



# DSR-4410MD

## SATELLITE MULTIPLEX DECRYPTER

A Commercial Satellite Multiplex Decrypter for demodulation and multi-service decryption of satellite signals



### Product Overview

The Motorola DSR-4410MD is a powerful digital headend product, capable of simultaneous decryption of up to 64 services. With advanced modulation support, the DSR-4410MD can output a full transport multiplex with both MPEG-2 and/or MPEG-4 services at an information rate of up to 160 Mbps.

The Motorola DSR-4410MD comes equipped with industry-standard interfaces, such as dual ASI outputs, that enable seamless connection to head-end equipment. The DSR-4410MD also accommodates the current trend for distributing MPEG-2 transport streams over Gigabit Ethernet interfaces throughout digital headends.

Packaged in a 1RU chassis, the DSR-4410MD 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-4410MD will trigger an alarm indication for the user.

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

### Highlights Include:

- DigiCipher® II conditional access control
- Concurrent decryption of up to 64 services, each service may include video, multiple audio channels and data
- Stackable 1RU chassis design
- Dual L-Band input ports
- Supports both C-band and Ku-band
- Advanced modulation support for 8PSK Turbo and DVB-S2
- ASI Input
- Dual ASI and Gig-E transport output with selectable rates
- 10/100 Base T Ethernet port for SNMP monitoring and control
- IP datacasting output
- Outputs NTSC video and analog audio for local monitoring
- Form-C relay for fault signaling
- Background software download capabilities

## Specifications

### L-BAND INPUT

<b>Input Signal Level:</b>	(-65 dBm to (-)25 dBm
<b>Input Frequency:</b>	950 – 2150 MHz
<b>Input Impedance:</b>	75 $\Omega$
<b>Input Connectors:</b>	Two (2) F-type
<b>LNB Power Out F-Connector:</b>	16V DC min/450 mA

### DIGITAL PROCESSING

<b>Modulation Modes:</b>	OQPSK, QPSK, 8PSK turbo codes, and DVB-S2
<b>Symbol Rates:</b>	3.25 to 29.27 Msps (QPSK), 1 to 30 Msps (8PSK turbo codes), 5 to 30 Msps (DVB-S2)
<b>QSPK FEC Rates:</b>	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)
<b>8SPK (turbo) FEC Rates:</b>	2/3 (1.9), 3/4 (2.05), 3/4 (2.11), 3/4 (2.19), 5/6 (2.30), 8/9 (2.40)
<b>DVB-S2 FEC Rates:</b>	3/5, 2/3, 5/6, 8/9, 9/10
<b>Eb/No:</b>	4.0 db @ 19.5 Msps (FEC=3/4)

### VIDEO

<b>Frequency Response (NTSC):</b>	$\pm 0.75$ dB, p-p, 1 kHz – 4.2 MHz
<b>Frequency Response (PAL):</b>	$\pm 0.9$ dB, p-p, 1 kHz – 5.5 MHz
<b>Signal/Noise Ratio:</b>	57 dB (min)
<b>Differential Gain:</b>	4.0 deg. p-p (max)
<b>Difference Phase:</b>	1.5 deg. (max)
<b>Output Impedance:</b>	75 $\Omega$
<b>Output Level:</b>	1.0 V p-p $\pm$ 10%

### AUDIO

<b>Output:</b>	Two stereo pair or two mono
<b>Output Level:</b>	$\pm 18.0$ dBm, $\pm 1.0$ dB into 600 $\Omega$ balanced load, adjustable (0 to -15 dB)
<b>Frequency Response:</b>	$\pm 1.3$ dB, 20 Hz to 20 kHz
<b>Total Harmonic Distortion:</b>	0.25% or better at 1 kHz
<b>Signal/Noise Ratio:</b>	85 dB or better at 1 kHz Isolation, L/R: 80 dB at 1 kHz
<b>Isolation, L/R:</b>	80 dB at 1 kHz
<b>Impedance:</b>	600 $\Omega$
<b>Connector:</b>	Quick disconnect screw terminal

### DATA OUTPUT

<b>Ethernet 10/100 Base T:</b>	1
<b>Gig-E 10/100/1000 Base T:</b>	1

### ASI INPUT/OUTPUT

<b>Output:</b>	Dual ASI
<b>Format:</b>	Asynchronous serial interface
<b>Transport Stream Data Rates:</b>	54 Mbps, 81 Mbps, 160 Mbps
<b>Standard:</b>	CENELEC EN 50083-9

### GIG-E OUTPUT

<b>Output:</b>	10/100/1000 Base T Ethernet
<b>Transport Stream Data Rates:</b>	54 Mbps, 81 Mbps, 160 Mbps Decryption
<b>Number of Services:</b>	Up to 64 independently encrypted services

### CUE TONES

<b>Signal Type:</b>	Differential output
<b>Signal Level:</b>	-3 dBm, (600 $\Omega$ )/tone min
<b>Connector:</b>	Quick disconnect terminal

### ALARM RELAY

<b>Form C:</b>	<b>Quick disconnect screw terminal</b>
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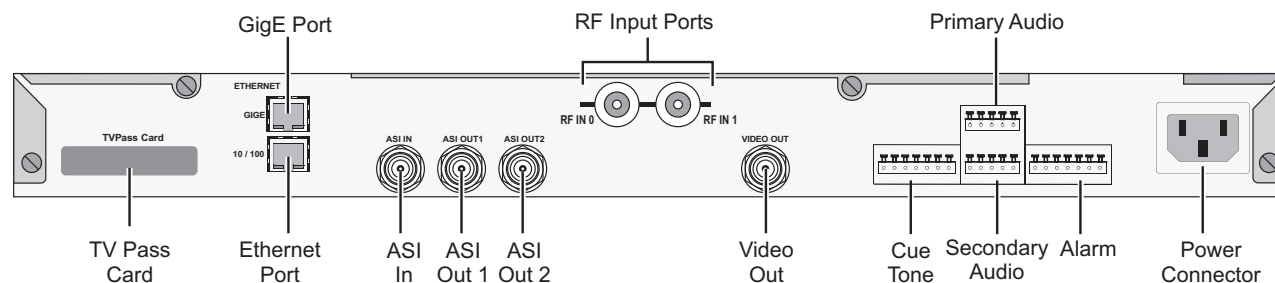
### PHYSICAL

<b>Operating Temperature:</b>	0° to 40°C ambient
<b>Humidity:</b>	95%, relative maximum
<b>Dimensions:</b>	48 cm/18.90 in (W) x 46 cm/18.11 in (D) x 4.2 cm/1.65 in (H)
<b>Weight:</b>	5.0 kg/11 lbs (approx.)
<b>Power Input:</b>	90–250 VAC, 47–63 H, 40 W (max)

### OTHER

<b>Limited Warranty:</b>	One year
<b>Compliance:</b>	UL listed/approved

Note: All features, functionality, and other product specifications are subject to change without notice or obligation.



For more information contact your Motorola Account Executive.

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- Call Center Staffing
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