

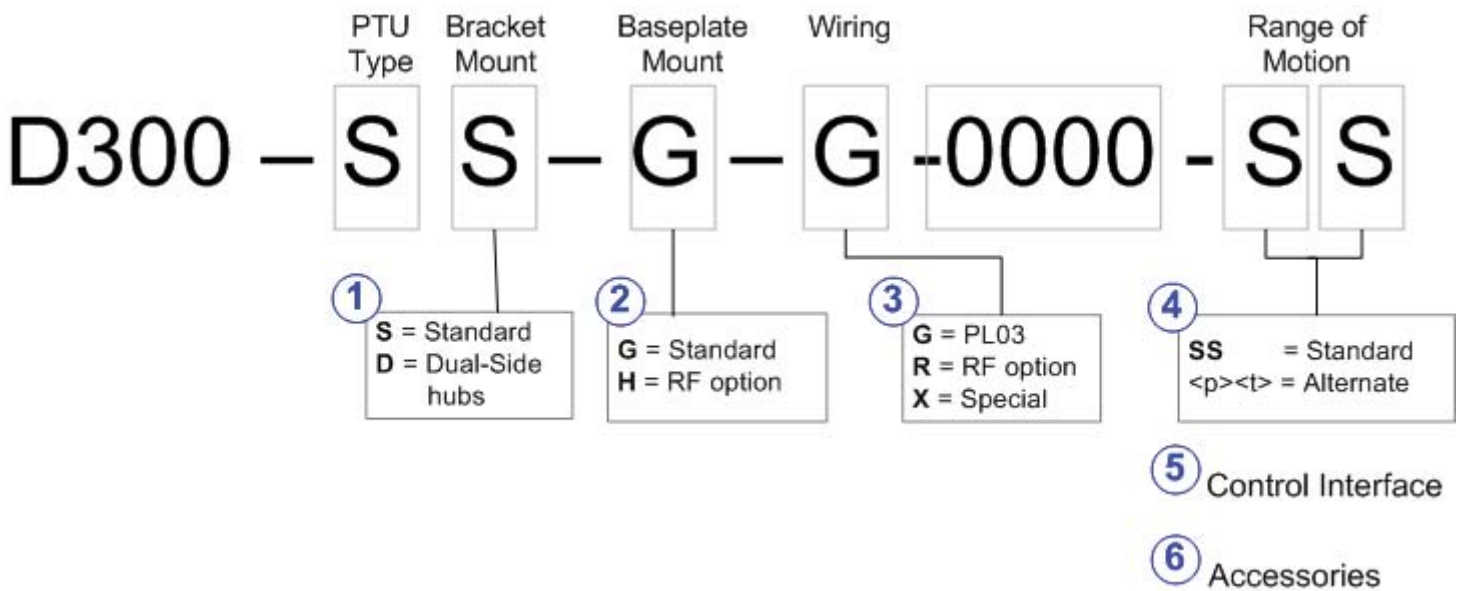


PTU-D300-ISM: Quick Configuration Guide



This guide includes details on configuration options and accessories for the model PTU-D300-ISM pan-tilt units. This guide will walk you through the configuration. Other relevant documents include:

- PTU-D300-ISM Datasheet
- PTU-D300 User Manual
- ISM User Manual
- Pan-Tilt Unit Command Reference Manual



The following are the configuration choices and accessories available for this model:

- ① Payloads can be mounted on the top and/or side. A number of bracket options are available to suit each application.
- ② Baseplate mount types include standard and RF pass-through (see also PTU-D300-RF)
- ③ Different payload pass through wiring options are available for passing signals through the pan-tilt.
- ④ The pan-tilt can be ordered with standard ranges of motion, or with alternate ranges of motion.
- ⑤ Pan-tilt control options include ASCII or binary command set, Ethernet connection, and joystick or gamepad.
- ⑥ Available accessories include cables and converters, power supplies, and starter kits.

1 Bracket Mount

Payloads can be mounted on the top or the side. Side mounting has a higher payload rating than top mount as it reduces the amount of torque on the tilt axis. The PTU-D300-ISM itself can be mounted in any orientation. When mounting in non-vertical orientation, consideration should be given to gravity effects, depending on payload mounting orientation and balance.

Select among the following options for payload mounting bracket configurations.

Single Side Hub

D300- **S** **S** - G - G -0000 -S S

The PTU-D300-ISM comes standard with a single payload mounting hub. This hub can accept "L" brackets that allow payloads to be mounted on the side, the top, or the top plus one side. There are two types of "L" brackets, standard (**D300AC-BKT-Lstd**) and "heavy duty" (**D300AC-BKT-HDS** and **D300AC-BKT-HDT**). Heavy duty brackets are recommended for payloads above 20 lbs. The standard bracket can be used either on the side or top. The heavy duty brackets are available for over the top, or for side use, but they are not interchangeable (see photos).

Ordering:

D300-__**S**-G-G-0000-__-__
 D300AC-Bkt-Lstd
 D300AC-Bkt-HDS
 D300AC-Bkt-HDT

single payload mounting hub
 Standard "L" bracket
 Heavy duty side "L" bracket
 Heavy duty top "L" bracket



Single Side Hub with D300AC-BKT-Lstd (side mounted)



Single Side Hub with D300AC-BKT-Lstd (top mounted)

Dual Side Hubs:

D300- **S** **D** - G - G -0000 -S S

The PTU-D300-ISM is available with dual mounting hubs. This configuration includes a permanently affixed top bracket, and hubs on both sides. Standard "L" brackets (D300AC-BKT-Lstd) and heavy duty "L" brackets (D300AC-BKT-HDS) can be used on either or both sides. Payloads can be mounted on the top plate and/or on attached side "L" brackets. Heavy duty brackets are recommended for payloads above 20 lbs.

Ordering:

D300-__**D**-G-G-0000-__-__
 D300AC-Bkt-Lstd
 D300AC-Bkt-HDS

dual payload mounting hubs
 Standard "L" bracket
 Heavy duty side "L" bracket



Dual-Side Hubs - no "L" brackets



Dual-Side Hubs - with (2) D300AC-BKT-HDS



D300AC-Bkt-Lstd



D300AC-Bkt-HDS

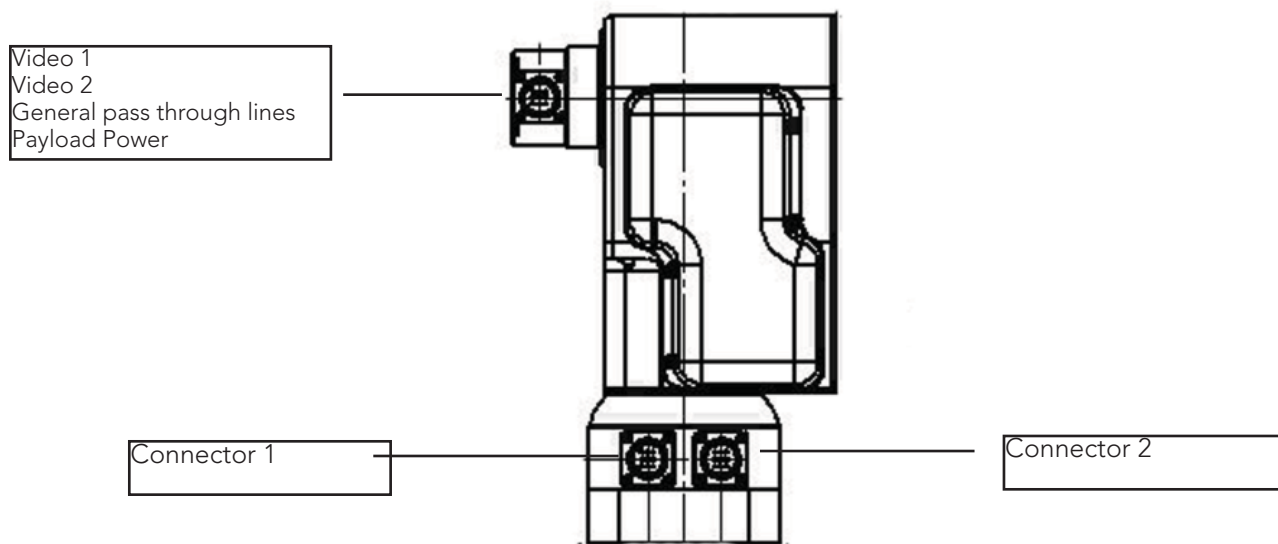
2 Baseplate Mount

D300-SS-G-G-0000-SS

The PTU-D300-ISM standard configuration includes PL03 wiring (see Payload Wiring section). The "H" option is specified for configurations that include the PTU-D300-ISM with the RF option (a.k.a PTU-D300-RF with the ISM option). See also: PTU-D300-RF Configuration Guide.

3 Payload Wiring

The D300-ISM is available with internal pass through wiring and slip-ring for continuous pan rotation. This option provides a 19-pin MIL style connector at the top of the pan-tilt unit near the payload location, which will accept video, power, and other signals. (The mating connector is provided to facilitate cable construction if needed.) These signals then pass through the pan-tilt unit, into two connectors at the base of the unit. This option means you can reduce the amount of external cables and eliminate potential damage to external cables. The RF wiring option provides the PTU-D300-RF wiring configuration on the PTU-D300-ISM system. See User Manuals for details on connector pin outs.



D300-SS-G-G-0000-SS

PL03 wiring

Allows you to route signals to the equipment mounted on the unit as shown in the table at the right. PL03 gives you 12 pass-through conductors on Base Connector 1 and 3 additional pass-through conductors on Base Connector 2 dedicated to the payload. Includes mating connector for construction of payload cable. This configuration includes a slip-ring for 360-continuous pan operation.

Ordering:

D300-___-G-G-0000-___-___ PL03 payload pass-through wiring

RF wiring

D300-SS-H-R-0000-SS

This configuration provides a single DC-18GHz RF pass-through channel via a rotary joint, along with 9 conductors through a slip-ring. See the PTU-D300_RF Datasheet and Configuration Guide for details on the PTU-D300-RF pass-through features.

Ordering:

D300-___-H-R-0000-___-___ RF payload pass-through wiring

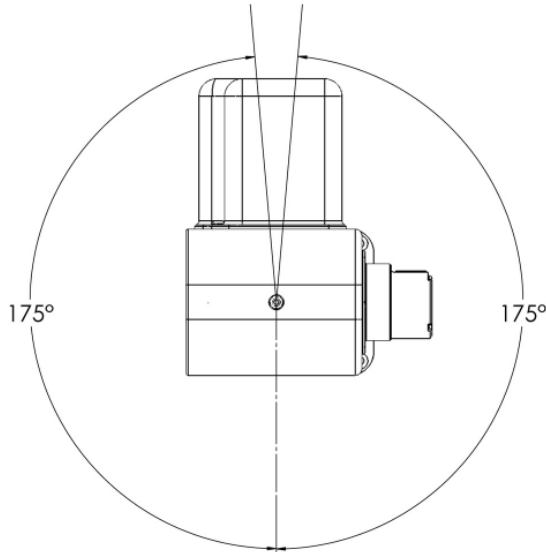
D300-ISM Payload Wiring Options

	PL03	RF
	# of conductors	
Passed Through		
Power	2	2
Video	4	4
General	3	3
RF	0	1
Total	9	9
Signals at Payload		
TTL Outputs	3	
PTU Host Control	0	
CHA/CHB Serial	2	
Base Connector		
RS-232 Host Control	YES	
RS-485 Host Control	YES	

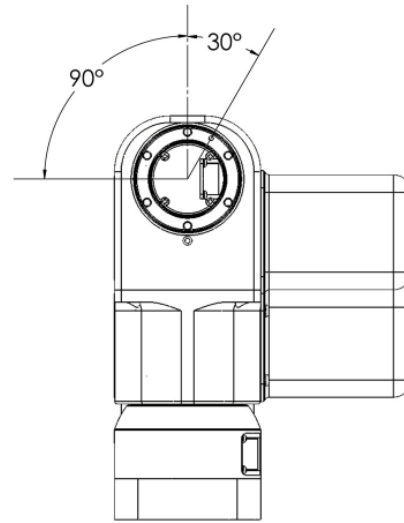
4 Ranges of Motion

The PTU-D300-ISM calibrates automatically on power-up using an internal precision limit detection system. In order for the unit to calibrate successfully, it must explore the full range of motion in both axes. If this calibration sequence may potentially interfere with surrounding equipment, modified pan and tilt ranges can be specified at time of order. The calibration sequence can be software controlled, and suppressed at power up. However the sequence must be executed before absolute position commands will be accepted. Range of motion limits must be set at the factory and cannot be changed by the user.

All PTU-D300-ISM configurations include a slip-ring for continuous pan rotation. Continuous pan mode is enabled with a software command. When not enabled, the pan ranges per below apply.



Pan axis
+/- 175°



Tilt axis
+30° to -90°

Pan Range Options

Ordering:

D300-___-G-G-0000-_*__ <* see below>

Example: D300-SS-G-G-0000-AS = +005/-005 Pan

Available Pan Range Values

S	+175 / -175 (plus continuous) (standard)
A	+005 / -005 Pan
B	+010/-010 Pan
C	+025 / -025 Pan
E	+035 / -035 Pan
F	+090 / -090 Pan
Z	Custom Pan (specify, requires engineering approval)

Tilt Range Options

Ordering:

D300-___-G-G-0000-_*__ <* see below>

Example: D300-SS-G-G-0000-SC = +025/-025 Tilt

Available Tilt Range Values

S	+030 / -090 (standard)
A	+005 / -005 Tilt
B	+010/-010 Tilt
C	+025 / -025 Tilt
E	+035 / -035 Tilt
F	+090 / -090 Tilt (** not compatible with top mount)
G	+000 / -040 Tilt
Z	Custom Tilt (specify, requires engineering approval)

If the standard ranges of motion are acceptable, but a different orientation or center point is desired, the mounting bracket may be differently positioned or rotated in 60 degree increments (may not apply to some top mount configurations). The home or zero position can be changed with a firmware command to correspond with physical orientation of payload.

5 Control Interface

The PTU-D300-ISM supports serial and ethernet interfaces enabling a wide range of system control architectures. Options are described below.

Binary Command Set (C API)

The PTU-D300-ISM interface includes both RS-232 and Ethernet. The Ethernet interface is used to configure the ISM. The RS-232 interface to the ISM module accepts binary forms of the DP command protocol. These binary formats are supported via our C Language Interface library (PTU-CPI) which is provided as ANSI C Source Code which can be compiled into your application on most any computing platform (CPU/OS). The binary command format supports over 60 commands/second and is included with the D300AC-Kit-Starter-ISM.

Ordering:

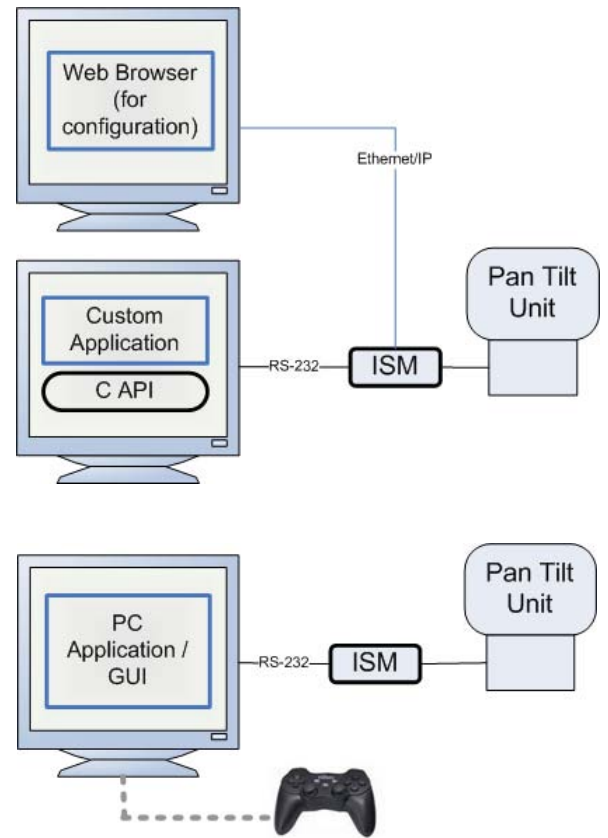
D300AC-Kit-Starter-ISM "Starter Kit for ISM..."

Gamepad + PC Application

The D300AC-Kit-Starter-ISM includes a gamepad and PC application to allow control and operation of the PTU-D300-ISM out of the box with no custom application programming.

Ordering:

D300AC-Kit-Starter-ISM "Starter Kit for ISM..."



6 Accessories

The PTU-D300-ISM is available with several optional accessories to simplify prototyping and fielding of systems. These accessories are described below.

Breakout Cable

Connects to mil-style (MIL-C-26482) base connector of pan-tilt unit and terminates to standard connectors for power, serial communication, payload signals. Terminating connectors are: Power (DIN), 2x video (composite), RS-232 (DB-9, female), RS-485 (RJ11). Length: 25 feet. Material: _____

Ordering:

PTU-AC-CAB-25BO "Cable harness..."

Power Supply

AC/DC, 110/220VAC input, 30VDC output power source for the pan-tilt unit. Dimensions: 3.44"W x2.01"Hx7.61"L.

(NOTE: Input voltages under 30V can reduce the maximum speed of the unit, by an amount that is proportional to the voltage difference.)

Ordering:

PTU-AC-APS-30V "AC/DC International power supply..."

Starter Kit

Includes one power supply (PTU-AC-APS-30V) and one breakout cable (PTU-AC-CAB-25BO), gamepad controller and software (PT-PSC and PT-AS-01).

(NOTE: Input voltages under 30V can reduce the maximum speed of the unit, by an amount that is proportional to the voltage difference.)

Ordering:

D300AC-Kit-Starter-ISM "Includes (1) PTU-AC-APS-30V, (1) PTU-AC-CAB-25BO..."

Extension Cables

Extends length of breakout cable. Male connector on one end, female connector on the other. Available in 50' and 100' lengths.

Ordering:

PTU-AC-CAB-Ext-50 "50' extension cable..."

PTU-AC-CAB-Ext-100 "100' extension cable..."

Mating Connector

Mating connector for Base and Payload pan-tilt connectors (MIL-C-26482). Can be used to make custom cables for pan-tilt and/or payload.

Ordering:

PTU-AC-cable01-19PmilC "Mating connector..."

RS-485 to RS-232 converter

Bi-directional module to convert signals from RS-232 to RS-485. Includes power supply, coupler and cable.

Ordering:

PTU-AC-Conv-RS485C "RS232/485 converter..."

