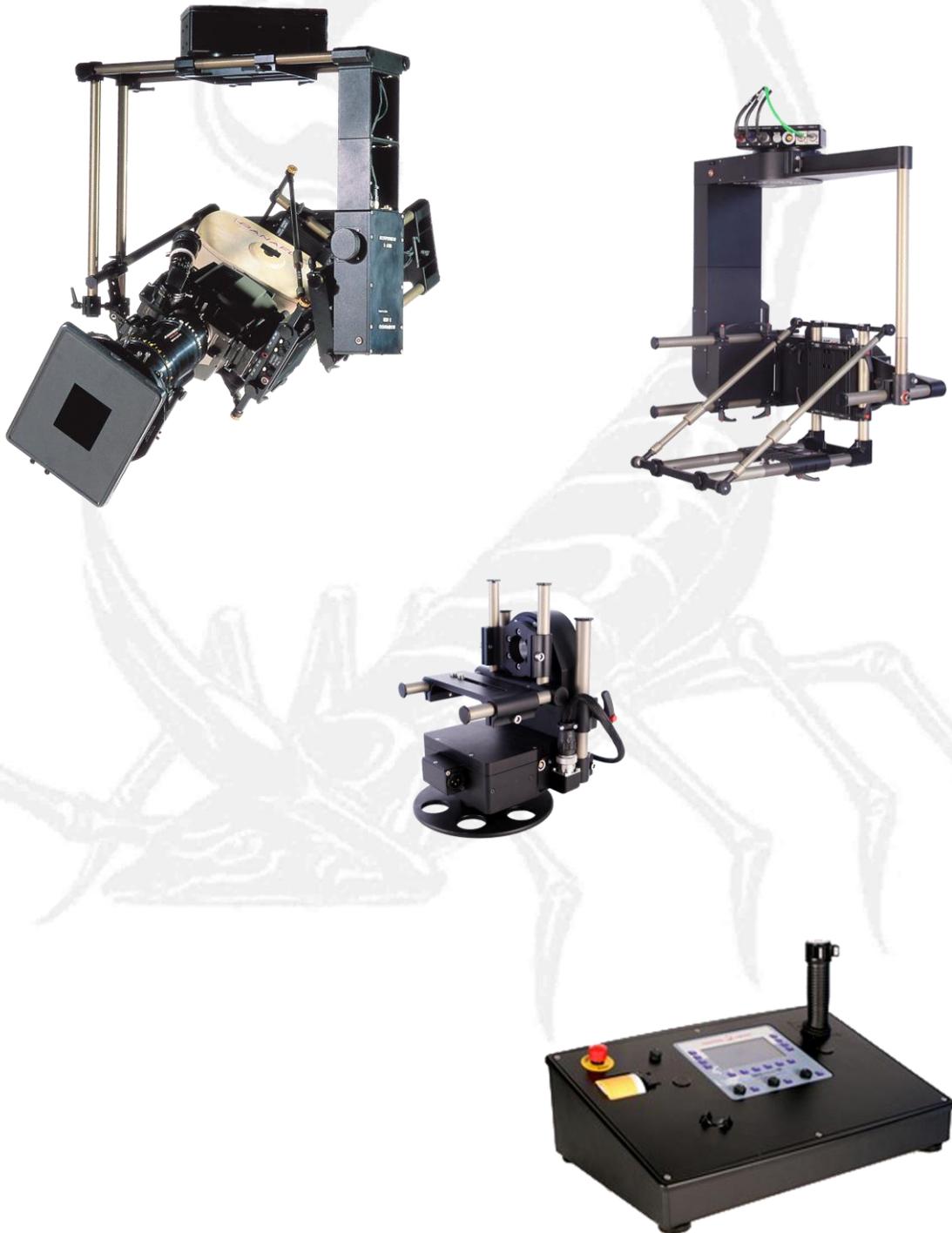


CONTROL DESK OPERATING MANUAL



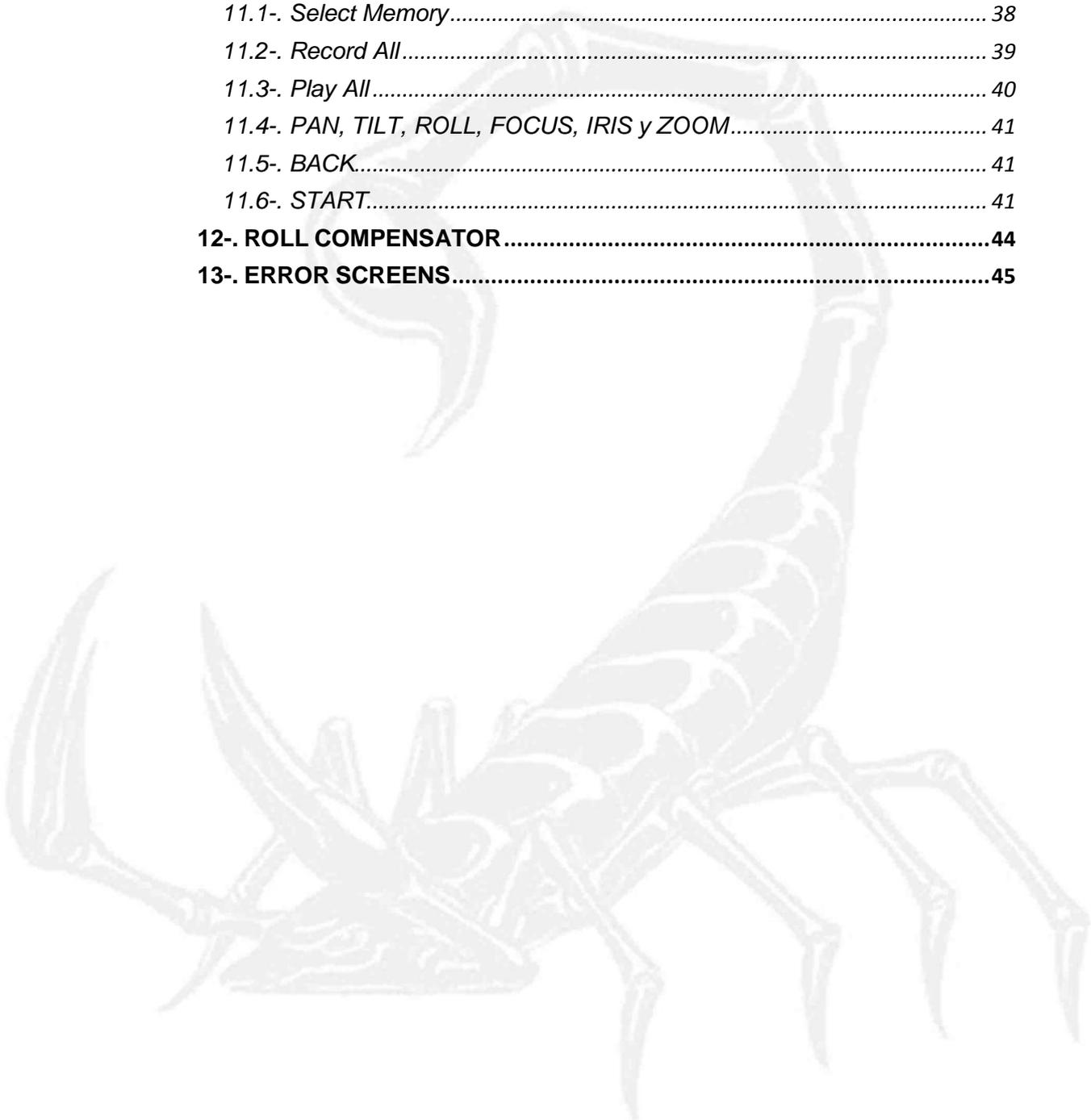
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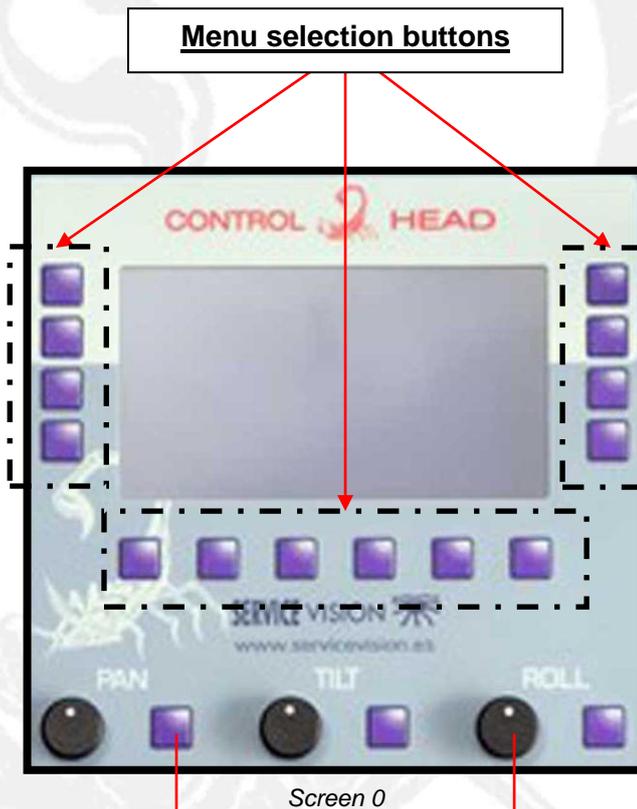
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1-. FRONT PANEL

Each of the SCORPIO control desks (Handwheels, Joystick, JDR (Pan Bar), Hand Held) have a front panel from which the system functions and configurations can be accessed. This panel is the same for all the control desks.



Direction change and "0" buttons (Pan, Tilt and Roll)

- Press once to deactivate
- Press twice to change the direction

Speed control potentiometer (Pan, Tilt and Roll)

- The white dot to left: minimum speed (1)
- The white dot to the right: maximum speed (100)

2-. START UP SCREENS

When the control desk is switched on, having the remote head correctly powered and connected, a series of screens will appear. These screens inform us about the remote head's axes and the connected lens control system (screen 0d, 0e, 0f and 0g).

3 axes with lens control

```

--- SCORPIOHEAD II ---
by Servicevision System

Trying to communicate...

Version: HEAD 7.10
diPsw: de
Axis: 3

servo focus detected
extracting info...
initializing axis...
  
```

Screen 0d

2 axes with lens control

```

--- SCORPIOHEAD II ---
by Servicevision System          ESC
- Press ESC to exit
Trying to communicate...

Version: HEAD 7.10
diPsw: de
Axis: 2

servo focus detected
extracting info...
initializing axis...
  
```

Screen 0e

3 axes without lens control

```

--- SCORPIOHEAD II ---
by Servicevision System

Trying to communicate...

Version: HEAD 7.10
diPsw: de
Axis: 3

servo focus not detected
extracting info...
initializing axis...
  
```

Screen 0g

2axis without lens control

```

--- SCORPIOHEAD II ---
by Servicevision System          ESC
- Press ESC to exit
Trying to communicate...

Version: HEAD 7.10
diPsw: de
Axis: 2

servo focus not detected
extracting info...
initializing axis...
  
```

Screen 0f

3-. MAIN MENU

In this, the Principle Menu, configuration information is seen and access is gained to the rest of the menus.

In the top, centre, part of the screen "MINI HEAD" (screen 1a) or "SCORPIO HEAD" (screen 1b) will appear depending on which remote head is connected to the control desk.



Screen 1a



Screen 1b

- *Note: If the control desk is not connected to any remote head, by defect, "SCORPIOHEAD" and "two axes connected" will appear once the "ESC" button in the "trying to connect menu" has been pressed (screen 1c).*



Screen 1c

The type of control desk being used will appear just below: "Handwheels" (screen 1d), Joystick (screen 1a), JDR (Pan Bar) (screen 1e) or "Hand Held" (screen 1f).



Screen 1d



Screen 1e



Screen 1a



Screen 1f

- *Note: For the system to work correctly it is essential that the name co-insides with the type of control desk that is being used.*

The number of connected axes in the remote head appears on the next line. "Axes: 2" (screen 1g) when the remote head is connected in two axes and "Axes: 3" (screen 1h) when the remote head is connected in three axes.



Screen 1g



Screen 1h

- Note: If the control desk is not connected to any remote head, by defect, "Axes 2" will appear once the "ESC" button in the "trying to connect menu" has been pressed. In this case "SCORPIOHEAD" will appear in the line above (screen 1c).



Screen 1c

4-. SPEED, POSITION, DIRECTION CHANGE AND DEACTIVATION (screen 1h)



Screen 1h

The "SPEED" and position "DEG" of the PAN and TILT axes appear in the centre of the screen if the remote head is connected in two axes (screen 1c) and of the PAN, TILT and ROLL if it is connected in three axes (screen 1a).



Screen 1c



Screen 1a

The speed of each axis is independent. It has a range from 1 – 100 and is dependent on the position of its respective potentiometer. The maximum speed of the MINI HEAD is 2, 5 seconds per turn and that of the SCORPIO HEAD is 3 seconds. If a "0" appears next to the speed it means that the respective axis has been deactivated. To reactivate it the respective direction change and "0" button must be pressed once. If this button is pressed twice the direction will be changed and the opposite sign will appear next to the Speed value ("-" or nothing) (screen 1h).



Screen 1h

The position is shown in degrees. The "0" position is the position in which the remote head will be when it is switched on or when the "Zero Pos" button in the SETTINGS menu is pressed (screen 3a).



Screen 3a

- *Note: The axes do not have a real reference to the initial position. It is essential therefore that a known zero position is marked every time that the remote head is switched on.*

5-. STANDBY

This button is used to access the Standby menu (screen 2a) and the remote head goes into rest mode. This will allow that power will be saved (important when batteries are being used) and the possibility to move the remote head manually.

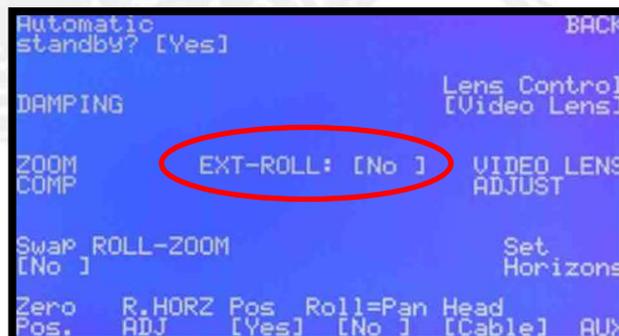


Screen 2a

By pressing the "START" button we return to the Principle Menu.

6-. SETTINGS

This button is used to enter the system tools menu (screen 3a). From this menu we can access the remote head adjustments, the lens control adjustments and the system verification menus. Apart from this, if any controls are connected, connection information can be seen in the centre of the screen.



Screen 3a

In the case that the control desk is configured as a Joystick, the information will tell us whether or not there is an external control connected. The external control would be a pedal used to control the Roll or the Zoom by foot (screen 3a).

In the case that the control desk is configured as Handwheels or JDR (Pan Bar), the information will tell us if there is an external Zoom and Roll control connected (screen 3b).

```

Automatic standby? [Yes]                                     BACK
DAMPING                                                         Lens Control [Video Lens]
ZOOM COMP              JDR-ROLL: [No ] VIDEO LENS ADJUST
                       JDR-ZOOM: [No ]
Swap PAN-TILT [No ]                                         Set Horizons
Zero Pos. R.HORZ Pos Roll=Pan Head [Yes] [No ] [Cable] AUX
  
```

Screen 3b

In the case that the control desk is configured as a Hand Held, the information will tell us whether or not there is an external Pan and Tilt control and an external Zoom and Focus control connected (screen 3d).

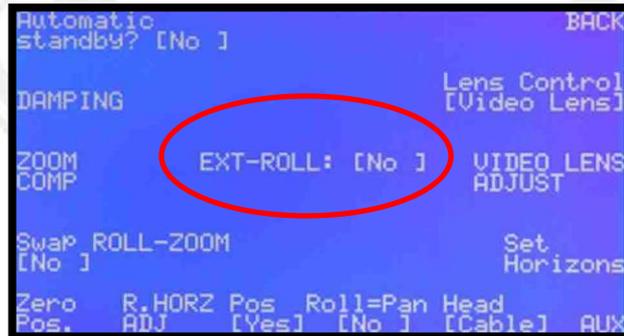
```

Automatic standby? [Yes]                                     BACK
DAMPING                                                         Lens Control [Video Lens]
ZOOM COMP              PAN-TILT: [No ] VIDEO LENS ADJUST
                       ZOOM-FOC: [No ]
Swap ROLL-ZOOM [No ]                                         Set Horizons
Zero Pos. R.HORZ Pos Roll=Pan Head [Yes] [No ] [Cable] AUX
  
```

Screen 3d

6.1-. Automatic Standby? [No]

By pressing this button [No] will appear (screen 3e). When this function is active and the remote head is not moved for 10 minutes it will go into Standby mode automatically. By moving just one of the controls the remote head will return to its normal working state.



Screen 3e

6.2-. DAMPING

This button is used to access the screen which allows us to regulate the stopping ramp of all the remote head's axes (screen 7a).



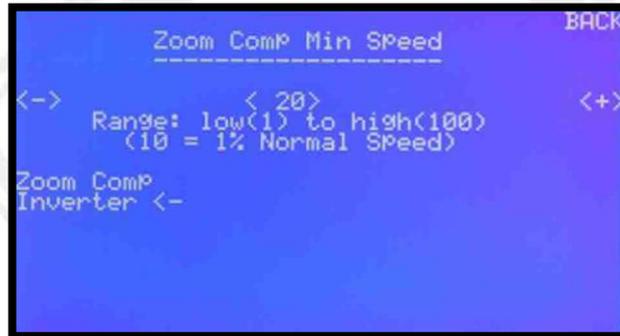
Screen 7a

The ramp is regulable from "0" (minimum ramp possible) to "100" (maximum ramp possible). To bring the ramping closer to "0" the "hard" button is pressed. To bring the ramping closer to "100" the "soft" button is pressed.

Press the "BACK" button to return to the SETTINGS menu.

6.3-. ZOOM COMP

This button is used to access the screen which allows us to adjust the Zoom Compensator (screen 8a).



Screen 8a

The value that shows us the relationship between the speed compensation of the remote head's axes with respect to the position of the Zoom appears between brackets, "< >", in the centre of the screen . By pressing the "<->" or the "<+>" button we increase or decrease this value.

In the following line the range from "1" to "100" is seen.

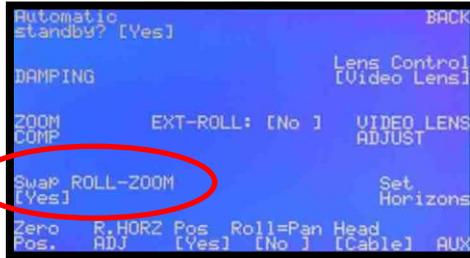
To understand how it works we must realise that "10" is equivalent to "1%" of each axes' speed shown in the Principle Menu.

By pressing the Zoom Compensator Inverter button, <- , we invert the direction of the compensation.

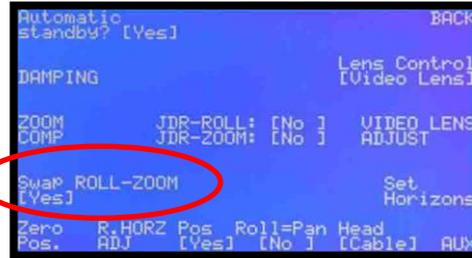
- *Note: If the direction is incorrect we will see that at the smallest Zoom lens size the axes will move at the fastest speed. In this case we would have the opposite of the desired effect.*

6.4-. Swap PAN-TILT / Swap ROLL-ZOOM

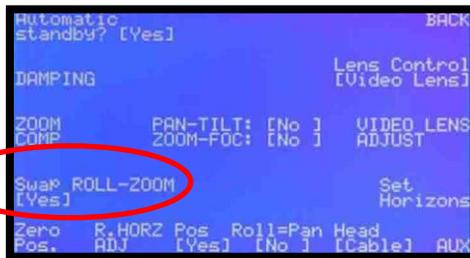
By pressing this button [Yes] will appear. If we are working with the Joystick (screen 3f), the JDR (screen 3g) or the Hand Held (screen 3h) this option swaps the Roll and Zoom controls. If we are working with the Handwheels (screen 3i) the Pan and Tilt controls are swapped.



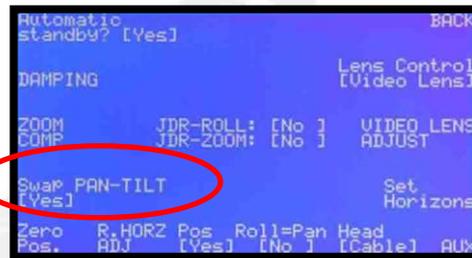
Screen 3f



Screen 3g



Screen 3h



Screen 3i

6.5-. Zero Pos.

This function is used to reset each position counter of the remote head's connected axes (screen 1a).



Screen 1a

- *Note: For this function to work correctly the axes of the remote head must be correctly balanced. When the counters reset the system will momentarily go into Standby and could move thus making an incorrect reading.*

The system will show us that the zero position has been taken correctly by blinking the "Zero Pos" indicator. It can also be verified in the Principle Menu by checking that all the position counters are at "0".

6.6-. R. Horiz ADJ

This button is used to access the adjust preset horizon menu (screen 9a).

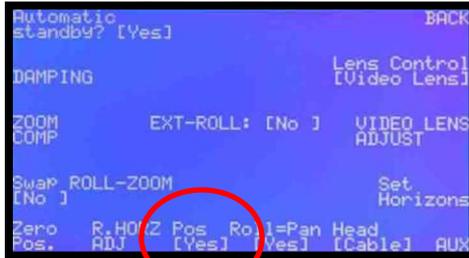


Screen 9a

In this screen we can adjust the speed at which the roll moves to find its preset horizon. The minimum is "5" and the maximum is "100". To increase the value press "Fast" and to decrease the value press "Slow".

6.7-. Pos [No]

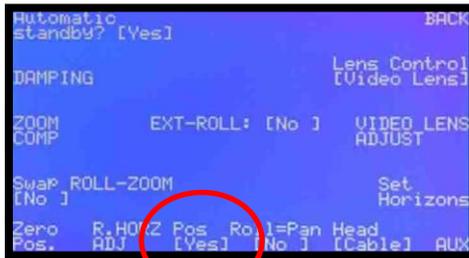
By pressing this button, [No] will appear (screen 3j) and we will not have the option to store start positions in the Principle Menu (screen 1i). In the case that [Yes] appears (screen 3a) the option to store these start positions will appear in the Principle Menu (screen 1a).



Screen 3j



Screen 1i



Screen 3a



Screen 1a

- *Note: If the option to store start position is not going to be used it is recommended that the option be set to [No] to avoid confusion.*

6.8-. ROLL = PAN [NO]

By pressing this button [Yes] will appear showing that the function is active (screen 3h). This function changes the Roll into the Pan's slave. Now, when the Pan control is moved both the Pan and Roll axes will move at the same time.

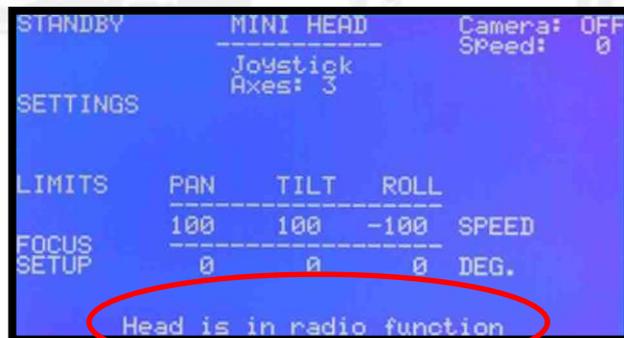


Screen 3h

The Roll's relation speed will be the speed applied by the Roll speed potentiometer.

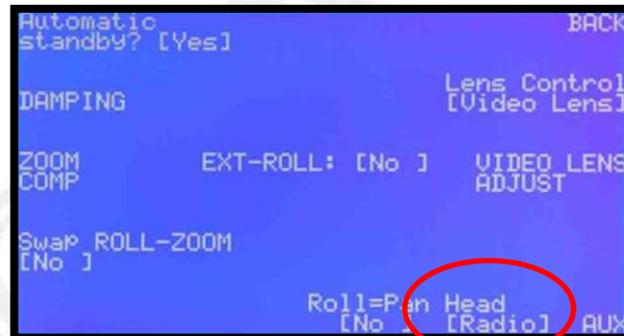
6.9-. Head [Cable]

This button is used to change the remote head from its normal, "position", working mode to the "speed" working mode. Once the button has been pressed the functions that depend on the position of the axes: Memories, Initial Position and Roll Horizon will disappear. The limits option will remain. A message will now appear telling us that the remote head is working in RADIO mode (screen 1j).



Screen 1j

To return to the CABLE mode we must enter the SETTINGS menu and press [Radio] (screen 3l).



Screen 3l

In the speed mode the remote head does not work off positions. This lets us work with the radio system without small interferences affecting the system. The radio system can also be used while in the position mode [Cable] but small errors can occur in the movement of the axes. This can occur because of interferences that can cause the system to lose positions.

6.10-. AUX

This button is pressed twice to access the Adjustments and System Verification menu (screen 10a).



Screen 10a

- *Note: Access is gained by pressing the button twice to prevent accidental entry and therefore the option to change the system configurations by someone who is not familiar with the equipment.*

6.10.1-. TEST AD

This screen is used to verify the correct functionality of the analogue to digital converter (screen 11a).



Screen 11a

The assignation AD16 is the Focus, Zoom, Iris and Roll and, for the Joystick, Pan and Tilt potentiometer's converter.

The assignation AD10 is the Pan, Roll and Tilt axes' speed and Zoom's speed potentiometer's converter.

The names of each axes is next to the converter to which it corresponds.

In the case that an axis is not connected it will not appear on the screen.

The rest of the converters are left over and do not have any significance in the functionality of the equipment.

- *Note: To check if the converters are working correctly a movement, different to the normal, must be seen in all four segments of each potentiometer being verified. If we do not detect this movement it means that the converter is not working or the respective potentiometer is not correctly adjusted (see COMMAND ADJUST).*

To return to the AUX menu press the BACK button.

6.10.2-. BUS CONNECTIONS

This screen is used to check how many axes are connected in the system and the software version that each axes has (screen 12a).

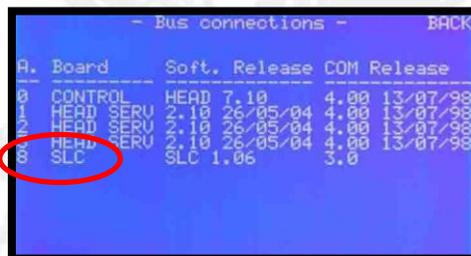


- Bus connections -					BACK
A.	Board	Soft.	Release	COM	Release
0	CONTROL	HEAD	7.10	4.00	13/07/98
1	HEAD SERU	2.10	26/05/04	4.00	13/07/98
2	HEAD SERU	2.10	26/05/04	4.00	13/07/98
3	HEAD SERU	2.10	26/05/04	4.00	13/07/98
8	SLC	SLC	1.06	3.0	

Screen 12a

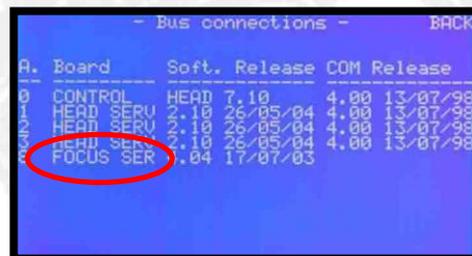
In the first line "CONTROL" appears with the system software "Soft Release". This is the software that will be changed when ever an equipment update is done.

In the following lines the distinct axes (Pan, Tilt and Roll) appear. The last line is the lens control information whether it be the Video Lens Control (screen 12a) or the Scorpio Focus (screen 12b).



- Bus connections -					BACK
A.	Board	Soft.	Release	COM	Release
0	CONTROL	HEAD	7.10	4.00	13/07/98
1	HEAD SERU	2.10	26/05/04	4.00	13/07/98
2	HEAD SERU	2.10	26/05/04	4.00	13/07/98
3	HEAD SERU	2.10	26/05/04	4.00	13/07/98
8	SLC	SLC	1.06	3.0	

Screen 12a



- Bus connections -					BACK
A.	Board	Soft.	Release	COM	Release
0	CONTROL	HEAD	7.10	4.00	13/07/98
1	HEAD SERU	2.10	26/05/04	4.00	13/07/98
2	HEAD SERU	2.10	26/05/04	4.00	13/07/98
3	HEAD SERU	2.10	26/05/04	4.00	13/07/98
8	FOCUS SER	.04	17/07/03		

Screen 12b

- *Note: If the Scorpio Focus is connected by radio it does not appear as a connected axes because the system does not detect it.*

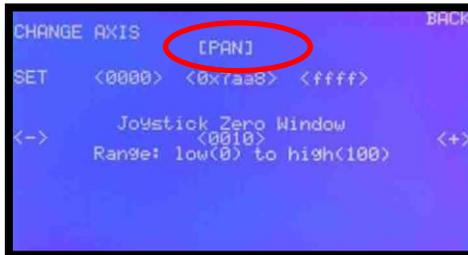
3.10.3-. COMMAND ADJUST

This function is used to adjust the potentiometers and joysticks of the different control desks (screen 13a).



Screen 13a

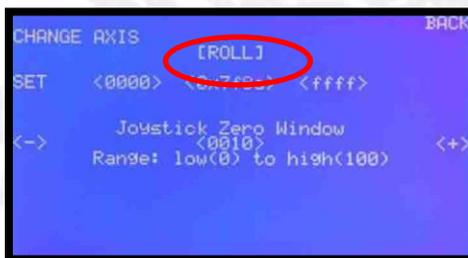
By pressing the button "CHANGE AXIS" the axis which will be adjusted will be changed. The selected potentiometer will appear between brackets, in the top centre part of the screen: "[PAN]" (screen 13a), "[TILT]" (screen 13b), "[ROLL]" (screen 13c), "[FOCUS]" (screen 13d), "[ZOOM]" (screen 13e), "[IRIS]" (screen 13f).



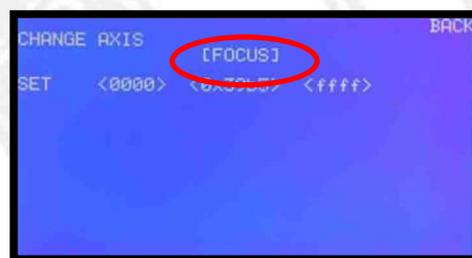
Screen 13a



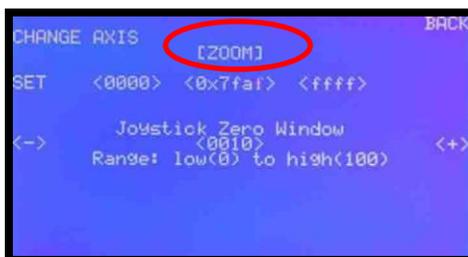
Screen 13b



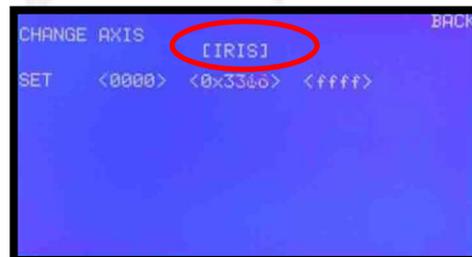
Screen 13c



Screen 13d



Screen 13e

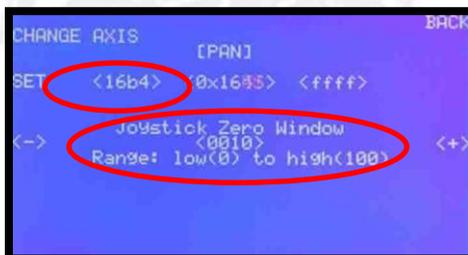


Screen 13f

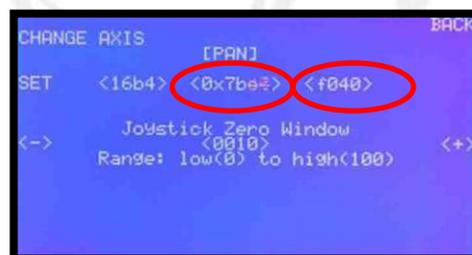
- *Note: Only those axes which are moved by potentiometers or Joysticks will appear. For example, with the Handwheels and the Pan Bar neither the PAN nor the TILT appear because they are controlled by encoders.*
- *Note: The adjustment will be done to the potentiometer which is assigned to the respective axis in that moment.*
- *Note: There are 5 reasons for the adjustments to be done*
 1. - *In the factory when the systems are verified.*
 2. - *When a potentiometer is changed*
 3. - *When an external control is connected to the control desk.*
 4. - *When the software is up dated.*
 5. - *When a difference is noted between the movement of a potentiometer or joystick and the response of the respective axis.*

All the axes are adjusted in the same way. The potentiometer or joystick is moved to one extreme, it is checked that the four segments of the number in the centre of the screen have changed, the "SEL" button is pressed and it is checked that one of the two numbers on either side of the central number co-insides with it when the "SEL" button is pressed. As before the same is done with the potentiometer or joystick on the opposite extreme.

- *Note: It does not matter on which side the adjust is started. The system will detect the selected extreme and put the potentiometer value on the corresponding side (screen 13g and 13h)*



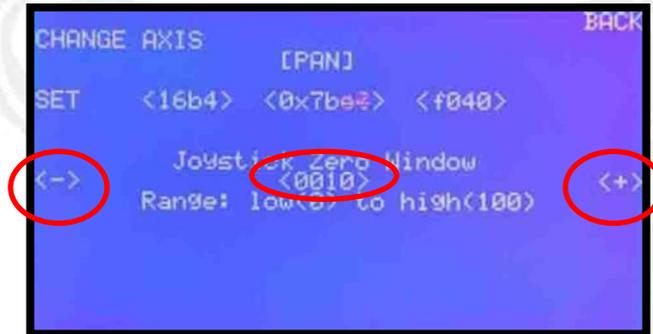
Screen 13g



Screen 13h

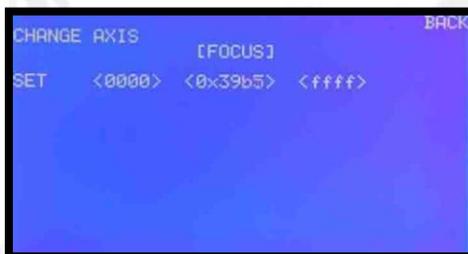
In the bottom, centre, part of this screen the “Joystick Zero Window” function appears. This function allows us to adjust the zero window of the potentiometers and joysticks therefore adjusting the response sensitivity to our convenience.

With the (-) and (+) buttons we are able to enlarge or shrink the window from a range of “1” (minimum) to “100” (maximum). The selected value appears in the centre of the screen (screen 13h).



Screen 13h

- *Note: It is not necessary to do this adjust on the Focus and Iris because their potentiometers are linear and do not have a zero reference (screen 13d and screen 13f).*



Screen 13d



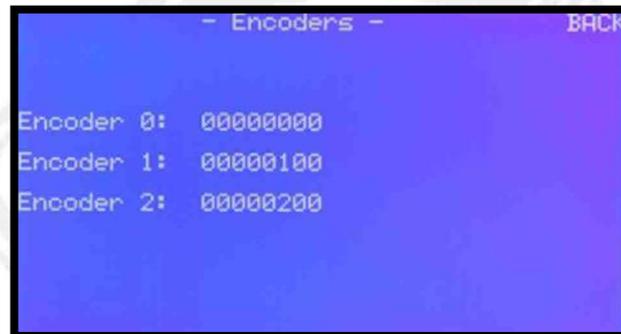
Screen 13f

- *Note: If we make the window to small we could find that the respective axis does not work correctly. This effect will depend on the amount of interference acting on the axis in question. For example: one of the most common causes of interference is the interference from wireless systems. When this happens the window must be enlarged until the problem goes away.*

Press “BACK” to return to the previous menu.

6.10.4-. ENCODERS

This screen is used to check the response of controls that use encoders (screen 14a).



Screen 14a

Encoder 0 corresponds to both the Handwheel's and Pan Bar's PAN encoders. Encoder 1 corresponds to both the Handwheel's and Pan Bar's TILT encoders. Encoder 2, in the case of the Handwheels, corresponds to its ROLL. In the case of the Pan Bar it does not correspond to anything because the ROLL is controlled by a potentiometer.

If we do not move the controls, likewise, the encoders must not move. If we move one of the controls, likewise, the respective encoder must move.

There are two situations in which this information will help us to find a problem:

1.- If one axis of the remote head is moving, the corresponding control for that axis is stationary and it's corresponding encoder's numbers are stationary too, the problem is in the remote head.

2.- If one axis of the remote head is moving, the corresponding control for that axis is stationary and it's corresponding encoder's numbers are moving, the problem is in the control. In this case the respective encoder, the cabling or the control circuit board must be checked.

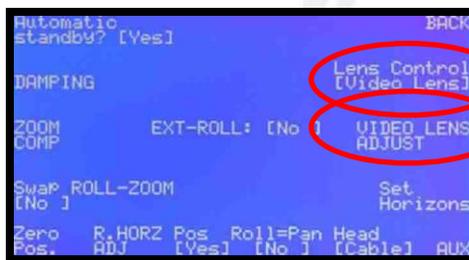
Press "BACK" to return to the previous screen.

By pressing "BACK" again, we exit from the "Aux" screen and return to the "SETTINGS" menu.

6.11-. Lens Control [Scorpio Focus] o [Video Lens]

This button is used to tell the system which lens control system we are using: the Scorpio Focus which allows us to control any type of lens or the Video Lens Control which allows us to control the servo motors of video lenses. With the Video lens Control no external motors are necessary.

- *Note: If [Video Lens] is chosen VIDEO LENS ADJUST will appear bellow. This enables the Video Lens Control parameters to be changed. If Scorpio Focus is chosen this function will not appear as it will have no significance (screen 13g and screen 13h).*



Screen 13g



Screen 13h

6.12-. VIDEO LENS ADJUST

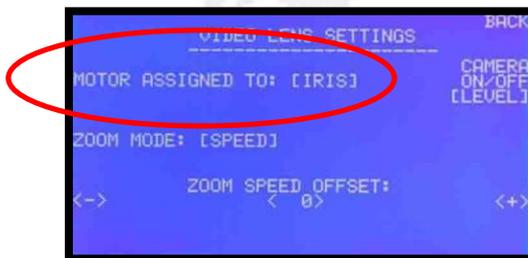
This button is used to access the Video Lens Control adjustment Menu, ``Video Lens Settings`` (screen 15a).



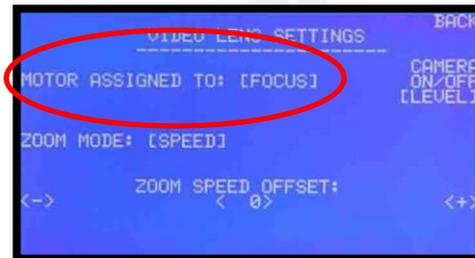
Screen 15a

6.12.1-. MOTOR ASSIGNED TO: [IRIS]

The Video Lens Control allows us to connect an external motor in the case that the lens is not full servo or if the Iris is wanted to be controlled externally. By pressing this button the assignment of the motor is changed between Iris, Focus and Zoom (screen 15a, 15b and 15c).



Screen 15a



Screen 15b



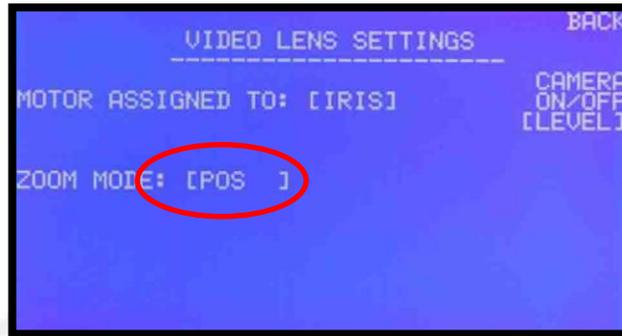
Screen 15c

- *Note: The axis that is assigned to the external motor will not be able to control itself through the lens' servo. Therefore be sure that when full servo lenses are being used that it is assigned to the Iris. Like this the Focus and Zoom will be controlled by the lens' servos.*

6.12.2-. ZOOM MODE: [SPEED] o [POS]

Normally video lens' servos control the Zoom by controlling the speed of the motor that it is moving. This is called Speed Mode. In this case we do not have any information about the position of the Zoom and therefore cannot memorise it's movement or use the Zoom Compensator.

However there are some lenses that let us control the Zoom by position. If we use these lenses and want to use these positions we must configure the lens' servo and press this button so that [POS] appears on the screen (screen 15d).



Screen 15d

- *Note: If the configuration of the lens´ servo and the Zoom Mode are not the same it will be impossible to control the Zoom.*

6.12.3-. ZOOM SPEED ADJUST

This function will appear if the Speed Mode [SPEED] is selected. It allows us to adjust the offset of the servos´ potentiometer from our control. It is know when the offset is not correct by a slight drift in the servo motor of the Zoom. In this case press the “-” or “+” buttons until the drift is stopped completely (screen 15e).



Screen 15e

- *Note: This adjustment must be done the first time the Servo Lens and the lens´ servo are connected to each other. After that the Servo Lens will store the parameters until we re-adjust it.*

6.12.4 CAMERA ON/OFF [PULSE] o [LEVEL]

There are two ways of running video cameras. One is by giving them a pulse and the other is by maintaining a certain voltage level.

By pressing this button we change between the two manners. We also tell the Video Lens Control which one it must send to the camera so that it runs correctly (screen 15a and 15f).



Screen 15a



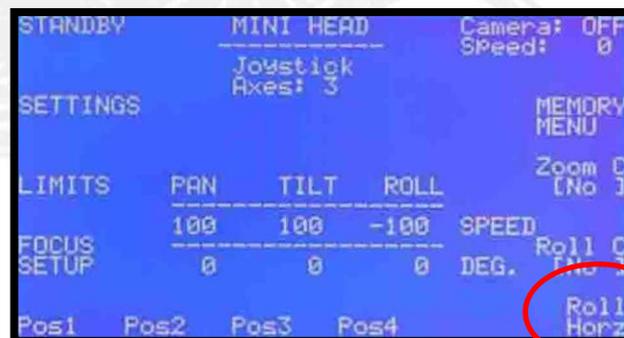
Screen 15f

- *Note: If the opposite mode to which the camera needs has been selected the camera run in the Principal Menu will not respond correctly.*

Press "BACK" to return to the previous menu.

6.13-. SET HORIZONS

This function is used to memorise the actual position of the Roll axis. Whenever the button "Roll Horz" in the Principle Menu is pressed the Roll axis will return to its memorised position (screen 1a)



Screen 1a

- *Note: If the remote head is connected in two axes this function will not appear.*

Press "BACK" to return to the Principle menu.

7-. LIMITS

This button is used to access the menu that lets us separately limit the movement of each of the remote heads' axes (screen 4a).

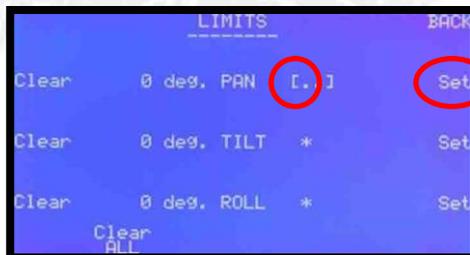


Screen 4a

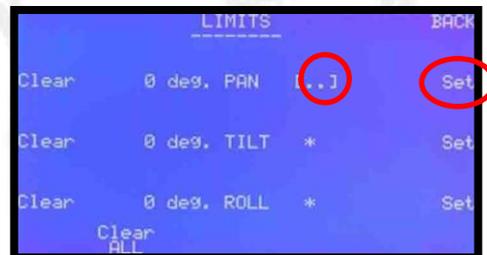
The function of "LIMITS" is to create a window in which we are able to move freely. The stopping ramp on each of the extremes is predetermined and done by the system. This ramp is not affected by the changeable Damping adjustment.

The way to program the limits is the same for all axes:

We move the respective axis to the position where we want a limit to be made, the "SET" button which corresponds to the respective axis is pressed and the first limit bracket will appear: "[." (screen 4b), we move the axis to the second position where we want the other limit to be made and the "SET" button is pressed again. The second limit bracket will appear: "...]" (screen 4c). Now this axis will be allowed to move between these two selected positions.



Screen 4b



Screen 4c

To erase a limit the "Clear" button respective to that axis is pressed. To erase all limits the "Clear All" button is pressed.

- *Note: Setting just one limit will not be recognized by the system. In this case the axis will be able to move through its whole rotation.*
- *The limits are lost when the control is switched off. It is therefore recommended that limits are made on the TILT axis whenever there's a possibility that the lens could knock into the PAN axis.*
- *In the Scorpio Classic's case the TILT axis is physically limited because it does not have a slip ring which allows it 360° continual rotation. Once one of the physical limits has been passed you have to return to that point, where the limit was made, before the axes will work again. This is because the control's counter continues counting after the physical limit has been made. To avoid this it is recommended that electronic limits are set before the physical ones.*

8-. FOCUS SETUP

This button is used to access the menu which controls the axes of the Scorpio Focus Motor Driver Box: Focus, Iris, Zoom and the camera run (screen 5a).



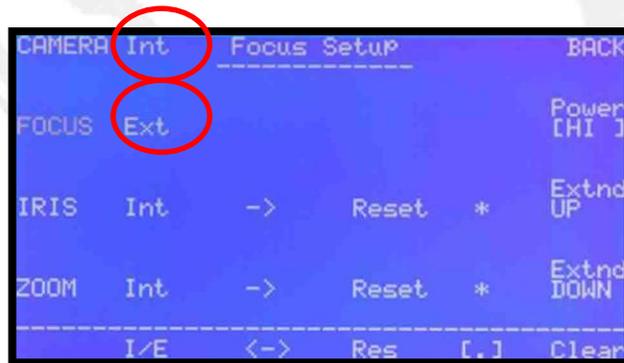
Screen 5a

8.1-. CAMERA, FOCUS IRIS y ZOOM selection

The four configurable axes, CAMERA, FOCUS, IRIS and ZOOM appear on the left hand side of the screen. By pressing their corresponding button they will start blinking. The configurations that we now set will be applied to the blinking axis only.

8.2-. INTERNAL / EXTERNAL [I/E]

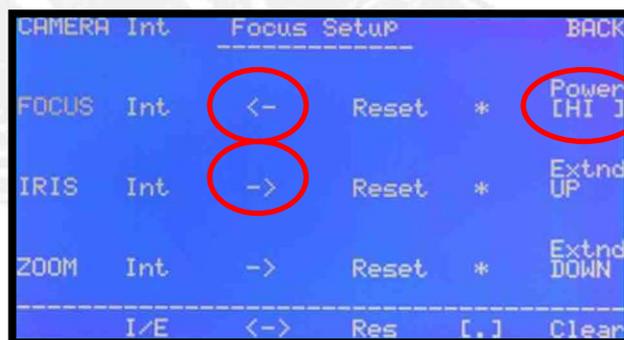
This function is used to select whether we want the control of the axes to be from a External command, "Ext": the Scorpio Focus Hand Unit or an internal command, "Int": from a command connected to one of the orange connectors on the back panel of the control or the control's own commands (the joystick). The message "Ext" or "Int" will appear in the same line as the selected axis (screen 5b).



Screen 5b

8.3-. REVERSE DIRECTION <->

This function is used to change the movement direction of the selected axis. When this button is pressed we will see that the direction of the selected axis' arrow will change (screen 5c).



Screen 5c

8.4-. MOTOR RESET [Res]

This function is used to recalibrate the motor connected to the selected axis. When this button is pressed the word "Reset", which is situated in the same line as the selected axis, will blink once and the motor which is assigned to this axis will start looking for the physical limits of the lens to which it is attached.

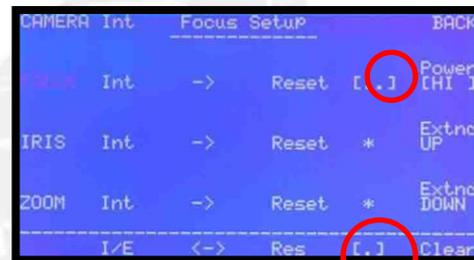
8.5-. LIMITS [,]

This function is used to set movement limits on each of the axes.

First we move the motor corresponding to the selected axis to the position where we want to make a limit, the "[,]" button is pressed and "[[" will appear on the line of the selected axis (screen 5d). Now we move the same motor to the position where we want to set a second limit and the "[,]" button is pressed again. "]]" will appear on the line of the selected axis (screen 5e). Until both limits are set the motors' movement will not be limited.



Screen 5d



Screen 5e

8.6-. CLEAR

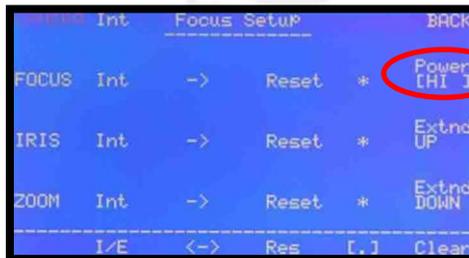
This function is used to erase the selected limits. Once the limits are erased "]*", will appear on the line of the selected axis.

8.7-. BACK

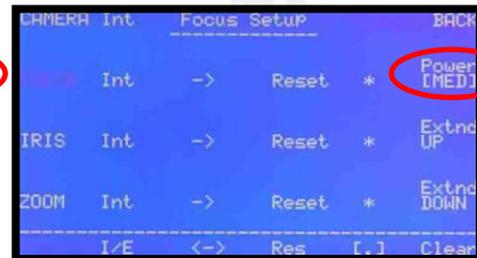
Press "BACK" to return to the Principle Menu.

8.8-. Power [LOW]

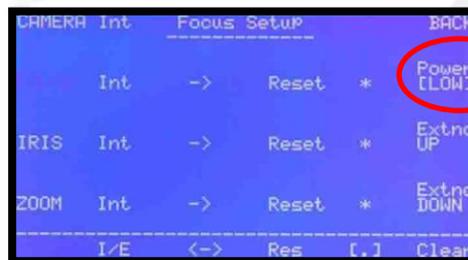
This button is used to select the power that the motors will have when they do the lens calibration. There are three power levels: "HI", "MED" and "LOW" (screen 5a, 5f and 5g).



Screen 5a



Screen 5f

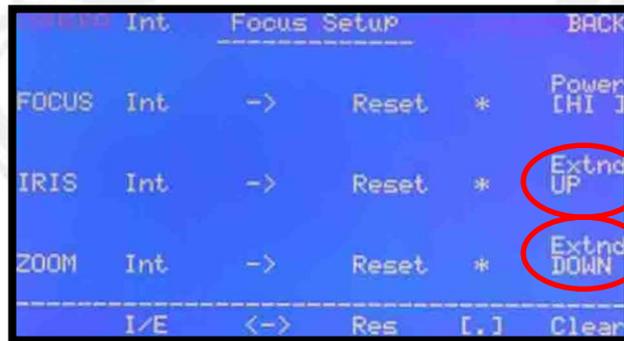


Screen 5g

- *Note: For delicate lenses (video) we choose "LOW" to start off with. From there we can increase the power if we see that the motor does not have enough strength to reach both extremes while do the calibration. In the case that the motor power is to low the motor might not reach both ends of the lens. In the case that the motor power is to high it could break the teeth of the motor's cog or the actual internal mechanics of the lens.*
- *Note: The selected power will be applied, at the same time, to all three axes' motors, Focus, Iris and Zoom.*

8.9-. Extend UP / Extend DOWN

Using one of these two buttons we change the state of the motor connected to the auxiliary of the Video Lens Control. The motor mechanically controls the duplicator of the lenses (screen 6a).



Screen 6a

- *Note: All these adjustments will be applied to the Scorpio Focus Motor Driver Box when it is in channel "0" and connected to the remote head via the red communication and power cable. In this case the communication is passed by cable via the remote head.*

In any other case there will not be communication with the remote head and the system will therefore ignore these configurations.

- *Note: These configurations are stored in the system even if it is switched off.*
- *Note: These configurations are applied to the Video Lens Control when it is connected to the remote head via the red communication and power cable.*

Press "BACK" to return to the Principle Menu.

9-. POS 1, POS 2, POS 3 y POS 4

When “Pos” [Yes] has been selected in the SETTINGS menu these four functions will appear. (screen 1a and 3a).



By pressing and holding down one of these buttons until it blinks the position of all the remote head’s axes and the Zoom are memorised. The Focus and Iris positions are not memorised.

By pressing these buttons once the remote head’s axes and the Zoom will move to the pre-memorized position. The axes will move to the pre-memorized position at a constant speed. This speed does not depend on the Assigned Speed determined by the potentiometers.

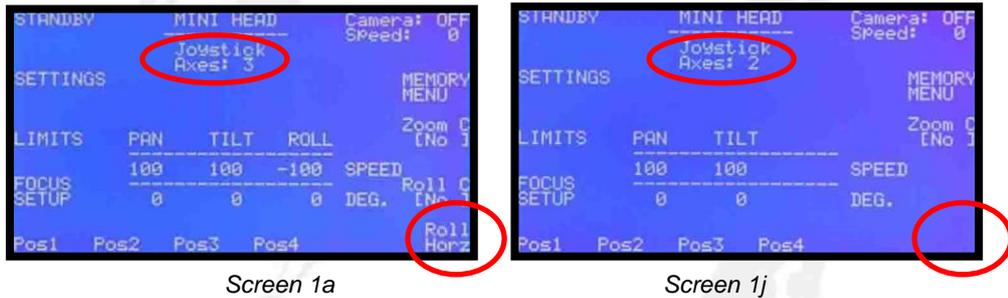
- *Note: The positions will always be stored in memory and are in depended of whether or not the control has been switched off on not.*
- *Note: Because the remote head works with absolute encoders the memorised position will always be with respect to the Zero Position which we have given it when the equipment was switched on or if we pressed the “Zero Pos” button in the SETTINGS menu.*

If the actual zero position differs from the zero position used to memorise a position, the correct memorised position will not be reached and there could be problems with the remote head’s movement when it finds that pre memorised position (it could knock into itself).

For this reason Activate “No” in the function “Pos” in the SETTINGS menu is recommended.

10-. ROLL HORZ

Whenever we have the remote head connected in three axes and therefore have the Roll information appearing on the screen the Roll Horz function will appear (screen 1a). If we do not have the remote head connected in three axes this function will not appear (screen 1j).



By pressing this button the Roll axis will find the pre memorised position. The position is memorised with the "Set Horizons" button in the SETTINGS menu (screen 5c).



Screen 5c

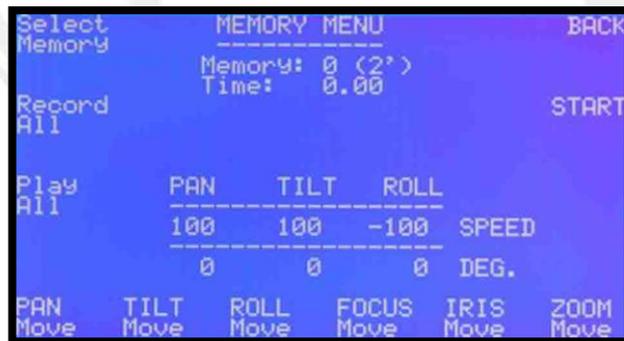
The speed at which it will find its position is the selected speed of the speed potentiometer.

- *Note: The Roll Horizon's position will be stored in memory even if the system is switched off.*
- *Note: The correct Roll Horizon position will depend on the correct memorization of the remote head's "zero" position.*

11-. MEMORY MENU

The Scorpio Head enables you to memorize 6, all axes, movements of 2 minutes each.

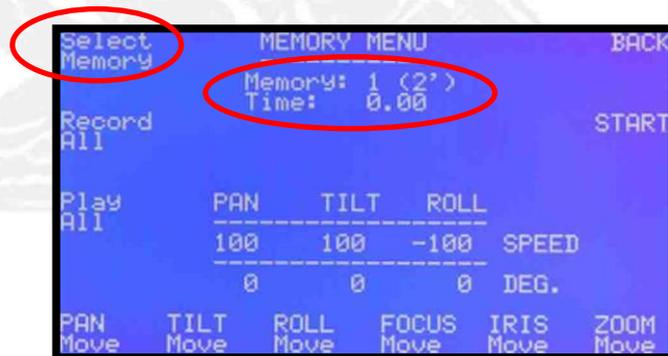
This button is used to access the menu which lets us memorize and play these movements (screen 6a)



Screen 6a

11.1-. Select Memory

This button is used to select a memory bank. There is information about the selected memory on the top part of the screen. The total time and the time already used by the memory bank can be seen (screen 6b).

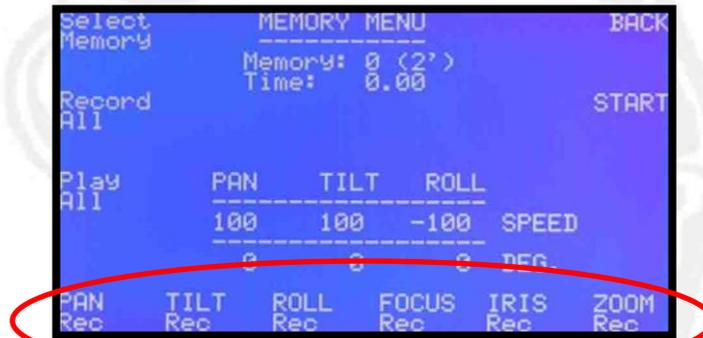


Screen 6b

The memory banks are numbered from "0" to "5".

11.2-. Record All

This button is used to record all axes. All the axes at the bottom of the screen will turn to Rec mode and will wait for the memorization process to be started (screen 6c).



Screen 6c

- *Note: Any axis which is not connected to the system will appear in the Move mode (screen 6d).*



Screen 6d

11.3-. Play All

This button is used to play all axes. All the axes at the bottom of the screen will turn to Play mode and will wait for the play process to be started (screen 6e).



Screen 6e

- *Note: Any axis which is not connected to the system will appear in the Move mode (screen 6f).*



Screen 6f

11.4-. PAN, TILT, ROLL, FOCUS, IRIS y ZOOM

Each one of the axes that could be connected in the remote head appears at the bottom of the screen. By pressing each one of their corresponding buttons we can, independently, assign them a mode:

- Rec: Record mode
- Play: Play mode
- Move: Free movement mode which will not record or play anything from the memory.
- *Note: In the case that an axis is not connected it will appear in the Move mode and it will not be possible to change it.*

11.5-. BACK

Press "BACK" to return to the Principle menu.

11.6-. START

This button is used to access the menu from which we start the memorization and reproduction (screen 16a).



Screen 16a

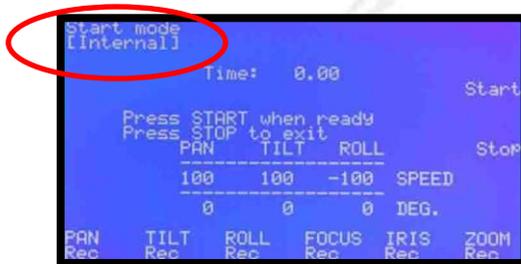
START is pressed once the memory bank and all the axes modes have been selected (once in the start screen it is not possible to select this).

11.6.1-. Start Mode [Internal] o [External]

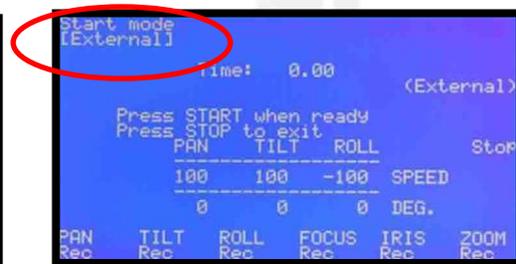
This button is used to choose the way in which the memory or the reproduction will be triggered.

If we choose Internal, we will use the Start button on the same screen (screen 16a).

If we choose External, we will use an external command which is connected to the JDR Roll connector on the back panel of the control (screen 16b). Any other system that is triggered by a switch and is compatible to this connector can also be used.



Screen 16a



Screen 16b

In the external case the Start function will not appear on the screen so that the functions are not duplicated.

11.6.2-. Start

Once we have put all the axes in their start position and are ready to memorize the movement, the Start button is pressed and the system will start to memorize each of the axes that are in Rec mode.

At the same time the, Time: 0.00, counter will start counting (screen 16c)



Screen 16c

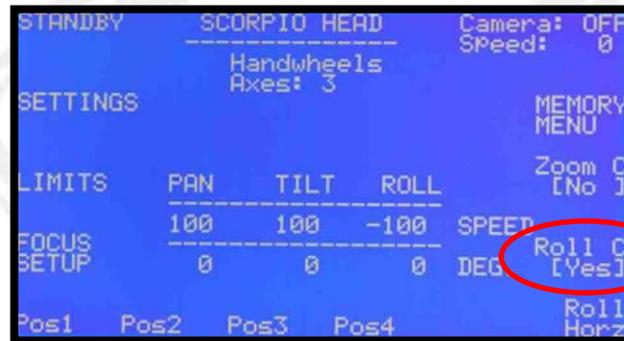
If one of the axes is in Play mode a message will appear saying that the axes in Play mode are looking for their "Home" or initial position (screen 16d).



Screen 16d

12-. ROLL COMPENSATOR

If this button is pressed [Yes] will appear on the screen and the Roll Compensator will be activated (screen 1k).



Screen 1k

The Roll compensator combines both the Pan and Tilt movements to get a movement that is always completely vertical or horizontal with respect to the camera and not the position of operator as is the norm.

For example, we move the Pan axis, having the Roll not completely horizontal with respect to the remote head. In this case both the Pan and Tilt will move so that the camera makes a completely horizontal movement with respect to its own position. The same will happen with the Tilt axis.

To check that the system is working perfectly the Roll must be turned 90°. Now, by moving the Pan control only the Tilt axis of the remote head will move. Likewise by moving the Tilt control only the Pan axis of the remote head will move.

- *Note: This function only works correctly on one plain of the movement. In the inverse plain the correction would be made opposite and therefore the effect would be incorrect.*

13-. ERROR SCREENS

If the control desk does not detect any connection with the remote head or the Pan axis the communication alarm screen will appear. This screen asks us to check if the communication cable is connected and if the remote head is powered correctly (screen 0c).



```
--- SCORPIOHEAD II ---  
by Servicevision System   ESC  
- Press ESC to exit  
Trying to communicate...  
  
- Check COMMAND cable between  
Control Unit and Head  
- Check Head Power
```

Screen 0c

If the remote head is set up in 3 axes and the control desk does not detect the Roll axis or if it is set up in 2 axes and the control desk does not detect the Tilt axis the following screen will appear (screen 0h).



```
--- SCORPIOHEAD II ---  
by Servicevision System   ESC  
- Press ESC to exit  
Trying to communicate...  
  
- Not reply from axis: 2  
- Check HEAD and reinitialize
```

Screen 0h

If the remote head is set up in 3 axes and the control desk does not detect the Tilt axis it considers that the remote head is connected in 2 axis and the Principle Menu with 2 axes will appear (Screen 1g).



Screen 1g

If during normal operation the equipment loses communication because of whatever reason or the red disengage button has been accidentally pressed the following screen will appear (screen 0i).



Screen 0i

In the case that the remote head is being powered by batteries and they are discharged (around 18V) the following warning screen will appear (screen 0j).



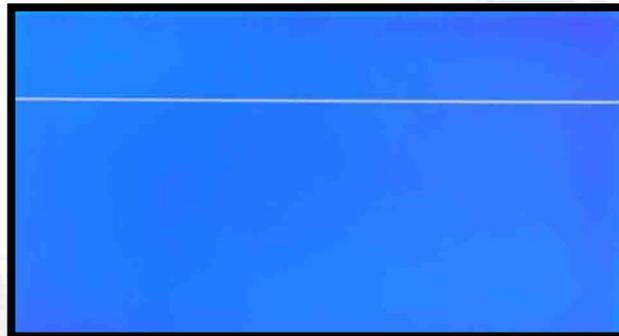
Screen 0j

If the battery is below this value the communication will be lost and the following screen will appear (screen 0k).



Screen 0k

In the case that the control is powered by a discharged battery the communication with the remote head will be lost and the following screen will appear (screen 0l).



Screen 0l