# EOS Ground Station Specifications

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| Aperture: | 11.3-meter |
| Performance: | Simultaneous X-Band receive, S-Band receive, and S-Band transmit |
| Receive Band: | 8000 to 8500 MHz<br>2200-2400 MHz |
| System Figure-of-Merit (G/T): | 36.0 dB/K at 8200 MHz<br>23.0 dB/K at 2250 MHz |
| Transmit Band: | 2025-2120 MHz |
| Transmit EIRP: | +97.0 dBm |
| Uplink Amplifier: | 200-watt Multi-stage Solid-state |
| Station Data Handling: | TCP/IP |

S-Band Transmit and Data Handling:

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| Modulation: | FM, PM, BPSK |
| Data Rates: | up to 12 Mbps |
| Subcarrier: | 1 kHz to 2 MHz (BPSK) |
| Formats: | NRZ-L, M, S and BIØ-L, M, S |
| Polarization: | LHCP, RHCP |

S-Band Receive and Data Handling:

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|---|---|
| Demodulation: | FM, PM, BPSK, QPSK |
| Data Rates: | up to 4.0 Mbps or 8.0 Msps NRZ-L |
| Formats: | NRZ-L, M, S and BIØ-L, M, S |
| Polarization: | LHCP, RHCP |

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| S-Band Recording: | Metrum VLDS 30 Mbps digital tape recorder (SVHS) |

X-Band Receive:

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| Polarization: | LHCP, RHCP |

Data Handling (using the Scientific-Atlanta 924 Demod/Bit Synchronizer):

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| JERS: | 60 Mbps Differential QPSK |
| ERS-1: | 105/85 Mbps Differential QPSK |
| ERS-2: | 105/85 Mbps Differential QPSK |
| Radarsat: | 105/85 Mbps Differential QPSK |
| ADEOS: | 60 Mbps and 6 Mbps Differential QPSK |
| Landsat-7: | 150 Mbps AQPSK |

EOS Data Handling (using the Aydin Model 2707D Demod/Bit Synchronizer)

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| EOS AM-1: | 75/75 Mbps SQPSK (PRN Code) NRZ-M, S<br>75/75 Mbps SQPSK NRZ-M, S (resequenced to 150 Mbps)<br>13.125/13.125 Mbps USQPSK NRZ-M, S<br>13.125/105 Mbps AQPSK NRZ-M, S |

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| X-Band Recording: | Ampex DIS 260i High-Rate Digital Tape Recorder<br>Sony ID-1 High Rate Digital Tape Recorder |
| Metric Tracking: | Low-speed and High-speed Doppler and digital ranging |

*For more information, please contact Patrick M. Hennessy, Code 532.2, NASA Goddard Space Flight Center, Greenbelt, MD 20771 or call 301-286-8831.* *August 28, 1996.*