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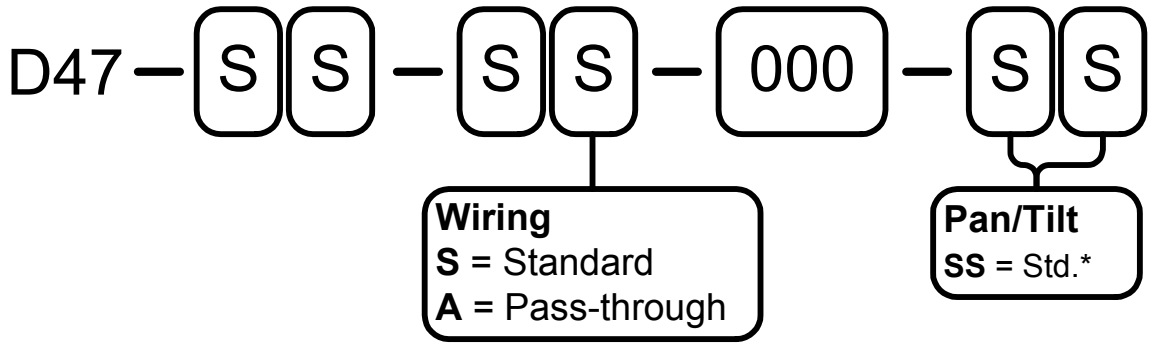
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This *Configuration Guide* lists the configuration options and accessories for the PTU-D47 pan-tilt units (PTU-D47) manufactured by FLIR Motion Control Systems, Inc. Additional information and instructions for the PTU-D47 are available in the following documents:

- PTU-D47 *Datasheet*
- PTU-D47 *User Manual*
- Pan-Tilt Unit *Command Reference Manual*

Model Numbers



* = SS denotes standard pan/tilt range of motion. Other lettering denotes alternate pan and/or tilt range of motion.

Available Options

The following configuration and options are available for the PTU-D47:

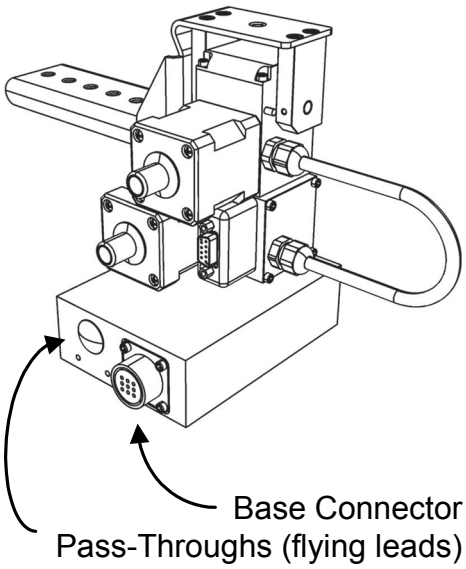
- **Payload Wiring:** The PTU-D47 may be ordered with or without payload pass-through wiring. Page 2.
- **Range of Motion:** If needed, you may request special limits. Page 3.
- **Pan-Tilt Controls:** The PTU-D47 can be controlled using an ASCII command set, Ethernet/web connection, external joystick, or binary command set. Page 4.
- **Accessories:** Available accessories include cables, converters, power supplies, and starter kits. Page 5.

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Payload Wiring

The D47 is available with pass-through wiring to carry video, power, and other signals to the payload. Pass-through wiring consists of flying leads that extend from the base of the PTU and are then wired externally to the payload. This option simplifies and streamlines external cabling.



Note: The PTU-D47 is not available with a slip ring and is therefore incapable of continuous (360°) pan axis rotation.

Standard

The PTU-D47 comes standard with no payload pass-through wiring.

Part Number: D47-SS-**SS**-000-__

Pass-Through Wiring

This option adds flying leads that allow you to route signals to the payload mounted on the PTU-D47 as shown in the following table.

	No Pass-Through	Flying Leads
	# of conductors	
Passed Through		
Power	0	2
Video	0	2
General	0	4
Total	0	8
Base Connector		
RS-232 Host Control	YES	YES
RS-485 Host Control	YES	YES

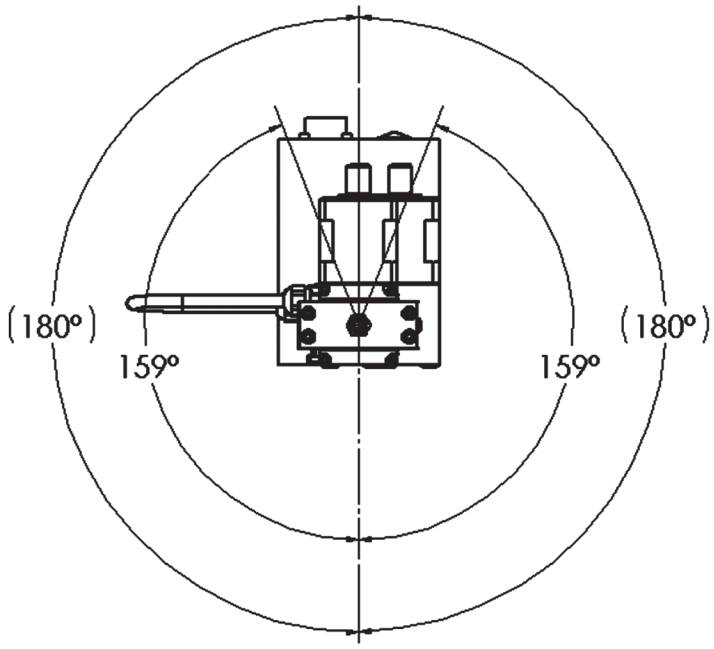
Part Number: D47-SS-**SA**-000-__

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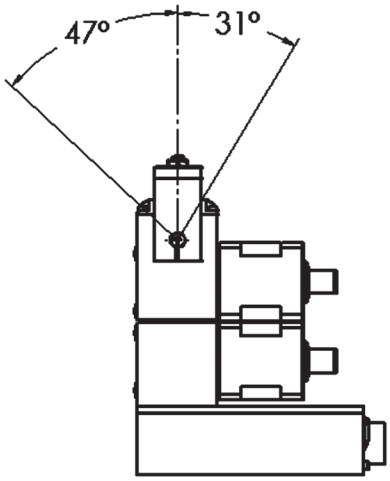
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Range of Motion

The PTU-D47 has the following standard factory pan and tilt axis limits. Factory limits define the range of motion allowed for an axis when limits are enabled, and that axis cannot travel beyond those limits.You may also order a PTU-D47 with an optional slip ring that allows continuous 360° pan-axis movement (see Page 3).



PAN AXIS +/-159 °
(+/-180 ° EXTENDED RANGE)



TILT AXIS
-47 ° TO +31 °

Note: You may special order a PTU-D47 with custom hard stops installed and/or with custom bracket positioning, factory ranges of motion, etc. Please contact FLIR Motion Control Systems, Inc. for assistance.

Note: The PTU-D47 supports tilt axis limits of -80° to +31° with extended range.

Pan Range Options

Part Number: D47-SS-__-000-*_

Tilt Range Options

Part Number: D47-SS-__-000-_*

The part number on your PTU-D47 may vary as shown here to reflect any special-ordered custom limits, stops, etc.

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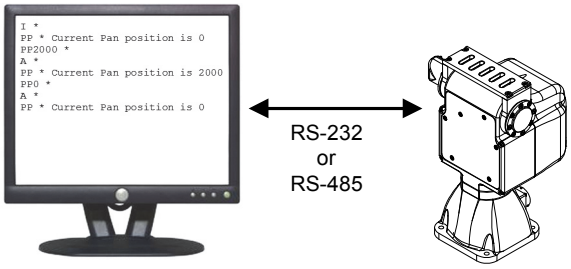
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Pan-Tilt Controls

PTUs support serial, Ethernet/web, binary, and joystick control interfaces that provide a wide range of system control architectures. The following options are available:

ASCII Command Set

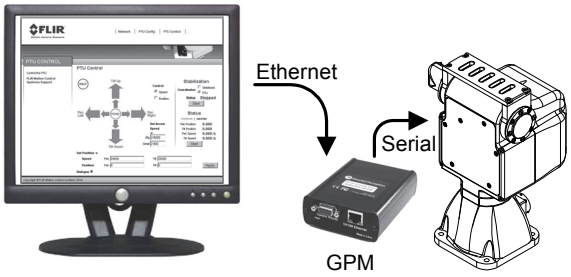
Your PTU can be controlled via the standard built-in serial port (RS-232 or RS-485) using simple ASCII commands. (See the *Command Reference Manual*.) This can be done using a terminal program or a custom application.



Ethernet/Web Interface & GPM

Your PTU can be controlled via Ethernet/IP using the Geo-Pointing Module (GPM), which includes a simple web-based interface for PTU control and configuration from a mouse and entered commands. The GPM also allows PTU control using latitude, longitude, and altitude commands. (See the *Geo Pointing Module Users Manual*.)

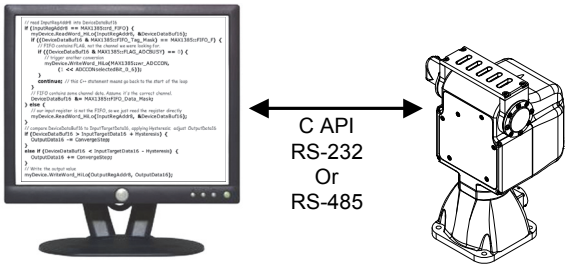
Part Number: PTU-DGPM



Binary Command Set (C API)

Your PTU can also accept binary commands using the optional C Language Binary Command Set (PTU-CPI), which is provided as ANSI C Source Code that you can compile into your application on most computing platforms (CPU/OS). The binary command format is recommended for high-performance applications such as tracking.

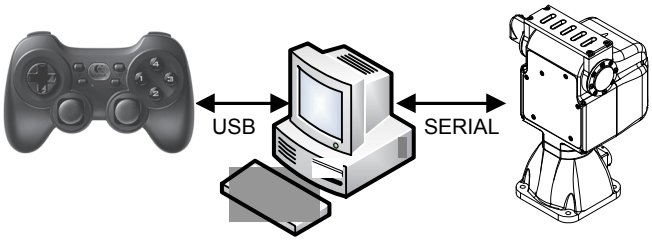
Part Number: PTU-CPI



Gamepad Controller

A USB gamepad controller is available to control a single PTU and up to two VISCA-compatible cameras that are connected to a host computer via a serial connection. The PTU Joystick Control utility is included with PTUs.

Part Number: PT-PSC



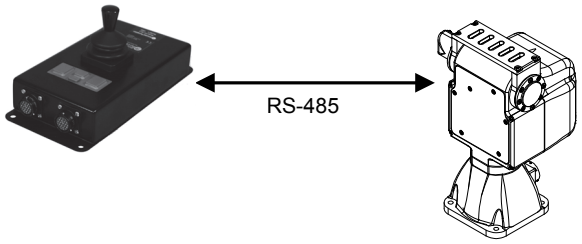
Note: Cameras should be connected to the host PC using a dedicated serial connection for each camera.

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Rugged Joystick

A rugged joystick (PT-DCJ) is available for direct control of the PTU with no computer required. The PT-DCJ provides proportional joystick control and other inputs via a 25' connection cable. (Please see the *PT-DCJ Datasheet* for details.)



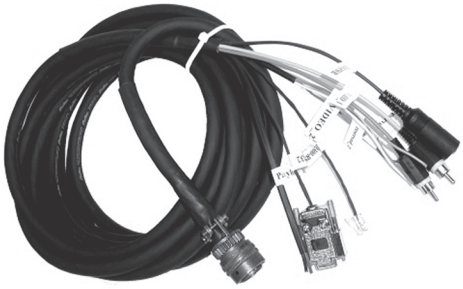
Part Number: PT-DCJ (joystick)
PT-DCJ-CABLE (cable; required)

Accessories

The following accessories may be ordered for your PTU. These accessories simplify system prototyping and fielding.

Breakout Cables

The breakout cable connects to the 19-pin base connector (MIL-C-26482) on the PTU and terminates to standard connectors for power, serial communication, and payload signals. The terminating connectors are: Power (DIN), 2x video (composite), RS-232 (DB-9, female), RS-485 (RJ11), and payload pass-through conductors. Length: 25'.



Part Number: PTU-CAB-25BO

Power Supply

PTU power supply unit. 30VDC output, 110/220VAC input.

Dimensions: 3.44"W x2.01"Hx7.61"L.
Part Number: PTU-APS-30V-NA (North America) or
PTU-APS-30V-EC (Europe)



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

Starter Kit

The PTU starter kit includes one power supply (PTU-APS-30V), one 25' breakout cable (PTU-CAB-25BO), and one USB to RS-485 adapter cable (PTU-CONV-USB-RS485).
Part Number: D47-KIT-S-TR-NA (North America) or
D47-KIT-S-TR-EC (Europe)

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

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Mating Connector

Mating connector for the 19-pin base and payload connectors (MIL-C-26482) PTU connectors. Use this to make custom PTU and/or payload cables.

Part Number: PTU-CAB1-19PMILC (19-pin)

Note: Each PTU with a wiring option (PL01, PL02, or PL17) includes one (1) 19-pin mating connector (PTU-CAB1-19PMILC).



RS-485 to RS-232 Converter

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

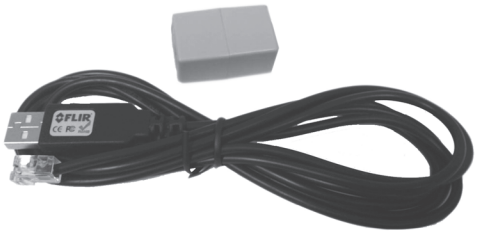
Part Number: PTU-CONV-RS485C



USB to RS-485 Adapter Cable

Cable that converts USB to RS-485 serial connections.

Part Number: PTU-CONV-USB-RS485



Rugged Joystick and Cable

This rugged joystick allows PTU control without a host computer. Cable ordered separately.

Part Number: PT-DCJ (joystick) and
PT-DCJ-CABLE (25’ DCJ connection cable)



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Geo-Pointing Module and Ethernet/Web Interface



The Geo-Pointing Module (DGPM) provides both an Ethernet/ web interface for PTU control and geo-pointing capalities. Please see the following documents for additional information:

- *Geo-Pointing Module Datasheet*
- *Geo-Pointing Module User's Manual*

Part Number: PTU-DGPM

Extension Cables



An extension cable extends the length of a breakout cable. There is a male connector on one end and a female connector on the other. Available in 50' and 100' lengths.

Part Number: PTU-CAB-EXT-50 (50') or
PTU-CAB-EXT-100 (100')

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