DMDP6802+D

Dual-Channel GPI/CC/Serial Data/SCTE104 Inserter/Extractor and VANC Bridge Module

The DMDP6802+D metadata processing solution is a cost-effective, dual-channel module that converts GPI (General Purpose Interface) input and output to/from VANC-based (Vertical Ancillary Data Space) bits. It also enables the insertion/extraction of GPI, complying with the SCTE 104 standard, CC (Closed Captions), TC (Time Code), and SCTE 104 messages, and performs as the VANC Bridge between two video standards.

The flexible design of the DMDP6802+ module allows simultaneous operation in both insert and extract modes without any preconfigured user setup. The DMDP6802+D offers dual, independent channel processing support for 3G/HD/SD-SDI signals, and is ideal for operations where insertion or extraction of metadata/data functions is required.

The DMDP6802+ also offers broadcasters a powerful tool for their ad insertion and local program insertion systems. This module solves the problem of interfacing automation with the compression system to accurately signal insertion points — it supports standards-based signaling of program insertion using SCTE 104 messaging, telling the relevant encoders when they should insert their splice points.

Features

- Dual independent channel processing support for 3G/HD/SD-SDI signals
- DMDP6802+D base mode support for Insertion/Extraction of up to 16 GPIs (trigger bits) into/from VANC of the SDI signal. The GPI (trigger bits) format follows the ITU-R BT.1685 standard
- Supports Insertion/Extraction of SCTE-104 messages over IP (Ethernet (RJ-45), GPI or Serial port into/from the SDI signal (requires software license key option DMDP68OPT-SCTE104)
- Supports Insertion/Extraction of serial closed captions (CEA-608/CEA-708) into/from VANC CDP CC708 based on SMPTE 334 and Standard Alliance (requires software license key option DMDP68OPT-CC)
- Supports Insertion/Extraction of LTC and D-VITC into/from ATC of the SDI signal based on SMPTE 12M-2, with an option to insert up to 16 GPI inputs simultaneously (requires software license key option DMDP68OPT-TC)
- Support SDI VANC Bridge functionality between the two channels for CC, TC, SCTE message, as well as WST\OP-47 (require software license key option DMDP68OPT-VB)
- 4 independent Serial ports can be set to RS-232/RS-422
- Auto-detects SDI input presence and format
- Supports Q-SEE compliant thumbnail and alarms

Specifications

INPUT VIDEO	
Number of inputs	2

INPUT VIDEO	
Standard	3G: SMPTE 424M (1080p/60, 1080p/59, 1080p/50, 1080p/60DL, 1080p/59DL, 1080p/50DL) HD: SMPTE 292M (1080i/60, 1080i/59, 1080i/50,1080p/30, 1080p/29, 1080p/25, 1080p/24, 1080p/23, 1080psf/30, 1080psf/29, 1080psf/25, 1080psf/24, 1080psf/23, 720p/60, 720p/59, 720p/50, 720p/30, 720p/29, 720p/25, 720p/24, 720p/23) SD: SMPTE 259M-C (270Mb/s, 525/625 component video)
Connector	BNC (IEC 169-8)
Impedance	75 ohms
Return Loss	3G: >15 dB from 5 to 1485 MHz; >10 dB from1485 to 2970 MHz HD: >15 dB from 5 to 1485 MHz SD: >15 dB from 5 to 270 MHz
Equalization	3G: >100m (328 ft) for Belden 1694A HD: >150m (492 ft) for Belden 1694A SD: >280m (918 ft) for Belden 8281B; >380m (1247 ft) for Belden 1694A
OUTPUT VIDEO	
Number of outputs	3
Standard	3G: SMPTE 424M (1080p/60, 1080p/59, 1080p/50, 1080p/60DL, 1080p/59DL, 1080p/50DL) HD: SMPTE 292M (1080i/60, 1080i/59, 1080i/50,1080p/30, 1080p/29, 1080p/25, 1080p/24, 1080p/23, 1080psf/30, 1080psf/29, 1080psf/25, 1080psf/24, 1080psf/23, 720p/60, 720p/59, 720p/50, 720p/30, 720p/29, 720p/25, 720p/24, 720p/23) SD: SMPTE 259M-C (270Mb/s, 525/625 component video)
Connector	BNC (IEC 169-8)
Impedance	75 ohms
Return Loss	3G: >15 dB from 5 to 1485 MHz; >10 dB from 1485 to 2970 MHz HD: >15 dB, typical, from 5 to 1485 MHz SD: >15 dB, typical, from 5 to 270 MHz
Signal Level	800 mV ± 10%
D.C. Offset	0.0 V ± 0.5 V
Rise and Fall Time	3G: <135 ps HD: <270 ps (20% to 80%) SD: 400 to 1500 ps (20% to 80%)
Overshoot	<10% of amplitude (all outputs terminated)
Jitter	Timing Jitter 3G: <2UI (pk-pk) HD: <1 UI (pk-pk) SD: <0.2 UI (pk-pk) Alignment Jitter 3G: <0.3 UI (pk-pk) HD: <0.2 UI (pk-pk) SD: <0.2 UI (pk-pk)
GPI IN AND GPI OUT	
Number of Inputs	16
Connector	ASP-154305-1
Signal Standard	TTL active, low or high
Internal Pull-up	+5 V
Baud Rate	<10 Kb/s

GPI IN AND GPI OUT	
Number of Outputs	16
Signal Standard	TTL active, low or high
Connector	ASP-154305-1
Baud Rate	<10 Kbs
LTC PORT	
Input Termination	Hi-Z (>30k ohms) or 600 ohms, selectable with jumper
LTC Input (TCI) Electrical	Differential balanced
LTC Input (TCI) Input Sensitivity	500 mV pk-pk
Output Termination	Hi-Z (>30 k ohms) or 600 ohms, selectable with jumper
LTC Output (TCI) Electrical	Differential balanced
Output level	3.9 V pk-pk nominal into 1k ohms (Low-Z output) 2.5 V pk-pk nominal into 1k ohms (600 ohms output)
SERIAL PORT	
Number of Channels	4
Standard	EIA/TIA-232, EIA/TIA -422, selectable
EIA/TIA-232-E Specifications	
Maximum Output Level (unloaded)	<±25 V
Output Level (loaded)	±5 to ±15 V
Driver Load Impedance	3 to 7 k ohms
Slew Rate	<30 µs
Max Driver Current in High-Z	±6 mA @ ±2 V
Receiver Impedance	3 to 7 k ohms
Receiver Sensitivity	±3 V
Receiver Input Voltage Range	±15 V
EIA/TIA-422 Specifications	
Input Termination	120 ohms, jumper selectable
Maximum Output Level (unloaded)	<±6 V
Output Level (loaded)	>±2.0 V
Driver Load Impedance	50 ohms
Max Driver Current in High Z	±100 µA
Receiver Impedance	≥4 k ohms
Receiver Sensitivity	±200 mV
Receiver Input Voltage Range	-7 V to +7 V
Power Consumption	11.2 W

Ordering Information

DMDP6802+D	Dual channel metadata and data processing module (DMDP), GPI insertion/extraction base module. Provides 16 GPI (trigger bits) insert/xxtract

	to/from VANC of SDI signal, includes dual back module
DMDP68OPT-SCTE104	Dual channel metadata and data processing module (DMDP) software license key option, enables support on both channels for SCTE104 over GPI, serial and ethernet ports insert/extract to/from VANC SDI signal
DMDP68OPT-TC	Dual channel metadata and data processing module (DMDP) software license key option, enables support for LTC over serial port insert/extract to/from ATC/D-VITC of the VANC SDI signal
DMDP68OPT-CC	Dual channel metadata and data processing module (DMDP) software license key option, enables support for close captioning over serial and ethernet ports insert/extract to/from VANC SDI signal
DMDP68OPT-VB	Dual channel metadata and data processing module (DMDP) software license key option, enables support for VANC bridge functionality over GPI, serial and ethernet ports insert/extract between two channels VANC SDI signal

Images/Diagrams