

# Smart Satellite Data Link System

The Smart Satellite Data Link System (SSDLS) is indigenously designed and developed by SUPARCO for "Communication on-the-Move (COTM)" requirements of its commercial and strategic users. It provides secure, encrypted and robust command and data (i.e. telemetry, video and voice) communication services to airborne, ground and sea based platforms within coverage area of any Ku-band communication satellite. It is a compact (0.6m envelope), lightweight (<20Kg) and MIL-Std-810G & MIL-Std-461E compliant system with two Line Replaceable Units (LRUs): Data Processing Unit (DPU) & Antenna Control Unit (ACU). It employs a highly sophisticated Mono-Pulse based Tracking scheme to provide high tracking precision and accuracy (i.e.  $\pm 0.2$  degrees). The system supports point-to-point and network-based communications and it can integrate easily into various commercial and military systems by means of its customizable mechanical and electrical interfaces.

## Physical Specs

- Envelope: 0.670m (H) x Dia (0.634 m)
- Mass: ~ 18 kg
- Azimuth Travel: 3600 Continuous
- Elevation Travel: 5° to 85°
- Polarization Travel: -90° to 90°
- Tracking Accuracy:  $\pm 0.2^\circ$
- Tracking Agility: 40°/s

## Electrical Specs

- Nominal Power: 600 W (max.) @ 28V bus
- Uplink Frequency: 13.75 ~ 14.00 GHz
- Downlink Frequency: 12.50 ~ 12.75 GHz
- Uplink EIRP: 50.0 dBW
- Receive G/T: 6 dB/K
- Uplink Data Rate: up to \*10 Mbps
- Downlink Data Rate: up to \*512 Kbps
- Tracking Scheme: RF Mono-pulse



Tracking Receiver



Antenna Control Unit



Data Processing Unit



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