

## A high quality ATSC compliant high definition encoder for DTV broadcast network distribution/contribution.

The DigiCipher® II high definition encoder enables broadcasters to transmit sharp, digital video with Dolby Digital 5.1 audio. Fully ATSC DTV compliant, the DigiCipher II high definition encoder is designed to meet the stringent quality demands of the professional broadcast/cable programming industries. With over a decade of digital television expertise and a leadership role in the high definition Grand Alliance, the high definition encoder incorporates a practical implementation of Motorola's advanced technology.

**Advanced Video Compression.** Motorola's pioneering work on digital high definition television is incorporated to produce excellent video compression.

**Redundant Configurations.** For high reliability and seamless operation, DigiCipher II high definition encoder can be configured as a dual unit system, with automatic fault detection and correction, using internal input routers. **ATSC PSIP Generator.** An easy-to-use software package creates and broadcasts the Program and System Information Protocol (PSIP) to ensure reception with ATSC-compliant TV receivers. **Data Ready.** Standard high and low speed data interfaces are supported, enabling broadcasters/programmers to take advantage of evolving data broadcasting market segments.

Applications for the DigiCipher II high definition encoder include terrestrial broadcast, satellite program distribution, and cable headends.



- *Flexible Formats:* 1920 x 1080 interlaced and 1280 x 720 progressive resolutions
- *Full Audio Support:* Dolby® brand AC-3®, 5.1 channel audio supported as pre-compressed inputs and on-board processing of AC-3 stereo audio
- *DigiCipher II System Design:* Cascades with multi-channel encoder, providing seamless HD/SD operation
- *Compact Design:* All-in-one system, includes multiplexer, modulator and wide range of external interfaces
- *ATSC Compliant:* Fully compliant with ATSC specifications
- *Emmy Award-Winning Security:* DigiCipher II access control and anti-piracy technology

# DIGICIPHER® II ATSC HIGH DEFINITION ENCODER SPECIFICATIONS

## VIDEO INPUTS

HD Video..... 16-bit parallel (74.25 Msp/s)  
Serial (SMPTE 292M)

## AC-3, 5.1 SURROUND AUDIO

Precompressed..... AES/3ID  
Number of Audio Streams..... 3  
Impedance..... 75 Ω  
Connector..... BNC

## AC-3 STEREO AUDIO

Digital..... AES/EBU  
Number of Audio..... 3 pairs  
Impedance..... 110 Ω  
Connector..... 3-pin lemo

## ISOCHRONOUS DATA CHANNEL

Data Rate..... 19.2 kbps - 9 Mbps  
Mode..... Simplex  
Interface..... RS-422/485  
Connector..... 37-pin, D-Sub

## ASYNCHRONOUS DATA CHANNEL

Data Rate..... 9600 bps - 19.2 kbps  
Mode..... Simplex  
Interface..... RS-232D  
Connector..... 25-pin, D-Sub

## AUXILIARY DATA CHANNEL

Data Rate..... 19.2 kbps - 128 kbps  
Interface..... RS-422/485  
Connector..... 37-pin, D-Sub

## OTHER INPUTS

Time Code..... SMPTE  
Closed Caption Data..... EIA-708/RS-232D  
Cascaded..... DS3A and DS3B

## MODULATOR

Modulation Format..... QPSK and OQPSK  
QPSK Symbol Rate..... 29.26 and 19.51 Msp/s  
OQPSK Symbol Rate..... 1.83, 2.44, 3.25, 4.88, 7.32, 9.76, 11.71,  
14.63 Msp/s  
FEC..... 5/11, 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 7/8  
Output Frequency..... 70 MHz ± 18 in 125 kHz step size  
Output Level..... -5 to -15 dBm in 0.5 dB step sizes  
Impedance..... 75 Ω

## BI-DIRECTIONAL CONTROL PORTS

Log Port..... RS-232D  
SAC Port..... RS-422/485  
Ethernet..... 10Base2

## OUTPUTS

Bit Rate..... up to 40.46 Mbps (in combine mode)  
up to 47.20 Mbps (in split mode)  
up to 19.28 Mbps (SMPTE 310M)  
up to 36.00 Mbps (ATM AAL-5)  
Interface..... SMPTE310/ASI/DS3A/DS3B/DHEI  
IF Interface..... Monitor and IF out  
AC-3 Interface (optional)..... Coder-time reference clock  
Remote control RS 422/485  
Form-C..... 25-pin, D-sub  
Encoder Fault..... 9-pin, D-sub

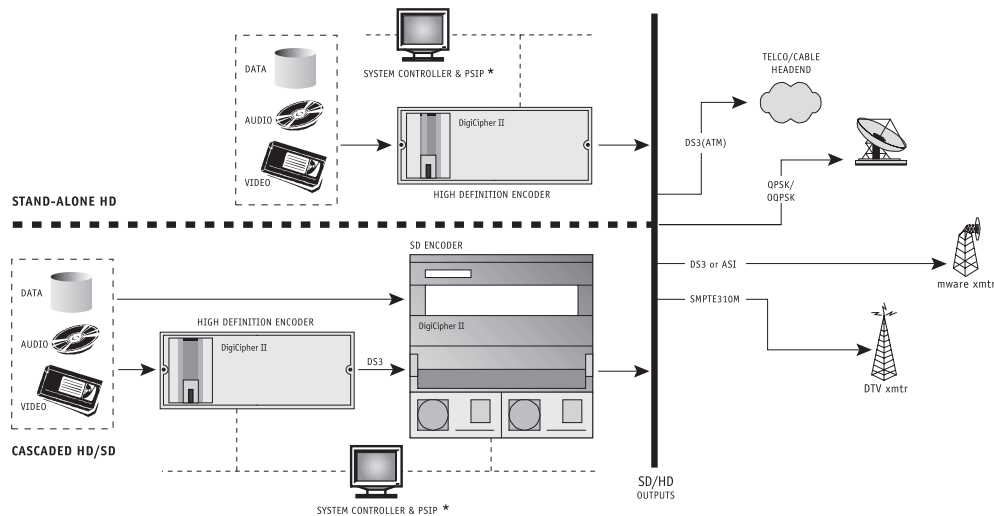
## ENCODER CHASSIS

Dimensions..... 17.78cm (H) x 48.3cm (W) x 55.9cm (D)  
Power..... 115 VAC @ 11.3 amp (max)  
230 VAC @ 5.7 amp (max)

## OTHER

Limited Warranty..... One year

# NETWORK DIAGRAM



\*PSIP applies to terrestrial and cable applications



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Features and functions subject to change without notice.

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