

VTB-2A

Operation manual

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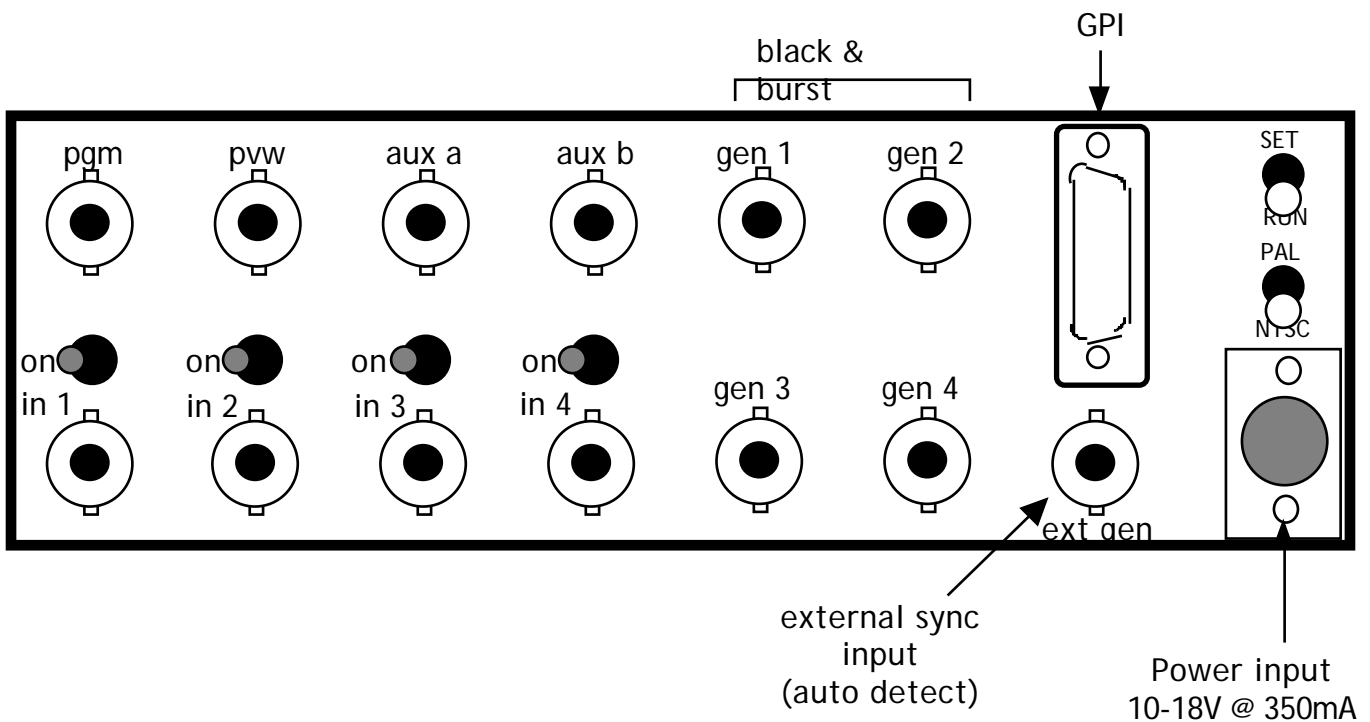
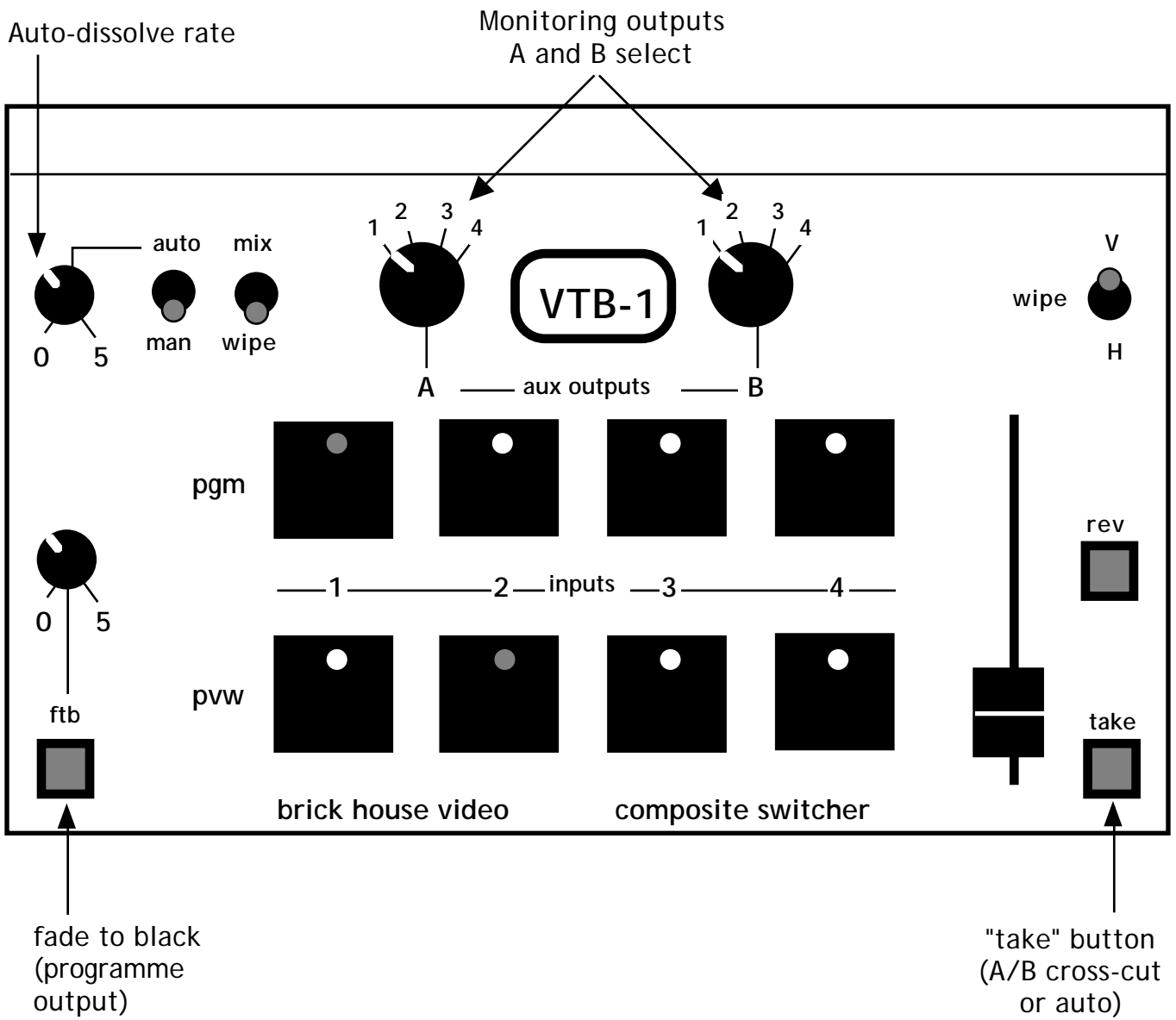


Diagram 1 - VTB-2A

Please take a few minutes to read these notes, as they will help you to get the most out of the VTB-2A.

Setting up - cameras

1.0 Important note: We recommend that you connect a source of composite video to input 1 or the external genlock input BEFORE applying power to the unit. This will ensure that the switcher starts up in the correct mode.

1.1 The VTB-2A is a 4 x 4 switcher for use in the field. It offers cut, dissolve and wipe (auto and manual), and auto fade to black, together with synchronously switched monitoring outputs aux A and aux B. Programme video is available from output A, and preview appears on output B. All inputs are fitted with a switched 75R termination.

The VTB-2A is internally protected against reverse power connection, and cannot be damaged by this happening. The unit is also protected by an internal fuse in the unlikely event of malfunction.

1.2 To set up the unit, first decide which camera is going to be the master. Plug the composite output from this camera into input 1 on the rear panel. Next, connect the outputs from your other cameras into inputs 2, 3 and 4, designating these cameras slaves 1, 2 and 3 respectively. To synchronise the cameras, run cables from the B & B outputs on the rear panel to the genlock inputs on the slave cameras.

1.3 You may also lock the switcher to an external source by connecting composite video to the "ext gen" input. Syncs on this input are detected automatically. Should the supply to this input fail, the switcher will revert to taking syncs from input 1, but there may be a slight change in output sub-carrier phase should this happen.

1.4 Connect a 12V supply to the power connector (pin 1 is 0V and pin 4 is +V). The VTB-2A will work with supply voltages between 10V and 18V, and takes approximately 350mA at 12V.

1.5 Set the switch on the rear panel to "set". Source l.e.d.s should light on the programme and preview bank, depending on the state of the switcher. Connect a monitor to output A and switch on. Switch on all cameras and set them to "BARS". It is advisable to wait a few minutes at this point, to give the equipment a chance to warm up and stabilise.

1.6 On bank B, select input 2. Set the "mix/wipe" switch to "wipe", the "wipe select" switch to "V", and "fade to black" fully up.. Set the "A/B WIPE" fader to mid-position. You should now see bars on the monitor with a horizontal line approximately half-way down the picture. Set your monitor for "Horizontal delay", and you should see the display shown below

1.7 We recommend that you set the termination switches on unused inputs to "on". This will minimise output disturbances should you select an unused input at any point.

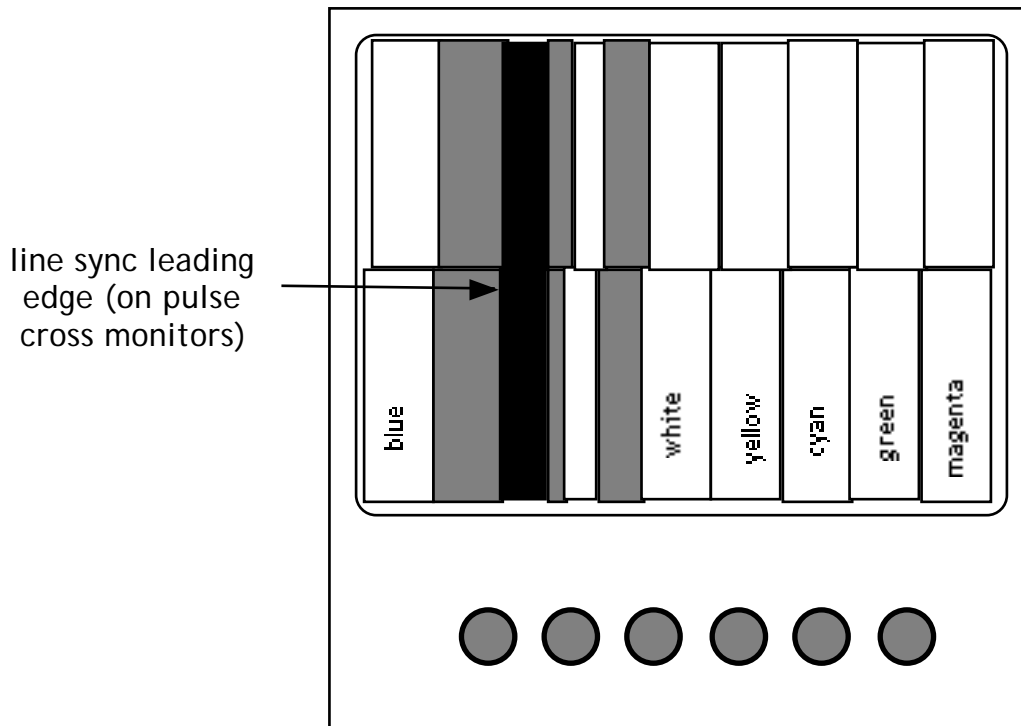


Diagram 2 - Horizontal timing alignment

1.6 Open the side panel on slave camera 1 (left-hand panel for BVW-200/300/400; right-hand panel for BVP-7 and BVP-70). Locate the adjustment marked "H Ø (see appendices 1 and 2 for locations). Adjust this control to make the left-hand edges of the line sync (black bar on the monitor) line up, taking no notice of the positions of all other bars. Select input 3 on bank B and repeat this procedure for slave camera 2. Repeat with B input 4 for slave camera 3. Switch off the horizontal delay on the monitor, and refer to diagram 2.

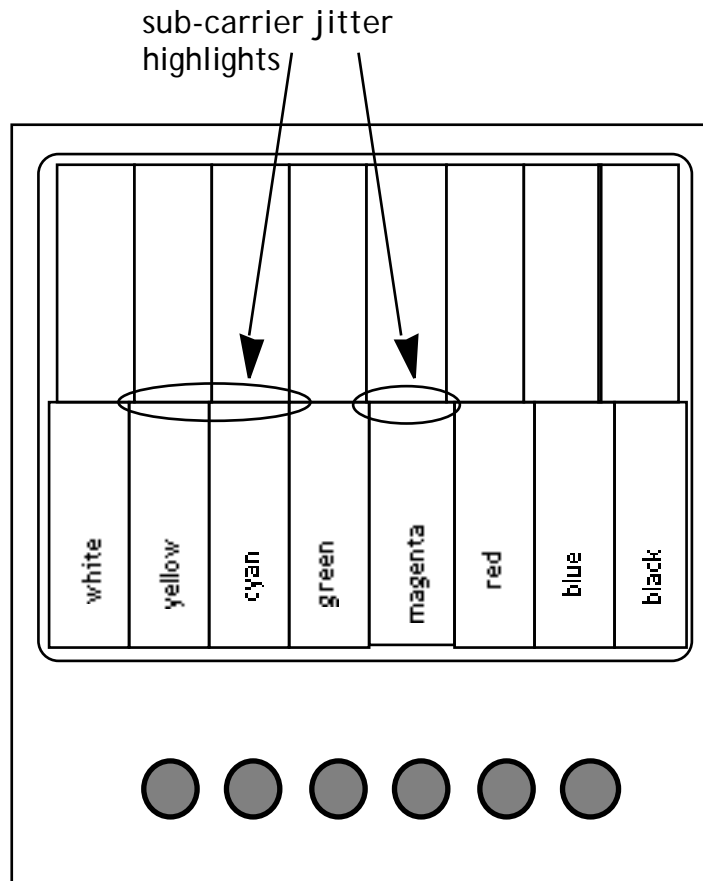


Diagram 3 - Sub-carrier phase alignment

1.7 On the VTB-2A rear panel, move the switch to "ON". Select input 2 on the B bank, and return to slave camera 1. Locate the "SC Ø" adjustment on the camera (see appendices 1 and 2), and vary this until the bar colours are as closely matched as possible. To achieve an exact match, look at the wipe transitions for the yellow, cyan and magenta bars. Adjust the sub-carrier phase on the camera for minimum jitter at these points - this will reduce the error to a fraction of a degree. Select input 3 on the B bank and repeat for slave 2. Repeat with B input 4 for slave 3.

1.8 Note that the line sync adjustment is not critical. The mixer derives the sync information from the master camera, so any discrepancy will simply show as a slight position variation. If you wish to make the adjustments more precisely, a useful tool is a portable waveform monitor and vectorscope.

Setting up - VTRs and TBCs

2.1 If you are planning to run one or more VTRs into the VTB-2A, the alignment procedure is substantially the same. With the switcher in 'SET' mode, adjust the HØ control on the TBC to achieve the condition described in sections 1.2 to 1.5. Next, move the rear panel switch on the switcher to 'ON', and adjust the SCØ control on the TBC as described in sections 1.6 to 1.7. If you are unsure about any of the above, please contact Brick House Video for assistance. Adjustment controls may vary by name for some TBCs from those described above.

Operation

3.1 The VTB-2A is now ready for use. You can plug the programme output into a VTR and record your editing as you go, using the other outputs for monitoring, or as auxiliary buses. The red button in the lower right-hand corner of the front panel offers the 'TAKE' function. Pressing this switch repeatedly will toggle the programme output between the A and B sources selected. This is especially useful if you wish to perform scene comparisons or camera matching.

3.2 The switcher offers auto and manual dissolve and wipe, and these functions are selected via the auto/man and mix/wipe switches. The wipes are simple horizontal and vertical ("wipe v/h"). To enable you to monitor the wipe direction, the take switch will light whenever the NEXT wipe is north to south (vertical wipe) or east to west (horizontal wipe).

3.3 If you wish to reverse the wipe, press "rev". The lamp on this switch will light, and the next wipe will be in the same direction as the previous wipe. After you have made the next wipe transition, the "rev" lamp will go out, and the wipe revert to the normal operation. For repeated wipes in the same direction, press "rev" after each wipe. Note that this setting is cleared when switching to "mix".

3.4 To operate auto dissolve or wipe,, set the rate using the knob at the left of the mix/wipe select switch. The range is approximately 0.5 second (fully anticlockwise) to 5 seconds (fully clockwise). Next, set the auto/manual selector to "auto". Pressing the take button will initiate the auto-dissolve function.

3.5 Fade to black is an auto transition, with a fade time range of 0 - 5 seconds. The indicator on the fade to black ("ftb") will light when the output is faded DOWN.

3.6 The auto-dissolve and take functions are also controlled via a D-type connector on the rear panel. This GPI is active low, so a simple contact closure to ground or a logic "0" will initiate the action. The input is level-triggered (as opposed to edge-triggered).; see page 10 for connection details.

3.7 The adjustments that you make when synchronising the cameras or VTRs will not affect the equipment's line-up in any way, and are only relevant when working in this mode. If you simply wish to use the VTB-2A as a monitoring switcher, the adjustment procedure is not necessary.

3.8 Tally output drivers (active low) are also available from the rear 15-way connector. See page 10 for connection details.

**If you have any questions, please visit our web site
for contact information at www.brickhousevideo.com**

Appendix 1

BVP-7 and BVP-70 adjustment location.

Open the right-hand side panel with the lens pointing away from you. The easiest way is to undo the upper two screws completely and the lower two screws a couple of turns each. This allows the panel to fall open sufficiently to expose the adjustments.

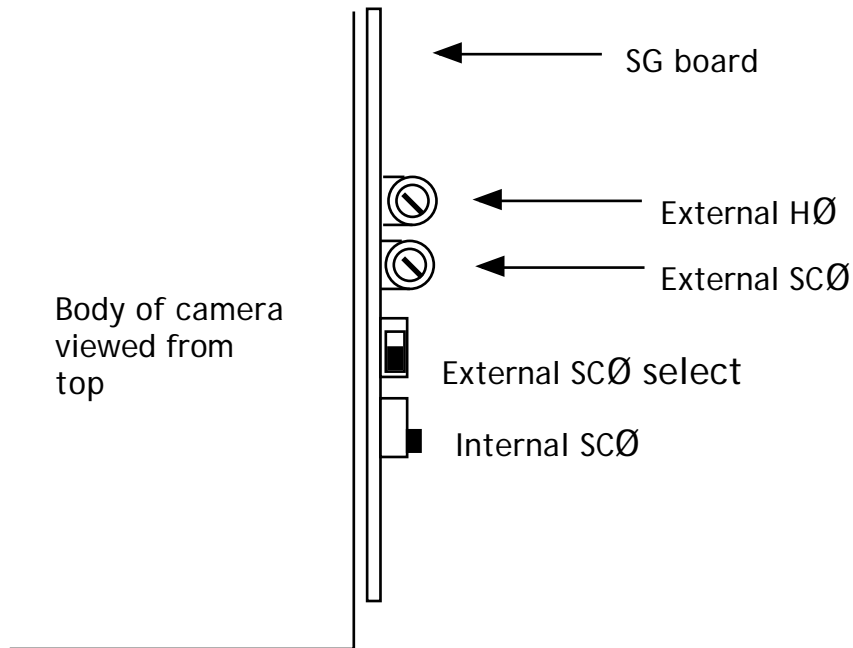


Diagram 4 - BVP-7/BVP-70 adjustments

If you can't get the bar colours to match when adjusting SCØ, move switch 'External SCØ select' to the other position.

Appendix 2

BVW-200/300/400 adjustment location.

Open the left-hand side panel with the lens pointing away from you. Lower the panel carefully to the horizontal position, and do not allow it to swing freely from the camera. Locate the SG board.

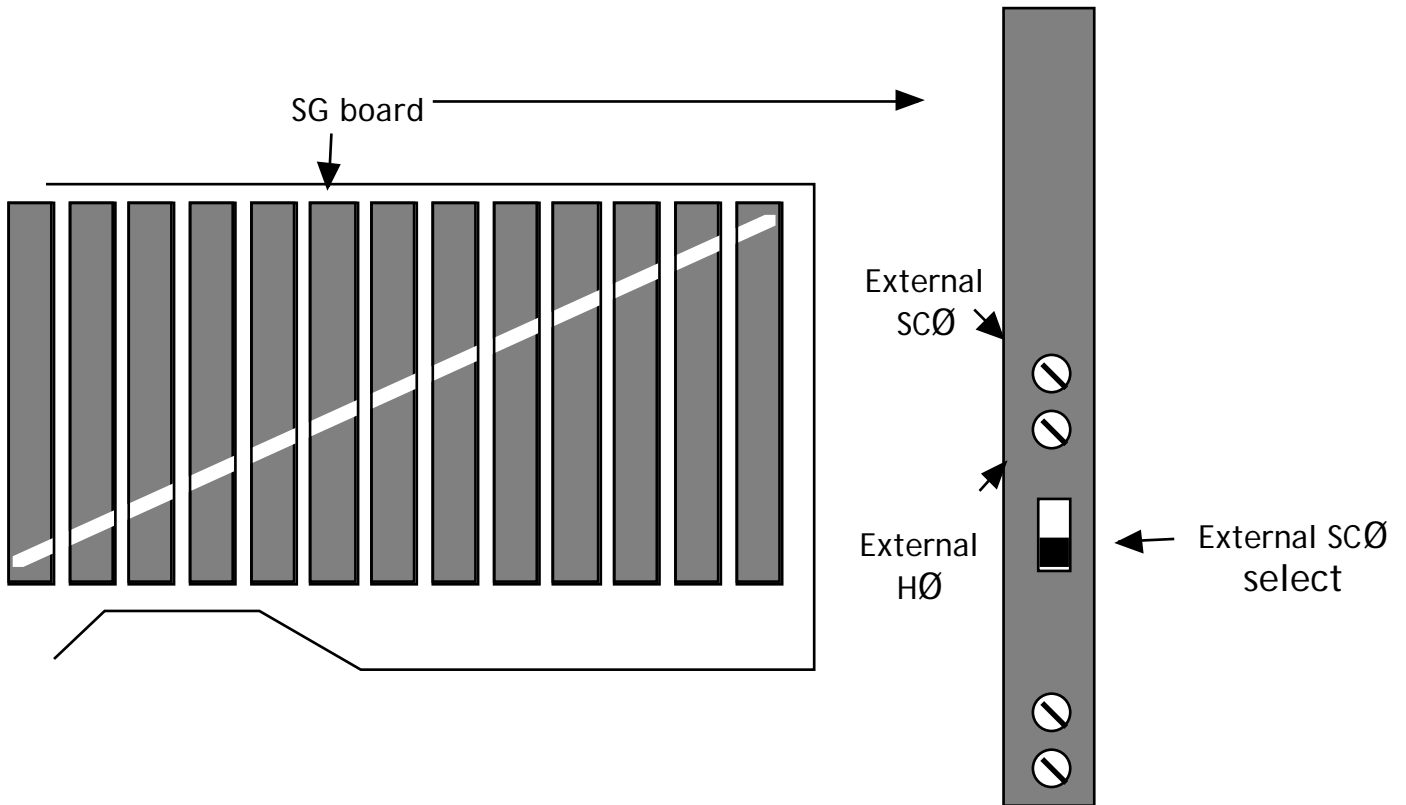


Diagram 5 - BVW-200/300/400 adjustments

If you can't get the bar colours to match when adjusting SCØ, move switch 'External SCØ select' to the other position.

Appendix 3

Connections for GPI port

Pin	Identity
1	Take switch in (GPI 1)
9	Take switch out
2	NC
10	Fade to black out
3	Bank switch A0 out
11	Bank switch A1 out
4	Bank switch A2 out
12	Bank switch A3 out
5	Tally 1 out (60V 600mA open collector
13	0V
6	Tally 2 out (60V 600mA open collector
14	0V
7	Tally 3 out (60V 600mA open collector
15	0V
8	Tally 4 out (60V 600mA open collector

Notes

Bank switch outputs A0-A3 form a 4-bit code indicating the status of the programme and preview source selectors.