

D100 ISM Step by Step Installation Guide

Revision 1.00 5/15/2009

Overview

The Inertial Stabilization Module for the D100 requires several connections before the unit can be operated. This guide will walk you through powering up your D100-ISM system for the first time.

Scope

This document covers the initial installation, setup and operation of the D100-ISM system. This is meant only for first time users of a new D100-ISM system, who have purchased the Starter Kit.

Revision Control

Rev	Date	Description	Author	Reviewer
1.00	5/15/2009	Initial Release	LG	TW

Contents

Upon first opening your D100-ISM and Starter Kit you should have the following items.



1x D100-ISM– D100 Inertial Stabilization Version
(brackets may vary)



1x PTU-ISM – This includes a ISM Module, a 12 Volt power supply, and a crossover Ethernet cable.



1x PTU-JOYSTICK – this includes the joystick and windows software (not pictured) to control the Pan-Tilt.



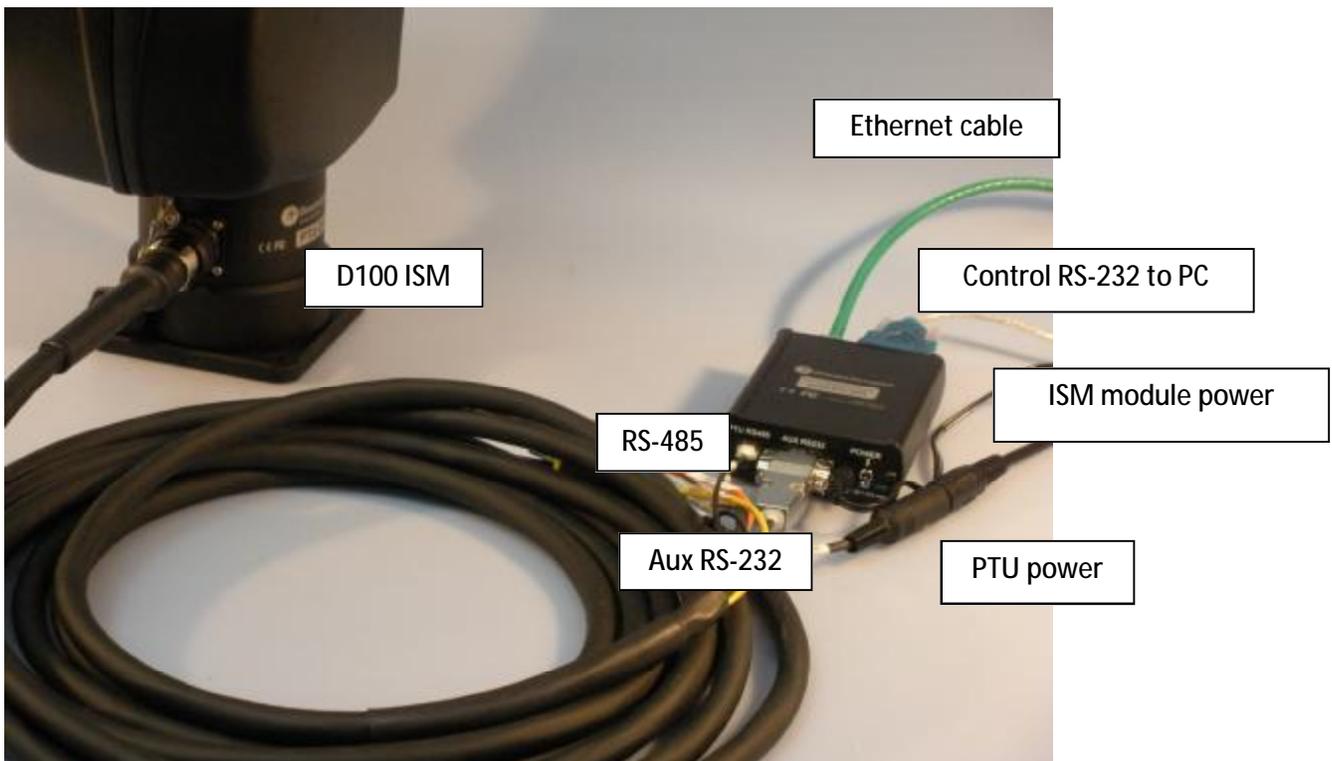
1x PTU-AC-APS-30V – 30 Volt Power Supply



1x PTU-AC-CAB-25BO – 25' Breakout Cable

Setup

The following summarizes the necessary connections to set up your D100-ISM.



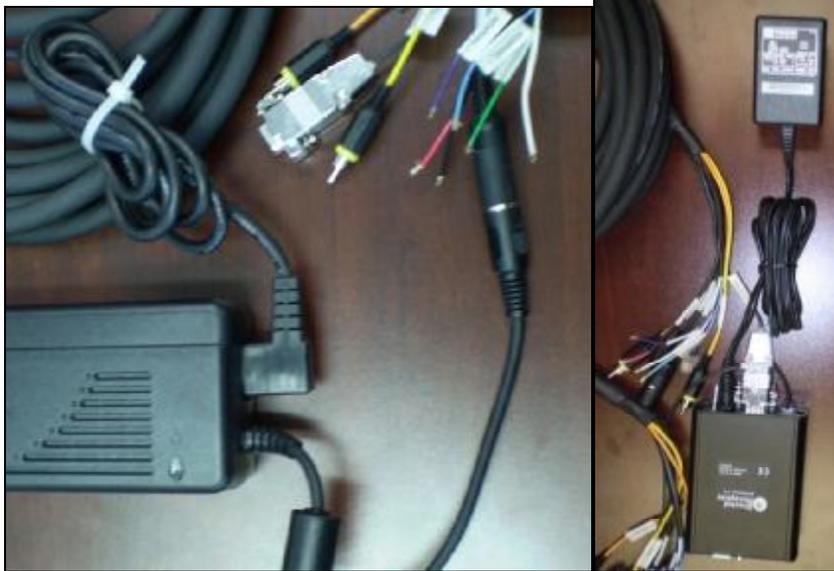
Step by Step



1. The first thing you need to do is plug in the 25' breakout cable into the D100.



2. Now plug the RS232 connector at the end of the breakout cable into the "AUX RS232" port of the ISM module. Then plug the RS485 connector from the breakout cable into the ISM module's "PTU RS485" connector.



3. Next we must power both the D100 and the ISM module. Do this by first connecting the breakout cable power connector "D300-PWR" to the included 30V power supply. Afterwards, connect the included 12 volt wall wart adapter to the ISM module's power connector. Plug both of these power supplies into a single surge protector. **It is important** that you do not control power to the system by plugging/unplugging, but rather through the surge protector. The surge protector maintains a path to ground regardless of if power is supplied, and as such protects the equipment and the user from dangerous shocks.

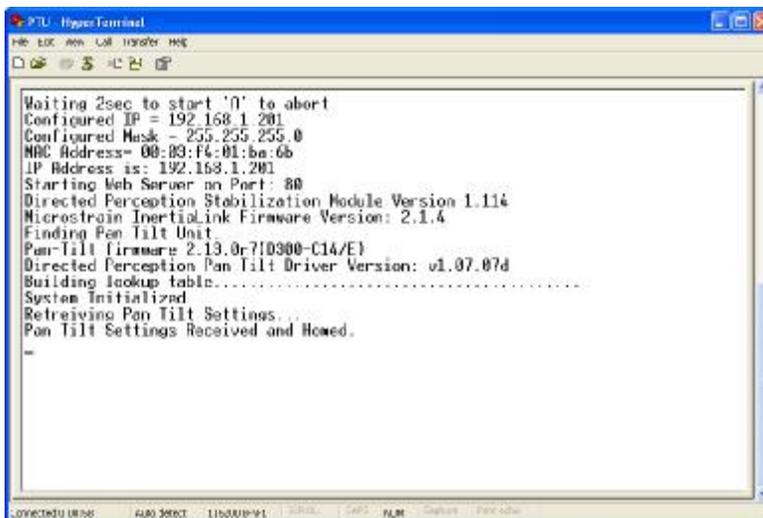
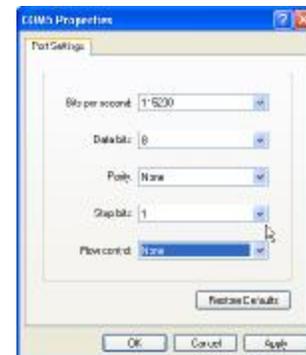
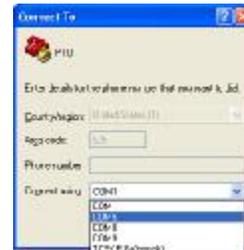


4. You have now completed all connections to the D100; the only remaining items are to connect the ISM to the network, and to connect the RS232 communication between your PC and the ISM module. Do this by using the included cross over Ethernet cable to directly connect the Ethernet port on the ISM module to the Ethernet port on your computer. Finally, connect an RS232 9 port serial cable to the "Control RS232" serial port on the ISM and to an open serial port on your computer.

Power up Test

Now that all of the hardware is assembled, we want to turn on the unit for the first time and confirm that everything is communicating.

1. Bring up windows HyperTerminal by going to Start -> All Programs -> Accessories -> Communications -> HyperTerminal.
2. Once HyperTerminal is running, you should see a "New Connection" dialog. Enter a new name for this connection such as "ISM".
3. You should now see a "Connect To" dialog box. Select the COM port that you connected the RS232 connection to, and click "OK".
4. Now at the Properties windows configure the settings as follow: Bits Per Second: 115200, Data bits: 8, Parity: None, Stop bits: 1, Flow control: None, and press OK.
5. You should now see a blank HyperTerminal window. The next thing you want to do is turn on the pan-tilt. Do so by turning on your surge protector. The pan tilt will do nothing for approximately 30 seconds, and then will begin a calibration routine by moving to all extremes of the device's motion. On your HyperTerminal screen you should begin to see text appear as in the screenshot below.



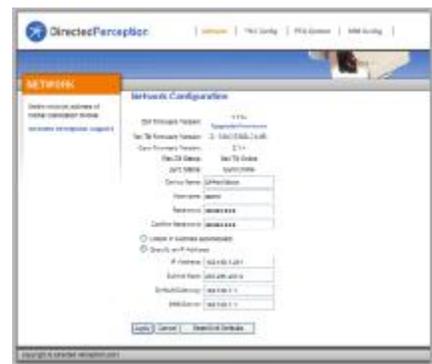
6. After you see the message "Pan Tilt Settings Received and Homed.", type the command "pp". You should see the following response back "pp * Current Pan position is 0". If you see this

response, then you have established full serial communication, and the device is functioning fine. Next we will want get the configuration web site up and running.

Configuration Web Site

The pan tilt has a variety of options which are configurable over a website. This guide will demonstrate how to access the default web site, and how to turn on and test stabilization.

1. Make sure that you are connected directly to the ISM module through the included cross over cable. Once you are connected you need to bring up your network settings. In windows XP, do this by clicking Start -> Control Panel and selecting "Network Connections".
2. Now right click on your "Local Area Connection" and select properties.
3. Scroll through the lists of connection uses, and select the "Internet Protocol (TCP/IP)" and click on Properties.
4. Configure the settings as follows: Check the box that says "Use the following IP address:", IP address: "192.168.1.155", Subnet mask: "255.255.255.0", Default gateway: "192.168.1.1". and press "OK", and "OK" again at the next screen.
5. Now bring up a web browser and go to the address <http://192.168.1.110>. This is the default address for the ISM module, and is adjustable later.
6. You will be prompted for a User name and Password. The default User name is "admin" and the default password is "default". Enter these and press "OK".
7. You should now see the network configuration page for the ISM module; you can adjust these settings to suit your network setup such that you do not have to use the cross over. Next we want to test the stabilization by clicking on "PTU Control"
8. This will take you to the PTU Control page, press "Turn On Stabilization".



9. Now move the base of your D100 Pan Tilt, and you should see that the pan-tilt is stabilized.
10. Now press the “Turn Off Stabilization” button, and you have completed the setup and access of the website.

PTC Win – Joystick Control

The D100 ISM starter kit ships with a gamepad controller and windows software for control of the D100 ISM with the joystick. The following guide walks you through the installation of the joystick and windows software.



1. Unpack and install the included gamepad controller, following the included directions.
2. After installing the gamepad controller, insert the Directed Perception CD. An autorun program should launch the installer, but if it does not, browse to the CD and launch the setup program inside of the PTCWin folder.



3. Follow the on-screen installation directions to install the PTCWin software. After installation there should be shortcuts both on your desktop and in the start menu. Go to your desktop and launch the application.

4. After the splash screen completes, the application displays a configuration screen, asking for the ports and baud rates for two cameras and the pan-tilt. Leave the two camera fields set to “None” and set the Pan Tilt Serial Port to the port that the ISM-Module is attached to, leaving the Baud at 115200, and press “OK”.



5. You should now be presented with the main control screen. At the top right is a communications error counter, if it is at zero, or at least not climbing rapidly, then you are communicating with the ISM. Follow the included Joystick button mapping guide to control the pan tilt.