DSR-4400MD
Satellite Multiplex Decrypter

MOTOROLA
intelligence everywhere™

The Motorola DSR-4400MD is a powerful digital head-end product, capable of simultaneous decryption of up to 24 services. Whether your application is to feed a 256 QAM channel or a 64 QAM channel, the DSR-4400MD is the answer. With the DSR-4400MD, you can output a full MPEG-2 multiplex at an information rate of 38.8 Mbps or 26.97 Mbps, depending on your needs.

The Motorola DSR-4400MD comes equipped with industry standard interfaces that enable seamless connection to DigiCipher II IRT-1000/2000, MPS Remultiplexer and other head-end equipment for cable encryption and cable modulation.

The ASI and DHEI inputs provide additional flexibility for the Motorola DSR-4400MD by allowing loop-through decryption capabilities when more than 24 services of decryption are required. They also provide a convenient mechanism for monitoring and troubleshooting the signal as it passes through the cable headend.

The full range of DigiCipher II system symbol and code rates is supported, including the higher combined symbol rate of 29.27 Msps, rate 3/4 to enable 40.46 Mbps information rate transmission. With the lower SCPC rates, the DSR-4400MD becomes a flexible product that supports partial transponder utilization. Packaged in a 1RU chassis, the DSR-4400MD offers local monitoring of a single service and the ability to step through the authorization and encryption state of each service. In the event of a transport stream fault, or loss of authorization for any of the provided services, the DSR-4400MD will trigger an alarm indication for the user.

DigiCipher® II satellite multiplex decrypter for L-Band demodulation and multi-service decryption of satellite signals

For more information regarding any of these features contact your Motorola sales representative.

HIGHLIGHTS INCLUDE:

- Delivers 256 and 64 QAM satellite multiplexes
- Concurrent decryption of up to 24 services, each service may include video, multiple audio channels and data
- DHEI and ASI inputs and outputs. Selectable 38.8 (default) or 26.97 Mbps transport outputs
- MCPC and SCPC operation
- Dual L-Band input ports
- 1RU chassis
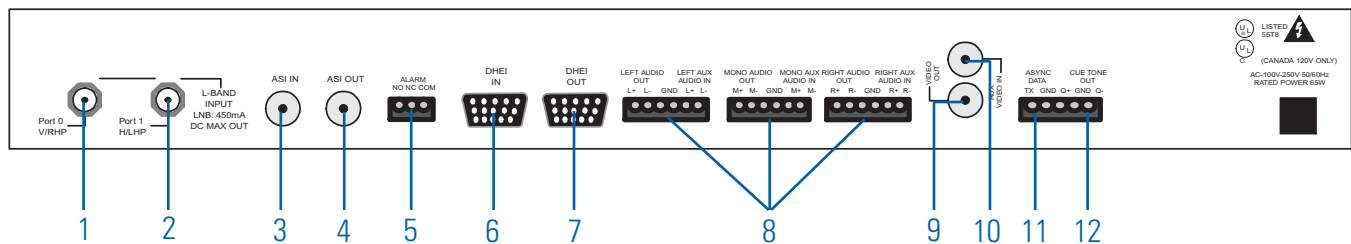- Analog video and audio for local monitoring

FEATURES INCLUDE:

- Supports both C-band and Ku-band
- Improved diagnostics
- Virtual channel maps downloaded over satellite
- Operating system firmware can be downloaded over satellite link
- Selectable DHEI output clock rates of 29.26 or 38.81 MHz
- Form-C relay for fault signaling
- Asynchronous data up 19.2 kbps
- Closed caption pass-through F1/F2
- Outputs NTSC video and analog audio for local monitoring or "standard" IRD operation
- DigiCipher II conditional access control
- Cue-tones via subcarrier or digitally generated

Input

Input Signal Level: (-)60 dBm to (-)25 dBm
Input Frequency: 950 - 1550 MHz
Input Impedance: 75 Ω
Input Connectors: Two F-type
LNB Power Out
F-Connectors: 16V DC min/450 mA

Digital Processing

Modulation Modes: OQPSK and QPSK
Symbol Rates: 3.25 to 29.27 Msps
Forward Error
Correction 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 7/8 (@ 3.25 to 29.27 Msps) 5/11 (@ 19.51 and 29.27 Msps)
Eb/No 4.0 db @ 19.5 Msps (FEC=3/4)

Video

Frequency Response (NTSC): ±0.9 dB p-p, 1 kHz - 4.2 MHz
Frequency Response (PAL): ±0.9 dB p-p, 1 kHz - 5.5 MHz
Signal/Noise: 57 dB (min)
Differential Gain: 4.5% p-p (max)
Difference Phase: 4.5 deg. p-p (max)
Output Impedance: 75 Ω
Output Level: 1 V p-p ± 10%

Audio

Output: 1 stereo pair or 2 mono
Output Level: ±16 dBm, ±1 dB into 600 Ω balanced load, adjustable (0 to (-)15 dB)

Frequency
Response: ±1.3 dB, 20 Hz to 20 kHz
Total Harmonic
Distortion: 0.3% or better at 1 kHz
Signal/Noise Ratio: 85 dB at 1 kHz
Isolation, L/R: 80 dB at 1 kHz
Impedance: 600 Ω
Connector: Quick disconnect screw terminal

Data

Asynchronous
Data Rate: 1.2, 2.4, 4.8, 9.6 and 19.2 kbps

ASI Input and Output

Format: Asynchronous serial interface
Standard: CENELEC EN 50083-9

DHEI Input and Output

Format: MPEG-2
Packet Clock Rate: 29.26 or 38.81 Mbps

Decryption

Number of Services: up to 24 independently encrypted services

Cue Tones

Signal Type: Differential output
Signal Level: (-)3 dBm (600Ω)/tone (min)
Connector: Quick disconnect screw terminal

Alarm Relay

Form-C: Quick disconnect screw terminal

Physical

Operating
Temperature: 0 to 40°C (ambient)
Humidity: 95% (relative, maximum)
Dimensions: 48cm(W) x 46cm(D) x 4.2cm(H)
Weight: 5.0 kg (approx.)
Power Input: 90-250 VAC, 47-63 H, 25 W (max)

Other

Limited Warranty: One year
UL/TUV/CE: Listed/approved

INPUTS/OUTPUTS

1....... RF Input Port
2....... RF Input Port
3....... ASI In
4....... ASI Out
5....... Alarm Relay
6....... DHEI In
7....... DHEI Out
8....... Audio I/O
9...... Video Out
10..... Aux Video In
11..... Async Data
12..... Cue-Tones

MOTOROLA