DSR-4550
Commercial Integrated Receiver/Decoder

An Advance Feature Digital Satellite Receiver for Cable Programmers and Operators

**Highlights Include:**

- Gig-E output for easy connection to digital cable headend products
- Advanced Modulation support with 8PSK Turbocode
- Digital component video output (SDI) with embedded audio
- AES digital audio output
- ASI input/output
- 8 RF Inputs (L-Band)
- MPEG-2 Main Level@Main Profile
- DigiCipher® II MegaPipe+ Support
- Variable tuning from 4 MHz to 36 MHz
- Dolby® Digital and MPEG layer II audio processing
- VBI reinsertion SID/AMOL-II, NABTS and closed caption
- DigiCipher II conditional access control
- Quick disconnect screw terminals for easy installation
- 1RU chassis design
- Bypass video and audio inputs
- DTMF cue tones for local ad insertion
- 10/100 BaseT Ethernet port for SNMP monitoring and control

- DSM-CC Encapsulated IP data output
- Dedicated video diagnostics output
- Over-the-air software download capability

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

The new DSR-4550 IRD from Motorola brings the latest technology advances from a recognized leader in satellite program delivery. Building on the DigiCipher II platform, the DSR-4550 IRD is affordable and easy to use. Its sleek packaging design fits in a standard 19” relay rack and requires only a single rack unit of space. The DSR-4550 is designed to deliver excellent video and audio performance.

The DSR-4550 supports digital component video (SDI). The SDI output provides 2 channels of embedded audio to allow easy routing of video and audio through a cable facility. The discrete AES audio outputs can be used in combination with the SDI video without the need for audio de-embedding equipment. Dolby digital audio pass-through is available on both the SDI embedded audio and the discrete AES audio outputs.

Equipped with both ASI input/output and Gig-E output, the DSR-4550 is ready to connect easily to the rest of your headend equipment. The Gig-E port can be used to output a decrypted transport stream as well as encapsulated IP data while the 10/100 Base-T Ethernet connection allows for remote command/control capabilities via SNMP. With advanced modulation support, the DSR-4550 also supports 8PSK Turbo modulation.
## TECHNICAL SPECIFICATIONS

### L-Band Input
- **Input Frequency:** 950 - 2150 MHz
- **Input Impedance:** 75 Ω
- **Input Connectors:** Eight (8) F-type
- **LNB Power Out:**
  - F-Connector: 16V DC min/450 mA
  - Port-to-Port Isolation: 40 db (minimum)

### DigiCipher II Processing
- **Modulation Modes:** QOQPSK, QPSK, 8PSK turbo
code
- **QPSK Symbol Rates:** 3.25, 4.88, 732, 9.76, 11.71, 14.63, 19.51, 29.27 Msps
- **8PSK Turbo Symbol Rates:** 1 to 30 Msps variable
- **QPSK FEC Rates:** 5/11 (19.51 & 29.27 Msps only)
  - 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 7/8
- **8PSK Turbo FEC Rates:** 2/3 (1.92), 3/4 (2.05), 3/4 (2.11), 3/4 (2.19), 5/6 (2.30), 8/9 (2.40)

### Composite Video
- **Frequency Response (NTSC):** ±0.9 dB, 1kHz - 4.2 MHz
- **Frequency Response (PAL):** ±0.9 dB, 1kHz - 4.8 MHz
- **Signal/Noise Ratio:** 57 dB (min)
- **Differential Gain:** 4.5% p-p (max) (10% to 90% APL)
- **Difference Phase:** 4.5 deg. (max)
- **Output Impedance:** 75 Ω
- **Output Level:** 1.0 V p-p ± 10%

### Audio
- **Output:** 2 stereo pair or 4 mono
- **Output Level:** ±16.0 dBm, ±1.0 dB into 600 Ω balanced load adjustable (0 to -15 dB)
- **Frequency Response:** ±1.0 dB, 20 Hz to 20 kHz
- **Total Harmonic Distortion:** 0.4% or better at 1kHz
- **Signal/Noise Ratio:** 85 dB or better at 1 kHz
  - RE: +16 dBm, measured at 20 Hz to 20 kHz
- **Isolation, L/R:** 80 dB at 1 kHz
- **Impedance:** 50 Ω
- **Connector:** Quick disconnect screw terminal

### SDI
- **Output Level:** 800 mV, ±80 mV
- **Output Impedance:** 75 Ω
- **Standard:** SMPTE-259M
- **Connector:** BNC

### Digital Audio
- **Standard:** AES
- **Connector:** BNC
- **Number of Channels:** 2

### Ethernet Output
- **Format:** 10/100BaseT and Gig-E
- **Connectors:** Two (2) RJ-45

### ASI Input/Output
- **Format:** Asynchronous serial interface
- **Transmission:** Data byte and packet
- **Standard:** CENELEC EN 50083-9
- **Connector:** BNC

### Cue Tones
- **Signal Type:** Differential output
- **Signal Level:** 0 dBm, ± 3 dB (600 Ω)/tone
- **Connector:** Quick disconnect screw terminal

### Contact Closures
- **Number of Closures:** 4 (1 alarm)
- **Type:** Form C

### Physical
- **Width:** 18.9” (48cm)
- **Depth:** 18.1” (46cm)
- **Height:** 1.65” (4.2cm)
- **Weight:** 12 lb (5kg) approx
- **Power Input:** 100-240 VAC, 50-60Hz, 60 W
- **Operating Temperature:** 0 to 40C
- **Humidity:** 95%, relative maximum

### Other
- **Limited Warranty:** One year
- **Compliance:** UL listed/approved