



Precision Pan-Tilt Unit

Computer-controlled positioning of antennas

Rugged, Flexible, Feature-rich

The PTU-D300-RF provides fast, accurate positioning of antennas and other payloads. It features a DC-18GHz RF rotary joint and slip-ring to provide continuous pan rotation. It provides high torque for payloads up to 70 lbs while maintaining speed, precision, and a small form-factor. The real-time control capabilities make the D300-RF ideal for tracking applications. The durability of the D300-RF make it suitable for harsh environments such as air, ground, or sea vehicles.

The D300-RF is designed for demanding applications that require high duty-cycles and long-life in harsh all-weather environments. Key features include:

- Flexible payload mounting for all antenna types
- Solid and vibration-tolerant for vehicle-mounted applications
- Large payload capacity (35 lbs. top-mount; 70 lbs. side-mount)
- Wide-range of pan speeds (< 0.0064°/sec. to 50°/sec.)
- Extremely precise positioning (0.0064° with microstep)
- 360° continuous-pan including pass-through for DC-18 GHz RF and serial/control lines
- Single connector for all control, power
- Precise control of position, speed & acceleration
- Simple control from host computer via RS-232/485
- Fully sealed for outdoor/marine applications (IP67)



Applications

- Air/Ground Communications
- Shipboard Communications
- Electronic Surveillance
- Scientific and R&D



General Features

- Solid and vibration-tolerant
- 360° continuous-pan with pass-through for RF
- Flexible payload mounting (top or side)
- Precise control of position, speed & acceleration
- CE Mark & FCC certified

Options

- Heavy-duty side mount brackets
- Alternate ranges of motion

Pan-Tilt Performance (Standard)

	Side Mount	Top Mount
Max Payload ^a	70 lbs. (31.8 kg.)	35 lbs. (15.9 kg.)
Max Speed ^b	50°/second	50°/second

^a Over-the-top payload assumes COG 6" from tilt axis; over the side payload assumes balanced COG.

^b Max speed may depend on exact payload configuration and dynamics.

Pan-Tilt Features

Tilt Range (approx)	+30° to -90° from upright (120° range)
Pan Range	360° continuous
Pan Speed Min	.0064° /second
Tilt Speed Min	.0064° /second
Pan Position Resolution	.0064° (with microstepping)
Tilt Position Resolution	.0064° (with microstepping)
Duty Cycle	Up to 100% duty cycle, or 3-5 million cycles
Acceleration/Deceleration	Trapezoidal. On-the-fly speed and position changes

Power Requirements

Input Voltage	Unregulated 9-30VDC (fastest performance & torque @ 30VDC)
Power Consumption (Measured at 30VDC)	49.2W avg, peak 2.25A (high power mode) 34.2W avg, peak 1.60A (regular power mode) 18.2W avg, peak 0.78A (low power mode(default)) 1.6W (holding power off mode)

Connections & Communications

Base Connectors	PRIMARY: AMP (MIL-C-26482). Includes: PTU-Power (3c) - 9-30VDC + shield PTU-Control (7c) - RS-232/RS-485 Payload Signals (8c)
Payload Single Pass Through	Power (2c): 30VDC max @ 3A max Video (4c): 2xVideo or 1xethernet (10baseT) Other (2c): 30VDC max @ 1A max
RF Pass Through	DC-18GHz via precision SMA on base and near payload
Computer Controls	RS-232/485
Control Protocols	DP (ASCII, Binary)

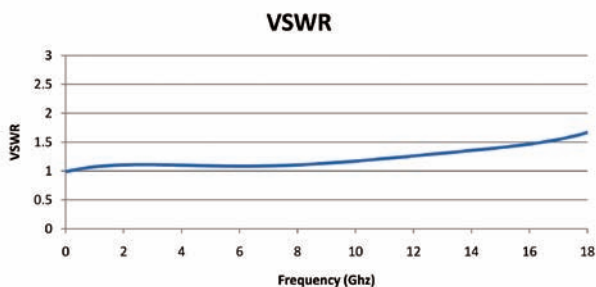
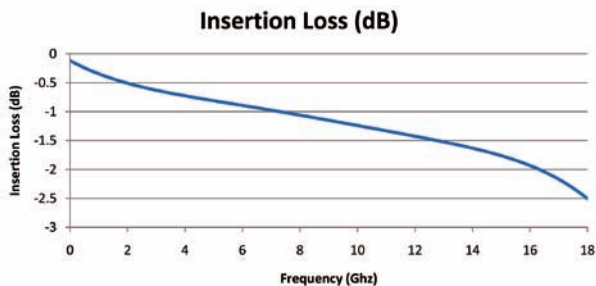
Mechanical

Weight	32 lbs (14.5 kg) (Standard bracket: 1.25 lbs.)
Dimensions	Pan Tilt Only: 16.98" H x 5.53" W x 8.53" D
Payload Mounting	Top-mount plus single/dual side mount
PTU Mounting	Pedestal mount
Material	Machined aluminum

Packaging & Environmental

Standards	Designed to IP67
Operating Temperature	-30°C to 70°C
Non-Operating Temperature	-30°C to 70°C
Humidity	100% relative humidity, non-condensing
Ice (Operating)	Sustain operation with 0.25" ice buildup
Dust/Sand (Operating)	Sustain exposure to blowing dust/sand
Wind/Rain/Fog	IP67
Salt Spray	Sustain operation in salt spray environments
Color/Finish	Black anodized
EMI	FCC Part 15, part B Class B

Specifications subject to change without notice.



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