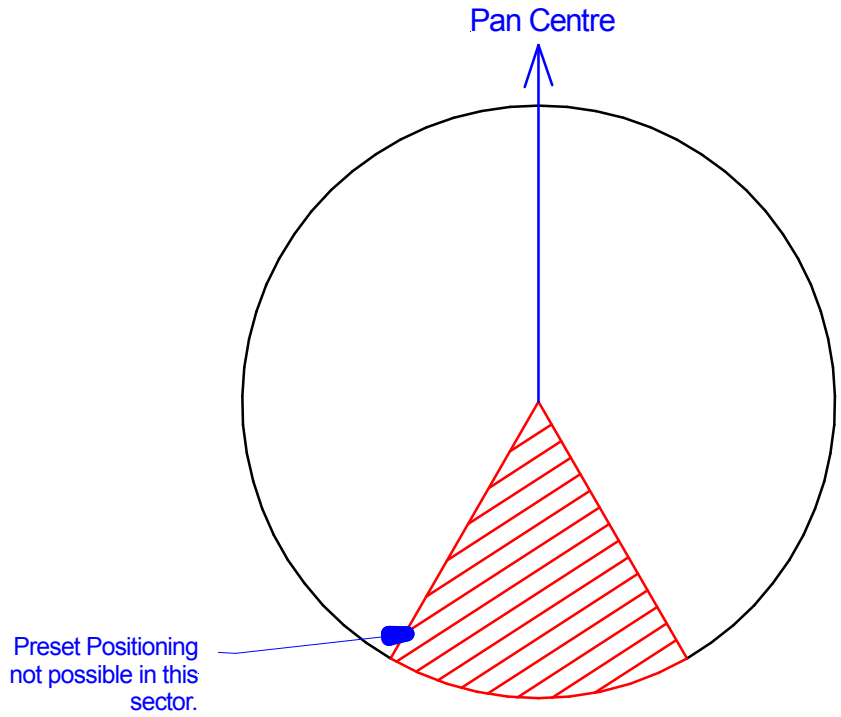
Preset Positioning

Using a **Multi Function Controller** gives access the independent speed settings and to the positional features of the **U3/S**. Up to 8 preset positions of Pan, Tilt, Zoom and Focus can be stored and recalled instantly. All the positions and other setups are automatically stored in non-volatile memory and recalled on power up.



The preset position limits can be shown using the Multi Function Controller. As supplied. positions can be preset over a range of 320 degrees with a 40degree dead band. It is important to set the FRONT of the unit as the Pan Centre in order that presets are not set within the dead band.

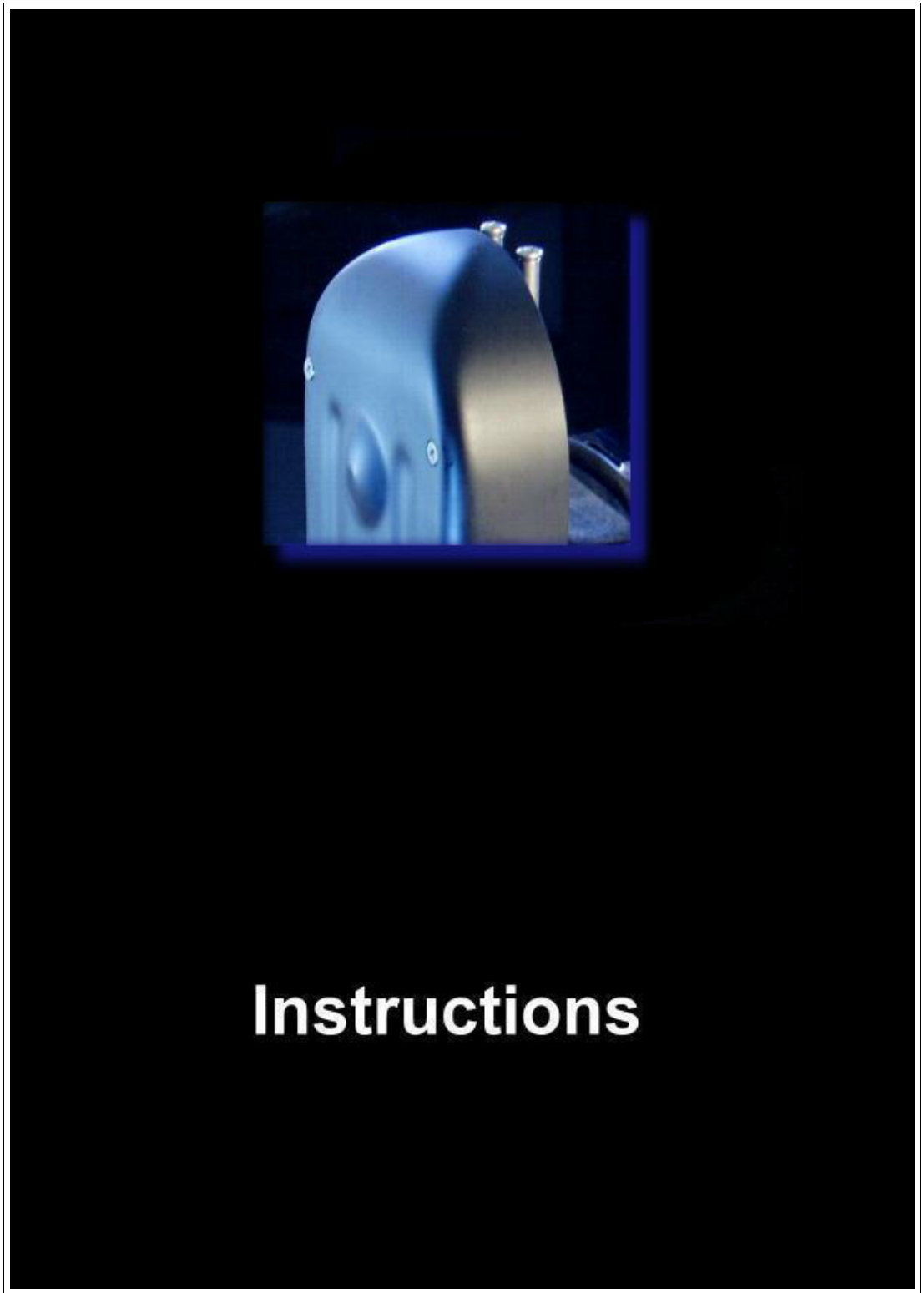
The head can still be operated with the joystick through this range.

Dimensions

	Height 165mm, Width 165mm, Depth 95mm Weight 1.6kg
Including BE-HD10 Camera:	Height 165mm, Width 165mm, Depth 145mm Weight 2.0kg

Power

12-18v 1.5A max.



U3/S Mini Pan & Tilt Head
Operating Instructions

The **U3/S Remote Head** is a small but fully featured pan & tilt head which offers both live action moves, preset positions, and full camera and lens control using RS485 data. The head is weatherproof and can be used externally without further protection.

Power & Data

Data and power are supplied via the same 4 core cable and are connected to the head via the XLR4 Male on the back. Power can be locally supplied or via the controller and should be between 10 and 24 volts DC.

Pin 1	=	GND
Pin 2	=	RS485 A ch.
Pin 3	=	RS485 B ch.
Pin 4	=	+ve (12 - 24v)

The RS485 data will work up to 1km but sending power will only work for shorter runs. Longer runs may require a higher input voltage perhaps 20v or more to get enough power to the head and camera. For very long distance operation a local PSU should be used in conjunction with a Y cord to split the power and data feed to the **U3/S**.

Up to 10 cameras and heads can be connected in a 'daisy chain' manner to a controller. To operate more tha 10 heads on a sytem requires an active data distribution box. You can also use a **Passive Data Distribution Box** for each 4 heads. Alternatively the heads may be controlled via radio data if the receivers are fitted. The **U3/S** does all the data and error handling internally and is optimised for live action control. Each head recognises its own ident. The same data loop or radio frequency can be used for up to 64 heads.

Camera Connections

The XLR4 Female connector is for connection of power and data to the camera. An internal 12 volt regulator supplies power for the camera up to 1Amp.

Pin 1 = GND
Pin 2 = Data TO camera (TTL)
Pin 3 = Data FROM camera (TTL)
Pin 4 = 12v to camera

The camera protocols are stored in the **U3/S** and sent to the camera when the appropriate command is received from the controller. In this way simultaneous camera lens and head moves are possible.

The majority of camera settings are stored in the head, even when power is removed. When power is restored the **U3/S** resets the camera settings to those when power was removed. This process takes about 5 seconds and requires the camera to be connected ***before*** the head is powered up.

Rigging

Rigging the **U3/S** is achieved using the 2 x 1/4" female mounting threads on the base of the unit. **The bolts should project no further than 10 mm into the base.** Multiple bearings enable the head to be mounted upright, inverted or horizontal. The horizontal mounting is useful if the shot is predominately vertical. Be sure to use appropriate safety bonds if the unit is mounted above head height.

The Pan & Tilt clutches are factory set but can be adjusted by removing the covers and using a suitable spanner on the adjusting nuts. The clutches are to protect the mechanics from damage should the head be knocked or meet an obstruction during a move. If you should need to adjust them **Set the clutches as lightly as possible**.

The camera should be balanced on the head by adjusting both the height of the camera plate and the fore/aft position of the camera. A slight out-of balance setup is easily compensated for in the electronics.

Speed & Direction Settings

The **U3/S** has 10 speed ranges which can be toggled up and down or set independently. The highest speed is only achievable if the supply voltage is raised to 15 volts. For smooth moves at the tight end of the lens, use the slowest speed setting. The slowest speed setting is ***very slow indeed***, so slow that you cannot see the head moving and will only see the movement when using a very tight lens. Before assuming the head is not responding change the speeds up and check again.

The direction of all the controls can be reversed to suit the individual operator preferences and the rigged orientation. The pan and tilt direction settings are stored in the head and recalled on power up.