INTERNATIONAL DATACASTING

LASER Ad Insertion Video Receiver

Satellite Video Receiver with integrated Ad Server and Stream Splicing for Broadcast Distribution Networks

A cost effective solution for ad insertion, IDC LASER™ allows broadcasters to increase their advertising revenues by offering regional or local ad insertion and blackout for satellite delivered content.

Applications

- Professional Video Distribution
- Advertisement Insertion
- Regionalized Programming

Features

- Satellite video receiver and ad insertion in one device
- Frame accurate video splicing
- Targeted commercial inserts
- SCTE-35 compliant
- File transfer support
- Playlist support
- Scheduled programming
- Smart Card support
- BISS decryption
- Blackout management
- MPEG-2 and MPEG-4
- Standard and High definition
- One-way and Two-way implementations (with a terrestrial back channel)
- Closed Caption pass-through support
- AFW and WST pass-through support
- Worldwide customer support

Ad Insertion for Satellite Distribution

LASER enables broadcasters distributing content via satellite to increase advertising revenues by inserting regional or local commercials at the edge of the network. It also opens up the door to additional advertising clients, as broadcasters are no longer constrained by regional licensing or regulatory issues, and can simply blackout and replace advertising inventory to suit their needs. Each receive location can be addressed individually or by geographical area. LASER provides pinpoint accuracy, allowing satellite operators to offer advertisers the same level of ad insertion granularity offered by Cable TV or IPTV providers.

Frame Accurate Remote Site Splicing

Most ad insertion systems available in the market today are designed for high density commercial insertion within a Cable TV or IPTV headend. Until now, cost effective, edge-based ad insertion for satellite delivery has not been available. LASER combines frame accurate video splicing within the remote site receiver, with ad content delivery and SCTE-35-based splicing control at the headend, to provide broadcasters delivering content by satellite with an easy-to-deploy, elegant solution for increasing advertising revenue.

Content Distribution and Ad Insertion

LASER uses a narrow data channel multiplexed alongside the primary video feed to distribute advertising content. IDC's market-leading Centient Media Aware Content Delivery Network (CDN) platform uses this data channel to deliver and manage advertising content on the network's population of receivers. Triggering of advertising insertion may be passed through (if contained in the original feed), or is alternately controlled by the Ad Insertion Module (AIM) of IDC's Production Manager product. IDC's LASER receivers support frame accurate video switching, providing broadcast quality splicing over satellite enabling commercial insertion granularity down to even an individual site.

Professional Interfaces

The LASER platform supports the professional distribution segment of the market. LASER supports ad and program insertion for a single channel of video content, outputting compressed domain MPEG transport stream over IP for retransmission, as well as digital and analog video and audio outputs.

TECHNICAL SPECIFICATIONS—LASER Ad Insertion Video Receiver

LASER One

LASER Two

INPUT AND OUTPUT COMPARISON	LASER One	LASER Two
DVB S/S2	✓	✓
Composite Video	✓	✓
Component Video	✓	✓
HDMI	✓	✓
Digital Audio	✓	✓
Analog Audio	✓	✓
SPTS over IP output (with local ad insertions)	✓	✓
ASI Input		✓
HD-SDI (3G)		✓

VIDEO/AUDIO CAPABILITIES

Video Decoding	MPEG-2 MPEG-4 (H.264) MP@HL MP@ML
Video Output Resolution	1080p 60, 1080p 50 1080i 60, 1080i 50 720p 60, 720p 50 576i 50 480i 60
Chrominance Subsampling	MPEG-2, MPEG-4 AVC, VC-1 4:2:0 MPEG-2 4:2:2 (natively)
Audio Decoder	Dolby® Digital 5.1 Dolby® Digital Plus 7.1 Dolby® True HD 7.1 MPEG Layers II and III (MP3) MPEG-2 and MPEG-4 AAC-LC5.1, HE-AAC5.1

RF INPUT

Frequency Range	950 to 2150 MHz
Frequency Tuning Steps	Synthesized 1 Hz steps
AFC Range (drift tracking)	+2 MHz maximum
Maximum input Level	-25 to 65 dBm @ 27.5 MS/s
Connector	Type-F, female
Impedance	75 ohms, unbalanced

RF INPUT - LNB

LNB DC Power	+18 VDC maximum (horizontal polarity), or +13 VDC at 500 mA (vertical polarity) center conductor positive, short circuit protected
LNB Control	DiSEqC 1.0 and 22 kHz
LNB Requirements	DRO type or PLL type

DVB-S MODE

Symbol Rate	1 to 45 MS/s
Modulation	QPSK, 8PSK
FEC Type	DVB concatenated Viterbi 1/2, 2/3, 3/4, 5/6, 7/8 Reed-Solomon 204/188
Alpha Factor	0.35

DVB-S2 MODE

Demodulation/Symbol Rate	1 to 45 MS/s
Modulation	QPSK, 8PSK
FEC Type	Concatenated, LDPC and BCH QPSK 1/4, 1/3, 2/5, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10 (1/4, 1/3, 2/5 normal blocks only)
Alpha Factor	0.20,0.25, 0.35

FRONT PANEL INDICATORS

- 6 keys: Menu, CH+/CH-, VOL+/VOL-, OK
- LED status indicator (power/standby/signal)
- Work status and LCD display

CONNECTORS

Ethernet	• RJ45-Ethernet on 10/100 Base-T • **IP address setup:** DCHP, PPPoE • **IP multicast:** TS over UDP, TS over RTP • **IP protocol:** TCP/IP, UDP, DHCP, DNS, SNMP
Video	• HDMI with embedded audio • Composite on RCA female • Component on RCA female
Audio	• **Analog:** left and right on 2x RCA female • **Digital:** S/PDIF coaxial on RCA female
Encryption *(Future Use)*	• Smart Card reader: ISO 7816-1/2/3/4 (1 slot)
LNB	• LNB IN • LNB OUT (Loop-thru)
ASI *(LASER Two ONLY)*	• ASI Input, BNC
SDI Output *(LASER Two ONLY)*	• HD-SDI 3G Output, BNC

POWER REQUIREMENTS

Power Supply Type	Internal with detachable line cord
Supply Voltage	90 to 240 VAC, 50 or 60 Hz
Power Consumption	40 Watts maximum

PHYSICAL PARAMETERS

Chassis	1RU rackmount
Dimensions (H, W, D)	4.5 cm x 48 cm x 36 cm (1.75" x 19" x 14")
Weight	1.9 kg (4 lbs.)

ENVIRONMENTAL CONDITIONS

Operating Temperature	0° to 40° C (32° to 104° F)
Storage Temperature	-20° to 70° C (-4° to 158° F)
Humidity	Maximum 90% relative, non-condensing