

# 7721DD4-HD

## HD/SD-SDI Quad Data De-Embedder & SCTE104 Message Extractor



The 7721DD4-HD performs a number of embedded data monitoring and processing functions. It is designed to provide a flexible extraction point for GPO (output) triggering information and/or serial RS-232/RS-422 data streams. For SCTE104 DPI applications, the product may be equipped with the +SCTE104 option. This provides a number of functions for controlling ad insertion and monitoring the presence of SCTE104 messaging on the input signal to ensure quality of revenue-generating advertising service.

These functions include:

- Monitor for SCTE104 DPI signals and trigger GPO's to drive ad insertion systems
- Output SNMP traps as SCTE104 messages are received
- Output SCTE104 messages via serial port to feed logging systems
- Allow last received SCTE104 message to be retrieved via SNMP

In addition, the 7721DD4-HD provides a host of functionality for embedded serial and GPI functionality, including:

- Extract GPI triggers from unused audio channels as per SMPTE 337M and generate GPO's
- Extract GPI triggers from user bits of VITC or RP188 Timecode (+GPI option) and generate GPO's
- Extract up to four serial RS-232/RS-422 data streams from VANC (+VANC option)
- Extract up to four serial RS-232/RS-422 data streams from unused audio channels

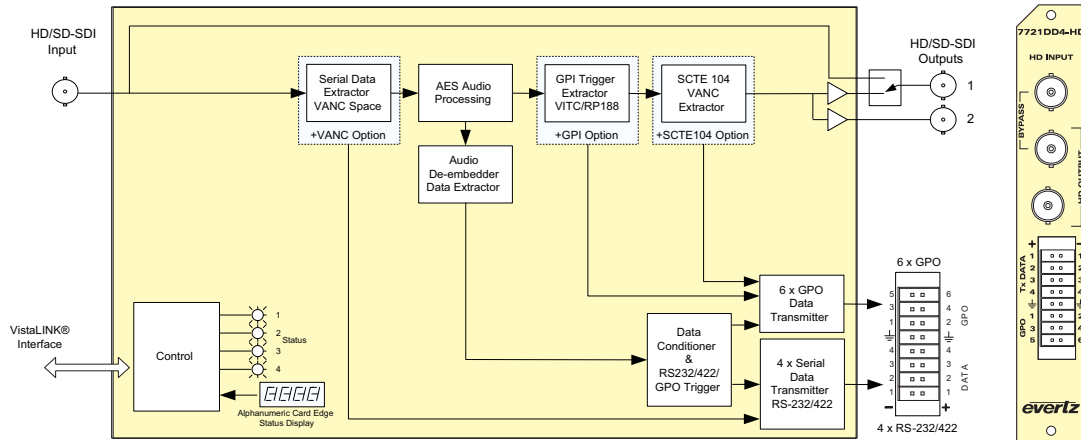
This device is the complement processing module to the widely used 7721DE4-HD module which can be used for embedding serial, GPI and SCTE104 messages.

The 7721DD4-HD is VistaLINK® capable, offering remote monitoring, control and configuration capabilities via Simple Network Management Protocol (SNMP) giving the flexibility to manage operations, including signal monitoring and module configuration from SNMP capable control systems (Manager or NMS).

The 7721DD4-HD occupies 1 card slot and can be housed in the 3RU 7800FR frame which has a 15 slot capacity, the 7801FR which has a 4 slot capacity or the portable 3RU 350FR frame which has a 7 slot capacity. This device requires the 7800FC or 7801FC Frame Controller for configuration.

### Features & Benefits

- HD/SD-SDI input and two HD/SD-SDI outputs
- Bypass relay protected input
- SCTE 104 digital program extraction messaging
- High density approach offers 14 modules within 3RU
- VistaLINK® Monitoring and Control
- Send extracted SCTE104 messages to output serial port (+SCTE104 option)
- Extraction of VANC data in input video and send them out through serial port (+VANC option)
- GPO toggling per SCTE104 message (+SCTE104 option)



### Specifications

<b>Serial Video Input:</b> Standard: SMPTE ST 259-C, ST 292-1 Connector: BNC per IEC 61169-8 Annex A Equalization: Automatic 300m @ 270Mb/s, 100m @ 1.5Gb/s with Belden 1694A or equivalent cable Return Loss: > 15dB up to 1.5Gb/s	<b>Data Output:</b> Standard: 4 x RS-232 or RS-422 Connector: Terminal Block Baud Rate: 110, 300, 600, 1200, 2400, 4800, 9600, 14400, 19200, 38400, 57600, or 115200 Format: 8 data bits, parity (none, even or odd), 1 or 2 stop bits	<b>Vertical Interval Time Code Generator/Reader (VITC) - SD Video Standards only:</b> Standard: SMPTE ST 12-1, SMPTE ST 266 D-VITC Line Range: 525i/59.94: 10 to 21 625i/50: 6 to 22 Reader Line: Autodetect or user-selectable
<b>Serial Video Outputs with Embedded Data:</b> Number of Outputs: 2 outputs (1 with bypass relay protected) Standard: Same as input Connectors: BNC per IEC 61169-8 Annex A Signal Level: 800mV nominal DC Offset: 0V ±0.5V Rise and Fall Time: 600ps nominal SD-SDI, 200ps nominal HD-SDI Overshoot: < 10% of amplitude Return Loss: > 15dB up to 1.5Gb/s (Relay Protected) Wide Band Jitter: < 0.2 UI	<b>General Purpose Outputs:</b> Number of Outputs: 6 Type: Normally open relay contact Connector: Terminal Block Signal Level: Internal pullup to +5V or +12V nominal (jumper selectable) For other voltages up to 5V DC remover jumper Max Current: 2A	<b>Electrical:</b> Voltage: +12V DC Power: 12W EMI/RFI: Complies with FCC Part 15, Class A EU EMC Directive
	<b>Time Code (+GPI OPTION ONLY): Ancillary Time Code Generator/Reader (ATC) - HD Video Standards only:</b> Standard: SMPTE ST 12-2 Reader Line: Autodetect or select LTC or VITC packet	<b>Physical (number of slots):</b> 350FR: 1 7700FR-C: 1 7800FR: 1 7800FR-QT: 1

### Ordering Information

**7721DD4-HD** HD/SD-SDI Serial RS-232/422 & GPI Data De-Embedder  
(requires 7700FC for configuration)

**Ordering Options** Rear plate must be specified at time of order  
(Eg: 7721DD4-HD+3RU)

**+GPI** GPO Triggering Option from VITC/RP188 Timecode  
**+SCTE104** SCTE 104 Digital Program Message Extraction  
**+VANC** Serial RS-232/422 Extraction from Vertical Ancillary Space (VANC)

**Rear Plate Suffix**  
**+3RU** 3RU Rear plate for use with 7700/7800FR Multiframe

**Enclosures**  
**350FR** 3RU Multiframe which holds up to 7 single slot modules  
**7700FR-C** 3RU Multiframe which holds up to 15 single slot modules  
**7800FR** 3RU Multiframe which holds up to 15 single slot modules  
**7800FR-QT** 3RU Multiframe which holds up to 15 single slot modules  
**7801FR** 1RU Multiframe which holds up to 4 single or 2 dual slot modules

**Accessories**  
**7700FC** VistaLINK® Frame Controller

