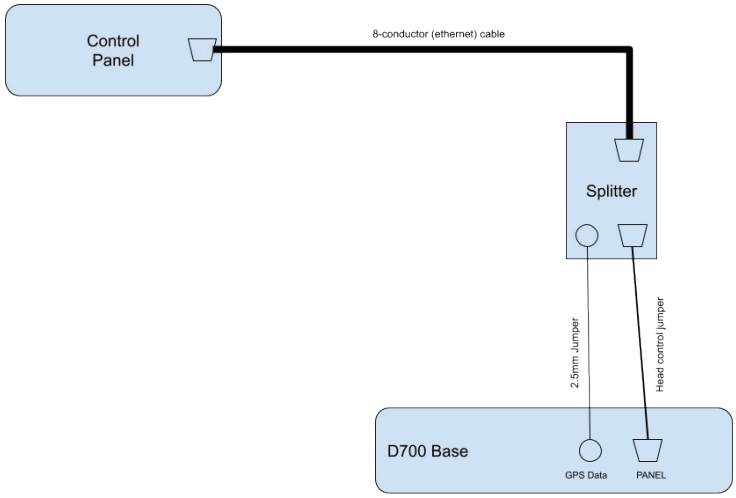
D700GA Upgrade Kit Instructions

The kit includes (at a minimum):

1. Replacement rear control panel cover
2. GPS module (installed in rear cover)
3. Main interface board (installed in rear cover)
4. Short in-head jumper cable
5. Splitter box
6. Splitter-to-body modular jumper
7. Splitter-to-body 2.5mm GPS data cable



Instructions

Step 0: (optional) Pre-test before making changes

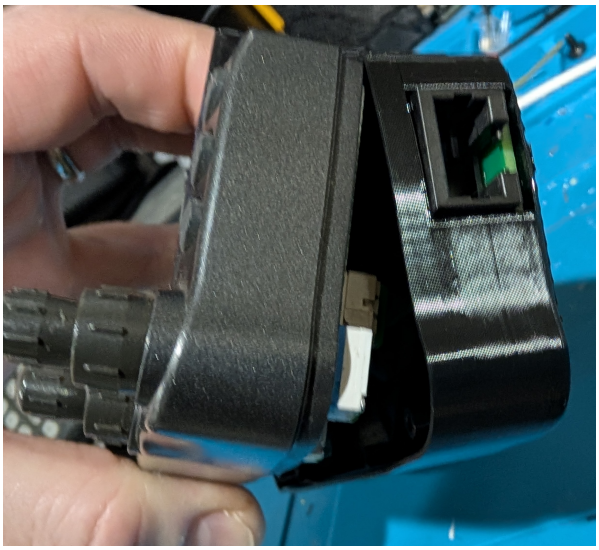
If you wish, you can connect the new back cover, splitter, and associated cabling to test operation before removing the rear cover. It's not required, but might be a good idea to establish that everything is working before you start taking things apart.

Step 1: Remove rear cover

Remove the two small Phillips screws on the back of the D700 control head. Take care, these are very small and if you strip the heads you will be in for a lot of pain. Once both screws are removed, hinge the cover off, starting at the bottom taking care when removing the clips at the top.

Step 2: Assemble the new rear cover

Attach the small end of the jumper in the back cover to the original cable jack on the control. head. The wires are stripped of their jacket extra long to allow a tight fitment around the modular connector since these will be hidden inside the new cover. Carefully lay the cable in between the new rear cover and the control head's logic board. Make sure the adapter board sits within its recess in the rear cover. It is held in place by that recess once the cover is installed.



Hinge the cover over the front of the control head starting at the top clips and seating the bottom last. Use the screws you removed from the original cover to secure it. DO NOT OVERTIGHTEN!

Step 3: Connect the splitter

Use a regular straight-through 8P8C (i.e. ethernet) cable to connect the new right-side jack on the control head to the splitter box. The cable going to the head connects to the splitter box on the side opposite the 2.5mm jack.

Next, use the supplied head jumper to connect the splitter box to the radio's PANEL jack. This cable has a wider 8P8C connector on one side (for the splitter) and a narrower 6P4C connector on the other (for the radio).

Finally, connect the 2.5mm jumper between the splitter box and the radio's GPS DATA port.

Step 4: Configure the radio

Set the radio for APRS mode, and set the `GPS UNIT` setting to "`NMEA96`". Place the powered control head in view of the sky and allow it to find an initial position fix. When it does, the `GPS` indicator on the radio's head should start to blink. Even without a fix, you can use the `P.MON` feature on the radio to see if the GPS data is being received. If you see NMEA sentences being displayed (`GPGGA` and `GPRMC`) then data is flowing from the GPS to the radio.

Specifications and other details

The pinout of the 8-pin cable between the interface board and the splitter is as follows:

Pin	Function
1	GPS TX -> Radio
2	GPS RX <- Radio
3	Panel power +10V
4	Panel GND
5	Panel RX
6	Panel TX
7	Unused
8	Unused

The GPS unit used inside is a uBlox M8 clone, configured for 9600 baud.

The new rear cover uses a 1/4-20 mounting stud for attaching to a mount. Take care to insert no more than 13mm (about 1/2") of thread into the rear cover to avoid damaging the internals!