



Magic Head – User Manual



When the head is mounted on the crane the control cables for the head should be passed through the center of the pan and tilt axis. You must allow enough cable for the head to make 2.5 rotations in each direction. Do not make cable too tight. This will cause damage to cables. Check that you have enough cable by manually moving the head through it's pan and tilt ranges.

When you turn on the power supply and power up the controls, the system will automatically check the head and signal connections between desktop and head. This will take a few seconds. After selecting the ON || ON in the first line of the display "REMOTE HEAD", head and controls are ready to work.

DESKTOP – REMOTE HEAD section

1. Description of REMOTE HEAD display.

	Dividing lines of the display into sections PAN and TILT.
The first line:	
ON	Indicates the connection with blocks of the head (displays after power is turned on/initialization of the head for a few seconds).
-----	No connection (check short cables on the head).
49.9%	The head is in it's initial state and is in a middle position. It has 2.5 rotations in each direction, or a total of 5 rotations in one direction. So 0.0% is one extreme, 49.9% is the middle position and 99% is the other extreme.
OutOfPos.	This message is displayed (flashing) when the head encounters an obstacle and is prevented from moving. This will also happen if the cables are too tight in the pan or tilt axis. During the first 10 seconds if the head is freed, then you can move head in opposite direction and resume normal control. If the head is not freed and remains blocked from movement for more than 10 seconds then the head will reset and the message Overtimeout! will be displayed.
OVER-LOAD	Overloading Section P – PAN or/and T – TILT (balance of the camera needs to be improved, check that the signal cable on head is not twisted).
∩	DIR switch state – a down arrow means that direction of the section rotation change.

■ **The second line:**

S	Speed, speed indicator for PAN and TILT shown as a percentage from 0 to 99%.
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■ **The third line:**

F	Fluid, adjustable soft-start and soft-approach calculated in milliseconds from 4 to 200 ms.
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■ **The fourth line:**

J	Joystick, indicator of joystick lever/handle inclination "REMOTE HEAD" expressed as a percentage from 0 to 99%.
0	Marks the center/neutral position of the joystick for both axes (with proper calibration of the joystick).

2. Description of the controls and switches in REMOTE HEAD section.

SPEED	Speed adjustment potentiometer of the axis.
FLUID	Soft start/end adjustment potentiometer of the axis.
DIR	Switch that changes the rotation direction of the axis.
LOCK	Button that locks the movement of the axis. When pressed, message LOCK appears on the display (when the lock is enabled then return to HOME position doesn't work).

Joystick – Joystick Calibration:

Hold down both RED lock buttons at the same time until you see the "**Joy Calibration**" message displayed. Leave the joystick in its centre position (do not move) until message "**JoyMoveAllDir**" message is displayed. Then move the joystick in circular direction continuously (making sure you pass through its extreme points – top right, bottom right, bottom left & top left). When you see the message "**DONE LOCKED**" then calibration is complete.

After calibration, both axles are locked (LOCK on the display). To unlock, press the LOCK button on the axis of the PAN and TILT.

Calibration should be performed in the case when joystick is left in the center/static position and the head "creeps" or/and when in the fourth line J – Joystick, instead of the character 0 appears 0, 1, 2 or higher.

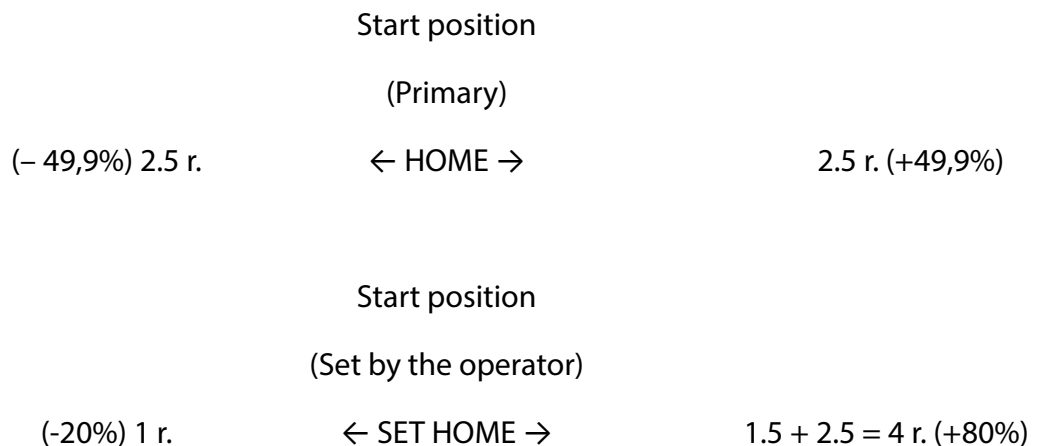
HOME – button of HOME position:

HOME button is used to return the settings of both head axes to starting/primary position which is the position before turning on the power panel. The purpose of this function is to return the two axes to original position so that the signal cables to the head and the camera goes back to their original position which prevents them from tangling/twisting.

It is advisable to use this function at regular intervals throughout your working day. This will prevent cables from twisting up.

The default settings of the head allows both axes to turnover 2.5 times which means that for PAN axis it is the 2.5 rotation to the right and 2.5 rotation to the left, and for the TILT axis it is 2.5 rotation up and 2.5 rotation down from so-called starting/original position.

Holding down the HOME button allows you to set a new starting position (set by the operator) but not the original one that exist before the power supply is turned on. Which means that after the 1.5 rotation of PAN axis to the left and setting new HOME position (SET HOME) there is possible only 1 rotation to the left and 4 rotations to the right.



Above example applies to both axes settings – PAN (panorama – turn left and right) and TILT (roll down – up).

Please before starting the work – check the possibility of rotation and, if necessary, turn off the desktop, release the head so that the cables from it and from camera were loose, and turn on the console thus setting a new start/original position.

DESKTOP – FOCUS & ZOOM section

3. Description of FOCUS & ZOOM display:

	dividing lines of the display into sections FOCUS & ZOOM.
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The first line: FOCUS and ZOOM section

ON	Indicates the connection with blocks of the head (displays after power is turned on/initialization of the head permanently).
CABLE	No cable FOCUS/LENS or the cable is faulty.
-----	No connection (check short cables on the head).
η	DIR switch state – a down arrow means that direction of the section rotation change.

The second line: FOCUS section (left side of the display)

L	Limit, refers to the setting of the scope of focus. LIMIT LOW potentiometer regulates the lower zone in the range of 0 to 49; LIMIT HI potentiometer in the range of 50 to 99 (i.e. LIMIT LOW 20:65 LIMIT HI). This allows to change the accuracy of the rotary regulator FOCUS extreme positions.
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The third line:

F	Fluid; adjustable soft-start and soft-approach calculated in milliseconds from 4 to 200 ms.
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The fourth line:

P	Position; indicates the position of FOCUS regulator expressed as a percentage from 0 to 99%.
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The first line: ZOOM section (right side of the display)

ON	Indicates the connection with blocks of the head (displays after power is turned on/initialization of the head permanently).
INT	No reference voltage (no ZOOM/LENS cable or the cable is faulty). In the specific case of damage, possible to work on 2,5V but which may slow down ZOOM.
-----	No connection (check short cables on the head).
η	DIR switch state – a down arrow means that direction of the section rotation change.

The second line: ZOOM section (right side of the display)

S	Speed; speed indicator for ZOOM expressed as a percentage from 0 to 99%.
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■ The fourth line:

Z	Zoom; inclination indicator of the button/Joystick “WT” of ZOOM function. Range measured in percentage from 0% to 99%. 0 – marks the center/neutral position of the joystick.
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4. Description of the switches and regulators from FOCUS section:

FLUID	Soft start/end adjustment potentiometer of the FOCUS regulator.
DIR	Switch that changes the rotation direction.
LIMIT LOW	Lower operating range adjustment potentiometer of focus.
LIMIT HI	The upper operating range adjustment potentiometer of focus.

5. Description of the switches and regulators from ZOOM section:

SPEED	Speed adjustment potentiometer for ZOOM
MAX	Button for maximum speed for button/Joystick “WT” of ZOOM function (activated only when holding; message “SM 99%” also is displayed in the second line in ZOOM section).
DIR	Switch that changes the rotation direction.
MODE	ZOOM controller mode switch (internal/external) The option is available when you connect external FOCUS/ZOOM controller. MODE = 0 Control of the desktop, MODE = 1 Control of the external FOCUS/ZOOM controller. WARNING: Once connected external FOCUS/ZOOM controller must be calibrated!

Calibration external FOCUS/ZOOM controller

- Press and hold red button MAX/CAL for 8s,
 - Follow the instructions on the display.
- Perform calibration for internal and external controllers.

EXTERNAL Sockets

- EXTERNAL PAN/TILT CONTROL** – is used to connect external controllers: Hand Wheels or Pan Bar.
- EXTERNAL FOCUS/ZOOM CONTROL** – is used to connect external FOCUS/ZOOM controller.