# DSR-4500X
# Professional Satellite Receiver

MOTOROLA
intelligence everywhere™

*Advanced DigiCipher® II professional satellite receiver for the expanding needs of cable programmers and operators*

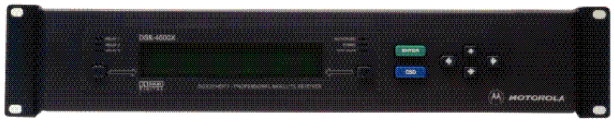
As networks expand in complexity extended IRD control becomes crucial to successful operations. The Motorola DSR-4500X combines advanced control capabilities with the proven reliability of a Motorola full featured integrated receiver/decoder. The Motorola DSR-4500X features extensive control functionality from both the uplink and headend. The DSR-4500X accepts control commands from the uplink for channel changes, port configuration and installation parameters. From the head-end, full control of the Motorola DSR-4500X is available via an SNMP agent on the Ethernet port. The Ethernet port also supports the programmer's advanced network functions by outputing multicast Internet Protocol data from the uplink.

Disaster recovery and network migration are effectively implemented by utilizing multiple RF input ports, a variable front-end tuner, the bypass mode of operation and the ability to receive clear analog programming in addition to digital signals.

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

### *HIGHLIGHTS INCLUDE:*

- 8 RF inputs
- 10/100 BaseT Ethernet port
- ASI and DHEI outputs
- MPEG-2 Main Level@Main Profile and DigiCipher® II digital video
- Variable symbol rate from 3.25 Msps to 29.27 Msps
- Supports maximum 40.46 Mbps throughput for *MegaPipe* configurations
- Dolby® brand AC-3® audio processing
- VBI reinsertion SID/AMOL-I & II, NABTS and closed caption
- 4-line front panel
- Separate video output for diagnostic on-screen-display (OSD)
- DigiCipher II conditional access control
- Quick disconnect screw terminals for easy installation of audio and data
- Bypass video and audio inputs
- DTMF cue tones for local ad insertion
- 3 sets of contact closures (1 set can be used for summary alarm)



## GENERAL SPECIFICATIONS

### Input

| | |
|---|---|
| Input Signal Level: | (-)65 dBm to (-)25 dBm |
| Input Frequency: | 950 - 2150 MHz |
| Input Impedance: | 75 ? |
| Input Connectors: | Eight (8) F-type |
| LNB Power Out F-Connectors: | 16V DC min/250 mA (port 1 only) |
| Port-to-Port Isolation: | 40 dBm (minimum) |

### Digital Processing

| | |
|---|---|
| Modulation Modes: | OQPSK and QPSK |
| Symbol Rates: | 3.25, 4.88, 7.32, 9.76, 11.71, 14.63, 19.51, 29.27 Msps |
| Forward Error Correction: | 3.25 to 14.63 Msps (combined) @ 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 7/8<br>19.51 (split/combined) and 29.27 (split) Msps @5/11, 1/2, 3/5, 3/4, 4/5, 5/6, 7/8<br>29.27 (combined)Msps @ 5/11, 1/2, 3/5, 2/3, 3/4 |

### Video

| | |
|---|---|
| Frequency Response (NTSC): | ±0.75 dB p-p, 1 kHz - 4.2 MHz |
| Frequency Response (PAL): | ±0.75 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 ? |
| Output Level: | 1 V p-p |

### Audio

| | |
|---|---|
| Output: | 2 stereo pair or 4 mono |
| Output Level: | ±16 dBm, ±1 dB into 600 ? balanced load, adjustable (0 to (-)15 dB) |
| Frequency Response: | ±1 dB, 20 Hz to 20 kHz |
| Total Harmonic Distortion: | 0.25% or better at 1 kHz |
| Signal/Noise Ratio: | 85 dB at 1 kHz |
| Isolation, L/R: | 80 dB at 1 kHz |
| Impedance: | 600 ? |
| Connector: | Quick disconnect screw terminal |

### Data

| | |
|---|---|
| Asynchronous Data Rate: | 1.2, 2.4, 4.8, 9.6 and 19.2 kbps |
| Isochronous Data Rate: | 19.2 kbps - 2.048 Mbps, 3, 4.5, 9 Mbps |

### ASI Output

| | |
|---|---|
| Format: | Asynchronous serial interface |
| Transmission: | Data burst |
| Standard: | CENELEC EN 50083-9 |
| Connector: | BNC |

### DHEI Output

| | |
|---|---|
| Format: | Differential ECL |
| Packet Clock Rate: | 29.26 Mbps |
| Connector: | DSUB-15 |

### Cue Tones

| | |
|---|---|
| Signal Type: | Differential output |
| Signal Level: | (-)10 dB min (600? )/tone |
| Connector: | Quick disconnect screw terminal |

### Contact Closures

| | |
|---|---|
| Closures: | 3 (1 summary alarm) |
| Type: | Form C |

### Ethernet

| | |
|---|---|
| Connector: | RJ-45 |
| Format: | 10/100BaseT |
| Max Throughput: | 9.0 Mbps |

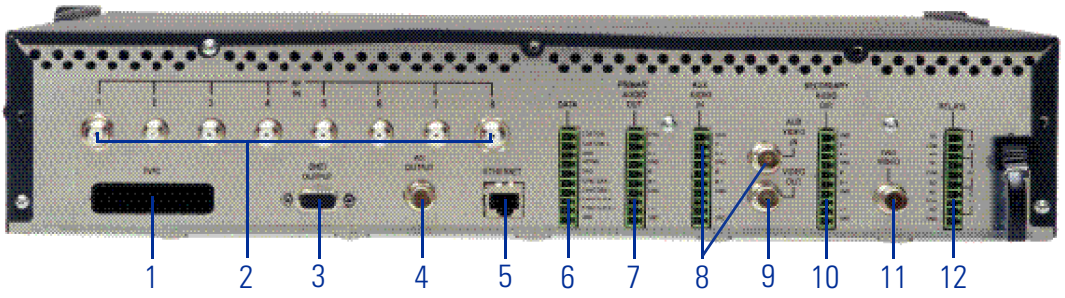
### Physical

| | |
|---|---|
| Operating Temperature: | 0 to 40°C (ambient) |
| Humidity: | 5 to 95% (relative, non-condensing) |
| Dimensions: | 78cm(W) x 46cm(D) x 8.9cm(H) |
| Weight: | 8.0 kg (approx.) |
| Power Input: | 90-250 VAC, 47-63 H, 55 W (max) |

### Other

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

## INPUTS/OUTPUTS




1..... TVPass® Card Slot
2..... RF Input Ports
3..... DHEI Port
4..... ASI Port
5..... Ethernet
6..... Data
7..... Primary Audio Out
8..... Aux Video & Audio In
9..... Primary Video Out
10..... Secondary Audio Out
11..... Video Out (with OSD)
12..... Relays

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