BARCO

BARCO PROJECTION SYSTEMS

BARCO DATA 801S

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OWNER'S MANUAL

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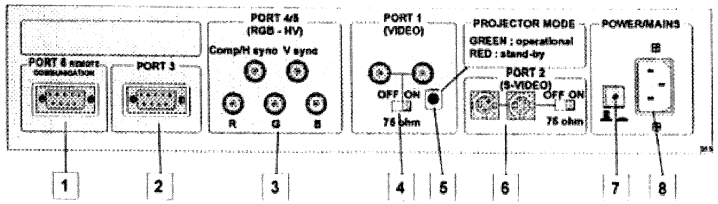
Rear panel terminology



1 **Port 6 : Remote Communication** :
* allows communication between the RCVDS switcher and the projector.
* allows connection of a remote IR receiver unit to the projector.

2 **Port 3 : RGB ANALOG input (9-pin female D-connector)**:
RGB Analog input : allows a character generator, microcomputer, etc. having analog RGB outputs to be connected to the projector. Full automatic sync detection (Hor., Vert., Composite, Sync on green, and polarity detection)

3 **Port 4/5 : RGB-S IN (5x BNC connector)**: allows a character generator, microcomputer, video camera, etc. having analog RGB output to be connected to the projector.

Line inputs:
- RED-GREEN-BLUE signals
- VERT. sync. signal
- COMPOSITE sync. or HOR. sync. signal

4 **Port 1 : VIDEO IN (Composite video, 2x BNC connector)**: allows a video tape recorder, video camera, color receiver/monitor, etc. having video line output to be connected to the projector.

When no loop-through connection is desired, put the 75 ohm line termination switch in the ON position.

5 **PROJECTOR PILOT LAMP:** indicates the status of the projector.

- inlit : mains (power) switch is not pressed.
- lit : mains (power) switch is pressed and the indicated color shows the projector mode:
  GREEN color:OPERATIONAL mode of the projector
  RED color: STANDBY mode of the projector.

Important: projector mode ("**operational**" or "**standby**") defined during the installation of the projector. (Refer to a qualified technician for change)

6 **Port 2 : S-VIDEO IN**: Separated Y/C (luma-chroma) signal inputs and outputs for higher quality playback of Super VHS signals (4-pin S-VIDEO IN and S-VIDEO OUT).

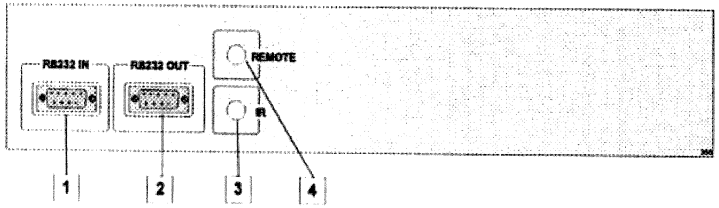
When no loop-through connection is desired, put the 75 ohm line termination switch in the ON position.

7 **POWER (MAINS) SWITCH** : press the switch to turn the projector ON.

Depending on the hardware set-up of the projector during installation, the projector switches to **'standby'** or to **'operational mode'** (refer to explanation of pilot lamp [5]).

8 **POWER (MAINS) INPUT**: Connect the supplied ac power (mains) cord here and to wall the outlet.

Front panel terminology



1 **RS232 IN** : connection between the BARCODATA 801S and an IBM PC (or compatible) or a MAC for remote computer control and data communication.

2 **RS232 OUT** : Used to connect to the next projector, RS232IN plug (communication link for PC or MAC to the next projector).

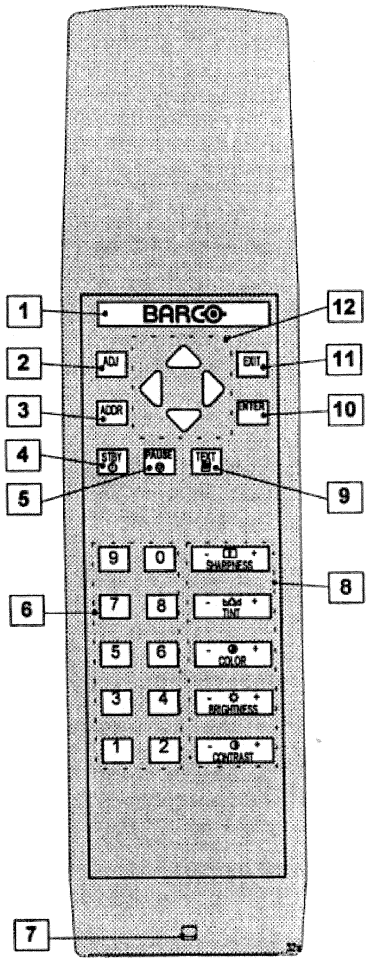
3 **IR sensor** : receiver for control signals transmitted from the RCU800.

4 **REMOTE** : remote input for wired remote control.

RCU800 control panel terminology

This remote control is used for source selection, control, adaptation and set-up. It includes automatic storing of :

- picture controls (Brightness, Sharpness,....)
- picture geometry adjustments
- convergence adjustments



Other functions of the remote control are:

- switching between standby and operational modes
- switching to "pause" (blanked picture, full power for immediate restarting)
- direct access to all connected sources
- variable adjustment speed : when pushing continuously on the arrow keys or the picture keys, the adjustment will be executed in an accelerated fashion.

1 **Back light key** : when activated, all keys will be lit up and visible in the dark.

2 **ADJ.** : adjust key, to enter or exit the adjustment mode.

3 **ADDR.** : address key, to enter the address of the projector (between 0 and 9). Press 'ADDR', followed by pressing one digit button between 0 and 9.

4 **STBY** : stand by button : - to initiate remote power up operation
- to stop projection without main power off.

5 **PAUSE** :to blank the image, press PAUSE. The image disappears but full power is retained for immediate restarting.

6 **Digit buttons** : direct input selection.

7 **RC operating indication** : lights up when a button on the remote control is pressed. (This is a visual indicator to check the operation of the remote control)

8 **Picture controls** : use these buttons to obtain the desired level (see also 'Controlling') for each picture function.

9 **TEXT** : when adjusting one of the image controls during a meeting, the displayed bar scale can be removed by pressing 'TEXT' key first. To re-display the bar scale on the screen, press 'TEXT' key again. 'TEXT' key only active in operational mode. When 'TEXT' is off, no warning message will be displayed.

10 **ENTER** : to start up the adjustment mode or to confirm an adjustment or selection in the adjustment mode.

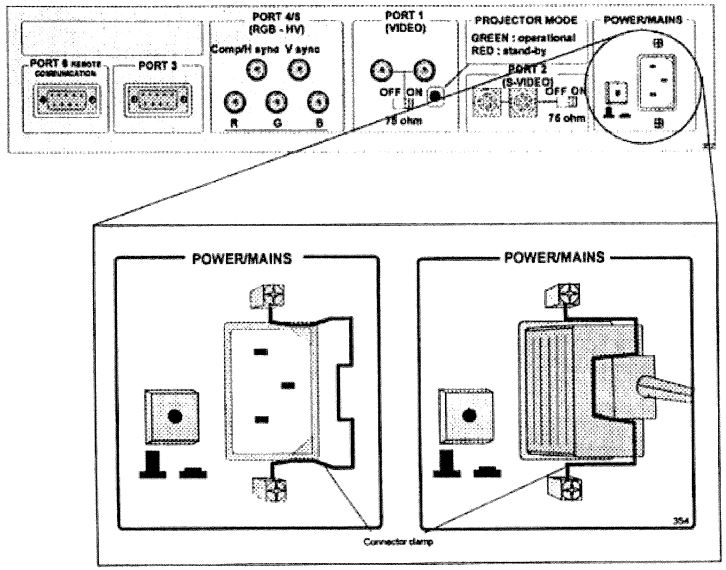
11 **EXIT** : to leave the adjustment mode or to scroll upwards when in the adjustment mode.

12 **ARROW keys** : to make menu selections when in the adjustment mode. Also allows to increment or decrement an adjustment in the adjustment mode.

Power (mains) cord connection

Use the supplied cord to connect your projector to the wall outlet. Plug the female power connector into the male connector at the back of the projector.

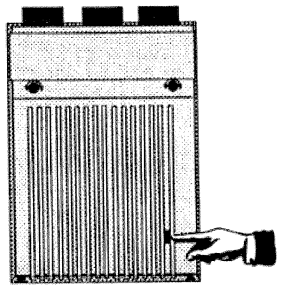
Attention :
Before plugging the female power connector into the male connector on the projector put the connector clamp in the clamp holder.



Power check

Warning
Check by looking through the little window on the top cover if the indicated power voltage corresponds to that of the wall outlet.

If the indication is different from that of the wall outlet, call a qualified technician for power adaptation of the projector.



Switching on

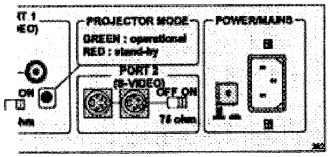
The projector is switched ON and OFF using the power (mains) switch ON/OFF.

Pressed : ON
Not pressed : OFF

The projector can start now in the 'operational mode' (image displayed) or in the 'stand by mode', depending on the position of the 'power up' dip switch on the controller unit. This DIP switch is set during installation by a qualified technician. If you want to change this start up mode, call a qualified technician.

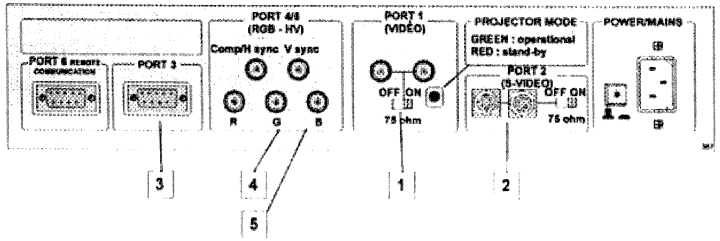
Power indication lamp :

OFF : no power
Green : projector in operational mode
Red : projector in stand by mode



Signal input connection to the projector :

- Composite Video
- S-Video
- RGBS or RGsB



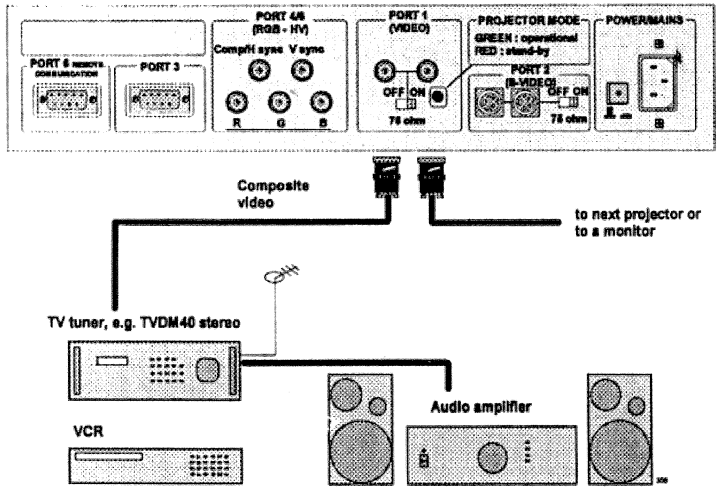
Source No	Projector input	Press digit button
1	Comp. Video	1
2	S-Video*	2
3	RGB analog	3
4	RGsB**	4
5	RGBS***	5
4	RG3sB****	6
5	RGB3S*****	7

* Input signal Y/C (luma/chroma)
** Input signal : R, G and B with sync on G
*** Input signal : R, G and B with separate composite sync (S) or H+V sync
**** Input signal : R, G and B with tri level sync on G
***** Input signal : R, G and B with separate tri level sync on 'comp/H sync'

these inputs are only available when the optional HDTV Tri level sync module is installed.

Connecting a Composite Video source to port 1.

Composite video signals from a VCR, OFF air signal decoder, etc...

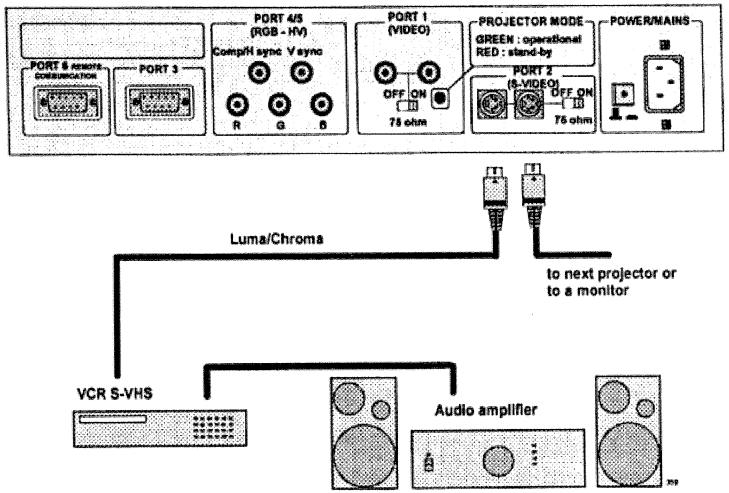


Video input selection :

Press digit button 1 on the RCU.

Connecting an S-Video source to port 2

Separate Y-luma/C-chroma signals for higher quality playback of Super VHS signals.



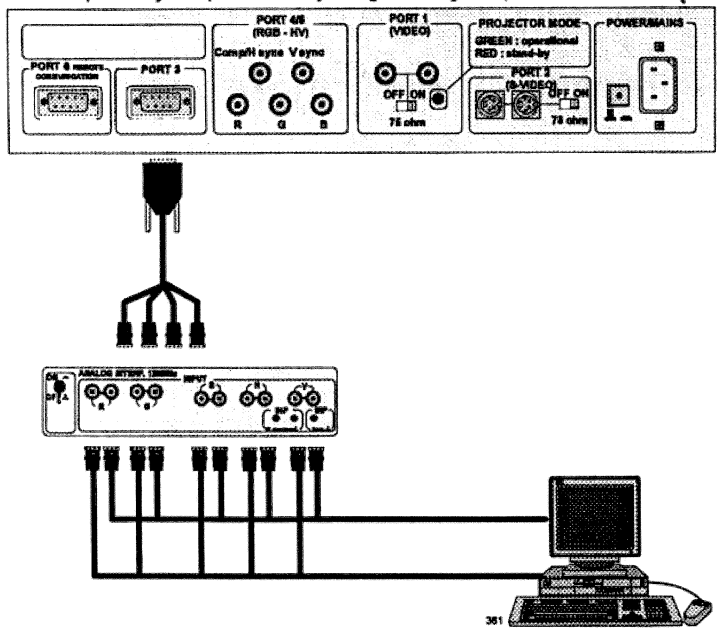
S-Video input selection :

Press digit button 2 on the RCU.

Connecting a RGB Analog source to port 3.

Connect your Analog source via an interface to Port 3. (e.g. RGB 120 MHz interface, part number 98 26570)

RGB analog input with automatic sync detection. (Separate H and V sync inputs, with composite sync input or with sync signals on green.)



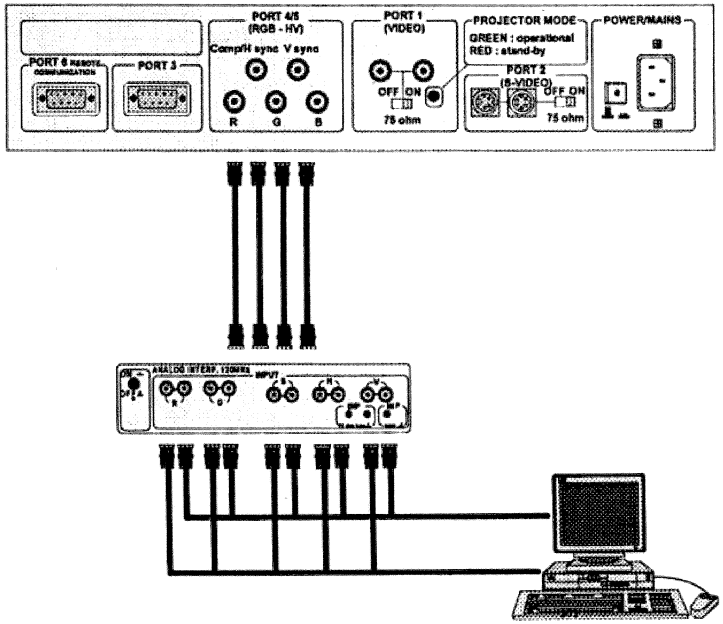
Pin configuration D9 connector of the Analog input.

1 not connected
2 ground RGBS
3 RED
4 GREEN
5 BLUE
6 ground RGBS
7 ground RGBS
8 Hor/comp. sync
9 Vert. sync

Analog input selection :
Press digit button 3 on the RCU.

Connecting a RGB analog source to port 4/5.

RGB analog input terminals with separate H and V sync inputs, with composite sync inputs or with sync signals on green.
Always use an interface when a computer and local monitor have to be connected to the projector. Examples of interfaces which can be applied :
- universal analog interface. Order number : R9826100.
- RGB 120 MHz analog interface. Order number : R9826570.

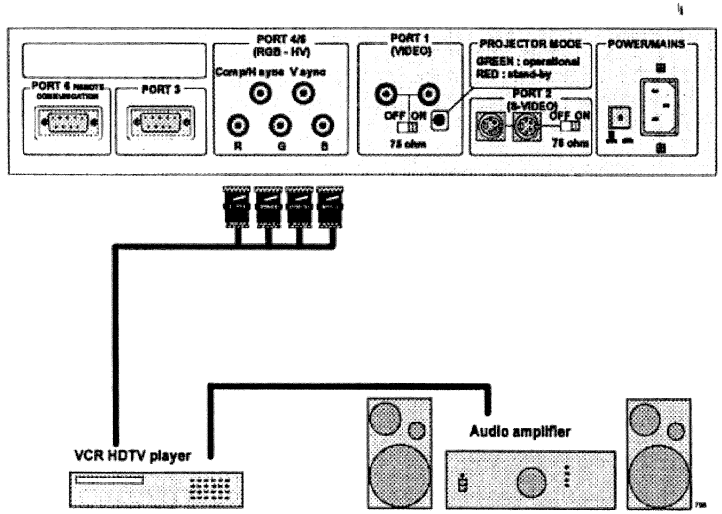


RGsB input selection :
(RGsB : R, G B signals with sync on green)
Press digit button 4 on the RCU.

RGBS input selection :
(RGBS : R, G, B and separate sync; H- and V- sync or comp. sync)
Press digit button 5 on the RCU.

Connecting a RGB analog source with Tri level sync to port 4/5. (Option)

RGB analog input terminals with separate Tri level sync or with Tri level sync signals on green.



RG3sB input selection :
(RG3sB : R, G, B signals with tri level sync on green)
Press digit button 6 on the RCU.

RGB3S Input selection :
(RGB3S : R, G, B and separate Tri level sync on 'comp/H sync)
Press digit button 7 on the RCU.

PERIPHERAL EQUIPMENT

Connecting a RCVDS 800 or RCVDS05 to the BARCODATA 801S.

- Up to 10 inputs with one RCVDS 800 or 20 inputs with the RCVDS05 and up to 90 inputs when RCVDS 's are are linked via the expansion module.
- Serial communication with the projector.
- Remote control buttons on the RCVDS to control the BARCODATA 801S (source selection and analog settings)
- The selected source number will be displayed on a 2 digit display and the selected input modules will be indicated with a LED on the rear.

For more information about the use of :
the RCVDS800, consult the RCVDS 800 owner's manual, BARCO order number : R5975004.
the RCVDS05, consult the RCVDS05 owner's manual, BARCO order number : R5975765

Connecting a VS05 to the BARCODATA 801S.

The VS05 can switch up to 5 composite Video sources, 3 Super Video sources and 1 RGB analog or component source to the BARCODATA 801S. In addition, the audio signal proper to the source, can be switched to an audio amplifier.
Order number : R9827890.

Connecting an IR Remote Receiver 800 to the BARCODATA 801S.

This infra-red receiver unit makes it possible to control the BARCODATA 801S from another room. There is a communication line cable between the IR receiver and the projector or the RCVDS 800. The control information from the RCU can now be sent to the IR Remote Receiver 800. The IR Remote Receiver 800 displays the selected source on a 7-segment display.
Order number : R9827515.

CONTROLLING

Battery installation

How to use your RCU

Projector address

How to display a projector address

How to program an address into the RCU

Input selection

Picture controls

Controlling chained projectors

Caution : Do not display a stationary image with full brightness and contrast for longer than 20 min., otherwise you risk damage to the CRT's.

battery installation in the RCU.

A new battery (not yet installed to save the battery life time) is delivered inside the plastic bag with the power cord. Before using the RCU, start first the battery installation procedure.
Remove the battery cover on the backside of the remote control by pushing the indicated handle a little to the bottom of the RCU. Lift up the top side of the cover at the same time (fig. 1).
Remove the battery from the upper compartment.
Insert the new 9 V battery (type 6F22S or equivalent) in the lower compartment and connect the battery to the contact plate.
Insert the battery into the lower compartment and put the cover back.

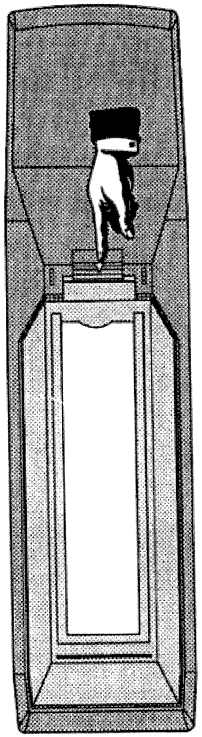
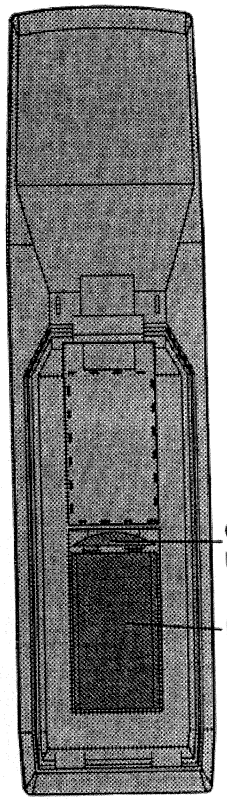
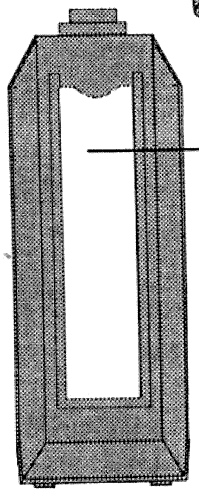


fig.1





Insert here, behind the plastic cover, the 'Insert card for RCU'. You can cut out the correct insert card on one of the last pages of this manual.

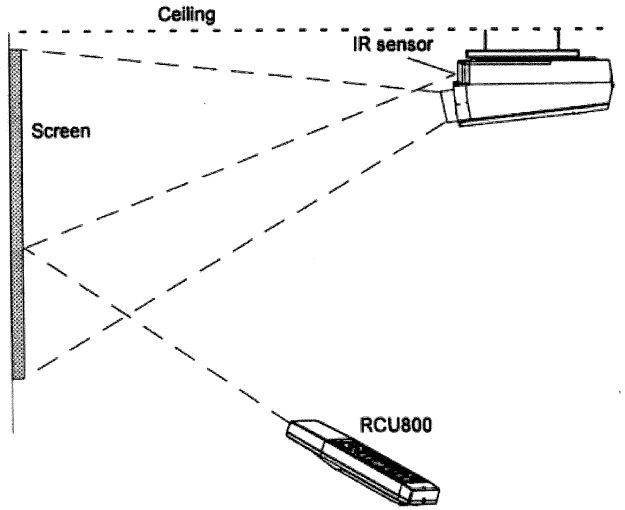
fig.2

The BARCODATA 801S can be controlled with
a. the RCU
b. the hardwired RCU (cable not included)
c. the projector's built-in RCU.

Controlling the projector with the RCU or the hardwired RCU is the same.

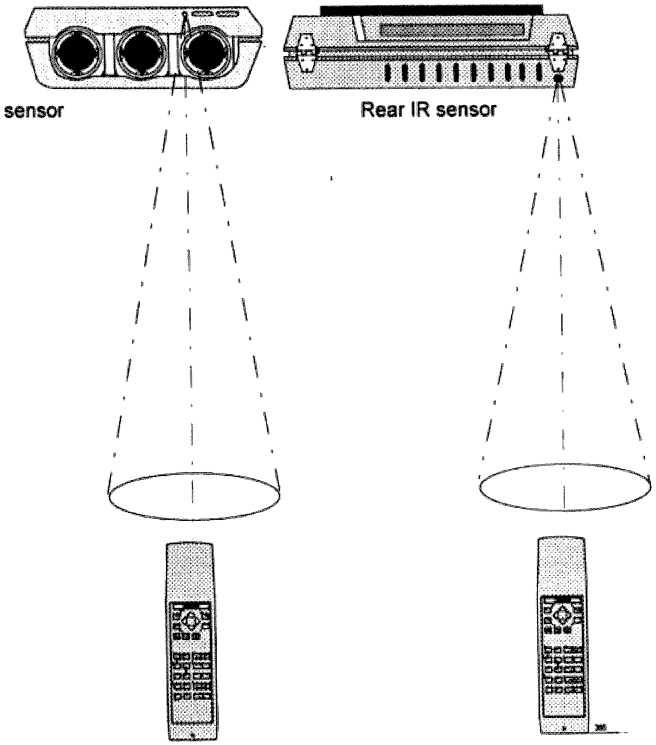
How to use your RCU

a) Point the front of the RCU towards the reflective screen surface

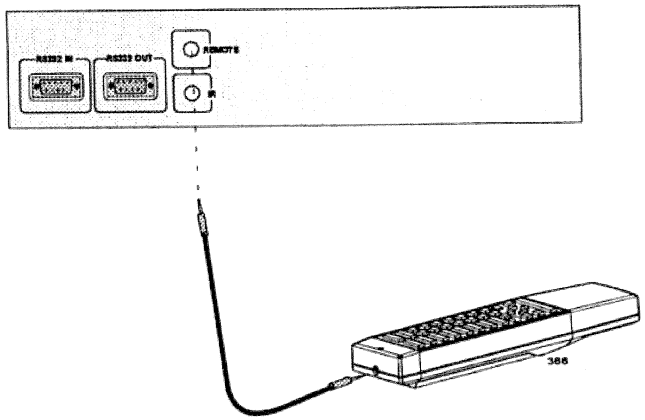


b) Point the front of the RCU towards one of the IR sensor in the projector.

When using the wireless remote control, make sure you are within the effective operating distance (30m, 100ft in a straight line). The remote control unit will not function properly if strong light strikes the sensor window or if there are obstacles between the remote control unit and the projector's IR sensor.



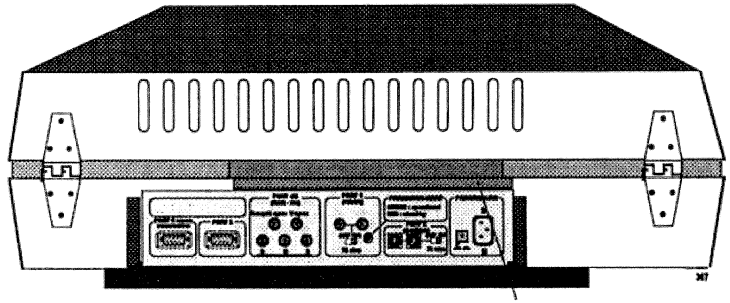
c) RCU used in a hardwired configuration.



Plug one end of the remote cable (maximum 100 m, 320 ft) in the connector on the bottom of the RCU and the second side in the connector in the front panel of the BARCODATA 801S labelled '*REMOTE*'.

d) Built in RCU.

This RCU is built into the rear of the projector. To gain access to it, push once on the door cover of the built in RCU and it will open. Now, it is possible to turn the RCU 90°.



built in RCU800

Projector address

a. hardware set up of the projector address.

Every projector requires an individual address between 0 and 255 which is set with hardware DIP switches inside the projector. To change that address, contact a BARCO authorized technician.

b. How to control the projector.

The projector's address may be set to any value between 0 and 255. When the address is set, the projector can be controlled now with :
- the RCU for addresses between 0 and 9.
- computer, e.g. IBM PC (or compatible), Apple MAC, etc. for addresses between 0 and 255.

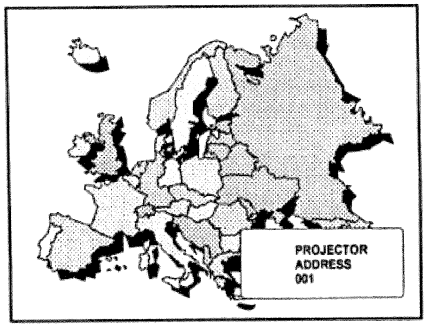
Note : a projector will repont to an RCU set to an address of '0' regardless of what address is set in the projector itself.

c. Using your RCU.

Before using your RCU, it is necessary to enter the projector address into the RCU (only when that address is between 1 and 9). The projector with the corresponding address will listen to that specific RCU.
When address 0, 'zero address' is programmed into the RCU, every projector, without exeption will listen to the commands given by this RCU.

How to display a projector address?

Press the ADDRESS key on the RCU.
The projector's address will be displayed in a 'Text box'. This text box disappears after a few seconds.
To continue using your RCU, it is necessary to enter an address with the digit buttons (address between 0 and 9).



How to program an address into the RCU?

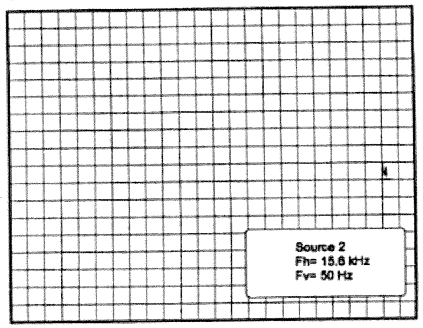
Press the ADDRESS key and enter the address with the digit buttons. That address can be any digit between 0 and 9.
When programming '0', zero address, the RCU will control a projector regardless of the projector's address. This feature allows multiple projectors with different addresses to be controlled by a single RCU.

Input selection

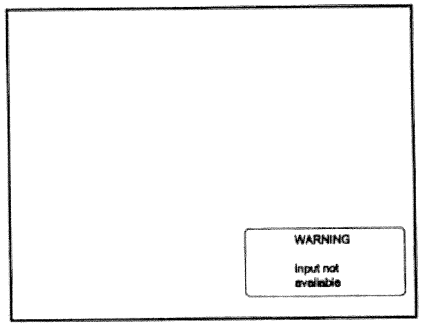
Source No	Projector input	Press digit button
1	Comp. Video	1
2	S-Video	2
3	RGB analog	3
4	RGsB	4
5	RGBS	5

With the digit buttons on the RCU, it is possible to select one of the four input sources, Video, S-Video, Analog, RGsB or RGBS.

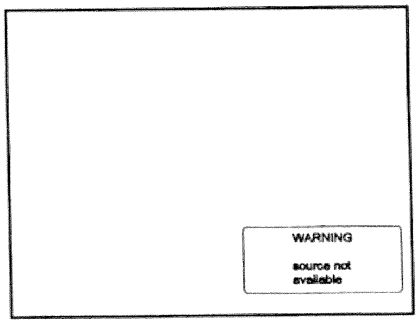
When a valid and available source is selected, there will be information displayed on the screen about that source. This information includes :
- source number
- horizontal frequency
- vertical frequency



When the entry is a non valid source number, a warning appears on the screen : '*input not available*'.



When a valid source number is selected, the projector will display this source or it will wait on the selected source number until the source becomes available. A message *'source not available'* will be displayed for a short time.

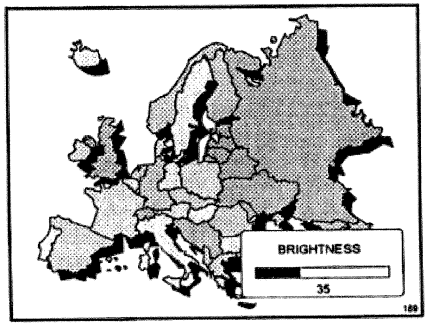


Picture controls

The picture controls can be adjusted with the RCU. The control keys are located on the right side of the key panel of the RCU and indicated with the name of the control and an icon.
When a picture control is pressed, a text box with a bar scale and function name o f the control, e.g. 'brightness...' appears on the screen (only if text is ON). The length of the bar scale indicates the current memorized setting for this source. The bar scale changes as the + or - buttons of the control are pressed.
The picture controls can be adjusted with the RCU in *'adjustment mode'* as well in *'operational mode'*.

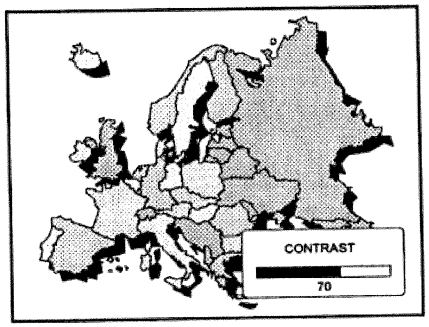
Brightness Control

A correct *'brightness'* setting is important for good image reproduction.
Adjust the brightness with the + button and - button until the darkest parts of the picture appear black.
A bar scale gives a visual indication on the screen of the current brightness setting while pressing on the above indicated keys. If the bar scale is not visible on the screen, press **'TEXT'** key once and retry the above indicated keys.
The bar scale increases when pressing on the + button (higher brightness) and decreases when pressing on the - button (lower brightness).



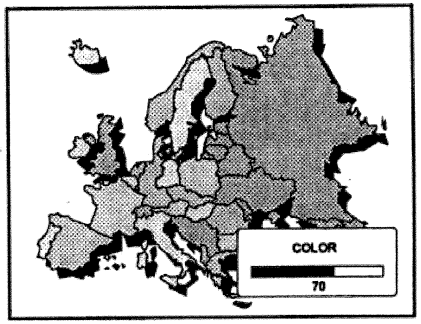
Contrast Control

A correct 'contrast' setting is important for good image reproduction.
Adjust the contrast to the level you prefer, according to room lighting conditions.
A bar scale gives a visual indication on the screen of the current contrast setting while pressing the + or - buttons. If the bar scale is not visible on the screen, press **'TEXT'** key once and retry the above indicated keys.
The bar scale increases when pressing on the + button (higher contrast) and decreases when pressing on the - button (lower contrast).



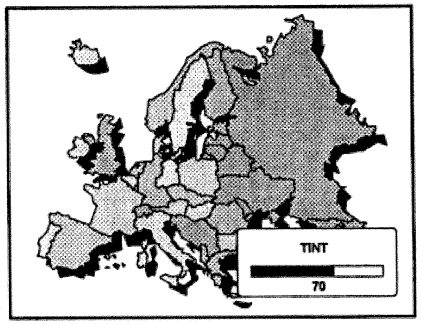
Color Saturation Control

Color saturation is only active for Video and S-Video. Adjust the color intensity of the picture. Adjust the color saturation using the + and - buttons. A bar scale gives a visual indication on the screen of the current color setting while pressing on the above indicated keys. If the bar scale is not visible on the screen, press **'TEXT'** key once and retry the above indicated keys. The bar scale increases when pressing on the + button (richer colors) and decreases when pressing the - button (lighter colors).



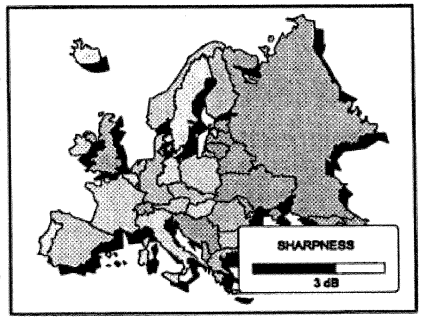
Tint Control

Tint is only active for Video and S-Video. Tint control is effective only when using the NTSC 4.43 or NTSC 3.58 system. A bar scale gives a visual indication on the screen of the current tint setting while pressing the + or - buttons. If the bar scale is not visible on the screen, press the **'TEXT'** key once and retry the above indicated keys.
The bar scale increases when pressing on the + button (greener skin tones) and decreases when pressing the - button (more purple skin tones).



Sharpness Control.

Sharpness control is only active for Video and S-Video. A bar scale gives a visual indication on the screen of the current sharpness setting while pressing the + or - buttons. If the bar scale is not visible on the screen, press **'TEXT'** key once and retry the above indicated keys.
The bar scale increases when pressing on the + button (sharper picture) and decreases when pressing on the - button (softer picture).



Controlling chained projectors.

Projectors can be controlled individually as well as in a group.

For individual control see previous pages.

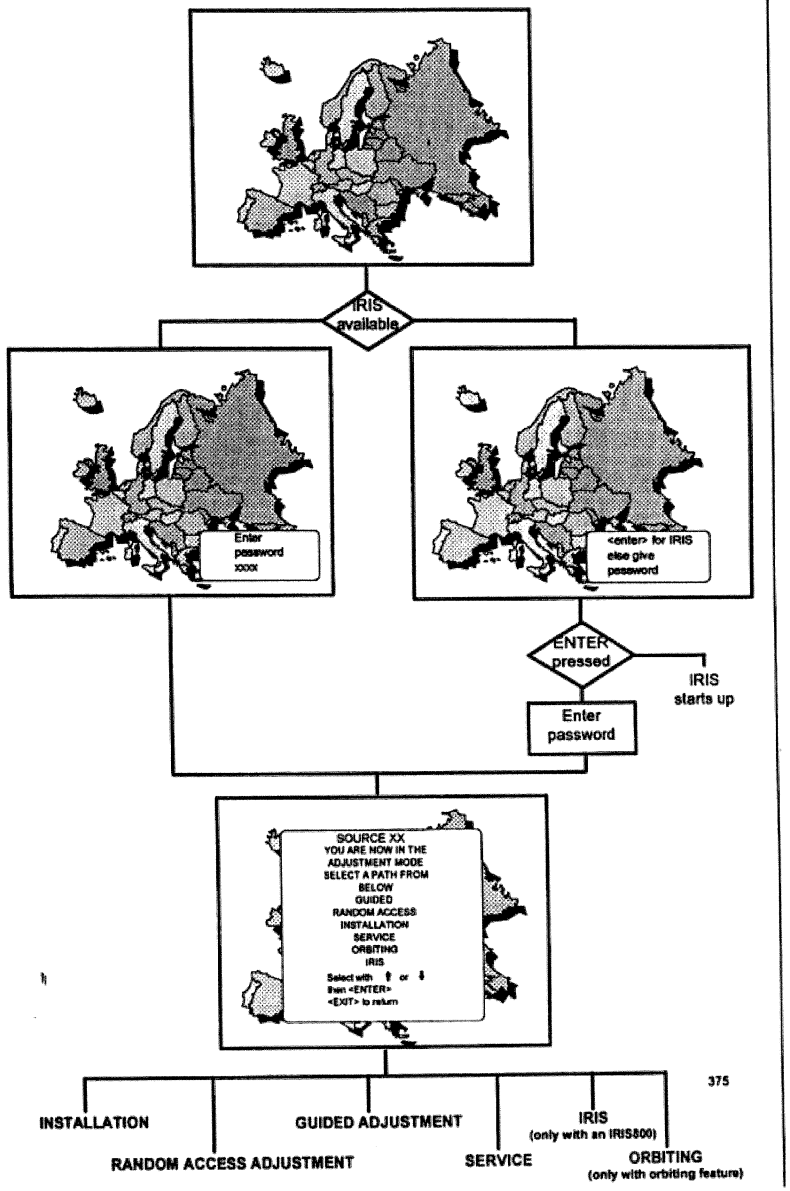
For group control of the projectors.
(Input selection and analog picture control.)

Program the 'zero address' into any RCU. Therefore, press on the address key and key in the address with the numeric keys on the RCU itself.
Once address '0' is pressed, all projectors will be controlled together until a new address is entered on the RCU. It is possible to have a common input selection and a common analog picture control.
Once a new address is entered, only the projector with that specific address will follow the new instructions (1 to 9).

Note : For group control, all projectors in a control group must be capable of receiving the IR signal from the controlling RCU at the same time.

START UP OF THE ADJUSTMENT MODE

Start up of the adjustment mode.



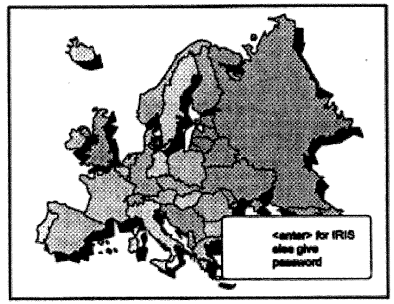
Adjustment mode.

All picture geometry and convergence adjustments are made while in the '*Adjustment mode*'. Only the automatic convergence adjustments with IRIS 800, if installed, are not password protected when entering the adjustment mode.
Enter the adjustment mode by pressing the **ADJUST** key on the RCU. Depending on your configuration and if the password function is enabled, the projector displays:

a. IRIS start up/password menu.
or
b. enter password menu.

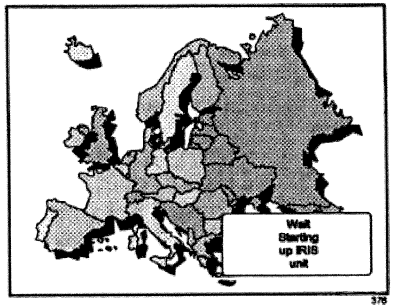
a. IRIS start up/password menu

If your projector is equipped with the optional IRIS 800 autoconvergence unit, it will display the IRIS start up/password menu when **ADJUST** is pressed in the operational mode.



ENTER : starts up the IRIS 800.
EXIT : returns to operational mode.

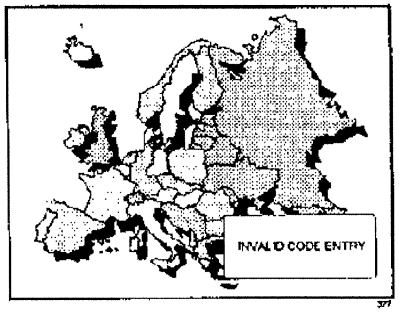
* If you only want to converge the image, press **ENTER** to start up the autoconvergence unit IRIS 800. Follow the instructions as described in the IRIS 800 owner's manual.



* If you have to make other adjustments or you want to converge manually, enter your password to start up the adjustment mode.

Your password contains 4 digits. Enter the digits with the numeric keys on the RCU.
When your password is correct, you gain access to the 'Adjustment Mode'.

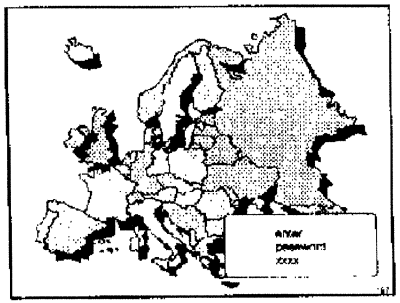
When the entered password is wrong, the following message will be displayed in a text box : 'invalid code entry'. The projector stays in operational mode.



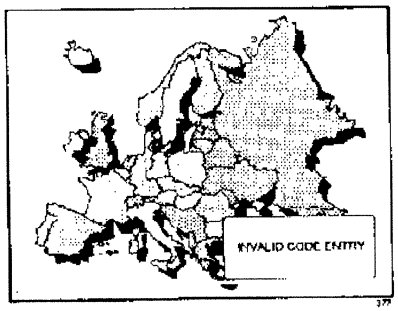
b. Enter password menu.

Your projector is not equipped with an IRIS 800 unit. When the **ADJUST** key is pressed, the enter password menu will be displayed. Enter your password to get access to the adjustment mode

Your password contains 4 digits. Enter the digits with the numeric keys on the RCU.



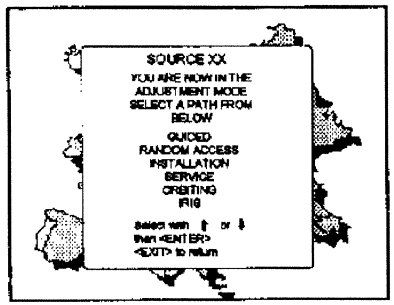
When your password is correct, you gain access to the *'Adjustment mode'*.
When the entered password is wrong, the following message will be displayed in a text box : 'invalid code entry'. The projector stays in operational mode.



Adjustment mode

You are now in the Adjustment Mode. The arrow keys are used to make menu selections and also vertical and horizontal adjustments. The **ENTER** and **EXIT** keys are used to move forward and backward through the menu structure. The **ADJUST** key can be used to terminate the adjustment mode while a path selection menu (head menu) is displayed.

Depending on your projector's configuration, there are 6 possible paths once in the adjustment mode.



-**INSTALLATION** - Installation should be selected if the projector has been relocated and/or a different screen size is desired. The user is instructed to make basic mechanical adjustments to the projector and may then proceed to either the Guided Adjustment Mode or the Random Access Adjustment Mode.

- **GUIDED** - Guided should be selected if the user intends to perform a complete alignment of the projected image. All of the necessary geometry and convergence adjustments are made in a predetermined sequence.

- **RANDOM ACCESS** - Random access should be selected if the user intends to make only a few adjustments.

- **SERVICE** - Service should be selected if the user intends to delete blocks, copy blocks, change password, set to mid position or apply for information.

- **ORBITING** - This selection is only available when the orbiting feature is built into the projector. The purpose of the orbiting feature is to avoid burning in the CRT's when displaying a stationary image with high brightness and contrast for a long time (> 20 min).

-**IRIS** - This selection will only be available when the autoconvergence unit IRIS 800 is connected to the projector. The purpose of this unit is to converge automatically the image of the connected source or sources.

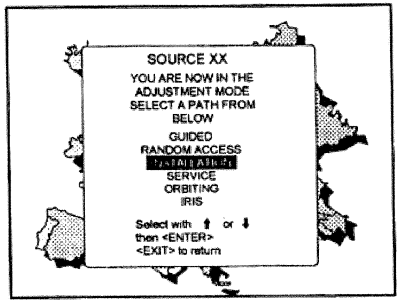
While in Guided or Random Access adjustment mode, the user may use an external source; an internally generated genlocked pattern or an internally generated multifrequency cross hatch pattern as a setup pattern.

INSTALLATION ADJUSTMENT MODE

Installation adjustment mode.

It will be necessary to perform several mechanical adjustments while in the Installation Adjustment Mode. Open the 'projector logo' door on the lens end of the projector in order to gain access to the adjustment points.

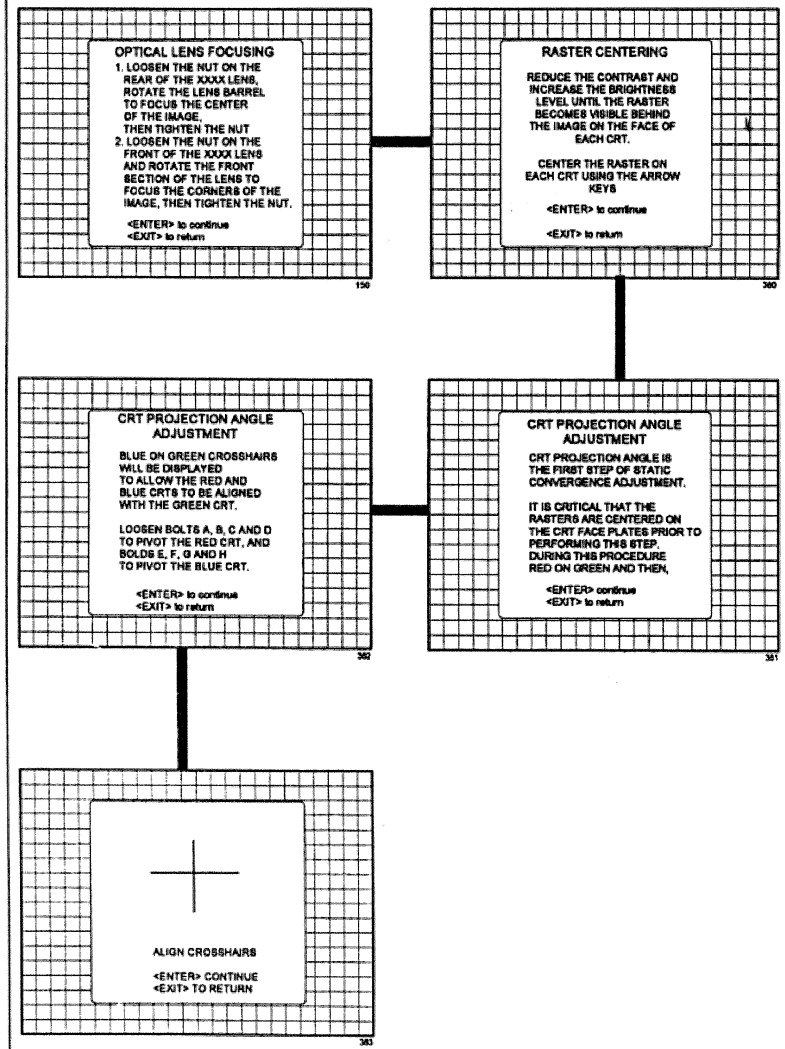
Use the arrow keys to highlight *INSTALLATION* on the screen menu and then press **ENTER**.



ENTER continues to Optical Focusing.
EXIT returns to operational mode.
ADJUST returns to operational mode.

When entering the installation mode, the projector will automatically switch to the internal pattern on 15 kHz/50 Hz without creating a new adjustment block.

Overview flowchart Installation adjustment mode.



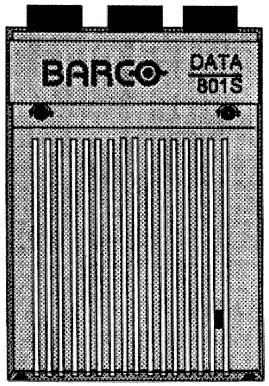
xxxx = red, green or blue
xx = 00 to 05

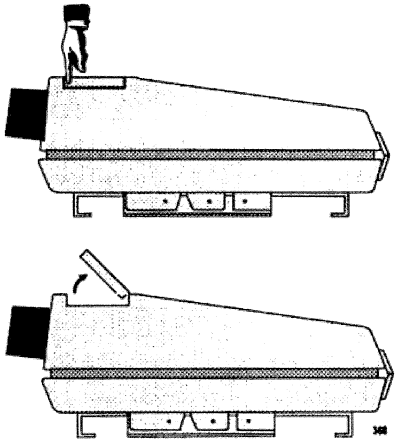
Access to optical adjustments

The top cover of the BARCODATA 801S has a unique user friendly design. The upper part of the cover with the projector logo can be opened in order to gain access to the optical adjustments.

Opening procedure :

Pull on both sides of the cover to unlock the cover and turn it over to get access to the optical controls.





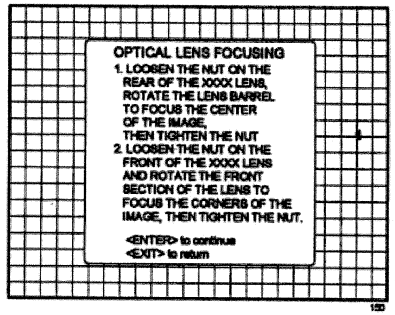
Closing the cover :

Close the cover and press once on the cover to lock.

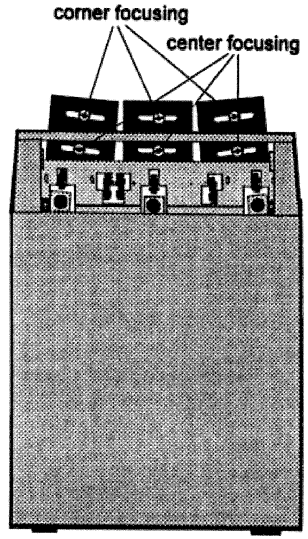
Optical Lens Focusing.

The optical focusing procedure is performed separately for each lens. The appropriate CRT will be switched on as the user proceeds through the optical focusing adjustment sequence.

Each lens has two focus adjustment points, one at the rear of the lens and one at the front. The center of the projected image is focused by loosening the wing nut at the rear end of the lens and rotating the lens barrel until the center of the image is clearly focused. The corners of the projected image are focused by loosening the wing nut at the front end of the lens and rotating the lens barrel until the corners of the image are clearly focused. Repetition of these adjustments may be necessary to optimize optical focusing .
Press **ENTER** key to continue.



ENTER continues to Raster centering
EXIT returns to Adjustment mode main menu.
ADJUST returns to operational mode.



With xxxx = red, green or blue.

Raster centering

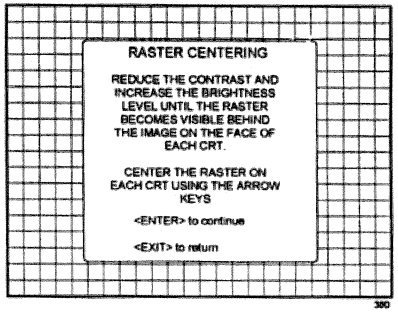
The raster must be centered on the CRT screen surface of each tube, therefore, it is necessary to look into the lenses.

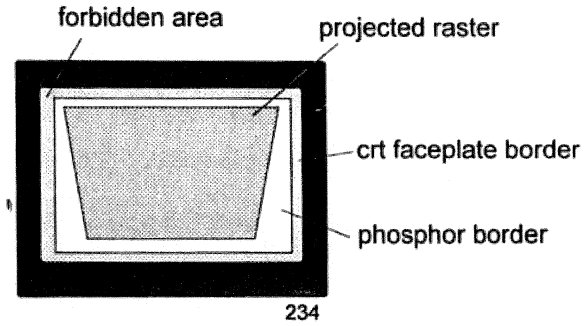
Caution : To avoid eye discomfort while performing these adjustments, reduce the contrast and gradually increase the brightness level until the raster becomes visible behind the image.

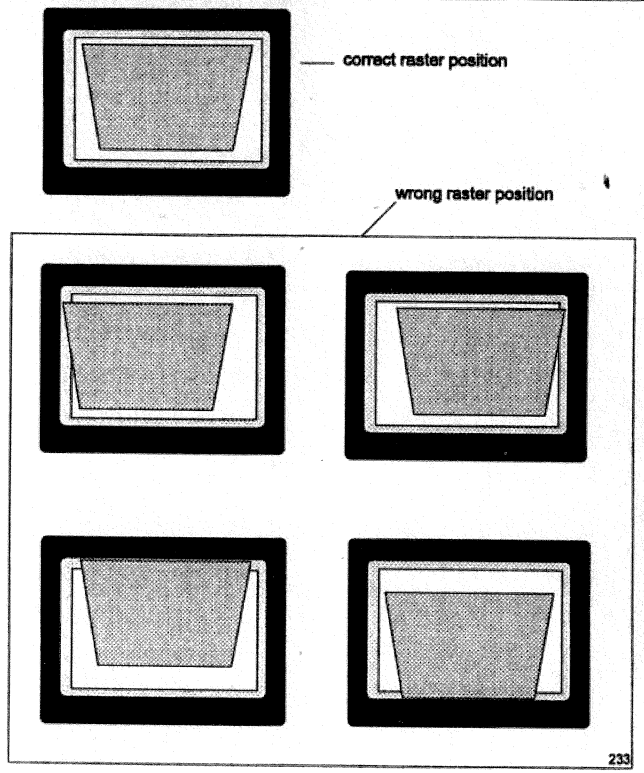
Warning : In order to ensure maximum CRT longevity and to avoid CRT damage, do not shift the raster outside the phosphor area of the CRT.

Press **ENTER** to display the raster on the green CRT.

Look into the green lens and shift the raster with the arrow keys until it is centered in the middle of the CRT faceplate.







Press **ENTER** to activate the raster on the Red CRT faceplate.
Shift the Red raster with the arrow keys until the raster is centered on the CRT faceplate.

Press **ENTER** to activate the raster on the Blue CRT faceplate.
Shift the Blue raster with the arrow keys until the raster is centered on the CRT faceplate.

Press **ENTER** to continue with the CRT projection angle adjustment

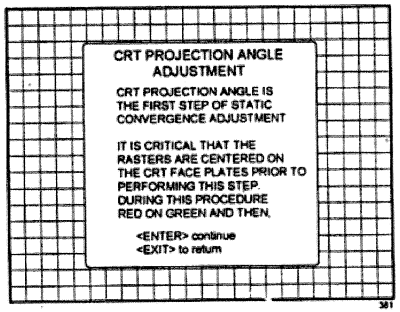
ENTER continues to CRT Projection angle Adjustment.
EXIT returns to Optical focusing.
ADJUST returns to operational mode.

CRT projection angle adjustment

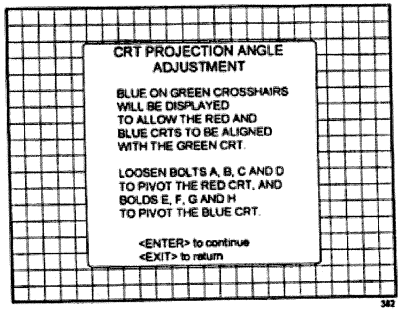
The projection angle of the red and blue CRT's is dependent on the desired size of the projected image. If the centers of green, blue and red do not coincide, the CRT projection angle must be adjusted. *NOTE : never try to correct this misalignment with the shift correction or the static convergence controls.* These controls may only be applied to correct small errors which cannot be corrected by the CRT angle adjustment.

Be sure that the rasters are centered on the CRT face.

Press **ENTER** to start the CRT angle adjustment procedure. A crosshairs (green and red) will be displayed on the screen.



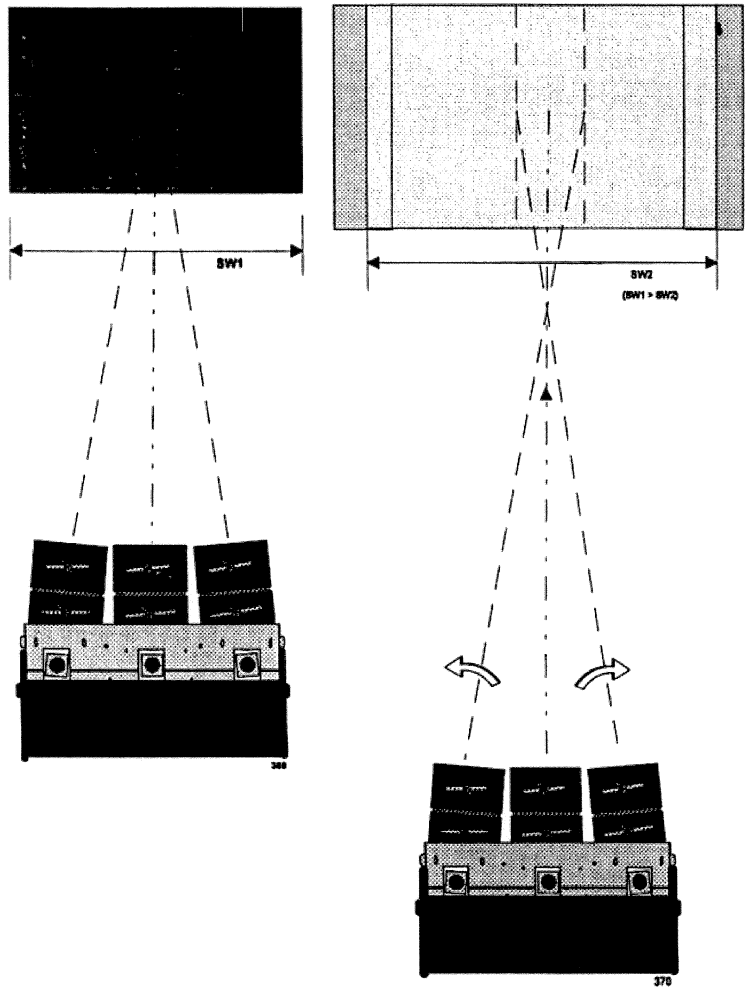
ENTER continues with the second part of the CRT projection angle adjustment.
EXIT returns to Raster shift adjustment.

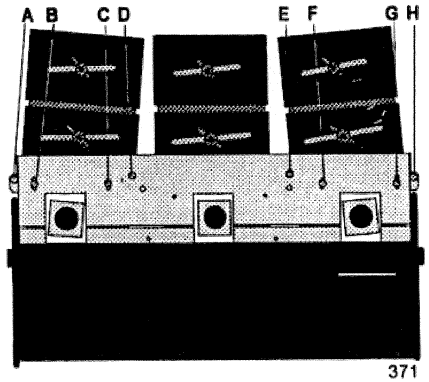


ENTER continues to the crosshairs alignment.
EXIT returns to raster shift adjustment
ADJUST returns to operational mode.

Projection angle correctly aligned for screen width SW1.

Projection angle mis-aligned for new screen width SW2. Re-alignment is necessary.





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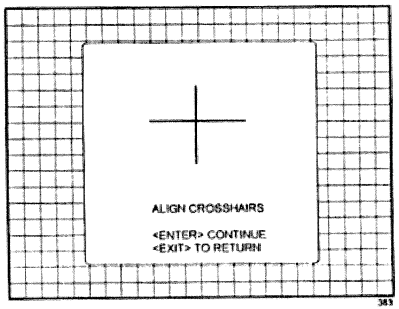
Loosen bolt A with a 8 mm wrench through the slot in the cabinet (see drawing above).
Loosen bolts B, C and D to pivot the red CRT until the center of the Red image and the center of the Green image coincide. When the angle of the red CRT is corrected, tighten the four bolts.



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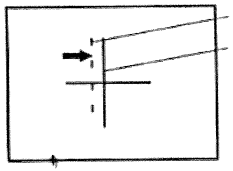
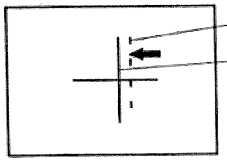
ENTER continues to blue and green crosshairs.
EXIT will return to CRT projection angle adjustment.

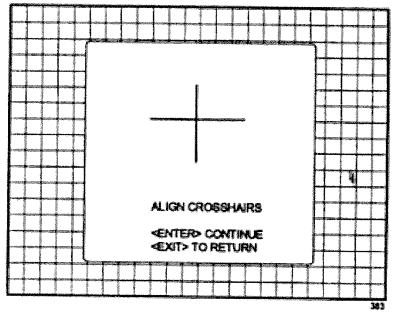

red crosshair
green crosshair

move the red CRT towards the green CRT


red crosshair
green crosshair

move the red CRT to the outside, away from the green CRT

Loosen bolt H with a 8 mm wrench through the slot in the cabinet (see drawing above).
Loosen bolts E, F and G to pivot the blue CRT until the center of the Blue image and the center of the Green image coincide. When the angle of the blue CRT is corrected, tighten the four bolts.



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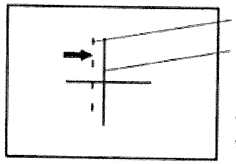
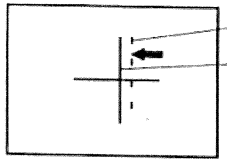
ENTER continues to the diagonal focusing menu.
EXIT returns to the CRT projection angle adjustment.

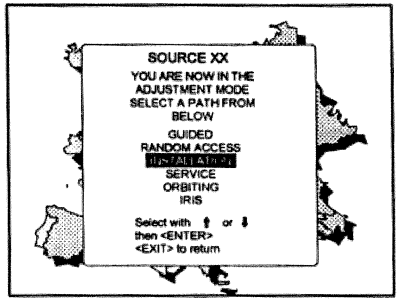

blue crosshair
green crosshair

move the blue CRT to the outside, away from the green CRT


blue crosshair
green crosshair

move the blue CRT towards the green CRT

After finishing the installation adjustments procedure, the Path Selection menu returns on the screen. You are now able to start the alignment procedure for the projector. You have the choice between :
Guided adjustment procedure
Random Access Adjustment procedure.

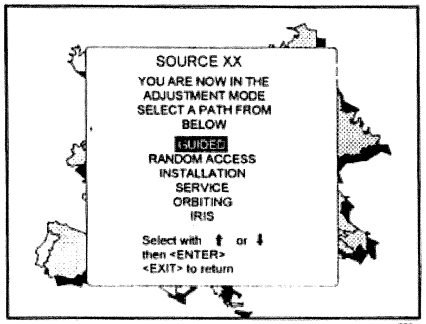


ENTER continues to the chosen path.
EXIT returns to operational mode.
ADJUST returns to operational mode.

GUIDED ADJUSTMENT MODE

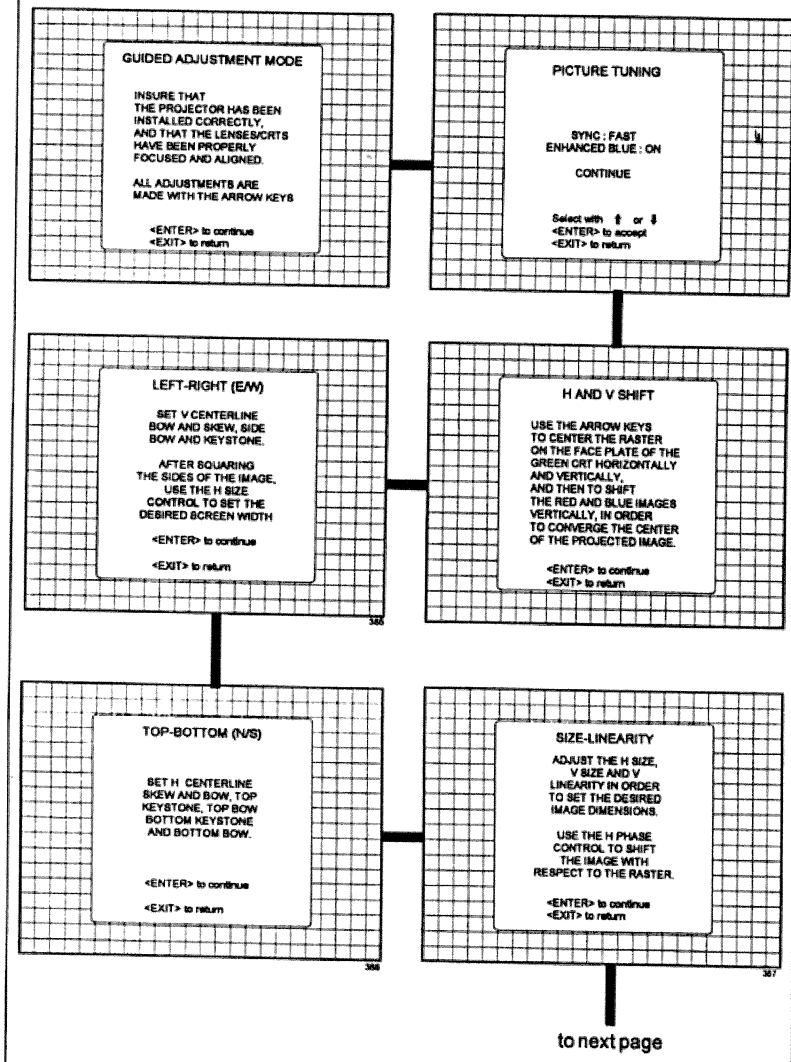
Start up of the guided adjustment mode.

Use the arrow keys to highlight *GUIDED* on the Path selection menu and then press **ENTER**.



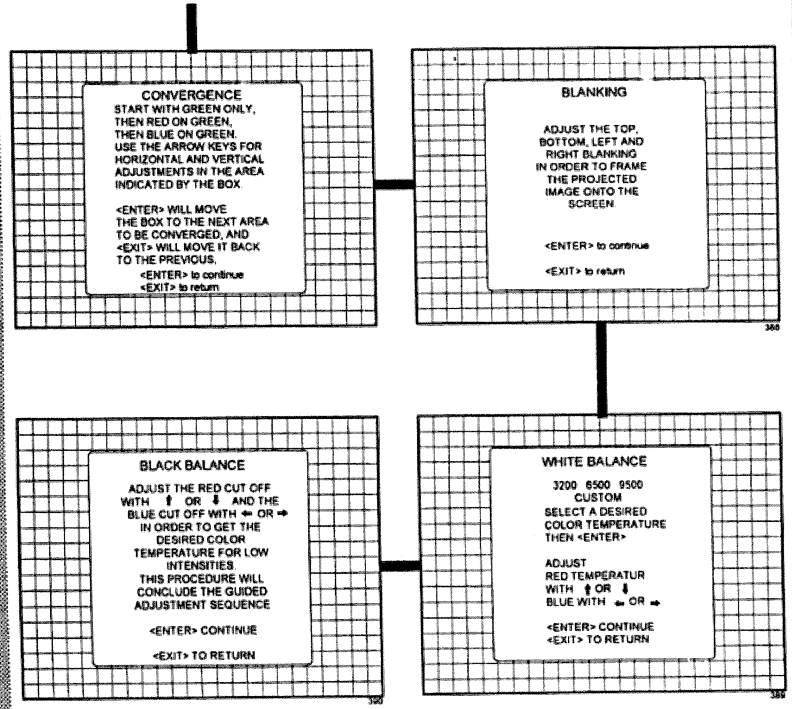
ENTER continues to the Setup Pattern Selection
EXIT returns to operational mode.
ADJUST returns to operational mode.

Overview flowchart 'Guided Adjustment' procedure.



to next page

from previous page

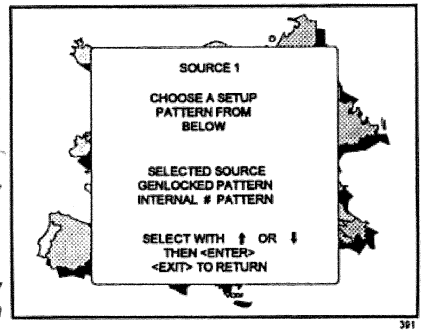


Selecting Setup Pattern

If an external source is connected to the projector, Setup pattern menu will be displayed. Use the arrow keys to highlight the desired setup pattern and then press **ENTER**.

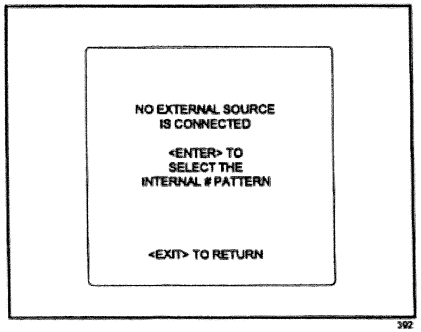
Genlocked pattern : internally generated cross hatch pattern, locked on the external source.

Internal # pattern : internally generated cross hatch pattern and locked on internal generated sync signals. (No external source necessary)



ENTER continues to Guided Adjustment Mode menu or Internal # Pattern Selection menu
EXIT returns to Path Selection
ADJUST returns to operational mode

If no external source is connected to the projector, the internal cross hatch pattern menu will be displayed.

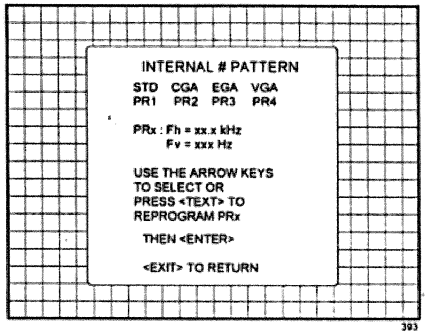


ENTER displays the internal # pattern menu.
EXIT returns to the Path selection menu.

The menus in this manual are created for an external source, connected to one of the inputs, and the 'Genlocked pattern' is selected.

Internal Cross Hatch Pattern

The Internal # pattern menu will be displayed if the internal cross hatch pattern has been selected or if no source is connected to the projector.



The table below lists the 8 factory preset frequencies available.

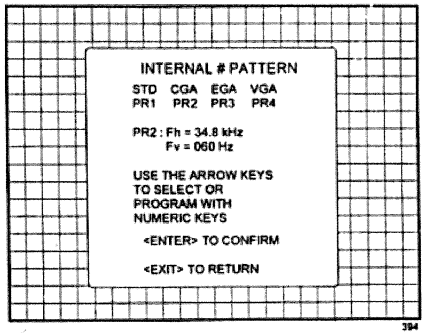
Use the arrow keys to highlight the desired cross hatch frequency and then press **ENTER**.

STD : Fh = 15.6 kHz	Fv = 50 Hz
CGA : Fv = 15.7 kHz	Fv = 60 Hz
EGA : Fv = 21.9 kHz	Fv = 60 Hz
VGA : Fv = 31.5 kHz	Fv = 60 Hz
PR1 : Fv = 35.5 kHz	Fv = 60 Hz
PR2 : Fv = 42.0 kHz	Fv = 70 Hz
PR3 : Fv = 51.0 kHz	Fv = 50 Hz
PR4 : Fv = 58.0 kHz	Fv = 60 Hz

ENTER continues to the Guided Adjustment mode menu.
EXIT returns to Setup Pattern Selection menu.
TEXT gives the reprogram menu.

It is possible to store user defined cross hatch frequencies in PR1 - PR4. Handle as follows to program a custom cross hatch frequency.

1. highlight the desired storage location (PR1-PR4) on the Internal # pattern menu.
2. Press TEXT to reprogram.
3. Use the arrow keys to select the digits to be changed.
4. Reprogram the desired horizontal frequency as xx.x kHz and the vertical frequency as xxx Hz using the numeric keys.
5. Press **ENTER** to confirm.



ENTER confirms your entry and continues to Guided Adjustment mode menu.
EXIT returns to Setup Pattern Selection menu.

Example : Desired cross hatch frequency :

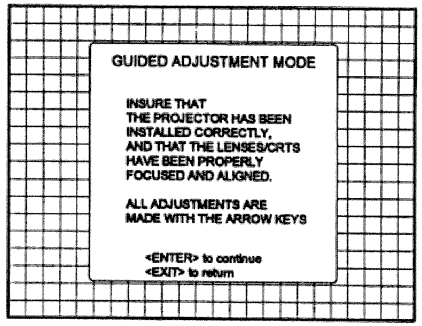
Fv = 34.8 kHz
Fv = 60 Hz

Use the arrow keys to highlight the desired storage location (PR1-PR4) and press **TEXT**. The program menu appears on the screen. Use the arrow keys to go to the first digit of the horizontal frequency and press.

3 4 8 0 6 0 <ENTER>

Note : enter always 6 digits
In the example, an 0 is added between the last significant digit of the hor. freq. and the first significant digit of the vert. freq. to complete the 6 digits.

Note: Before continuing, insure that the lenses are properly focused and that the CRT projection angle is correctly adjusted. If any misalignment is noticed, consult a qualified service technician.



ENTER continues with the Picture Tuning
EXIT returns to Setup Pattern Selection or Internal # Pattern Selection
ADJUST returns to operational mode

Picture tuning toggle switches.

Depending on the source type (video, S-Video, RGB(S) analog with composite) the picture tuning menu offers the possibility to toggle :

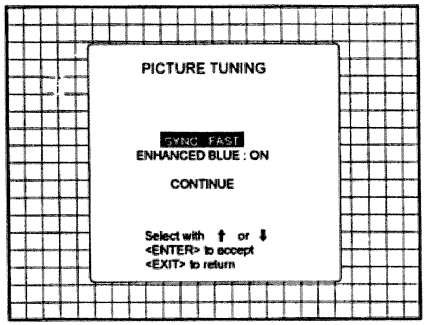
for Video or S-Video sources :
- the Synchronisation speed

for RGB analog with composite sync or sync on green sources:
- enhanced blue on or off
- the Synchronisation speed

Sync Fast/Slow toggle

Highlight *Sync* with the arrow keys and press **ENTER** to toggle between FAST and SLOW

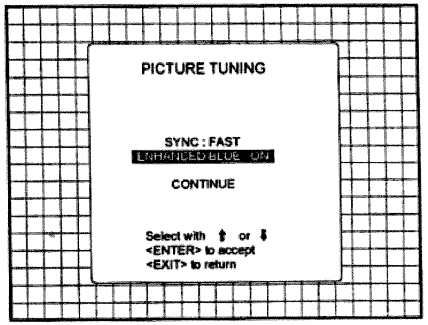
Note : SYNC is normally used in the SLOW position. The FAST position is used to compensate for unsteady sync pulses from older video playback equipment.



Enhanced blue ON/OFF

Highlight *Enhanced Blue* with the arrow keys and press **ENTER** to toggle between ON and OFF (only available when RGB analog signals are connected to the projector).
When Enhanced Blue is ON, the blue color will be displayed as cyan.

Note : Enhanced blue is only used when an RGBS or RGsB analog signal from a computer is being displayed. Enhanced blue is not recommended for non computer generated images.

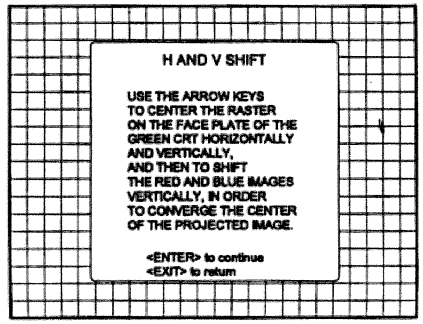


ENTER will toggle Enhanced Blue between ON and OFF.
EXIT will return to the white balance menu.

For displaying graphics, this Enhanced Blue function could falsify the color reproduction. In this case, put Enhanced Blue OFF

Raster Centering on Green CRT Faceplate

The green raster must be centered both horizontally and vertically on the center of the CRT surface. To center the green raster, look into the green lens and use the arrow keys to move the raster.

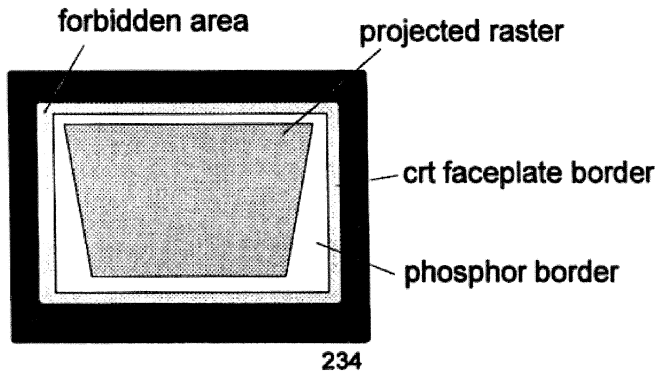


Caution

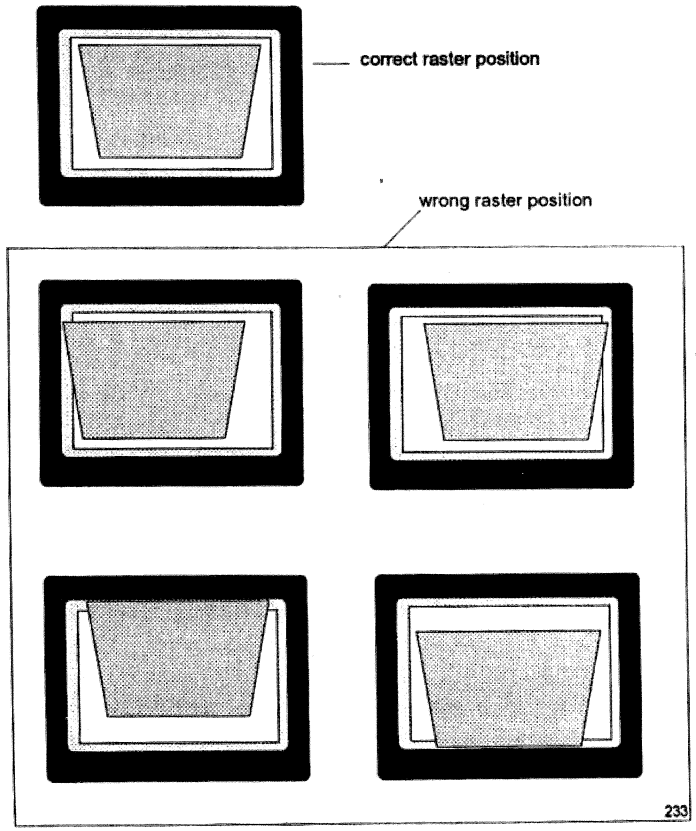
It is necessary to look into the lenses to perform these adjustments. To avoid eye discomfort while looking into the lenses, reduce the contrast and gradually increase the brightness level until the raster becomes visible.

ENTER continues to Green Raster Shift
EXIT returns to Guided Adjustment Mode
ADJUST returns to operational mode

***Warning** : In order to ensure maximum CRT longevity and to avoid CRT damage, do not shift the raster outside the phosphor area of the CRT.*



To begin the adjustment, press the **ENTER** key.

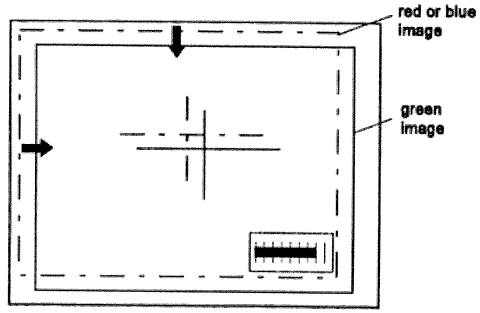


After centering the green raster, press the **ENTER** key to continue.

ENTER continues to Red Raster Shift
EXIT returns to Horizontal and Vertical Shift menu.

Shifting Red and Blue on Green

Use the arrow keys to shift the red image until the center coincides with the center of the green image.



When the red image is correctly positioned, press the **ENTER** key to continue with the blue image.

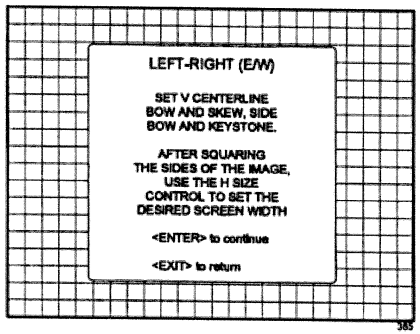
ENTER continues to blue raster shift
EXIT returns to green raster shift

Left-Right (East-West) Adjustments

Left-right adjustments affect only the vertical lines of the setup pattern. Only the green image is displayed while making left-right adjustments. The red and blue images will automatically be corrected in the same manner.

Convergence corrections are automatically disabled for the duration of these adjustments.

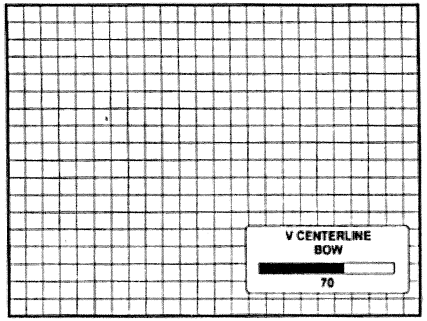
Press the **ENTER** key to continue.



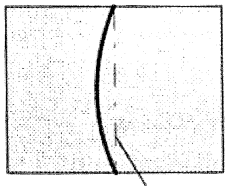
ENTER continues to vertical centerline bow adjustment
EXIT returns to Raster Centering
ADJUST returns to operational mode

Vertical Centerline Bow Adjustment

The vertical centerline bow adjustment corrects for curvature in the horizontal direction in the middle of the picture for the vertical lines.
Use the left or right arrow key to adjust the vertical centerline bow of the setup pattern and then press the **ENTER** key to continue.

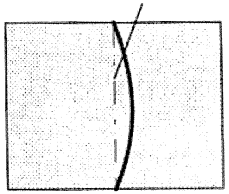


ENTER continues to vertical centerline skew adjustment
EXIT returns to Left-Right adjustments



Correct with right arrow key

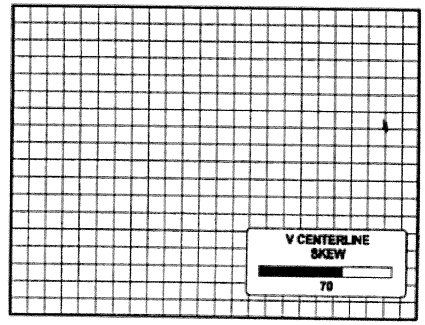
Vertical centerline



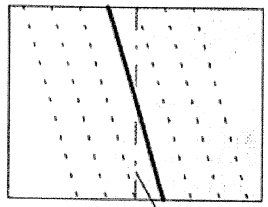
Correct with left arrow key

Vertical Centerline Skew Adjustment

The vertical centerline skew adjustment corrects for tilting of the vertical lines in the middle of the screen.
Use the left or right arrow key to adjust the vertical centerline skew of the setup pattern until this line is straight. Misalignment of the outer vertical lines will be corrected with the bow and keystone corrections.
Press **ENTER** to continue.

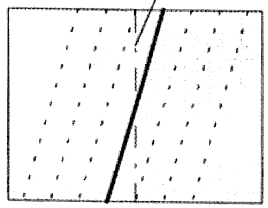


ENTER continues to side keystone adjustment
EXIT returns to vertical centerline bow adjustment



Correct with right arrow key

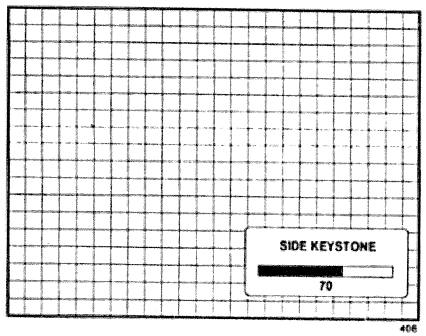
Vertical centerline



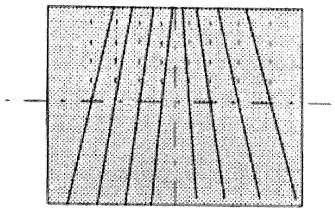
Correct with left arrow key

Side Keystone Adjustment

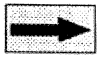
The side keystone adjustment corrects the keystone geometry distortion of the vertical lines on the sides of the image.
Use the left or right arrow key to adjust the side keystone (vertical lines) of the setup pattern and press **ENTER** to continue

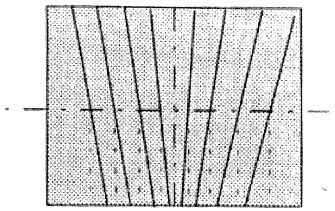


ENTER continues to side bow adjustment
EXIT returns to side keystone adjustment

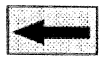


Correct with right arrow key



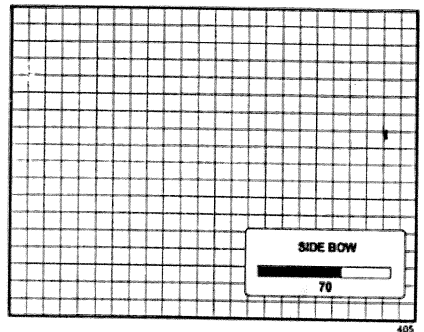


Correct with left arrow key

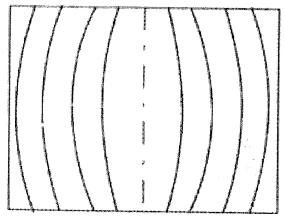


Side Bow Adjustment

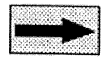
The side bow adjustment corrects for curvature occurring at the sides of the displayed image for the vertical lines.
Use the left or right arrow key to adjust the side bow of the setup pattern (vertical lines) and press **ENTER** to continue.

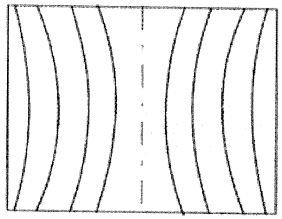


ENTER continues to H. ampl. adjustment
EXIT returns to right bow adjustment

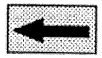


Correct with right arrow key





Correct with left arrow key

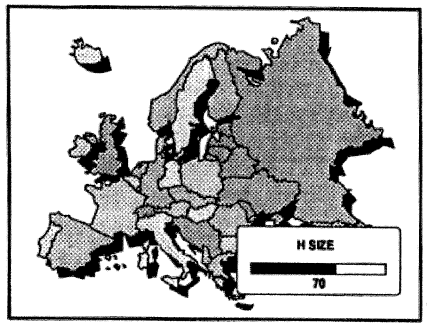


Horizontal Size Adjustment

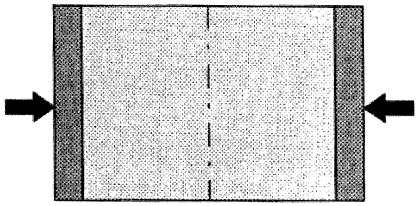
Adjust the horizontal size with the left and right arrow keys until the correct image width is obtained.
Note :
- if the internal # pattern was selected, this pattern remains on the screen.
- if the genlocked pattern was selected, the external source will be displayed.

A bar scale and a number indicator (between 0 and 100) give a visual indication of the horizontal size adjustment.

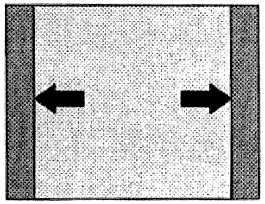
Hint : In order to avoid loss of resolution in the projected image and to ensure maximum CRT longevity, do not use an excessively small horizontal size setting on the CRT faceplate. Consult your dealer for the correct installation position of your projector.



ENTER continues to Top-Bottom adjustments
EXIT returns to side bow adjustments



Correct with left arrow key



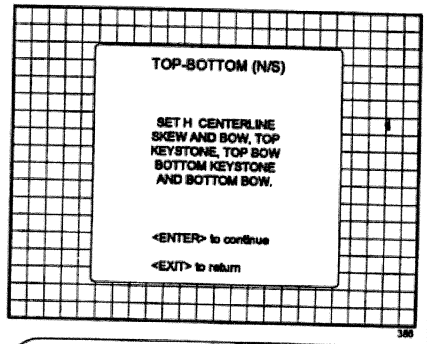
Correct with right arrow key

Top-Bottom (North-South) Adjustments

Top-Bottom adjustments affect only the horizontal lines of the setup pattern. These adjustments are performed only on the green image. The red and blue images are automatically corrected in the same manner.

Convergence corrections are automatically disabled for the duration of these adjustments.

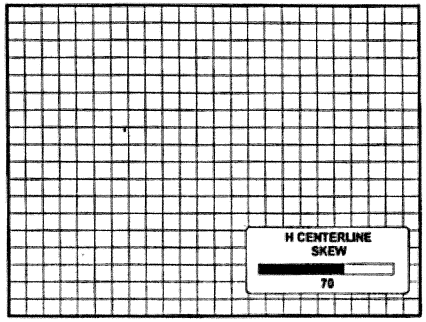
Press the **ENTER** key to continue.



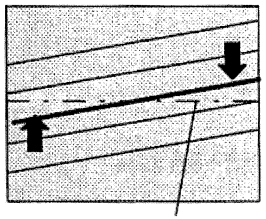
ENTER continues to horizontal centerline skew adjustment
EXIT returns to Left-Right adjustments
ADJUST returns to operational mode

Horizontal Centerline Skew Adjustment

The horizontal centerline skew adjustment corrects for tilting of the horizontal lines in the middle of the screen.
Use the up and down arrow keys to adjust the horizontal centerline skew of the setup pattern.
A bar scale and a numeric indicator (between 0 and 100) will give a visual indication of the skew correction.

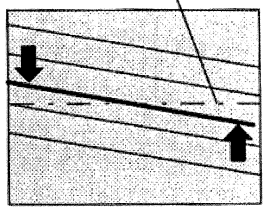


ENTER continues to horizontal centerline bow adjustment.
EXIT returns to Top-Bottom Adjustments



Correct with up arrow key

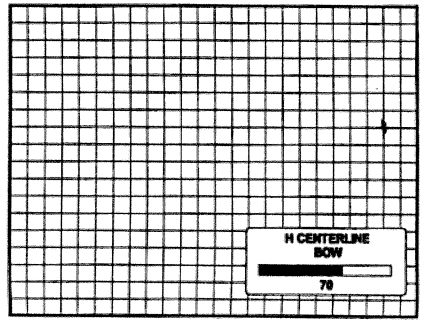
Hor. centerline



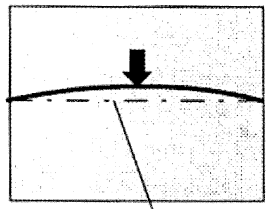
Correct with down arrow key

Horizontal Centerline Bow Adjustment

The horizontal centerline bow adjustment corrects for curvature in the vertical direction in the middle of the picture for the horizontal lines.
Use the up and down arrow keys to adjust the horizontal centerline bow of the setup pattern.
A bar scale and a numeric indicator (between 0 and 100) will give a visual indication of the bow correction.

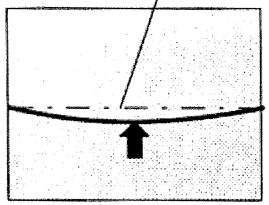


ENTER continues to top keystone adjustment
EXIT returns to Top-Bottom Adjustments



Correct with down arrow key

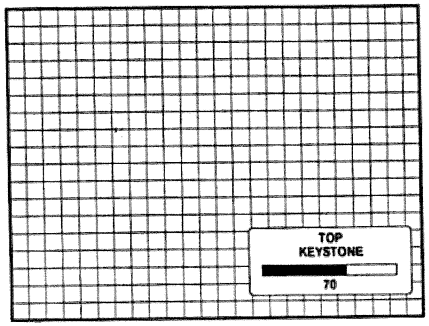
Hor. centerline



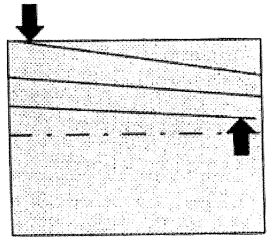
Correct with up arrow key

Top Keystone Adjustment

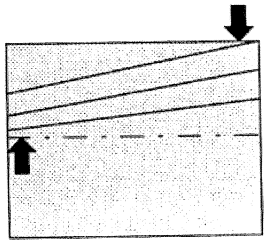
The top keystone adjustment corrects for keystone geometry distortion of the horizontal liens in the upper part of the image. Adjust the horizontal lines in the upper part of the picture with the arrow keys until these lines are straight. Press **ENTER** to continue.
A bar scale and a number indicator (between 0 and 100) will give a visual indication of the keystone correction.



ENTER continues to top bow adjustment
EXIT returns to horizontal centerline bow adjustment



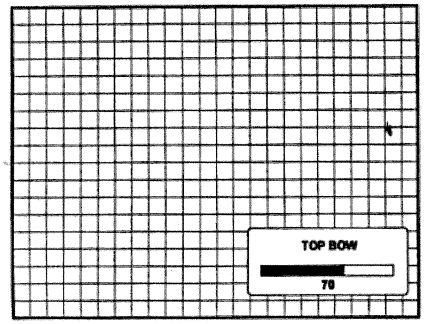
Correct with up arrow key



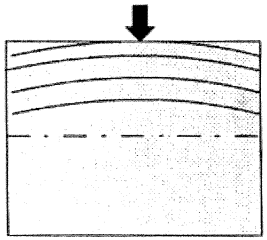
Correct with down arrow key

Top Bow Adjustment

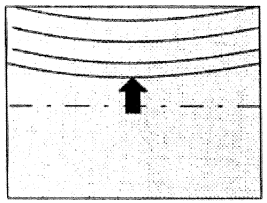
The top bow function corrects for curvature occuring in the upper part of the image.
Adjust the bow of the horizontal lines in the upper side of the image with the arrow keys until these lines are straight.
A bar scale and a number indicator below indicate the amount of adjustment.



ENTER continues to bottom keystone adjustment
EXIT returns to top keystone adjustment



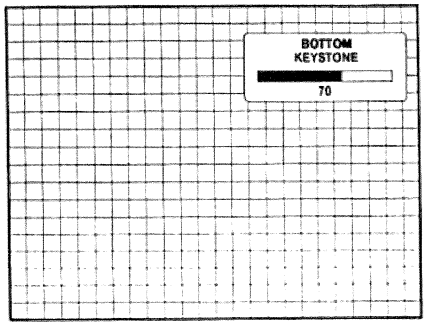
Correct with up arrow key



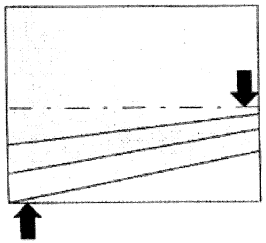
Correct with down arrow key

Bottom Keystone Adjustment

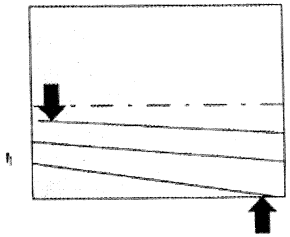
The bottom keystone function corrects for keystone geometry of the horizontal lines in the lower part of the image.
Adjust the horizontal lines in the lower part of the image with the arrow keys until these lines are straight.
A bar scale and a number indicator (between 0 and 100) will give a visual indication of the adjustment.



ENTER continues to bottom bow adjustment
EXIT returns to top bow adjustment



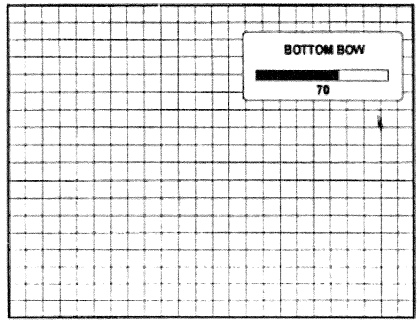
Correct with up arrow key



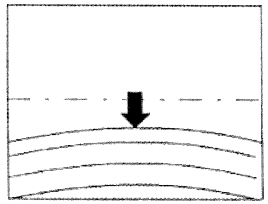
Correct with down arrow key

Bottom Bow Adjustment

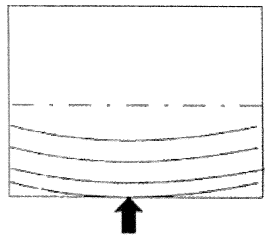
The bottom bow function corrects for curvature occuring in th lower part of the image.
Use the top and bottom arrow key to adjust the bottom bow in the lower part of the setup pattern. Adjust until the horizontal lines are straight.
A bar scale and a number indicator (between 0 and 100 %) give a visual indication of the adjustment.



ENTER continues to Size-Linearity
EXIT returns to bottom keystone adjustment



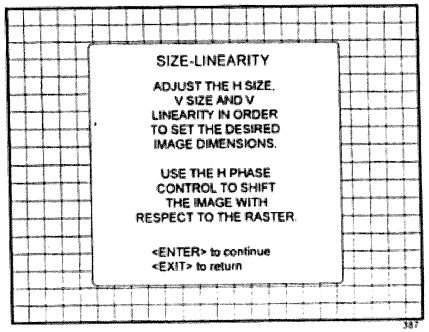
Correct with up arrow key



Correct with down arrow key

Size-linearity Adjustment

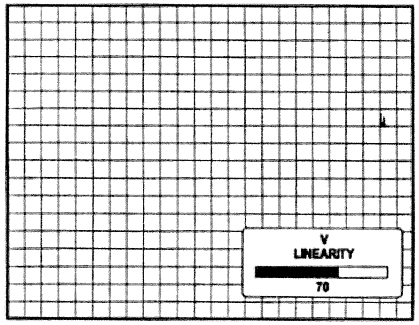
Size adjustments affect the height and width of the projected image. The vertical linearity adjustment is used to adjust the horizontal lines of the setup pattern until the spacing between them is even. The horizontal phase adjustment is used to shift the image horizontally across the raster.



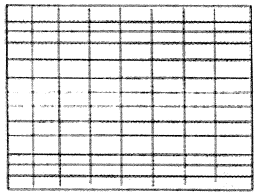
ENTER continues to vertical linearity adjustment
EXIT returns to Top-Bottom adjustments
ADJUST returns to operational mode

Vertical Linearity Adjustment

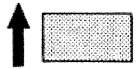
Adjust the vertical linearity with the arrow keys until the distance between the horizontal lines of the set up pattern are equal.



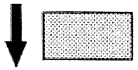
ENTER continues to vertical size adjustment
EXIT returns to the Size-Linearity menu.



Correct with up arrow key



Correct with down arrow key



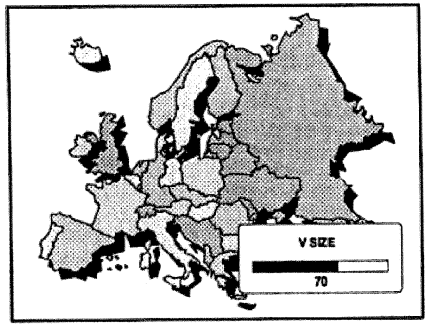
Vertical Size Adjustment

Adjust the vertical size with the up or down arrow key until the exact image height is obtained.

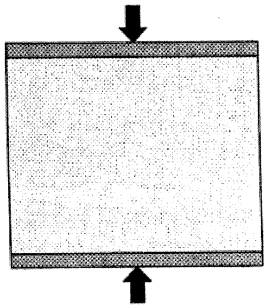
Note :
- if the internal # pattern was selected, this pattern remains on the screen.
- if the genlocked pattern was selected, the external source will be displayed.

Hint :
In order to avoid loss of resolution in the projected image and to ensure maximum CRT longevity, do not use an excessively small vertical size setting.

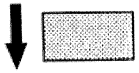
A bar scale and a number indicator (between 0 and 100) give a visual indication of the vertical size adjustment.

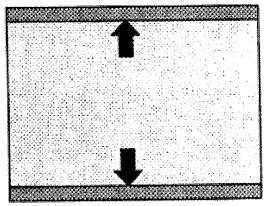


ENTER continues to horizontal phase adjustment
EXIT returns to vertical linearity adjustment

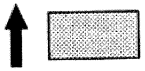


Correct with down arrow key





Correct with up arrow key

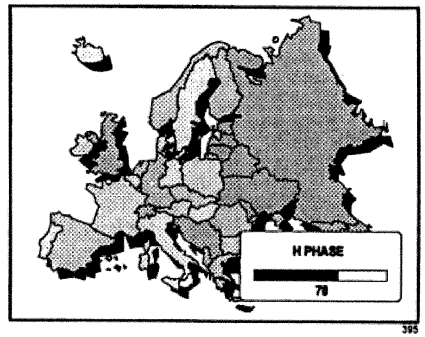


Horizontal Phase Adjustment

Note : No horizontal phase adjustmen ist available on the internal # pattern.

Therefore :
- if the internal # pattern was selected, this pattern remains on the screen.
- if the genlocked pattern was selected, the external source will be displayed.

Adjust the horizontal phase with the arrow keys until the image is centered in the middle of the raster.

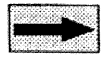


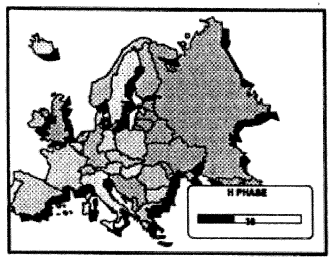
ENTER continues to Convergence
EXIT returns to vertical size adjustment

Decrease the contrast and increase the brightness level until the raster becomes visible on the screen. Use the left or right arrow keys to shift the setup pattern

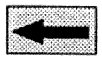
A bar scale and a number indicator (between 0 and 100) on the screen give a visual indication of the horizontal phase adjustment.

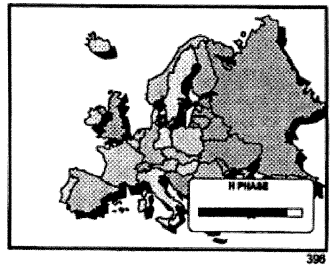
Correct with right arrow key





Correct with left arrow key





Convergence Adjustment

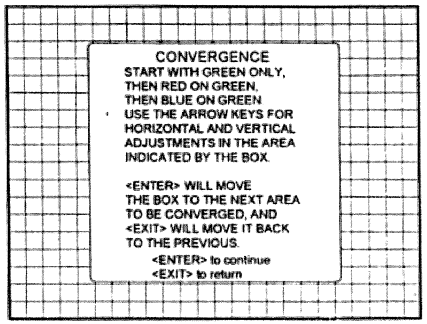
Convergence adjustments affect both the horizontal and vertical lines of the setup pattern. These adjustments are performed on the red image while superimposed on the green image and then on the blue image while superimposed on the green image.

The screen area is divided into 25 areas. Within each area it is possible to move the horizontal and vertical lines of the red and blue picture until they coincide with the green lines.

Use the arrow keys to make horizontal and vertical convergence adjustments in the area indicated by the box. Pressing **ENTER** will move the box to the next area of the setup pattern to be converged. Pressing **EXIT** will move the box back to the last area.

The 'guided adjustment' program will start with the convergence adjustment of the red picture on the green and continues with the blue image on the green image.

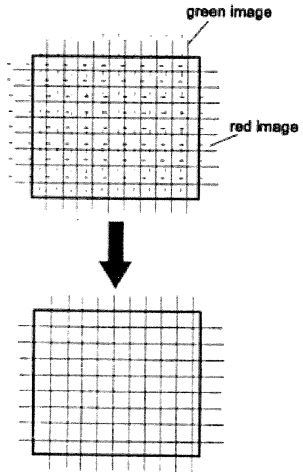
Attention : when green convergence adjustments are available (option). The control software starts with these green corrections (the menu will indicate it also). Adjust until the vertical and horizontal lines are straight.

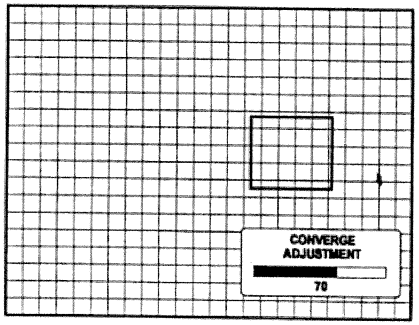


ENTER continues to convergence adjustment
EXIT returns to Size-Linearity adjustments
ADJUST returns to operational mode.

25	23	9	15	17
24	22	8	14	16
5	4	1	2	3
20	18	6	10	12
21	19	7	11	13

397





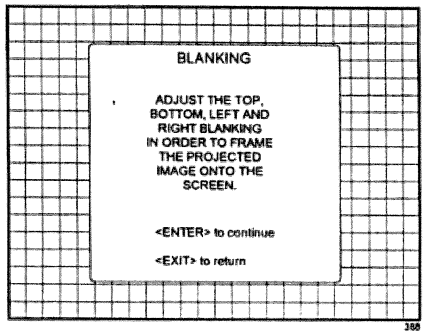
ENTER selects a new box and at the end it continues with the Blanking Adjustment.
EXIT returns to the last area.

Blanking Adjustment

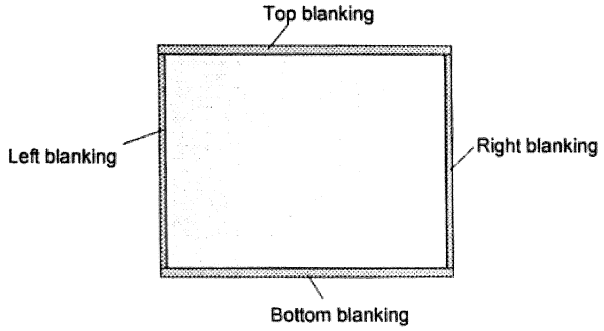
Blanking adjustments affect only the edges of the projected image and are used to frame the projected image on to the screen and to hide or black out unwanted information (or noise). a 0% on the bar scale indicates no blanking.

The following blanking corrections are possible :
- top blanking
- bottom blanking
- left blanking
- right blanking

Note :
- if the internal # pattern was selected, this pattern remains on the screen.
- if the genlocked pattern was selected, the external source will be displayed.

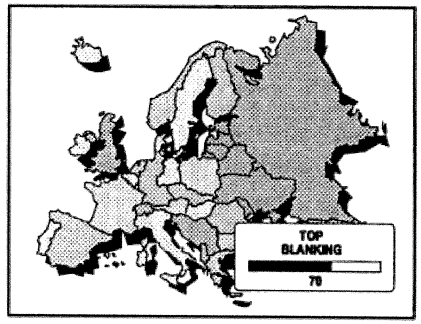


ENTER continues to top blanking adjustment.
EXIT returns to convergence menu
ADJUST returns to operational mode

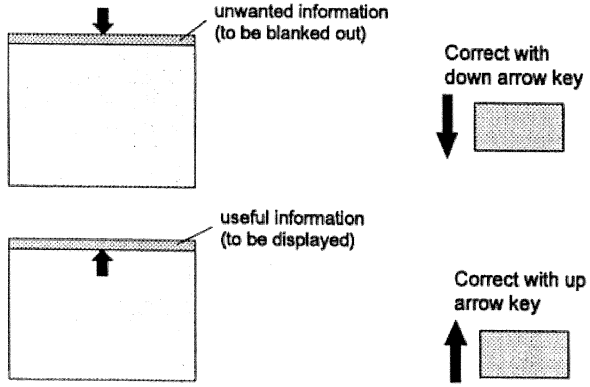


Top blanking adjustment

Use the up or down keys to adjust the top blanking of the setup pattern. Press **ENTER** to continue.

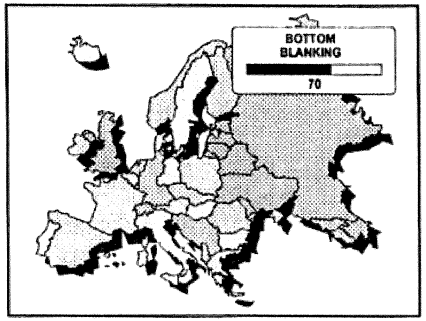


ENTER continues to bottom blanking adjustment.
EXIT returns to blanking adjustments

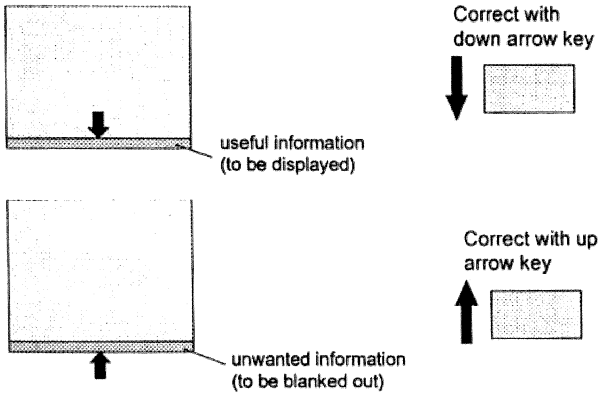


Bottom blanking adjustment

Use the up or down keys to adjust the bottom blanking of the setup pattern.

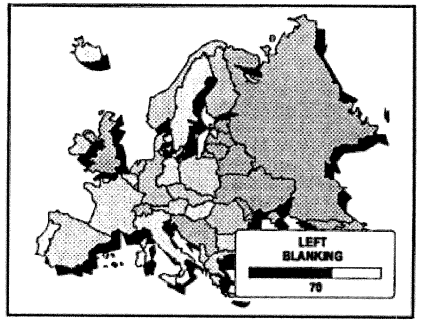


ENTER continues to left blanking adjustment.
EXIT returns to top blanking adjustments.

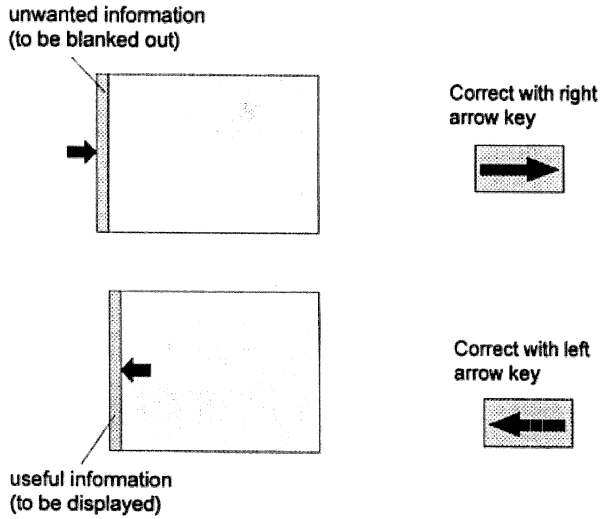


Left blanking adjustment

Use the left or right arrow keys to adjust the left blanking of the setup pattern.

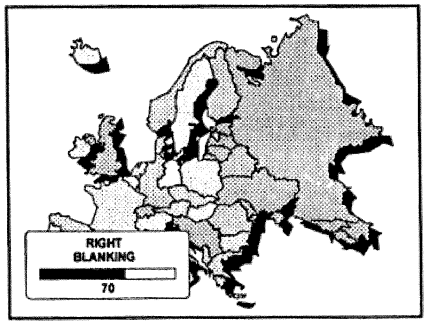


ENTER continues to right blanking adjustment.
EXIT returns to bottom blanking adjustments.

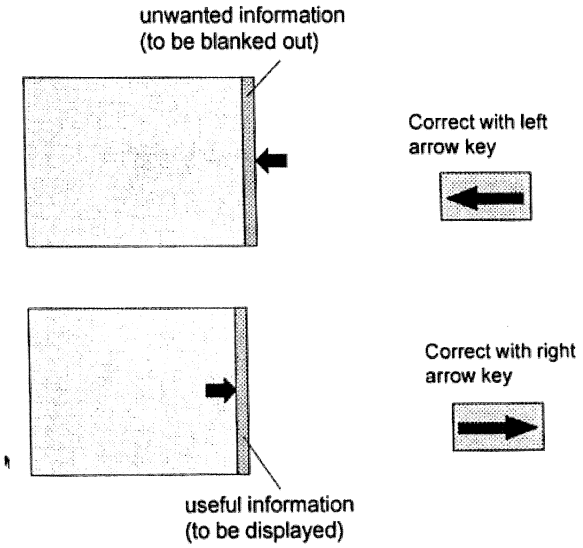


Right blanking adjustment

Use the left or right arrow keys to adjust the right blanking of the setup pattern.



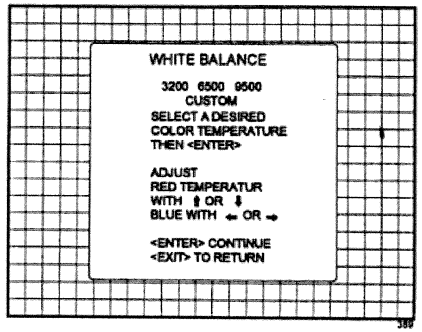
ENTER continues to the White Balance menu.
EXIT returns to left blanking adjustments.



White balance

Use the arrow keys to select a white balance (color temperature) and press **ENTER** to continue.
The table below lists the possible choices :

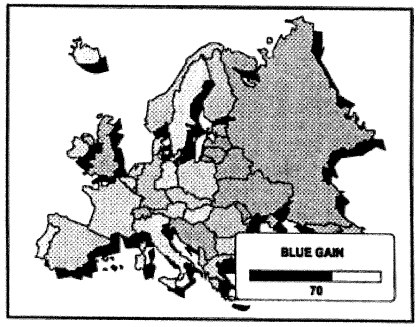
3200 K
6500 K
9300 K
CUSTOM



ENTER continues with the Black Balance or displays the gain adjustment menu.
EXIT returns to Right blanking adjustment.

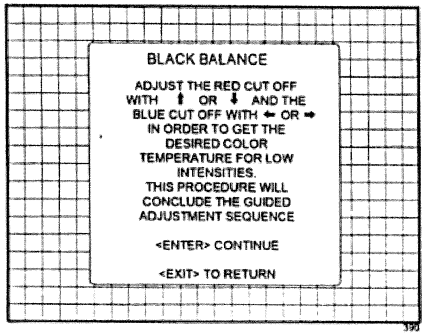
When CUSTOM is selected, the gain for Red and Blue can be adjusted with the arrow keys until the desired white balance is obtained.

Use the left and right arrow keys to adjust the Blue gain. Use the up and down arrow keys to adjust the Red gain.

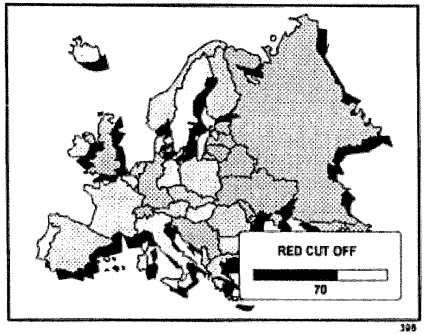


Black balance

Use the up and down arrow keys to adjust the Red cut off and the left and right arrow keys to adjust the Blue cut off. Both adjustments give the correct color temperature setting for low intensity.
A bar scale and a number indicator on the screen give a visual indication of the cut off adjustment.



ENTER continues with the cut off adjustment.
EXIT returns to the white balance menu.



ENTER terminates the Guided Adjustment mode and returns to the Path selection menu.
EXIT returns to the Black balance menu.

RANDOM ACCESS ADJUSTMENT MODE

Starting up the random access adjustment mode

Overview flow chart 'Random Access adjustment mode'

Selecting Setup Pattern

Internal cross hatch pattern

Sync Fast/Slow
Enhanced Blue On/Off Adjustment

Color select

Color balance
- **White balance**
- **Black balance**

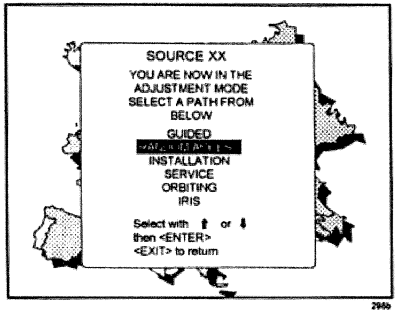
Geometry adjustments
- **Horizontal phase**
- **Raster shift adjustment**
- **Left-right adjustments**
- **Top-Bottom adjustments**
- **Horizontal size**
- **Vertical size**
- **Vertical linearity**

Blanking adjustments

Convergence adjustments

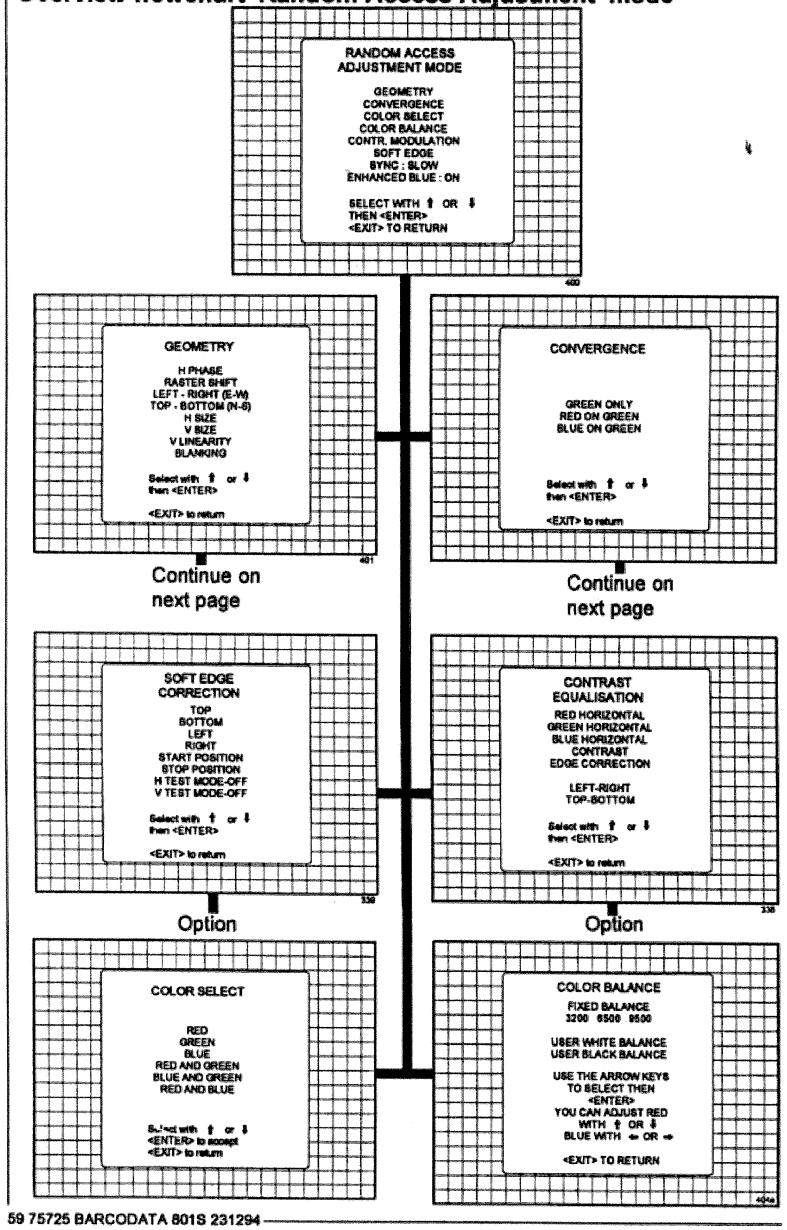
Starting up the random access adjustment mode.

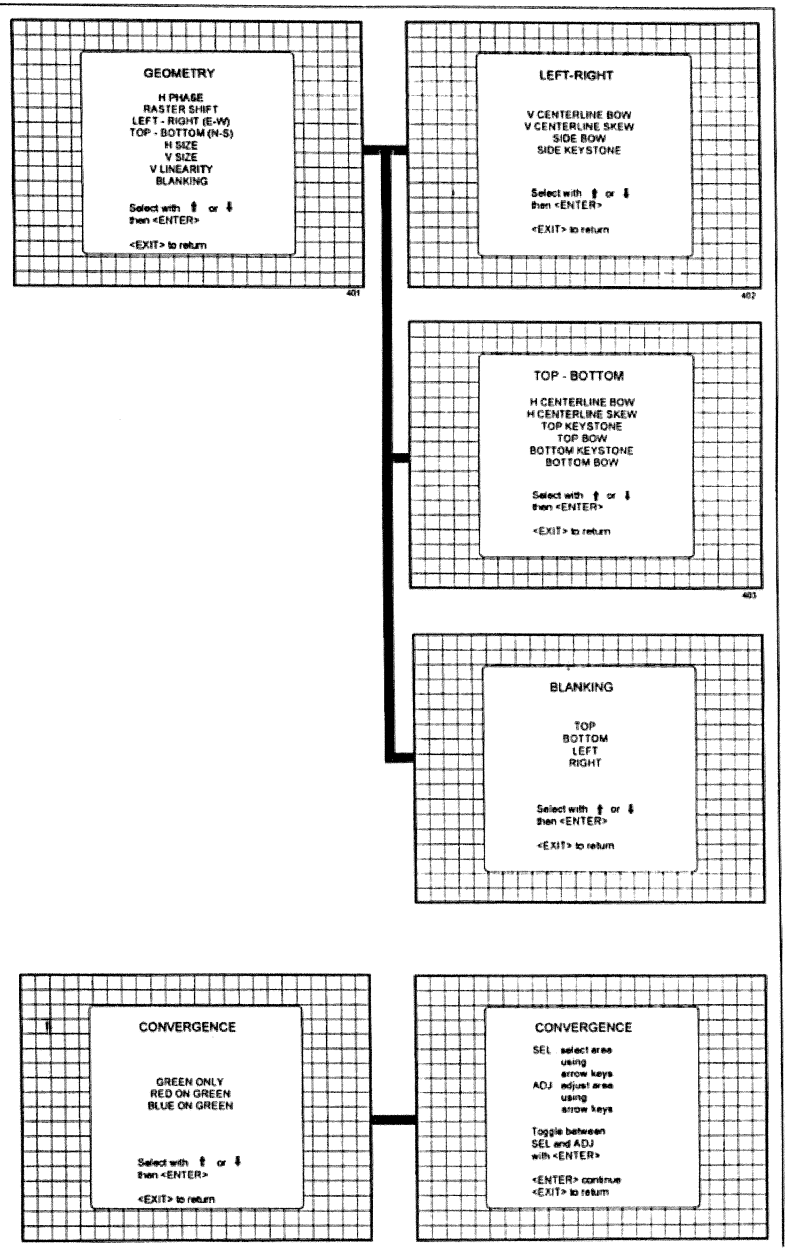
Use the arrow keys to highlight *"RANDOM ACCESS"* and then press **ENTER**.



ENTER continues to Setup Pattern Selection
EXIT returns to operational mode

Overview flowchart 'Random Access Adjustment' mode



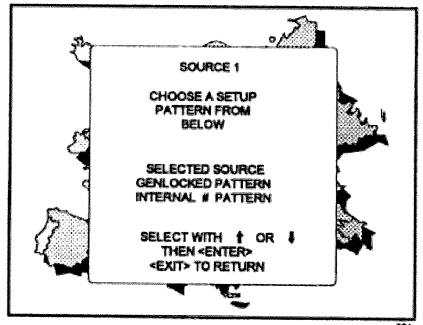


Selecting Setup Pattern

If an external source is connected to the projector, Setup pattern menu will be displayed. Use the arrow keys to highlight the desired setup pattern and then press **ENTER**.

Genlocked pattern : internally generated cross hatch pattern, locked on the external source.

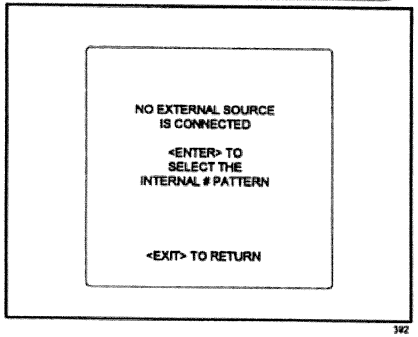
Internal # pattern : internally generated cross hatch pattern and locked on internal generated sync signals. (No external source necessary)



ENTER continues to Random Access Adjustment Mode or Internal # Pattern Selection
EXIT returns to Path Selection
ADJUST returns to operational mode

If no external source is connected to the projector, the internal cross hatch pattern menu will be displayed.

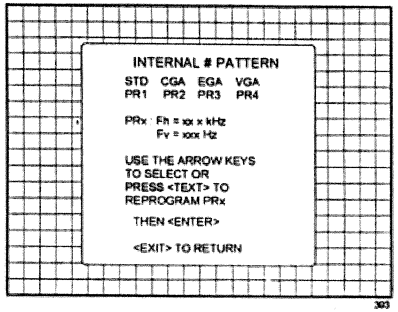
The menus in this manual are created for an external source, connected to one of the inputs, and the 'Genlocked pattern' is selected.



ENTER displays the internal # pattern mnu
EXIT returns to the Path Selection menu.

Internal Cross Hatch Pattern

The Internal # pattern menu will be displayed if the internal cross hatch pattern has been selected or if no source is connected to the projector.



The table below lists the 8 factory preset frequencies available.

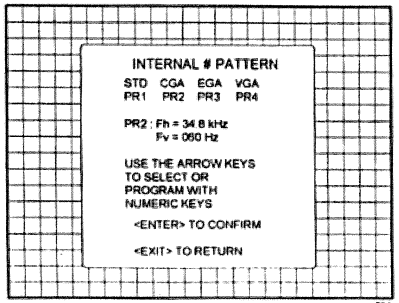
Use the arrow keys to highlight the desired cross hatch frequency and then press **ENTER**.

STD : Fh = 15.6 kHz	Fv = 50 Hz
CGA : Fv = 15.7 kHz	Fv = 60 Hz
EGA : Fv = 21.9 kHz	Fv = 60 Hz
VGA : Fv = 31.5 kHz	Fv = 60 Hz
PR1 : Fv = 35.5 kHz	Fv = 60 Hz
PR2 : Fv = 42.0 kHz	Fv = 70 Hz
PR3 : Fv = 51.0 kHz	Fv = 50 Hz
PR4 : Fv = 58.0 kHz	Fv = 60 Hz

ENTER continues to the Random Access Adjustment Mode.
EXIT returns to the Setup Pattern Selection menu.
TEXT gives the reprogram menu

It is possible to store user defined cross hatch frequencies in PR1 - PR4. Handle as follows to program a custom cross hatch frequency.

1. highlight the desired storage location (PR1-PR4) on the Internal # pattern menu.
2. Press **TEXT** to reprogram.
3. Use the arrow keys to select the digits to be changed.
4. Reprogram the desired horizontal frequency as xx.x kHz and the vertical frequency as xxx Hz using the numeric keys.
5. Press **ENTER** to confirm.



ENTER confirms your entry and continues to Random Access Adjustment mode menu.
EXIT returns to Setup Pattern Selection menu.

Example : Desired cross hatch frequency :

Fv = 34.8 kHz
Fv = 60 Hz

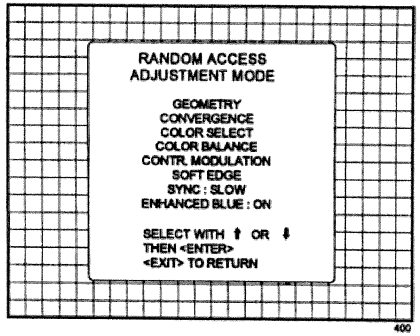
Use the arrow keys to highlight the desired storage location (PR1-PR4) and press **TEXT**. The program menu appears on the screen. Use the arrow keys to go to the first digit of the horizontal frequency and press.

3 4 8 0 6 0 <ENTER>

Note : enter always 6 digits
In the example, an 0 is added between the last significant digit of the hor. freq. and the first significant digit of the vert. freq. to complete the 6 digits.

Random access adjustment mode selection menu.

This is the main menu for the Random Access adjustment mode.
Through this menu, the following adjustments and features are accessible :

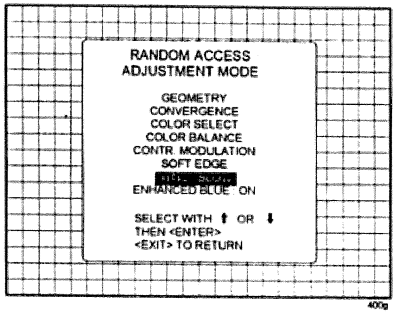


- Enhanced blue (only for RGB)
- Sync slow/fast
- Color balance
- Geometry
- Convergence
- Color select
- Contrast modulation (option)
- Soft edge (option)

Sync Fast/Slow Adjustment

Highlight *SYNC* with the arrow keys and press **ENTER** to toggle between *FAST* and *SLOW*.

Note: SYNC is normally used in the SLOW position. The FAST position is used to compensate for unsteady sync pulses from older video playback equipment.



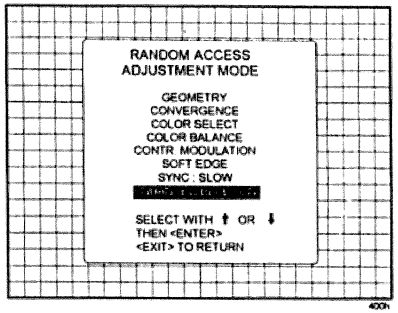
ENTER will toggle Sync between FAST and SLOW
EXIT will return to Setup Pattern Selection

Enhanced Blue On/Off Adjustment

Highlight *ENHANCED BLUE* with the arrow keys and press **ENTER** to toggle between *ON* and *OFF*.(only available when RGB signals are connected) When 'Enhanced Blue' is ON, the blue color will be displayed as cyan.

Note: Enhanced blue is only used when an RGBS or RGsB analog signal from a computer is being displayed. Enhanced blue is not recommended for non computer generated images.

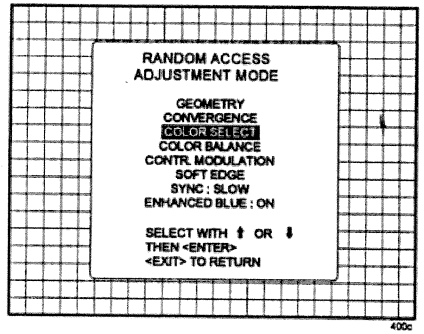
For displaying graphics, this 'Enhanced Blue' function could falsify the color reproduction. In this case, put Enhanced Blue OFF.



ENTER will toggle Enhanced Blue between ON and OFF
EXIT will return to the Random access main menu.
ADJUST returns to operational mode

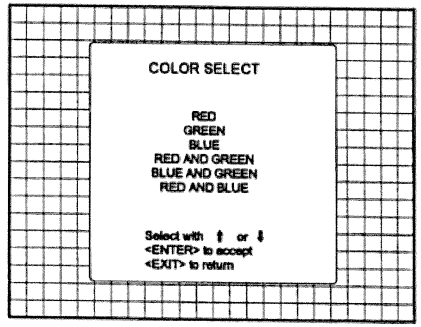
Color Select

Highlight *COLOR SELECT* with the arrow keys and press **ENTER** to display the color select menu.



ENTER continues to the color select menu
EXIT will return to Internal Crosshatch Selection or Setup Pattern Selection Menu
ADJUST returns to operational mode

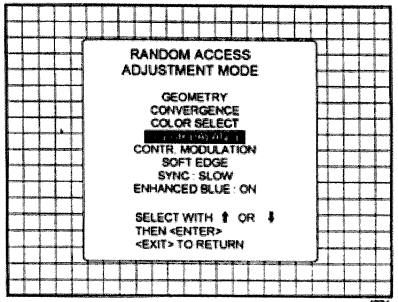
Use the arrow keys to highlight a color (CRT) or combination of colors to display the projected image in that specific color.
To select a new color, press **ENTER**, the color selection menu appears again on the screen. To terminate the color select procedure, press **EXIT**.



ENTER continues with the selected color or color combination.
EXIT returns to the Random access mode selection menu.

Color balance

Highlights Color balance with the arrow keys and press **ENTER** to display the *Color balance* menu. Within the Color balance menu, it is possible to adjust the White balance and the black balance.

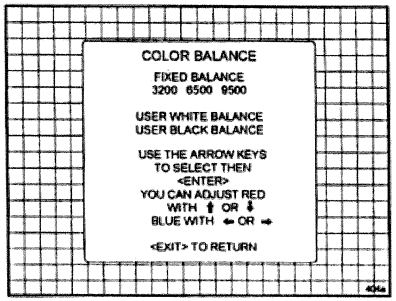


ENTER continues with the Color balance menu.
EXIT returns to Internal Crosshatch Selection menu or Setup Pattern Selection menu.
ADJUST returns to operational mode.

Fixed color balance

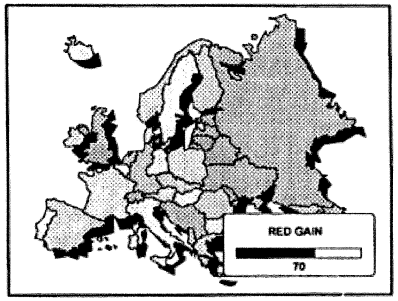
Highlight one of the 3 preprogrammed color temperatures with the arrow keys and press **ENTER** to display the desired color balance.

3200 K (reddish)
6500 K (white)
9300 K (bluish)



User color balance

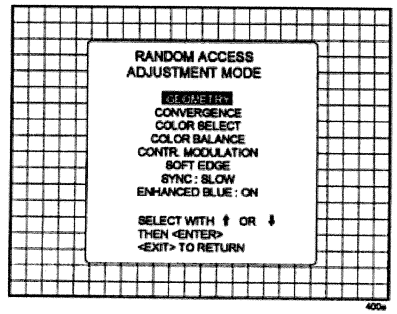
Select user white balance with the arrow keys and press ENTER to start the adjustment.
User the up and down arrow key to adjust the red gain and use the left and right arrow key to adjust the blue gain. A bar scale indicates the amount of adjustment.
Select user black balance with the arrow keys and press ENTER to start the adjustment.
Use the up and down arrow key to adjust the red cut off and use the right and left arrow key to adjust the blue cut off.



Geometry Adjustments

The geometry adjustments have to be done only on the green image. These adjustments are automatically implemented for the other color images : Left-right (EW) and Top-Bottom corrections, blanking, Horizontal amplitude, vertical amplitude, vertical linearity and Horizontal phase.

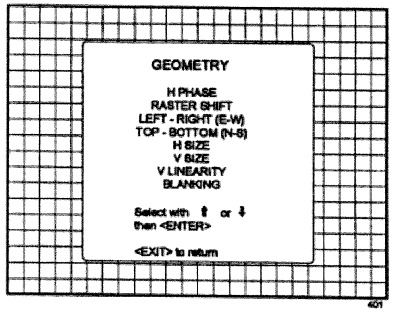
Highlight *GEOMETRY* with the arrow keys and press **ENTER** to display the geometry menu.



ENTER will display Geometry menu
EXIT will return to Internal Crosshatch Selection or Setup Pattern Selection Menu
ADJUST returns to operational mode

Within the geometry adjust menu, the following adjustments are available :

- horizontal phase (not for internal # pattern).
- raster shift
- left-right corrections
- top-bottom corrections
- horizontal size
- vertical size
- vertical linearity
- blanking

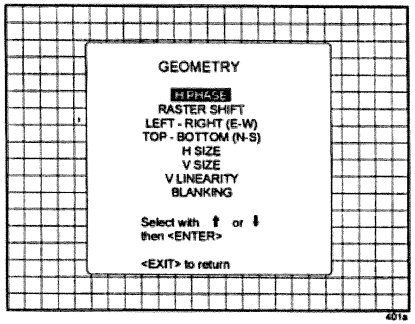


The convergence corrections are disabled during geometry corrections. The blanking corrections are only enabled during the blanking adjustments.

ENTER will display the selected option
EXIT will return to Random Access Adjustment Mode main menu
ADJUST returns to operational mode

Horizontal Phase Adjustment

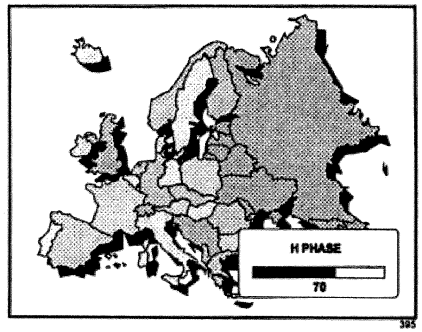
Use the arrow keys to highlight *H PHASE* on *Geometry menu* and then press **ENTER**.



ENTER will select the horizontal phase adjustment.
EXIT returns to the Random access adjustment main menu.
ADJUST returns to operational mode.

Note : No horizontal phase adjustment is available on the internal # pattern.

Therefore :
- if the internal # pattern was selected, this pattern remains on the screen.
- if the genlocked pattern was selected, the external source will be displayed.



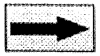
Adjust the horizontal phase with the arrow keys until the image is centered in the middle of the raster.

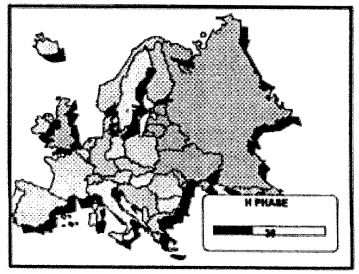
ENTER continues to geometry menu .

Decrease the contrast and increase the brightness level until the raster becomes visible on the screen. Use the left or right arrow keys to shift the setup pattern

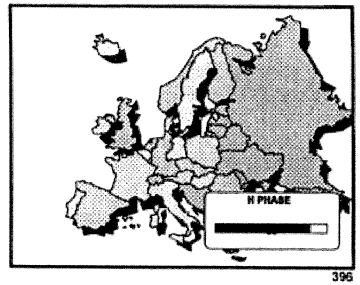
A bar scale and a number indicator (between 0 and 100) on the screen give a visual indication of the horizontal phase adjustment.

Correct with right arrow key





Correct with left arrow key

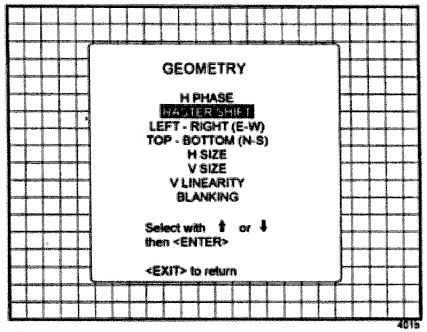


Raster Shift Adjustment

The green raster must be centered both horizontally and vertically on the center of the CRT surface. To center the green raster, look into the green lens and use the arrow keys to move the raster.

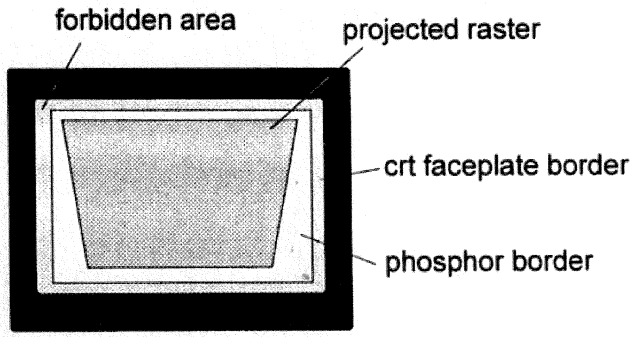
CAUTION

It is necessary to look into the lenses to perform these adjustments. To avoid eye discomfort while looking into the lenses, reduce the contrast and gradually increase the brightness level until the raster becomes visible on the face of the CRT.

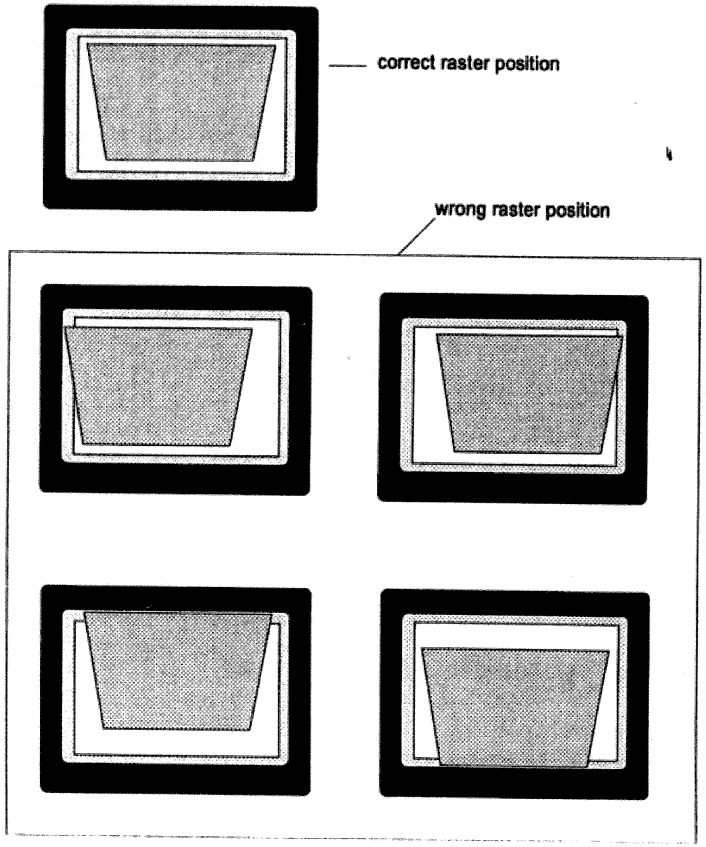


ENTER will select green raster shift adjustment
EXIT returns to random access adjustment mode menu.

Warning *: In order to ensure maximum CRT longevity and to avoid CRT damage, do not shift the raster outside the phosphor area of the CRT.*



To start the adjustment, use the arrow keys to highlight Raster shift and press ENTER to display the green raster on the phosphor.



After centering the green raster, continue with red and blue.
Press **EXIT** to return to the Geometry menu.

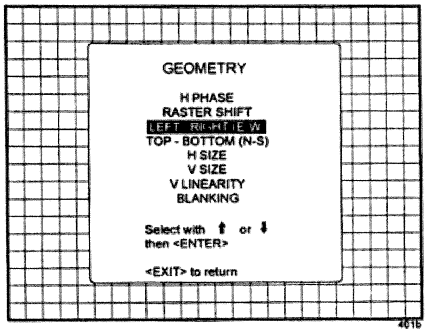
Left-Right (east-west) Adjustments

Left-right adjustments affect only the vertical lines of the projected image. Only the green image is displayed while making left-right adjustments. The red and blue images will automatically be corrected in the same manner. Convergence corrections are automatically disabled for the duration of these adjustments.

The following adjustments can be executed

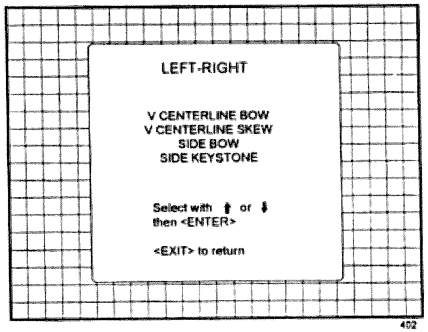
- vertical centerline bow
- vertical centerline skew
- side keystone (left - right)
- side bow (left - right)

Use the arrow keys to highlight *LEFT-RIGHT (E/W)* on the geometry menu and then press **ENTER**.



401b

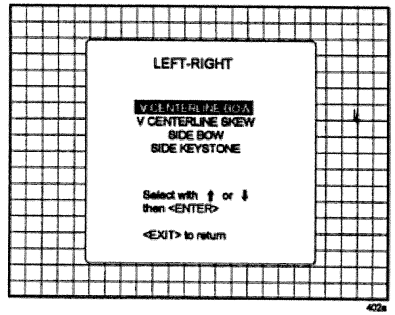
ENTER will select Left-Right adjustment menu
EXIT returns to random access adjustment mode main menu.
ADJUST returns to operational mode



402

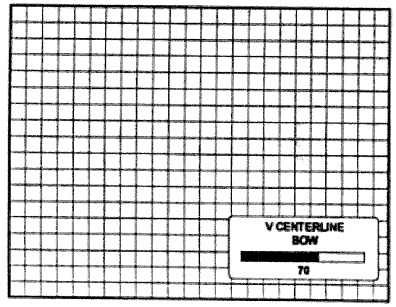
Vertical Centerline Bow Adjustment

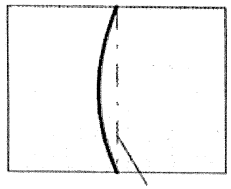
The vertical centerline bow function corrects for curvature of the vertical lines in the horizontal direction in the middle of the picture. Use the arrow keys to highlight *V CENTERLINE BOW* on the Left-Right menu and then press **ENTER.**



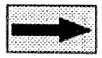
402a

ENTER will select vertical centerline bow adjustment
EXIT will return to Geometry menu
ADJUST returns to operational mode

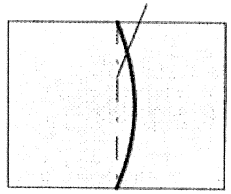




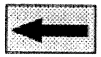
Correct with right arrow key



Vertical centerline



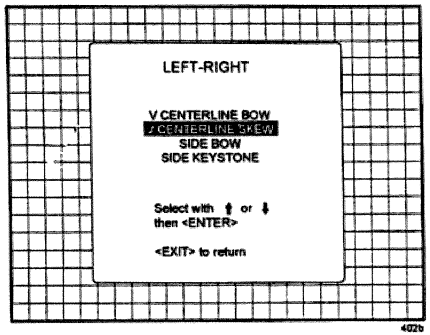
Correct with left arrow key



ENTER will return to Left-Right adjustment menu
EXIT will return to Geometry menu

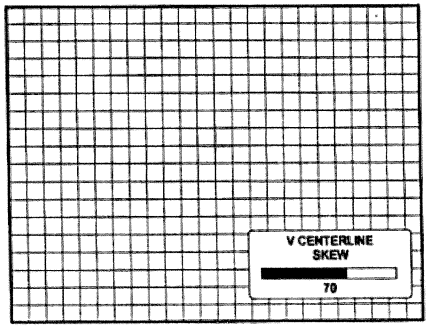
Vertical Centerline Skew Adjustment

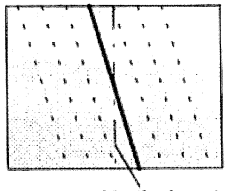
The vertical centerline skew function corrects for tilting of the vertical lines in the middle of the displayed image.
Use the arrow keys to highlight *V CENTERLINE SKEW* on the geometry menu and then press **ENTER**



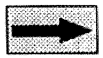
ENTER will select vertical centerline skew adjustment
EXIT will return to Geometry menu
ADJUST returns to operational mode

Adjust with the left and right arrow keys until the vertical centerline is straight. Misalignment of the outer vertical lines will be corrected with the bow and keystone corrections. Press **ENTER** to continue.



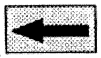


Correct with right arrow key



Vertical centerline

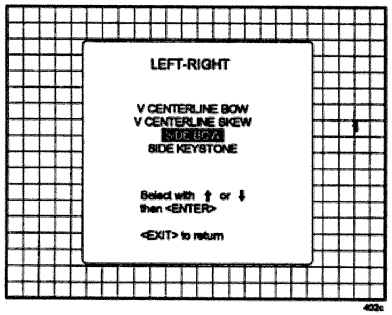
Correct with left arrow key



ENTER will return to Left-Right adjustment menu
EXIT will return to Geometry menu

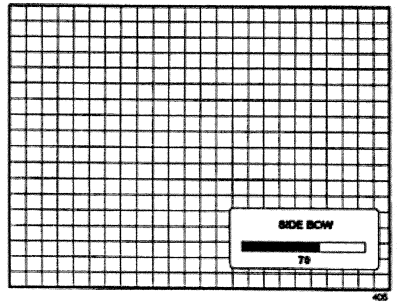
Side Bow Adjustment

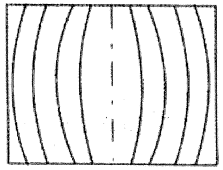
The side bow adjustment corrects for curvarture occurring at the sides of the displayed image and that for the vertical lines.
Use the arrow keys to highlight *SIDE BOW* on the Geometry menu and then press **ENTER**.



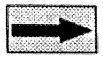
ENTER will select side bow adjustment
EXIT will return to Geometry menu
ADJUST returns to operational mode

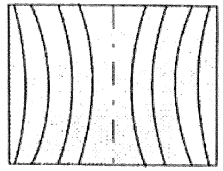
Use the left or right arrow key to adjust the side bow of the setup pattern (vertical lines) and press **ENTER** to continue.



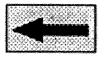


Correct with right arrow key





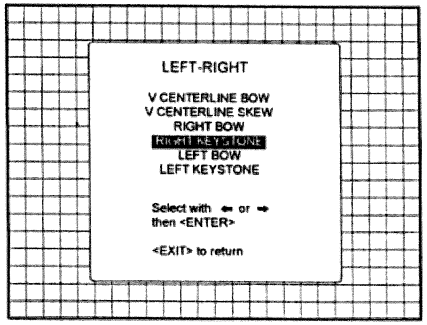
Correct with left arrow key



ENTER will return to Left-Right adjustment menu
EXIT will return to Geometry menu

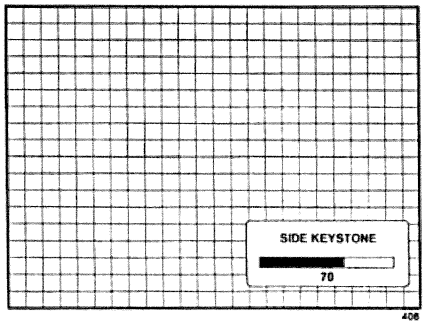
Side Keystone Adjustment

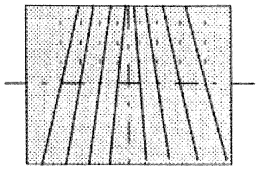
The side keystone adjustment corrects the keystone geometry distortion of the vertical lines on the sides of the image. Use the arrow keys to highlight *SIDE KEYSTONE* on Left-Right menu and then press **ENTER**.



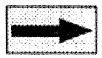
ENTER will select side keystone adjustment
EXIT will return to Geometry menu.
ADJUST returns to operational mode

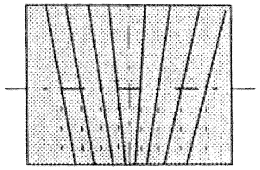
Use the left or right arrow key to adjust the side keystone (vertical lines) of the setup pattern and press **ENTER** to continue.



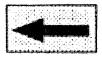


Correct with right arrow key





Correct with left arrow key

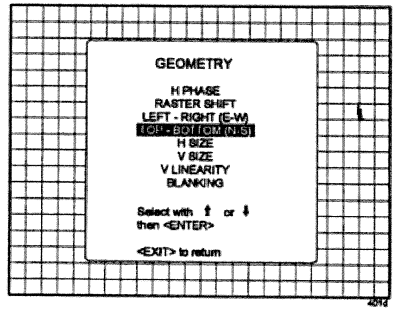


ENTER will return to Left-Right adjustment menu
EXIT will return to Geometry menu

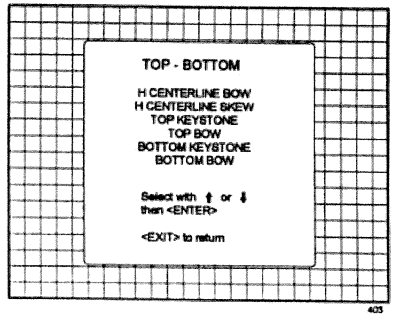
Top-Bottom (north-south) Adjustments

Top-Bottom adjustments affect only the horizontal lines of the projected image. Convergence corrections are automatically disabled for the duration of these adjustments.

Use the arrow keys to highlight *TOP-BOTTOM (N/S)* on the geometry menu and then press **ENTER**.



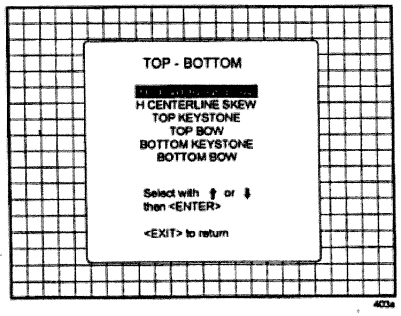
ENTER will select Top-Bottom adjustment menu
EXIT returns to random access adjustment mode menu.
ADJUST returns to operational mode



EXIT will return to Geometry

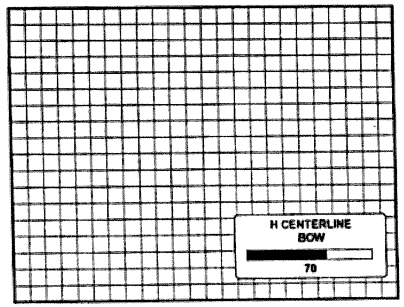
Horizontal Centerline Bow Adjustment

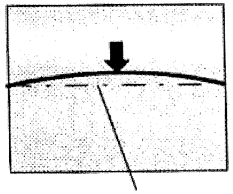
The horizontal centerline bow function corrects for curvature in the vertical direction in the middle of the image and that for the horizontal lines.
Use the arrow keys to highlight *H CENTERLINE BOW* on the TOP-BOTTOM menu and then press **ENTER.**



ENTER will select horizontal centerline bow adjustment
EXIT will return to Geometry menu
ADJUST returns to operational mode

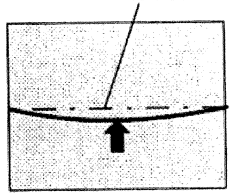
Use the up and down arrow keys to adjust the horizontal centerline bow of the setup pattern.
A bar scale and a number indicator will give a visual indication of the bow correction.





Correct with down arrow key

Hor. centerline

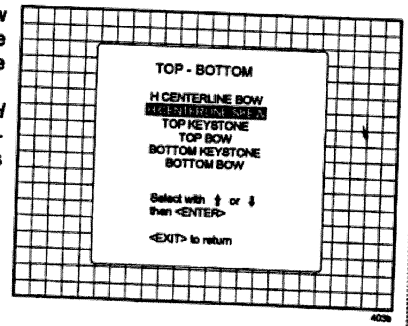


Correct with up arrow key

ENTER will return to Top-Bottom adjustment menu
EXIT will return to Geometry menu

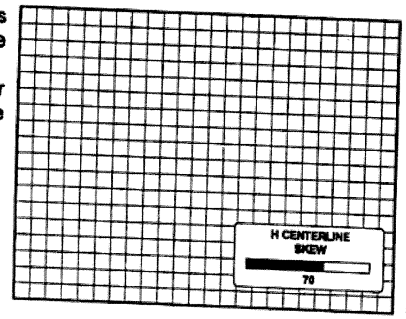
Horizontal Centerline Skew Adjustment

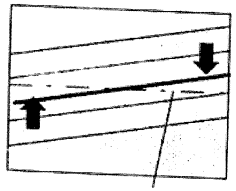
The horizontal centerline skew function corrects for tilting of the horizontal lines in the middle of the image.
Use the arrow keys to highlight *H CENTERLINE SKEW* on the TOP-BOTTOM menu and then press **ENTER.**



ENTER will select horizontal centerline skew adjustment
EXIT will return to Geometry menu
ADJUST returns to operational mode

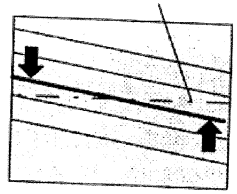
Use the up and down arrow keys to adjust the horizontal centerline skew of the setup pattern.
A bar scale and a number indicator will give a visual indication of the skew correction.





Correct with down arrow key

Hor. centerline

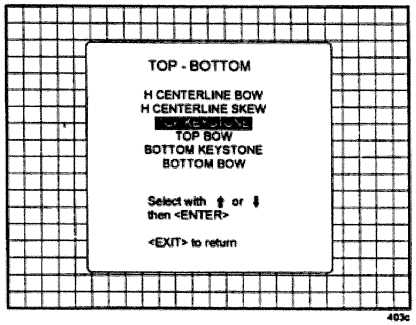


Correct with up arrow key

ENTER will return to Top-Bottom adjustment menu
EXIT will return to Geometry menu

Top Keystone Adjustment

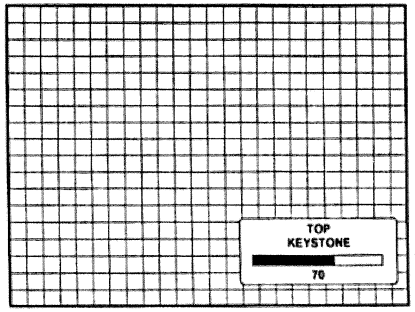
The top keystone function corrects for keystone geometry distortion of the horizontal lines in the upper part of the image.
Use the arrow keys to highlight *TOP KEYSTONE* on the TOP-BOTTOM menu and then press **ENTER**.

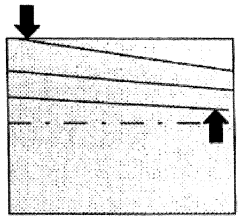


403c

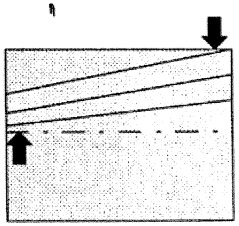
ENTER will select top keystone adjustment
EXIT will return to Geometry menu
ADJUST returns to operational mode

Adjust the horizontal lines in the upper part of the picture with the arrow keys until these lines are straight. Press **ENTER** to continue.





Correct with down arrow key

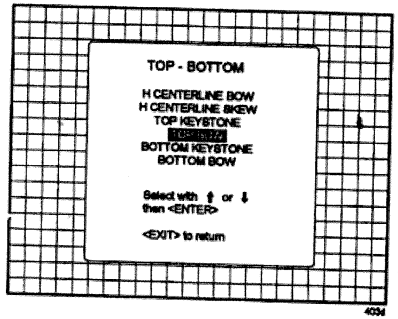


Correct with up arrow key

ENTER will return to Top-Bottom adjustment menu
EXIT will return to Geometry menu

Top Bow Adjustment

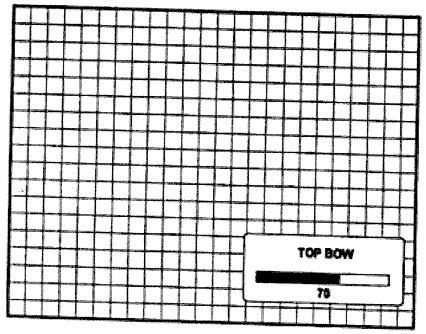
The top bow function corrects for curvature occuring in the upper part of the image.
Use the arrow keys to highlight *TOP BOW* on the TOP-BOTTOM menu and then press **ENTER**.

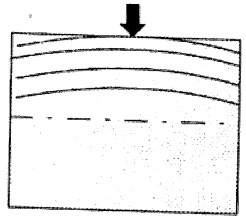


403d

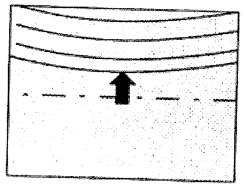
ENTER will select top bow adjustment
EXIT will return to Geometry menu
ADJUST returns to operational mode

Adjust the bow of the horizontal lines in the upper side of the image with the arrow keys until these lines are straight.
A bar scale and a number indicator indicate the amount of adjustment.





Correct with down arrow key

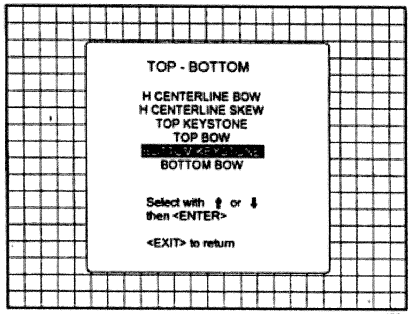


Correct with up arrow key

ENTER will return to Top-Bottom adjustment menu
EXIT will return to Geometry menu

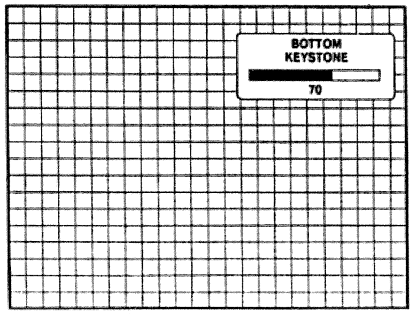
Bottom Keystone Adjustment

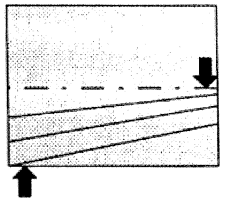
The bottom keystone function corrects for keystone geometry distortion of the horizontal lines in the middle of the image.
Use the arrow keys to highlight *BOTTOM KEYSTONE* on the TOP-BOTTOM menu and then press **ENTER**.



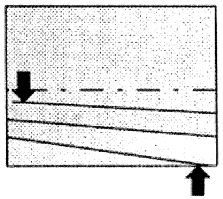
ENTER will select bottom keystone adjustment
EXIT will return to Geometry menu
ADJUST returns to operational mode

Adjust the horizontal lines in the lower part of the picture with the arrow keys until these lines are straight. Press **ENTER** to continue.





Correct with down arrow key

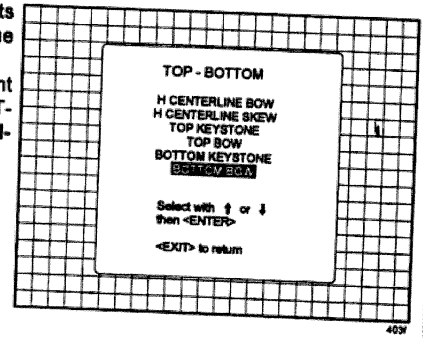


Correct with up arrow key

ENTER will return to Top-Bottom adjustment menu
EXIT will return to Geometry menu

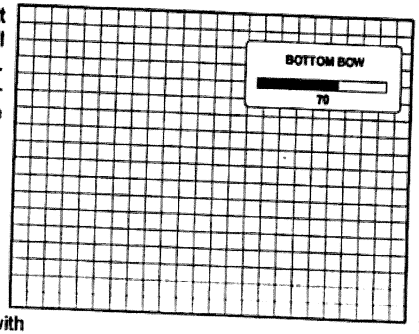
Bottom Bow Adjustment

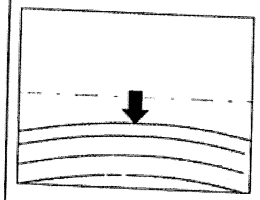
The bottom bow function corrects for curvature occurring in the lower part of the image.
Use the arrow keys to highlight *BOTTOM BOW* on the TOP-BOTTOM menu and then press **ENTER**.



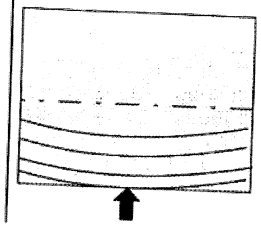
ENTER will select bottom bow adjustment
EXIT will return to Geometry menu
ADJUST returns to operational mode
Use the up and down arrow key to adjust

the bottom bow in the lower part of the setup pattern. Adjust until the horizontal lines are straight. A bar scale and a number indicator give a visual indication of the adjustment.





Correct with down arrow key

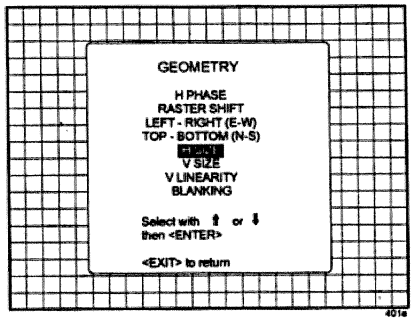


Correct with up arrow key

ENTER will return to Top-Bottom adjustment menu
EXIT will return to Geometry menu

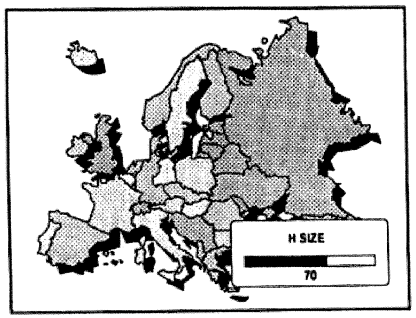
Horizontal Size Adjustment

Use the arrow keys to highlight *H SIZE* on the Geometry menu and then press **ENTER**.

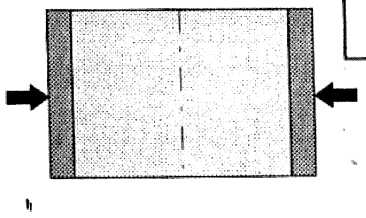


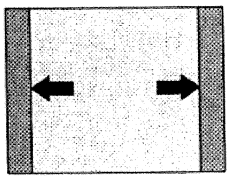
ENTER will select horizontal size adjustment
EXIT returns to random access adjustment mode menu.
ADJUST returns to operational mode

Adjust the horizontal size with the left and right arrow keys until the exact image width is obtained.
Note :
- if the internal # pattern was selected, this pattern remains on the screen.
- if the genlocked pattern was selected, the external source will be displayed.



A bar scale and a number indicator give a visual indication of the horizontal size adjustment.



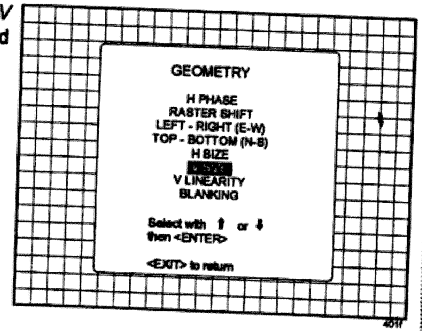


Hint : In order to avoid loss of resolution in the projected image and to ensure maximum CRT longevity, do not use an excessively small horizontal size setting.

EXIT will return to Geometry

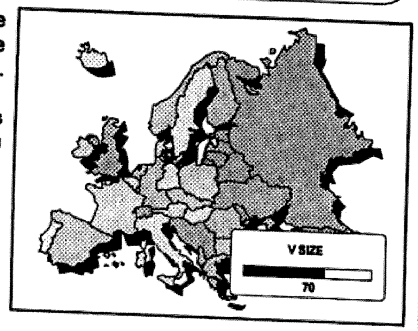
Vertical Size Adjustment

Use the arrow keys to highlight *V SIZE* on the Geometry menu and then press **ENTER**.

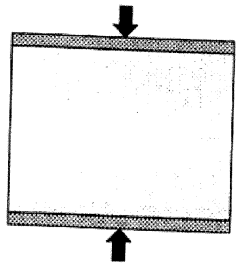


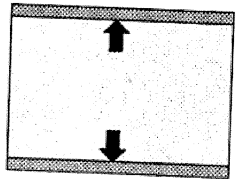
ENTER will select vertical size adjustment
EXIT returns to random access adjustment mode menu,.
ADJUST returns to operational mode

Adjust the vertical size with the up or down arrow key until the exact image height is obtained.
Note :
- if the internal # pattern was selected, this pattern remains on the screen.
- if the genlocked pattern was selected, the external source will be displayed.



A bar scale and a number indicator give a visual indication of the vertical size adjustment.



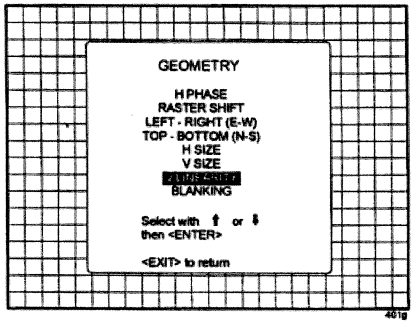


Hint : In order to avoid loss of resolution in the projected image and to ensure maximum CRT longevity, do not use an excessively small vertical size setting.

EXIT will return to Geometry

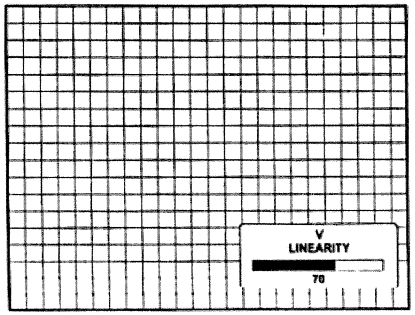
Vertical Linearity Adjustment

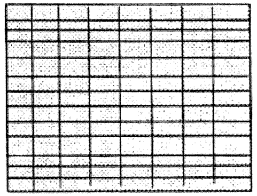
Use the arrow keys to highlight *V LINEARITY* on the Geometry menu and then press **ENTER**.



ENTER will select vertical linearity adjustment
EXIT returns to random access adjustment mode menu, menu R1.
ADJUST returns to operational mode

Adjust the vertical linearity with the arrow keys until the distances between the horizontal lines of the set up pattern are equal.

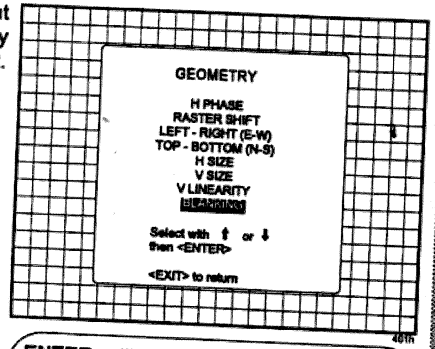




EXIT will return to the Geometry menu

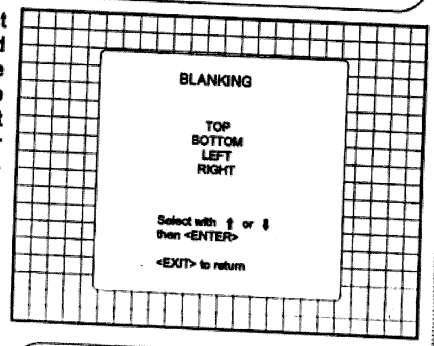
Blanking Adjustments

Use the arrow keys to highlight *BLANKING* on the Geometry menu and then press **ENTER**.



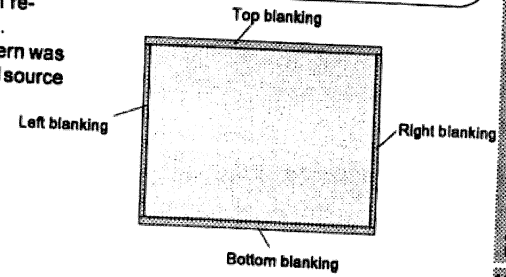
ENTER will select blanking adjustment menu
EXIT returns to random access adjustment mode menu.
ADJUST returns to operational mode

Blanking adjustments affect only the edges of the projected image and are used to frame the projected image on to the screen and to hide or black out unwanted information (or noise). A 0% on the bar scale indicates no blanking.
The following blanking corrections are possible :
- top blanking
- bottom blanking
- left blanking
- right blanking



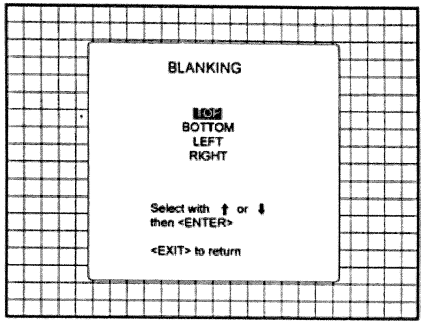
Therefore :
- if the internal # pattern was selected, this pattern remains on the screen.
- if the genlocked pattern was selected, the external source will be displayed.

EXIT will return to Geometry
ADJUST returns to operational mode



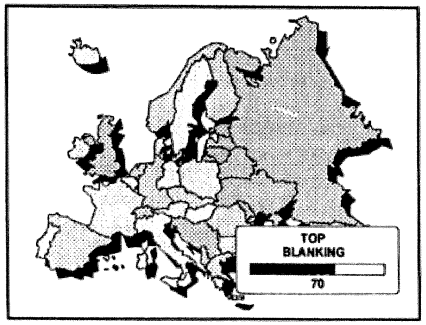
Top Blanking Adjustment

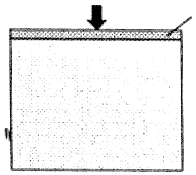
Use the arrow keys to highlight *TOP* on the Blanking menu and then press **ENTER**.

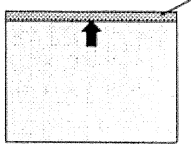


ENTER will select top blanking adjustment
EXIT will return to Geometry menu
ADJUST returns to operational mode

Use the up and down arrow keys to adjust the top blanking. Press **ENTER** to continue



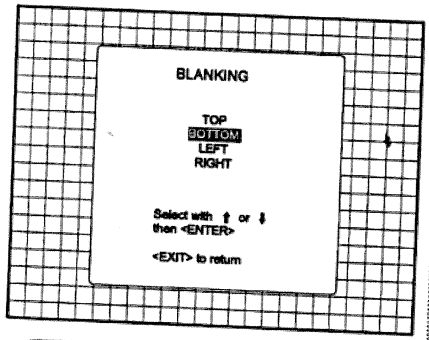




EXIT will return to the Blanking menu

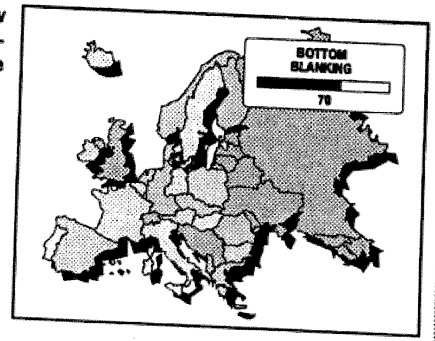
Bottom Blanking Adjustment

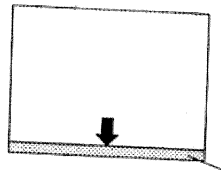
Use the arrow keys to highlight *BOTTOM* on the Blanking menu and then press **ENTER**.

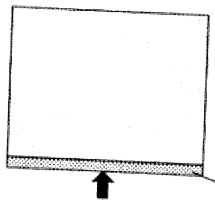


ENTER will select bottom blanking adjustment
EXIT will return to Geometry menu
ADJUST returns to operational mode

Use the up and down arrow keys to adjust the bottom blanking. Press **ENTER** to continue



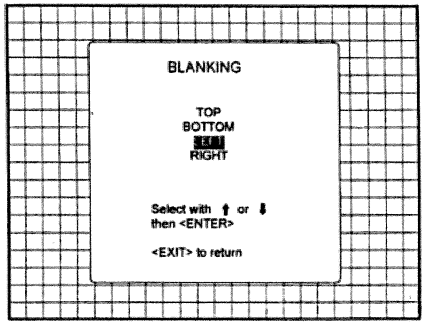




EXIT will return to the Blanking menu

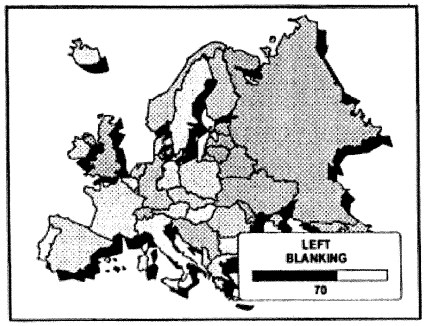
Left Blanking Adjustment

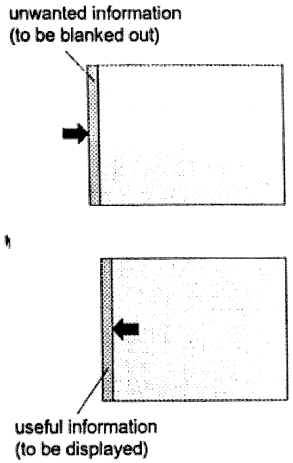
Use the arrow keys to highlight *LEFT* on the Blanking menu and then press **ENTER**.



ENTER will select left blanking adjustment
EXIT will return to Geometry menu
ADJUST returns to operational mode

Use the left and right arrow keys to adjust the left blanking. Press **ENTER** to continue

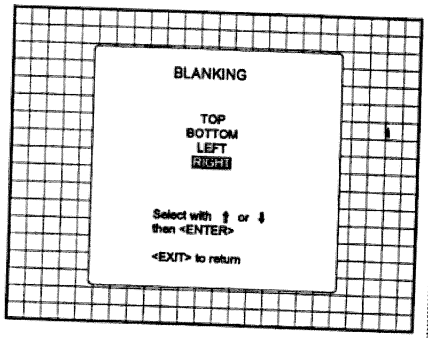




EXIT will return to the Blanking menu

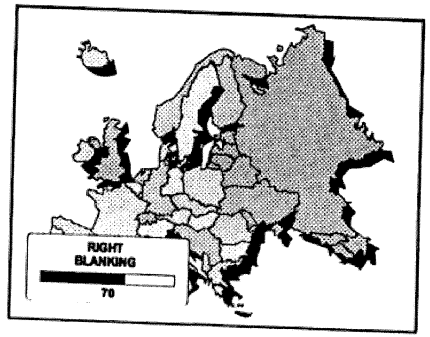
Right Blanking Adjustment

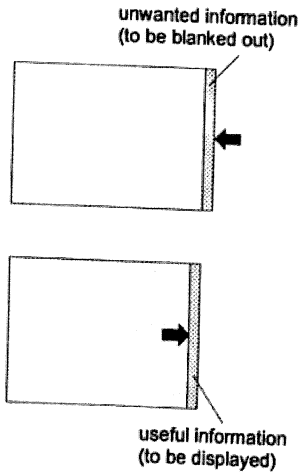
Use the arrow keys to highlight *RIGHT* on the Blanking menu and then press **ENTER**.



ENTER will select right blanking adjustment
EXIT will return to Geometry menu
ADJUST returns to operational mode

Use the left and right arrow keys to adjust the right blanking. Press **ENTER** to continue





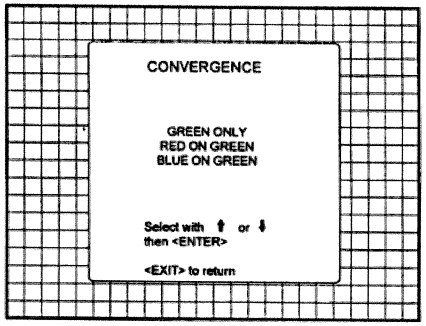
EXIT will return to the Blanking menu

Convergence Adjustment

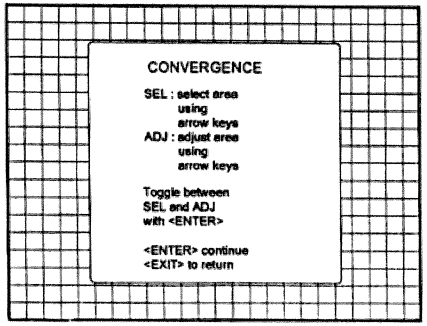
Convergence adjustments affect both the horizontal and vertical lines of the setup pattern. These adjustments are performed on the red image while superimposed on the green image and then on the blue image while superimposed on the green image.

Note : the green convergence adjustments can be added as an option. When these are available, start always with 'green only'. This option will also be indicated on the convergence menu.

Highlight first 'Green only' when available with the arrow keys and press **ENTER** to display the convergence adjustment menu



ENTER will display the Convergence menu.
EXIT will return to Random Access Adjustment Mode main menu.
ADJUST returns to operational mode.



ENTER will continue to convergence adjustment
EXIT returns to convergence menu.

The screen area is divided into 13 areas. Use the arrow keys to move the box to the desired zone and then press **ENTER** to begin the convergence adjustment. Start the convergence adjustment with zone one and continue as mentioned in the diagram hereafter.

25	23	9	15	17
24	22	8	14	16
5	4	1	2	3
20	18	6	10	12
21	19	7	11	13

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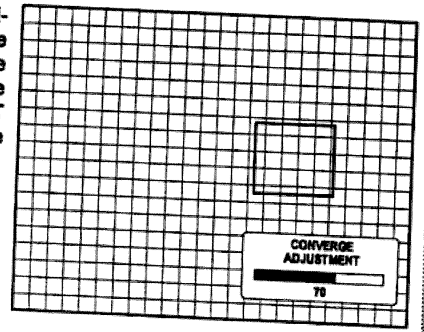
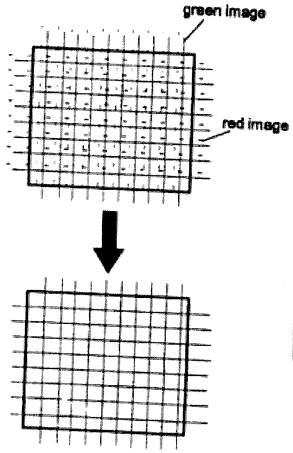
Use the arrow keys to make horizontal or vertical convergence adjustments in the selected zone and then press **ENTER** to move the box to another zone or **EXIT** to return to the Convergence menu.





ENTER toggles arrow keys between zone selection and zone adjustment .
EXIT returns to convergence menu

SERVICE MODE

Starting up the service mode

Overview flow chart Service mode

Start up screen

Copy a block

Deletion of blocks

Change password

Run time

Set to midposition

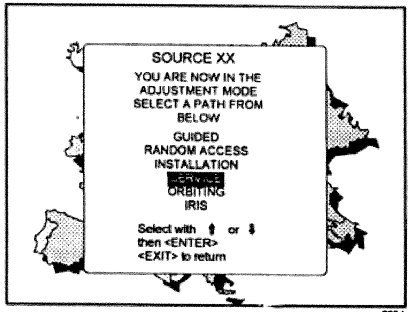
Convergence off

CRT run in cycle

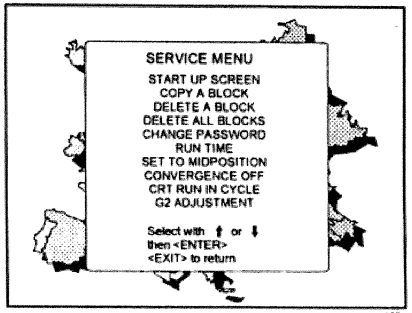
G2 adjustment

Starting up the service mode.

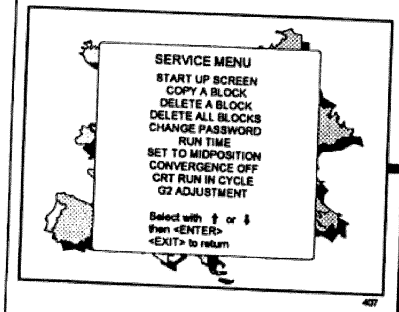
Use the arrow keys to highlight *'Service'* and then press **ENTER**.

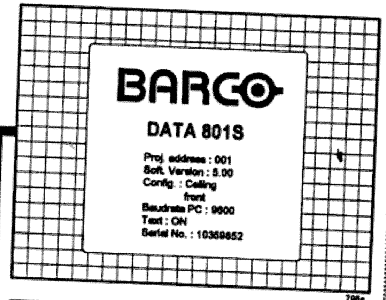


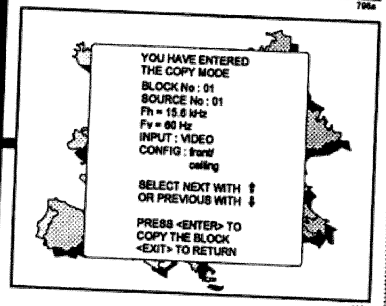
ENTER continues to service mode main menu.
EXIT returns to operational mode.

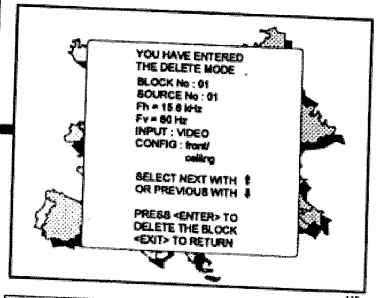


Overview flowchart 'Service' mode.









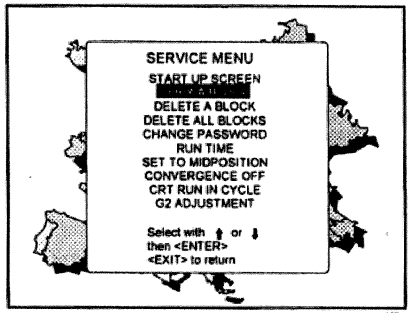
Delete all blocks

G2 adjustment

- Serial no. : indicates the fabrication number of the projector. This number can be useful when calling for technical assistance.

Copy a block

Highlight *'Copy a block'* with the arrow keys and press **ENTER**.



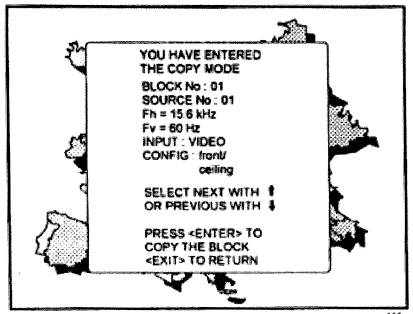
ENTER displays the copy menu
EXIT will returns to the Path selection main menu.
ADJUST will returns to operational mode.

A first block header will be displayed in the copy menu.
To select the desired block :

1. Use the up and down arrow keys on the RCU800 to scroll through the adjustment blocks. The contents of each block header are displayed on the copy menu.

2. Press ENTER to copy the selected adjustment block. A 'confirmation' screen appear on the screen.

3. If you are sure you wish to copy the block, press ENTER.
EXIT returns without copying the block.



ENTER displays the confirmation menu.
EXIT returns to service mode without copying.

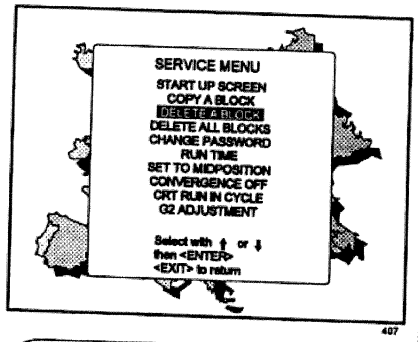
Deletion of blocks

This item is password protected.
The delete function is used to clear all data (settings) from an adjustment block
A delete can be given :

- block by block
or
- for all blocks.

Deleting block by block

Highlight *'Delete a block'* with the arrow keys and press **ENTER**.

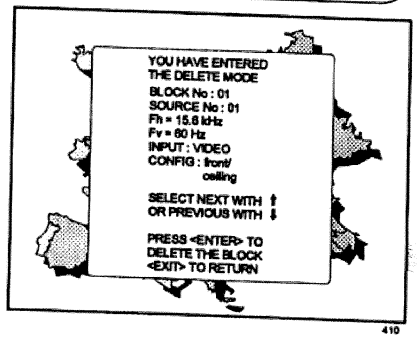


ENTER will select the delete menu
EXIT returns to the path selection main menu
ADJUST returns to operational mode..

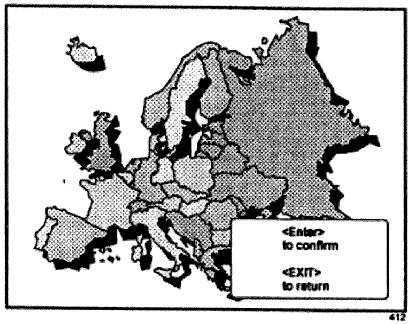
A first block header will be displayed in the delete menu.
To select the desired block :

1. Use the up and down arrow keys on the RCU800 to scroll through the adjustment blocks. The contents of each block header are displayed on the delete menu.

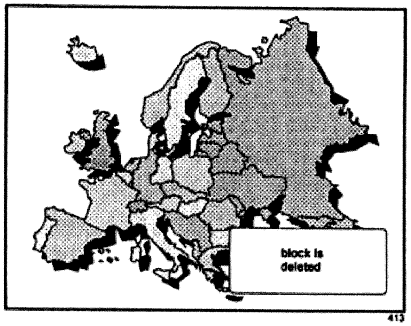
2. Press ENTER to delete the selected adjustment block. A 'confirmation' message will appear on the screen.



3. If you are sure you want to delete the block, press **ENTER**. The deleted block number re turns but all fields are blanked. *Once **ENTER** is pressed, the block header and adjustment settings are definitely removed and can not be restored.*

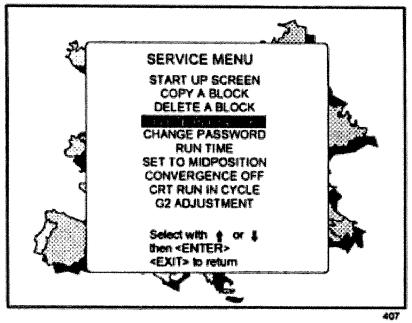


4. If another block has to be deleted, use the up and down arrow keys to scroll through the adjustment blocks and repeat the delete procedure as above. Otherwise, press **EXIT** to return to the operational mode.



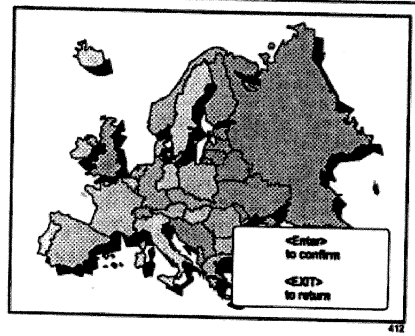
Deletion of all blocks

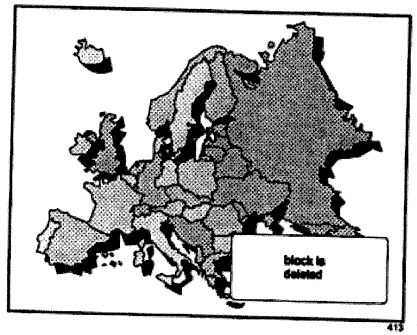
Highlight *'delete all blocks'* with the arrow keys and press **ENTER**.



ENTER gives a confirmation message before deleting.
EXIT returns to the path selection main menu

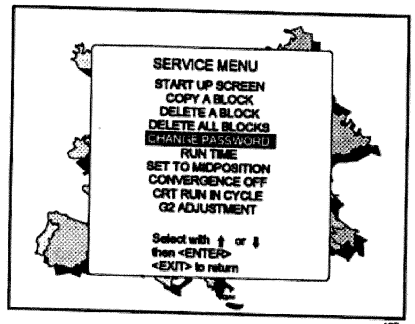
If you are certain you wish to delete all blocks, press **ENTER** to confirm, otherwise press **EXIT** to return.
Once **ENTER** is pressed, all block headers and adjustment settings are permanently removed and cannot be restored.





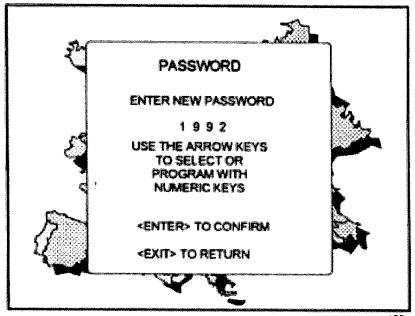
Change password

Highlight *'change password'* with the arrow keys and press **ENTER**.



ENTER will display the Password menu.
EXIT will returns to the Path selection main menu.
ADJUST will returns to operational mode.

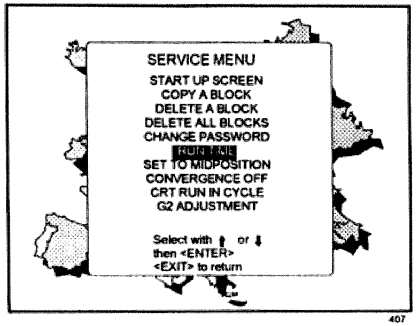
The current password is displayed. The new password must consist of 4 digits between 0 and 9. Use the left and right arrow keys to select the digits to be changed. Use the numeric keys to enter the new digits.
Press **ENTER** to save the new password and to return to the Service mode menu.
Press **EXIT** to return to the Service menu without saving the new password.



ENTER returns to service mode menu and saves the new password.
EXIT returns to service mode without saving the new password.

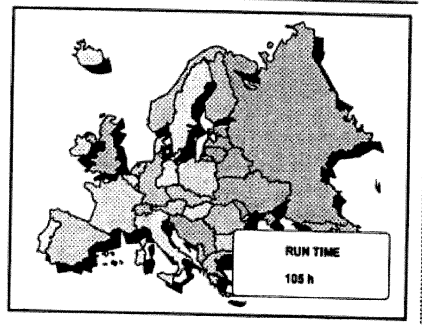
Run time

Highlight *'run time'* with the arrow keys and press **ENTER** to display the amount of time the projector hasplayed since its first start up at the factory.



ENTER gives the Run time.
EXIT returns to the Path selection main menu.
ADJUST returns to operational mode.

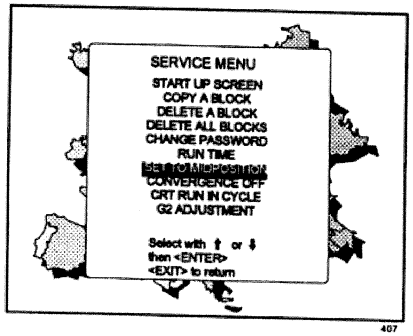
Note : all projectors leave the factory after a burn-in period of approximately 100 hours.



ENTER returns to the Service mode main menu.

Set to midposition

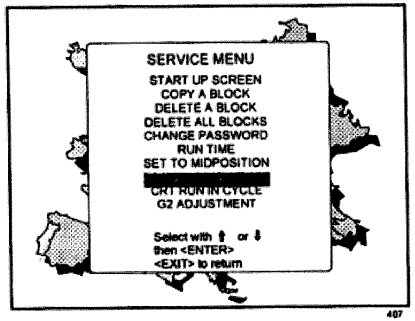
Highlight *'set to midposition'* with the arrow keys and press **ENTER** to set all settings to their midposition.



ENTER returns to the service mode main menu and sets all settings to their midposition.
EXIT returns to the path selection main menu
ADJUST returns to operational mode.

Convergence off

Highlight *'convergence off'* with the arrow keys and press **ENTER** to set all convergence settings to their midposition.

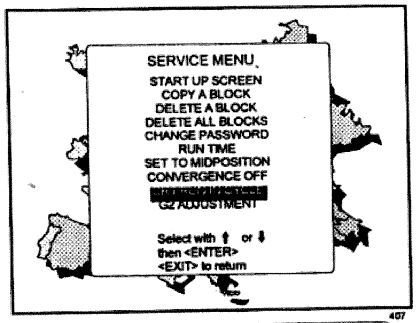


ENTER returns to the Service mode main menu and sets all convergence settings to their midposition.
EXIT returns to the path selection main menu
ADJUST returns to operational mode.

CRT run in cycle

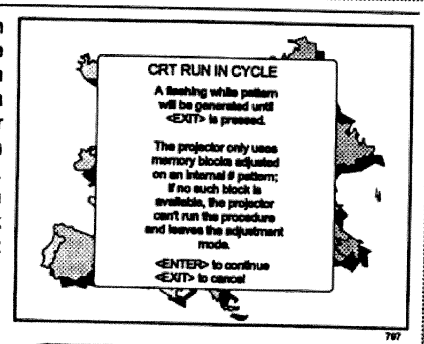
The CRT run in cycle option can only be activated when memory blocks on an internal # pattern are available. When one or more such blocks are available, a flashing white image (5sec on, 5 sec off) is generated and that for 5 min on the first internal block. In the next 5 min, a second internal block will be used to generate the flashing white image. The image will also be shifted in a vertical way to prevent a CRT burn in. To quit the CRT run in cycle option, press EXIT.

Highlight *'CRT run in cycle'* with the arrow keys and press **ENTER** to start .



ENTER selects the CRT run in cycle option.
EXIT returns to the path selection main menu

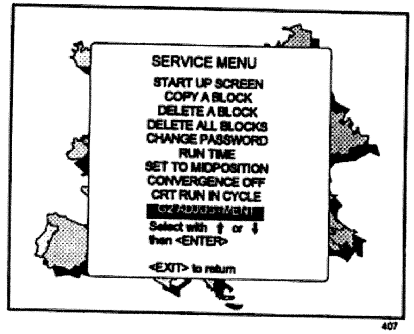
If a memory block adjusted on an internal # pattern is available, the CRT run in cycle will start when pressing ENTER. If no such a block is available, the projector cannot run the CRT run in option and leaves the adjustment mode. If you still want to run CRT run in cycle, create first a memory block on an internal # pattern and restart the CRT run in option.



ENTER starts the 'CRT run in' when an internal generated # pattern is available.
EXIT returns to the path selection main menu

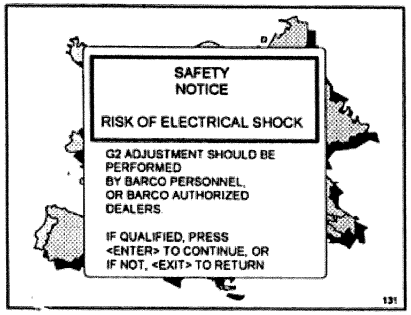
G2 adjustment

Highlight 'G2 adjustment' with the arrow keys and press ENTER to continue.
A safety notice will be displayed on the screen as it is necessary to open the top cover to adjust the G2.



ENTER selects the G2 adjustment.
EXIT returns to the path selection main menu.
ADJUST returns to operation mode.

'G2 adjustment should be performed by BARCO personnel, or BARCO authorised dealers'.
If you are qualified, press **ENTER** to continue. If not qualified, press **EXIT** to return to the service mode main menu. Futher description of the G2 adjustment is given in the installation manual.



MESSAGES, WARNINGS AND FAILURES

SOURCE 01 **Fh= 15.6 kHz** **Fv= 050 Hz**	When selecting a new source, information about this source will be displayed on the screen. Source number, horizontal and vertical frequencies of the displayed source.
SOURCE 01	Announcement of the selected source.
enter password **x x x x**	Message to enter your password. Password contains 4 digits.
text on	These messages will be displayed on the screen when pushing the TEXT key. Text ON : the *'bar scale indication'* will be enabled during the change of an analog control in the *'operational mode'* + all warnings and failures will be displayed.
text off	Text OFF : the *'bar scale indication'* will be disabled during the change of an analog control in the *'operational mode'* + all warnings and failures will not be displayed.
PROJECTOR ADDRESS : 003	Indication of the projector address when activating the *'ADDRESS'* button on the RCU with a pencil or other small object.
WARNING : **Input not available**	When using the projector with the RCVDS, this warning will be displayed when selecting an input slot of an RCVDS where the input board is missing.

WARNING : **source not available**	The input is a valid input but the source is not connected to the input terminals or the input source is switched off.
WARNING : **invalid key entry**	When a wrong key is pressed on the RCU.
WARNING : **invalid code entry**	Message when the entered password is wrong.
WARNING : **end of adjust range**	End of adjustment range.
WARNING : **Input no longer available**	Message will be displayed when the input source is no longer available. The following message then appears: *'check input signal or select new source'*.
check input signal or select new source	Message will be displayed after the message *'input no longer available'*. It asks to check the connections between the source and the projector or to check if the source is switched on.
WARNING : **input selector not available**	It warns you to check the power connection or the power status of the RCVDS. Next message will appear immediatly on the screen : *'go to stand-by'*.

WARNING : go to stand by	Projector will switch to *'stand-by'* when the RCVDS is no longer available.
WARNING : invalid frequency input	The entered frequency or applied frequency of the source is out of the projector's range.
WARNING : default settings loaded in the E2PROM	Adjustment settings are lost. Re-load using Control 800 Software via PC or MAC, or readjust image.
table is deleted	Message to inform that selected table is deleted. This message will be followed by *'confirm message'*, on which the user has to answer.
FAILURE invalid RWI soft version	Wrong software version in your projector. Call for technical support.
FAILURE I2C error addr. : 7FH3	Hardware failure. Call a qualified service technician for repair.
FAILURE short circuit on I2C bus	Hardware failure. Call a qualified service technician for repair.
FAILURE RCVDS com- munication error	Serial communication error between RCVDS and projector.

FAILURE RWI commu- nication error	Hardware failure. Call a qualified service technician.
FAILURE IRIS commu- nication error	Communication error between IRIS 800 and the projector. Call a qualified service technician.
WAIT starting up IRIS	Message during the start up of the IRIS 800. Message will disappear when the IRIS 800 is ready to accept commands.

Adjustment Blocks

As the BARCODATA 801S is digitally controlled, all geometry and convergence adjustments are stored in the projector's memory as numeric values. These numeric values are used to control digital potentiometers which in turn, control the projector. Each source connected to the projector has a unique set of adjustment data which is automatically downloaded into the projector's digital potentiometers as the source is selected. This set of adjustment data is referred to as an *"adjustment block"*.

An adjustment table is automatically created for a source when the source is first connected to the projector and the adjust mode is entered. If other sources have already been connected to the projector and geometry and convergence adjustments have been performed on these sources, the projector will use Linear Digital Interpolation to create a new block for the new source. This block will provide an initial set of adjustments for the new source that have been calculated by the projector from "previous experience".

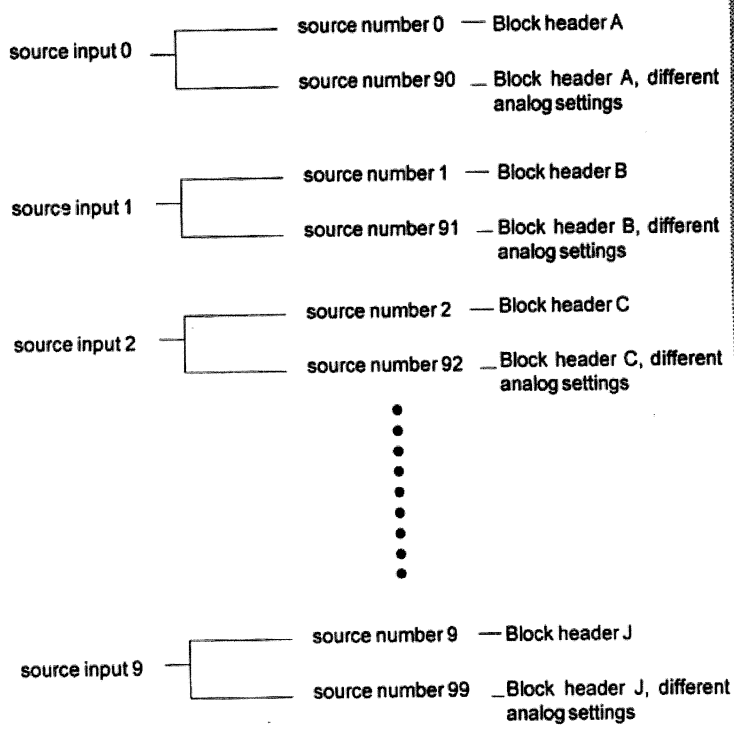
The projector's memory has the capacity to store 38 adjustment blocks. The adjustment block consists of two parts, the block header and the data representing the convergence and geometry adjustments of the source the block corresponds to. The block header contains the basic characteristics of the source and the projector configuration used to display the source.

Block Header	*example of block header*
Block number	01
Source number	01
Horizontal frequency	15.6 kHz
Vertical frequency	50 Hz
Input type	video
Scan inversion switch configuration	front/ceiling

The data representing the geometry and convergence adjustments for the source follows the block header.

Source numbers 90 - 99

Source numbers 90 - 99 do not correspond to physical inputs to the projector or RCVDS. They are used to assign an additional adjustment block to a source. This additional adjustment block may contain different geometry and convergence settings, sync fast/slow positions and enhanced blue on/off settings. The relationship between source numbers 0 - 9 and 90 - 99 (projector with RCVDS) or 1 - 5 and 91 - 95 (stand-alone projector) is shown in the diagram below.



The alternate adjustment block for sources 0 - 9 (projector with RCVDS) or 1 - 5 (stand-alone projector) is activated by selecting the corresponding source number 0 - 9 (projector with RCVDS) or 1 - 5 (stand-alone projector). Once this source number is selected, the alternate block of adjustment data is in use and may be modified via the adjust mode of the projector. The alternate adjustment block is automatically stored.

Follow the steps below to create a second adjustment block for a source between 0 and 9.

1. Select the source between 0 and 9 that the second adjustment block is to be created for.

2. Select the corresponding source number between 90 and 99. The adjustment block for the source number between 0 and 9 is copied to the corresponding source number between 90 and 99.

3. Enter the adjust mode and make any desired changes (geometry, convergence, sync fast/slow, enhanced blue on/off) to the second adjustment block.

4. Exit the adjust mode.

Note : the above also applies to source number 1 - 5 and 91 - 95 of a stand alone projector (no RCVDS)