



The Motorola DSR-4400MD is a powerful digital headend 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**

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
- 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

TECHNICAL SPECIFICATIONS

Input

Input Signal Level:	(-)-60 dBm to (-)25 dBm
Input Frequency:	950 - 1550 MHz
Input Impedance:	75 Ω
Input Connectors:	Two (2) F-type
LNB Power Out F-Connector:	16V DC min/450 mA

Digital Processing

Modulation Modes:	OQPSK and QPSK
Symbol Rates:	3.25 to 29.27 Msps
FEC Rates:	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 Ratio:	57 dB (min)
Differential Gain:	4.5% p-p (max)
Difference Phase:	4.5 deg. p-p (max)
Output Impedance:	75 Ω
Output Level:	1.0 V p-p $\pm 10\%$

Audio

Output:	1 stereo pair or 2 mono
Output Level:	± 18.0 dBm, ± 1.0 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 or better 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/Output

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

DHEI Input/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, (600 Ω)/tone min
Connector:	Quick disconnect screw terminal

Alarm Relay

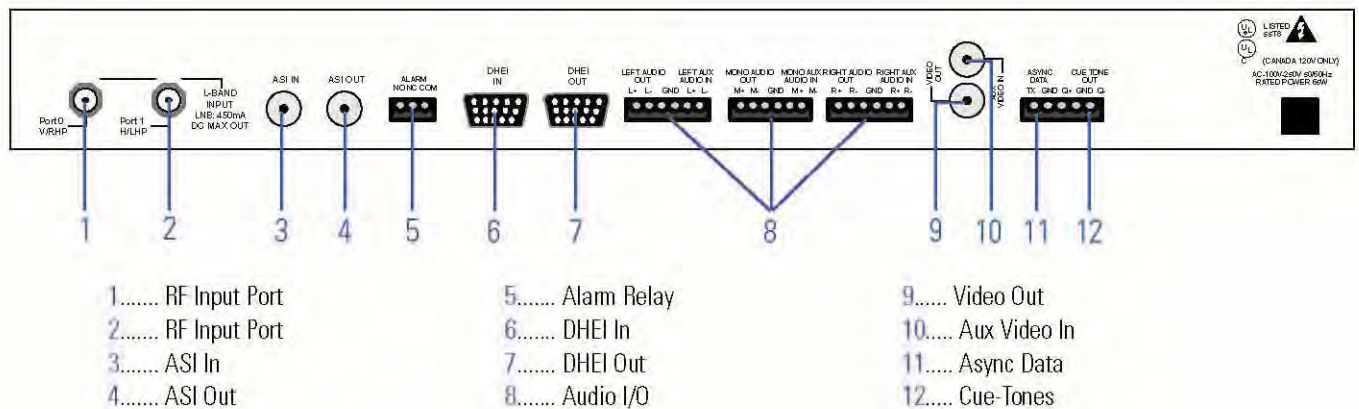
Form C:	Quick disconnect screw terminal
---------	---------------------------------

Physical

Operating Temperature:	0° to 40°C ambient
Humidity:	95%, relative maximum
Dimensions:	48 cm/18.90" (W) x 46 cm/18.11" (D) x 4.2 cm/1.65" (H)
Weight:	5.0 kg/11 lbs (approx.)
Power Input:	90-250 VAC, 47-63 H, 25 W (max)

Other

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



MOTOROLA and the Stylized M Logo are registered in the U.S. Patent and Trademark Office. DigiCipher is a registered trademark of General Instrument Corporation. All other product or service names are the property of their registered owners. © Motorola, Inc. 2007 All rights reserved.
Features and functions subject to change without notice.
5507-0507-0K