



# STANDARD OPERATING PROCEDURE

<b>SOP NUMBER</b> <b>SCE-001-01</b>	<b>SOP TITLE</b> <b>OPERATING PROCEDURES AND PRECAUTIONS FOR THE COMPUTER CONTROLLED PAN-TILT UNIT MODEL PTU-D300</b>
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**PART 1**

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**PART 2**

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**PART 3**

<b>Authoriser</b>	<b>Date of Issue:</b>
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<b>Dr. Axel Steuwer</b> Director - RSSD	<b>Date of next revision:</b>

**PART 4 (To be filled in by OOS, QSU or RSSD)**

<input type="checkbox"/> This procedure has been revised and is no longer valid as from:  (Write date)	<input type="checkbox"/> Date of NEXT REVISION is extended until:  (Max. 4 years)	<input type="checkbox"/> SOP rendered obsolete on:  (Write date)
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## 1. Reason for revision

- 1.1. New SOP

## 2. Purpose and scope

- 2.1. To provide standard operating procedures and precautions for the computer-controlled Pan-Tilt unit Model PTU-D300.

## 3. Definitions

- 3.1. SOP – Standard Operating Procedure

## 4. Responsibilities

- 4.1. It is the responsibility of members of staff and/or students making use to the Pan-Tilt unit to follow this SOP.
- 4.2. It is the responsibility of the Lab Coordinator and/or delegate to ensure that this SOP is followed.

## 5. Health and Safety Requirements

- 5.1. Before operating this unit, make sure that you are familiar with the Manufacturer's User's Manual that is available at the Control Systems Engineering Laboratory.
- 5.2. These operating procedures are meant solely for normal use.
- 5.3. Only qualified personnel in the Department should perform installation and servicing of this equipment.

## 6. Procedure

### 6.1. General

- 6.1.1. Before operating the system, make sure that the pan-tilt unit and its payload are tightly secured to a sufficiently strong mounting. **If this is not observed, the unit and/or its payload may be damaged with possible risk of personal injury!**
- 6.1.2. Under normal circumstances, the pan-tilt unit should already have been:
  - 6.1.2.1. Wired and set up to operate through a 9-30V DC power supply capable of 2.25A peak current.
  - 6.1.2.2. Connected to a host computer via an RS-232 link.
  - 6.1.2.3. Have its payload mounting brackets and the payload (if any) secured and in place.

**Failure to adopt all payload-mounting instructions could result in the unit's structural failure and personal injury.**

- 6.1.3. Before using the system, make sure that you are familiar with, and have learned, the basic commands for operating the system by going through Section 4 of the User's Manual.

6.1.4. It is also recommended that when you are still learning how to exercise the unit and familiarising yourself with its operation and commands, do so with the accompaniment of a qualified technical person and with the payload (e.g. camera) **not** mounted.

6.1.4.1. **In case of doubt, contact the Department's technical personnel.**

## 6.2. Operating procedure

6.2.1. Before operating the system, first always make sure that there is no risk of collision with any objects or persons when the unit and its payload will undergo motion through the full range of motion. Refer to Figures (1) and (2) for the unit's mechanical dimensions. Figure (3) depicts the actual hardware.

6.2.2. To operate the system, first run the HyperTerminal (or a similar terminal program) on the host computer with the pan-tilt unit supply turned OFF.

6.2.3. Next turn on the pan-tilt unit power supply, upon which some introductory text should appear on the HyperTerminal screen and the unit will start executing a reset cycle with the pan and tilt axes rotating through their full range of motion.

6.2.4. When the above reset cycle is completed successfully, an asterisk appears on the screen. If this does not happen, contact the Department's technical personnel.

6.2.5. Following a successful reset cycle, you may operate the system. Enter '?' on the terminal screen to get a complete list of possible commands.

## 6.3. Emergency Procedure

6.3.1. In case of emergency, if the unit or payload are about to collide with some obstacle, stop the motion immediately by issuing an H-command on the terminal screen.

A. SPECIFICATIONS

A.1 D300 Mechanical Dimensions

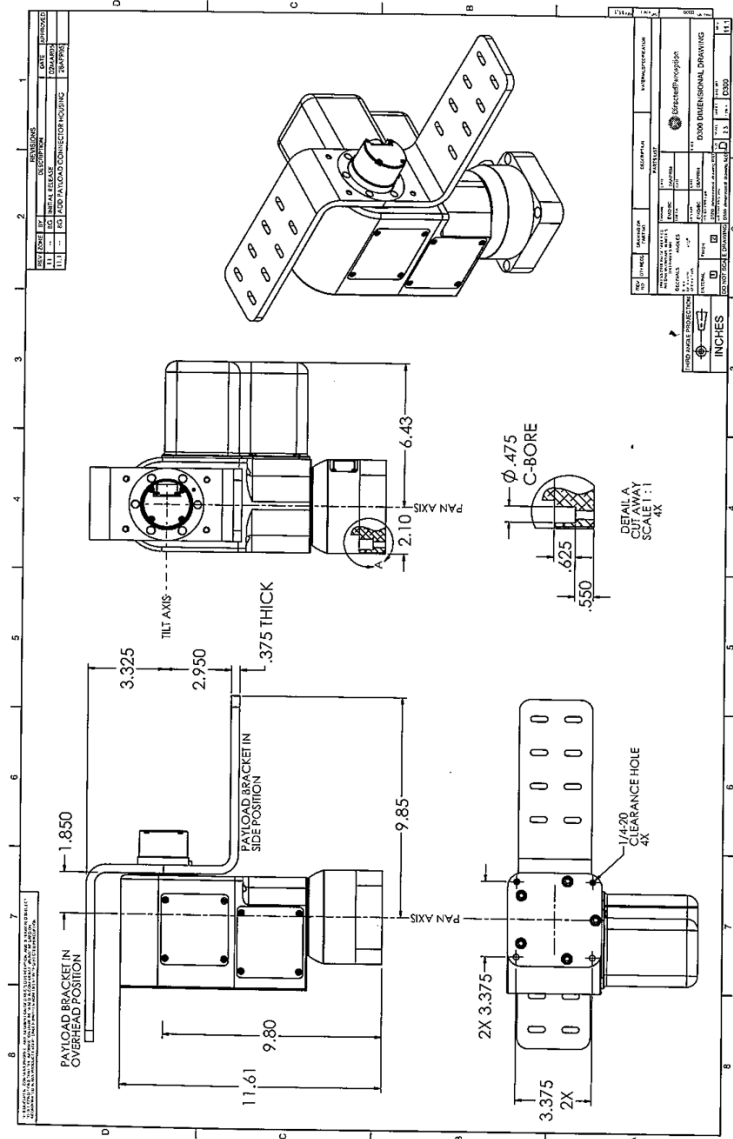
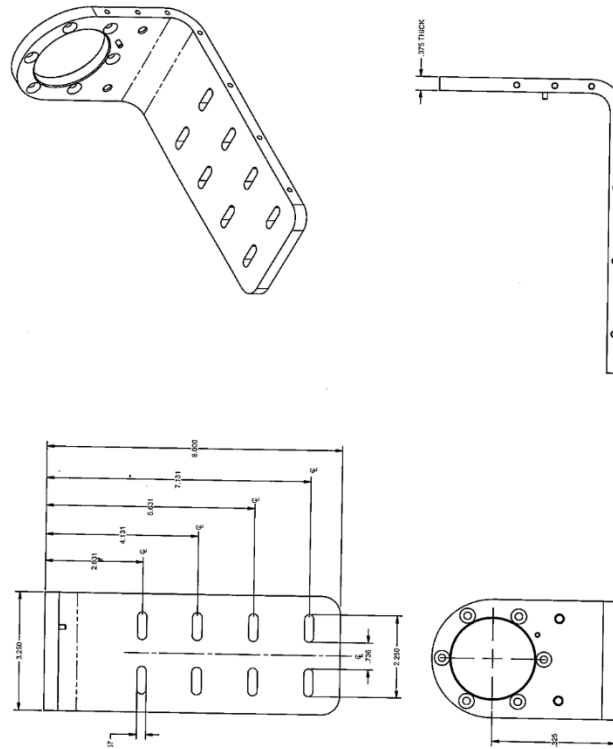


Figure 1: D300 Mechanical Dimensions  
(Reference User Manual – Appendix A pg.31)

**A.2 D300 Payload Bracket Dimensions**



**Figure 2: D300 Pay load Bracket Dimensions**  
(Reference User Manual – Appendix A pg.32)



**Figure 3: The Actual Hardware**

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PTU-D300

**7. References**

7.1. Pan-Tilt Unit PTU-D300 User Manual.

**8. List of Appendices/Worksheets**

8.1. N/A