

# Ultimarc Rotary Joystick Upgrade

This upgrade consists of a high-res 1200 pulse-per-rev encoder (same as our Spintrak) which moves the mouse pointer left-right.

## Important Note Before Ordering:

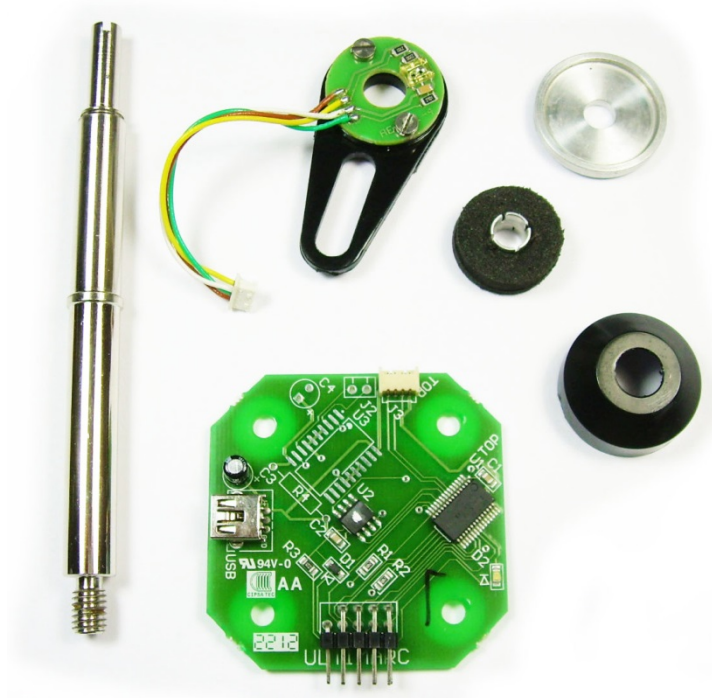
This kit can only be fitted to joysticks which have the 4-8 way or octagonal restrictor kit. It would be necessary to order this kit in addition if not already fitted.

The present kit is an interim, and there will shortly be an alternative lower-cost kit which can be used with PCBs which already have the encoder connector fitted. This will not include the PCB.

The handle in the kit is suitable for the standard ball tops only, not oval.

## Kit contents

- Replacement PCB with encoder and connector. New firmware.
- Encoder with locating bracket. Note this has a square cover fitted on early kits which can be discarded.
- Encoder disk (with foam protection)
- Cover
- Handle
- Replacement magnet holder with 6mm hole



## Assembly Instructions

1. Remove magnet and circlip (E-ring) from existing handle. Beware of spring-loaded parts!
2. Remove handle
3. Replace with new handle.
4. Remove 2 screws securing encoder PCB to mounting bracket.
5. Fit bracket over handle and replace circlip which sits in the recess in the mounting
6. Re-fit encoder PCB to bracket using the 2 screws
7. If not already fitted, fit the restrictor plate kit. The slot in the mounting bracket sits over one of the pillars in the kit.
8. Remove the protective foam from the encoder disk. NOTE: This disk is made from glass. Avoid touching the reflective side.
9. Press the disk onto the shaft using the metal side only. Use a piece of thick card as a gauge and press down until there is a gap of approx. 1mm between the disk and the sensor on the PCB.
10. Using the thumb-nuts from the restrictor kit, fit the U-shaped metal brackets to the pillars. Refit the PCB and plug the encoder into the connector.
11. When refitting the top, a method of preventing turning is to use plumbers Teflon tape wound around the threads.

