BARCO DATA 701

90 00719

OWNER'S MANUAL

BARCO

BARCO PROJECTION SYSTEMS

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Date:
100294

Art. No.
59 75615A

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Notice on Safety

Projectors are built in accordance with the requirements of the international safety standards IEC 950 and UL 1950, which are the safety standards of information technology equipment including electrical business equipment.

These safety standards impose important requirements on the use of safety critical components, materials and isolation, in order to protect the user or operator against risk of electric shock and energy hazard, and having access to live parts.
Safety standards also impose limits to the internal and external temperature rises, radiation levels, mechanical stability and strength, enclosure construction and protection against the risk of fire.

Simulated single fault condition testing ensures the safety of the equipment to the user even when the equipment's normal operation fails.

INSTALLATION INSTRUCTIONS

Before operating your projector please read this manual thoroughly, and retain it for future reference.

Installation and preliminary adjustments should be performed by qualified BARCO personnel or by authorized BARCO service dealers.

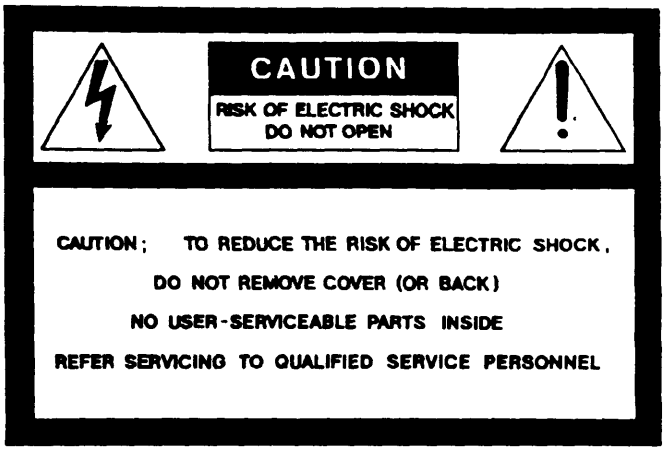
OWNER'S RECORD

The part number and serial number are located at the left side of the projector. Record these numbers in the spaces provided below. Refer to them whenever you call upon your BARCO dealer regarding this product.

PART NUMBER:

SER. NUMBER:

DEALER :



The lightning flash with an arrowhead within a triangle is intended to tell the user that parts inside this product may cause a risk of electrical shock to persons.

The exclamation point within a triangle is intended to tell the user that important operating and/or servicing instructions are included in the technical documentation for this equipment.

WARNING
TO PREVENT FIRE OR ELECTRICAL SHOCK HAZARD, DO NOT EXPOSE THIS PROJECTOR TO RAIN OR MOISTURE

FEDERAL COMMUNICATION COMMISSION (FCC STATEMENT)

This equipment has been tested and found to comply with the limits of a class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

* All the safety and operating instructions should be read before using this unit.

* The safety and operating instructions manual should be retained for future reference.

* All warnings on the projector and in the documentation manuals should be adhered to.

* All instructions for operating and use of this equipment must be followed precisely.

On safety

1. This product should be operated from an AC power source

Operating AC power voltage of the projector:

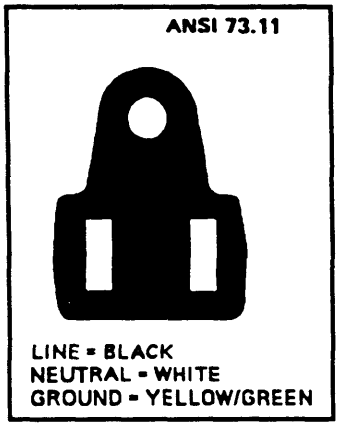
BARCODATA 700
Art.No. 90 00719 (*120V AC*)

The projector leaves the factory for 120 Vac.
If you are not sure of the type of AC power available, consult your dealer or local power company.

2. This product is equipped with a 3-wire grounding plug, a plug having a third (grounding) pin. This plug will only fit into a grounding-type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the purpose of the grounding-type plug.

WARNING FOR THE CUSTOMERS: THIS APPARATUS MUST BE GROUNDED (EARTHED) via the supplied 3 conductor AC power cable.
(If the supplied power cable is not the correct one, consult your dealer.)

B. Power cord with ANSI 73.11 plug:



The wires of the power cord are colored in accordance with the following code.

Green/yellow:	ground
White:	neutral
Black:	line (live)

3. Do not allow anything to rest on the power cord. Do not locate this product where persons will walk on the cord.

To disconnect the cord, pull it out by the plug. Never pull the cord itself.

4. If an extension cord is used with this product, make sure that the total of the ampere ratings on the products plugged into the extension cord does not exceed the extension cord ampere rating. Also make sure that the total of all products plugged into the wall outlet does not exceed 15 amperes.

5. Never push objects of any kind into this product through cabinet slots as they may touch dangerous voltage points or short out parts that could result in a risk of fire or electrical shock.

Never spill liquid of any kind on the product. Should any liquid or solid object fall into the cabinet, unplug the set and have it checked by qualified service personnel before resuming operations.

6. Lightning - For added protection for this video product during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet. This will prevent damage to the projector due to lightning and AC power-line surges.

On installation

1. Do not place this projector on an unstable cart, stand, or table. The projector may fall, causing serious damage to it.

2. Do not use this projector near water.

3. Slots and openings in the cabinet and the back or bottom are provided for ventilation; to ensure reliable operation of the projector and to protect it from overheating, these openings must not be blocked or covered. The openings should never be blocked by placing the product on a bed, sofa, rug, or other similar surface. This product should never be placed near or over a radiator or heat register. This projector should not be placed in a built-in installation or enclosure unless proper ventillation is provided.

On servicing

Do not attempt to service this projector yourself, as opening or removing covers may expose you to dangerous voltage potentials and risk of electric shock!
Refer all sevicing to qualified service personnel.

Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:

a. When the power cord or plug is damaged or frayed.

b. If liquid has been spilled into the projector.

c.If the product has been exposed to rain or water.

d. If the product does not operate normally when the operating instructions are followed. Note :
Adjust only those controls that are covered by the operating instructions since improper adjustment of the other controls may result in damage and will often require extensive work by a qualified technician to restore the product to normal operation.

e. If the product has been dropped or the cabinet has been damaged.

f. If the product exibits a distinct change in performance, indicating a need for service.

Replacement parts - When replacement parts are required, be sure the service technician has used original BARCO replacement parts or authorized replacement parts which have the same characteristics as the BARCO original part. Unauthorized substitutions may result in degraded performance and reliability, fire, electric shock or other hazards. Unauthorized substitutions may void warranty.

Safety check - Upon completion of any service or repairs to this projector, ask the service technician to perform safety checks to determine that the projector is in proper operating condition.

On cleaning

Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.

- To keep the cabinet looking brand-new, periodically clean it with a soft cloth. Stubborn stains may be removed with a cloth lightly dampened with mild detergent solution. Never use strong solvents, such as thinner or benzine, or abrasive cleaners, since these will damage the cabinet.

- To ensure the highest optical performance and resolution, the projection lenses are specially treated with an anti-reflective coating, therefore, avoid touching the lens. To remove dust on the lens, use a soft dry cloth. Do not use a damp cloth, detergent solution, or thinner.

On repacking

Save the original shipping carton and packing material; they will come in handy if you ever have to ship your projector. For maximum protection, repack your set as it was originally packed at the factory.

On illumination

In order to obtain the best quality for the projected image, it is essential that the

ambient light which is allowed to fall on the screen be kept to an absolute minimum.

When installing the projector and screen, care must be taken to avoid exposure to ambient light directly on the screen. Avoid adverse illumination on the screen from direct sunlight or florescent lighting fixtures.

The use of controlled ambient lighting, such as incandescent spot light or a dimmer, is recommended for proper room illumination. Where possible, care should also be taken to ensure that the floors and walls of the room in which the projector is to be installed are non-reflecting, dark surfaces. Brighter surfaces will tend to reflect and diffuse the ambient light and hence reduce the contrast of the projected image on the screen.

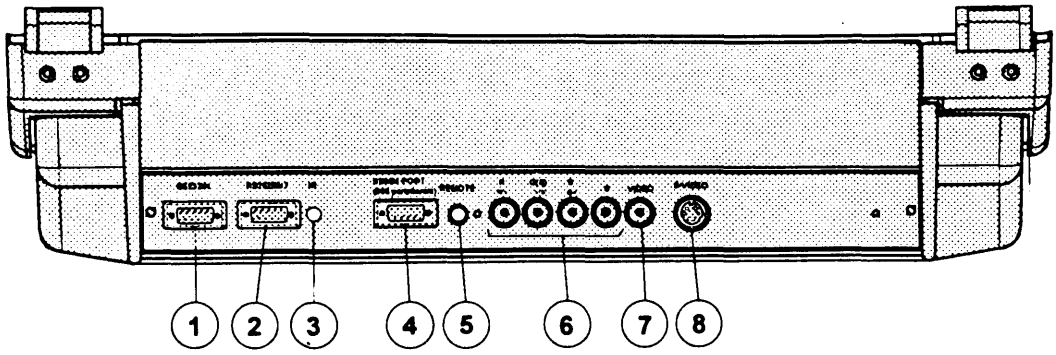
LOCATION AND FUNCTION OF CONTROLS

rear panel terminology

front panel terminology

RCU terminology

REAR PANEL TERMINOLOGY



1 **RS232IN**
Connection between the BARCODATA 701 and an IBM PC (or compatible) or MAC (RS422) for remote computer control and data communication.

2 ***RS232OUT***
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 RCU700.

4 **Communication port (800 peripherals)**
* allows communication between the RCVDS switcher and the projector.
* allows connection of a remote IR receiver unit to the projector.
* allows connection of an IRIS 800 to converge the image automatically.

5 **IR Remote**
remote input for wired remote control

6 **RGB-S IN or (R-Y)Y(B-Y)-S IN (4x BNC connector)**:
RGB-S in : allows a character generator, microcomputer, video camera, etc. having analog RGB output to be connected to the projector.

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

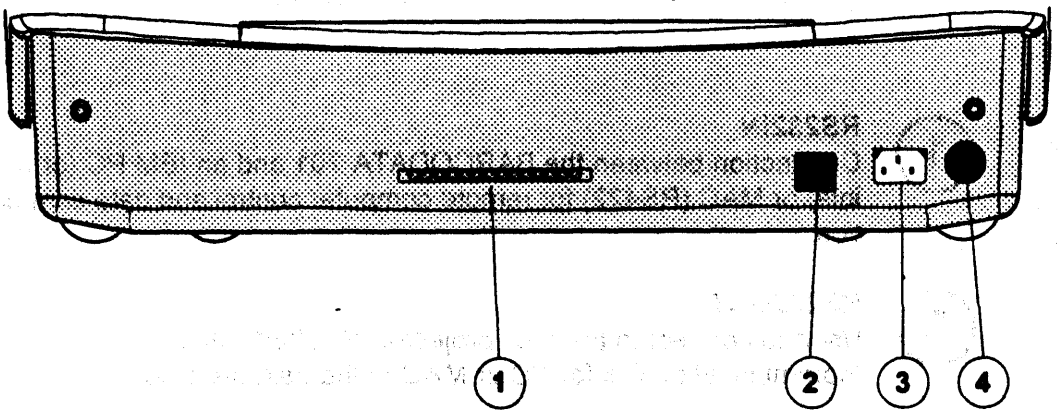
(R-Y)Y(B-Y)-S IN (component in):allows to connect e.g. a professional VCR having component outputs to the projector.

Line inputs - signals RED-LUMA, LUMA, BLUE-LUMA
- COMPOSITE sync. signal

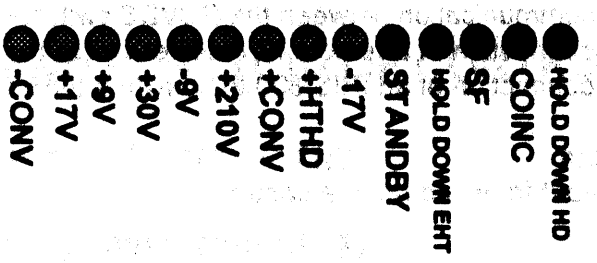
7 **VIDEO IN (Composite video, 1x BNC connector):** allows a video tape recorder, video camera, color receiver/monitor, etc. having video line output to be connected to the projector.

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

FRONT PANEL TERMINOLOGY



1 **AUTODIAGNOSIS DISPLAY**
LED indication for service purposes.



2 **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'.** If in standby, the standby led in the autodiagnosisdisplay lights up.

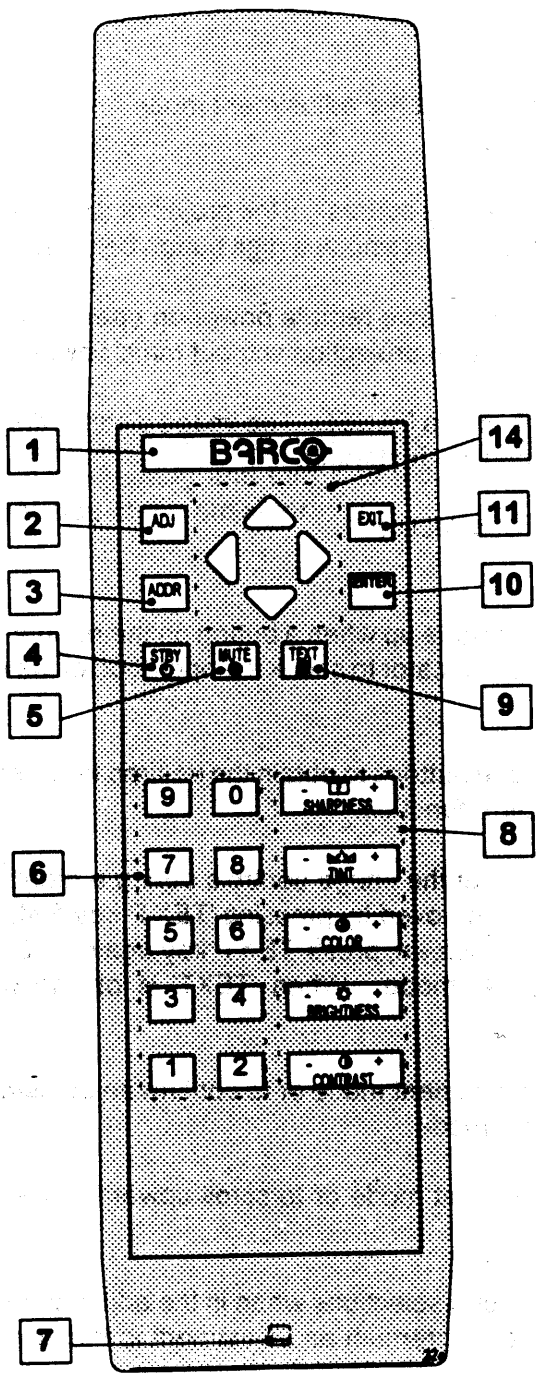
3 **POWER (MAINS) INPUT**: Connect the supplied ac power (mains) cord here and to wall the outlet.

4 **IR SENSOR**
receiver for control signals transmitted from the RCU700.

RCU control panel terminology

This remote control includes a battery powered infrared (IR) transmitter that allows the user to control the projector remotely.
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



stand-by

pause/park

sharpness

tint

color

brightness

contrast

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 is 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.

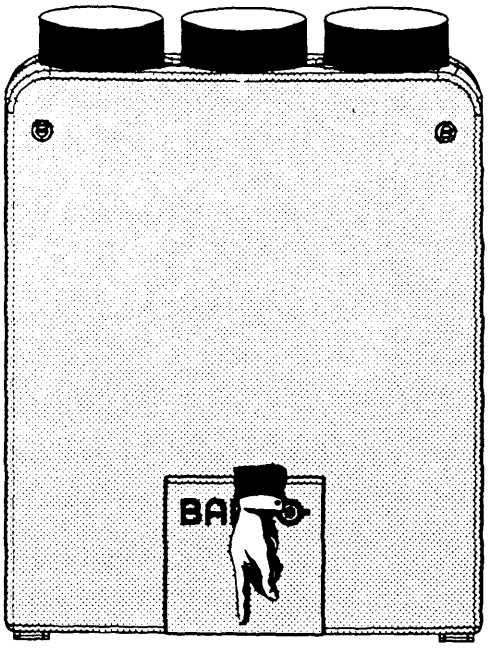
11 **EXIT** : to leave the adjustment mode or to scroll upwards when in the adjustment mode.

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

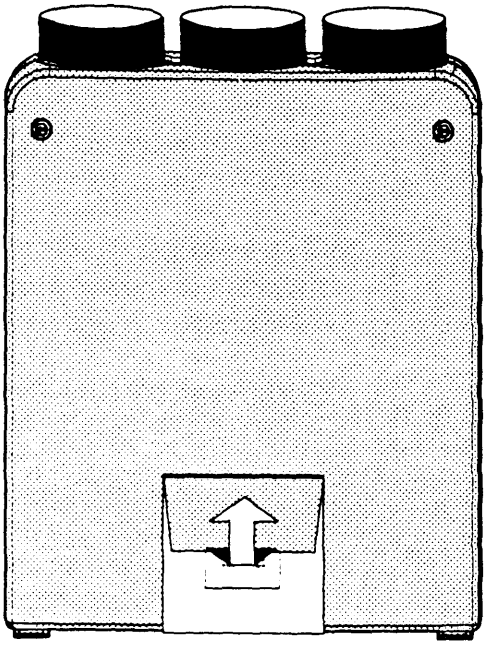
The local keypad

Getting access

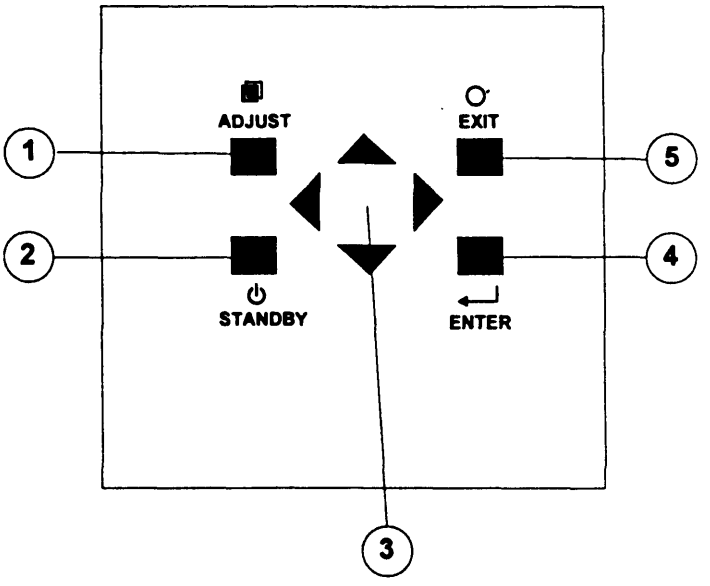
The screened projector logo covered the local keypad.



To open this door, push as indicated on next drawing and turn it to the front side of the projector.



Terminology



1 **ADJUST** : to start up the adjustment mode or to leave the adjustment mode inmediately .

2 **STANDBY** : to stop projection for a longer time without power off, press STANDBY key to switch the projector in the standby position.

3 **ARROW keys** : to execute the adjustments.

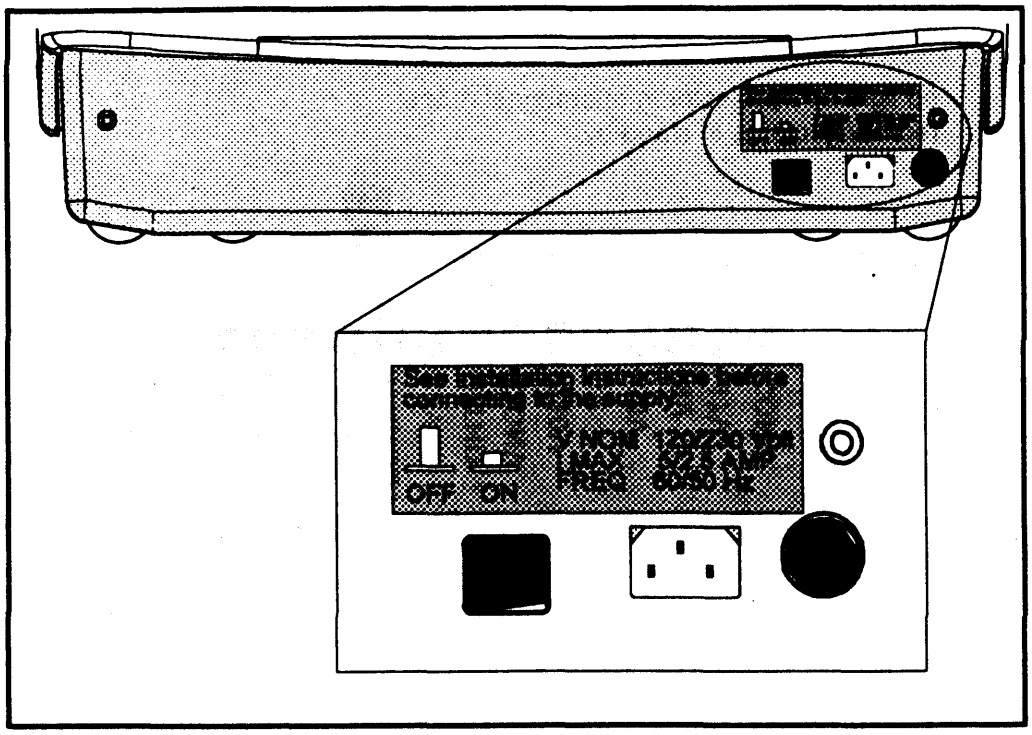
4 **ENTER** : to confirm an adjustment or selection in the adjustment mode.

5 **EXIT** : to scroll upwards when in the adjustment mode.

POWER (MAINS) CONNECTION

Power (mains) cord connection

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



Switching on/off

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

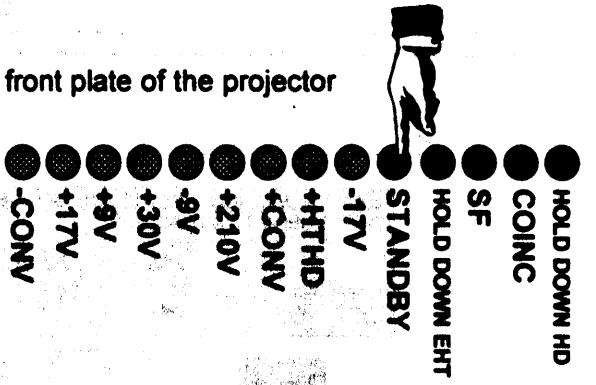
Pressed : ON
Not pressed : OFF

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.

Stand by indication lamp :

no light up : projector in operational mode
red : projector is in stand by.

Leds on the front plate of the projector



SOURCE CONNECTIONS

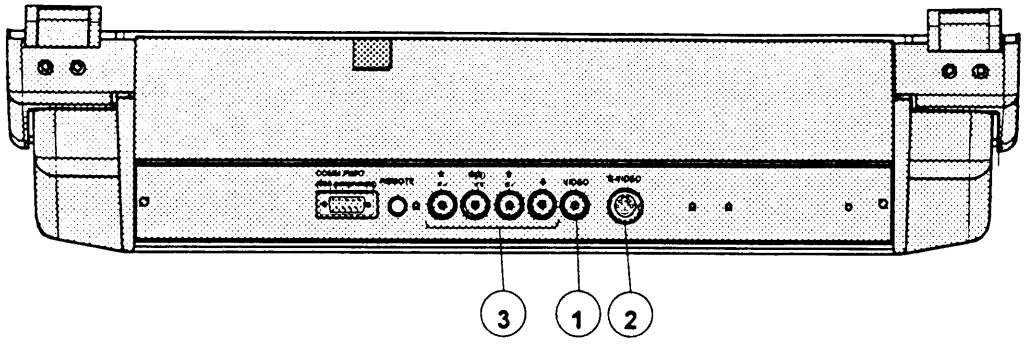
- connecting a Video source
- connecting a S-Video source
- connecting a RGsB or RGBS analog source
- connecting a RG3sB or RGB3S analog source
- connecting a (R-Y)Ys(B-Y) or (R-Y)Y(B-Y)S analog source
- connecting a (R-Y)Y3s(B-Y) or (R-Y)Y(B-Y)3S analog source

PERIPHERAL EQUIPMENT CONNECTION

- connecting a RCVDS 800
- connecting a VSO5
- connecting an IR Remote Receiver

Signal input connection to the projector :

- Composite Video
- S-Video
- RGBS or RGsB
- RGB3S or RG3sB
- (R-Y)Y(B-Y)S or (R-Y)Ys(B-Y) [component input]
- (R-Y)Y(B-Y)3S or (R-Y)Y3s(B-Y) [component input]



Source No	Projector input	Press digit button
1	Comp. Video	1
2	S-Video*	2
3	RGBS or RGsB**	3
3	RGB3S or RG3sB***	4
3	(R-Y)Y(B-Y)S or (R-Y)Ys(B-Y)****	5
3	(R-Y)Y(B-Y)3S or (R-Y)Y3s(B-Y)*****	6

* Inp signal Y/C (luma/chroma)

** Input signal : R, G and B with composite sync on G or separate composite sync

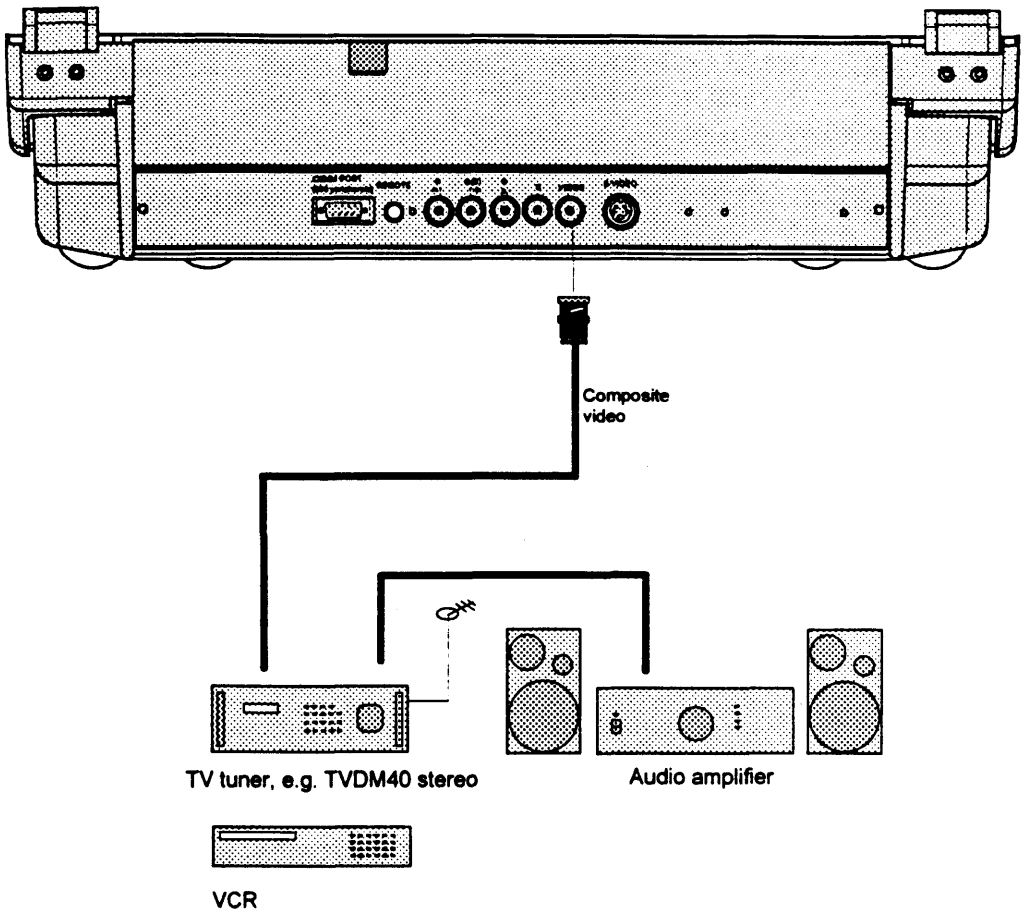
*** Input signal : R, G and B with Tri level sync on G or separate Tri level sync.

**** Input signal : R-Y, Y and B-Y with composite sync on Y or separate composite sync

***** Input signal : R-Y, Y and B-Y with Tri level sync on Y or separate Tri level sync.

Connecting a Composite Video source.

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



Video input selection :

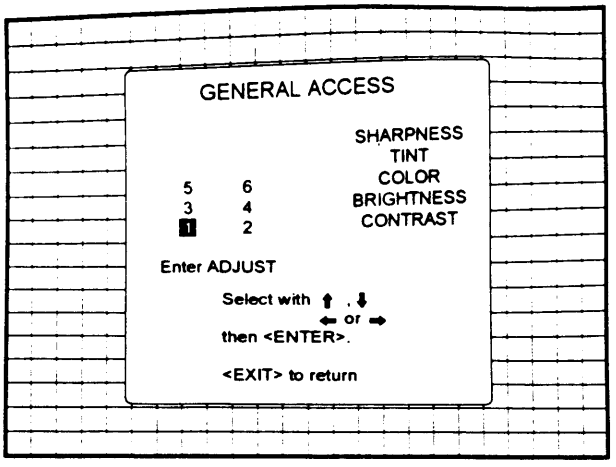
a. with the RCU700 : press digit button 1 or

b. with the local keypad.

(for access to the local keypad, see Local keypad in chapter Location and function of control.)

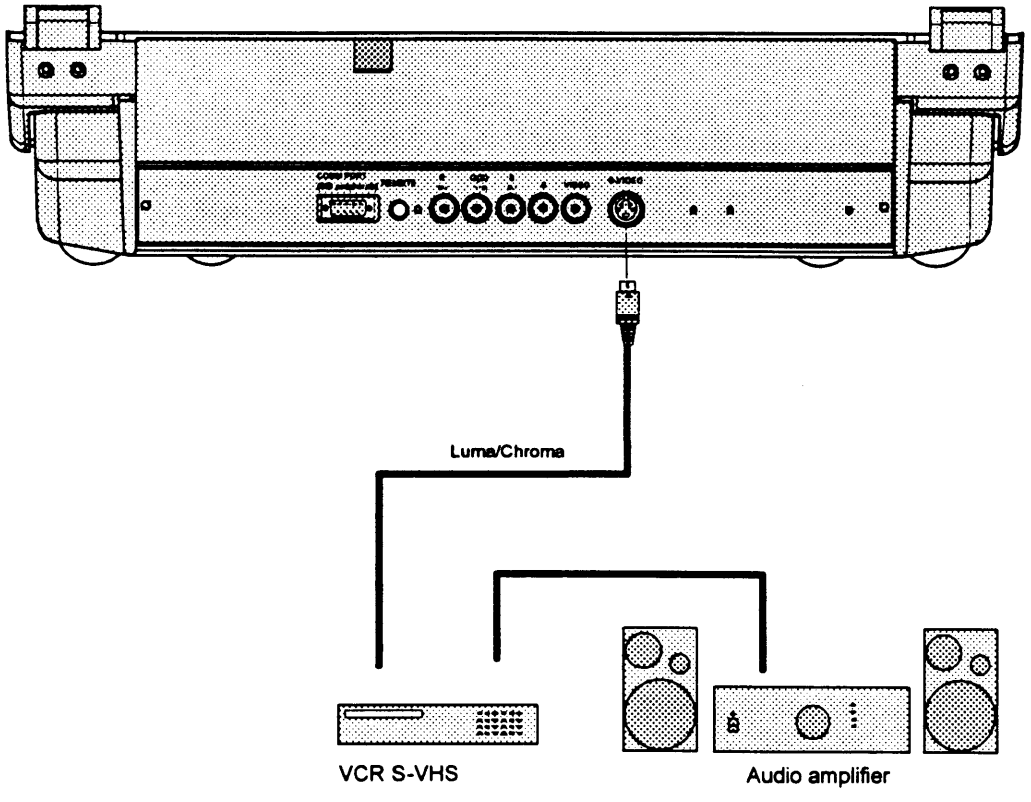
- press **ADJUST** key, the General access menu is displayed on the screen.

- use the arrow keys to highlight *1*.
- press **ENTER** to select the highlighted source.



Connecting a S-Video source.

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



S-Video input selection

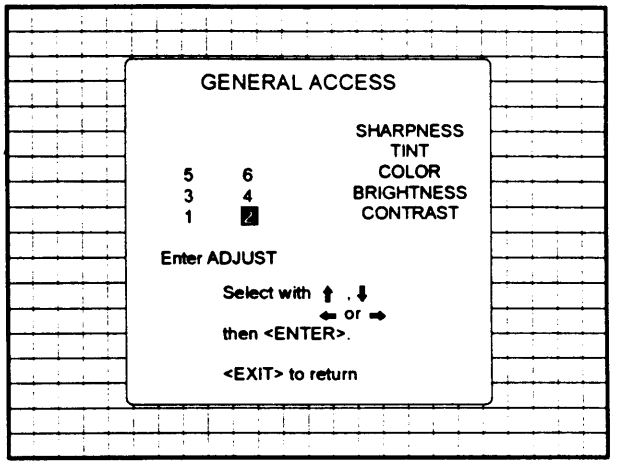
a. with the RCU700 : press digit button 2 or

b. with the local keypad.

(for access to the local keypad, see Local keypad in chapter Location and functions of control.)

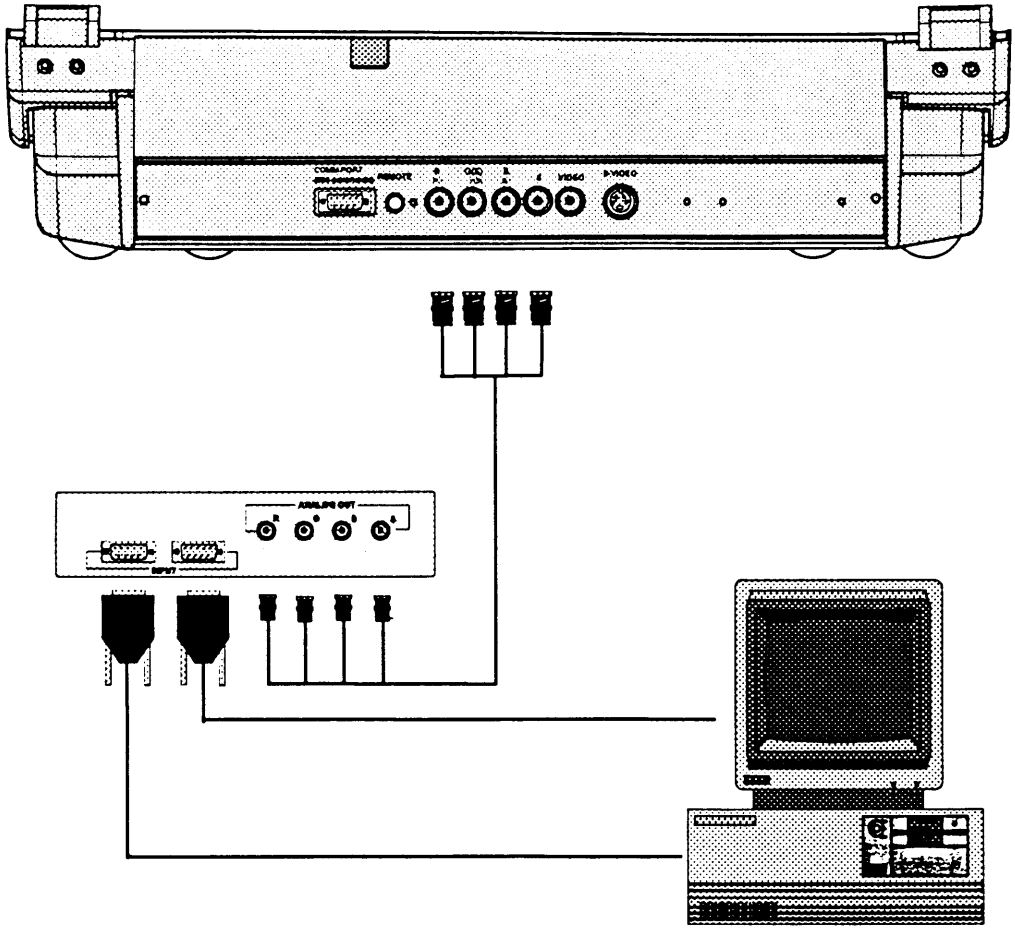
- press **ADJUST** key, the General access menu is displayed on the screen.

- use the arrow keys to highlight *2*.
- press **ENTER** to select the highlighted source.



Connecting a RGB Analog source with composite sync.

RGB analog input terminals with composite sync input or with sync on green. The projector detects automatically where the sync signal is located.
Always use an interface when a computer and local monitor have to be connected to the projector. Use e.g. the BARCO universal analog interface (order number 98 26100).



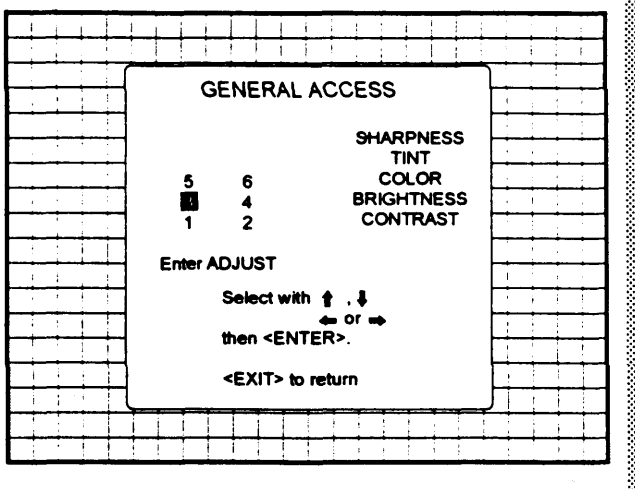
RGBS or RGsB input selection

a. with the RCU700 : press digit button 3 or

b. with the local keypad.

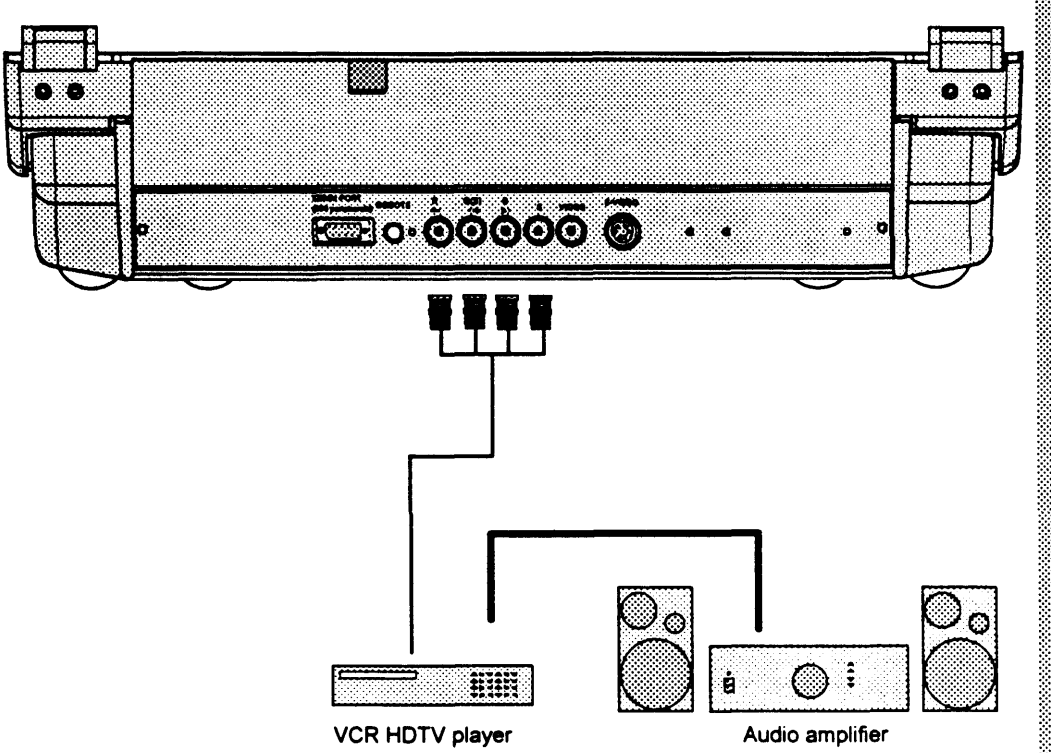
(for access to the local keypad, see Local keypad in chapter Location and functions of control.)
- press **ADJUST** key, the General access menu is displayed on the screen.

- use the arrow keys to highlight *3*.
- press **ENTER** to select the highlighted source.



Connecting a RGB Analog source with Tri-level sync.

RGB analog input terminals with Tri level sync input or with Tri-level sync on green. The projector detects automatically where the sync signal is located.



RGB3S or RG3sB input selection

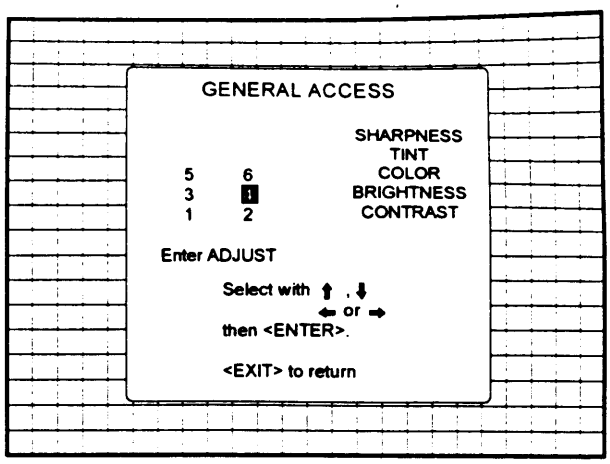
a. with the RCU700 : press digit button 4 or

b. with the local keypad.

(for access to the local keypad, see Local keypad in chapter Location and functions of control.)

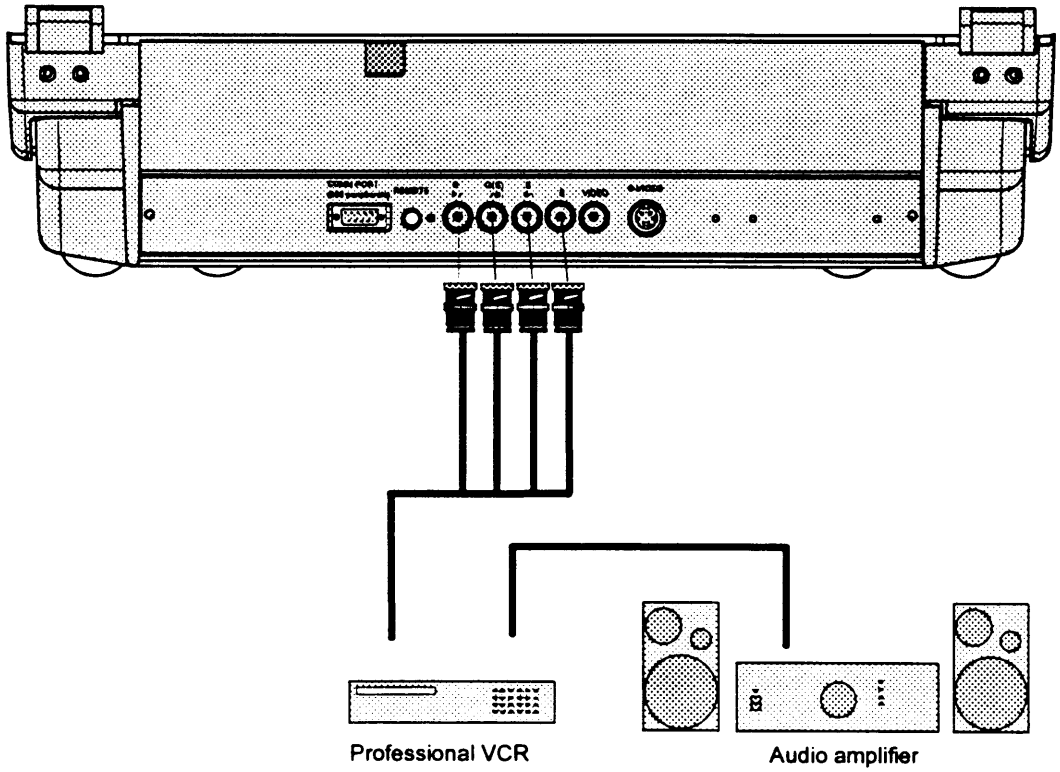
- press **ADJUST** key, the General access menu is displayed on the screen.

- use the arrow keys to highlight *4*.
- press **ENTER** to select the highlighted source.



Connecting a Component source.

(R-Y)Y(B-Y) analog input terminals with sync input or with sync on the luminance (Y) input. The projector detects automatically where the sync signal is located.

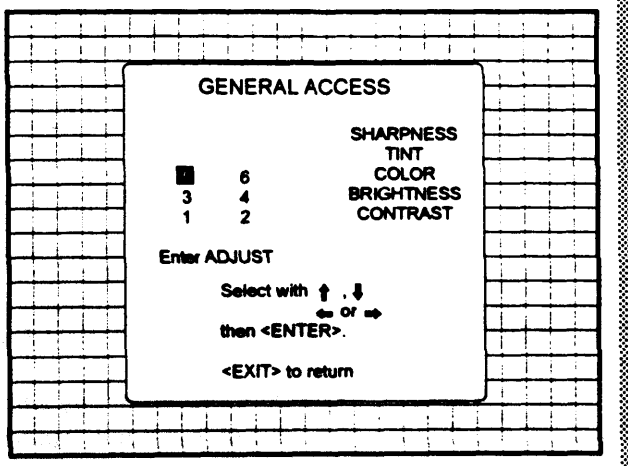


(R-Y)Y(B-Y)S or(R-Y)Ys(B-Y) input selection

a. with the RCU700 : press digit button 5 or

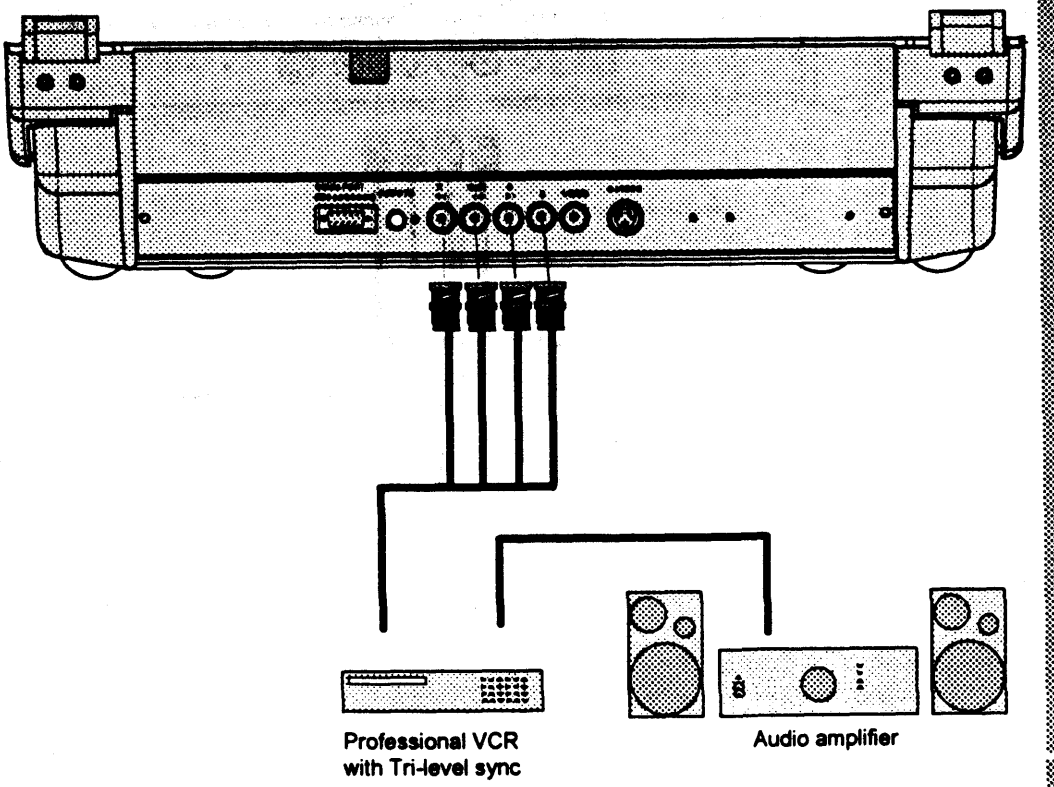
b. with the local keypad.
(for access to the local keypad, see Local keypad in chapter Location and functions of control.)
- press **ADJUST** key, the General access menu is displayed on the screen.

- use the arrow keys to highlight *5*.
- press **ENTER** to select the highlighted source.



Connecting a Component source with Tri-level sync.

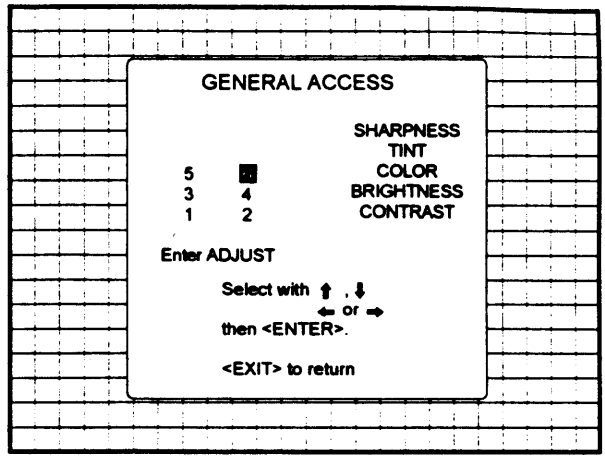
(R-Y)Y(B-Y) analog input terminals with Tri-level sync input or with Tri-levek sync on the luminance input.



(R-Y)Y(B-Y)3S or(R-Y)Y3s(B-Y) input selection

a. with the RCU700 : press digit button 6 or

b. with the local keypad.
(for access to the local keypad, see Local keypad in chapter Location and functions of control.)
- press **ADJUST** key, the General access menu is displayed on the screen.
- use the arrow keys to highlight *6*.
- press **ENTER** to select the highlighted source.



PERIPHERAL EQUIPMENT

Connecting a RCVDS 800 to the BARCODATA 701.

- 8 of 10 inputs immediately accessible with the RCVDS 800
- Serial communication with the projector.
- Remote control buttons on the RCVDS 800 to control the BARCODATA 701 (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 RCVDS 800, consult the RCVDS 800 owner's manual, BARCO order number : 59 75004.

Connecting a VS05 to the BARCODATA 701.

The VS05 can switch up to 5 Composite Vdieo sources, 3 Super Video Sources and 1 RGB analog or component Video source to the BARCODATA 701. In addition, the audio signal proper to the source, can be switched to an audio amplifier.
Order number : 98 27890.

Connecting an IR Remote receiver 800 to the BARCODATA 701

This infra-red receiver unit makes it possible to control the BARCODATA 701 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 RCU700 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 : 98 27515.

CONTROLLING

Battery installation in the RCU

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

59 75615A BARCODATA 701 100294

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).
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.

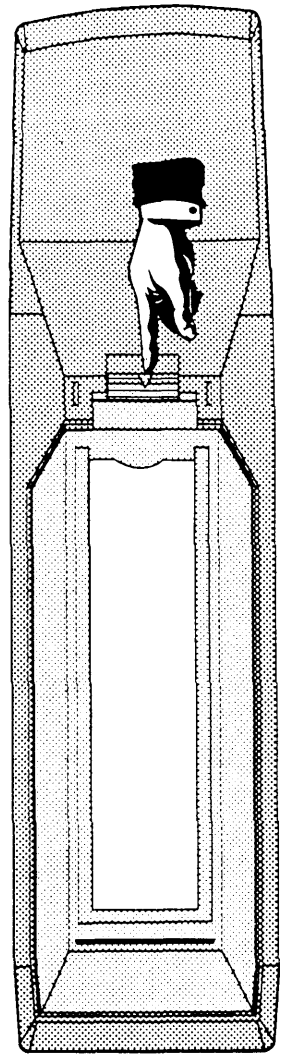
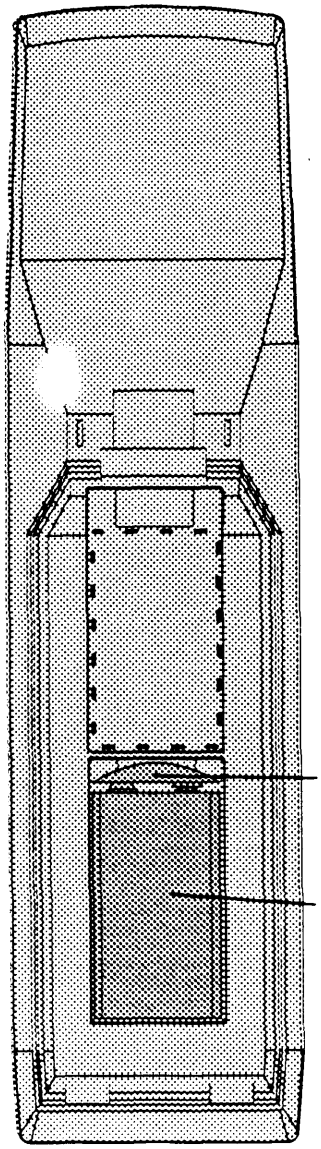
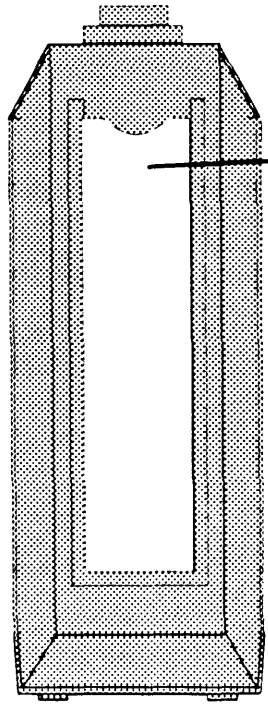


fig.1





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

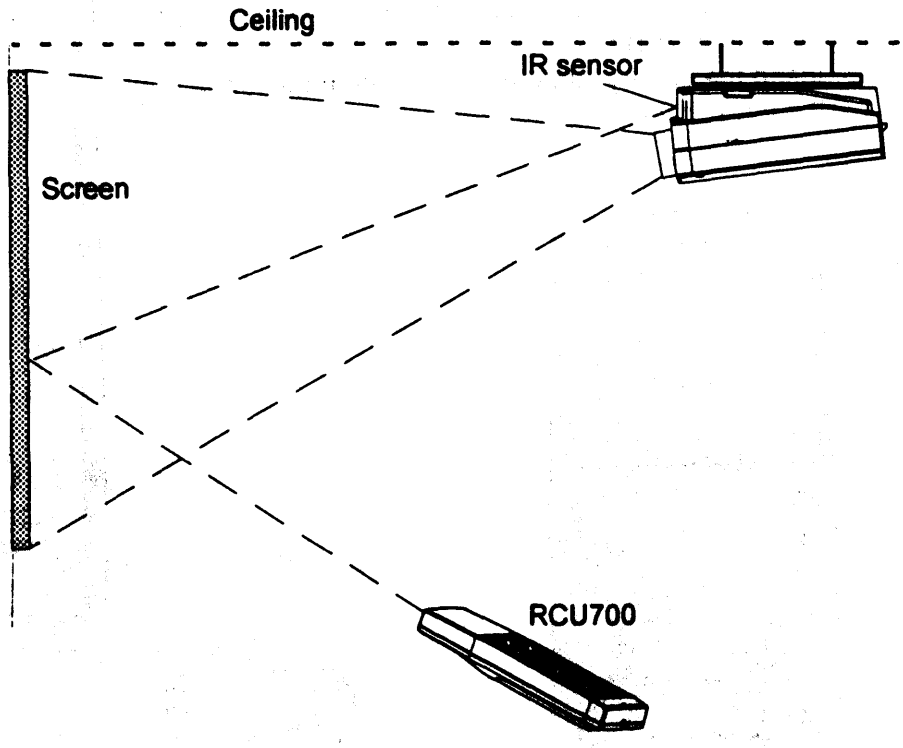
310a DRW

The BARCODATA 701 can be controlled with
a. the RCU
b. the hardwired RCU (cable not included)
c. the local keypad.

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

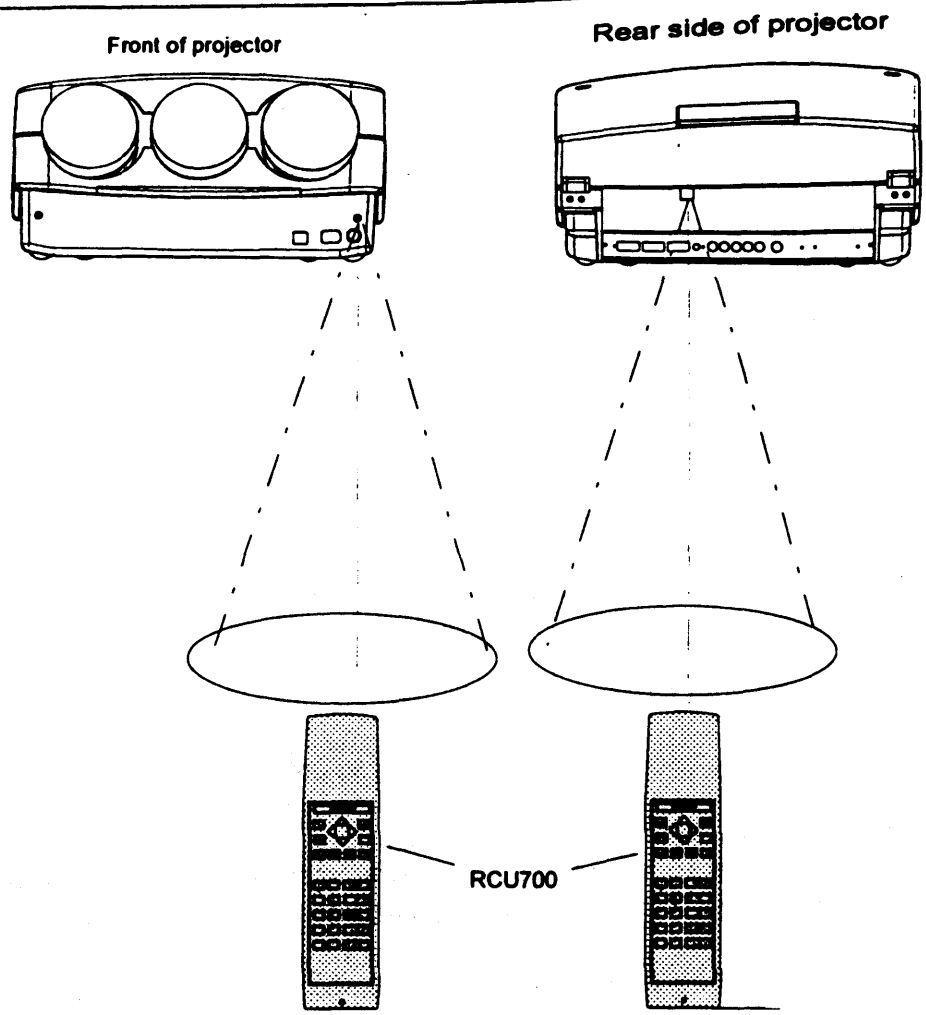
How to use your RCU

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

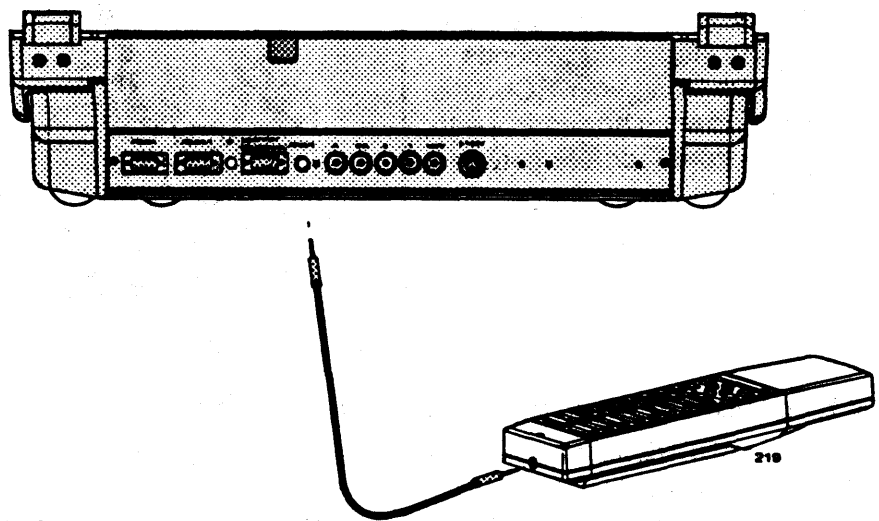


b) Point the front of the RCU towards one of the IR sensors in the projector.

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) RCU700 used in a hardwired configuration.



Plug one end of the remote cable in the connector on the bottom of the RCU700 and the second side in the connector in the rear panel of the BARCODATA 701 labelled '*REMOTE*'.

Projector address

a. hardware set up of the projector address.

Every projector requires an individual address between 0 and 16 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 16. 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 16 (only when the optional RS232 communication port is installed)

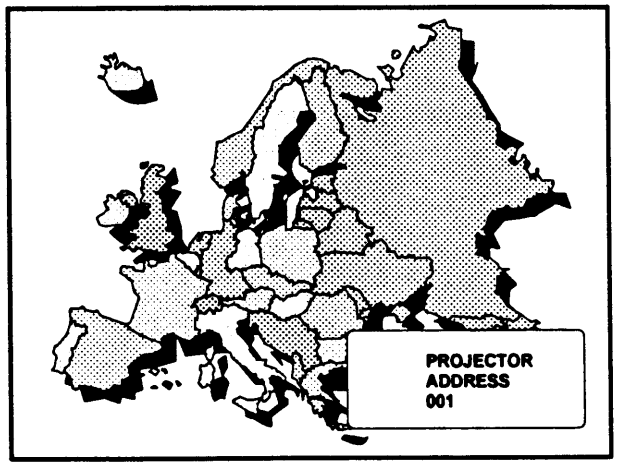
Note : a projector will respond to a RCU set to an address of '0' regardless of what address is set in the projector itself.

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 exception 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

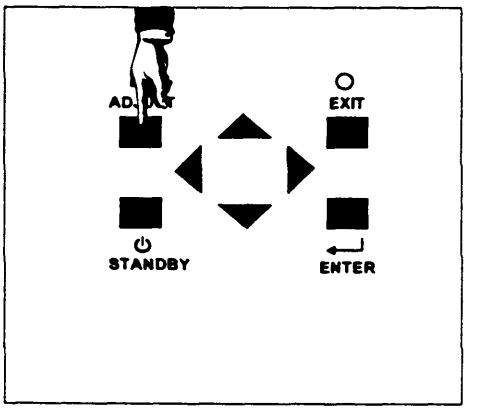
Source No	Projector input	Press digit button
1	Comp. Video	1
2	S-Video	2
3	RGBS or RGsB	3
3	RGB3S or RG3sB	4
3	(R-Y)Y(B-Y)S or (R-Y)Ys(B-Y)	5
3	(R-Y)Y(B-Y)3S or (R-Y)Y3s(B-Y)	6

Two possible ways of selecting an input :

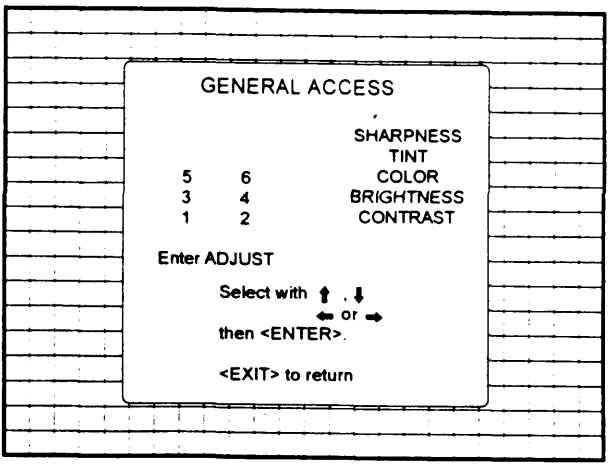
a) With the digit buttons on the RCU, it is possible to select one of the four input sources, Video, S-Video, RGsB or RGBS, RG3sB or RGB3S, (R-Y)Ys(B-Y) or (R-Y)Y(B-Y)S, (R-Y)Y3s(B-Y) or (R-Y)Y(B-Y)3S.

b) With the local keypad :

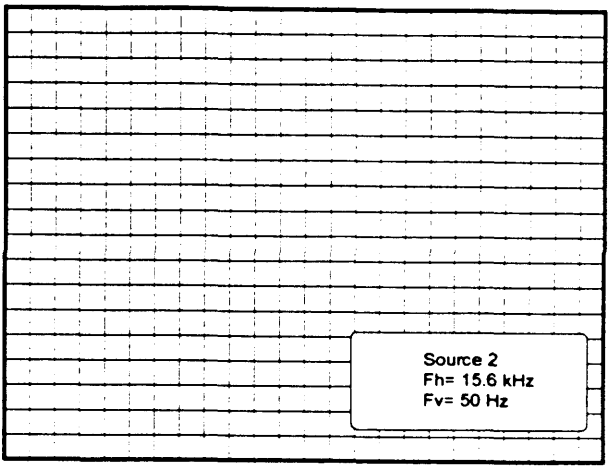
press first the ADJUST key to display the *General access* menu.



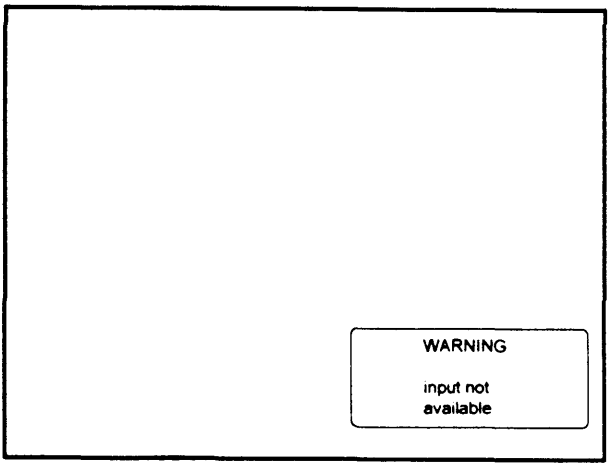
Use the arrow keys to hightlight the desired source number. Up and down arrow keys to move the cursor up and down, left and right arrow key to move the cursor to the *left and to the right*.
Press **ENTER** to confirm your selection.



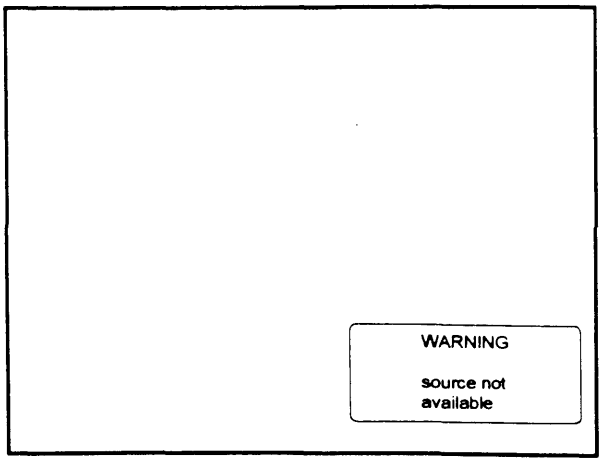
When a valid and available source is selected, there will be information displayed on the screen about that source. This information includes :
- -source number
- - horizontal frequency
- - vertical frequency



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.



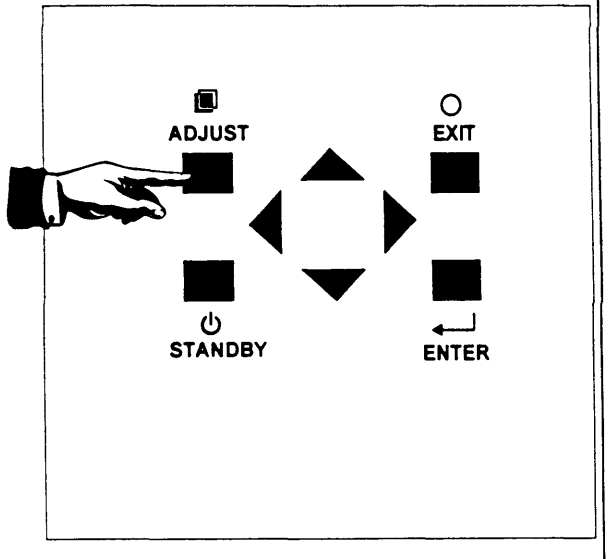
Picture controls

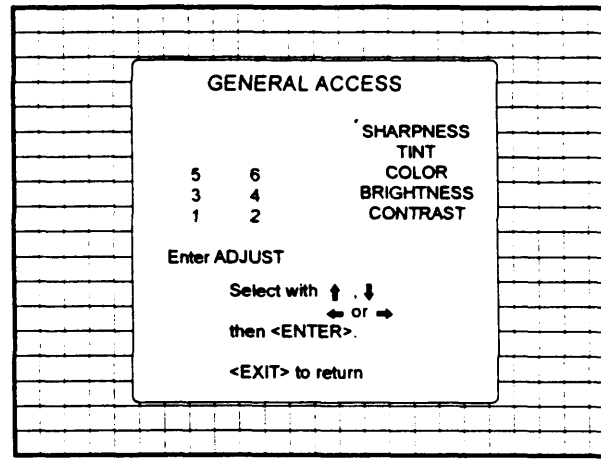
The picture controls can be adjusted with :

a) the RCU700. The control keys are located on the left side of the key panel of the RCU700 and indicated with the name of the control and an icon.
When an image control is pressed, a text box with bar scale and the function name of 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.

b) the local keypath
All controls are hidden in the General access menu.

- press **ADJUST** to display the *General access* menu.
- use the arrow keys to highlight the desired analog control and press **ENTER** to select.

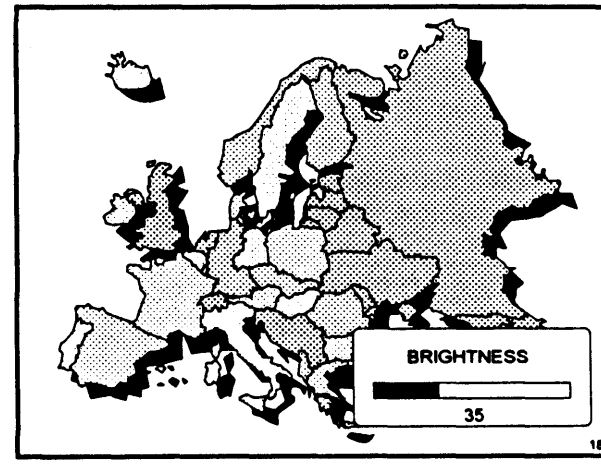




When an picture control is selected, a text box with bar scale and the function name of the control appear on the screen. The length of the bar scale indicates the current memorized setting for this source (percentage scale). The bar scale changes as the left and right arrow key is pressed.

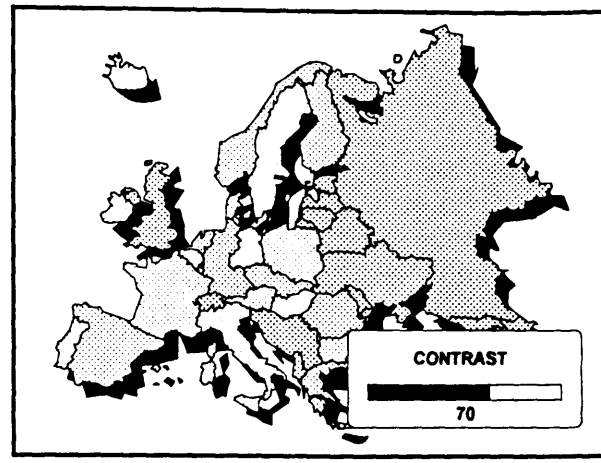
Brightness Control

A correct *'brightness'* setting is important for good image reproduction. Adjust the brightness with the + button and - button (RCU) or the left and right arrow keys (local keypad) 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).



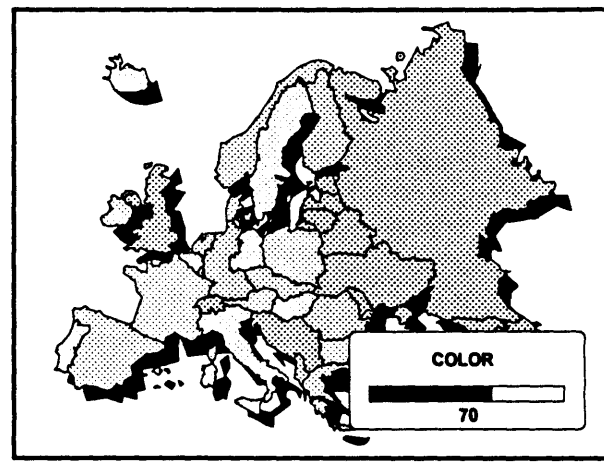
Contrast Control

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 (RCU) or the left and right arrow keys (local keypad). 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).



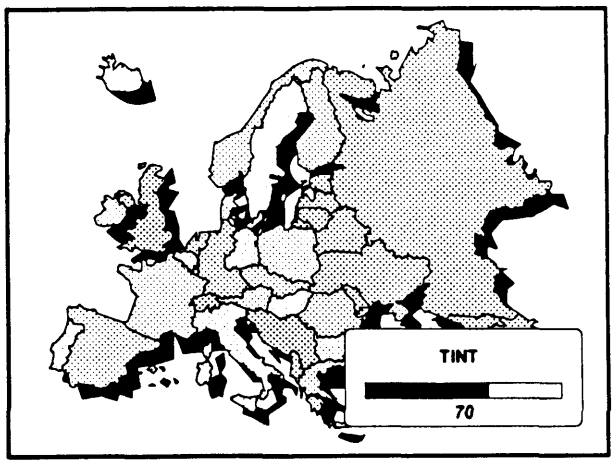
Color Saturation Control

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 (RCU700) or the left and right arrow keys (local keypad). 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).



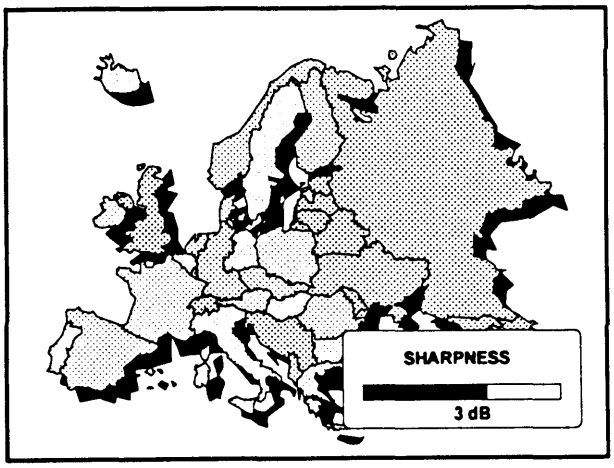
Tint Control

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 (RCU) or the left and right arrow keys (local keypad). If the bar scale is not visible on the screen, press the 'TEXT' key once and retry the above indicated keys buttons.
The bar scale increases when pressing on the + button and decreases when pressing the - button.



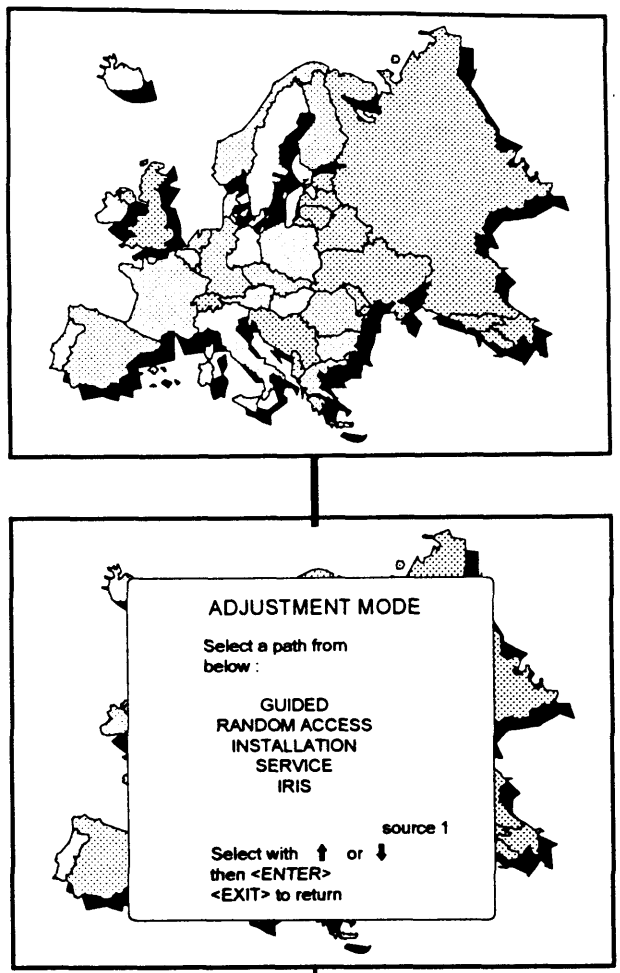
Sharpness Control.

Sharpness control 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 (RCU) or the left and right arrow key (local keypad). 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).



START UP OF THE ADJUSTMENT MODE

Entering the adjustment mode



Installation
(only for qualified technician)

Random Access Adjustment

Guided Adjustment

Service

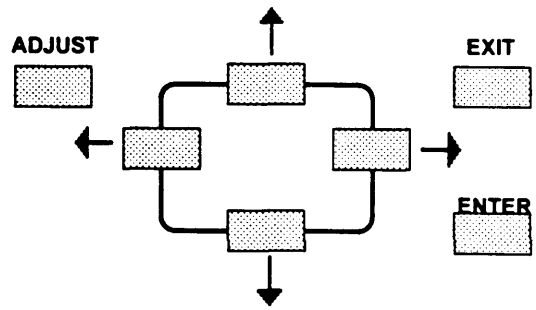
IRIS
(only with an IRIS800)

Adjustment mode

All picture geometry and convergence adjustments are made while in the 'Adjustment mode'. Two possible ways to enter the adjustment mode :

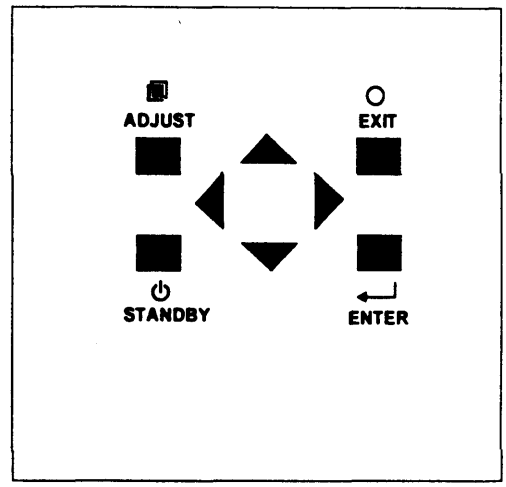
a) using the RCU.

Press the **ADJUST** key.
The projector displays the path selection menu.

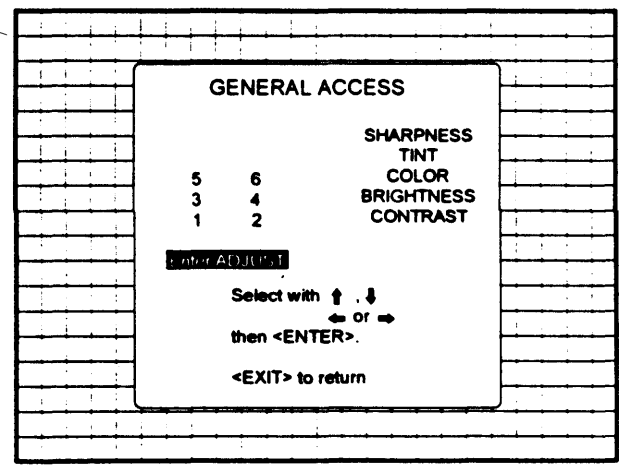


b) using the local keypad.

Press the **ADJUST** key.
The projector displays the *General access menu.*

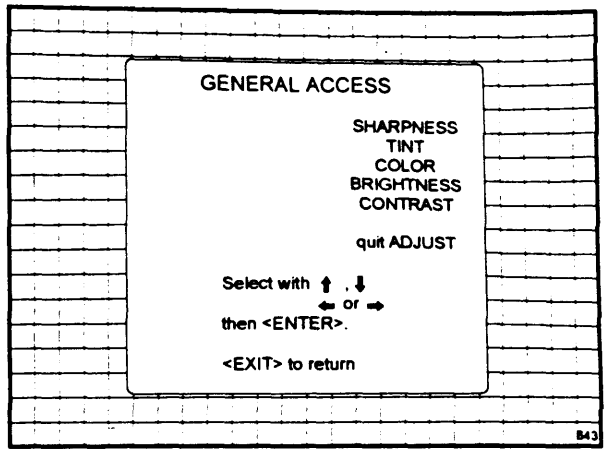


Use the arrow keys to highlight *enter ADJUST* and press **ENTER**. The path selection menu will be displayed.



Note : to adjust the Analog picture control while in the 'Adjustment mode', press the **ADJUST** key. The next General Access menu will be displayed.

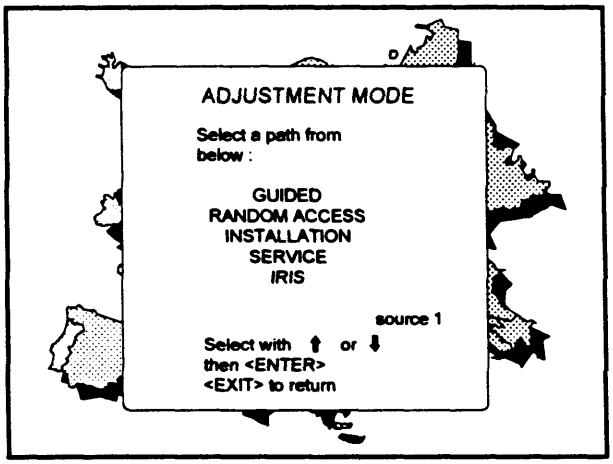
Select with the arrow keys the analog control to be adjusted and press the **ENTER** key to confirm.
When the analog control is adjusted the projector returns automatically on the General access menu. When you want to return to the Adjustment mode, press **EXIT**, otherwise select *quit ADJUST* with the arrow keys and press **ENTER** to return to operational 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.

There are 5 possible paths to follow once in the Adjustment mode. They are :

INSTALLATION - Installation should be selected if the projector has been relocated and/or a different screen size is desired. When selecting 'Installation', the user or operator will be warned to call a qualified technician to perform the installation procedure (see example of projected warning at the bottom of this page).



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.

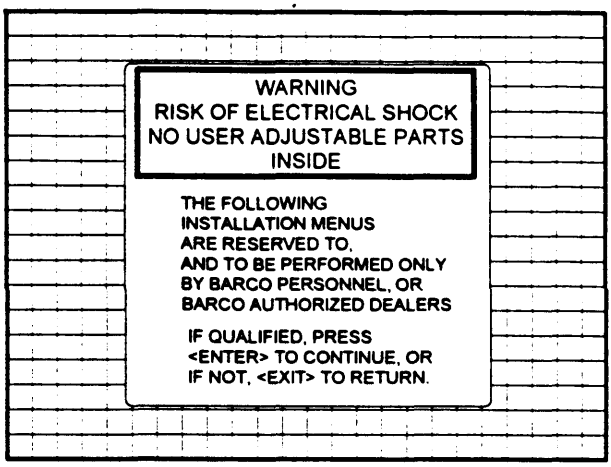
RANDOM ACCESS - Random Access should be selected if the user intends to make only a few adjustments.

SERVICE - Service should be selected if the user intends to delete blocks, change password or apply information.

IRIS - This selection will only be available when the autoconvergence unit IRIS 800 is connected to the projector.

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.

Warning during the start up of the installation mode.



Some items in the Adjustment mode are password protected. While selecting such an item, the projector asks you to enter your password. (Password protection is only available when the password DIP switch on the controller module is in the ON position. Contact a BARCO authorized technician when no password is requested during the adjustment procedure and password protection is desired.)

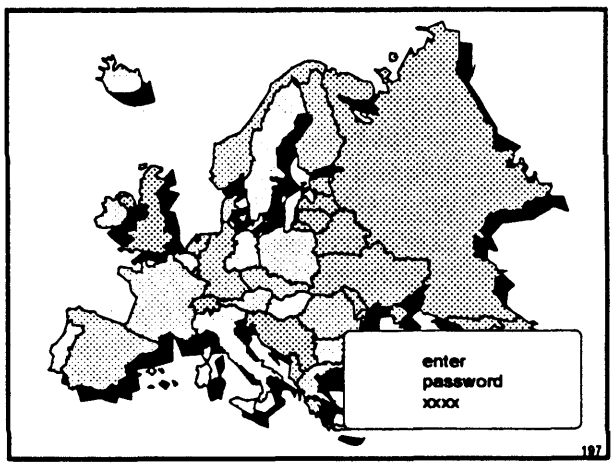
Your password contains 4 digits.

a) Adjusting the projector with the RCU.

Enter the digits with the numeric keys on the RCU.

Example : 2 3 1 9

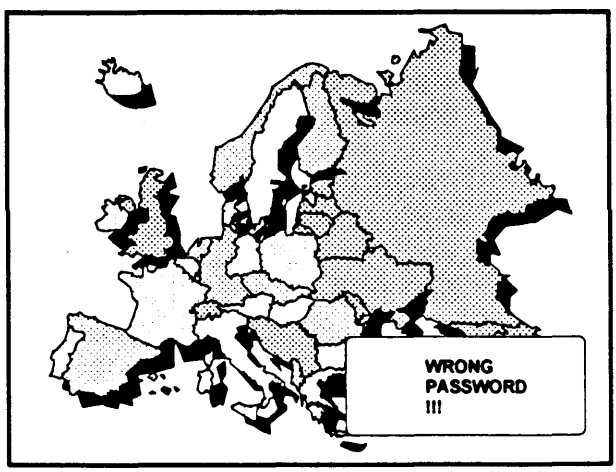
For each digit entered, a 'X' appears on the screen under the displayed text 'enter password'.



When your password is correct, you get access to the 'Adjustment mode'.
When the entered password is wrong, The message *'Wrong password !!!'* will be displayed. The projector stays on the previous selected item.

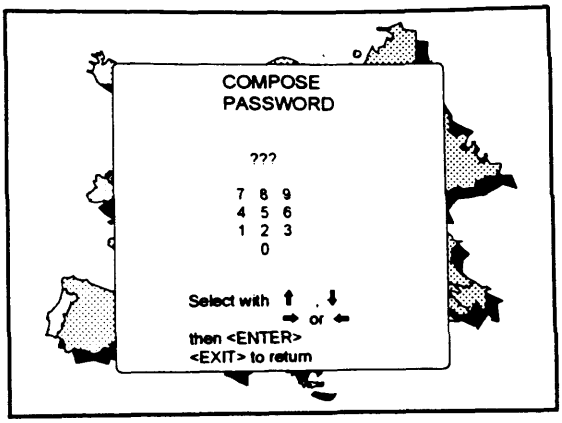
Factory programmed password :

1992



b) adjusting the projector with the local keypad.

When the 'compose password' menu is displayed, select with the arrow keys the first digit of your password and press **ENTER**. Continue by selecting the second digit with the arrow keys and press **ENTER**. Handle in the same way for the third and fourth digit.



When your password is correct, you get access to the 'Adjustment mode'.

When the entered password is wrong, the message 'Wrong password' will be displayed.

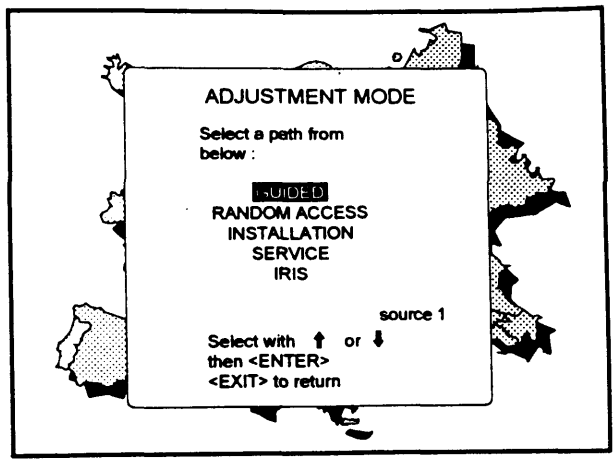
Once the password is correctly entered, all other password protected items are accessible without re-entering your password.
When re-entering the adjustment mode, it will be necessary to enter your password again when selecting a password protected item.

GUIDED ADJUSTMENT MODE

Start up of the guided adjustment mode.

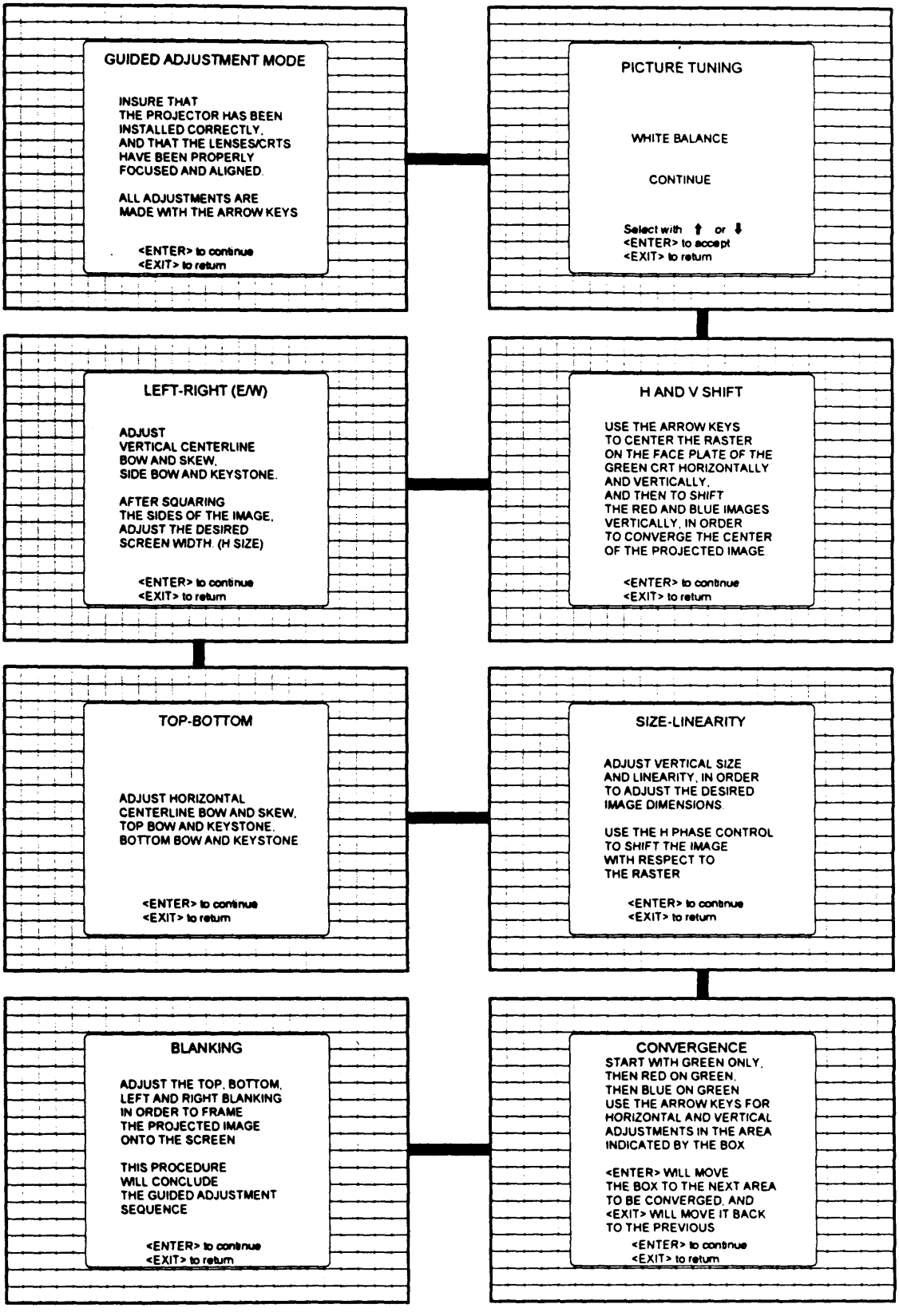
Use the arrow keys to highlight *GUIDED* on menu S1 and then press **ENTER**.

The Guided Adjustment mode is password protected (when the password function is active). Enter your password to continue (see also chapter Start up of the adjustment mode)



ENTER continues to the password menu and then to Setup Pattern Selection (Menu S2 or S3)
EXIT returns to operational mode.

Overview flowchart 'Guided Adjustment' procedure.

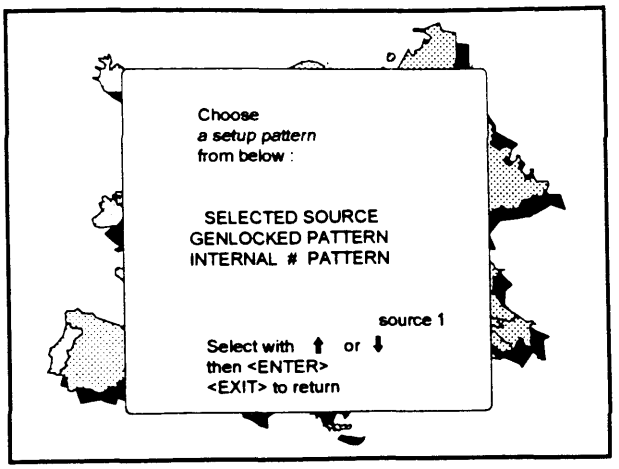


Selecting Setup Pattern

If an external source is connected to the projector, Menu S2 (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 G1) or Internal # Pattern Selection (Menu S4)
EXIT returns to Path Selection (Menu S1)
ADJUST returns to operational mode

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

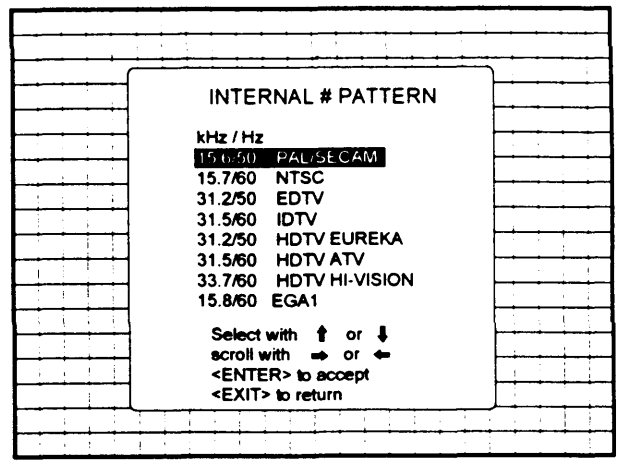
The menus in this manual are created for an external source, connected to one of the inputs, and the 'Genlocked pattern' is selected.

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 an exemple of the factory preset frequencies available.

Use the up and down arrow keys to highlight the desired cross hatch frequency. Use the left and right arrow to scroll to another page. Press **ENTER**. if the disered block is selected.

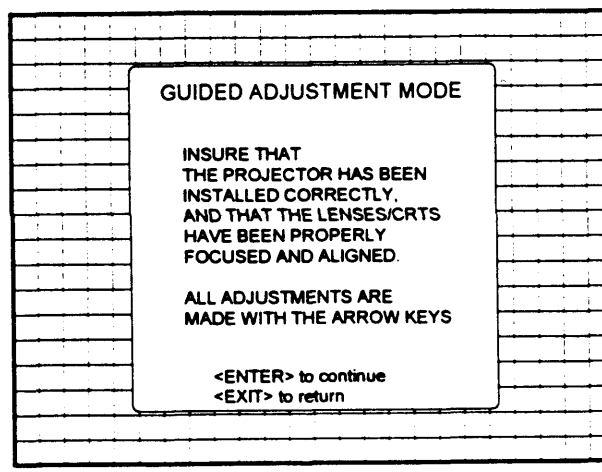


ENTER continues to Guided Adjustment Mode (Menu G1)
EXIT returns to Setup Pattern Selection (Menu S2)

kHz/Hz

15.6/50	PAL/SECAM
15.7/60	NTSC
31.2/50	EDTV
31.5/60	IDTV
31.2/50	HDTV EUREKA
31.5/60	HDTV ATV
33.7/60	HDTV HI-VISION

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.



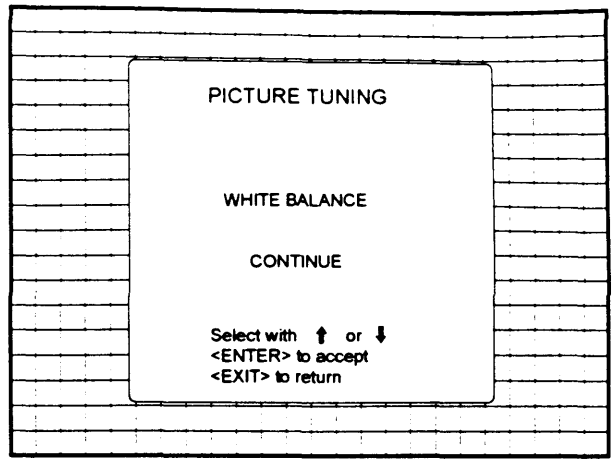
ENTER continues with the Picture Tuning
EXIT returns to Setup Pattern Selection or Internal # Pattern Selection
ADJUST returns to operational mode

Picture tuning

White Balance

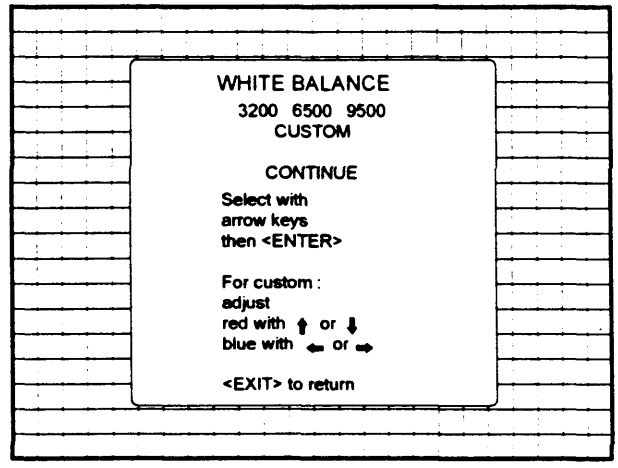
The *picture tuning menu for the White Balance* will be displayed.

If the desired white balance is not correct, select with the arrow keys *White Balance* and press **ENTER**.
If the white balance is correct, highlight *Continue* and press **ENTER** to continue the guided adjustment procedure.



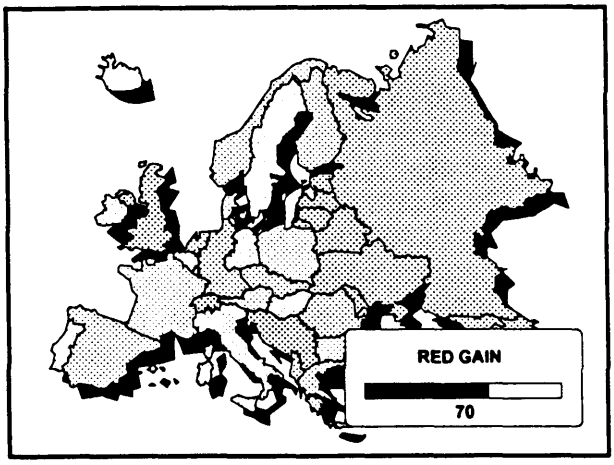
ENTER continues with the selected item.
EXIT returns to the Guided adjustment introduction menu.

If the desired white balance is not correct, select White Balance with the arrow keys and press **ENTER** to display the image with the correct white balance.
Press **ENTER** to continue and the white balance menu will be redisplayed. New changes can be made or continue has to be selected.



ENTER select the choosen White balance or continue.
EXIT returns to the Picture Tning menu.

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. A bar scale indicates the amount of adjustment.
Press **ENTER** to continue and display the White Balance menu.



If no changes have to be made select *Continue* with the arrow keys to continue with the the next Picture Tuning items.

Picture tuning toggle switches.

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

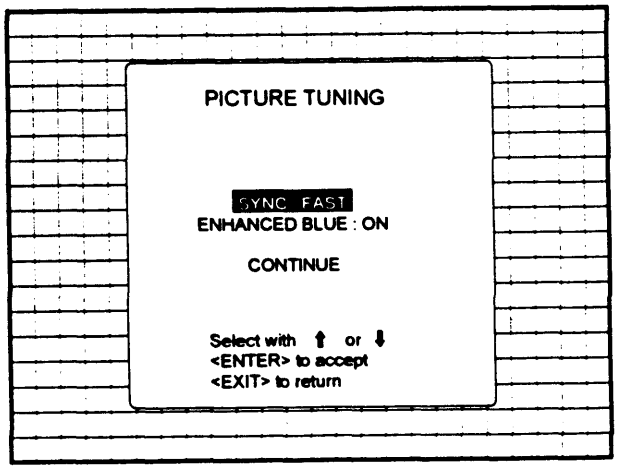
for Video or S-Video sources :
- the Synchronisation speed
- the Coring

for RGB analog or component input with composite or tri-level sync sources :
- enhanced blue on or off

Sync Fast/Slow toggle

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

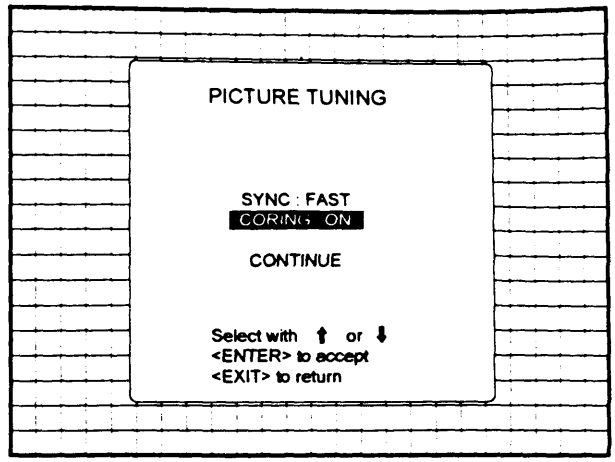
Note : SYNC is normally used in the SLOW position. The FAST position is used to compensate for unsteady sync pulses from older video playback equipment.



Coring

Coring depends the noise level of a sharpness regulated video signal.
When coring is desired, highlight *Coreing* with the arrow keys and press **ENTER** to toggle between ON and OFF.

When all Picture tuning settings are correctly set, highltight *Continue* with the arrow keys and press **ENTER**.



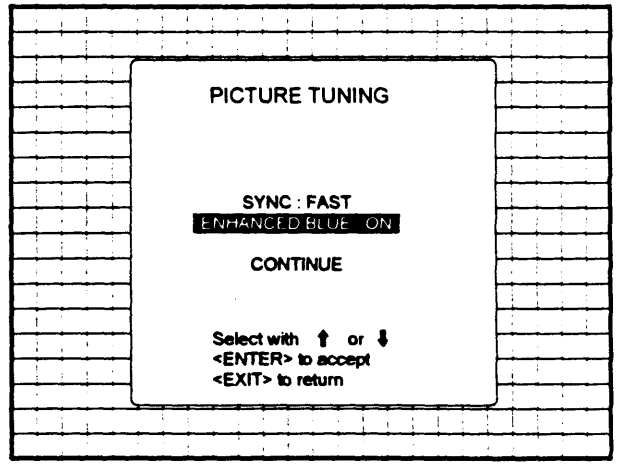
ENTER toggles between ON and OFF.
EXIT returns to the Guided Adjustment menu.

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.

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



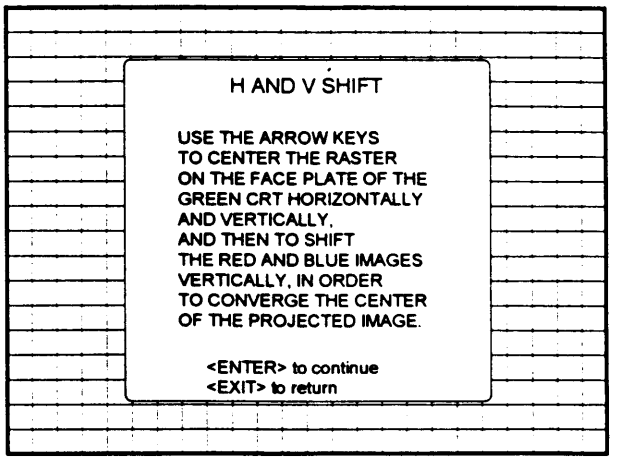
ENTER will toggle Enhanced Blue between ON and OFF.
EXIT will return to the white balance menu.

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.

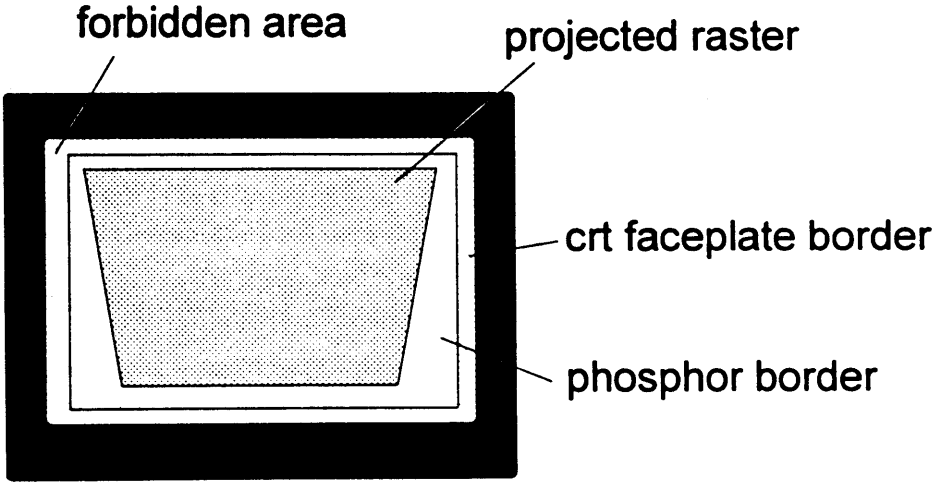
Caution

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.

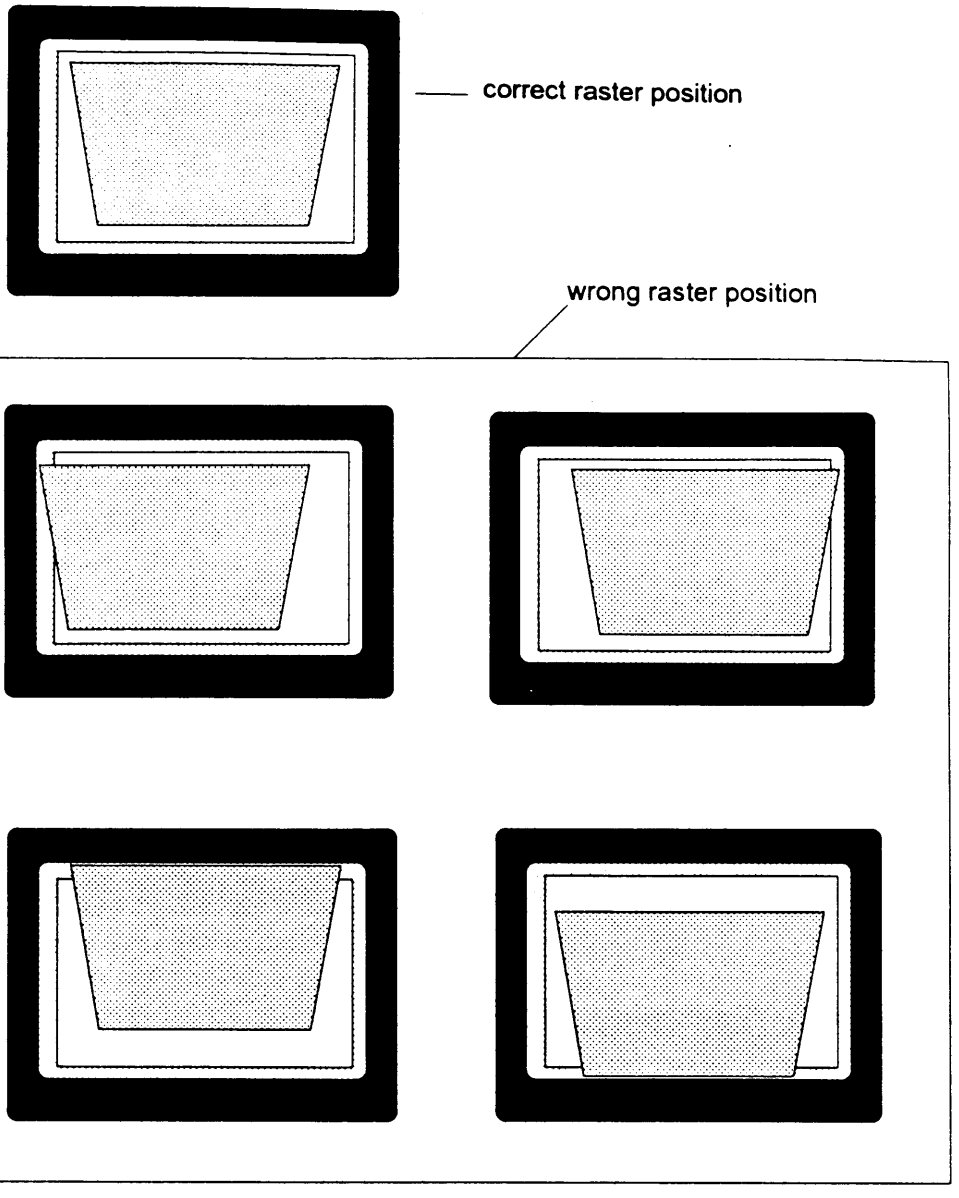


ENTER continues to Green Raster Shift
EXIT returns to Guided Adjustment Mode
ADJUST returns to operational mode

***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.

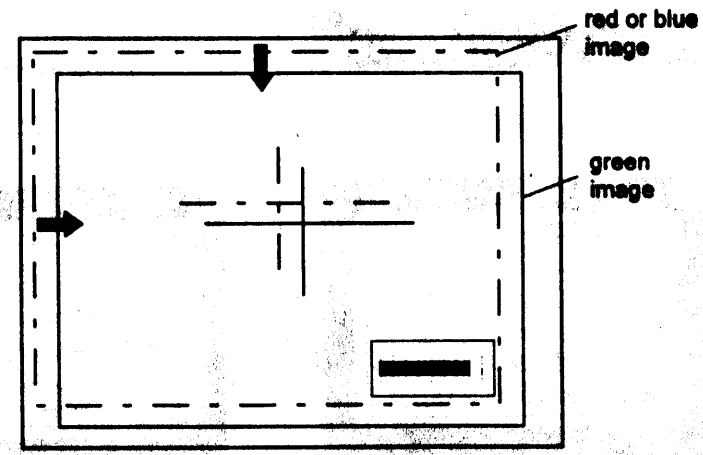


After centering the green raster, press the **ENTER** key to continue.

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

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.

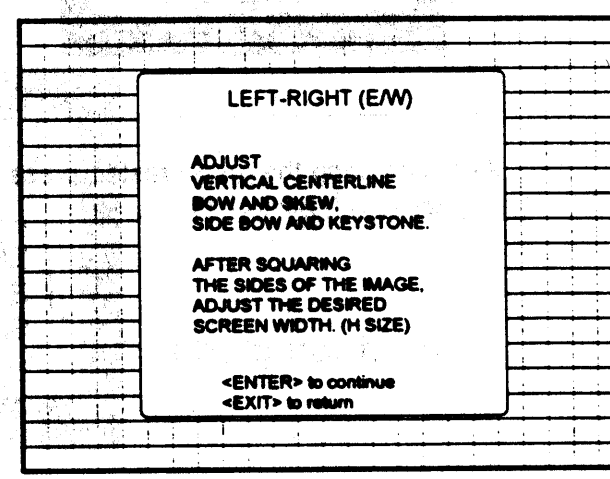
ENTER continues to blue raster shift
EXIT returns to green raster shift

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.

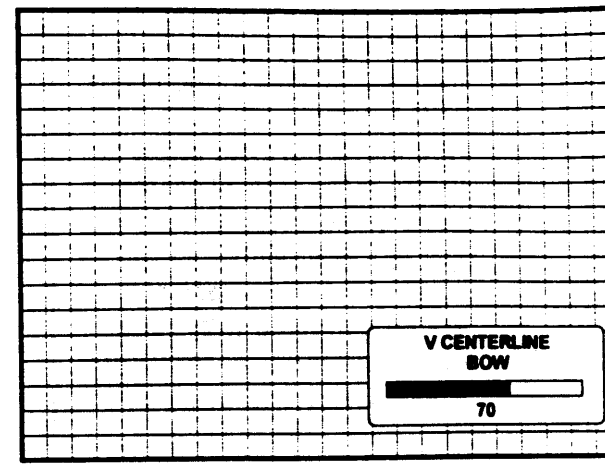
Press the **ENTER** key to continue.



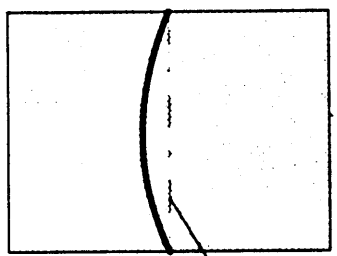
ENTER continues to vertical centerline bow adjustment
EXIT returns to Picture Tuning
ADJUST returns to operational mode

Vertical Centerline Bow Adjustment

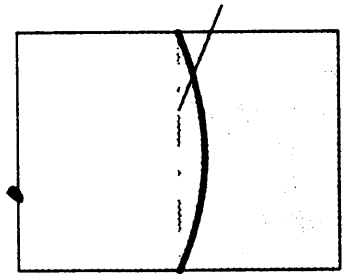
The vertical centerline bow adjustment corrects for curvature in the horizontal direction in the middle of the picture for the vertical lines.
Use the left or right arrow key to adjust the vertical centerline bow of the setup pattern and then press the **ENTER** key to continue.



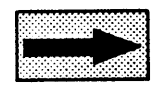
ENTER continues to vertical centerline skew adjustment
EXIT returns to Left-Right adjustments



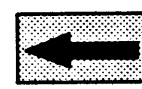
Vertical centerline



Correct with right arrow key

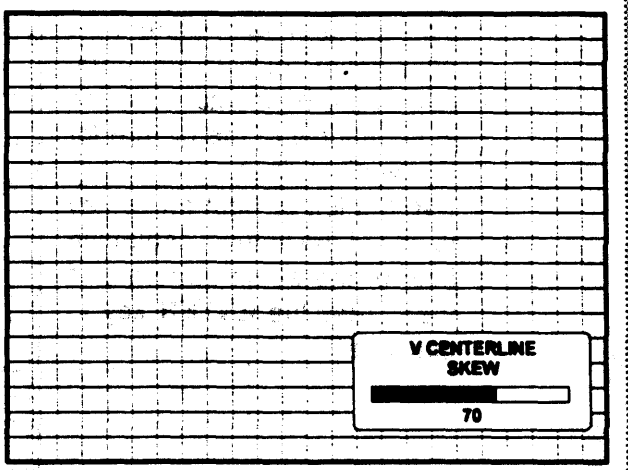


Correct with left arrow key

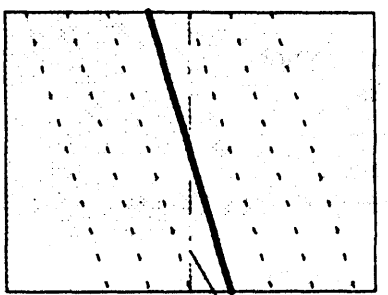


Vertical Centerline Skew Adjustment

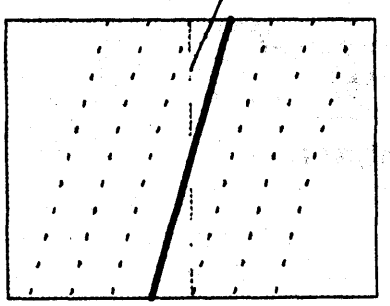
The vertical centerline skew function corrects for tilting of the vertical lines in the middle of the picture.
Use the left or right arrow key to adjust the vertical centerline skew of the setup pattern until this line is straight. Misalignment of the outer vertical lines will be corrected with the bow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



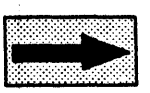
ENTER continues to side keystone adjustment
EXIT returns to vertical centerline bow adjustment



Vertical centerline



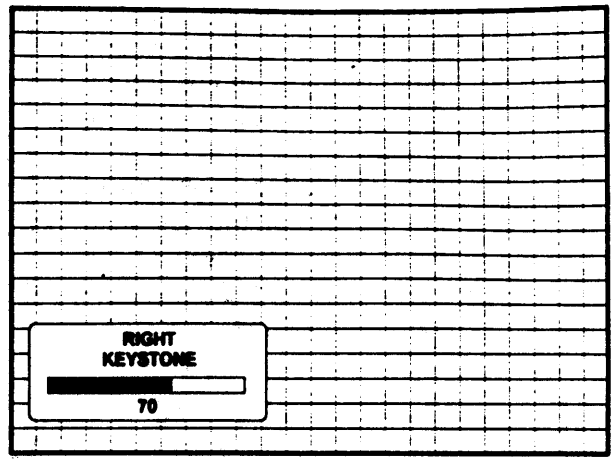
Correct with right arrow key



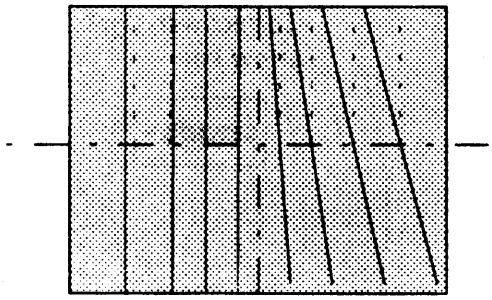
Correct with left arrow key

Right Keystone Adjustment

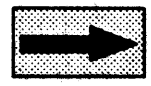
The right keystone function corrects the keystone geometry distortion of the vertical lines on the right side of the image.
Use the left or right arrow key to adjust the right keystone (vertical lines) of the setup pattern and press **ENTER** to continue

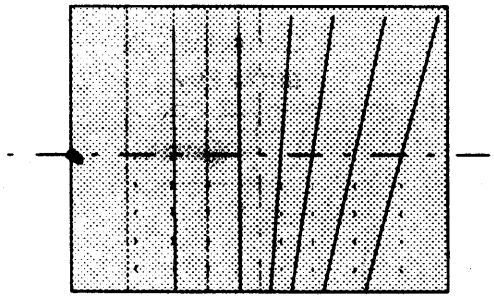


ENTER continues to left keystone adjustment
EXIT returns to vertical centerline skew adjustment

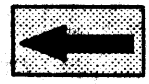


Correct with right arrow key



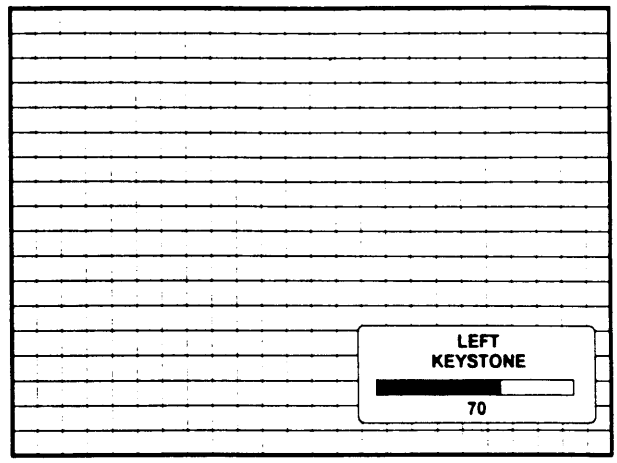


Correct with left arrow key

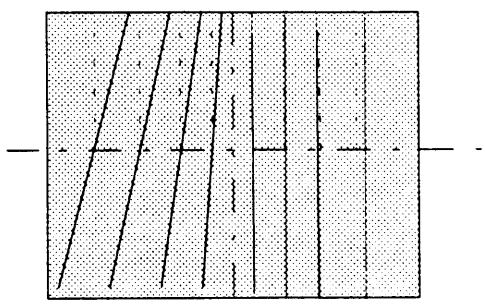


Left Keystone Adjustment

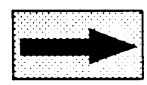
The left keystone function corrects the keystone geometry distortion of the vertical lines on the left side of the image.
Use the left or right arrow key to adjust the left keystone (vertical lines) of the setup pattern and press **ENTER** to continue

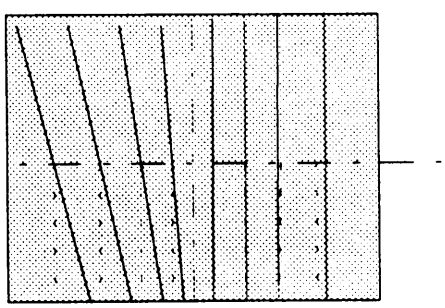


ENTER continues to right bow adjustment
EXIT returns to right keystone adjustment

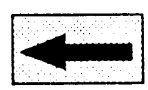


Correct with right arrow key



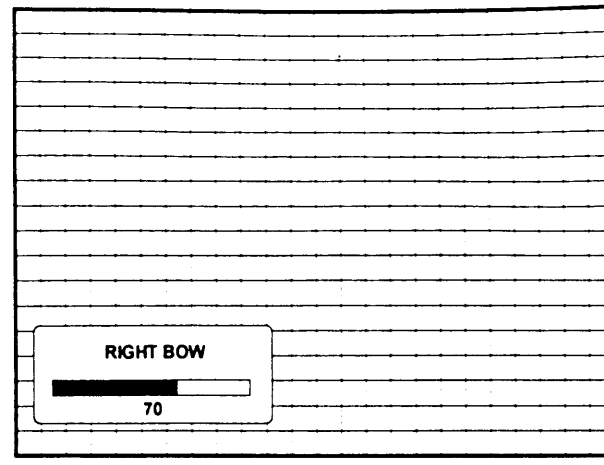


Correct with left arrow key

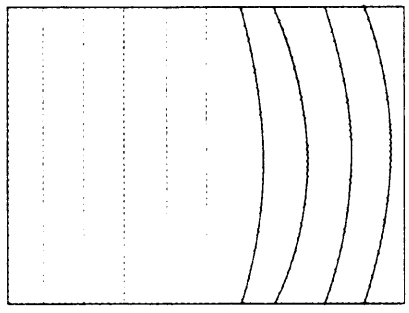


Right Bow Adjustment

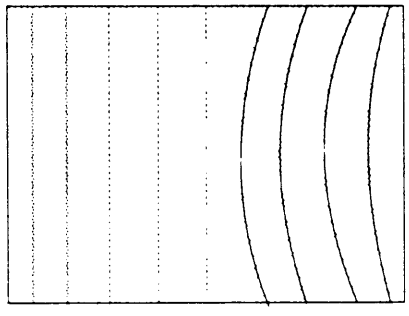
The side bow function corrects for curvature occurring the vertical lines at the sides of the displayed image.
Use the left or right arrow key to adjust the right bow of the setup pattern (vertical lines) and press **ENTER** to continue.



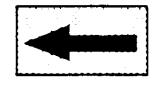
ENTER continues to left bow adjustment
EXIT returns to left keystone adjustment



Correct with right arrow key

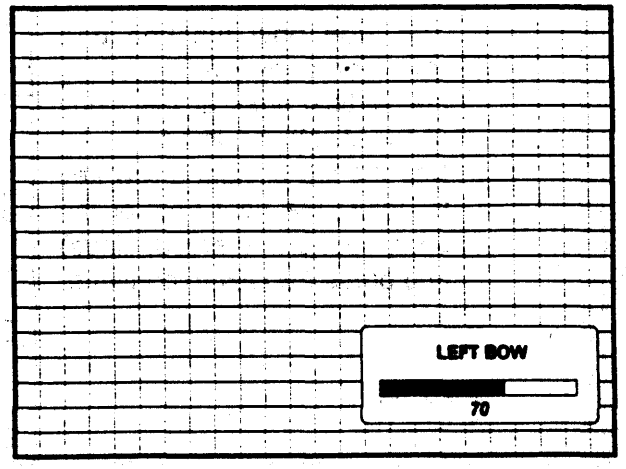


Correct with left arrow key

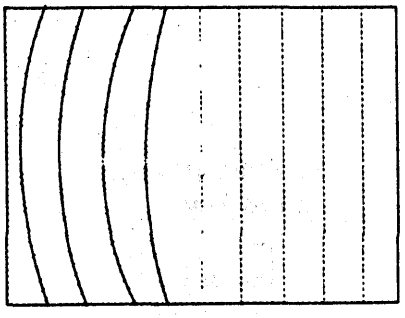


Left Bow Adjustment

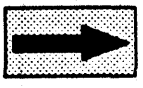
The left bow function corrects for curvature occurring the vertical lines at the left of the displayed image.
Use the left or right arrow key to adjust the left bow of the setup pattern (vertical lines) and press ENTER to continue.

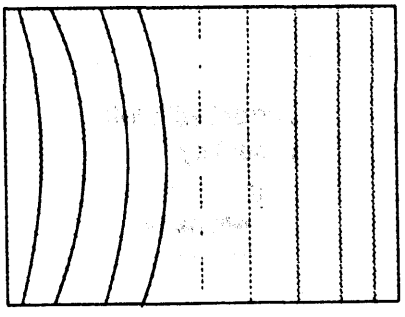


ENTER continues to left bow adjustment
EXIT returns to right bow adjustment

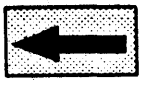


Correct with right arrow key





Correct with left arrow key



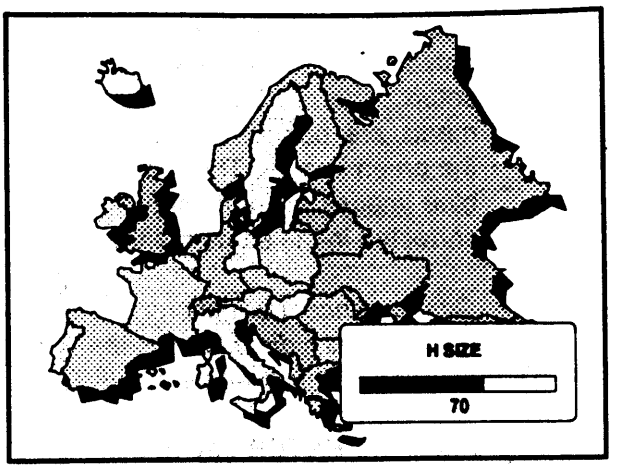
Horizontal Size Adjustment

Adjust the horizontal size with the left and right arrow keys until the correct image width is obtained.

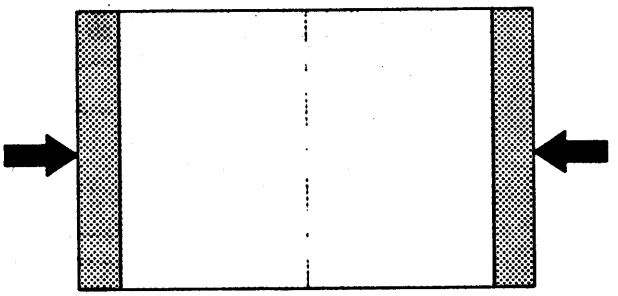
Note :

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

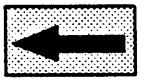
A bar scale and a number indicator(between 0 and 100) give a visual indication of the horizonal size adjustment.

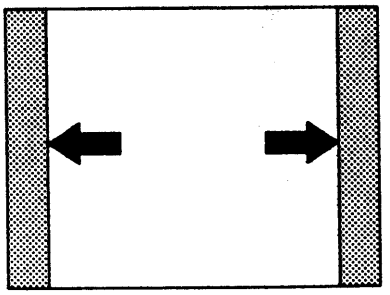


ENTER continues to Top-Bottom adjustments
EXIT returns to side bow adjustments

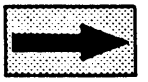


Correct with left arrow key





Correct with right arrow key

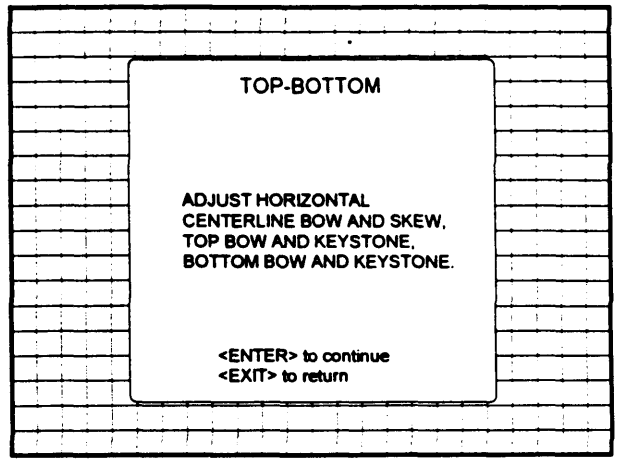


Top-Bottom (North-South) Adjustments

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.

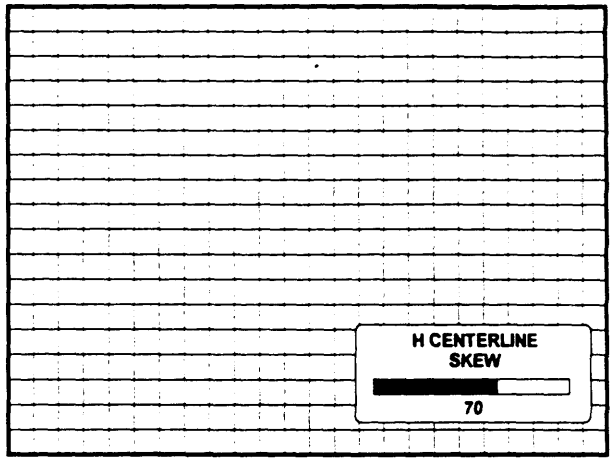
Press the **ENTER** key to continue.



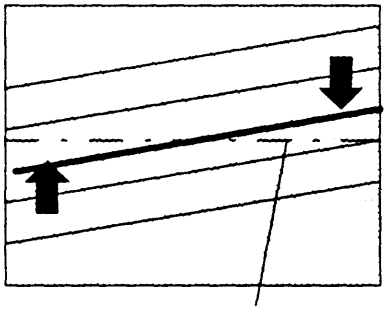
ENTER continues to horizontal centerline skew adjustment
EXIT returns to Left-Right adjustments
ADJUST returns to operational mode

Horizontal Centerline Skew Adjustment

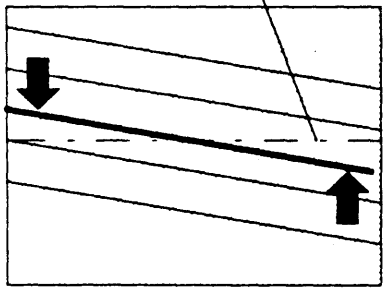
The horizontal skew function corrects for tilting of the horizontal lines in the middle of the picture.
Use the up and down arrow keys to adjust the horizontal centerline skew of the setup pattern.
A bar scale and a numeric indicator (between 0 and 100) will give a visual indication of the skew correction.



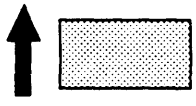
ENTER continues to horizontal centerline bow adjustment.
EXIT returns to Top-Bottom Adjustments



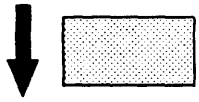
Hor. centerline



Correct with up arrow key

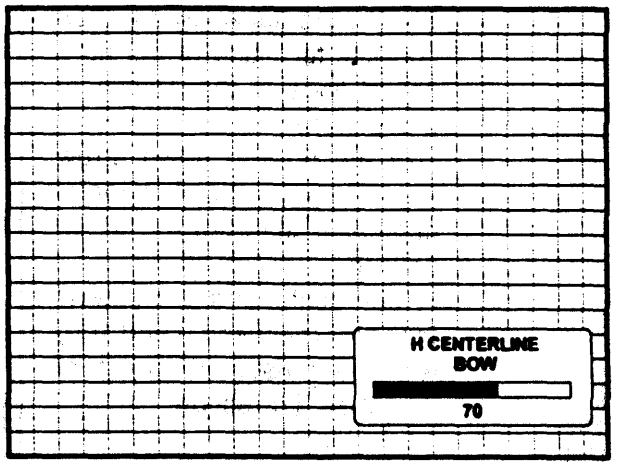


Correct with down arrow key

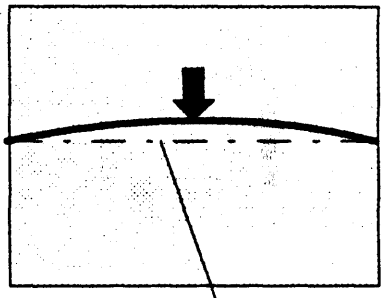


Horizontal Centerline Bow Adjustment

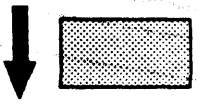
The horizontal centerline bow function corrects for curvature of the horizonal lines in the vertical direction in the middle of the picture.
Use the up and down arrow keys to adjust the horizontal centerline bow of the setup pattern.
A bar scale and a numeric indicator (between 0 and 100) will give a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



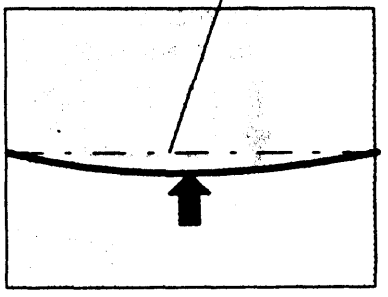
ENTER continues to top keystone adjustment
EXIT returns to Top-Bottom Adjustments



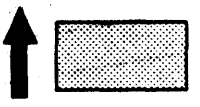
Correct with down arrow key



Hor. centerline

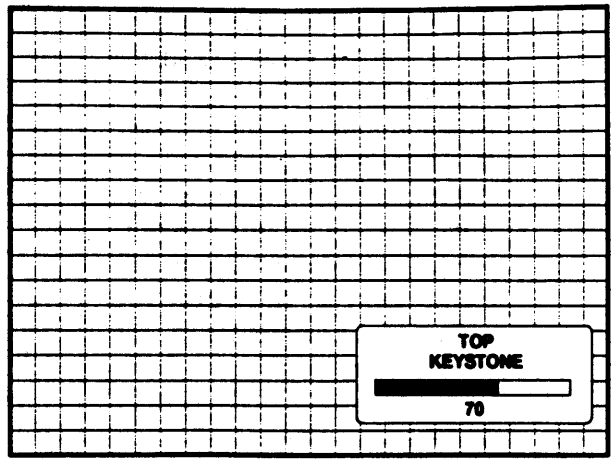


Correct with up arrow key

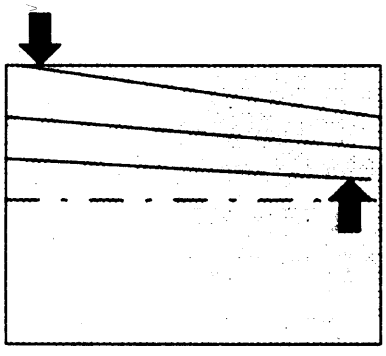


Top Keystone Adjustment

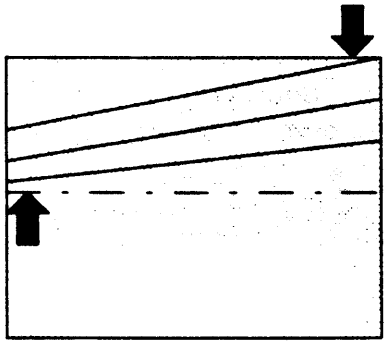
The top keystone function corrects for keystone geometry distortion of the horizontal lines in the upper part of the picture. Adjust the horizontal lines in the upper part of the picture with the arrow keys until these lines are straight. Press **ENTER** to continue.
A bar scale and a number indicator (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



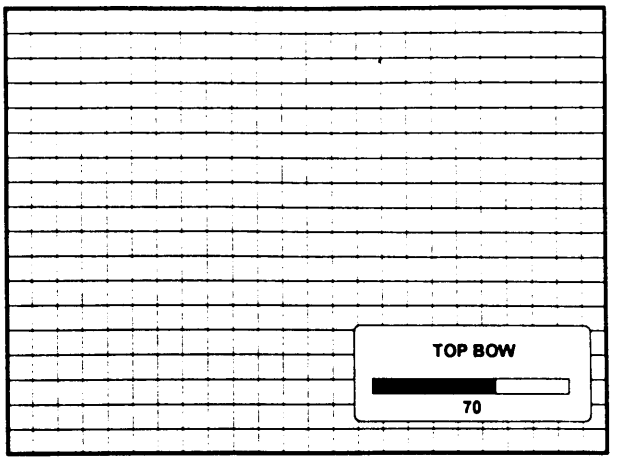
Correct with up arrow key



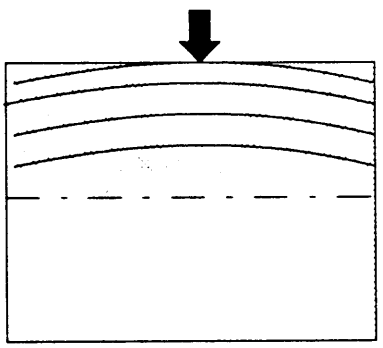
Correct with down arrow key

Top Bow Adjustment

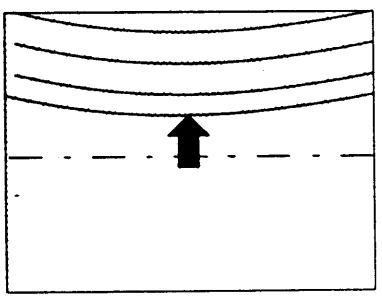
The top bow function corrects for curvature occurring in the upper part of the image.
Adjust the bow of the horizontal lines in the upper side of the image with the arrow keys until these lines are straight.
A bar scale and a number indicator below indicate the amount of adjustment.



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



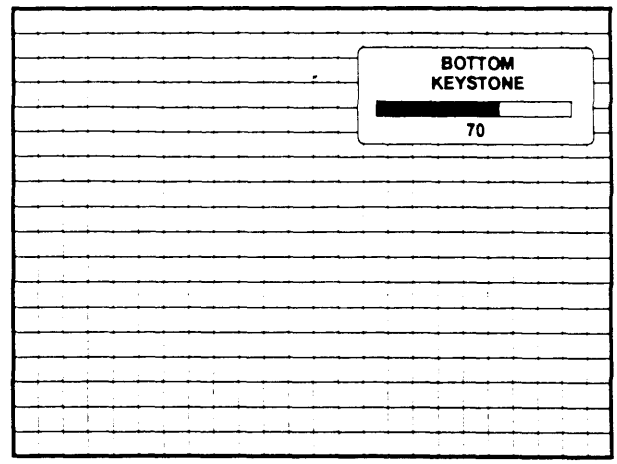
Correct with up arrow key



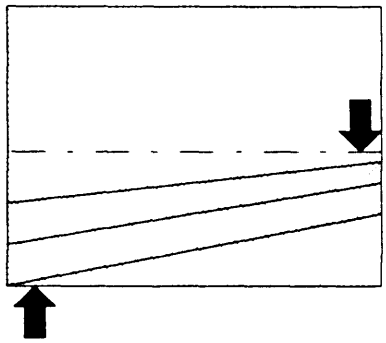
Correct with down arrow key

Bottom Keystone Adjustment

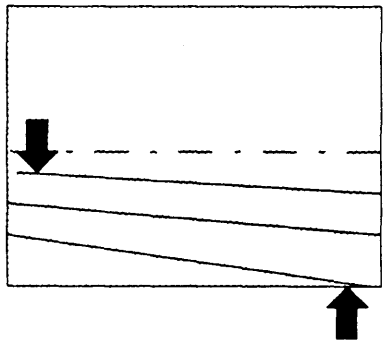
The bottom keystone function corrects for keystone geometry distortion of the horizontal lines in the lower part of the image.
Adjust the horizontal lines in the lower part of the image with the arrow keys until these lines are straight.
A bar scale and a number indicator (between 0 and 100) will give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



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



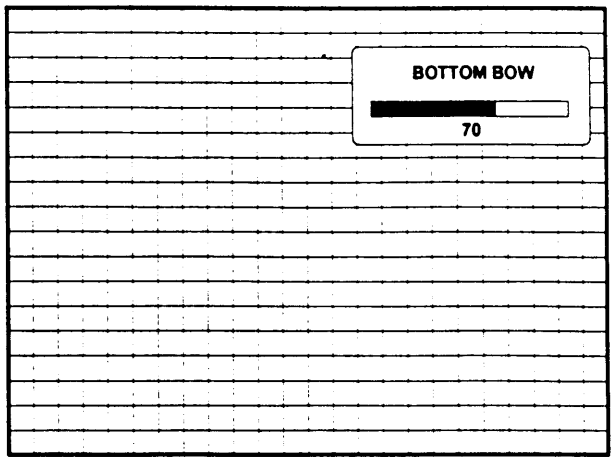
Correct with up arrow key



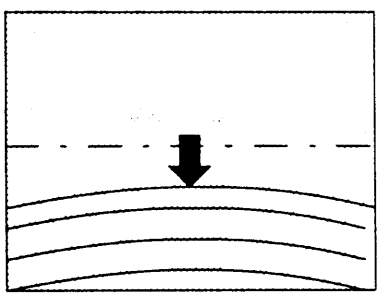
Correct with down arrow key

Bottom Bow Adjustment

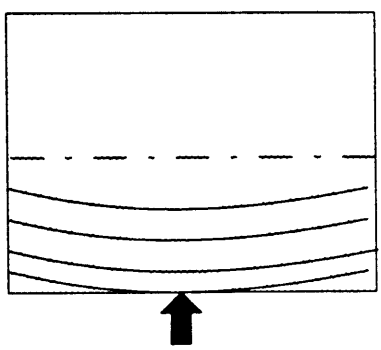
The bottom bow function corrects for curvature occurring in the lower part of the image. Use the top and bottom arrow key to adjust the bottom bow in the lower part of the setup pattern. Adjust until the horizontal lines are straight.
A bar scale and a number indicator (between 0 and 100 %) give a visual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



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



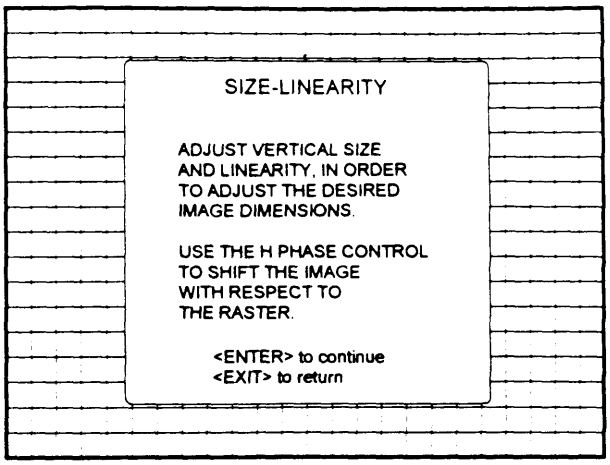
Correct with up arrow key



Correct with down arrow key

Size-linearity Adjustment

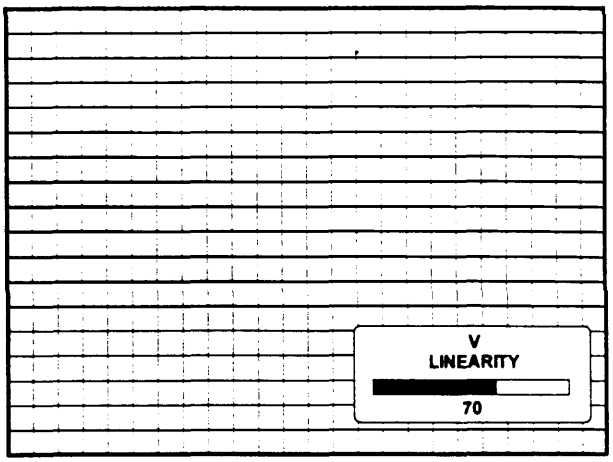
Size adjustments affect the height and width of the projected image. The vertical linearity adjustment is used to adjust the horizontal lines of the setup pattern until the spacing between them is even. The horizontal phase adjustment is used to shift the image horizontally across the raster.



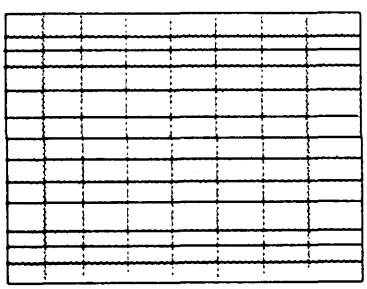
ENTER continues to horizontal size adjustment
EXIT returns to Top-Bottom adjustments (Menu G4)
ADJUST returns to operational mode

Vertical Linearity Adjustment

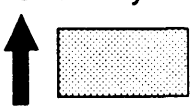
Adjust the vertical linearity with the arrow keys until the distance between the horizontal llines of the set up pattern are equal.



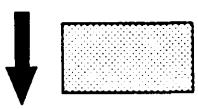
ENTER continues to vertical size adjustment
EXIT returns to the Size-Linearity menu.



Correct with up arrow key



Correct with down arrow key



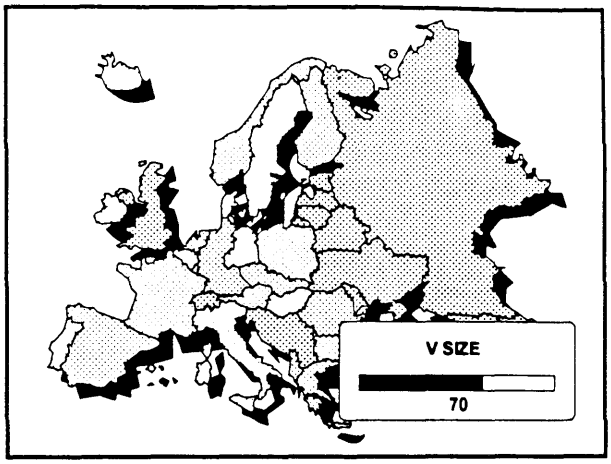
Vertical Size Adjustment

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

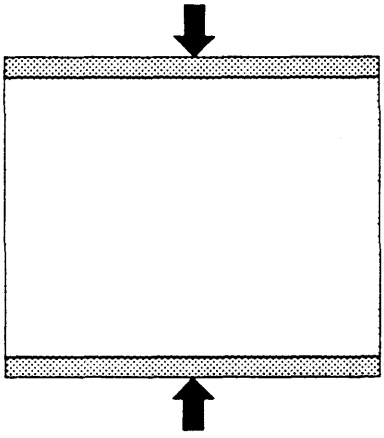
Note :
- if the internal # pattern was selected, this pattern remains on the screen.
- if the genlocked pattern was selected, the external source will be displayed.

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

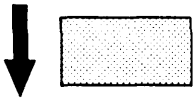
A bar scale and a number indicator (between 0 and 100) give a visual indication of the vertical size adjustment.

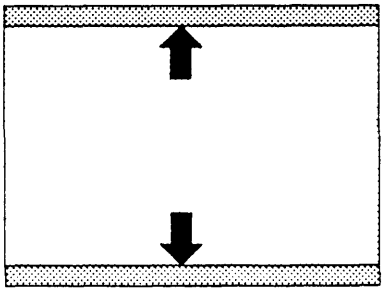


ENTER continues to horizontal phase adjustment
EXIT returns to vertical linearity adjustment

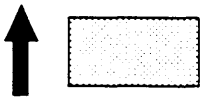


Correct with down arrow key





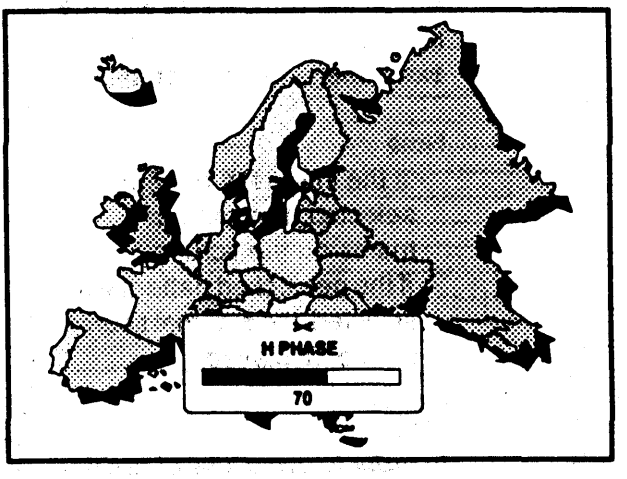
Correct with up arrow key



Horizontal Phase Adjustment

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

For external sources :
If the raster shift is correctly adjusted, the text box H phase is projected in the middle of the raster. At that moment, the >< indicates the middle of the raster.
Adjust the hor phase control until the middle of the projected image is equal with the middle of >< .

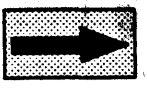


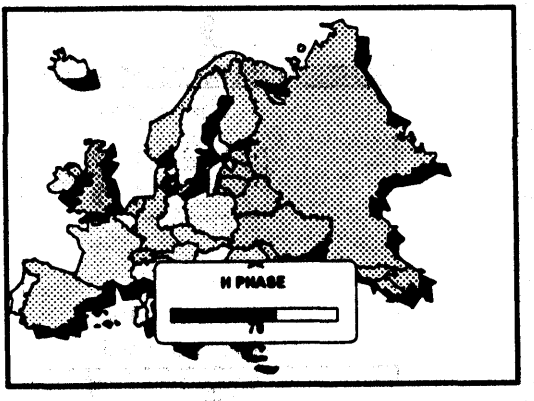
ENTER continues to Convergence
EXIT returns to vertical size adjustment

Note :
- if the genlocked pattern was selected, the external source will be displayed.

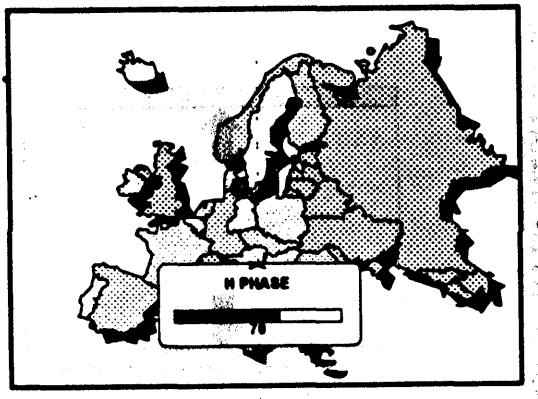
A bar scale and a number indicator (between 0 and 100) on the screen give a visual indication of the horizontal phase adjustment.

Correct with right arrow key





Correct with left arrow key



Convergence Adjustment

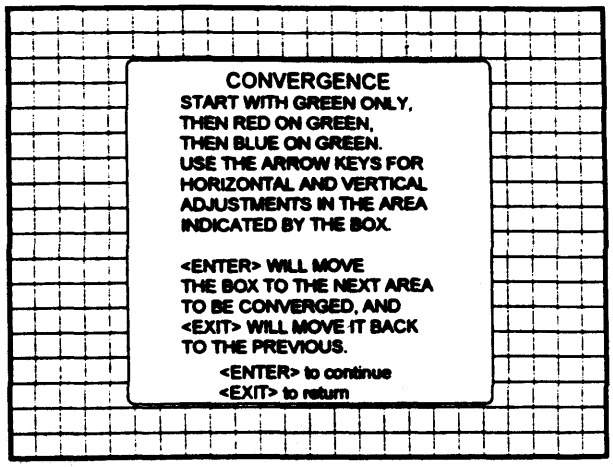
Convergence adjustments affect both the horizontal and vertical lines of the setup pattern. These adjustments are performed on the red image while superimposed on the green image and then on the blue image while superimposed on the green image.

The screen area is divided into 13 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.

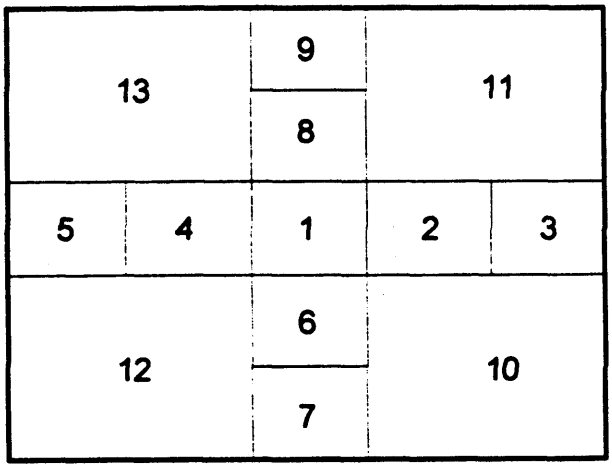
Use the arrow keys to make horizontal and vertical convergence adjustments in the area indicated by the box. Pressing ENTER will move the box to the next area of the setup pattern to be converged. Pressing EXIT will move the box back to the last area.

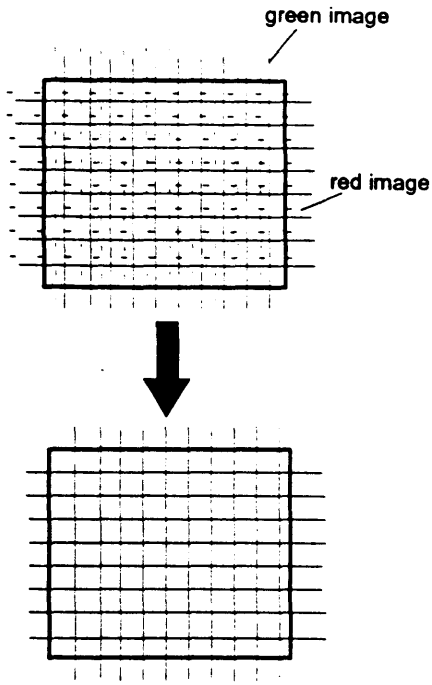
The 'guided adjustment' program will start with the convergence adjustment of the red picture on the green and continues with the blue image on the green image.

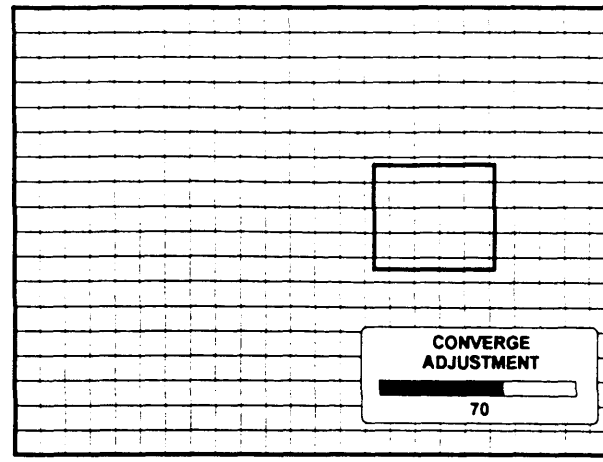
Attention : when green convergence adjustments are available (option). The control software starts with these green corrections (the menu will indicate it also). Adjust until the vertical and horizontal lines are straight.



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







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

Blanking Adjustment

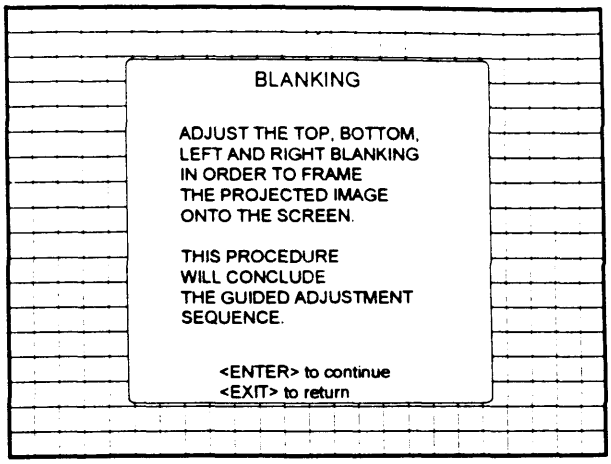
Blanking adjustments affect only the edges of the projected image and are used to frame the projected image on to the screen and to hide or black out unwanted information (or noise). A 0% on the bar scale indicates no blanking.

The following blanking corrections are possible :

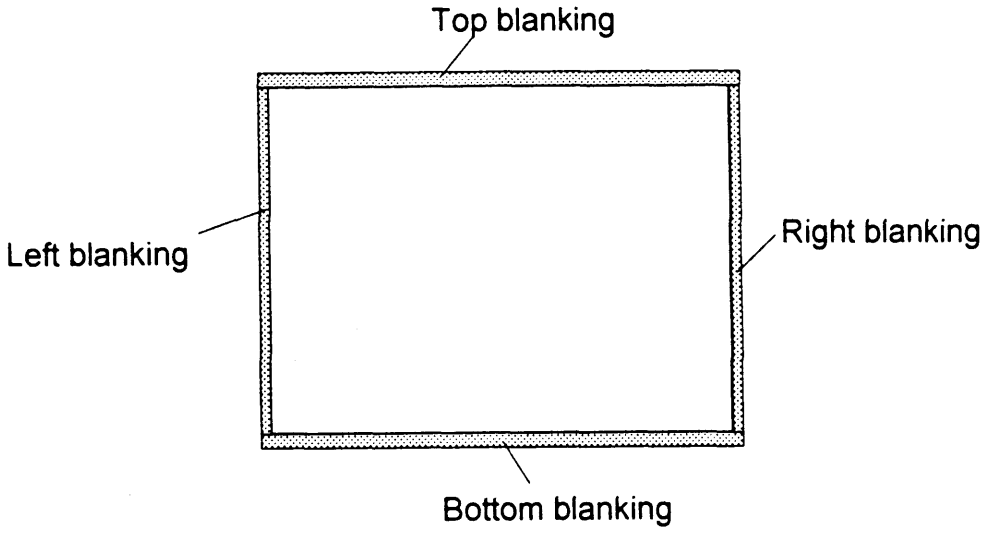
- top blanking
- bottom blanking
- left blanking
- right blanking

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.

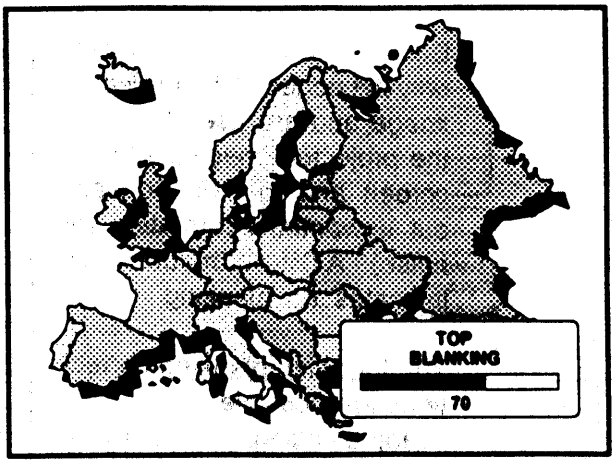


ENTER *continues to top blanking adjustment.*
EXIT returns to convergence menu
ADJUST returns to operational mode

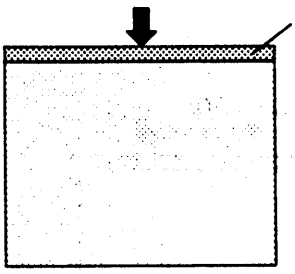


Top blanking adjustment

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

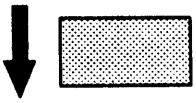


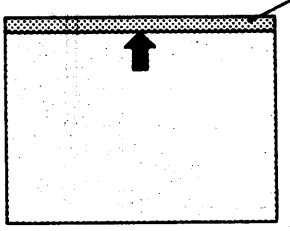
ENTER continues to bottom blanking adjustment.
EXIT returns to blanking adjustments



unwanted information
(to be blanked out)

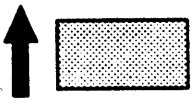
Correct with
down arrow key





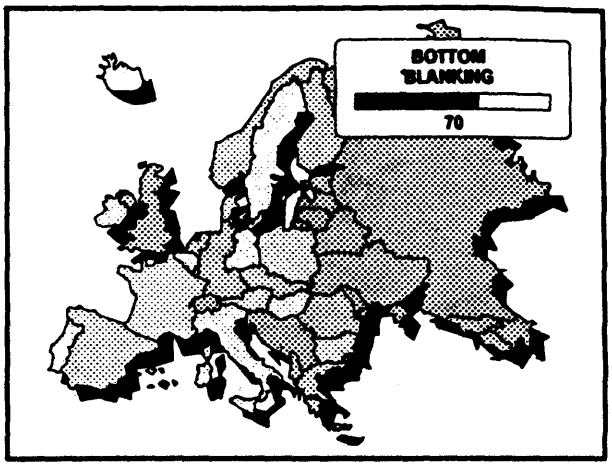
useful information
(to be displayed)

Correct with up
arrow key

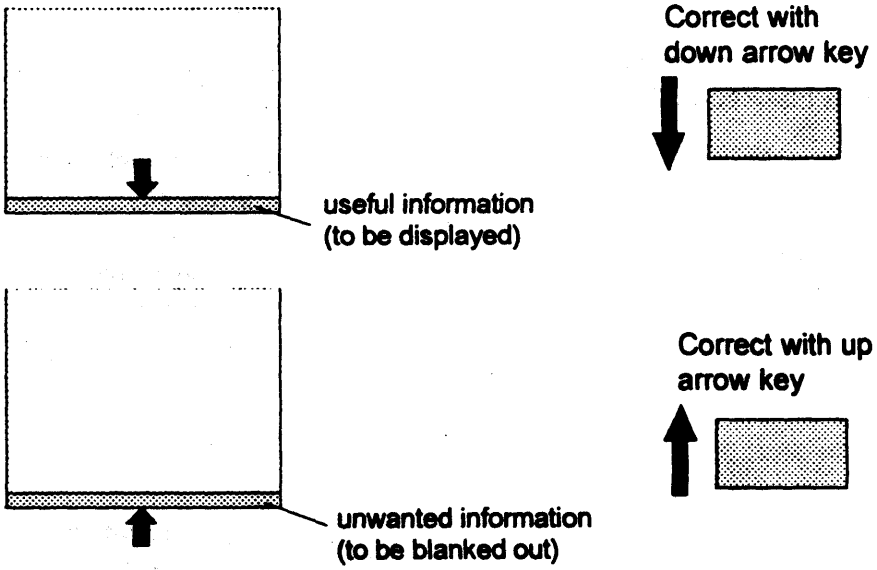


Bottom blanking adjustment

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

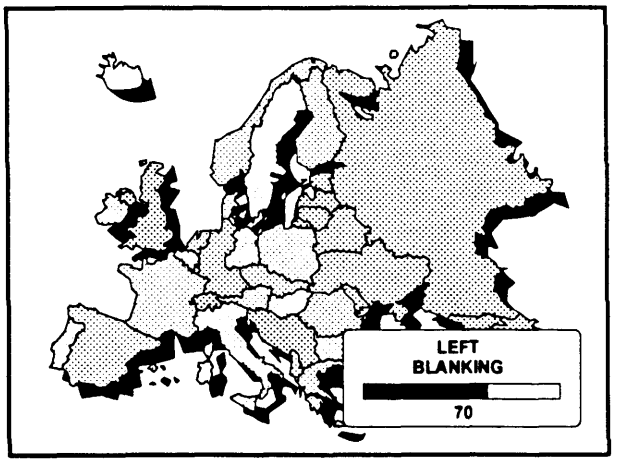


ENTER continues to left blanking adjustment.
EXIT returns to top blanking adjustments.



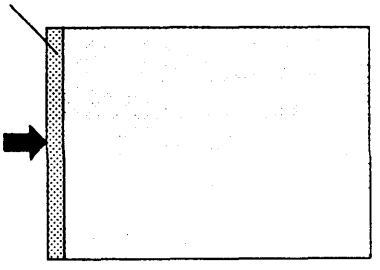
Left blanking adjustment

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

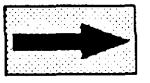


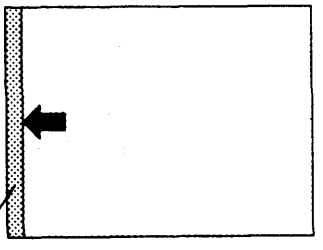
ENTER continues to right blanking adjustment.
EXIT returns to bottom blanking adjustments.

unwanted information
(to be blanked out)

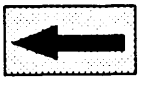


Correct with right arrow key





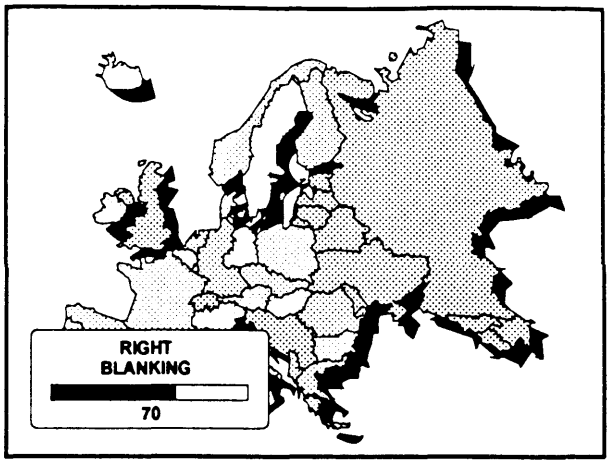
Correct with left arrow key



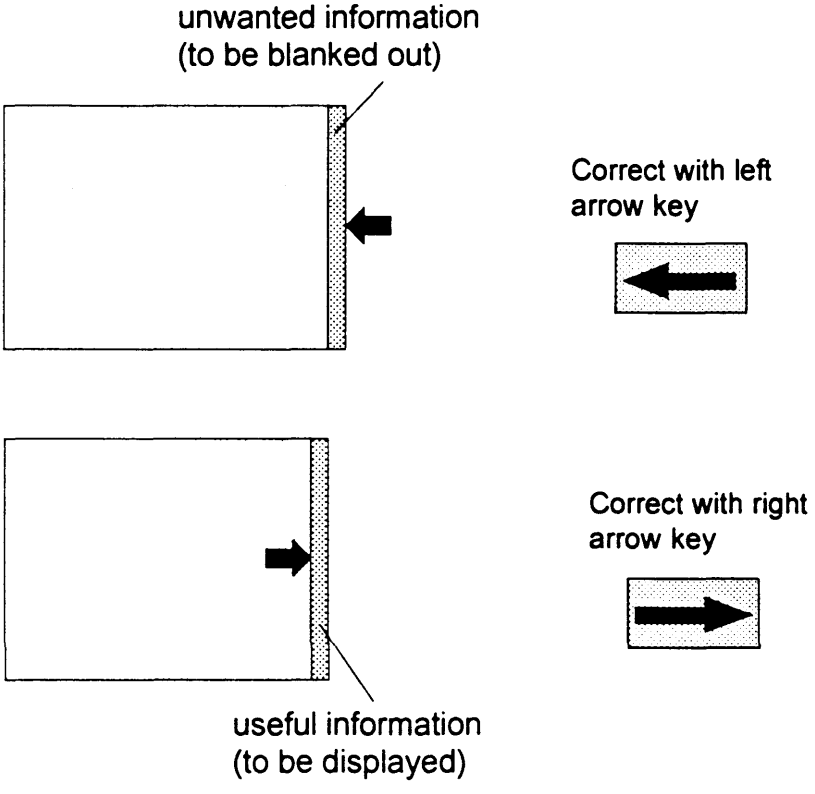
useful information
(to be displayed)

Right blanking adjustment

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



ENTER concludes the Guided Adjustment Sequence.
EXIT returns to left blanking adjustments.



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

Picture tuning
- White balance
- Sync Fast/Slow
- Coring
- Enhanced Blue On/Off Adjustment

Color select

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

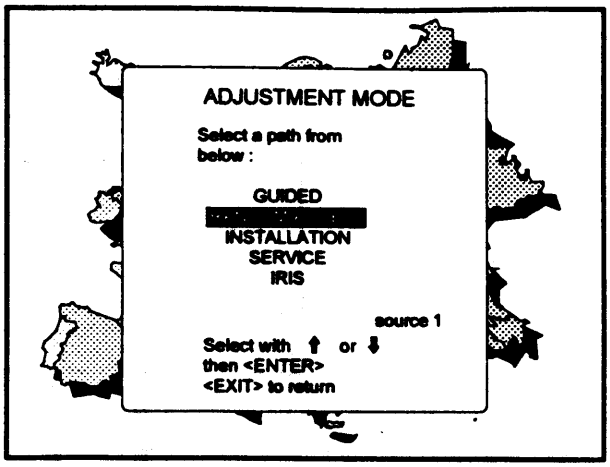
Blanking adjustments

Convergence adjustments

Starting up the random access adjustment mode.

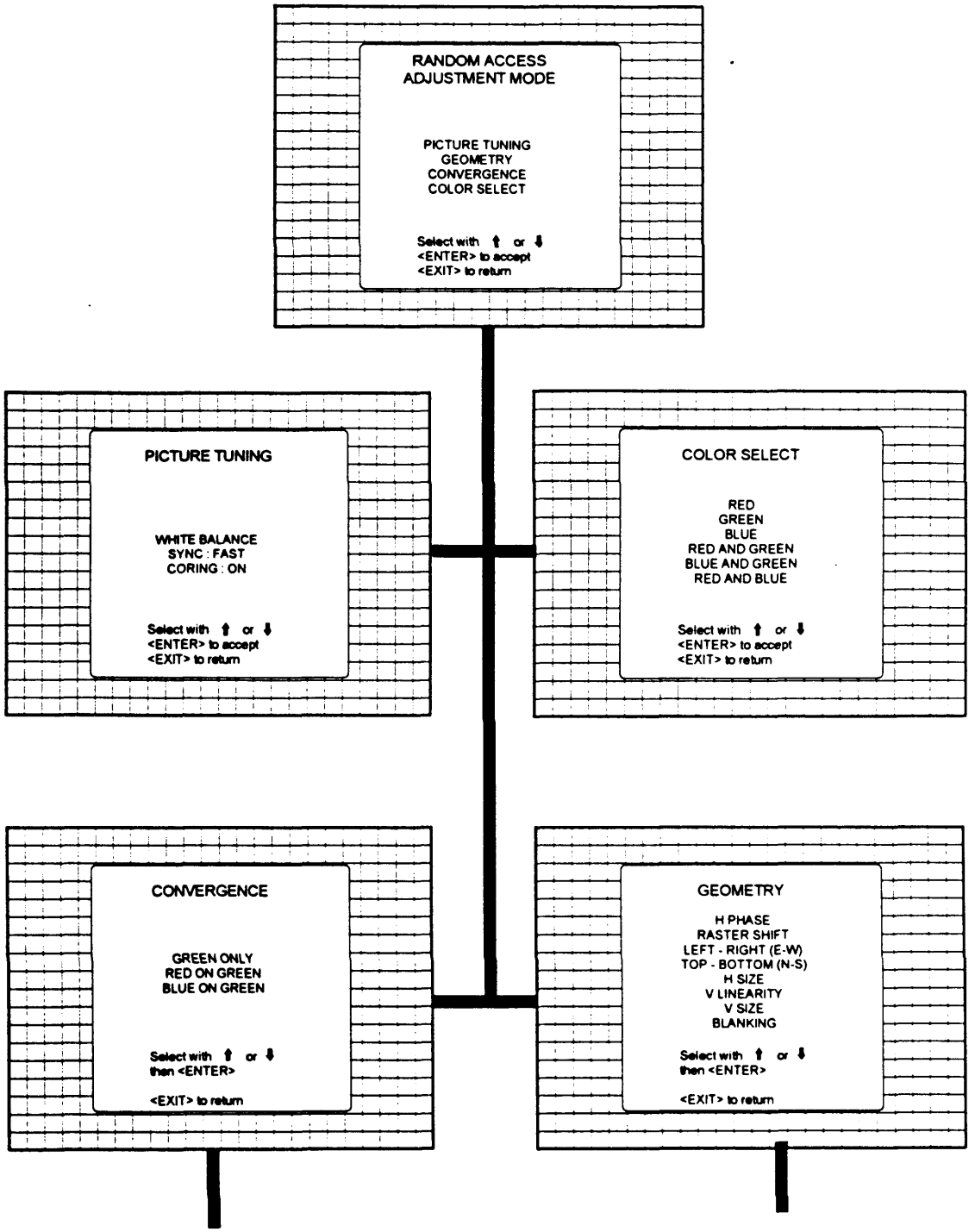
Use the arrow keys to highlight *"RANDOM ACCESS"* and then press **ENTER**.

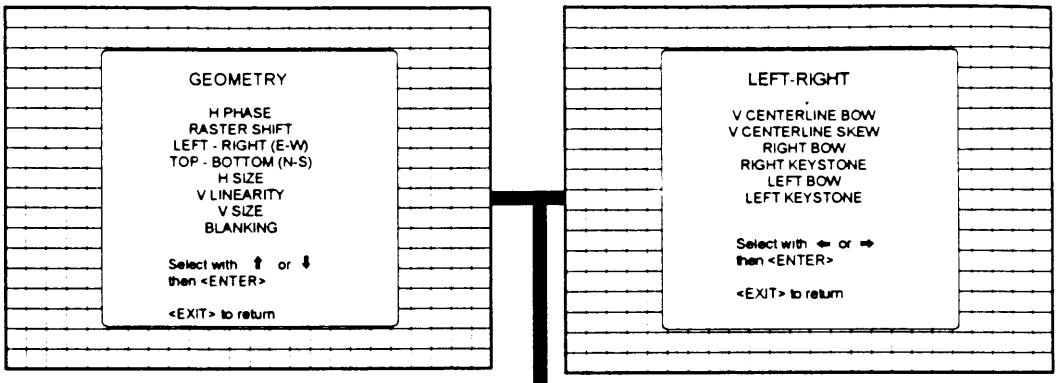
Some items in the Random access mode are password protected (when the password function is enabled). Enter your password to continue. All other password protected items are now also available if you stay in the adjustment mode.



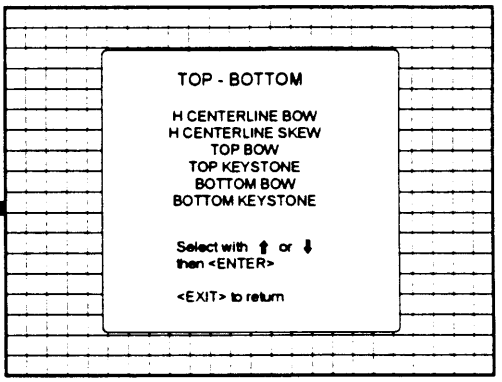
ENTER continues to Setup Pattern Selection
EXIT returns to operational mode

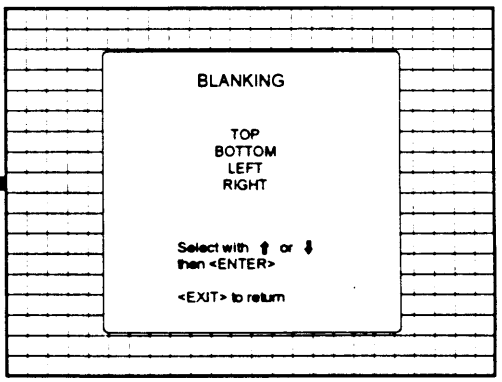
Overview flowchart 'Random Access Adjustment' mode

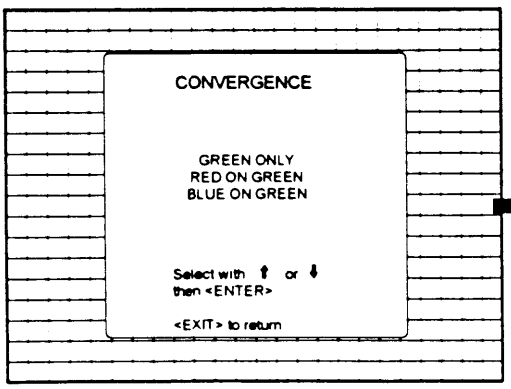


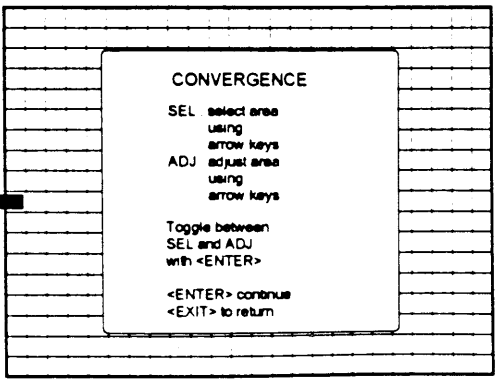

GEOMETRY
H PHASE
RASTER SHIFT
LEFT - RIGHT (E-W)
TOP - BOTTOM (N-S)
H SIZE
V LINEARITY
V SIZE
BLANKING
Select with ⬆ or ⬇
then <ENTER>
<EXIT> to return

LEFT-RIGHT
V CENTERLINE BOW
V CENTERLINE SKEW
RIGHT BOW
RIGHT KEYSTONE
LEFT BOW
LEFT KEYSTONE
Select with ⬅ or ➡
then <ENTER>
<EXIT> to return


TOP - BOTTOM
H CENTERLINE BOW
H CENTERLINE SKEW
TOP BOW
TOP KEYSTONE
BOTTOM BOW
BOTTOM KEYSTONE
Select with ⬆ or ⬇
then <ENTER>
<EXIT> to return


BLANKING
TOP
BOTTOM
LEFT
RIGHT
Select with ⬆ or ⬇
then <ENTER>
<EXIT> to return


CONVERGENCE
GREEN ONLY
RED ON GREEN
BLUE ON GREEN
Select with ⬆ or ⬇
then <ENTER>
<EXIT> to return

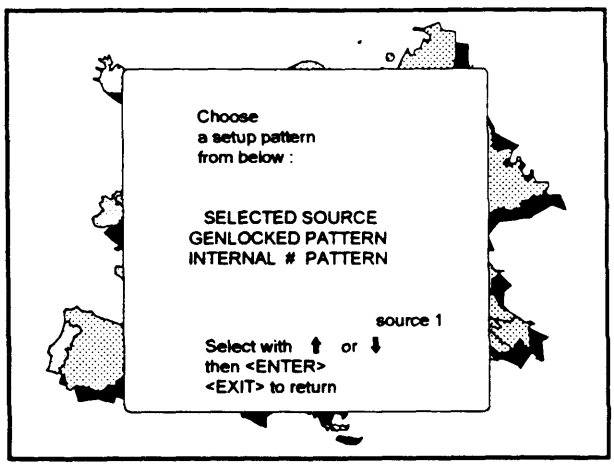

CONVERGENCE
SEL select area
using
arrow keys
ADJ adjust area
using
arrow keys
Toggle between
SEL and ADJ
with <ENTER>
<ENTER> continue
<EXIT> to return

Selecting Setup Pattern

If an external source is connected to the projector, Menu S2 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.

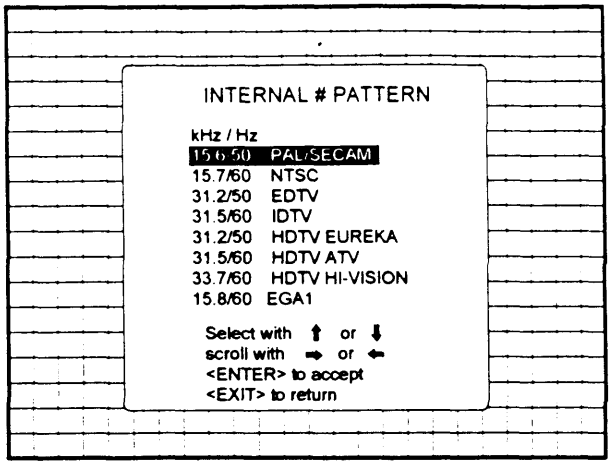
The menus in this manual are created for an external source, connected to one of the inputs, and the 'Genlocked pattern' is selected.

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 an example of the factory preset frequencies available.

Use the up and down arrow keys to highlight the desired cross hatch frequency. Use the left and right arrow keys to scroll to another page. Press **ENTER** if the disered block is selected.



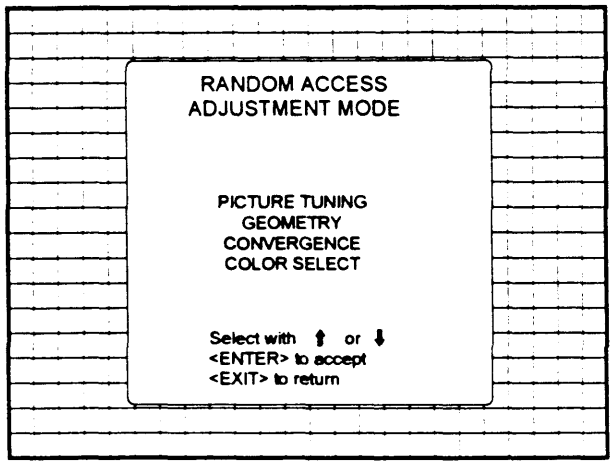
ENTER continues to the Random Access Adjustment Mode.
EXIT returns to the Setup Pattern Selection menu.

kHz/Hz	
15.6/50	PAL/SECAM
15.7/60	NTSC
31.2/50	EDTV
31.5/60	IDTV
31.2/50	HDTV EUREKA
31.5/60	HDTV ATV
33.7/60	HDTV HI-VISION

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 :

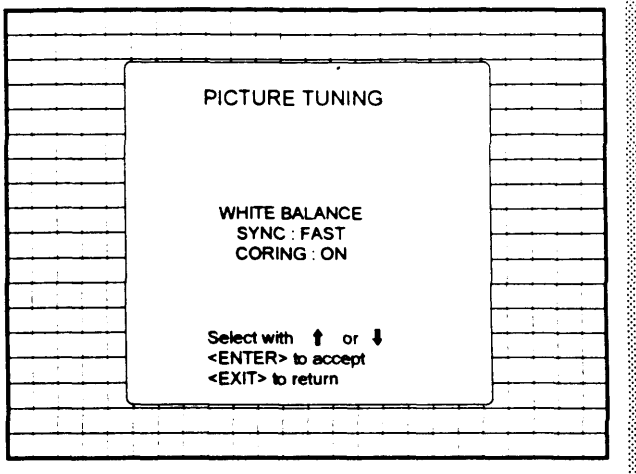
- Picture tuning
  - enhanced blue (only for RGB)
  - sync slow/fast(video/s-video)
  - coring (video/s-video)
  - white balance
- Geometry
- Convergence
- Color select



Picture tuning

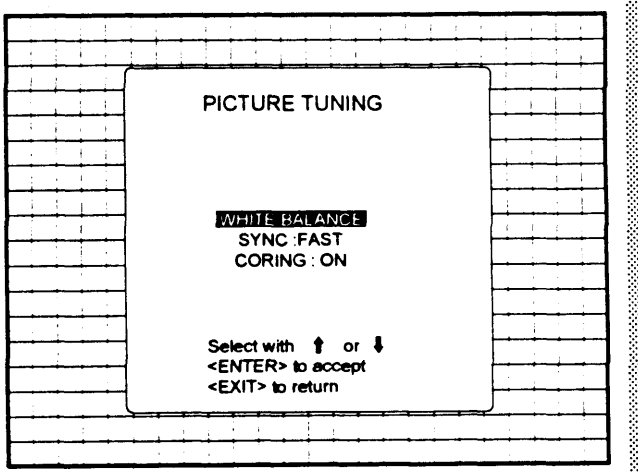
Highlight *Picture tuning* with the arrow keys and press **ENTER**.
The Picture tuning menu will be displayed.
Depending on the input source, the Picture tuning menu will display different items.
For video or s-video input sources :
- White balance
- sync slow / fast
- coring

For RGB analog sources :
- White balance
- Enhanced blue on /off



White Balance

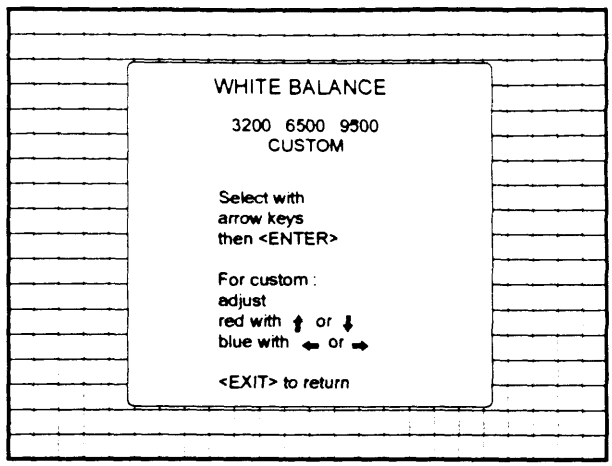
The White Balance function is used to select or adjust the color temperature of white used by the projector.
Highlight *White Balance* with the arrow keys and press **ENTER** to display the White Balance menu.



ENTER selects the white balance menu.
EXIT returns to the Random access adjustment mode menu.

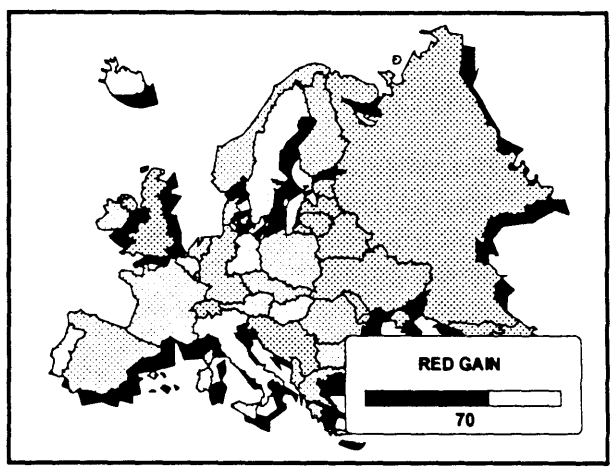
If the desired white balance is not correct, select with the arrow keys a White Balance and press **ENTER** to display the image with the correct white balance.

Press **ENTER** to continue, and the white balance menu will be re-displayed.
New changes can be made or press **EXIT** to return to the Picture tuning menu.



ENTER select the chosen White balance.
EXIT returns to the Picture Tuning menu.

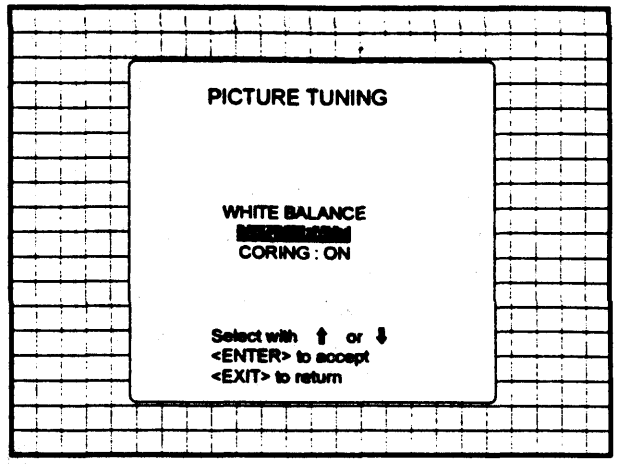
When *CUSTOM* is selected, the gain for Red and Blue can be adjusted with the arrow keys until the desired white balance is obtained.
Use the left and right arrow keys to adjust the Red gain. Use the up and down arrow keys to adjust the Blue gain. A bar scale indicates the amount of adjustment.
Press **ENTER** to continue and displaying the White Balance menu.



Sync Fast/Slow Adjustment

The sync function is used to minimize horizontal jittering or tearing at the top to the displayed image.
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.

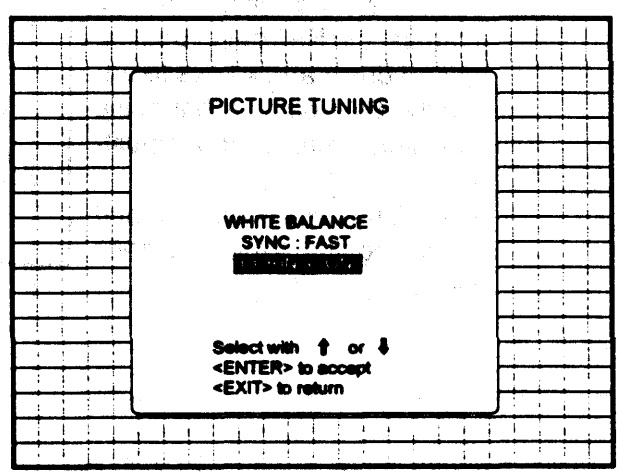


ENTER will toggle Sync between FAST and SLOW
EXIT will return to Setup Pattern Selection

Coring

Coring depends the noise level of a sharpness regulated video signal.

When coreing is desired, highlights *Coring* with the arrow keys and press **ENTER** to toggle between ON and OFF.



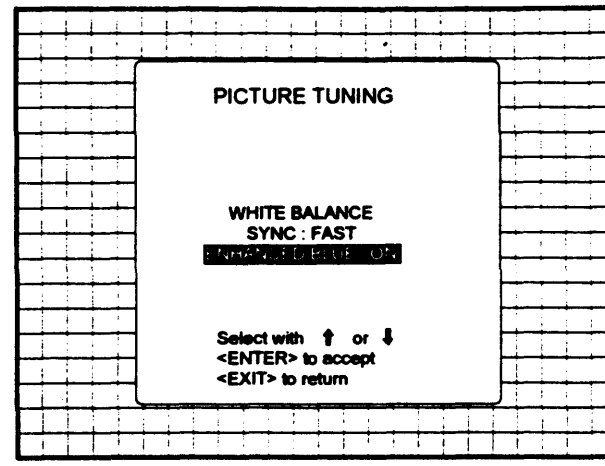
ENTER toggles between ON and OFF.
EXIT returns to the Random Access main menu.

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.

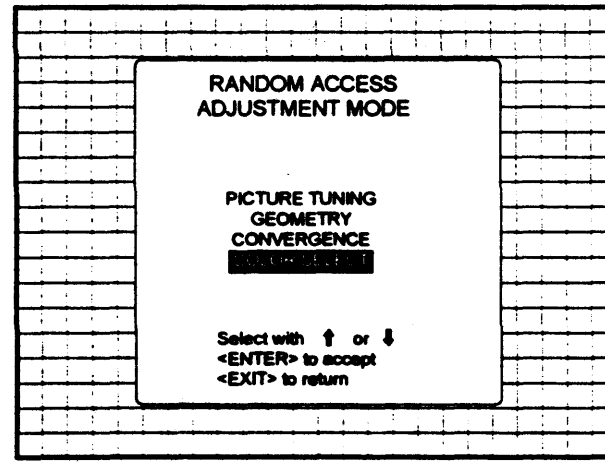
For displaying graphics, this 'Enhanced Blue' function could falsify the color reproduction. In this case, put Enhanced Blue OFF.



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

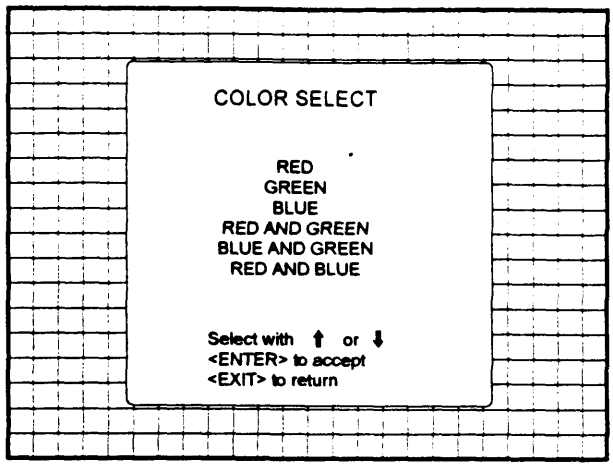
Color Select

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**.

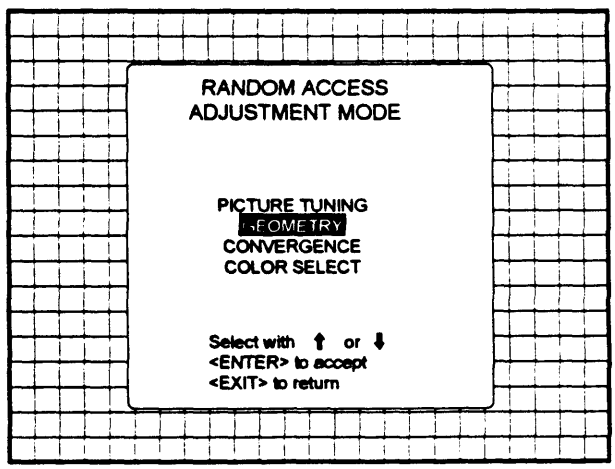


ENTER continues with the selected color or color combination.
EXIT returns to the Random access main menu.

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.

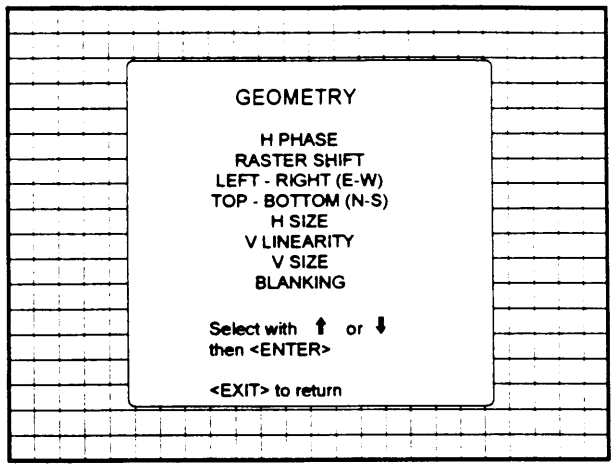
Highlight *GEOMETRY* with the arrow keys and press **ENTER** to display the geometry menu.



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 linearity
- vertical size
- blanking

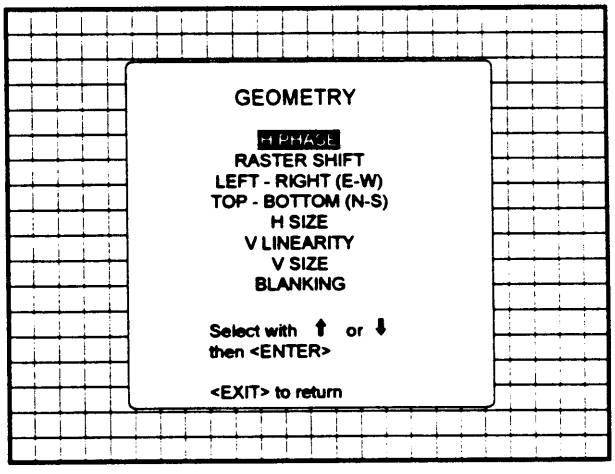


The convergence corrections are disabled during geometry corrections. The blanking corrections are only enabled during the blanking adjustments.

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

Horizontal Phase Adjustment

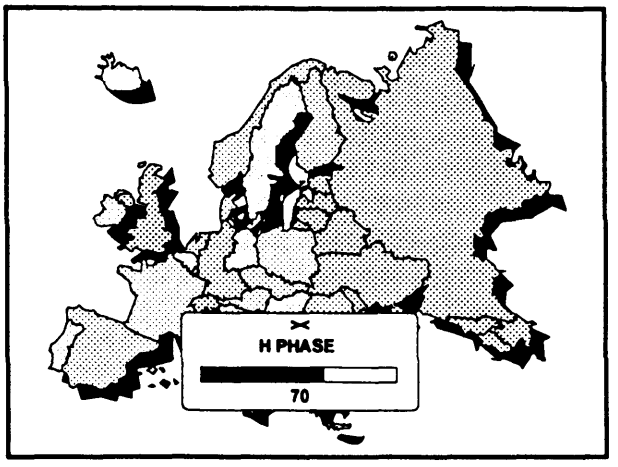
Use the arrow keys to highlight *H PHASE* on *Geometry menu* and then press **ENTER**.



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.

For external sources :
If the raster shift is correctly adjusted, the text box H phase is projected in the middle of the raster. At that moment, the >< indicates the middle of the raster.
Adjust the hor phase control until the middle of the projected image is equal with the middle of >< .

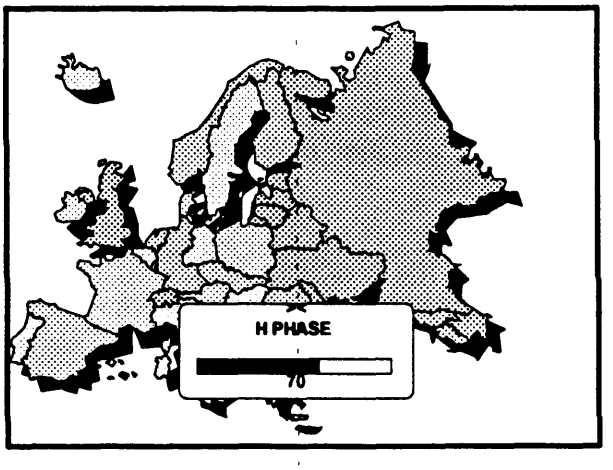


ENTER continues to geometry menu .

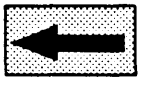
Note :
- if the genlocked pattern was selected, the external source will be displayed.

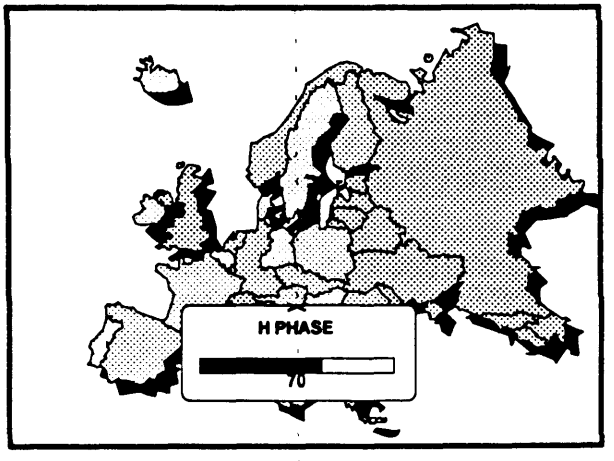
A bar scale and a number indicator (between 0 and 100) on the screen give a visual indication of the horizontal phase adjustment.

Correct with right arrow key



Correct with left arrow key



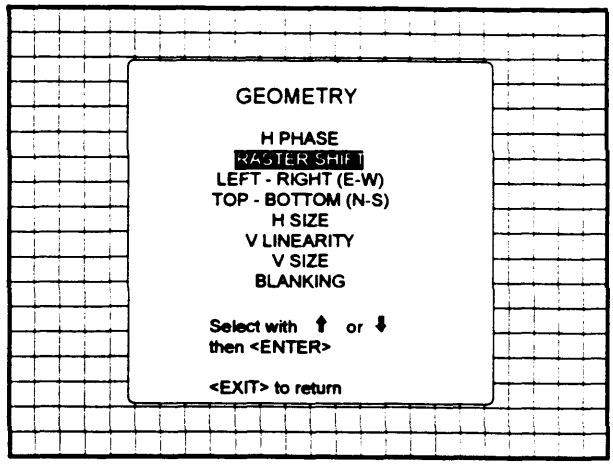


Raster Shift Adjustment

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.

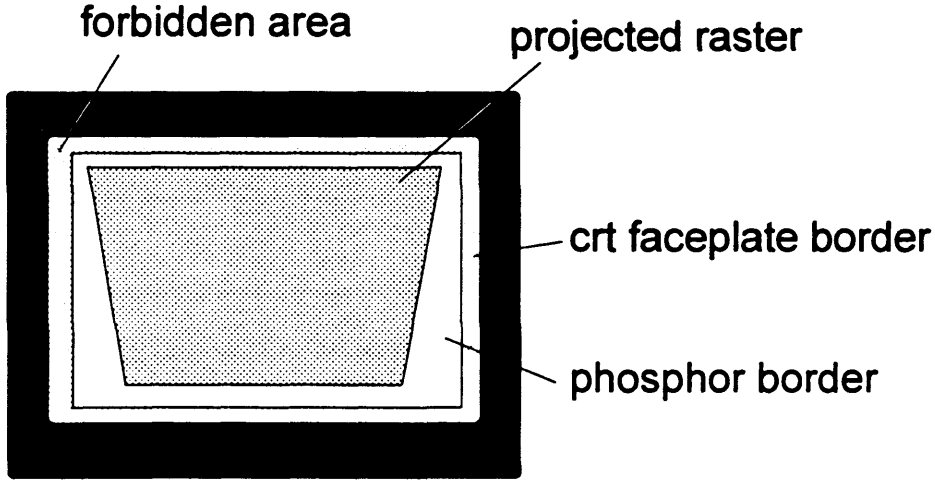
CAUTION

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.

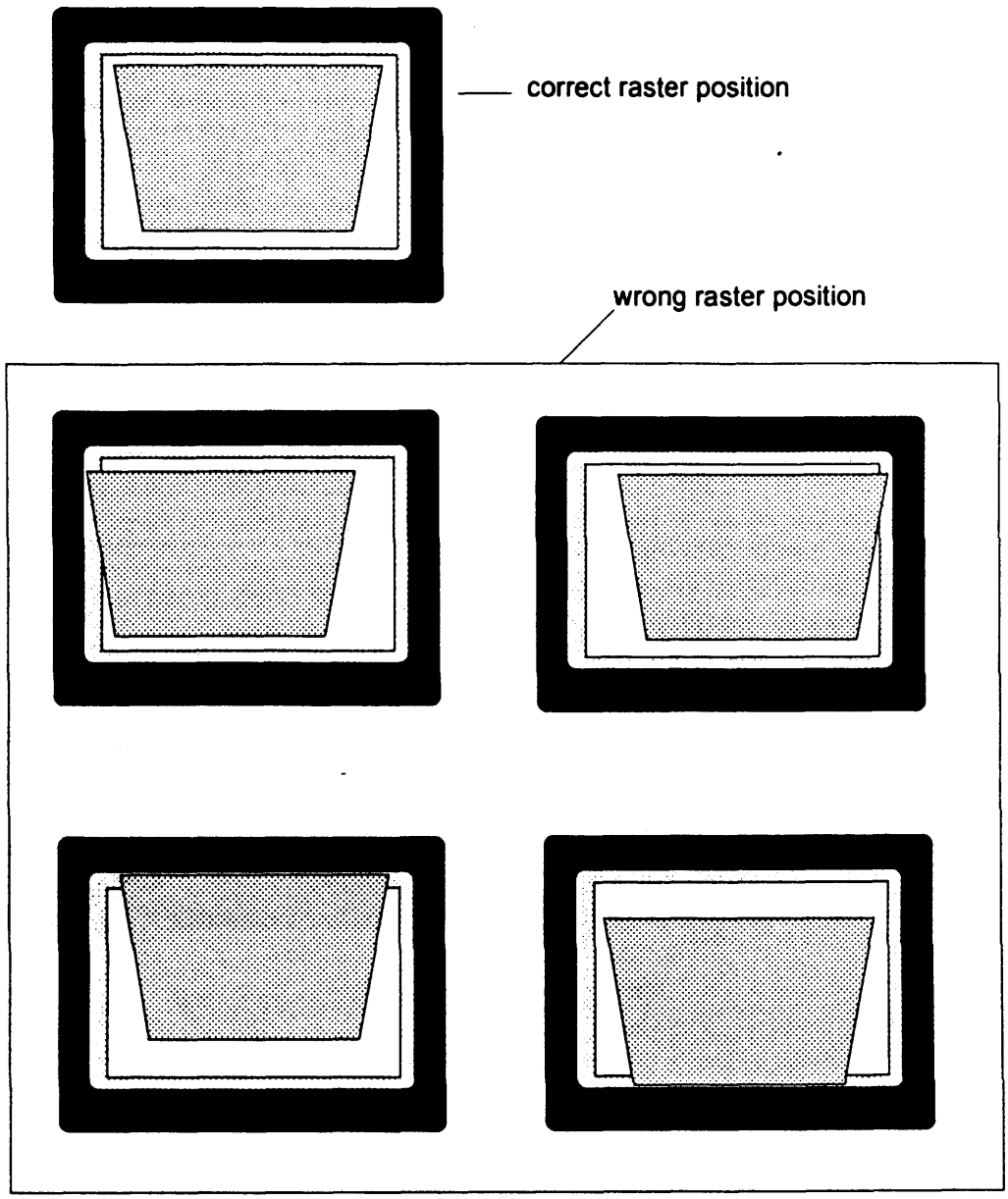


ENTER will select green raster shift adjustment
EXIT returns to random access adjustment mode menu.

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.

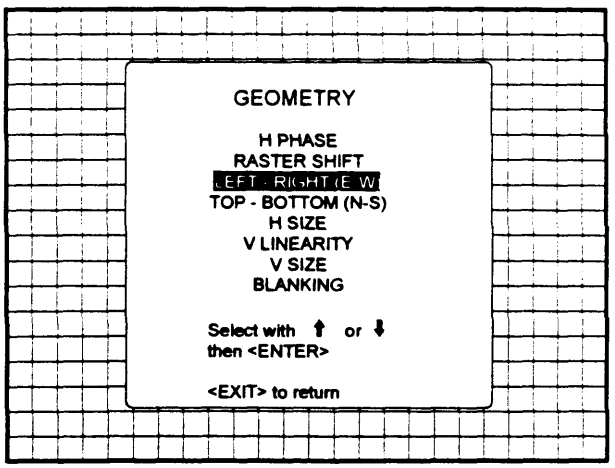
Left-Right (east-west) Adjustments

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)

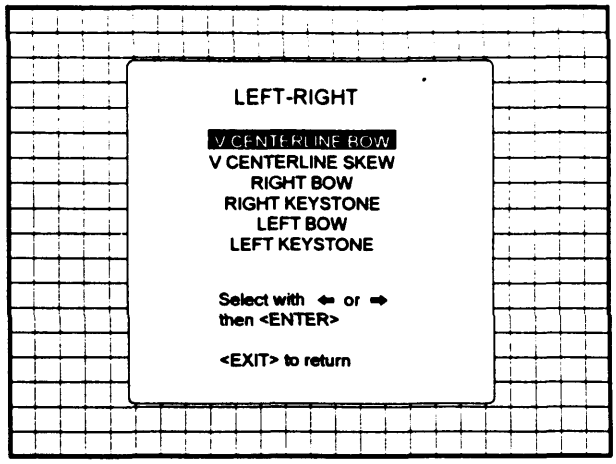
Use the arrow keys to highlight *LEFT-RIGHT (E/W)* on the geometry menu and then press **ENTER**.



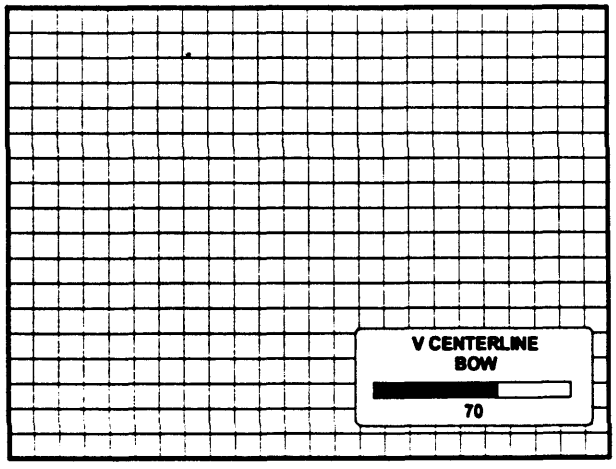
ENTER will select Left-Right adjustment menu
EXIT returns to random access adjustment mode main menu.
ADJUST returns to operational mode

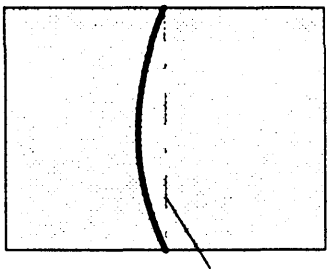
Vertical Centerline Bow Adjustment

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.**



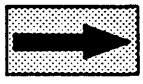
ENTER will select vertical centerline bow adjustment
EXIT will return to Geometry menu
ADJUST returns to operational mode

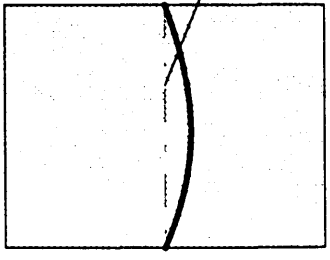




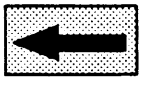
Vertical centerline

Correct with right arrow key





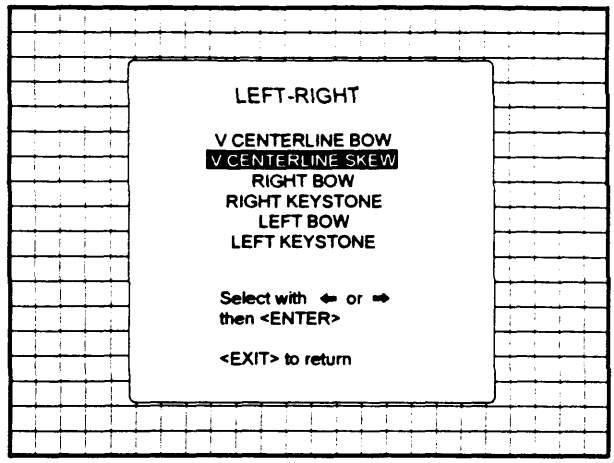
Correct with left arrow key



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

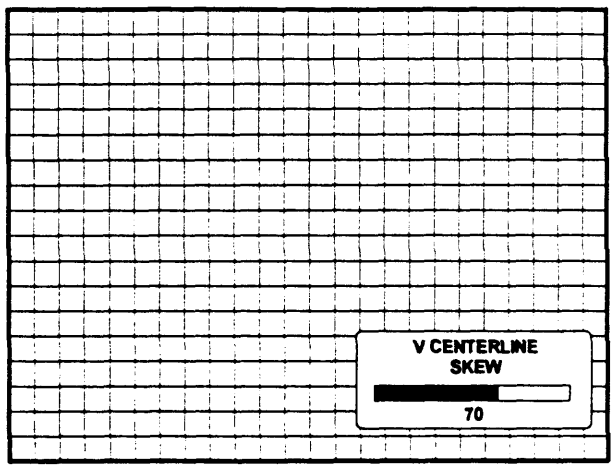
Vertical Centerline Skew Adjustment

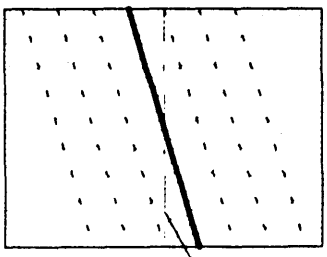
The vertical centerline skew function corrects for tilting of the displayed image.
Use the arrow keys to highlight *V CENTERLINE SKEW* on the geometry menu and then press **ENTER**



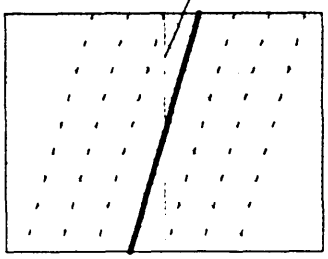
ENTER will select vertical centerline skew adjustment
EXIT will return to Geometry menu
ADJUST returns to operational mode

Adjust with the left and right arrow key 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.

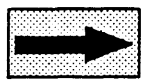




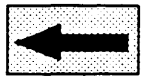
Vertical centerline



Correct with right arrow key



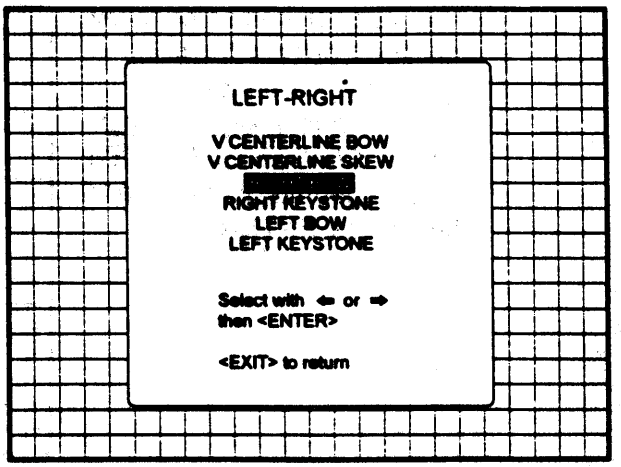
Correct with left arrow key



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

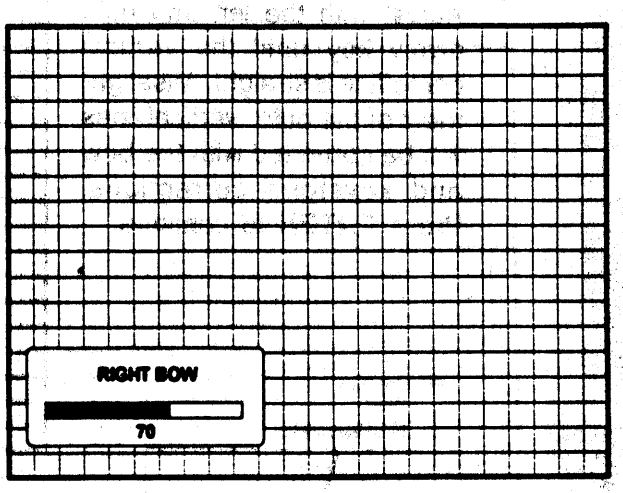
Right Bow Adjustment

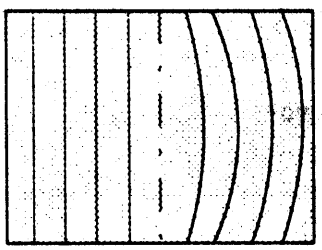
The right bow adjustment corrects for curvature occurring at the right side of the displayed image and that for the vertical lines.
Use the arrow keys to highlight *Right BOW* on the Geometry menu and then press **ENTER**.



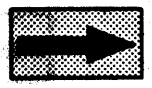
ENTER will select right bow adjustment
EXIT will return to Geometry menu
ADJUST returns to operational mode

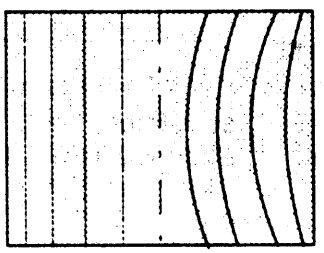
Use the left or right arrow key to adjust the right bow of the setup pattern (vertical lines) and press **ENTER** to continue.



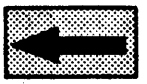


Correct with right arrow key





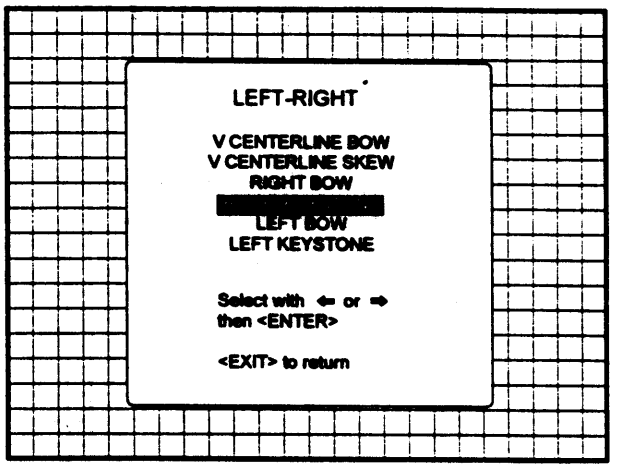
Correct with left arrow key



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

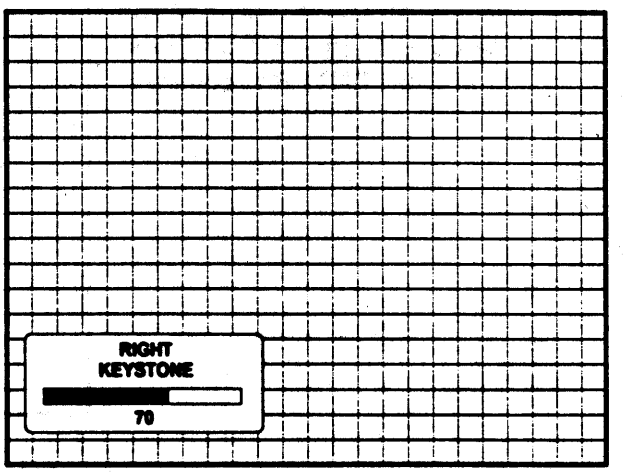
Right Keystone Adjustment

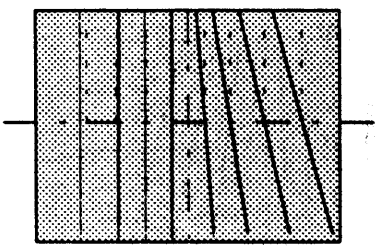
The right keystone adjustment corrects the keystone geometry distortion of the vertical lines on the right side of the image.
Use the arrow keys to highlight *RIGHT KEYSTONE* on Left-Right menu and then press **ENTER**.



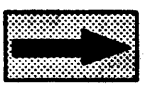
ENTER will select side keystone adjustment
EXIT will return to Geometry menu.
ADJUST returns to operational mode

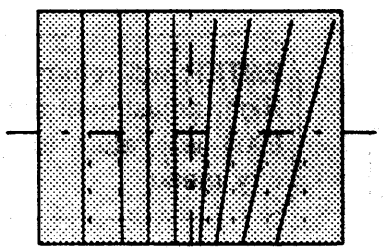
Use the left or right arrow key to adjust the right keystone (vertical lines) of the setup pattern and press **ENTER** to continue.



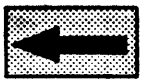


Correct with right arrow key





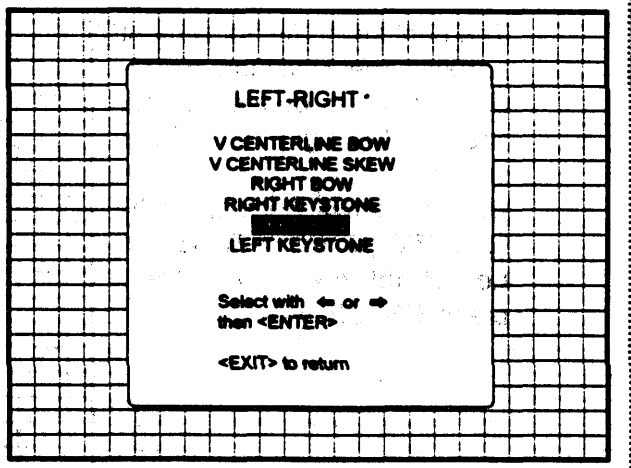
Correct with left arrow key



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

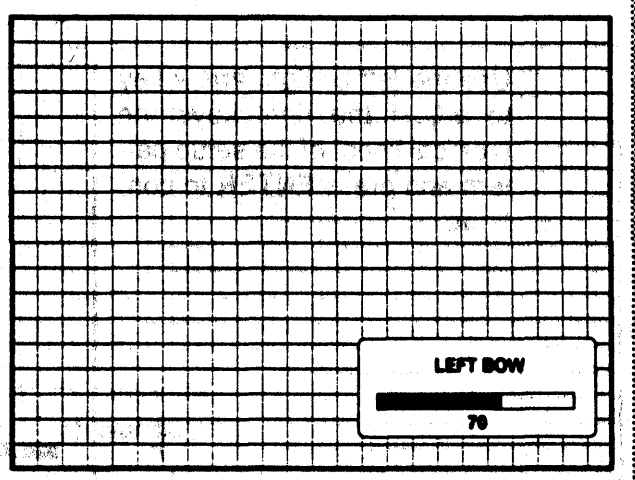
Left Bow Adjustment

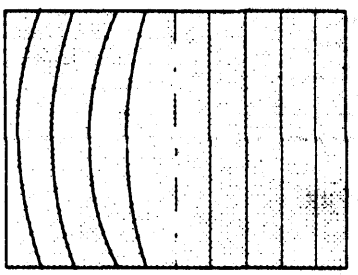
The leftt bow adjustment corrects for curvature occurring at the left side of the displayed image and that for the vertical lines.
Use the arrow keys to highlight *LEFT BOW* on the Left-Right and then press **ENTER**.



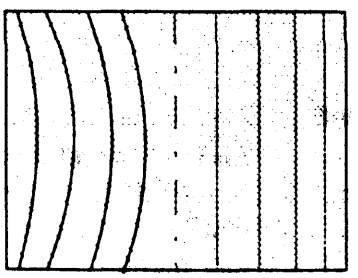
ENTER will select left bow adjustment
EXIT will return to Geometry menu
ADJUST returns to operational mode

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





Correct with right arrow key

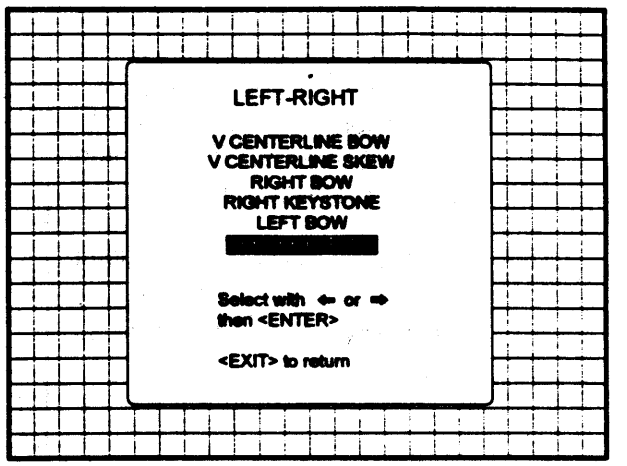


Correct with left arrow key

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

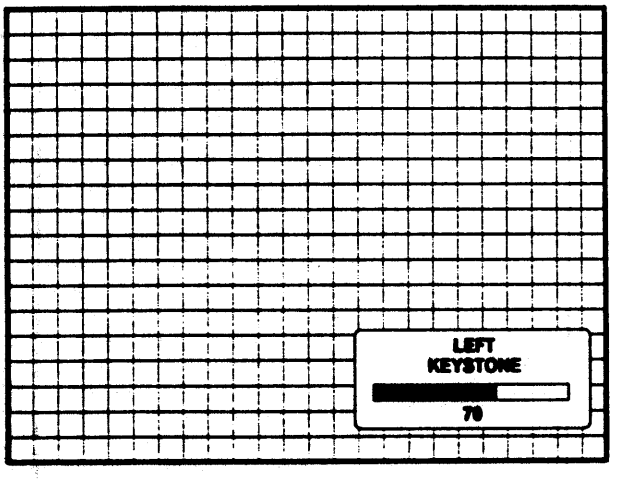
Left Keystone Adjustment

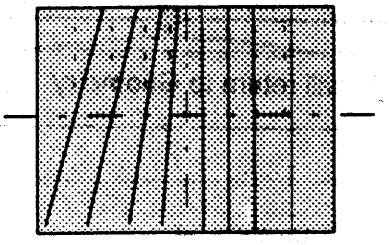
The left keystone adjustment corrects the keystone geometry distortion of the vertical lines on the left side of the image.
Use the arrow keys to highlight *LEFT KEYSTONE* on the Left-Right menu and then press **ENTER**.



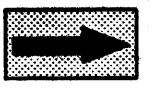
ENTER will select left keystone adjustment
EXIT will return to Geometry menu
ADJUST returns to operational mode

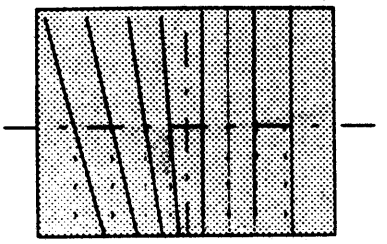
Use the left or right arrow key to adjust the left keystone (vertical lines) of the setup pattern and press **ENTER** to continue.



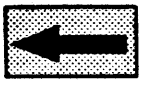


Correct with right arrow key





Correct with left arrow key

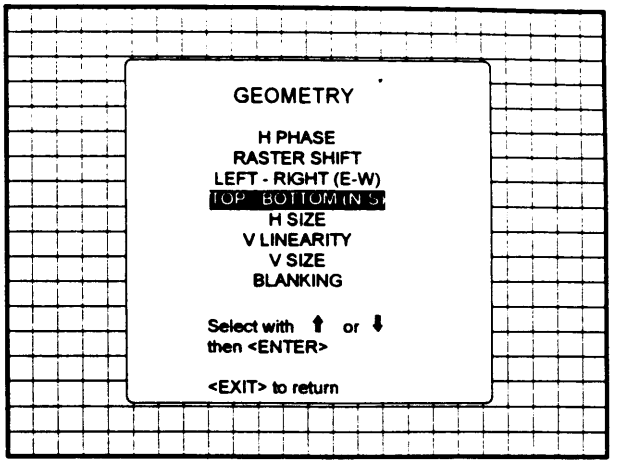


ENTER will return to Left-Right adjustment menu
EXIT will return to Geometry menu

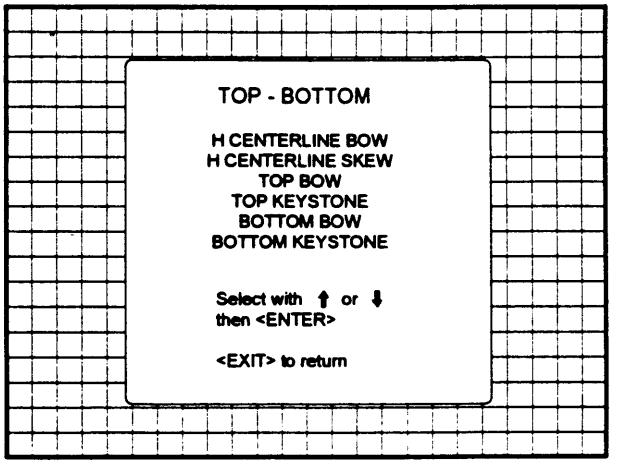
Top-Bottom (north-south) Adjustments

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**.



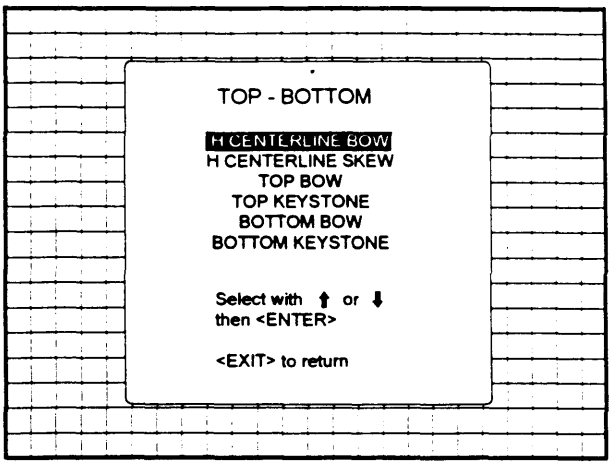
ENTER will select Top-Bottom adjustment menu
EXIT returns to random access adjustment mode menu.
ADJUST returns to operational mode



EXIT will return to Geometry

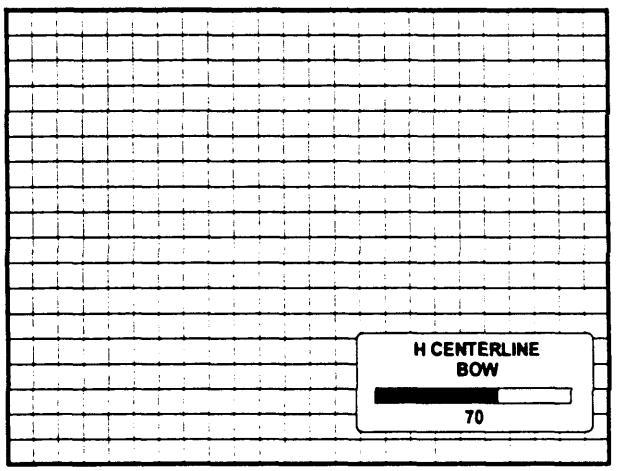
Horizontal Centerline Bow Adjustment

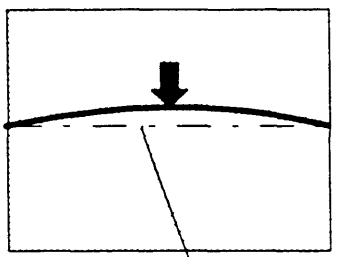
The horizontal centerline bow function corrects for curvature in the vertical direction in the middle of the image and that for the horizontal lines.
Use the arrow keys to highlight *H CENTERLINE BOW* on the TOP-BOTTOM menu and then press **ENTER.**



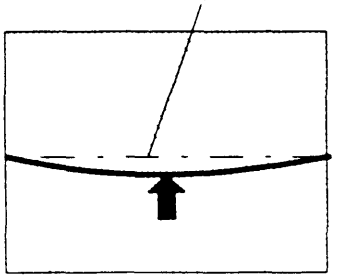
ENTER will select horizontal centerline bow adjustment
EXIT will return to Geometry menu
ADJUST returns to operational mode

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.

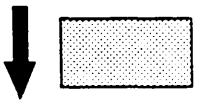




Hor. centerline



Correct with down arrow key

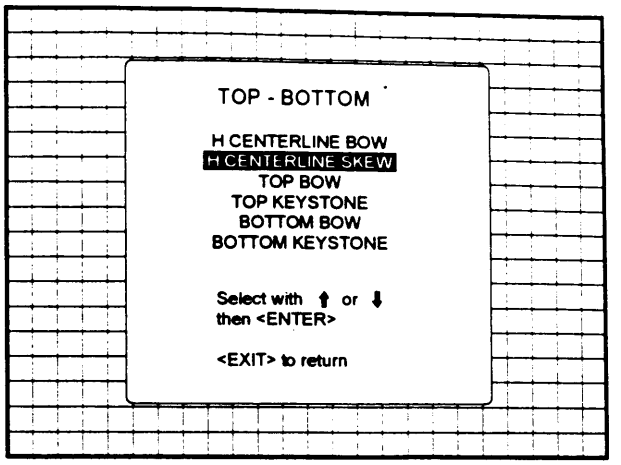


Correct with up arrow key

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

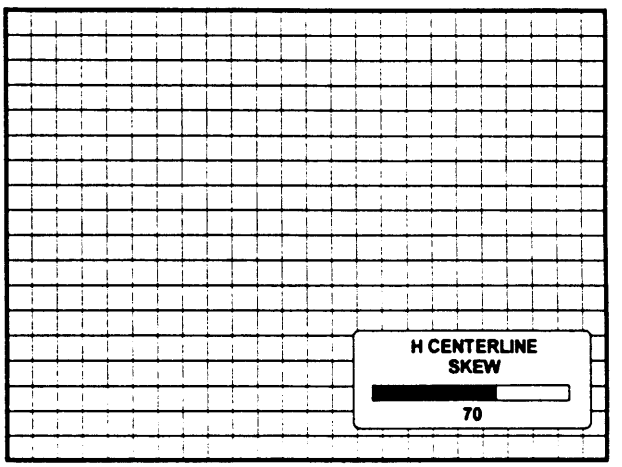
Horizontal Centerline Skew Adjustment

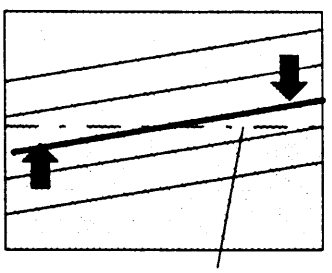
The horizontal centerline skew function corrects for tilting of the horizontal lines in the middle of the image.
Use the arrow keys to highlight *H CENTERLINE SKEW* on the TOP-BOTTOM menu and then press **ENTER.**



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

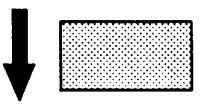
Use the up and down arrow keys to adjust the horizontal centerline skew of the setup pattern.
A bar scale and a number indicator will give a visual indication of the skew correction.

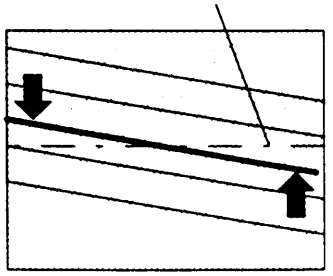




Hor. centerline

Correct with down arrow key



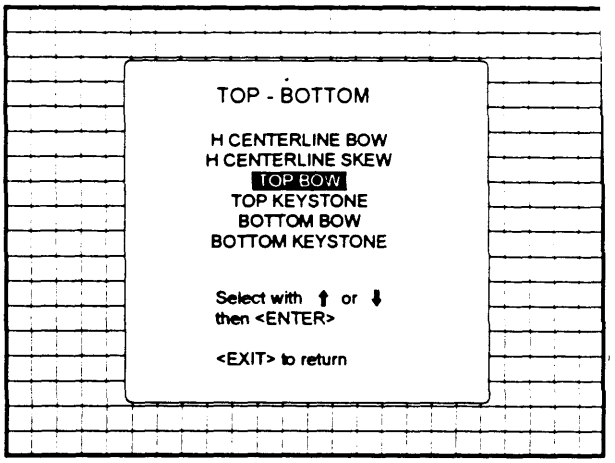


Correct with up arrow key

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

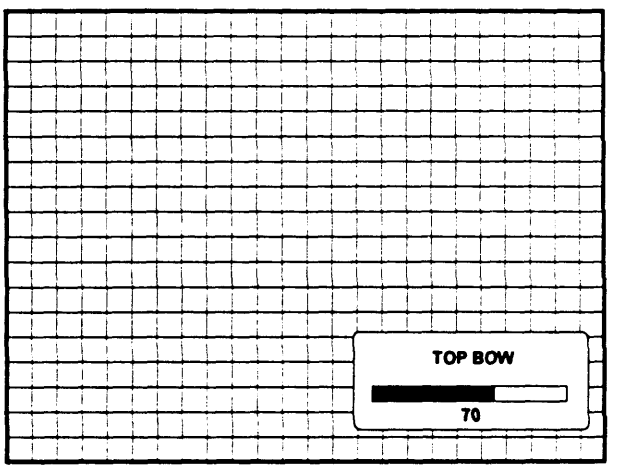
Top Bow Adjustment

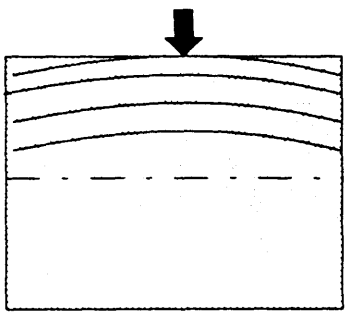
The top bow function corrects for curvature occurring in the upper part of the image.
Use the arrow keys to highlight *TOP BOW* on the TOP-BOTTOM menu and then press **ENTER**.



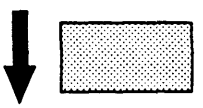
ENTER will select top bow adjustment
EXIT will return to Geometry menu
ADJUST returns to operational mode

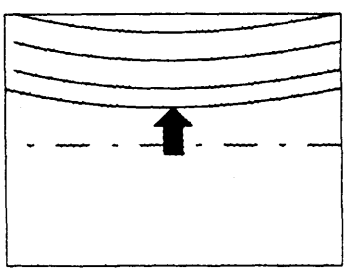
Adjust the bow of the horizontal lines in the upper side of the image with the arrow keys until these lines are straight. A bar scale and a number indicator indicate the amount of adjustment.





Correct with down arrow key



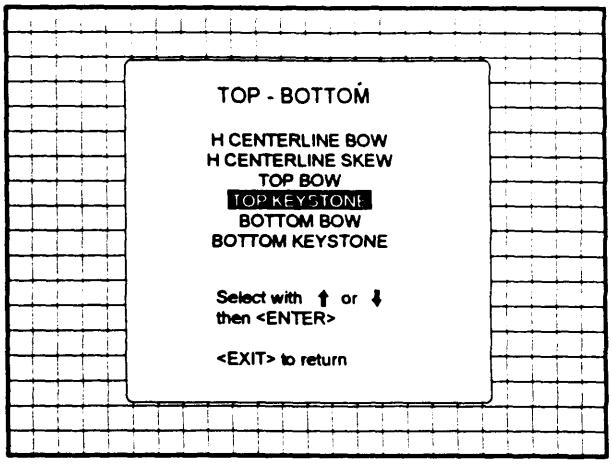


Correct with up arrow key

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

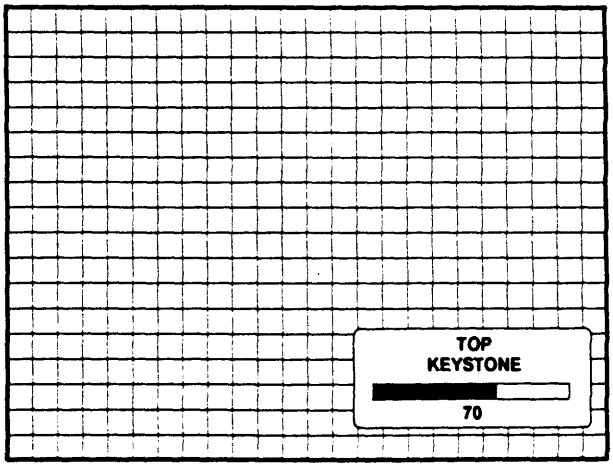
Top Keystone Adjustment

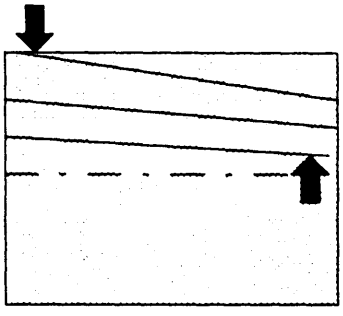
The top keystone function corrects for keystone geometry distortion of the horizontal lines in the upper part of the image.
Use the arrow keys to highlight *TOP KEYSTONE* on the TOP-BOTTOM menu and then press **ENTER**.



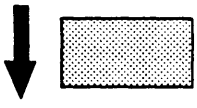
ENTER will select top keystone adjustment
EXIT will return to Geometry menu
ADJUST returns to operational mode

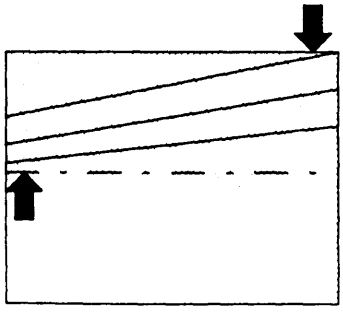
Adjust the horizontal lines in the upper part of the picture with the arrow keys until these lines straight. Press **ENTER** to continue.



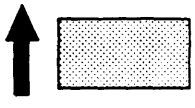


Correct with down arrow key





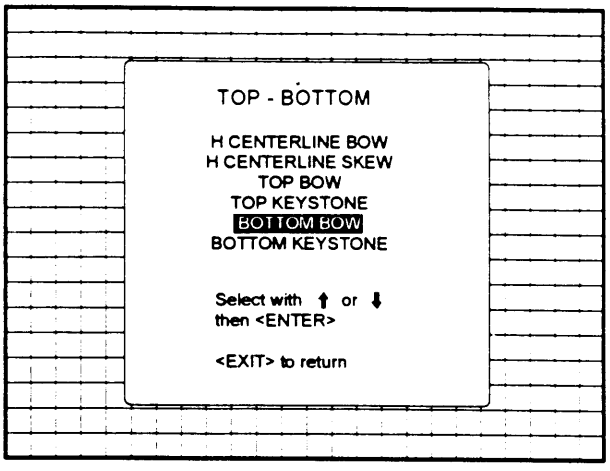
Correct with up arrow key



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

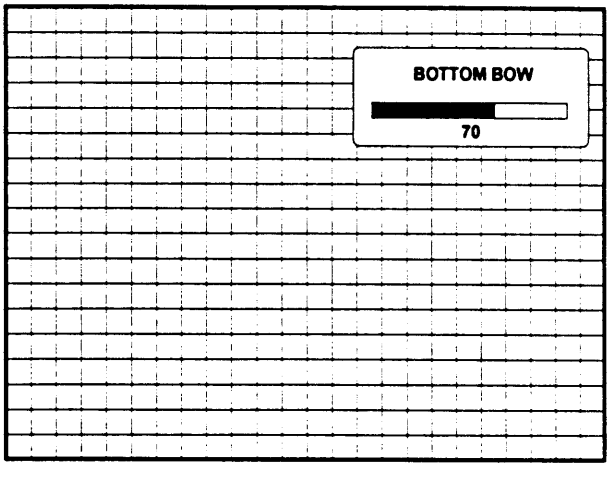
Bottom Bow Adjustment

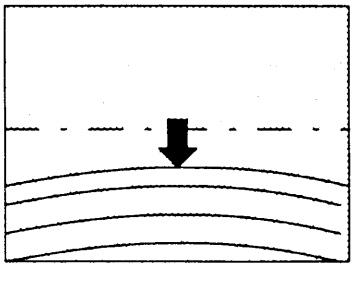
The bottom bow function corrects for curvature occurring in the lower part of the image. Use the arrow keys to highlight *BOTTOM BOW* on the TOP-BOTTOM menu and then press **ENTER**.



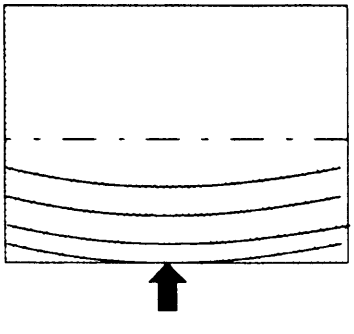
ENTER will select bottom bow adjustment
EXIT will return to Geometry menu
ADJUST returns to operational mode

Use the up and down arrow keys 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

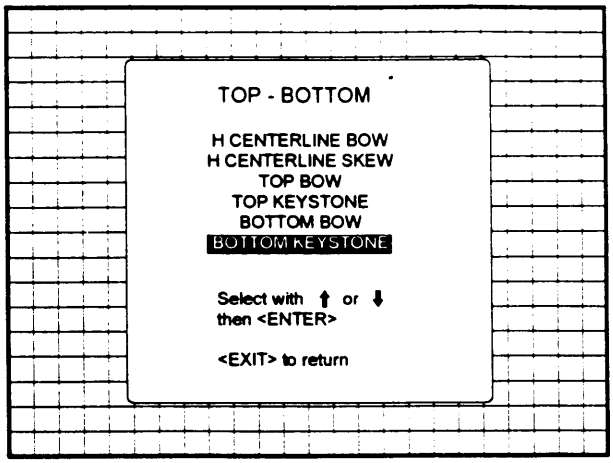


Correct with up arrow key

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

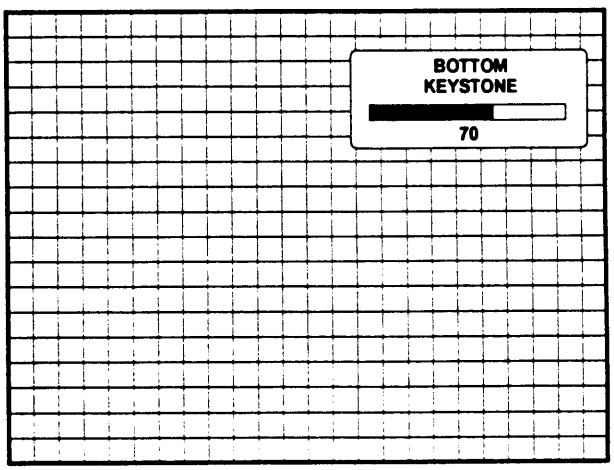
Bottom Keystone Adjustment

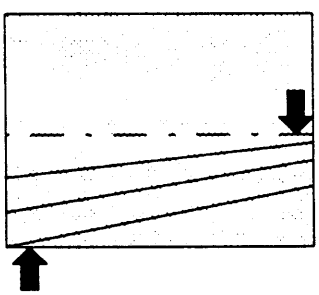
The bottom keystone function corrects for keystone geometry distortion of the horizontal lines in the middle of the image.
Use the arrow keys to highlight *BOTTOM KEYSTONE* on the TOP-BOTTOM menu and then press **ENTER**.



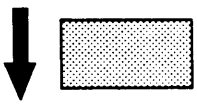
ENTER will select bottom keystone adjustment
EXIT will return to Geometry menu
ADJUST returns to operational mode

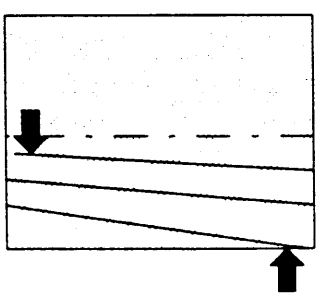
Adjust the horizontal lines in the lower part of the image with the arrow keys until these lines are straight. A bar scale and a number indicator will give a visual indication of the adjustment.



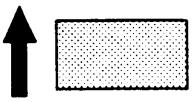


Correct with down arrow key





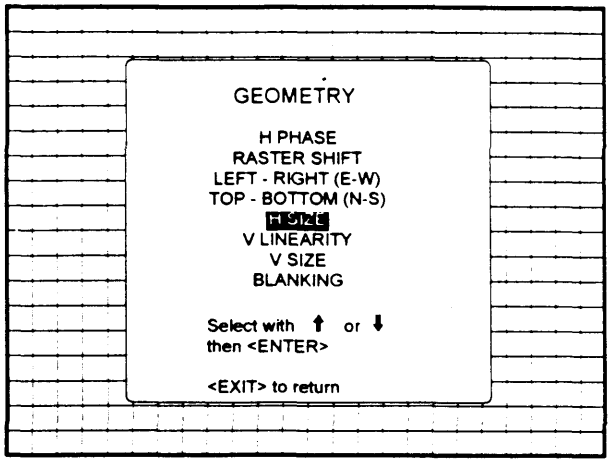
Correct with up arrow key



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

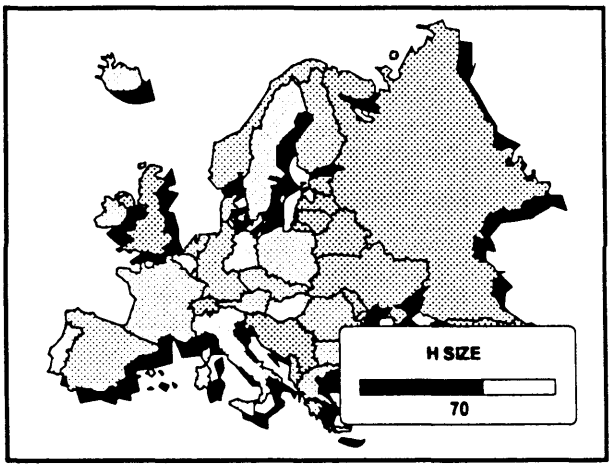
Horizontal Size Adjustment

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

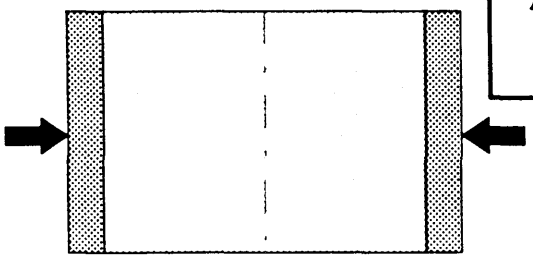


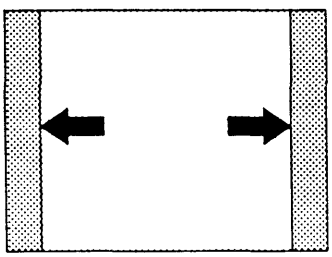
ENTER will select horizontal size adjustment
EXIT returns to random access adjustment mode menu.
ADJUST returns to operational mode

Adjust the horizontal size with the left and right arrow key 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.



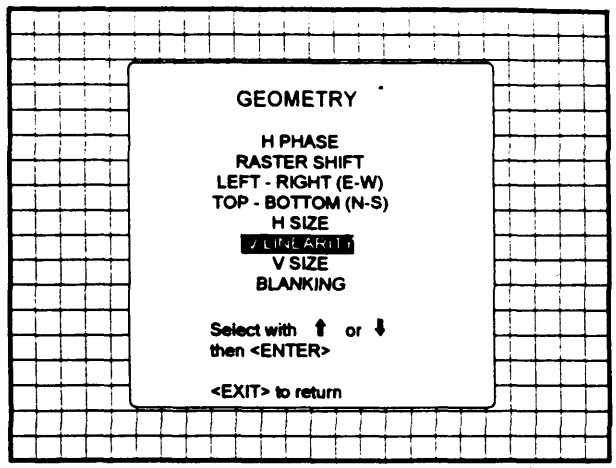


Hint : In order to avoid loss of resolution in the projected image and to ensure maximum CRT longevity, do not use an excessively small horizontal size setting.

EXIT will return to Geometry

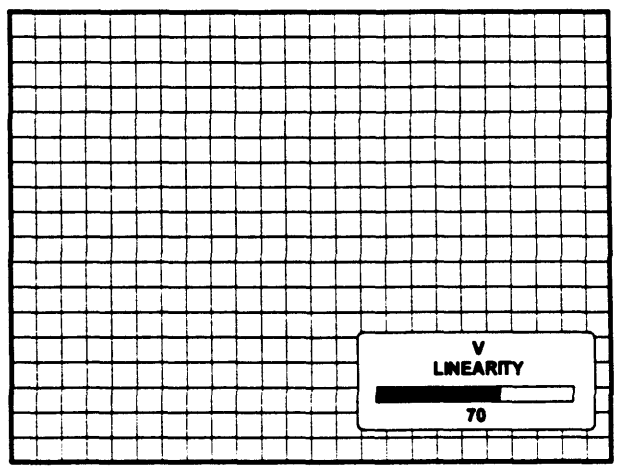
Vertical Linearity Adjustment

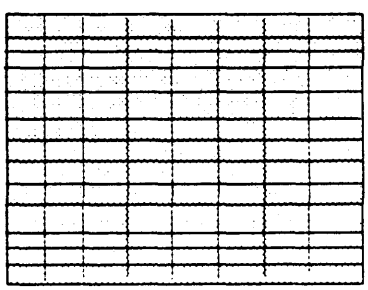
The vertical linearity adjustment function corrects for vertical non-linearities which extend from the center of the image to the top and bottom of the image.
Use the arrow keys to highlight *V LINEARITY* on the Geometry menu and then press **ENTER**.



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.

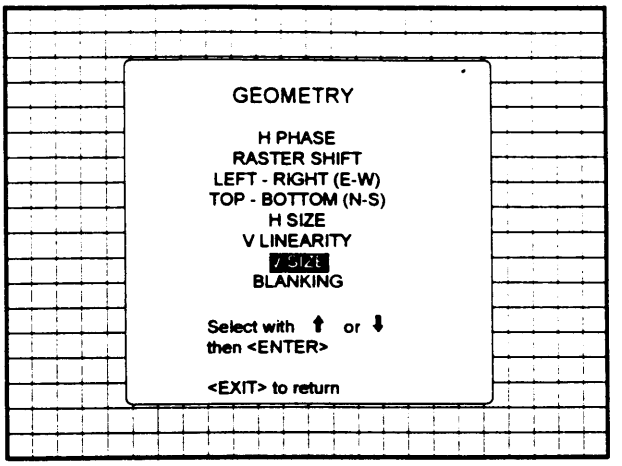




EXIT will return to the Geometry menu

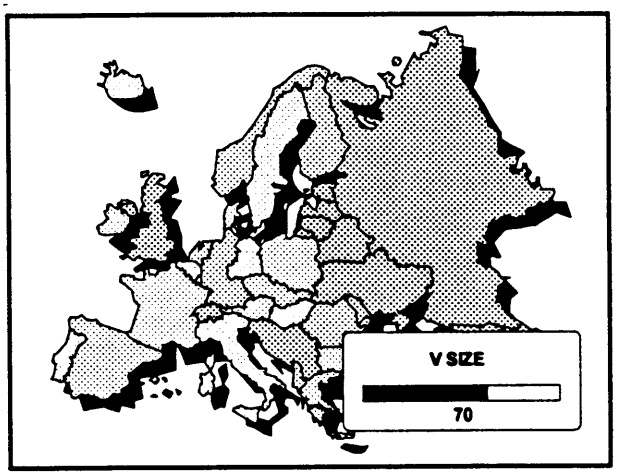
Vertical Size Adjustment

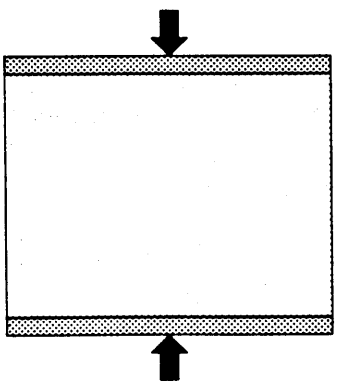
Use the arrow keys to highlight *V SIZE* on the Geometry menu and then press **ENTER**.

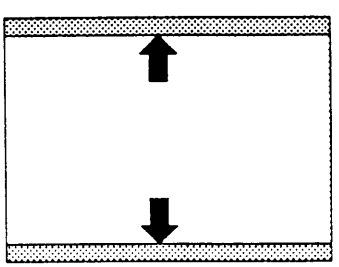


ENTER will select vertical size adjustment
EXIT returns to random access adjustment mode menu,.
ADJUST returns to operational mode

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.

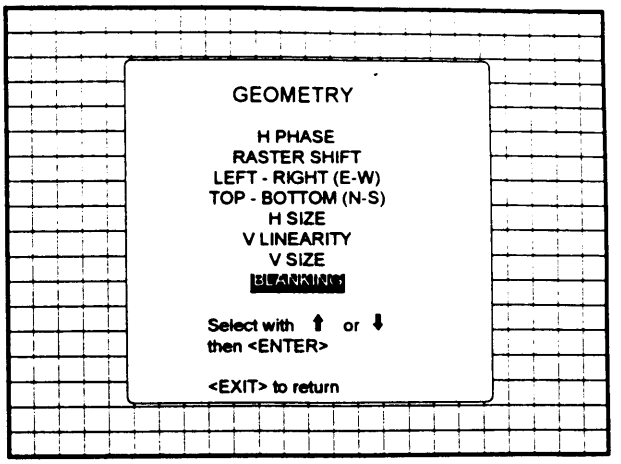
A bar scale and a number indicator give a visual indication of the vertical size adjustment.

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

Blanking Adjustments

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



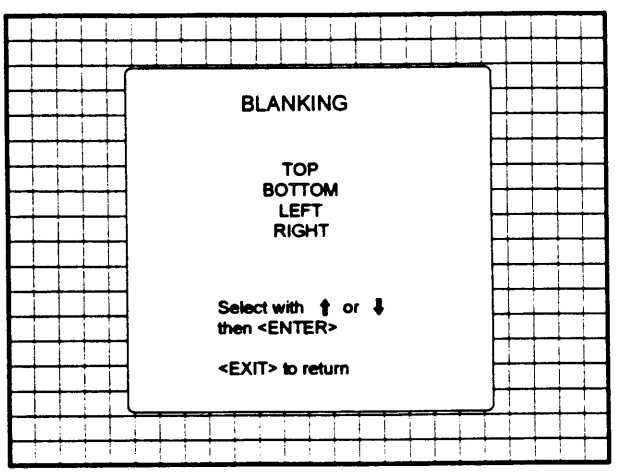
ENTER will select blanking adjustment menu
EXIT returns to random access adjustment mode menu.
ADJUST returns to operational mode

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 :

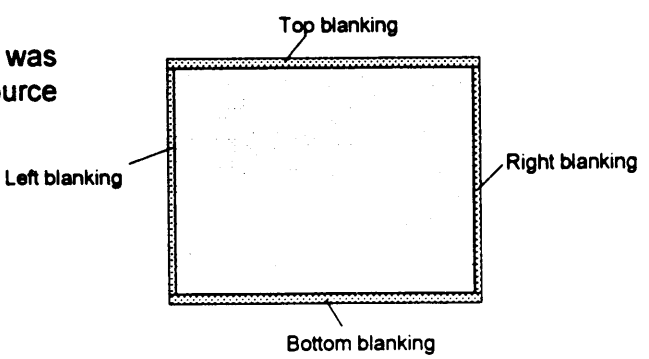
- top blanking
- bottom blanking
- left blanking
- right blanking

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.

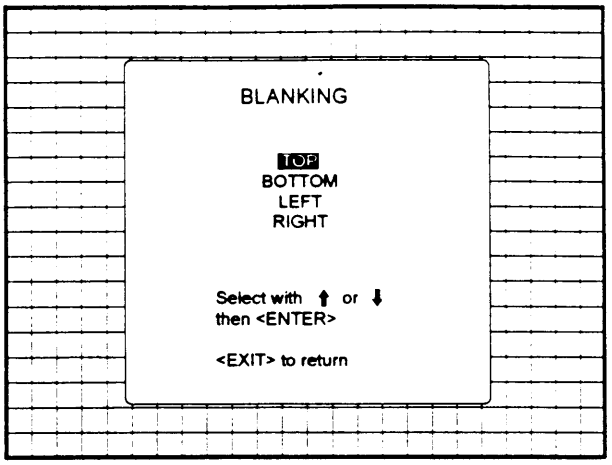


EXIT will return to Geometry
ADJUST returns to operational mode



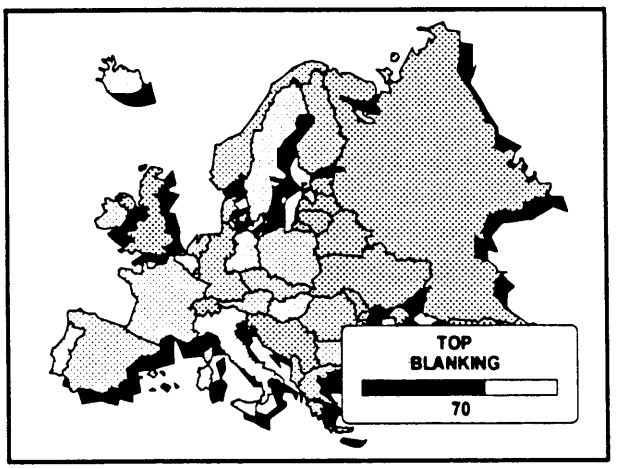
Top Blanking Adjustment

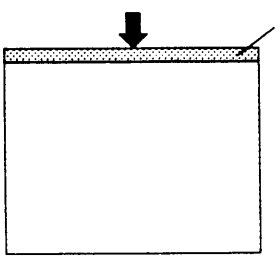
Use the arrow keys to highlight *TOP* on the Blanking menu and then press **ENTER**.

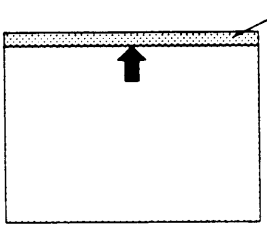


ENTER will select top blanking adjustment
EXIT will return to Geometry menu
ADJUST returns to operational mode

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



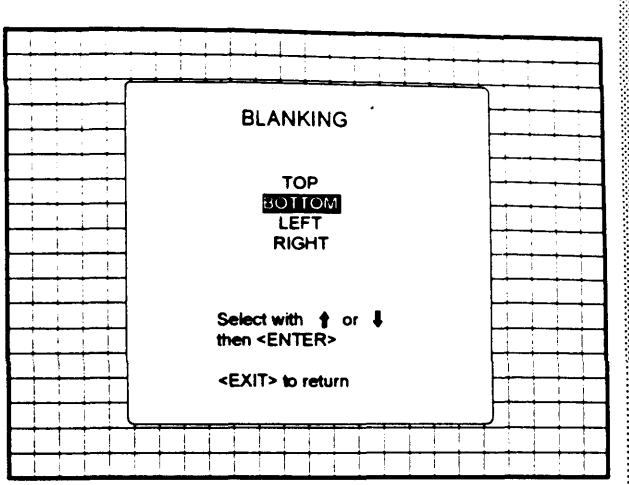




EXIT will return to the Blanking menu

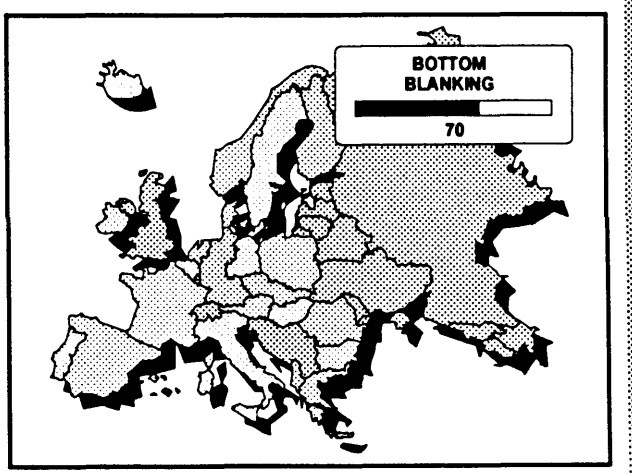
Bottom Blanking Adjustment

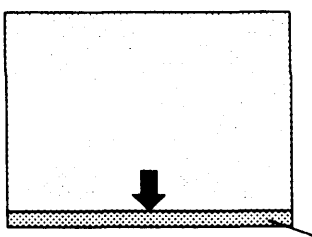
Use the arrow keys to highlight *BOTTOM* on the Blanking menu and then press **ENTER**.



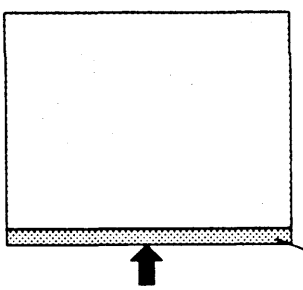
ENTER will select bottom blanking adjustment
EXIT will return to Geometry menu
ADJUST returns to operational mode

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





useful information
(to be displayed)

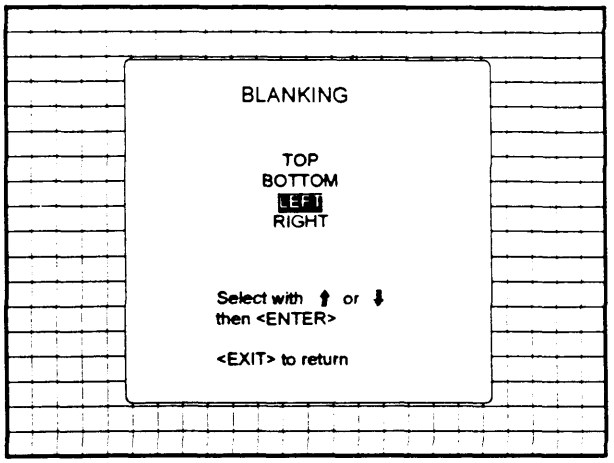


unwanted information
(to be blanked out)

EXIT will return to the Blanking menu

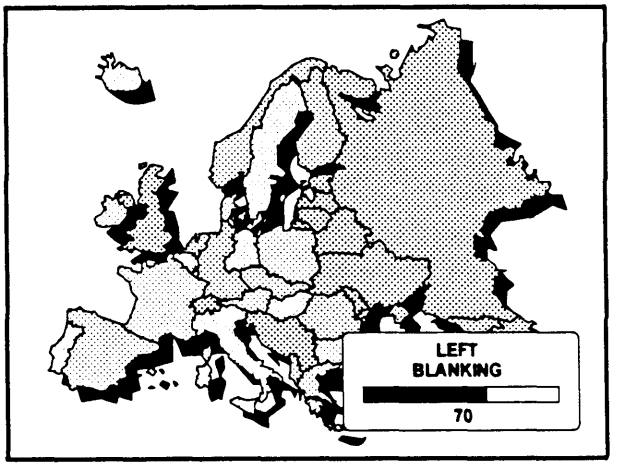
Left Blanking Adjustment

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

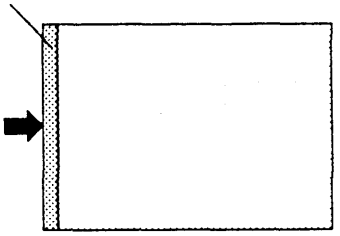


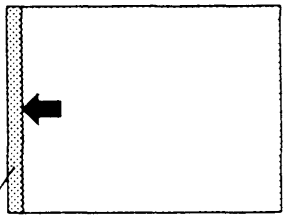
ENTER will select left blanking adjustment
EXIT will *return to Geometry menu*
ADJUST returns to operational mode

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



unwanted information
(to be blanked out)



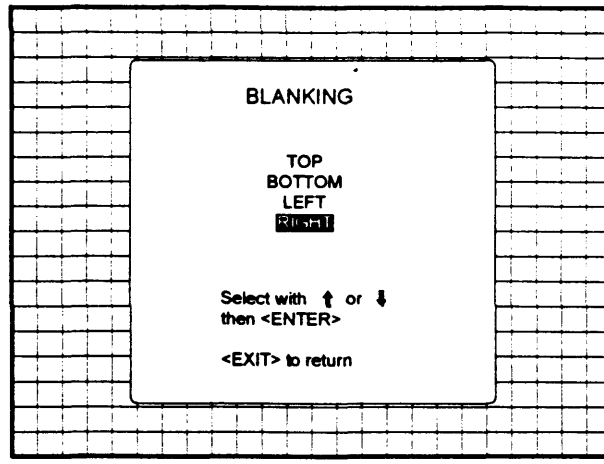


useful information
(to be displayed)

EXIT will return to the Blanking menu

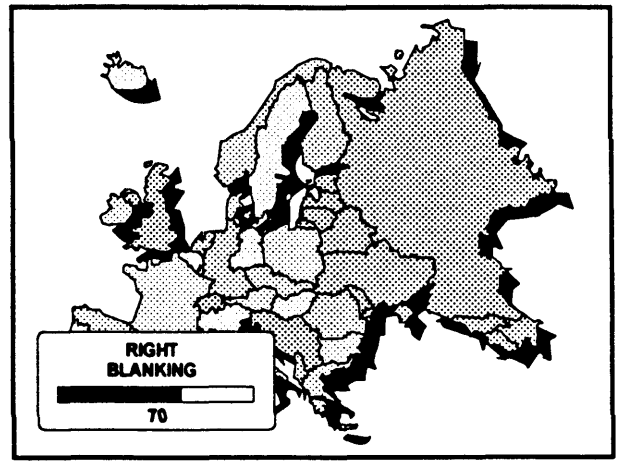
Right Blanking Adjustment

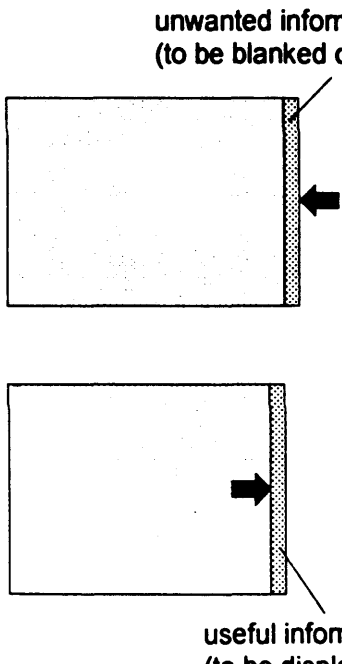
Use the arrow keys to highlight *RIGHT* on the Blanking menu and then press **ENTER**.



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





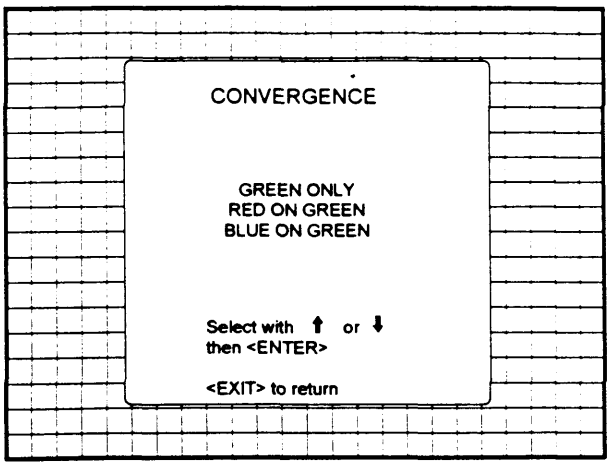
EXIT will return to the Blanking menu

Convergence Adjustment

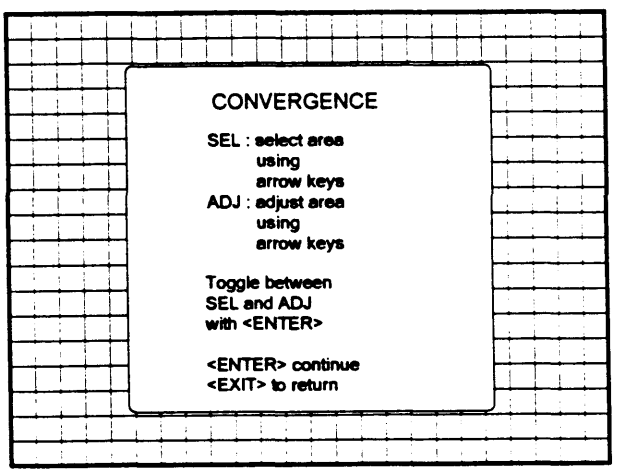
Convergence adjustments affect both the horizontal and vertical lines of the setup pattern. These adjustments are performed on the red image while superimposed on the green image and then on the blue image while superimposed on the green image.

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

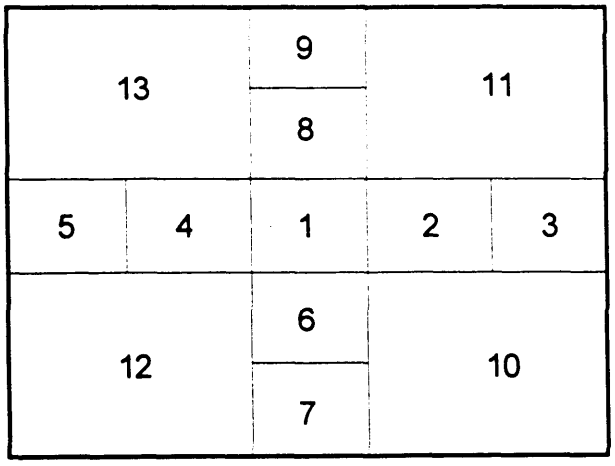


ENTER will display the Convergence menu.
EXIT will return to Random Access Adjustment Mode main menu.
ADJUST returns to operational mode.

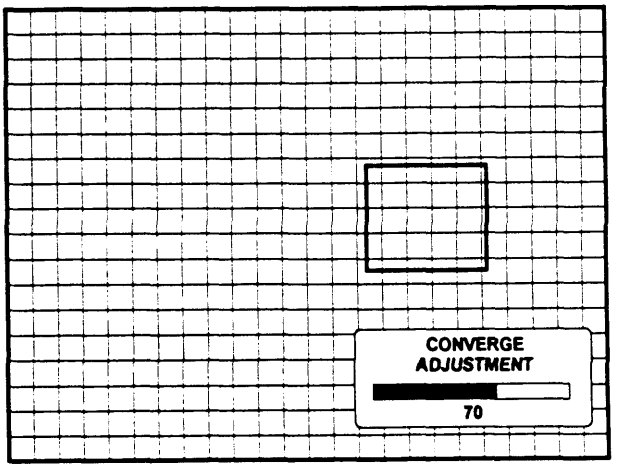


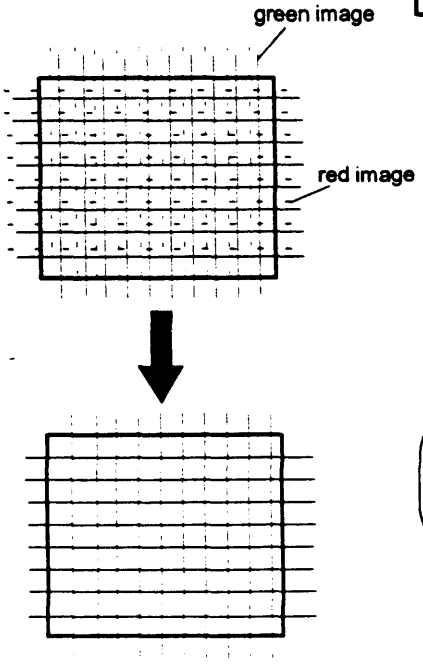
ENTER will continue to convergence adjustment
EXIT returns to convergence menu.

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.



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

Initialisation

Change password

Run time

Set to midposition

Convergence off

G2 adjust

Copy a block

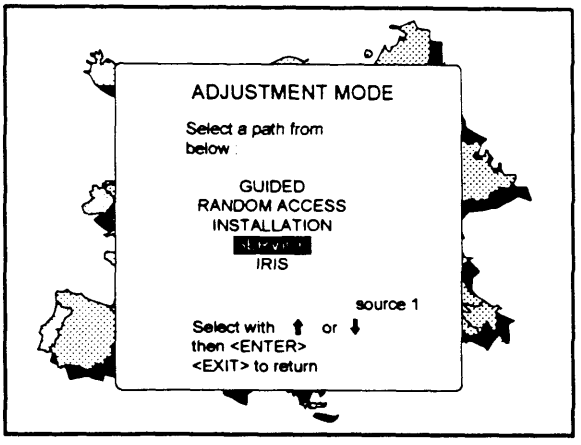
Deletion of blocks

CRT run in cycle

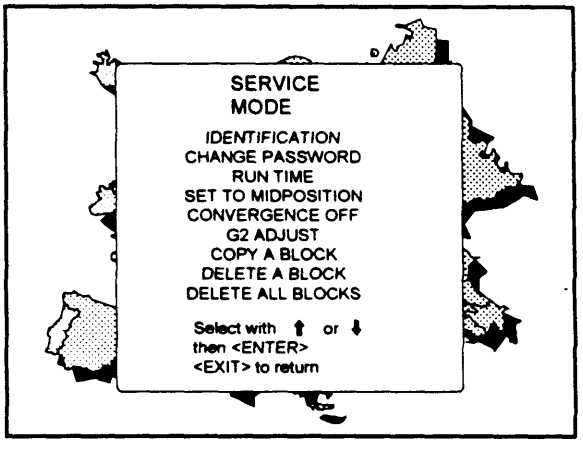
Starting up the service mode.

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

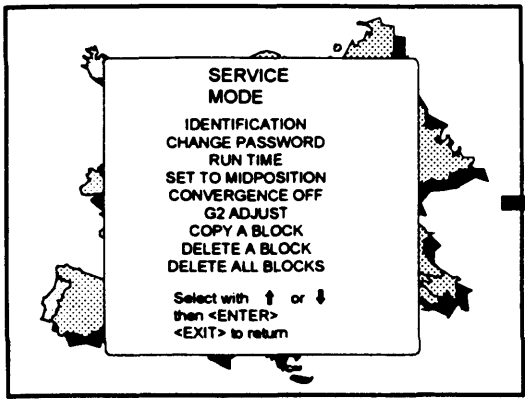
Some items in the Service mode are password protected (when the password function is active). Enter your password to continue. All other password protected items are now also free available if you stay in the adjustment mode.

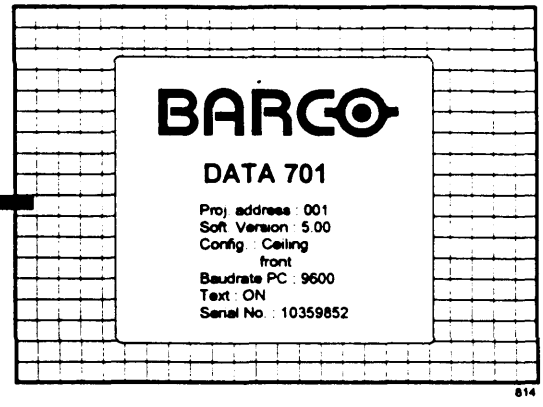


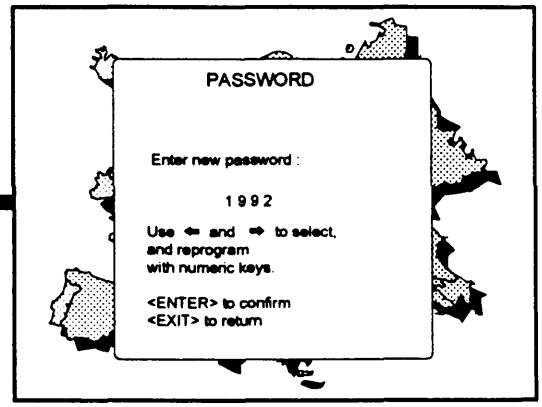
ENTER continues to service mode main menu.
EXIT returns to operational mode.

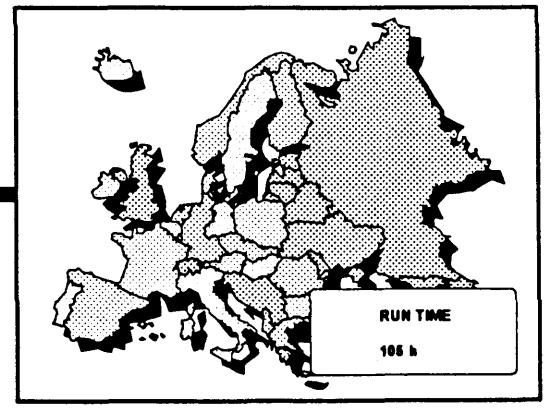


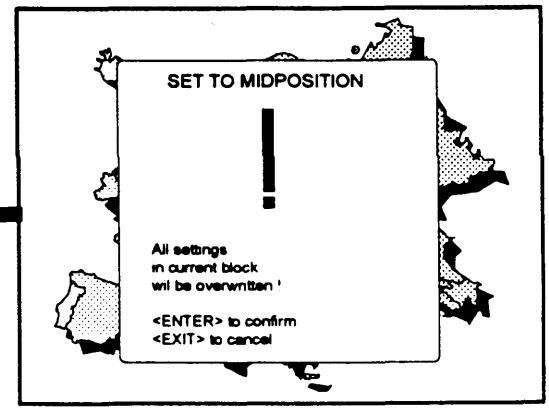
Overview flowchart 'Service' mode.

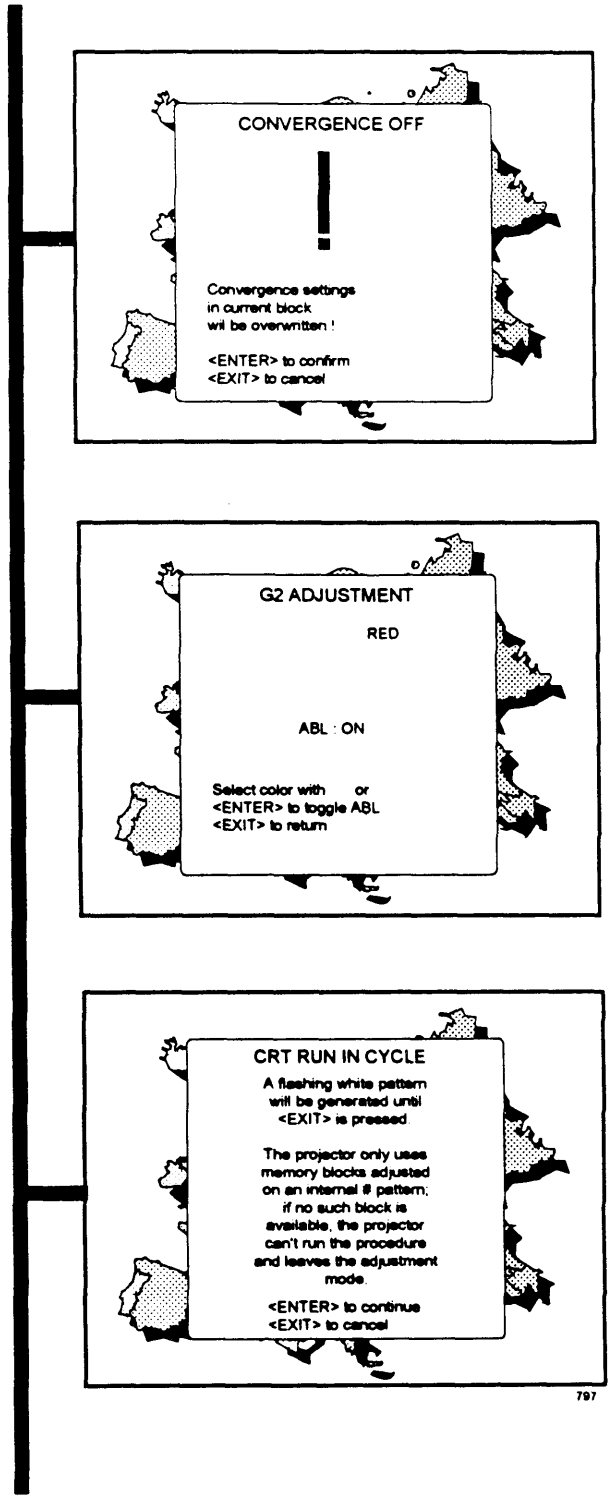


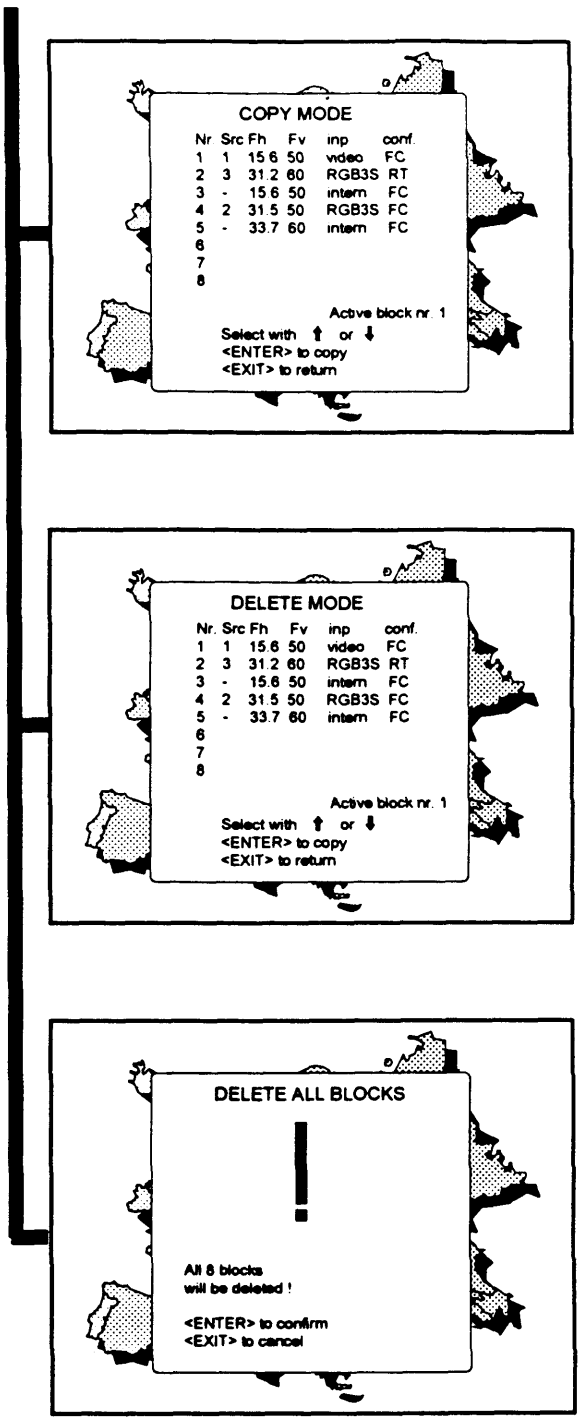






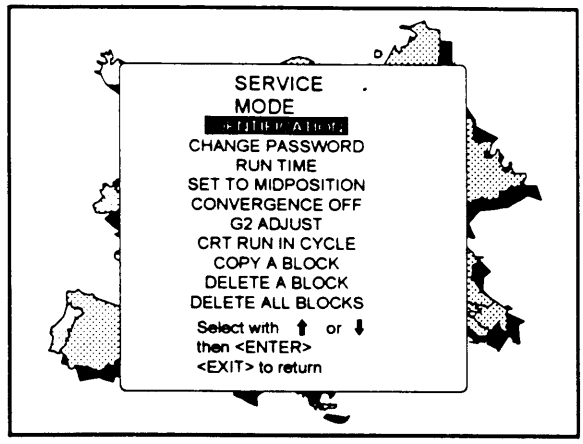



CONVERGENCE OFF
!
Convergence settings
in current block
wil be overwritten !
<ENTER> to confirm
<EXIT> to cancel
G2 ADJUSTMENT
RED
ABL : ON
Select color with or
<ENTER> to toggle ABL
<EXIT> to return
CRT RUN IN CYCLE
A flashing white pattern
will be generated until
<EXIT> is pressed
The projector only uses
memory blocks adjusted
on an internal # pattern;
if no such block is
available, the projector
can't run the procedure
and leaves the adjustment
mode.
<ENTER> to continue
<EXIT> to cancel
797


COPY MODE
Nr Src Fh Fv inp conf.
1 1 15.6 50 video FC
2 3 31.2 60 RGB3S RT
3 - 15.6 50 intern FC
4 2 31.5 50 RGB3S FC
5 - 33.7 60 intern FC
6
7
8
Active block nr. 1
Select with ↑ or ↓
<ENTER> to copy
<EXIT> to return
DELETE MODE
Nr. Src Fh Fv inp conf.
1 1 15.6 50 video FC
2 3 31.2 60 RGB3S RT
3 - 15.6 50 intern FC
4 2 31.5 50 RGB3S FC
5 - 33.7 60 intern FC
6
7
8
Active block nr. 1
Select with ↑ or ↓
<ENTER> to copy
<EXIT> to return
DELETE ALL BLOCKS
!
All 8 blocks
will be deleted !
<ENTER> to confirm
<EXIT> to cancel

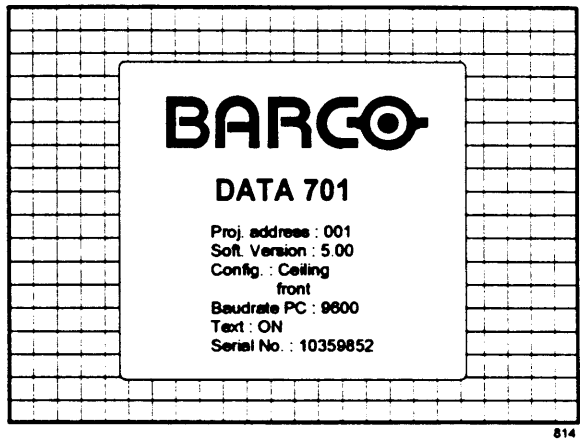
Identification

Highlight *'Identification'* with the arrow keys and press **ENTER**.



ENTER will start the selected item.
EXIT returns to the path selection main menu,

The 'Identification' screen gives information concerning :



- projector address. To change the address of your projector, contact a qualified service technician.

- software version.

- configuration.
  possible installations :
  * front-ceiling
  * front-table
  * rear-ceiling
  * rear-table

- baud rate PC : transfer speed for communication with a IBM PC (or compatible) or MAC. The baud rate of the projector must be the same as the baud rate of the connected computer. When there is a difference, contact a qualified service technician to make the appropriate changes..

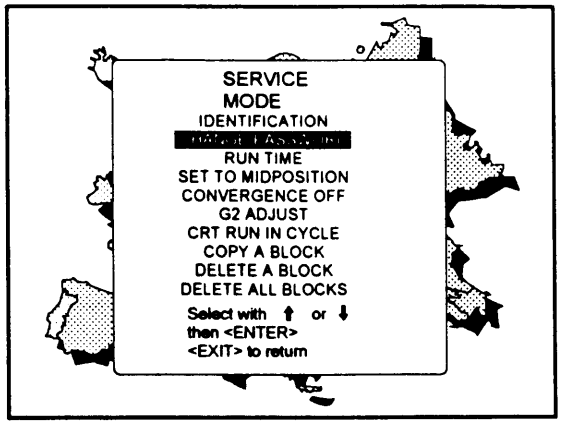
- Text ON/OFF
  Indicates in operational mode if the bar scale and number indicator will be displayed and if warnings and failures will be displayed.
  ON : displayed
  OFF : not displayed

  The status can be changed by pressing the 'TRXT' key once on the RCU700.

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

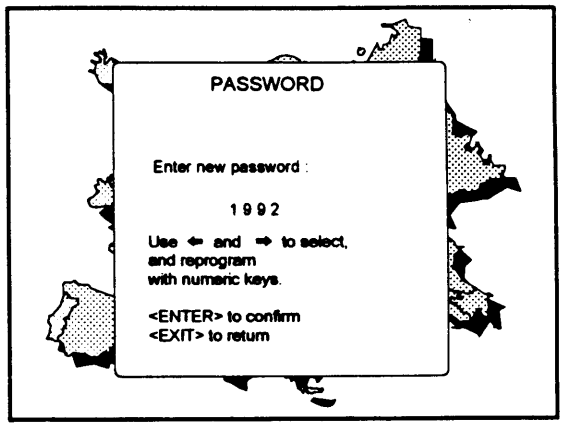
Change password

This item is password protected.
Highlight *'change password'* with the arrow keys and press **ENTER**.



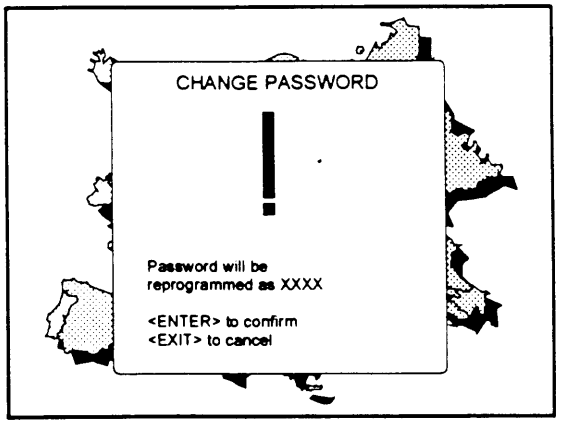
ENTER will display the selected item.
EXIT will returns to the path selection main menu.
ADJUST will returns to operational mode.

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. Before saving the new password, a confirmation screen will be displayed.
Press **EXIT** to return to the Service menu without saving the new password.



ENTER displays the confirmation menu.
EXIT returns to service mode without saving the new password.

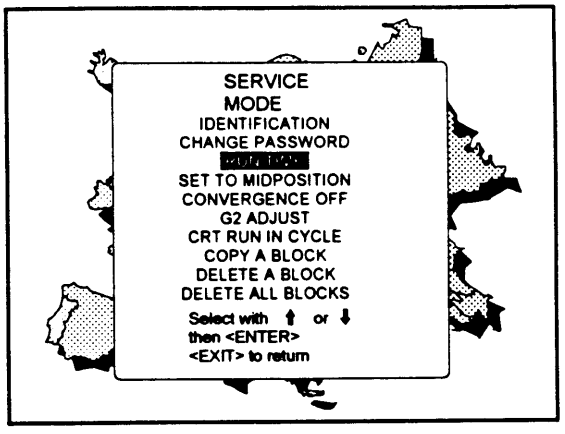
When the displayed password is correct, press **ENTER** to save.
If not correct, press **EXIT** to cancel the saving.



ENTER saves the entered password.
EXIT returns without saving.

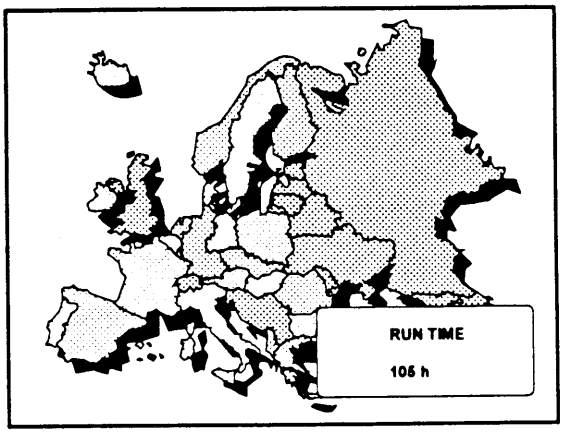
Run time

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



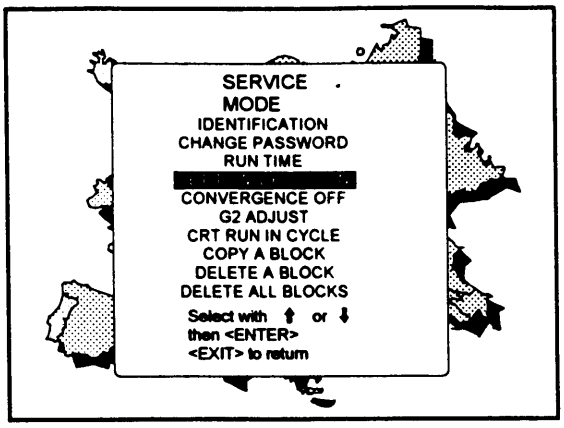
ENTER gives the selected item.
EXIT returns to the path selection main menu.
ADJUST returns to operational mode.

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



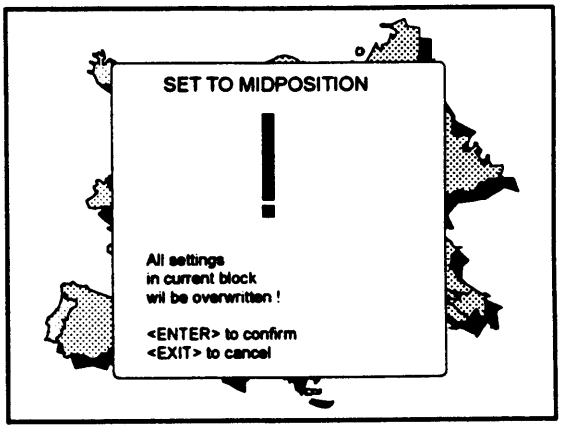
Set to midposition

Item is password protected.
Highlight *'set to midposition'* with the arrow keys and press **ENTER** to set all settings to their midposition.
A confirmation menu will be displayed first.



ENTER displays a confirmation screen.
EXIT returns to the path selection main menu
ADJUST returns to operational mode.

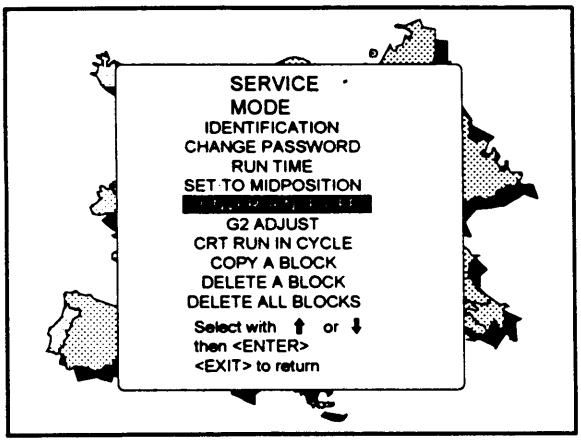
ENTER will set all settings to their midposition. **EXIT** will cancel the operation to set all settings to their midposition.



ENTER sets all settings to their midposition
EXIT returns to service mode without changing the settings.

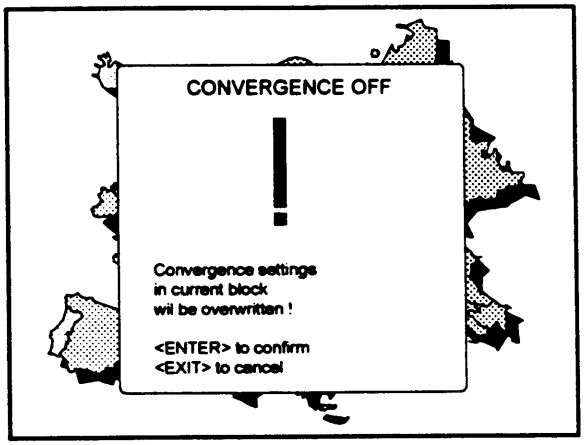
Convergence off

Item is password protected.
Highlight *'convergence off'* with the arrow keys and press **ENTER** to set all convergence settings to their midposition. A confirmation screen will be displayed first.



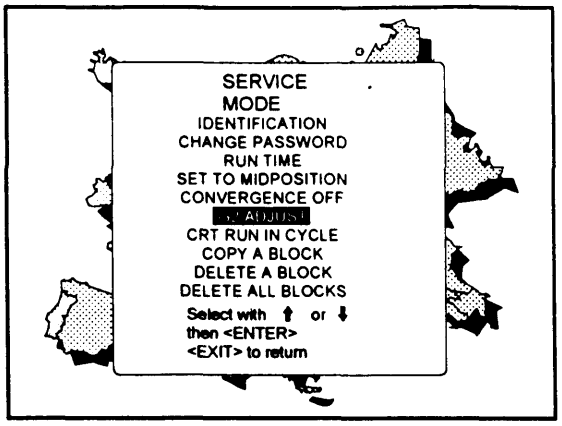
ENTER displays a confirmation screen.
EXIT returns to the path selection main menu
ADJUST returns to operational mode.

ENTER sets the convergence settings to their midposition. **EXIT** cancels the procedure to set the convergence settings to their midposition.



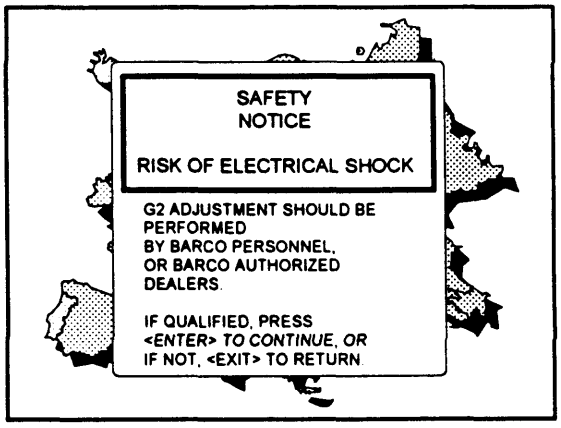
G2 Adjust

Item is password protected.
Highlight '*G2 adjust*' 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 operational mode.

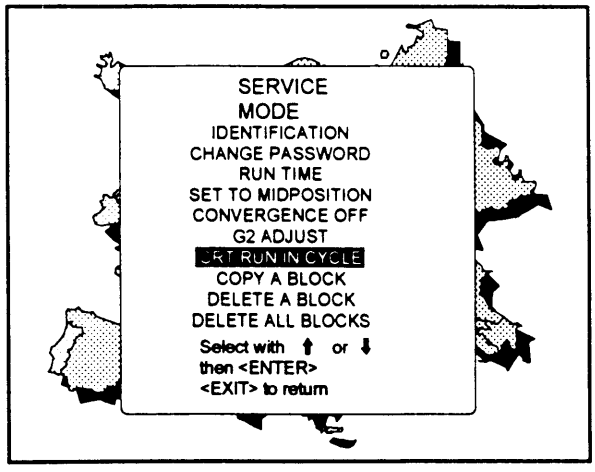
'G2 adjustment should be performed by BARCO personnel, or BARCO authorized dealers'.
If your are qualified, press ENTER to continue. If not qualified, press EXIT to return to the service mode main menu.
Further description of the G2 adjustment is given in the Installation manual.



CRT run in cycle

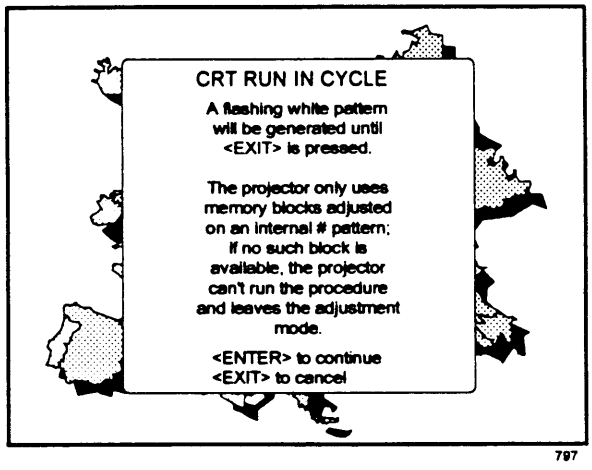
The CRT run in cycle option can only be activated when memory blocks on an internal # pattern are available. When one or more such blocks are available, a flashing white image (5sec on, 5 sec off) is generated and that for 5 min on the first internal block. In the next 5 min, a second internal block 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

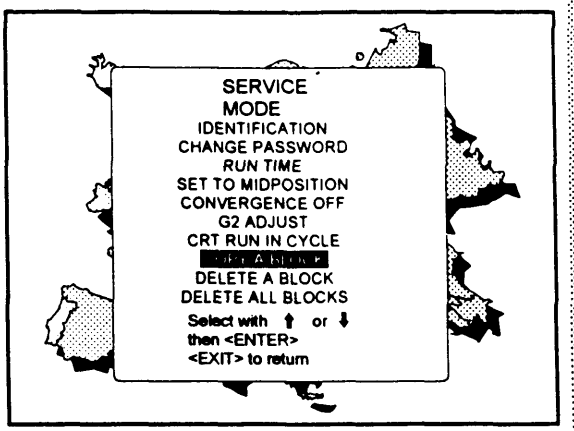
If a memory block adjusted on an internal # pattern is available, the CRT run in cycle will start when pressing ENTER. If no such a block is available, the projector cannot run the CRT run in option and leaves the adjustment mode.
If you still want to run CRT run in cycle, create first a memory block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

Copy a block

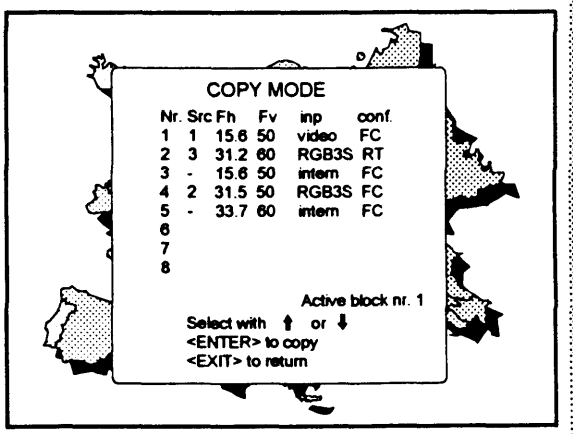
The copy a block function copies the settings of a selected block into the active block.
Highlight *copy a block* with the arrow keys and press **ENTER**.



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

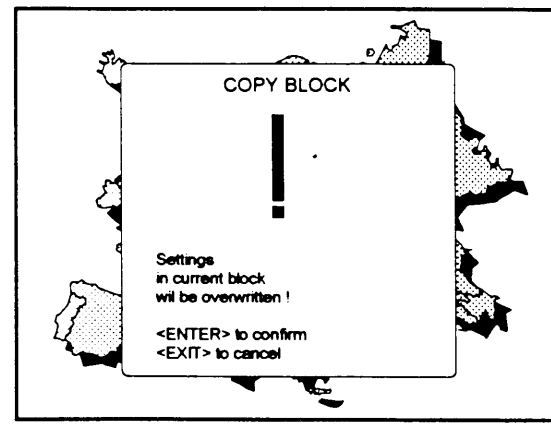
To copy the settings of a closed block to the block you are working on (active block), use the arrow keys to select a block.
All existing settings will be overwritten with the new settings.

Press **ENTER** to copy the selected block. A confirmation screen will be displayed.



ENTER displays a confirm screen.
EXIT returns to the service mode main menu.

If you are certain you wish to copy the contents of the selected block into the active block, press **ENTER**. **EXIT** cancels the copy procedure and returns without copying the block.



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 :

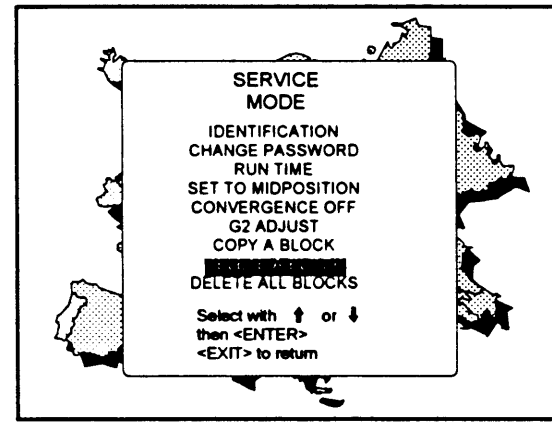
- block by block

or

- for all blocks.

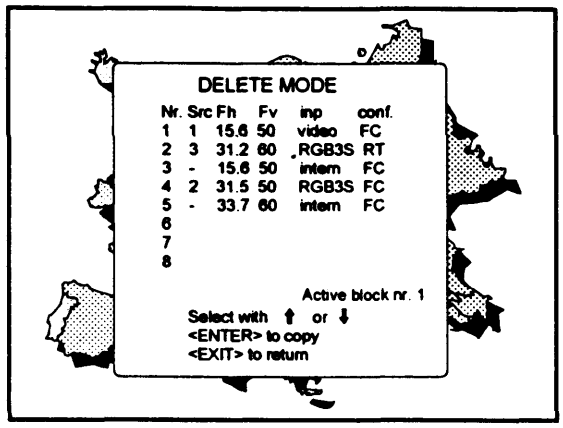
Deleting block by block

The delete a block function deletes the settings of a selected block.
Highlight *'Delete a block'* with the arrow keys and press **ENTER**.



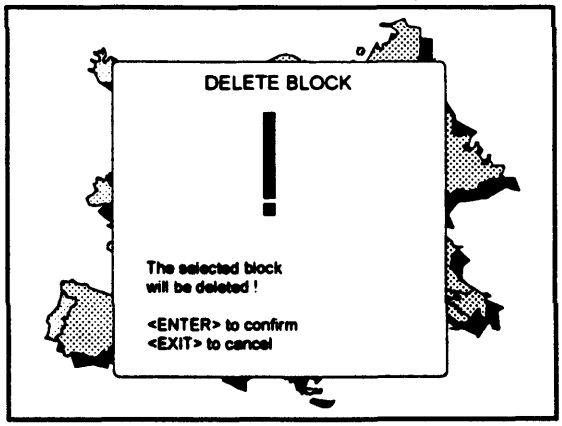
ENTER will select the pointed item.
EXIT returns to the path selection main menu
ADJUST returns to operational mode..

Use the up and down arrow keys to select the desired adjustment block. Press **ENTER** to delete the selected adjustment block. A confirmation menu will be displayed.



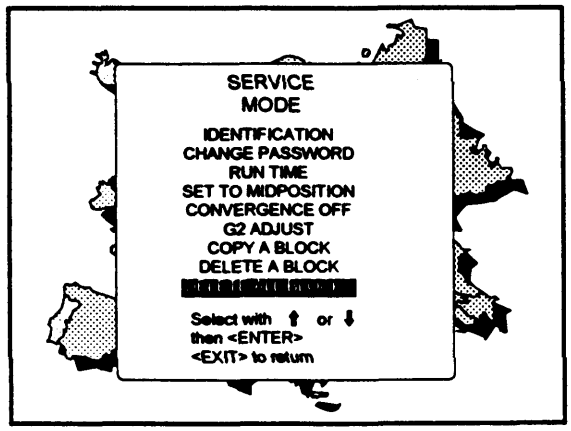
ENTER displays the confirmation menu.
EXIT returns to the service mode main menu.

ENTER will delete the selected block **EXIT** cancels the deletion procedure and returns to the service mode main menu.



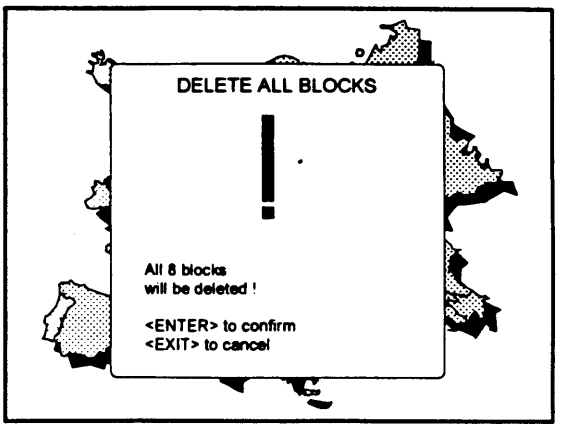
Deletion of all blocks

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.



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 RCU700 with a pencil or other small object.
WARNING : **input not available**	When using the projector with the RCVDS 800, 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 RCU700.
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 RCVDS800. 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 800 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 Projector Control Software via PC or MAC (if this option is available), 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 RCVDS800 and projector.

FAILURE RWI communication error	Hardware failure. Call a qualified service technician.
FAILURE IRIS communication 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.

OPTIONS

IR receiver 800

Hardwired RCU700

Projector Control software

RCVDS 800

VS05

IRIS 800

Adapter and communication cables

Mechanical interface

Ceiling mount 700

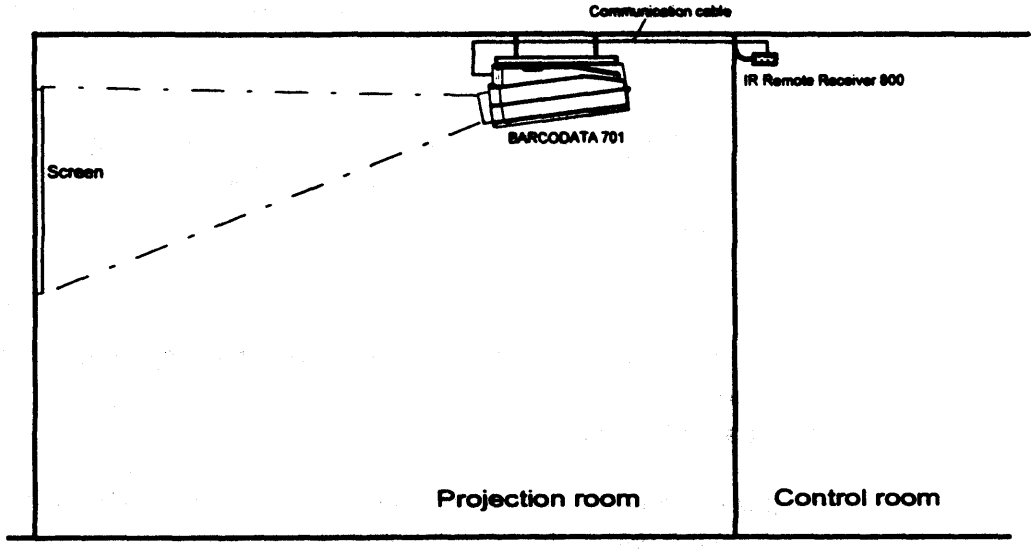
Soft edge matching

Contrast modulation

Picture Orbiting

IR Receiver 800

This infra red receiver unit makes it possible to control the BARCODATA 701 from another room.
There is a communication line with cable between the IR receiver and the projector or the RCVDS800. The control information from the RCU700 can now be sent to this IR receiver.
The IR receiver 800 displays the selected source on a 7-segment display.
Order number : 98 27515



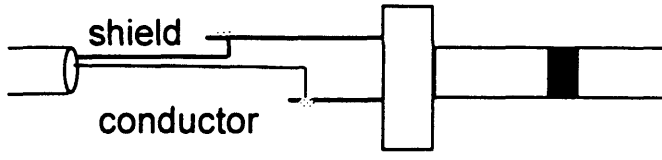
Hardwired RCU700.

The control signals from the RCU700 can be sent to the projector via a wired connection.

Assembling a remote cable :

Use a shielded cable with a maximum length of 100 m (330 ft) and two mini-jack 2.5 mm connectors (order number : 31 3043).

- Peel back the vinyl covering of the cable on both sides and twist the wire core.



- Solder a jack plug as shown in drawing above to each end of the cable.
  shield = ground
  conductor = data information

When the cable is ready, plug one side in the remote control and the other side in the connector on the rear of the projector labelled 'remote'.

Projector Control software

Only available for projectors equiped with the optional RS232 communication port.

The software is user-friendly and makes full use of : mouse control, pull down menus and dialog boxes.

Two main applications are available with this software : remote control and transfering and receiving data of projector settings.

remote control simulation. Advantage : address range 0 to 15.

adjustment data : where can it be located when a IBM PC (or compatible) or MAC or Workstation is connected :

- hard memory device with files of settings.
- the contents of the local memory of the computer.
- the contents of the projector.

RCVDS 800

An optional RCVDS 800 source selector makes it possible to connect up to ten sources to the projector

VS05

The VS05 is a versatile Video and HDTV source selector for all BARCO's digitally controlled large screen projectors. It offers the possibility to connect and switch up to 5 different Video sources, 3 different S-Video sources and 1 RGB Analog source to a BARCO projector. In addition, the audio signal proper to the source, can be switched to an audio amplifier.

IRIS 800

Easy-to-use, high precision automatic convergence system.
Using the IRIS 800's user-friendly onscreen displays, the unit effortlessly aligns the projected image on the screen faster and more accurately then ever previously possilble through the conventional 'manual' convergence process. The flexible design of the IRIS 800 allows it to operate either in a table or ceiling mount installation.

Adapter and communication cables

BARCO provides several cables to connect peripheral equipment to the BARCODATA 701.

a. D9-D9 communication cable
- To connect an IBM PC (or compatible) to the projector.(only if the optional RS232 port is installed.)
- To connect a RCVDS 800 to the BARCODATA 701.
- To connect a IR receiver to the RCVDS800 or to the BARCODATA 701.
- To be used as extension cable for all other adapter cables.

Available length :5 m (16ft), order number 98 2770; 15 m(50ft), order number 98 27640; and 30 m (100ft), order number 98 27570

b. Din Mini8-D9 adapter cable.
- To connect a Macintosh computer to the BARCODATA 701. (only if the optional RS232 port is installed.)
  Available length : 1 m, order number 98 27640.

c. D25-D9 adapter cable
- To connect a workstation to the BARCODATA 701.(only if the optional RS232 port is installed.)
  Available lenght : 1 m, order number 98 27630

Mechanical interface

Metal interface for the BARCODATA 701 to install the projector in a ceiling mount system for 800 and 1000 series projectors.
BARCO order number : 98 27850

Ceiling mount 700 kit

This suspension system enables to mount any projector from the BARCO 700 series to the ceiling without using any mechanical interface, and to adapt the projector perfectly to the local mounting requirements.

Orbiting Kit

Static pictures are very often shown on large screen projectors, especially in process control and presentation applications. Due to the fact that the same picture information is shown for a long period in the same place, picture tubes can be damaged by 'local burn-in'. To avoid this problem, a special Orbiting circuit is available which moves the picture very slowly around a predefined screen area. The cycle time is very long to make the movement of the projected image imperceptible. The use of the orbiting kit is described in appendix A.
Order number : 98 27780

Soft edge matching kit

Multi-screens are popular for many applications. In these installations, the goal is to obtain a contiguous matched image, forming one homogenous view. The soft edge matching feature provides a solution to the annoying side effects when adjusting two or more projected images next to each other. To improve this junction, both images must be overlapping within a certain percentage of the total screen width. During the overlapping period, both video signals are modulated by appropriate waveforms so that the resulting light output equals the rest of the image.

Contrast modulation kit

The contrast modulation kit is designed to improve overall light output uniformity and to overcome the inherent color shift errors, normally associated with CRT projection. The laws of physics applied to projection optics dictate that the center of the projected image will be brighter than the corners, this phenomenon is normally referred to as 'corner fall off'. Due to the normal off-axis projection of the red and blue images, CRT projection displays a phenomenon referred to as 'color shift', whereby one side of the image is redish and the other blueish. By modulating the amplitude of the video signal with appropriate waveforms we are able to overcome both problems.
The use of this contrast modulation kit is described in appendix C.
Order number : 98 27800

Battery replacement in the RCU700.

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 compartment and disconnect the contact plate (fig. 2).
Connect a new 9 V battery (type 6F22S or equivalent) to the contact plate.
Insert the battery back into the compartment and put the cover back.

Attention : when a new battery is installed, the projector address must be reprogrammed before using the RCU700.

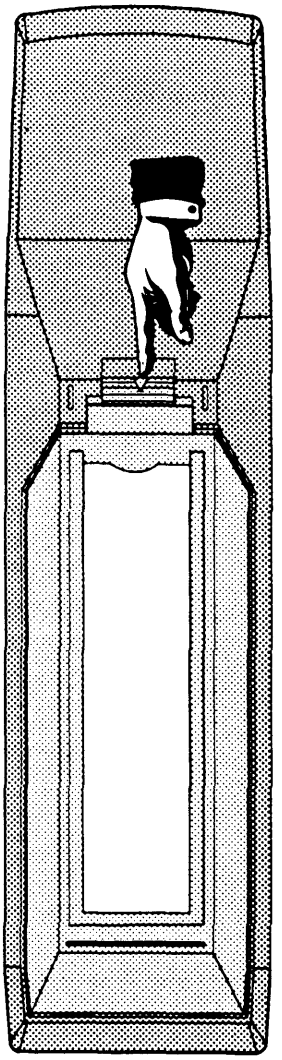
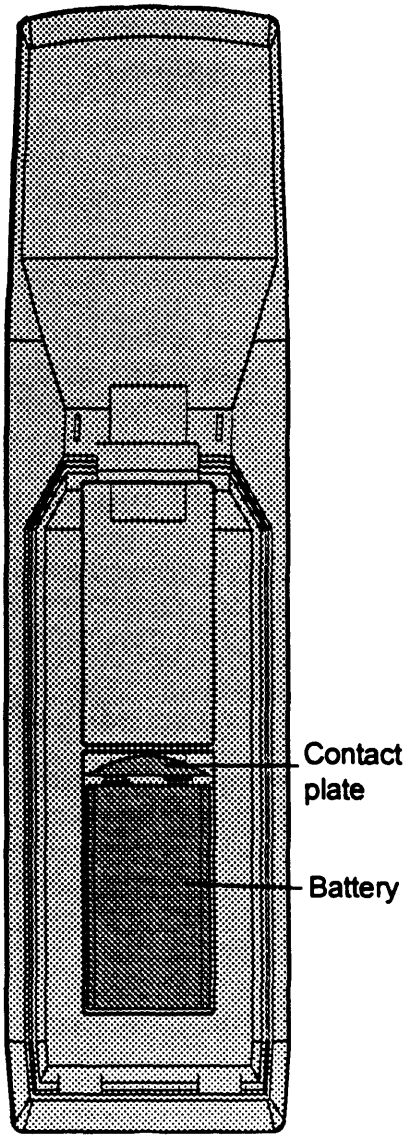


fig.1



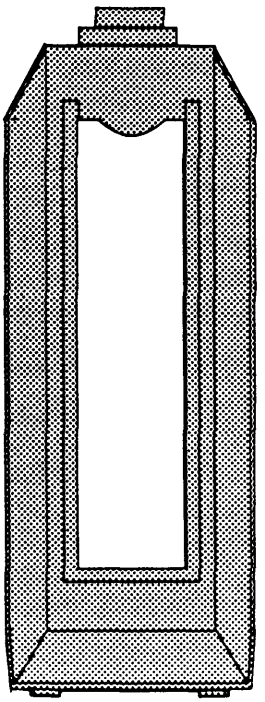


fig.2

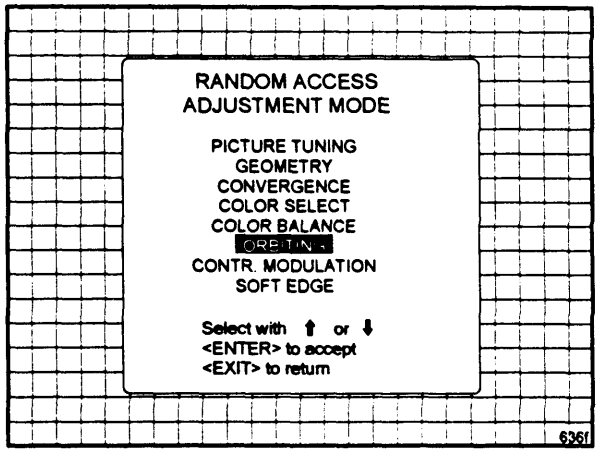
APPENDIX A : BATTERY REPLACEMENT IN THE RCU

Orbiting (option)

Static pictures are very often shown on large screen projectors, espectially in process control and presentation applications. Due to the fact that the same picture information is shown for a long period on the same place, picture tubes can be damaged by 'local burn-in'. To avoid this problem, BARCO has designed special Orbiting circuitry which moves the picture very slow around a predefined screen area. The orbiting circuitry has been designed using a very long cycle time to make the movement of the projected image imperceptible.

Adjustment procedure :
The orbiting path is automatically added to the Random access adjustment mode menu when installed.

Press **ADJUST** to enter the adjustment mode and select Random.
The Random Access Adjustment Mode menu will be displayed.
Highlight *ORBITING* with the arrow keys and press **ENTER**.



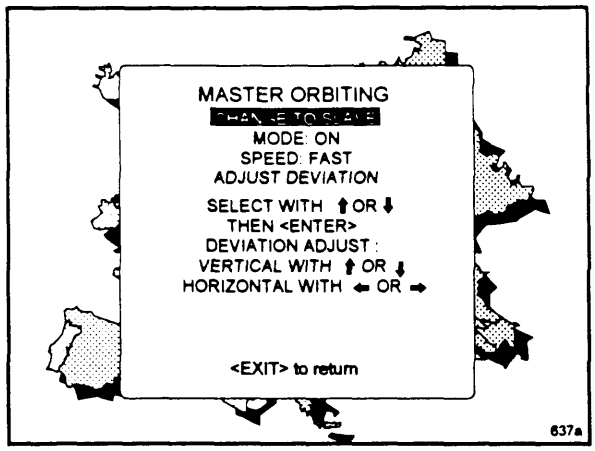
ENTER continues to the Master Orbiting menu.
EXIT returns to operational mode.
ADJUST returns to operational mode.

Orbiting mode toggle switches

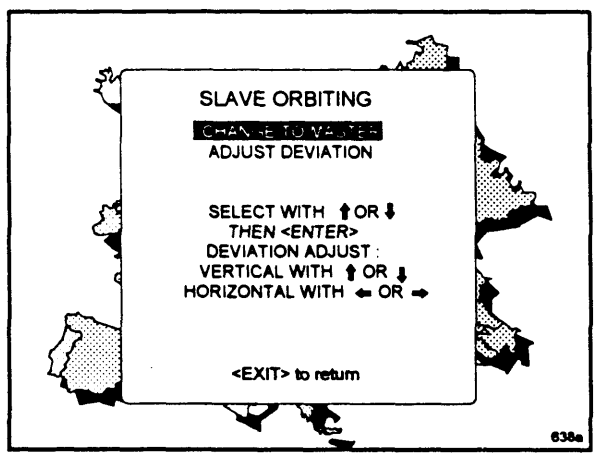
The orbiting module is provided with a three pin connector for connection with the BARCO's BCI link option module, used in multiple projector installations. For Orbiting, one projector operates as master wheras the others operate as slave.

Master/slave toggle

Highlight '*CHANGE TO SLAVE*' with the arrow keys and press **ENTER** to set the projector as Slave.

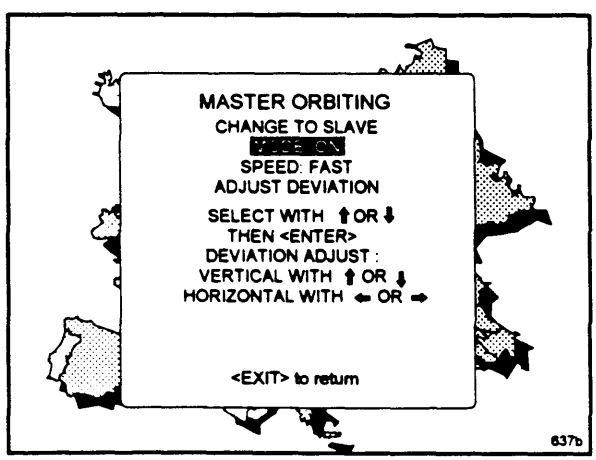


Highlight *'CHANGE TO MASTER'* with the arrow keys and press **ENTER** to set the projector as Master.



Orbiting ON/OFF toggle (only in Master Orbiting)

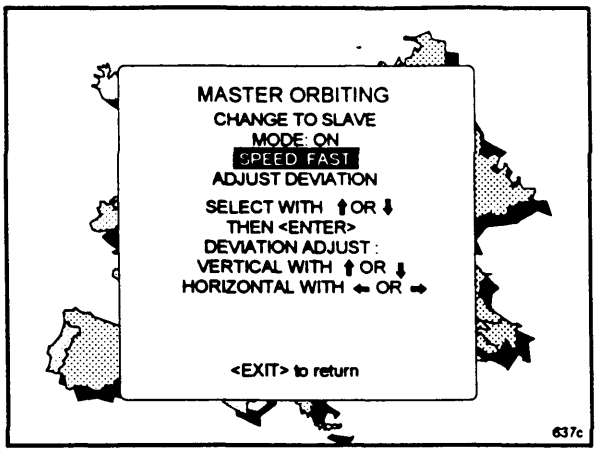
Highlight *'MODE : ON'* with the arrow keys and press **ENTER** to set the ORBITING OFF.
Highlight *'MODE : OFF'* with the arrow keys and press **ENTER** to set the ORBITING ON.



ENTER toggles between mode on and off.
EXIT returns to the Path selection menu.

Orbiting speed toggle (only in MASTER Orbiting)

Highlight *'SPEED : SLOW'* with the arrow keys and press **ENTER** to set the ORBITING SPEED to Fast.
Highlight *'SPEED : FAST'* with the arrow keys and press **ENTER** to set the ORBITING SPEED to Slow



ENTER continues to Set up Orbiting
EXIT returns to path selection menu
ADJUST returns to operational mode.

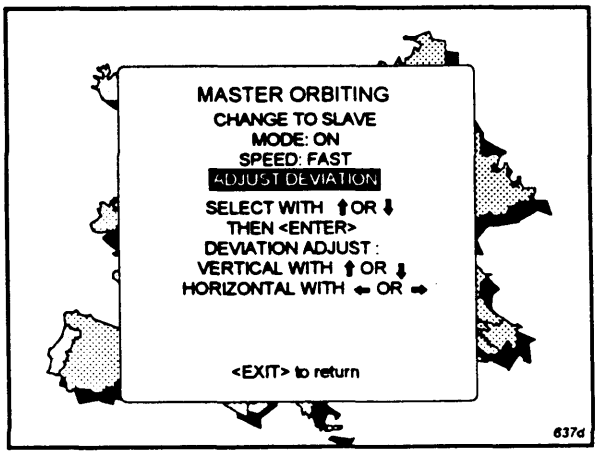
Orbiting alignment

Preparation :
Before proceeding to the alignment of the Orbiting default settings, be sure that the Horizontal Phase and the Raster shift are correctly aligned with the Orbiting mode set to OFF.

This alignment must be performed in case of a multiple projector installation with Master and Slave projectors in order to ensure a correct operation of the Orbiting for all projectors.

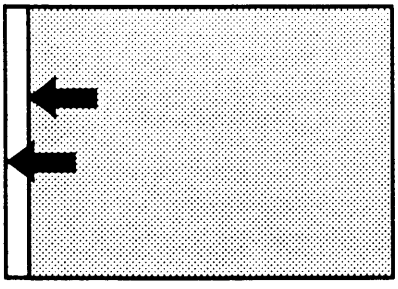
Adjustment procedure stand alone projector :

Highlight *'ADJUST DEVIATION'* with the arrow keys and press **ENTER**.

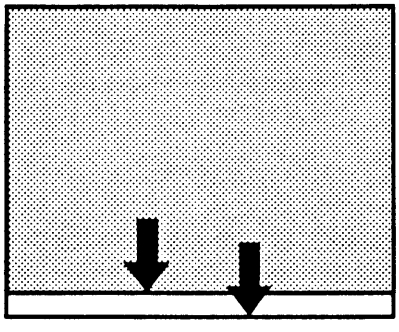


When adjusting the horizontal and the vertical deviation, the picture moves in the corresponding direction, allowing the set up of the deviation without orbiting operation.

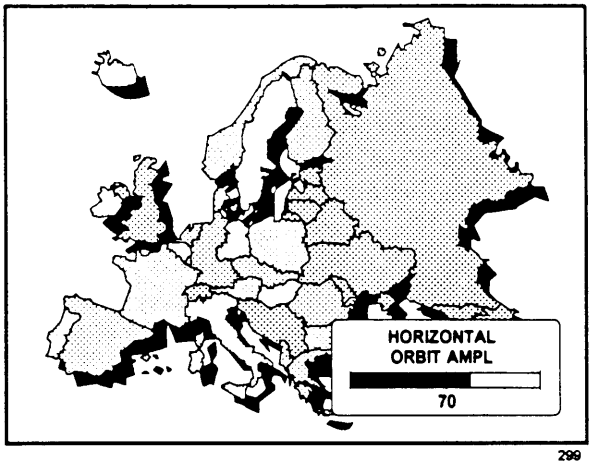
Press the left (right) or up (down) arrow key to toggle between Hor. and Vert. deviation andjustment.



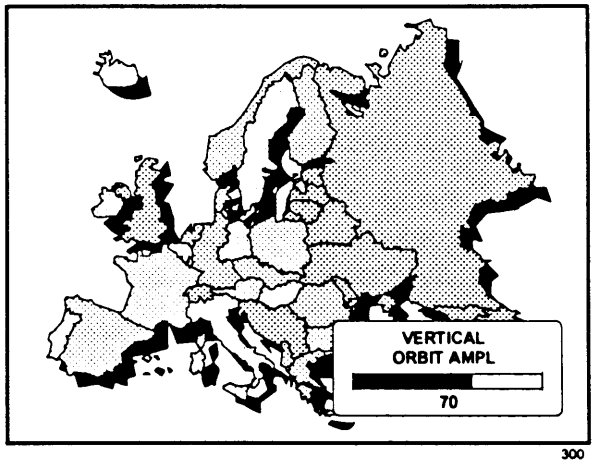
Adjust horizontal deviation with left and right arrow key.



Adjust vertical deviation with up and down arrow key.



299



300

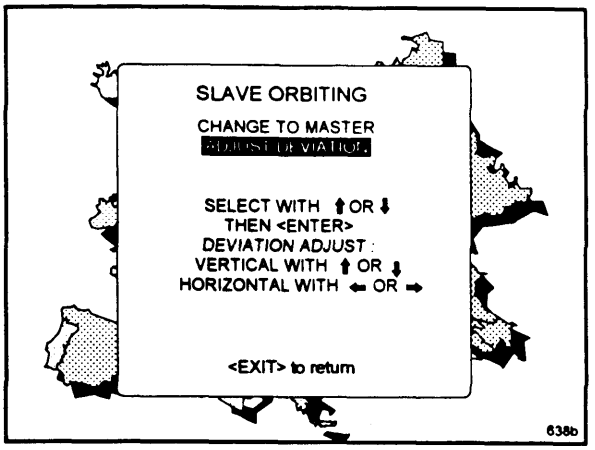
ENTER will select the Orbiting adjustment menu.
EXIT returns to the Path selection menu.

Adjustment procedure multiple projector installations :

Inportant : to allow corrections in the deviation alignments of the slave projectors, never adjust the deviations of the master projector to its maximum.

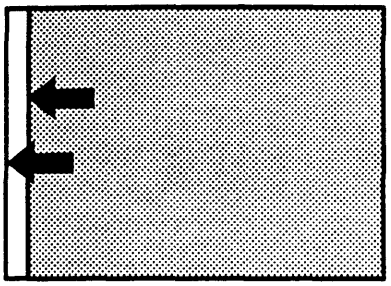
Default setting of the Master projectorn see 'Stand alone projector'.

Highlight *'ADJUST DEVIATION'* with the arrow keys and press **ENTER**.

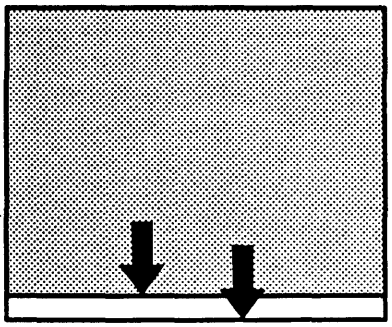


When adjusting the horizontal and the vertical deviation, the picture moves in corresponding direction, allowing the set up of the deviation without orbiting operation.

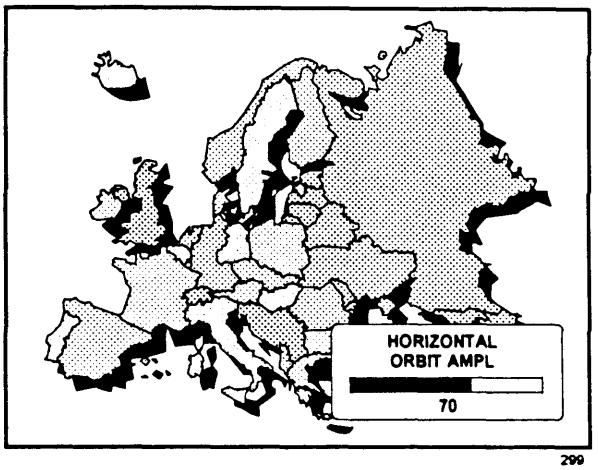
Press the left (right) or up (down) arrow key to toggle between Hor. and Vert. deviation adjustment.

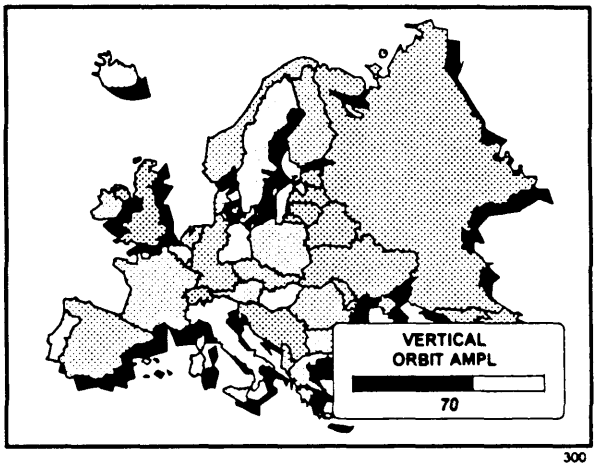


Adjust horizontal deviation with left and right arrow key.



Adjust vertical deviation with up and down arrow key.





ENTER will select the orbiting adjustment *menu.*
EXIT returns to the Path selection menu.

Soft edge matching (option)

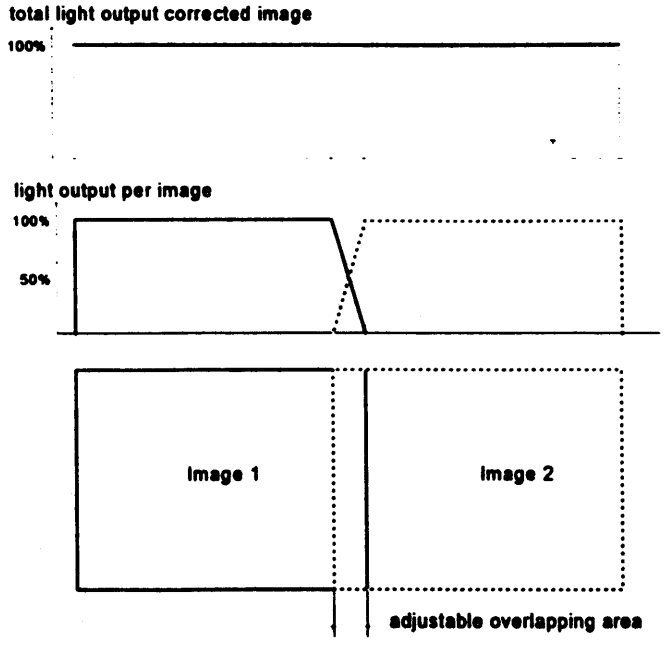
Multi-screens are popular for many applications. In these installations, the goal is to obtain a contiguous matched image, forming one homogenous view. The soft edge matching feature provides a solution to the annoying side effects when adjusting two or more projected images next to each other. To improve this junction, both images must be overlapping within a certain percentage of the total screen width. During the overlapping period, both video signals are modulated by appropriate waveforms so that the resulting light output equals the rest of the image.

Picture with hard edging

Picture with overlapping

Picture with soft edging

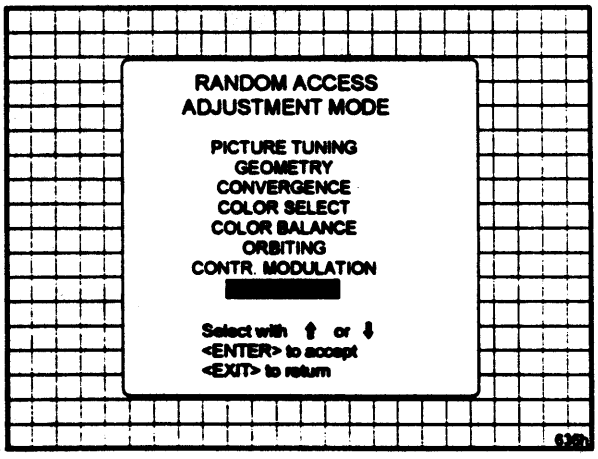
Basic concept



Adjustment procedure :

Start up the adjustment mode by pressing **ADJUST** (see also chapter 'Start up of the adjustment mode')
Highlight *Random access* with the arrow keys and press **ENTER** to start up the random access adjustment mode (see also chapter Random access adjustment mode). The *random access adjustment mode main menu* will be displayed.

When the *Soft edge matching option* is installed, the projector automatically detects this option and displays the selection (activation) line in the random access adjustment mode main menu.



Highlight *SOFT EDGE* with the arrow keys and press **ENTER** to select.

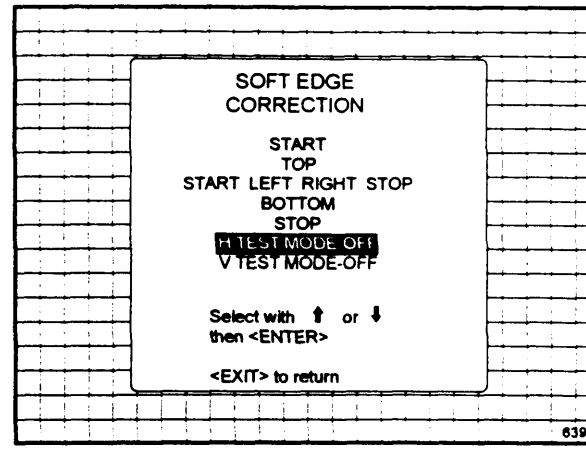
The soft edge correction menu offers the possibility to display a horizontal test pattern and a vertical test pattern. When the test patterns are ON, the 'real' soft edge is disabled, marking lines for the start and stop position of soft edging and the overlaping area are displayed. When the test patterns are OFF, the 'real' soft edge is enabled again.

Note : blanking corrections must be set to display a normal video image.

ENTER displays the soft edge matching menu.
EXIT returns to the Path selection menu.
ADJUST returns to operational mode.

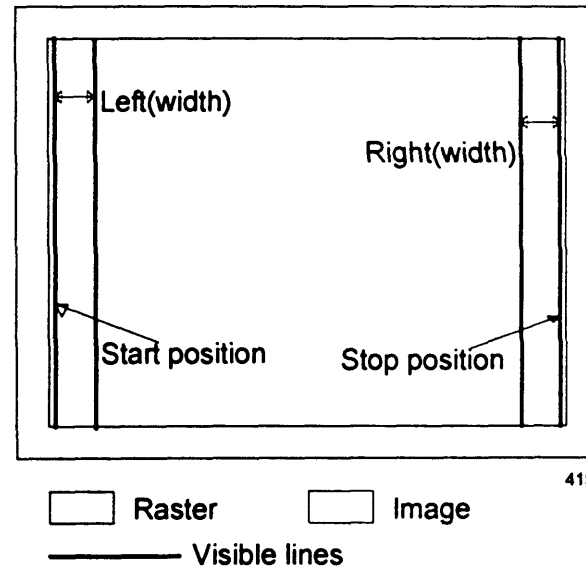
Each overlap area (left and right) is determinded by a start (stop) position and an area width.
The start (stop) position for the top (bottom) overlap area is determinded by the blanking adjustment.

Highlight '*H TEST MODE*' and press **ENTER**.
The test image is enabled to adjust the start (stop) position and the area width.



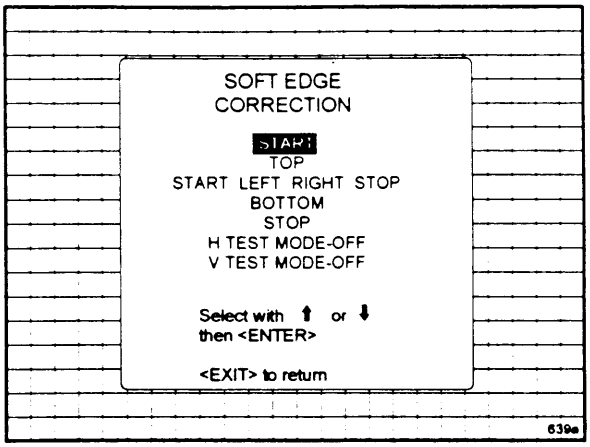
ENTER toggles between H test mode OFF and ON.
EXIT returns to the random access adjustment mode main menu.
ADJUST returns to operational mode.

The test image is projected on the normal image



Start position

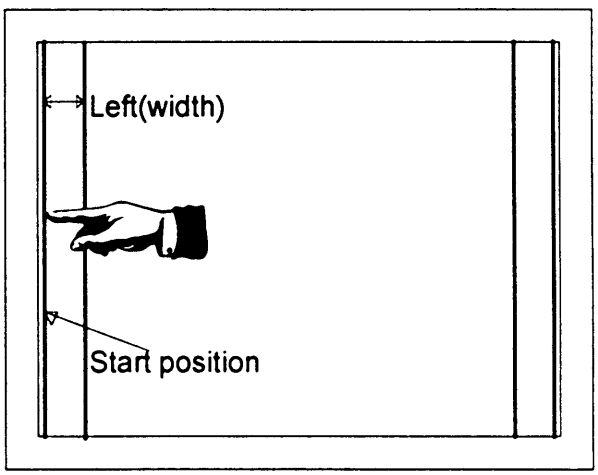
Highlight *START POSITION* with the arrow keys and press **ENTER**.



ENTER displays the normal image superimposed with the internal generated test signal.
EXIT returns to the random access adjustment mode main menu.
ADJUST returns to operational mode.

Adjust the first left line of the generated test image to determine the image border. This image border is the start position of the soft edge area.

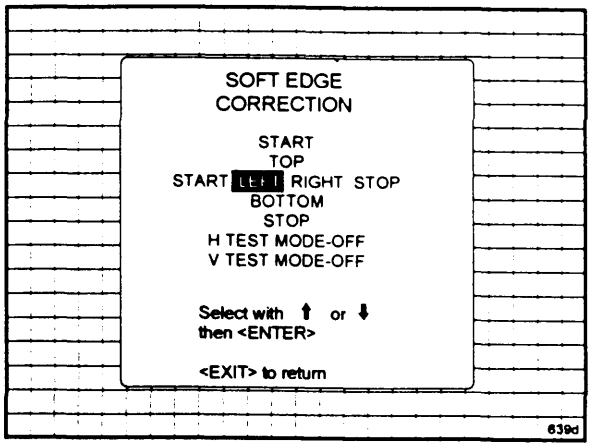
Note : when the start position is not visible by the first image display, adjust with the arrow keys until the line becomes visible. Adjust then until the start position is correct.



ENTER displays the soft edge menu.

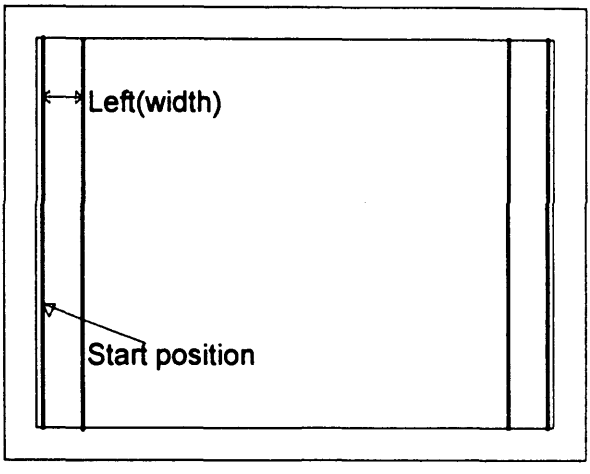
Left image area

Highlight *LEFT* with the arrow keys and press **ENTER**.
The normal image superimposed with the test pattern will be displayed.



ENTER displays the normal image superimposed with the internal generated test signal.
EXIT returns to the random access adjustment mode main menu.
ADJUST returns to operational mode.

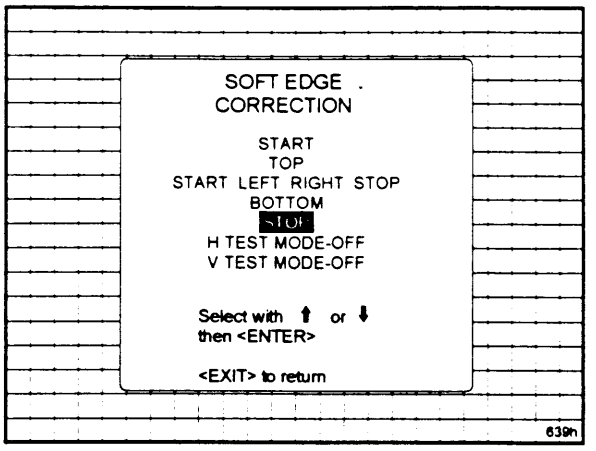
Adjust the left soft edge area width by moving with the arrow keys the second test pattern line towards its desired position.



ENTER returns to the soft edge correction menu.

Stop position

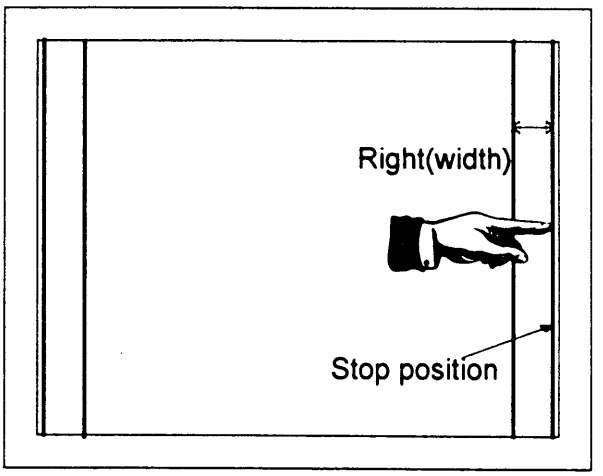
Highlight *STOP POSITION* with the arrow keys and press **ENTER**.



ENTER displays the normal image superimposed with the internal generated test signal.
EXIT returns to the random access adjustment mode main menu.
ADJUST returns to operational mode.

Adjust the last right line of the generated test image to determine the image border. This image border is the end position of the right soft edge area.

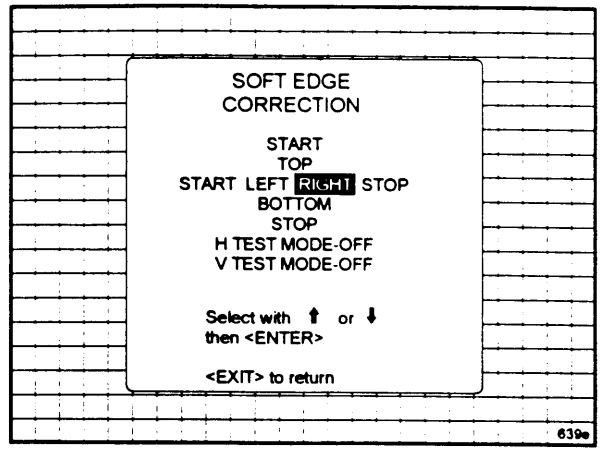
Note : when the stop position is not visible by the first image display, press on the arrow keys until the line becomes visible. Adjust then until the stop position is correct.



ENTER displays the soft edge menu.

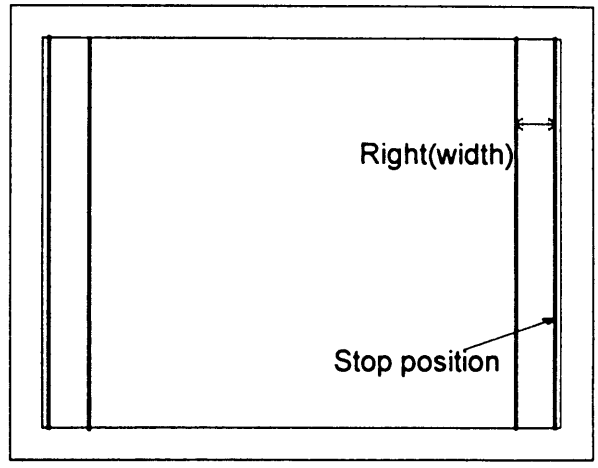
Right image area

Highlight *LEFT* with the arrow keys and press **ENTER**.
The normal image, superimposed with the test pattern will be displayed.



ENTER displays the normal image superimposed with the internal generated test signal.
EXIT returns to the random access adjustment mode main menu.
ADJUST returns to operational mode.

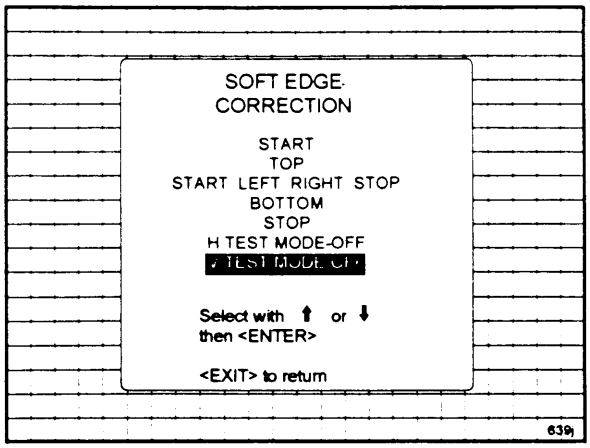
Adjust the right soft edge area width by moving with the arrow keys the second test pattern line towards its desired position.



ENTER returns to the soft edge correction menu.

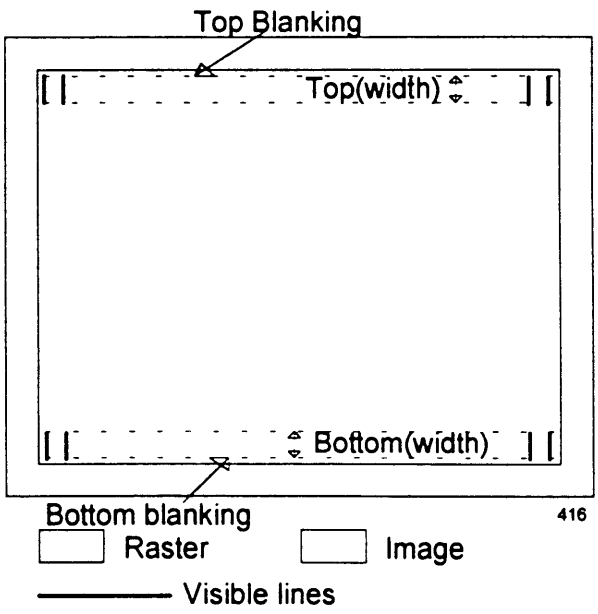
Vertical test mode

Highlight '*V TEST MODE*' and press **ENTER**.
The test image is enabled to adjust the start (stop) position and the area width.
When switching the V test mode to On, the H test mode will switch to OFF.



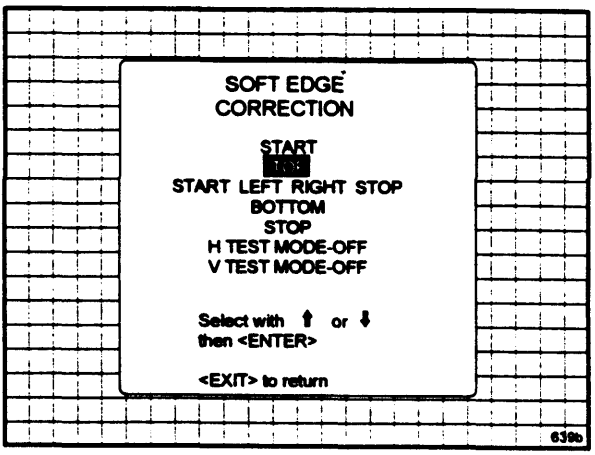
ENTER toggles between V test mode OFF and ON.
EXIT returns to the random access adjustment mode main menu.
ADJUST returns to operational mode.

The test image is projected on the normal image. The start (stop) position in determined by the blanking controls. The blanking adjustment is also the image border for the begin (end) position of the soft edge area. Adjust the blanking for a normal video image.



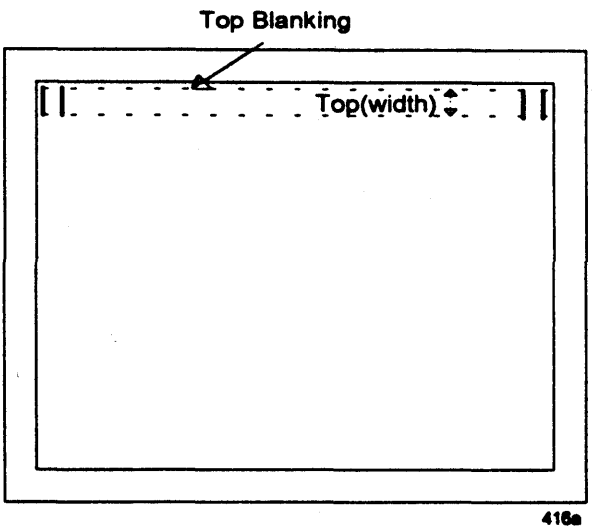
Top soft edge area adjustment

Highlight *TOP* with the arrow keys and press **ENTER**.
The normal image, superimposed with the test pattern will be displayed.



ENTER displays the normal image superimposed with the internal generated test signal.
EXIT returns to the random access adjustment mode main menu.
ADJUST returns to operational mode.

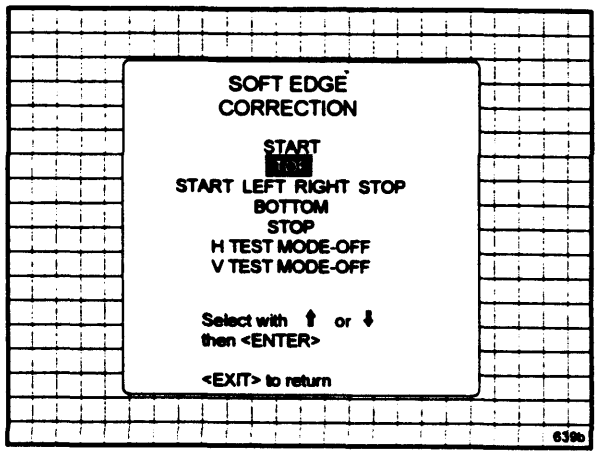
Adjust the top soft edge area width by changing the length of the internal generated lines with the arrow keys.



ENTER returns to the soft edge correction menu.

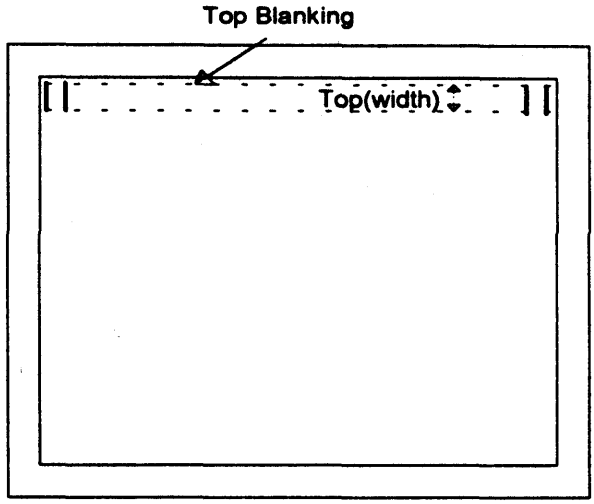
Top soft edge area adjustment

Highlight *TOP* with the arrow keys and press **ENTER**.
The normal image, superimposed with the test pattern will be displayed.



ENTER displays the normal image superimposed with the internal generated test signal.
EXIT returns to the random access adjustment mode main menu.
ADJUST returns to operational mode.

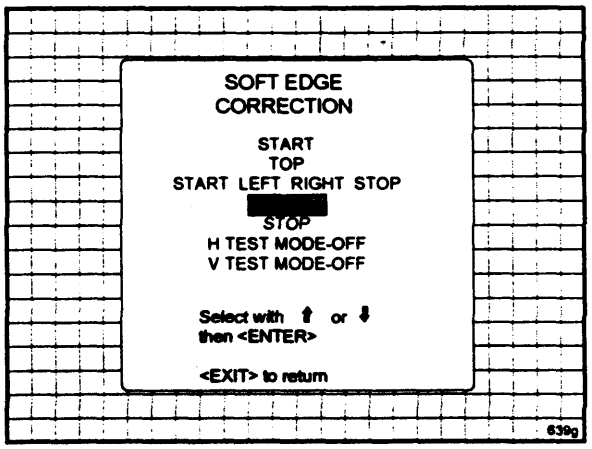
Adjust the top soft edge area width by changing the length of the internal generated lines with the arrow keys.



ENTER returns to the soft edge correction menu.

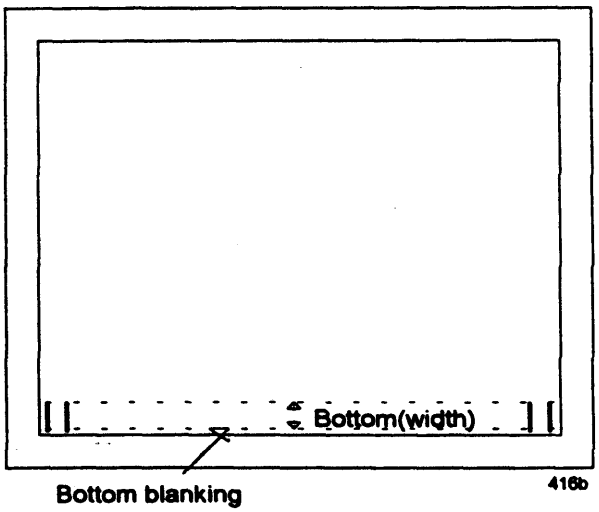
Bottom soft edge area adjustment

Highlight *BOTTOM* with the arrow keys and press **ENTER**.
The normal image, superimposed with the test pattern will be displayed.



ENTER displays the normal image superimposed with the internal generated test signal.
EXIT returns to the random access adjustment mode main menu.
ADJUST returns to operational mode.

Adjust the bottom soft edge area width by changing the length of the internal generated lines with the arrow keys.

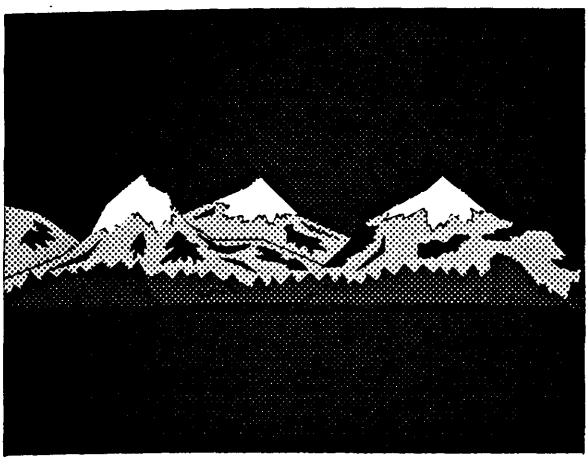


ENTER returns to the soft edge correction menu.

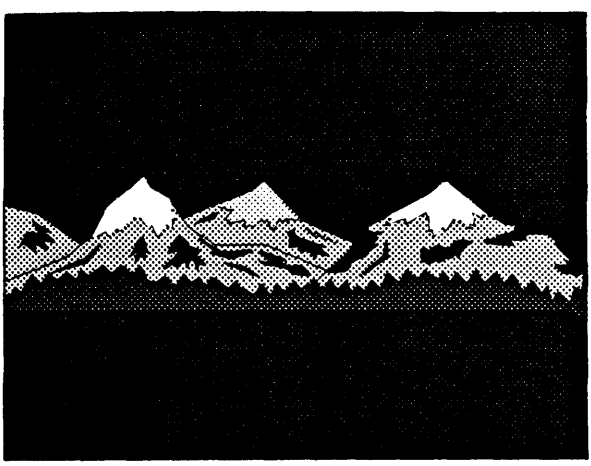
Contrast modulation (option)

Today multi-screens are very popular for many applications e.g. simulation business. In this installations, the goal is to obtain a continuous matched image, forming one homogeneous view. The viewer wants to see an overall light output uniformity.

The laws of physics applied to projection optics dictates that the center of the projected image will be brighter than the corners, this phenomenon is normally referred to as 'corner fall off'. Secondly, due to the normal off-axis projection of the red and blue images, CRT projection displays a phenomenon referred to as 'color shift', whereby one side of the screen is redish an the other blueish.

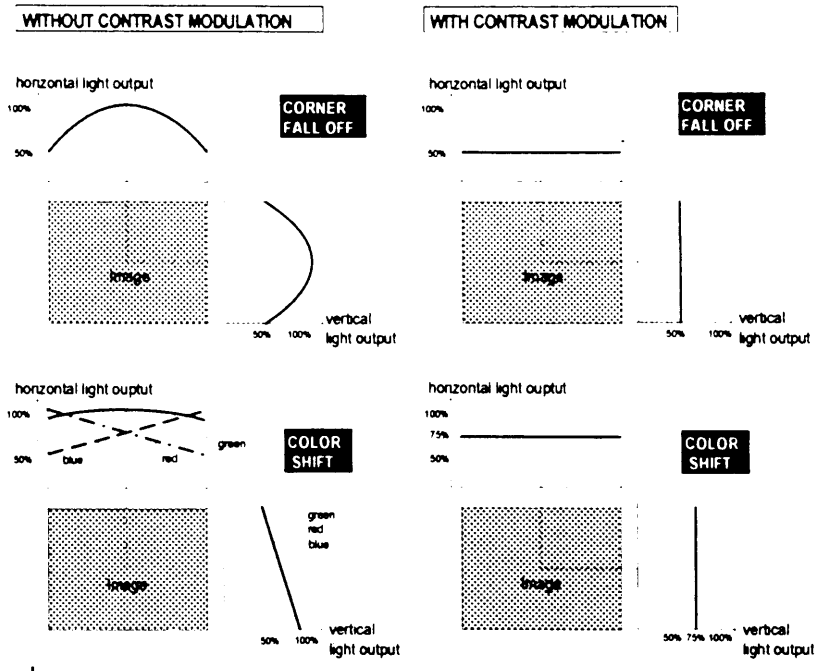


Picture without contrast modulation



Picture with contrast modulation

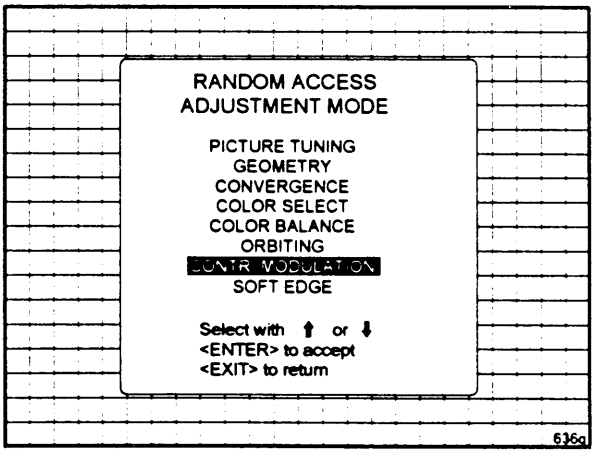
Basic concept



Adjustment procedure :

Start up the adjustment mode by pressing **ADJUST** (see also chapter 'Start up of the adjustment mode')

Highlight *Random access* with the arrow keys and press **ENTER** to start up the random access adjustment mode (see also chapter Random access adjustment mode). The *random access adjustment mode main menu* will be displayed.
When the *contrast modulation option* is installed, the projector automatically detects this option and displays the selection (activation) line in the random access adjustment mode main menu.
Highlight *CONTR. MODULATION* with the arrow keys and press **ENTER** to select.

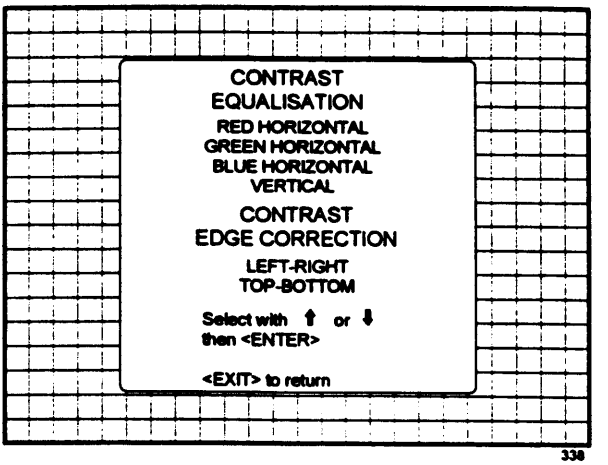


Note : An external generated white image will be useful during the adjustment.

Note : be sure the horizontal phase is correctly adjusted. The image must be centered on the raster with the horizontal phase adjustment, otherwise it is not possible to adjust the contrast modulation correctly.

ENTER selects the contrast modulation menu.
EXIT returns to the Path selection menu.
ADJUST returns to operational mode.

The first 3 adjustments (horizontal red, green, blue) are used for horizontal light equalisation for the three specific colors separately. This compensates the error due to the different horizontal position of the picture tubes. One side of the image is reddish and the other side is blueish. This phenomenon is called *Color shift*.



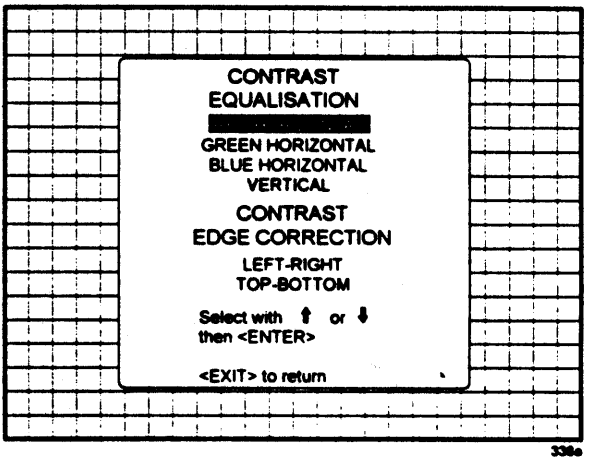
338

The *VERTICAL* adjustment affects the three colors at the same time and corrects the vertical error in light output due to the projection angle (10.5 degrees).

Left-right (horizontally) and top-bottom (vertically) adjustments improves the '*hot spot*' in the center of the screen.

Contrast equalisation ('Color Shift')

Highlight *RED HORIZONTAL* with the arrow keys and press **ENTER**.
Only a red image is displayed. Use the arrow keys to equalise the light output on the left and right side of the image. The best result is obtain on a white image by looking on the left and the right side until both or equal, or by using a very sensitive light meter.



338a

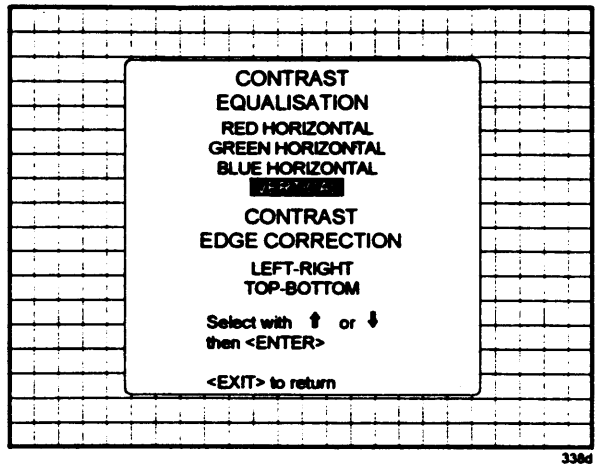
ENTER returns to the contrast modulation menu.
Repeat this adjustment for green and blue. by selecting first Green horizontal and than Blue horizontal.

Remark : When the end of adjustment range is reached for red and blue, the green image will be displayed too, to give you the message 'end of adjustment range'. The green image stays active until a new selection is made.
ENTER displays the red image.
EXIT returns to the Random access adjustment mode main menu
ADJUST returns to operational mode.

Highlight *VERTICAL* with the arrow keys and press **ENTER**. This adjustment is done for on all three colors at the same time.

Use the arrow keys to equalise the vertical light output and press **ENTER** to continue.

The best result is obtain on a white image by looking on the top and the bottom side until both or equal, or by using a very sensitive light meter.



338d

ENTER selects the Vertical contrast equalisation option.
EXIT returns to the Random access adjustment mode main menu.
ADJUST returns to operational mode.

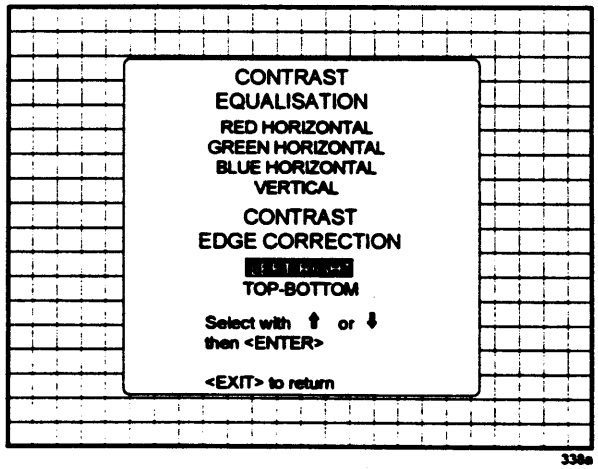
Contrast edge correction ('hot spot')

Highlight *LEFT-RIGHT* with the arrow keys and press **ENTER** to start the horizontal '*hot spot* correction in the center of the screen. Adjust with the arrow keys for the same light output in the corners as in the center of the image.

This left-right adjustment must be done in combination with the top-bottom adjustment as both adjustments influence each other.

Note : these adjustments will reduce the total light output, so do not over adjust.
Hint : A bar scale of 10 - 15 for both adjustments gives a good result.

Press **ENTER** to return to the contrast modulation menu.



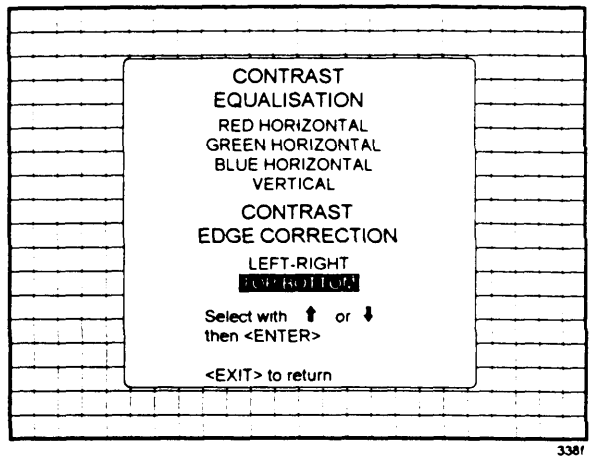
338e

ENTER starts the left-right contrast edge correction.
EXIT returns to the Random Access adjustment main menu.
ADJUST returns to operational mode.

Highlight *TOP-BOTTOM* with the arrow keys and press **ENTER** to start the vertical '*hot spot*' correction in the center of the screen. Adjust with the arrow keys for the same light output in the corners as in the center of the image.
This top-bottom adjustment must be done in combination with the left-right adjustments as both adjustments influence each other.

Note : these adjustments will reduce the total light output, so do not over adjust.
Hint : A bar scale of 10 - 15 for both adjustments gives a good result.

Press **ENTER** to return to the contrast modulation menu.



3381

ENTER starts the top-bottom contrast edge correction.
EXIT returns to the Random Access adjustment main menu.
ADJUST returns to operational mode.

Adjustment Blocks (memory blocks)

As the BARCODATA 701 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".

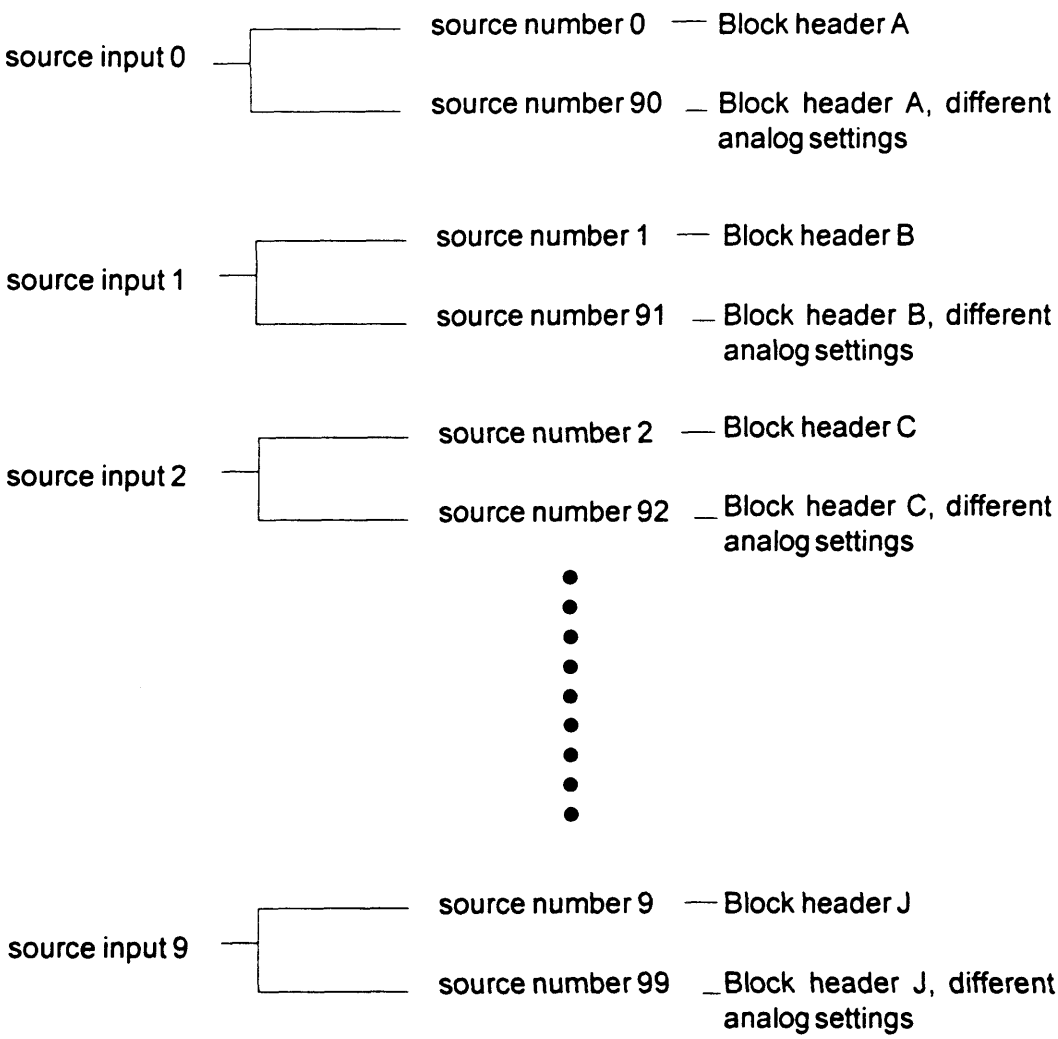
The projector's memory has the capacity to store 8 adjustment blocks. The adjustment block consists of two parts, the block header and the data representing the convergence and geometry adjustments of the source the block corresponds to. The block header contains the basic characteristics of the source 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 RCVDS800. 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)

MATERIAL SAFETY DATA SHEET

Form Approved
Bureau Budget No 45-R0338

MANUFACTURER'S NAME AND FSCM (Federal Supply Code for Manufacturers)
BARCO n v

EMERGENCY PHONE NO
32-56-38821 1

ADDRESS (Number Street City State and ZIP Code)
Noordlaan 5 B- 8720 KUURNE

CHEMICAL NAME AND SYNONYMS
Ethyleneglycol & glycerol

TRADE NAME AND SYNONYMS
Cooling liquid 512334

CHEMICAL FAMILY
Polyalcohols

FORMULA
$C_2H_6O_2 + C_3H_8O_3$

FEDERAL STOCK NUMBER (FSN)

GROSS WEIGHT (LBS)

OUTSIDE PACKAGE DIMENSIONS

MIL STD 1341, NATIONAL FIRE PROTECTION ASSOCIATION STD 704M SIGNAL
FLAMMABILITY ... HEALTH ... REACTIVITY ... SPECIFIC HAZARD ...

PAINTS, PRESERVATIVES, AND SOLVENTS	%	TRESHOLD LIMIT VALUE (Units)	ALLOYS AND METALLIC COATINGS	%	TRESHOLD LIMIT VALUE (Units)
PIGMENTS			BASE METAL	/	
CATALYST			ALLOYS	/	
VEHICLE			METALLIC COATINGS	/	
SOLVENTS			FILLER METAL PLUS COATING OR CORE FLUX	/	
ADDITIVES			OTHERS	/	
OTHERS	/				

HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES	%	TRESHOLD LIMIT VALUE (Units)

PHYSICAL DATA

BOILING POINTS (°C)	201°C	SPECIFIC GRAVITY (H_2O = 1)	1.15
VAPOR PRESSURE (mm Hg)	3 mm Hg	PRECENT VOLATILE BY VOLUME (%)	/
VAPOR DENSITY (AIR = 1)	2.2	EVAPORATION RATE (Butyl Acetate = 1)	/
SOLUBILITY IN WATER	100%		

APPEARANCE AND ODOR

EXPLOSION HAZARD DATA

FLASH POINT (Method used)	FLAMMABLE LIMITS	LOWER EXPLOSIVE LIMIT	UPPER EXPLOSIVE LIMIT

EXTINGUISHING MEDIA

SPECIAL FIRE FIGHTING PROCEDURES

UNUSUAL FIRE AND EXPLOSION HAZARDS

SECTION V HEALTH HAZARD DATA

TRESHOLD LIMIT VALUE
100ppm

EFFECTS OF OVEREXPOSURE

EMERGENCY AND FIRST AID PROCEDURES

SECTION VI REACTIVITY DATA

STABILITY			CONDITIONS TO AVOID
	UNSTABLE		
	STABLE	X	

INCOMPATABILITY (Materials to avoid)

HAZARDOUS DECOMPOSITION PRODUCTS

HAZARDOUS POLYMERIZATION			CONDITIONS TO AVOID
	MAY OCCUR	X	
	WILL NOT OCCUR		

SECTION VII SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
Rinse with water

WASTE DISPOSAL METHOD

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specific type)

VENTILATION		
	LOCAL EXHAUST	SPECIAL
	MECHANICAL (General)	OTHER

PROTECTIVE GLOVES | EYE PROTECTION

OTHER PROTECTIVE EQUIPMENT

SECTION IX SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING
Harmful if swallowed

Keep out of the reach of children

OTHER PRECAUTIONS
To avoid from oxidants

Insert card for RCU

BARCO PROJECTORS

BV701
BD701

BD5000 (use the non-filled side up)

RCU

INPUT SOURCES	
PROJECTOR	
1	Video
2	S-Video
3	RGsB/RGB-S
4	RGssB/RGB3S
5	Component
6	Component+3L

RCU

INPUT SOURC	
PROJECTOR	
1	
2	
3	
4	
5	
6	
7	

INPUT SOURCES	
RCVDS	
1	
2	
3	
5	
6	
7	
8	
9	
10	

INPUT SOURCE	
RCVDS	
1	
2	
3	
5	
6	
7	
8	
9	
10	

BARCO PROJECTORS

BG801-BD801
RG801-RD801
BG1200-BG1208
BD1101

* Optional

BV1200HD

* Standard

BV1600HD

* Not Available

RCU

INPUT SOURCES	
PROJECTOR	
1	Video
2	S-Video
3	RGB Analog
4	RGsB
5	RGB-S
6	RGssB*
7	RGB-3S*

RCU

INPUT SOURCE	
RCVDS	
1	
2	
3	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	

INPUT SOURCES	
RCVDS	
1	
2	
3	
5	
6	
7	
8	
9	
10	