Duet
MPEG2 Commercial Inserter

Overview

The Duet digital ad inserter is a work of art. It unites elements of an elite broadcast delivery system in a 1 RU chassis; it switches seamlessly between a channel feed and scheduled spots on cue. Designed for cable and broadcast operations, the Duet integrates with popular Traffic and Billing software solutions including CCMS.

Benefits

> Easy Installation

The Duet, with front-panel display, configures easily in at cable head ends and in broadcast control rooms. Pass a channel through a unit, select a network source or select a cue source (DTMF, GPI, Time, Vertical Interval, Terminal or Front Panel), load spot inventory, use drag-and-drop software to build a schedule, and you are ready to go live. Your engineers can quickly be trained to repeat the installation procedure as you expand to additional channels.

> Low Maintenance

As an embedded system, the Duet delivers reliable operation by design. With single-channel architecture, and the highest MTBFs in the industry, you can significantly reduce and possibly eliminate monthly support fees. The Duet offers an extremely low cost of ownership and a rapid ROI (return on investment).

> Rapid Payback

The Duet keeps accurate play verifications for reporting to advertisers. With low per channel acquisition costs, nominal to ZERO monthly support fees, and long trouble free operation, you begin earning profit with the Duet with the first advertisement you sell. It may be the best-kept secret in broadcast and cable. Savvy operators call it the "money machine." Which explains why orders for the Duet steadily increase. Get the facts. Learn how the Duet can earn money for your cable or broadcast operation.

Availability

The Duet is available in a rugged 1 RU steel case. Options include storage upgrades to 160 GB, CDROM or DVD player, VBI tele-text bypass, white line cue, and SDI switching with concurrent analog output (Duet-SDI).

Applications

- Cable Digital Commercial Insertion
- Broadcast Digital Commercial Insertion

MPEG 2 Digital Ad Insertion with Analog Switching
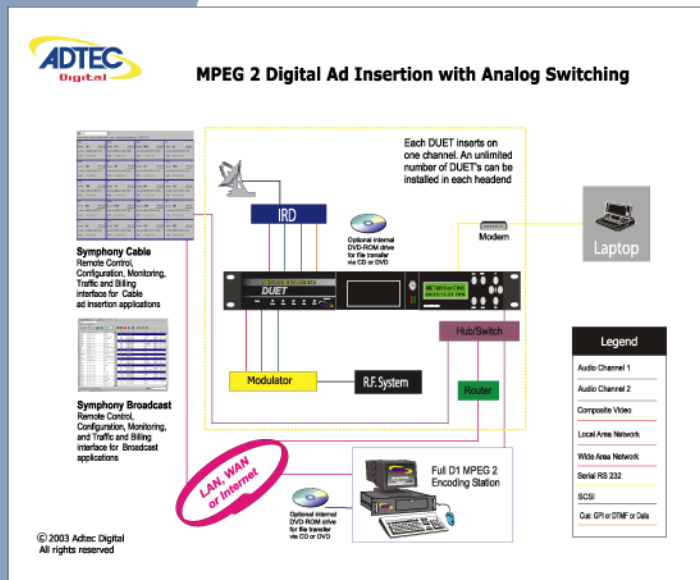
Duet MPEG2 Commercial Inserter

FEATURES

- Unlimited scalable size, one to hundreds of channels
- Same incremental cost per channel
- Incremental channel based design
- Local Storage for thousands of MPEG 2 commercials
- Flexible support for MPEG 2 from many encoder sources
- Extremely smooth frame accurate transitions from network and commercials
- Broadcast quality MPEG 2 video and audio
- Plays content from seconds to hours
- Removable local hard drives
- External storage
- File delivery via CD ROM, DVD or Jaz (disconnected headend, "sneakernet")
- Ethernet, T1, Fiber, Cable Modem, Internet, Satellite file delivery
- TCP/IP Protocol
- FTP client/server with pull or push capabilities
- Satellite data distribution via FCMP protocol
- Single point data deposit
- Automatic multiple point (Broadcast) data transmission (EMT) (Files transmit in the same time to 1 or 1000 units)
- Broadcast quality vertical interval video router
- High Fidelity balanced stereo audio router
- Auxiliary stereo audio and video input
- Tally output via NC/NO relay and open collector transistor circuit
- Built in Composite (RF) Baseband Demodulation (Subcarrier RF demodulator for Cue tone extraction)
- External DTMF and GPI inputs
- Cue via DTMF, GPI, Time, Vertical Interval, Terminal, Front Panel
- Vertical Blanking Interval bypass for Teletex insertion
- NTSC, PAL, PALM, PALN standards
- NTSC line 21 Field Closed Captioning
- Symphony Pro Cable application for data management and monitoring
- Automatic failure notification via pager, cellular, and e-mail
- Manual and Automatic Traffic and Billing interface
- Serial, Modem, Ethernet and front panel control
- Keypad with front panel LCD
- Library of network configurations simplifies setup
- Universal input power supply
- CE certified
- One rack unit chassis
- Simple reliable innovative design
- Adtec's VTOS operating system
- NOT PC based

SPECIFICATIONS

MPEG 2 ISO-13818

System and Program Streams
GOP of 1 to 15, Full IBP, IP or I only
Data rates from 1 to 15 Mbs
MPEG Layer 1 and Layer 2 Audio
Sampling rates of 44.1 kHz or 48 kHz
Mono, Dual Mono, Stereo or Joint Stereo
Data rates supported for Layer 1
32 Kbits/s to 448 Kbits/s in 32 K steps
Data rates supported for Layer 2
64, 96, 112, 128, 160, 192, 224, 256, 320, 384 Kbits/s

MPEG 1 ISO-11172-2

System Stream
GOP of 1 to 15, Full IBP, IP or I only
0.50 Mbs to 5 Mbs
MPEG Layer 1 Audio
Sampling rates of 44.1 kHz or 48 kHz
Mono, Dual Mono, Stereo or Joint Stereo

Standards, Resolutions and Color Frequency

NTSC
720-480, 30 fps, Full D1
352-480, 30 fps, Half D1
352-240, 30 fps, SIF
Color Frequency: 3,579,545 Hz

PAL
720-576, 25 fps, Full D1
352-576, 25 fps, Half D1
352-288, 25 fps, SIF
Color Frequency: 4,433,618.75 Hz

PAL-M
720-480, 30 fps, Full D1
352-480, 30 fps, Half D1
352-240, 30 fps, SIF
Color Frequency: 3,575,611.49 Hz

PAL-N
720-576, 25 fps, Full D1
352-576, 25 fps, Half D1
352-288, 25 fps, SIF
Color Frequency: 3,582,056.25 Hz

DUET A/V Inputs

Channel Video, BNC
Auxiliary Video, BNC
Channel 1 & 2 Audio, 5 Pin RST
Auxiliary Audio, 5 Pin RST

DUET A/V Outputs

Channel Video 1, BNC,
(Relay bypass protection)
Channel Video 2, BNC
(Channel and Content Preview output)
Channel 1 & 2 Audio, 5 Pin RST
(Relay bypass protection)
Channel 1 & 2 Audio, RCA
(Content Preview output)

Video Switcher

Vertical Interval: Line 10 NTSC and Line 6 PAL
Input Impedance: terminating to 75 Ω
Maximum Input Level: 1 V p-p
Output Impedance: terminating to 75 Ω
Return Loss ≥40 dB to 6 MHz
Crosstalk: -65 dB to 4.43 MHz
Frequency response: ± 0.15 dB 10 Hz to 5 MHz
Tilt: <0.5%
Differential Phase: ≤ 0.1° at 3.58 MHz or 4.43 MHz
Differential Gain: ≤ 0.1% at 3.58 MHz or 4.43 MHz
Hum and Noise: 70 dB
Throughput Delay: 30 ns

Audio Switcher

Input Range: -20 dB to +8 dB
Output Range: Unity, ± 2 dB from −16 to + 8 dB
Output Impedance: < 600 Ω, balanced or unbalanced
Crosstalk: > 75 dB at 20 KHz
Frequency response: ± 0.5 dB 30 Hz to 20 KHz
Hum and Noise: - 70 dB
Harmonic Distortion: < 0.5% 30 Hz to 20 KHz

Cue Inputs

Composite Base Band, Type "F", 75 Ω Terminating
(6 to 10 MHz range with 0.001 Hz agile adjustment Analog or Digital Narrowband and Wideband tuning with DTMF tone generation and 1 KHz tone GPI. Presets for most ALL cable TVRO channels)
Audible DTMF, 3 Pin RST, -10 to +0 dB
Channel GPI, 3 Pin RST, NO/NC CC
Auxiliary GPI, 5 Pin RST (Tally), NO/NC CC
White Line Cue *(WLC can monitor the video undersan lines 6 – 23 for 100% white in field 1, 2 or both),* Time, Crystal Controlled RTC, Optional NTP service

Tally Outputs

NO, NC, OA (Open Collector Grounding), 5 Pin RST

Communications

RS232 DCE, RJ-11 Loop Through
Baud, 300 to 1,036,800
Data, 7, 8
Stop, 1, 2
Parity, Odd, Even, None
Ethernet (Telnet, FTP and FCMP)

Networking

100 Base T
Protocols:
TCP/IP
EMT (Adtec proprietary physical layer multicast)
Ethernet Multicast Transfer
FCMP (Adtec proprietary UDP multicast)
File Control Multicast Transfer
Services:
FTP Client/Server, Telnet, FTP Push and Pull with Passive Mode support
Support Gateways, User Name and Password Security, Stealth IP Address, virus immune OS
LAN/WAN and Satellite data and control

Front Panel User Interface

LCD Display, 16 by 2 backlit
(Contrast control via cursor up and down keys)
Key Pad, Mode, Escape, Enter, Select, Cursor
LED's, Power, Video, Drive, Link, Busy

Physical and Operational

1 Rack Unit
19" 1.75" 14" (WHD)
482 mm 44 mm 355 mm (WHD)
70-240 VAC 50-60 Hz
65-Watts maximum power consumption
50/90 Degrees F, 30/70 RH
CE Certified

Adtec Digital
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