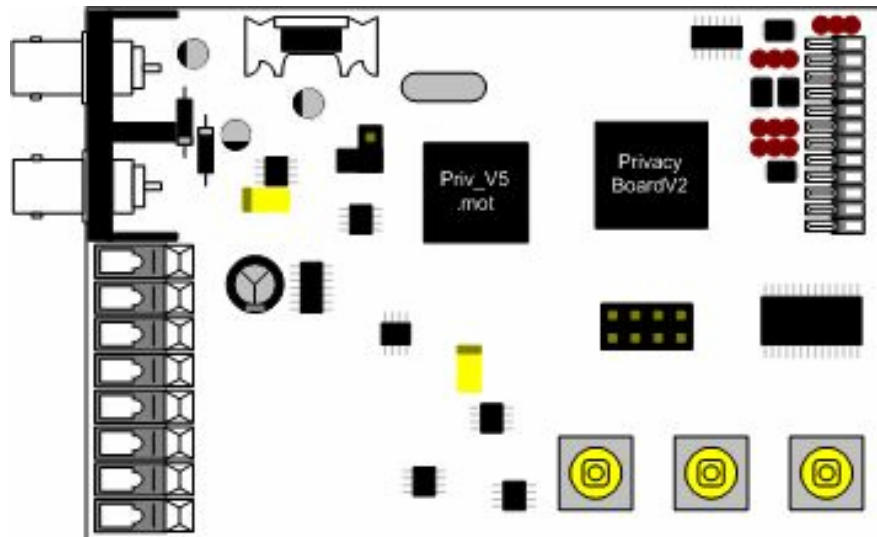




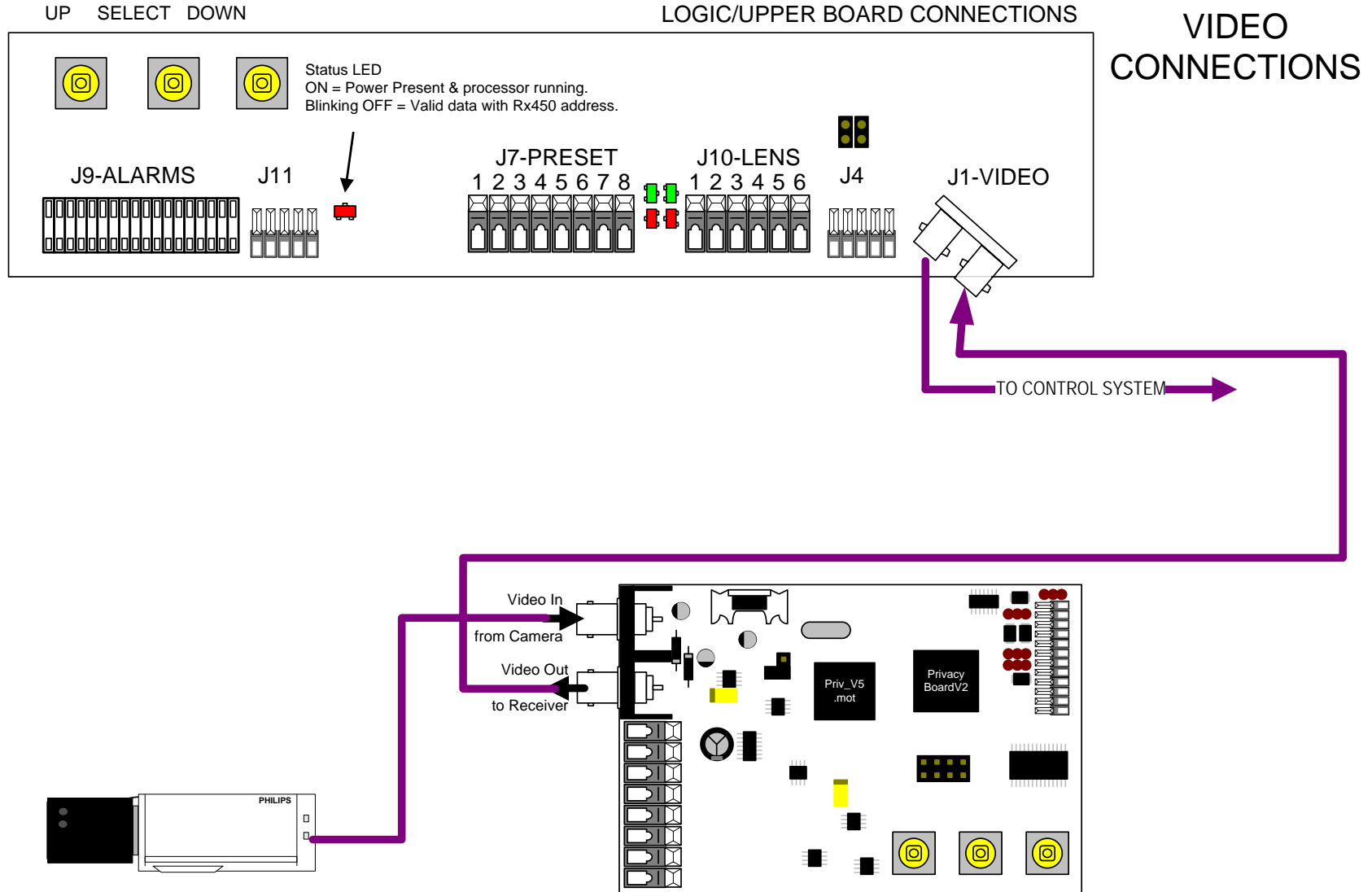
Privacy Board



Installation Guide

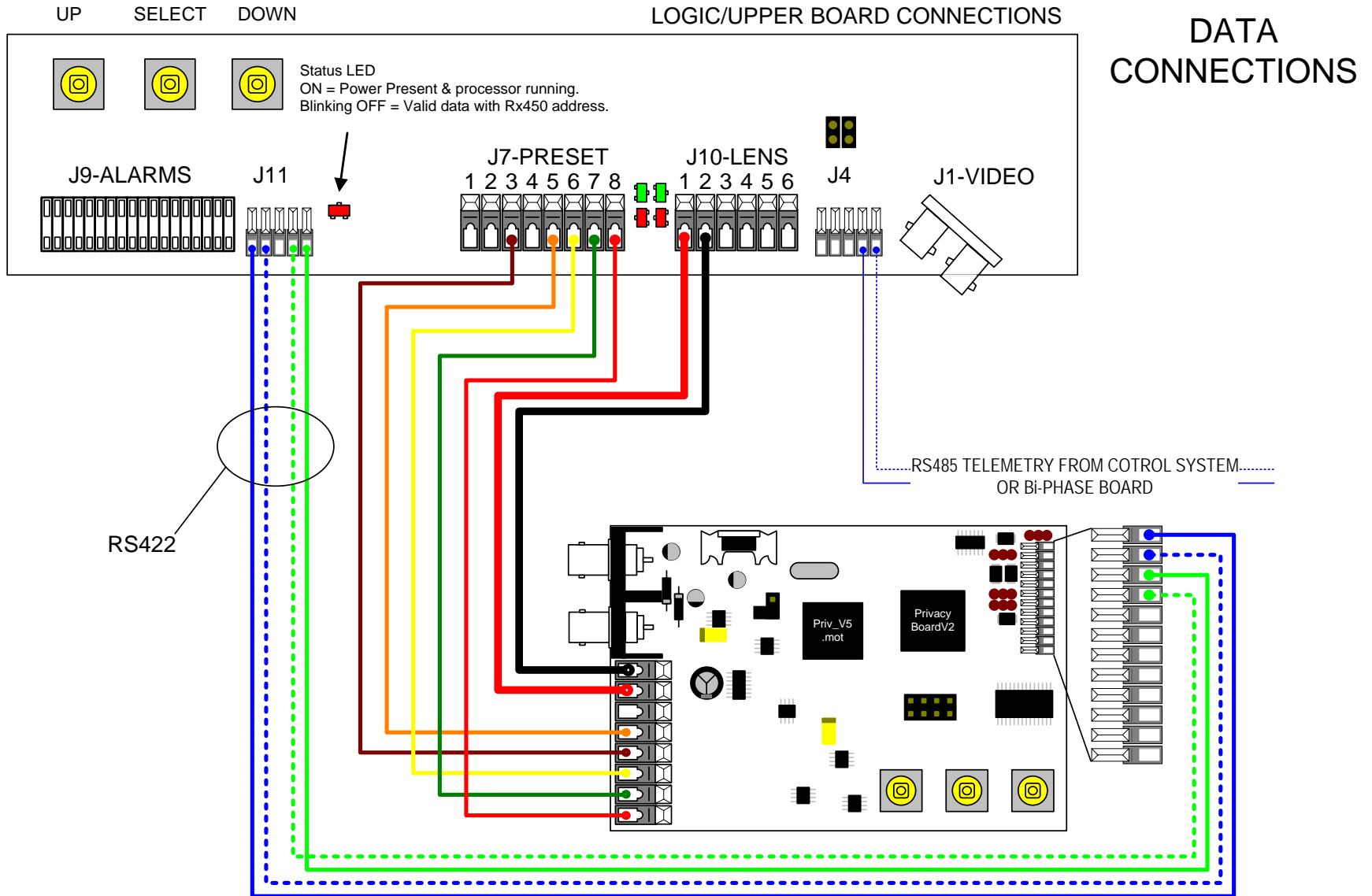


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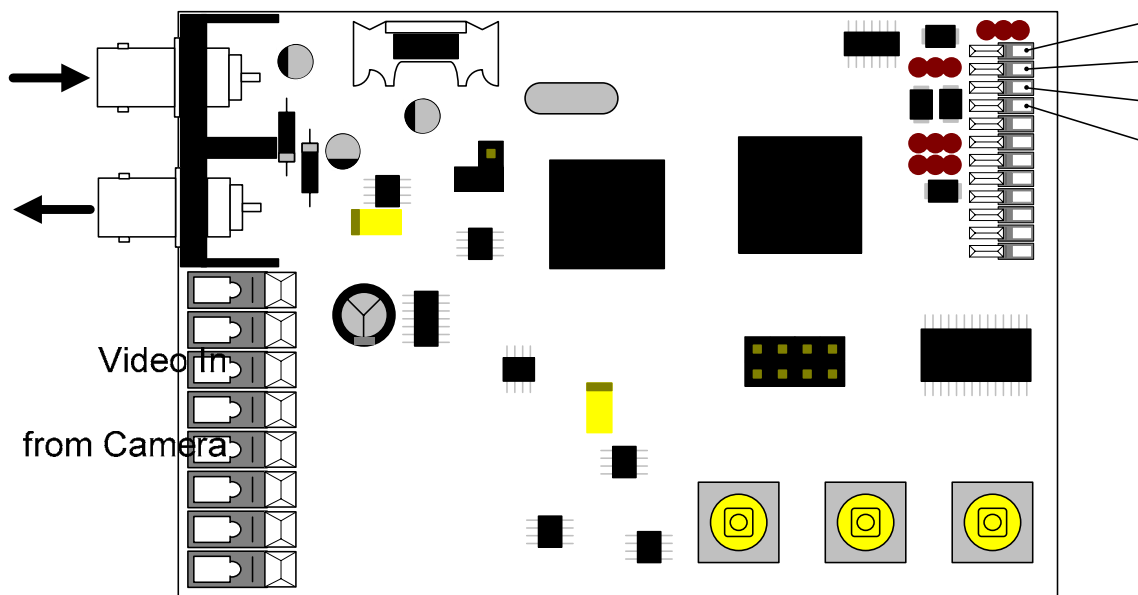


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Privacy Board Calibration and Setting (v3 software)

Basic Connections



Video Out

It is suggested that a bubble type level is used to check for horizontal, vertical and 45/90 degrees.

to Receiver

Notes on general performance and limitations: -

a) It should be noted that the overall accuracy and performance of the final system is limited by two factors: -

i) The quality of the head and its associated preset pots and drive system. This will depend on the particular model, its age and condition. The pot drive system usually has some backlash or hysteresis. This will manifest itself as a difference in mask position relative to the object depending on the direction from which it was approached. Preset Pot +VE

ii) The care taken in the calibration process i.e. the accuracy of positioning when required to do so during the calibration procedure. It is appreciated there can be practical limitations to this due to accessibility so some compromises may have to be made here.

b) Since the system actually has no measure of how far an object is from the camera it cannot compensate for the parallax effect. This affect is that objects close to the camera appear to move across the screen more quickly to those further away. Hence if calibration is carried on a point close to the camera and a mask is set on an object at some distance the mask may not track accurately.

To get the best result calibrate the pan and tilt on a reference point that corresponds with an actual object to be masked at the furthest distance.

c) A mask may flicker at certain positions when panning. This is particularly noticeable for continuous rotation heads at the crossover point where the pot voltage suddenly changes from minimum to maximum or vice versa. To a lesser affect this may also be observed at a number of positions through the pan and tilt range. This is unavoidable and only be

momentary whilst actually moving and should not allow the object masked to be exposed whilst stationary.

Essential pre-checks are: -

- a) The camera and the mounting must be level i.e. Check by panning the head with the camera horizontal. The horizon or a horizontal edge such as a roof ridgeline should always appear horizontal on the monitor and should remain in the same vertical position on the screen when panning throughout its visible range.
- b) Establish whether the head can at least tilt down to 45degrees and possibly to 90degrees (vertically down). It must be able to reach horizontal.
- c) The head must be able to pan at least 90degrees(one quarter of full rotation).
- d) Establish whether the head is of the "Constant Rotation" type. Note that "Sine/Cosine" type pan pots cannot be accommodated at present. Also BBV sine/cosine PCB cannot be used with it!!
- e) Establish the zoom factor of the lens. This can be calculated from the focal length range, which can normally be read of the lens housing. Just divide the large figure by the smaller.

E.g. 12-120mm

$$120/12 = 10$$

Therefore zoom factor = x10

This figure will be required during calibration.

f) After fitting the Privacy Board the basic operation could be checked by pressing the PCB buttons SW1 and SW2.This will just enable the on screen menu and hence check the video path and blanking circuits.

g) Ensure that all Preset Patrols are off since this will interfere with the calibration process when the Privacy Board is controlling the head.

h) Drive head to about mid Pan range, roughly level and the lens about mid Zoom position.

Calibration Procedure

1. Enter receiver menu and navigate to "**Privacy setup**" in the "**Options**" menu.
2. Change setting from "**Normal mode**" to "**Setup mode**".
3. After the receiver has re-initialised the Privacy Board on screen basic top level menu will be displayed. At any time whilst this menu or similar menus are displayed panning left will clear the screen and allow normal PTZ control. Approximately 6 seconds after PTZ actions have stopped the menu will again be displayed. In this mode the Joystick can be used to navigate the menus. Tilt moves up and down, and Pan right selects an item. Zoom in and out is used also during calibration sometimes for selection or changing parameter values.

4. Select "**Show Pot. Values**" and enter by panning right. Drive the head and verify that appropriate pot values change smoothly for movement of pan, tilt and zoom. Check that there are no "dead spots" or badly worn sections. These would cause erratic operation.
5. After verifying preset pot integrity stop all movement and wait. After approximately 6 seconds the basic menu should again be displayed. Select "**Hide Pot. Values**" again and wait 6 seconds for the pot value display to clear.
6. Select "**System Calibration**" and enter by panning right. Tilt the camera to approximately level.
7. Select "**Calibrate Pan**" and enter by panning right.
8. Select the head type "**Standard with Limits**" or "**Constant Rotate**" and enter by panning right. Follow the on screen instructions. During this procedure the Privacy Board will automatically control the camera as needed to obtain information needed for calibration. At certain points manual control will be required to position the camera at set points. This will be prompted by an on screen message. Zoom control will **not** be available during this procedure and the system will force the camera to the fully zoomed out position since this is absolutely essential for the calibration process to work correctly.
9. For continuous rotation heads this procedure is much shorter but does require careful positioning at the crossover point where the pot voltage changes from minimum to maximum and vice versa in order to get a smooth transition of the mask position.
 When "**Pan -> align '+' & Zoom in**" appears align the centre of the '+' with a window edge, corner of a building or any other fixed vertical reference point. Use an object at the expected viewing distance as this will help to increase the accuracy of the privacy zone. The accuracy of this setting will determine the horizontal mask/object tracking. Twist the joystick knob clockwise or press the "**Zoom In**" key when positioned to continue. The '+' will reappear at left side of the screen. Re-align the '+' on the same reference point. Press "**Zoom In**" key again.
 When "**Pan to mid-range & Zoom in**" appears choose a reference position about mid range so that the camera can be panned through 90 degrees (1/4 circle or a right angle) from this point. Pan direction will depend on the preset pot wiring. Again twist the joystick knob clockwise or press the "**Zoom In**" key when positioned to continue.

The accuracy of this setting affects tracking at lower angles. Note that there is an individual pan tracking trim available for each mask after it has been set.
10. Select "**Calibrate Tilt**" and enter by panning right. Select the 90deg or 45deg option and enter by panning right. 90 degree should be used to improve accuracy if the head will tilt down that far.
11. Pan the camera to an accessible position whereby the camera tilt angle can be checked. As with pan during this procedure the Privacy Board will automatically control the camera as needed to obtain information needed for calibration. At certain points manual control will be required to position the camera at set points. This will be prompted by an on screen message.
12. When "**Tilt DOWN align '+' & Zoom in**" first appears align the centre of the '+' with a window edge, roof ridgeline or any other fixed horizontal reference point. Try to keep the camera near as possible to horizontal. After pressing the zoom in key the '+' will reappear at top of the screen. Re-align the '+' on the same reference point. Press zoom in key again. The accuracy of this setting will determine the low angle mask/object tracking. As with the

pan calibration use an object at the expected viewing distance as this will help to increase the accuracy of the privacy zones.

13. Select "**Calibrate Zoom**" and enter by panning right and follow the on screen instructions. The Privacy Board will automatically control the camera as needed to obtain information needed for calibration. No intervention is required for this calibration.
14. Select "**Zoom Factor Set**" and enter by panning right. Set the factor to that pre-calculated using the Zoom keys or joystick twist. Note that starting value shown is always X10. This does not represent the currently stored value! Pan right to accept the value.
15. Exit the calibration menu by selecting "EXIT" and then panning right.

To continue calibration of the Zoom it will be necessary to program one mask. To do this refers to "**Set or delete a Privacy Mask....**".

Set a small mask fully zoomed out at an easily visible reference point i.e. centre of a window. The reference point needs to be identifiable fully zoomed out as well as in. Check this first. Note that before calibration of the "optical centre" when zooming in the mask will move away from the reference point probably both horizontally and vertically. This is because the optical centre of the lens is not always aligned perfectly with the centre of the camera image sensor.

Select "**System Calibration**" and pan right, then select "**Set Optical Centre**" and pan right to enter this mode.

16. In this mode the mask appears as two vertical white lines. This represents the vertical sides of the mask. Fully zoom out and position the camera so that the mask is at the centre of the screen and aligned on your reference point. Zoom in so that the mask is as near to the edge or corner of the screen but still fully visible.
17. Select "**Set Horizontal Offset**" and pan right. Twist the joystick knob or use the zoom keys to change the "**Horizontal=**" value and hence horizontal position of the mask so that it returns to the horizontal centre of the screen. Pan right to enter value.
18. Select "**Set Vertical Offset**" and pan right. Twist the joystick knob or use the zoom keys to change the "**Vertical=**" value and hence vertical position of the mask so that it returns to the vertical centre of the screen. Pan right to enter value. Zoom out and check that the mask stays at the correct position.
19. Check and repeat 17 and 18 as necessary so that mask remains at the correct position fully zoomed in and out. Select "**Exit**" then pan right to quit this setting.
20. If an up-and-over camera housing is used then section 20 and 21 can be skipped otherwise carry on to step 20 if using a side mount.
21. To calibrate of the "**Head Rotate Offset**" it will be necessary to set a small mask fully zoomed out at an easily visible reference point near the lowest working angle. After setting this mask pan the camera and check that the mask tracks your reference point from one side of the screen to the other. It may be that the mask lags behind or gets ahead of the reference point. If so, go to section 22 and carry out a horizontal tracking trim calibration. Also it will be observed that your reference point actual travels in an arc across the screen but it will probably be noticed that the arc of travel is displaced to one side. i.e. your reference point will be at a lower point on one side of the screen than the other. This is due

to the head rotation offset. This calibration is to adjust the mask position to allow for this affect.

22. Select "**Set Head Rotate Offset**" and pan right to enter. Position your mask in the centre of the screen. As you pan in either direction the mask will to move down to a lower position on the screen at either side.

Using the joystick tilt up and down change the "**Offset=**" value positive or negative so that the mask is in the same vertical position at both sides of the screen. Check and repeat as necessary. Twist the joystick knob clockwise or press the "**Zoom In**" key to enter value. The purpose of this adjustment is to make either side equal. Subsequently it may be observed that at **both** sides of the screen the mask is slightly above or below your reference point. A "one off" for all masks adjustment is possible to adjust this. Go to section 24 to do a vertical tracking trim.

23. A horizontal tracking trim can be made to each individual mask to obtain better object/mask tracking when panning. This may be required if the mask lags behind or gets ahead of the object at either side of the screen. This is particularly useful for mask at camera angle below about 20 degrees. Before attempting this adjustment try setting all the masks required for this site then coming back to this section. If all other adjustment up to this point are done accurately and the head is good it may not be required. It also depends on the size and angular position of the objects to be masked.

24. Zoom in to the mask to be trimmed. Select "**Tracking Trim**" and pan right. Select "**Low angle Pan Horizontal**" and pan right. Align the '+' character over the mask to be trimmed by moving the head. At this point the '+' character changes to a '*'. When a '*' is visible twist the joystick knob clockwise or press the "**Zoom In**" key to select this mask. Zoom out fully. Adjust the "**Trim Horiz=**" value with the joystick tilt up and down so that the mask aligns with the object at either side of the screen. Note the one adjustment applies to both sides. Check and repeat as necessary. Twist the joystick knob clockwise or press the "**Zoom In**" key to enter the value.

25. At low angles object track across the screen in an arc about the centre to the lowest point at either side of the screen. After basic calibration the vertical alignment of the mask and object may not optimal. A "one off" adjustment for **ALL** masks can be done to correct this. To do this first exit calibration, then go to "**Set a mask**" and set a small mask when fully zoomed out at an easily visible reference point near the lowest working angle. Select "**Tracking Trim**" and pan right. Select "**Low angle Pan Vertical**" and pan right. Adjust the "**Trim Vert=**" value with the joystick tilt up and down so that the mask aligns with your reference point at either side of the screen. Note the one adjustment applies to both sides. Check and repeat as necessary. Twist the joystick knob clockwise or press the "**Zoom In**" key to enter the value. Also check other masks.

Set or delete a Privacy Mask for BBV RX45X/55X Receiver

1. Enter receiver menu by holding pressed the '1' key then pressing and releasing the '#' key.
VCL - 95 PRESET
2. Navigate using the joystick to the "**Options**" menu then "**Privacy setup**".
3. Change setting from "**Normal mode**" to "**Setup mode**".
4. Exit receiver menu. After the receiver has re-initialised the Privacy Board on screen basic top level menu will be displayed. At any time whilst this menu or similar menus are displayed panning left will clear the screen and allow normal PTZ control. Approximately 6 seconds after PTZ actions have stopped the menu will again be displayed. In this mode the Joystick can be used to navigate the menus. Tilt moves up and down, and Pan right selects an item. Zoom in and out is used also during setting sometimes for selection or changing parameter values.
5. Select "**Mask Operations**". Pan right to enter.
6. To delete a mask go to item 12. To set a mask pan right to select "**Set a mask**". Pan right to start.
7. To regain PTZ control now pan left. Move the camera so that the two vertical white lines (which represent the vertical edges of the mask) are at the centre of the object to be masked. Note that the lines remain at the same position on the screen when the head is moved but will track an object when zooming. If the lines are aligned over an existing mask the system will display the error message "**Set mask over programmed**". After positioning wait and the on screen menu will reappear.
8. To increase the vertical size of the mask select "**Size Vertically**" and use joystick twist or zoom in or out keys to change. If increasing the mask size at this position would overlap an existing mask the system will prevent movement in that direction although it will allow almost touching. (See section "**Disable Re-enable Mask Expansion**")
9. Similarly select "**Size Horizontally**" to increase the horizontal dimension. This time use joystick twist or zoom in or out keys to change the horizontal size. Similarly an error message is displayed if a clash with an existing mask is predicted. Pan right to accept.
10. "**Nudge Vertically**" and "**Nudge Horizontally**" can be used to adjust the position of the mask without moving the head (This might be used where the head has reached a limit stop). Nudge vertically using joystick tilt up or down and horizontally using zoom. To complete the settings select "**Exit**" and pan right to exit mask setting.
11. If more than 20 masks have been set and before exiting mask setting fully zoom out the camera and move around the whole working range of the camera covering the extreme limits of pan and tilt. Check that the message "**Too many masks for scene!**" is not displayed. This is because the system is limited to 20 masks on the screen.
12. To delete a mask select "**Delete a mask**".

13. A '+' character now appears on the screen. Move the camera so that the '+' is over the mask (between) the two white lines. At this point the '+' will change to a '*' character. It may be necessary to zoom in to make this easier. Now use joystick twist clockwise or zoom in key to delete it. This procedure can be aborted by pressing zoom out key or twisting the joystick anticlockwise.
14. Re-enter the receiver menu and return the setting "**Setup mode**" to "**Normal mode**".

Disable or Re-enable Mask Expansion

1. Mask Expansion is used to enlarge the size of the mask when actually moving. This prevents an object being exposed momentarily under dynamic conditions due to inherent delays in the sensors and system. Due to the way the mask overlay system works, a mask overlap will result in transparency in that region. This most frequently happens when masks are set in close proximity due to Mask Expansion, so it may be necessary to disable expansion on one or more sides of one or more mask to prevent this.
After setting all masks at the desired positions, move around the range and check for overlap. Check zoom position particularly. To disable overlap select "**Set a mask**" then either "**Disable Pan Expansion**" or "**Disable Tilt Expansion**" which ever is necessary. Pan right to start.
2. A '+' character now appears on the screen. Move the camera so that the '+' is over the mask (between) the two white lines. At this point the '+' will change to a '*' character. It may be necessary to zoom in to make this easier.
3. When aligned press zoom in key to disable Pan right hand edge or Tilt bottom edge.
Or press zoom out key to disable Pan left hand edge or Tilt top edge.

TX300	Single camera desktop telemetry transmitter with BBV up-the-coax & 20mA telemetry, Pan/Tilt/Lens & Lights
TX400	As TX300 inc Wash, Wipe, Autopan, 8 presets, preset patrol.
TX400DC	As TX400 including joystick for proportional Pan/Tilt control.
TX1000 MK2	8 or 16 camera, 2 monitor telemetry transmitter. Up to 2 keyboards. BBV up-the-coax and RS422 standard with options for alarm inputs and 20mA telemetry.
TX1500	Mid size matrix 16 – 96 camera, 8 monitor. Up to 4 control positions (keyboard & remote control) options for alarms, remote control, BBV up-the-coax and RS485 telemetry.
FBM range	Large size matrix. Configurable up to 4096 cameras and 64 monitor outputs. Up to 8 control positions (keyboard & remote control) options for alarms, remote control RS485 telemetry with various options. Please call to discuss requirements.
RX100	Dome Interface with options to drive a large library of dome cameras. BBV up-the-coax and 20mA telemetry.
RX200	AC receiver for Pan only heads or static cameras, Wash/Wipe/Lights. BBV up-the-coax and 20mA telemetry.
RX300	AC receiver for Pan/Tilt/Zoom/Focus/Iris Override and 1 Auxiliary output. BBV up-the-coax and 20mA telemetry.
RX400P	AC full function receiver. PTZFI 4 Auxiliary outputs, 16 presets. BBV up-the-coax and 20mA telemetry.
RX400DC	24Vdc high/variable speed receiver. 16 presets, 8 local alarm inputs, 3 Auxiliary outputs. BBV up-the-coax and 20mA telemetry.
RX45X (AC) RX55X (DC)	Multiple RS485/422 and up-the-coax controllable AC and DC receivers. These receivers are controlled from an expanding range of serial protocols as listed below. 110/230Vac supply. PTZFI, 64 presets, preset patrol, 8 local alarm inputs, 12V 500mA supply output. OSD for remote diagnostics. 3 Aux. outputs RX55X or 4 Aux. outputs RX45X. Optional Privacy board. BBV RS485 and COAX, BAXALL ALTERNATE & STANDARD COAX, PELCO P/D RS485, VCL/HONEYWELL RS485, PHILIPS/BOSCH RS485 (OPTIONAL BI-PHASE INPUT), DENNARD RS485 SENSORMATIC/AD RS422
Multi RS485/422 protocol and up-the-coax telemetry receivers	
RX450/550	PANASONIC RS485 Protocol only version of RX45X/55X.
STARCARD STARCARD/CONVERTER	8 * RS485 output, 2 wire simplex RS422, 4 wire full-duplex RS422, 2 wire half-duplex RS485. Optional STARCARD/CONVERTER offering protocol conversion to drive an increasing range of 3 rd party protocols.
ACCESSORIES	TxLD (bidirectional RS422-RS232 converter) 98005 (bidirectional 20mA-RS232 converter)