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Instructions

CamBall 460 Operating Instructions



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The **CamBall 460** is a fully featured integrated 4K integrated PTZF unit which offers both live action moves, preset positions, and full CCU and lens control using RS485 data. The head is weatherproof and can be used externally without further protection.

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Specifications

Weight: 4.5kg
Data: RS485
Power: 12-18v @ 3.5A

Pan Range: 250deg.
Tilt Range: +/- 130deg from vertical.
Speed Range: <0.1deg/sec - >90deg/sec. Other speeds on request.

Operating Temp: -10 to +40degC Out of sunlight

Camera Specifications

See **ALCM460** specification

Lens Specifications

See **Olympus ED 12-50, F3.5-F6.3**

Options: Multi channel radio data receivers
Slip rings with FORJ

Specifications subject to change without notice.



RD-12 Radio Data Receiver

Operational Controls

Some CCU controls can be accessed via our joystick controllers, however for full CCU control you will require our **Remote Engineering Panel Mk3**.

Set the **Camera Model** to **ALCM460** which is the camera inside.

The joystick controllers have limited access to CCU functions.

Proportional Pan

Proportional Tilt

Pan & Tilt Speeds 1 - 10

Turbo Speed

Proportional Zoom

Positional Focus

Positional Iris

Auto White Balance

Auto Tracing White

Manual White

Preset White (3,200k, 5,600k)

Master Gain

Red Gain

Blue Gain

Master Pedestal

Red Pedestal *

Blue Pedestal *

Horizontal Detail *

Vertical Detail (not adjustable on all models)*

Shutter

Gamma

Colour Saturation *

Digital Zoom On/Off

Auto Iris On/Off (Semi- Auto)

Auto Focus On/Off

InfraRed Mode On/Off

Mirror Image (H, V, & HV) *

Preset Store (Pan, Tilt, Zoom, Focus) up to 99 presets **

Preset Recall

Pan & Tilt Reverse

Zoom Reverse

Focus Reverse

Electronic Stabiliser On/Off

Head ident change (1 - 99)

Head ident reset to #01

* Only via RCP Mk3

** 9 - 99 Only via extended controllers



Rigging

Rigging the **CamBall 460** is achieved using the 2 x 1/4" or 2 x 3/8" female mounting threads on the base of the unit. **The bolts should project no further than 13 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. There is an M6 bolt provided in the base for attaching a safety bond.

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.**

Power & Data

Data and power are supplied via the same 4 core cable and are connected to the head via the XLR4 socket on the base. Power can be supplied locally using a 'Y' cord or via the controller and should be between 10 and 18 volts DC.

Pin 1	=	GND
Pin 2	=	RS485 A ch.
Pin 3	=	RS485 B ch.
Pin 4	=	12-18v 2A max.

The **CamBall 460** is designed to operate via a twin, single mode fibre connection to a **4K Base Station**. 1 fibre send control and Genlock and the other returns the 4K pictures to the Base Station.

The **4K Base Station** is powered from the controller using the standard XLR4 cable which also carries control data. Red / Green LEDs indicate the status of the picture reception. **Green** = OK.

If the unit has power (RED LEDs) but there is no control or GREEN LEDs check the fibres on the back are not swapped over.



Camera Configuration

The majority of camera settings are stored internally, even when power is removed. When power is restored, the **CamBall 460** resets the camera settings as they were when power was removed. This process takes about 20 seconds.

Under certain circumstances the camera may not boot up correctly first time. If this occurs simply remove the power for a couple of seconds and re-connect.

Speed & Direction Settings

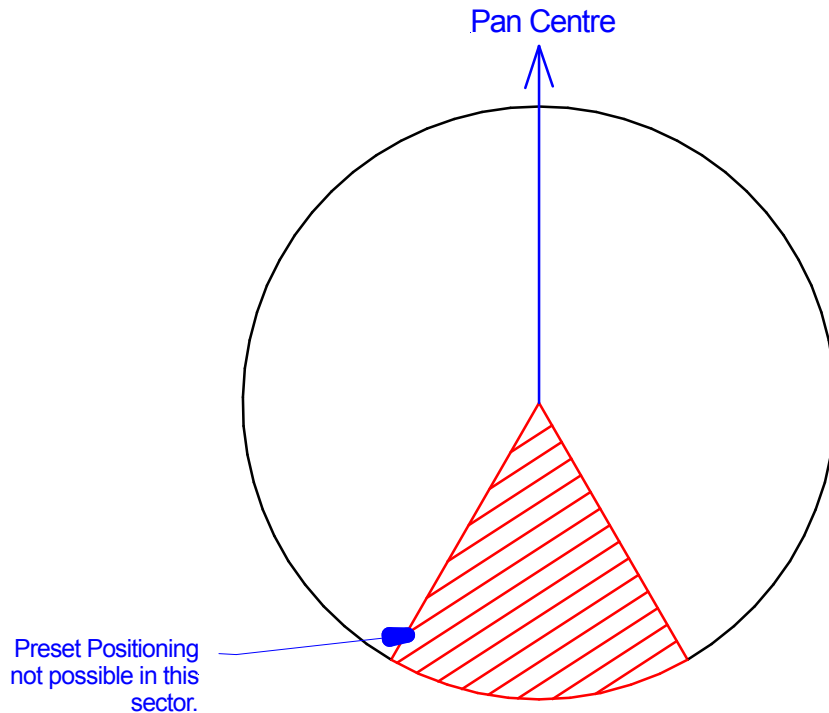
Both Pan and Tilt speed ranges can be set independently. **Speed 10** is intended for fast sport applications and has a faster reaction time but does not have feedback motor control.

Speed 9 gives the same top speed, a smoother uptake and full feedback speed control. All previous versions can be upgraded to the latest software version.

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

Preset Positioning

Using a **Multi Function Controller** gives access to the independent speed settings and to the positional features of the **CamBall 460**. Up to 99 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.



As supplied, positions can be preset over a range of 260 degrees with a 100 degree 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.

Lens operation and limitations

The **CamBall 460** has a 4x Olympus ED 12-50mm, F3.5-6.3 lens fitted as standard. The zoom can only be used on-shot at the slowest speed. The faster zoom speeds are only for setting the zoom range, not for on-shot moves.

Any MFT lens can be fitted by removing the front part and fitting the lens. The front port is Oring sealed and can be pushed off. Ensure that the selected lens has internal servos for control of the Iris, Focus and Zoom.

There are 2 air circulation fans inside the unit which direct warm air from the camera towards the front port to prevent misting. This also helps to keep the camera withing operating temperatures when in hot locations. It is good practice to avoid locating the unit in direct sunlight. Arrange a sun shade in these situations.

Iris Control

The Iris can be operated in either Manual or Auto.

Status LED

The blue LED on the side of the unit indicates the status of the unit.

On power up the LED will flash 3 times. This indicates that power is OK and the microprocessors are functioning correctly. It will then quick flash once per second for 15 seconds. This gives the camera time to boot up. After this, a series of fast flashes indicate multiple setup commands to the camera from the memory.

Slow flashing (1 flash per second)	-	No data or incorrect data
Continuous on	-	System Data OK but not being addressed
Fast flashing (25 times per second)	-	Camera being addressed by controller