without external frame synchronization. The 10bit and 4X technologies ensure the high quality conversion. The clock recovery circuit can reduce the jitter of SDI signal and realize the stable analog video output. The output of ENC-6801 can be set as CVBS, Y/C, YUV or RGB video. The YUV can be set as EBU or Betacam.

ENX-6801

SDI To PAL/NTSC Conversion Board with Re-clock and Frame Synchronization

ENX-6801 is designed to convert the SDI video into PAL/NTSC video with external frame synchronization. The 10bit and 4X technologies ensure the high quality conversion. The clock recovery circuit can reduce the jitter of SDI signal and realize the stable analog video output. The output of ENC-6801 can be set as CVBS, Y/C, YUV or RGB video. The YUV can be set as EBU or Betacam.

Specifications:

Digital Video Input

Input: One SDI (SMPTE 259M-A, B, C, D)

Input Return Loss: >18dB

Equalization: >200m (Belden 8281@270Mbit/s)

Digital Video Output (ENE-6801K, ENX-6801K)

Channel: 2 SDI with Re-clock

Return Loss: >18dB

Output Level: 800mV±5%

Overshoot: <10%

Jitter: <540ps

Analog Video Output

Channel: 4 NTSC/PAL CVBS or 1 YUV

Output Level: 1V

Flatness: ±0.1dB to 5.75MHz

DG: <0.5%

DP: <0.65°

SNR: >65dB to 5.5MHz

Decoding: 10bit

Embedding Audio in SDI Board

MUX-6801A Embedding Audio Board

Features:

- 525/625 Auto Negotiation
- Embed one audio group (4 Analog Audios or 2 AES/EBU Digital Audios)
- Select one of the 4 Audio Groups locations
- Audio Delay Time Adjustable
- Mute Function

MUX-6801 is designed to embed AES/EBU digital audio or analog audio in SDI signal. MUX6801 can embed one audio group (including 2 AES/EBU digital audios or 4 analog audios) in SDI signal (totally 4 audio groups can be embedded).

MUX-6801 can select the new audio group to replace the former audio group. The audio delay time is adjustable to match the digital video delay.

SDI Video Input

Format: SMPTE 259M-C, 270Mb/s, 525/625

Connector: BNC in accordance with IEC169-8

Impedance: 75 Ohm

Return Loss: >18dB

Amplitude: 800mV ±10%

CMRR: 30Vp-p to 60 Hz

Equalization: 30dB, SMPTE 259M-C

SDI Video Output

Output Ports: 4

Format: SMPTE 259M-C, 270Mb/s, 525/625

Embedded Audio: SMPTE 272M-A

Connector: BNC in accordance with IEC169-8

Impedance: 75 Ohm

Return Loss: >18dB

Amplitude: 800mV ±10%

DC Offset: 0V±0.5V

Rise/Fall Time: 0.7 to 1nS (20% to 80%)

Overshoot: <10%

Jitter: <0.7nS

Analog Audio Input (MUX-6801A)

Audio Input Channel: 4 Analog Audio

Encoding Frequency: 48KHz

Connector: Audio Adaptor

Maximum Input Audio Level: +24dBu

Impedance: >30KΩ

Flatness: ±0.05dB (20-20KHz)

THD+N: -95dB, 20-20KHz@-3dBFS

Crosstalk: -90dB (20-20KHz)

De-embedding Audio from SDI Board

DMX-6801A De-embeds 4 Analog Audios

- 525/625 Auto Negotiation
- De-embed 1 of the 4 embedded audio groups
- SDI with Re-clock

- 4 Analog Audios or 2 AES/EBU Outputs (One Audio Group)
- 4 Audio Monitors

DMX-6801 is designed to de-embed the embedded audios from the SDI signal; outputs can be 2 AES/EBU digital audios or 4 analog audios. One DMX-6801 can de-embed the selected one of the 4 embedded audio groups. Meanwhile, DMX-6801 can output 4 SDI with Re-clock or 2 SDI with Re-clock and One CVBS/one GPI. DMX-6801 has an option for audio monitoring.

Digital Video Input:

Format: SMPTE 259M-C, 270Mb/s, 525/625

Embedded Audio: SMPTE 272M-A

Connector: BNC in accordance with IEC169-8

Impedance: 75 Ohm

Return Loss: >18dB

Amplitude: 800mV ±10%

CMRR: 30Vp-p to 60 Hz

Equalization: 30dB, SMPTE 259M-C

Digital Video Output:

Output Ports: 4

Format: SMPTE 259M-C, 270Mb/s, 525/625

Embedded Audio: SMPTE 272M-A

Connector: BNC in accordance with IEC169-8

Impedance: 75 Ohm

Return Loss: >18dB

Amplitude: 800mV ±10%

DC Offset: 0V±0.5V

Rise/Fall Time: 0.7 to 1nS (20% to 80%)

Overshoot: <10%

Jitter: <0.7nS

Analog Audio Output (DMX-6801A)

Audio Input Channel: 4 Analog Audio

Connector: Audio Adaptor

Maximum Output Audio Level: +24dBu

Impedance: >66Ω

Flatness: ±0.05dB (20-20KHz)

THD+N: -95dB, 20-20KHz@-3dBFS

Crosstalk: -90dB (20-20KHz)

Audio A/D, D/A Conversion Board

ADC-6880 Analog Audio To AES/EBU Digital Audio Conversion Board

ADC-6880 has 24bit and 48KHz encoding technology to ensure high quality conversion. One analog balanced or unbalanced audio input and 4 balanced or unbalanced digital audio outputs.

- 24bit Encoding
- 110ΩBalanced (AES3-1992) or 75ΩUnbalanced (SMPTE-276)
- AES/EBU in loop through
- 48KHz Encoding Frequency

Specifications:

Analog Audio Input

Input Audio: One (Balanced or Unbalanced)

Audio Level: +12~+28dBu

Connector: 75Ω BNC(Unbalanced), 110Ω 3 PIN(Balanced)

AES Input

Format: AES 3id

Audio Input: 1

Connector: 75Ω BNC (Unbalanced), 110Ω 3 PIN (Balanced)

Jitter: < 200ps

Output

Output Port: 4 (Balanced or Unbalanced)

Format: AES3-1992

Connector: 75Ω BNC (Unbalanced), 110Ω 3PIN (Balanced)

Encoding Frequency: 48KHz

SNR: 110dB（20Hz-20KHz）

Flatness: ±0.05dB 20Hz~20KHz

Crosstalk: <-90dB, 20Hz~20KHz

DAC-6880 AES/EBU Digital Audio To Analog Audio Conversion Board

DAC-6880 has 20bit or 24bit, 32KHz/44.1KHz/48KHz technology to ensure the high quality conversion. 2 Balanced or Unbalanced Digital Audio Inputs, 4 Balanced or Unbalanced Analog Audio Outputs

Features:

- 20bit or 24bit decoding
- 110Ω Balanced (AES3-1992) or 75Ω Unbalanced (SMPTE-276)
- 32KHz, 44.1KHz, 48KHz decoding Frequency
- Independent Output Range +14dBu~24dBu
- 110dB SNR (Weighted)

Specifications

Digital Audio Input

Digital Audio Input: 2 (Balanced or Unbalanced)

Digital Audio Format: AES3id(1992)

Connector: 75Ω BNC Unbalanced, 110Ω 3PIN Balanced

Common Mode Range: ±12V pk DC-20KHz

Differential Voltage Range: 200mV~12Vpk-pk

Decoding Frequency: 32KHz, 44.1KHz, 48KHz

Analog Audio Output

Audio Output: 4 (Balanced or Unbalanced)

Audio Output Level: +14~+24dBu

Connector: 75Ω BNC Unbalanced, 110Ω 3PIN Balanced

SNR: 110dB（20Hz-20KHz）

Flatness: ±0.1dB 20Hz~20KHz

THD+ Noise: <0.003

Decoding: 20bit or 24bit

Crosstalk: <-90dB, 20Hz~20KHz