

SOUTH WEST TIMEKEEPING

CASTLE HILLCLIMB SETUP MANUAL

This manual will assist when setting up timekeeping equipment & results printers at Castle hillclimb. In addition to start & finish beams, Castle uses a launch beam, a split beam immediately after the cattle grid & a speedtrap located between the paddock entrance & the cattle grid. A results printer is provided in the signing on tent & another one is provided in the top paddock. In the afternoon a results printer & phone is required for the commentator. A two beam course clear indicator is also provided for the course controller at the bottom of the hill, this connects to the split & finish beams on the rear of the beam interface unit. The results PC is usually located in the signing-on tent. The club provides a multicore cable (in two parts) from the start line to the finish line, a cable from the finish to the top paddock & cables from the multicore cable join to the split, to the speedtrap & the commentator.

SETUP NOTES

1. Start beam.

The pictures show the location of the start beam equipment. The CCTV setup is important here as the timekeeper's line of sight to the start line is not always good.



Cell side



Laser side

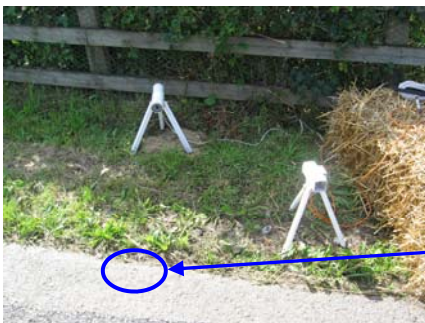


Alignment indicator

Course clear indicator

2. Launch beam.

There are big nails in the tarmac on both sides of the track to indicate the location of the launch beam & paving slabs in the grass verge.



Cell side

Nail in tarmac



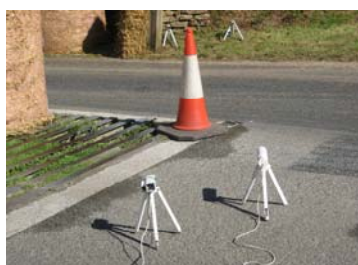
Laser side

3. Split beam.

This is located immediately after the cattle grid. The cable to connect to comes over the hedge on the lower side of the track. This cable has 4 wires coloured white, orange, green & black. It is prudent to use the orange & white wires twisted together & the green & black wires twisted together to connect to the cell via an adaptor.



Laser side



Cell side



4. Finish beam.

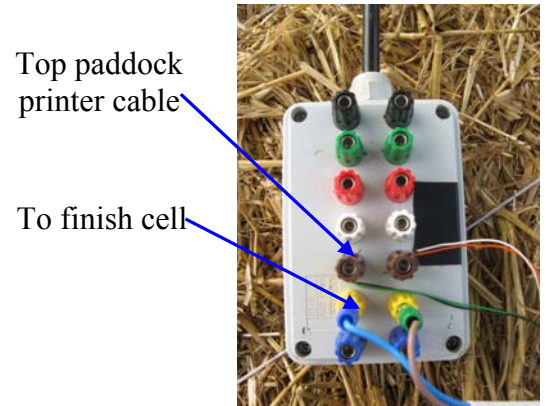
This is located on concrete plinths cut into the verges. The protection beam on the cell side will need to be laid on it's side to get it to the right height. Connect the cable for the top paddock printer to the correct terminals on the multicore cable box.



Laser side



Cell side



5. Cable connections.

The main multicore cable that runs from timekeeping to the finish is in two parts, with a join just below the paddock entrance. The two parts need joining together, connector to connector, with link cables as per the picture below. The speedtrap & split cables also connect in at this point. These connections are used to break out the results printers to the signing on tent & the commentator via a cable on a drum & a radio modem as described later. There are 7 pairs of wires in the multicore cable, suggested useage is: Blue pair – Split beam, Yellow pair – Finish beam, Brown pair – Time printers, White pair – Commentator phone, Red pair – Speedtrap beam 1, Green pair – Speedtrap beam 2, Black pair – spare.



Multicore cables joined together



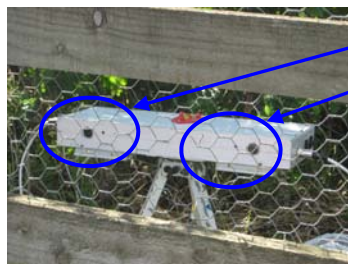
Multicore cable connection box

6. Speedtrap.

The speedtrap is located between the paddock entrance & the cattle grid. The transmitter side is located on a concrete plinth in the grass verge & the cell side is located on a plinth behind the fence. Ensure it is aligned with the holes in the wire mesh. The cable for the speedtrap goes over the hedge & connects to the main multicore cable at the cable drums by the paddock entrance. This cable has 4 wires coloured white, orange, green & black. As with the split, it is prudent to use the orange & white wires twisted together & the green & black wires twisted together to connect to the speedtrap. The printer is located in the timekeeping caravan.



Laser side



Holes in mesh fence

Cell side behind fence



Looking down on cell side

7. Results printers.

a) Top paddock. Locate the cable drum in the top paddock (usually in the bottom layby) & connect the printer to the cable. This is usually best done by connecting a short bare end to 4mm plug cable tail to the cable on the drum. If the weather is inclement (or likely to be) ensure that the printer has somewhere protected from the elements to sit.



b) Bottom paddock. Run the cable on the small reel out down the hedge from the multicore cable reels to somewhere near the bottom of the prohibited area. Connect the drum end of the cable to the correct pair of connectors on one of the boxes on the multicore cable. Connect the other end of the cable to the Radio modem Trans module (See appendix on radio modems) & put the Trans module on a pole & attach to the fence. Put the printer in the signing-on tent, somewhere on the side nearest the fence, & connect to the Radio modem Rec module. Raise the Rec module up on a tripod, ensuring it has a clear line of sight to the Radio Trans unit.



Cable to Radio Trans unit located by multicore cable drums



Transmitter mounted on monopod in fence

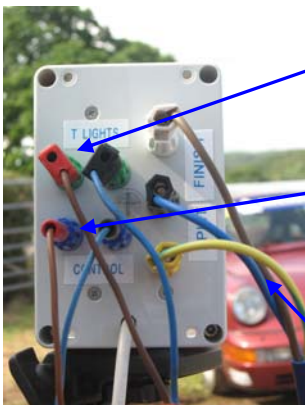


Receiver (Rec) mounted on tripod outside marquee

c) Commentator. This depends on where the commentator decides to sit. Either run a cable from the multicore cable drums or a cable from the small cable drum to the printer. It would be possible to use another Radio modem Rec module instead of running a cable if the commentator is within 100 metres of the Radio modem Trans module.

8. Course clear indicator.

This has two lights to indicate to the course controller when the cars go through the split & finish beams. It connects into the rear of the PTB606 beam interface unit onto the split & finish beams as shown. The controllers course clear button & a cable from the traffic lights connect into the unit as well. When a car goes through the split the bottom LED lights & when a car goes through the finish the top LED lights. When the controllers button is pressed the lights extinguish. This unit is designed to work with the PTB606 kit, it will not work correctly with the Wasco kit.



To start light

From controller's button

From beam interface box

9. Commentator phone. This is required for event runs. Connect the phone units at either end of the pair of wires.

APPENDIX – Radio modems

The short range radio modems are a substitute for a pair of wires to a printer.



On/off switch



Lights come on for 2-3 seconds when power applied

The Trans (transmitter) is powered by a 12 volt battery via a separate cable to the data cable & the Rec (receiver) is powered through the cable from the attached printer.



Transmitter



Receiver

The range of these units is about 100 metres, they will need to be mounted as high as possible with a clear line of sight to achieve this.



Monopod mounting



Tripod mounting