



BARCO PROJECTION SYSTEMS

BARCO GRAPHICS
6500

**R9001950
R9001959**

OWNER'S MANUAL

Federal communication commission (FCC statement)

This equipment has been tested and found to comply with the limits for a class B 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.

Instructions to the user :

if this equipment does cause interference to radio or television reception, the user may try to correct the interference by one or more of the following measures :

- Re-orientation of the receiving antenna for the radio or television.
- Relocate the equipment with respect to the receiver.
- Plug the equipment into a different outlet so that the equipment and receiver are on different branch circuits.
- Fasten cables connectors to the equipment by mounting screws.

Note :

The use of shielded cables is required to comply within the limits of Part15 of FCC rules and EN55022.

Due to constant research, the information in this manual is subject to change without notice.

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PACKAGING AND DIMENSIONS

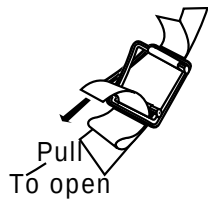
Projector Packaging

Way of Packaging

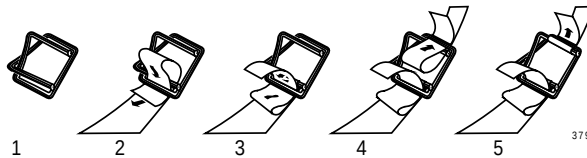
The projector is packed in a carton box. To provide protection during transportation, the projector is surrounded with foam. The package is secured with banding and fastening clips.

To unpack

First release the fastening clips and remove the banding. Handle as shown in the drawing.



Take the projector out of its shipping carton and place it on a table.



Hint

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

Contents of the complete unit (box) :

- 1 BARCOGRAPHICS 6500 or 6500DLC (weight ± 17 kg or ± 37.4 lbs)
- 1 remote control unit RCU + 2 batteries.
- 1 power cable with outlet plug type CEE7 or ANSI 73.11 .
- 1 owner's manual
- 1 safety manual

Lens Packaging

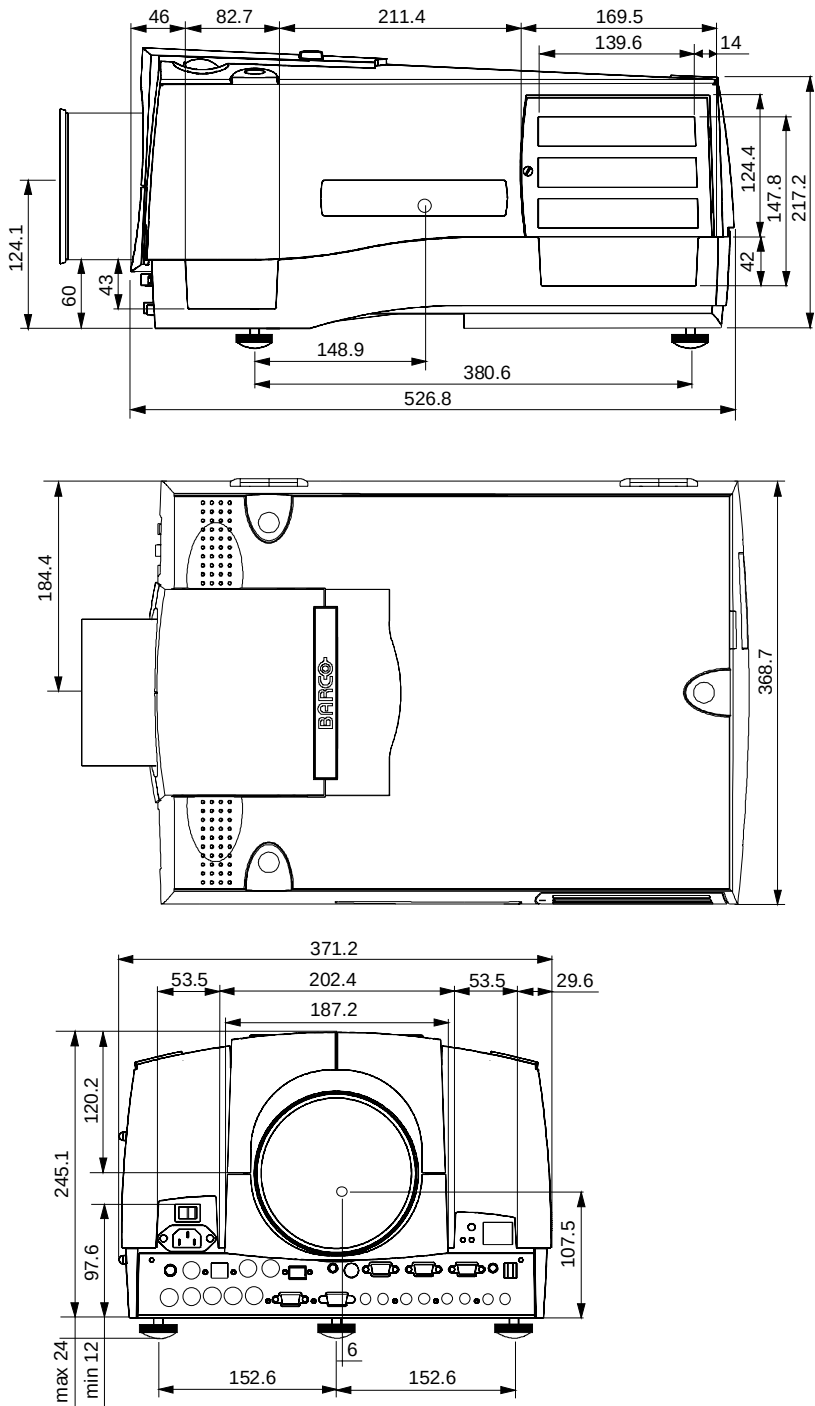
Way of Packaging

Lenses are supplied as an individual item.
They are packed in a carton.

Projector Case

Dimensions

The dimensions are given in mm.
25.4 mm = 1"



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INSTALLATION GUIDELINES

Safety warning

Before installing the projector, read first the safety instructions

Installation Guidelines

Ambient Temperature Conditions

Careful consideration of things such as image size, ambient light level, projector placement and type of screen to use are critical to the optimum use of the projection system.

Max. ambient temperature : 40 °C or 104 °F

Min. ambient temperature : 0 °C or 32 °F

The projector will not operate if ambient air temperature falls outside this range (0°C- 40°C or 32°F-104°F).

Environment

Do not install the projection system in a site near heat sources such as radiators or air ducts, or in a place subject to direct sunlight, excessive dust or humidity. Be aware that room heat rises to the ceiling; check that temperature near the installation site is not excessive.

Environment condition check

Warning: Harmful Environmental Contamination Precaution

A projector must always be mounted in a manner which ensures the free flow of *clean air* into the projectors ventilation inlets. For installations in environments where the projector is subject to airborne contaminants such as that produced by smoke machines or similar (these deposit a thin layer of greasy residue upon the projectors internal optics and imaging electronic surfaces, degrading performance), then it is highly advisable and desirable to have this contamination removed prior to it reaching the projectors clean air supply. Devices or structures to extract or shield contaminated air *well* away from the projector are a prerequisite, if this is not a feasible solution then measures to relocate the projector to a clean air environment should be considered.

Only ever use the manufactures recommended cleaning kit which has been specifically designed for cleaning optical parts, never use industrial strength cleaners on a projectors optics as these will degrade optical coatings and damage sensitive optoelectronic components. Failure to take suitable precautions to protect the projector from the effects of persistent and prolonged air contaminants will culminate in extensive and irreversible ingrained optical damage. At this stage cleaning of the internal optical units will be non-effective and impracticable. Damage of this nature is under no circumstances covered under the manufactures warranty and may deem the warranty null and void. In such a case the client shall be held solely responsible for all costs incurred during any repair. It is the clients responsibility to ensure at all times that the projector is protected from the harmful effects of hostile airborne particles in the environment of the projector. The manufacture reserves the right to refuse repair if a projector has been subject to wantful neglect, abandon or improper use.

What about ambient light ?

The ambient light level of any room is made up of direct or indirect sunlight and the light fixtures in the room. The amount of ambient light will determine how bright the image will appear. So, avoid direct light on the screen.

Windows that face the screen should be covered by opaque drapery while the set is being viewed. It is desirable to install the projection system in a room whose walls and floor are of non-reflecting material. The use of recessed ceiling lights and a method of dimming those lights to an acceptable level is also important. Too much ambient light will 'wash out' of the projected image. This appears as less contrast between the darkest and lightest parts of the image. With bigger screens, the 'wash out' becomes more important. As a general rule, darken the room to the point where there is just sufficient light to read or write comfortably. Spot lighting is desirable for illuminating small areas so that interference with the screen is minimal.

Which screen type?

There are two major categories of screens used for projection equipment. Those used for front projected images and those for rear projection applications.

Screens are rated by how much light they reflect (or transmit in the case of rear projection systems) given a determined amount of light projected toward them. The 'GAIN' of a screen is the term used. Front and rear screens are both rated in terms of gain. The gain of screens range from a white matte screen with a gain of 1 (x1) to a brushed aluminized screen with a gain of 10 (x10) or more. The choice between higher and lower gain screens is largely a matter of personal preference and another consideration called the Viewing angle.

In considering the type of screen to choose, determine where the viewers will be located and go for the highest gain screen possible. A high gain screen will provide a brighter picture but reduce the viewing angle.

For more information about screens, contact your local screen supplier.

A high gain screen will provide a brighter picture but reduce the viewing angle.

What image size? How big should the image be?

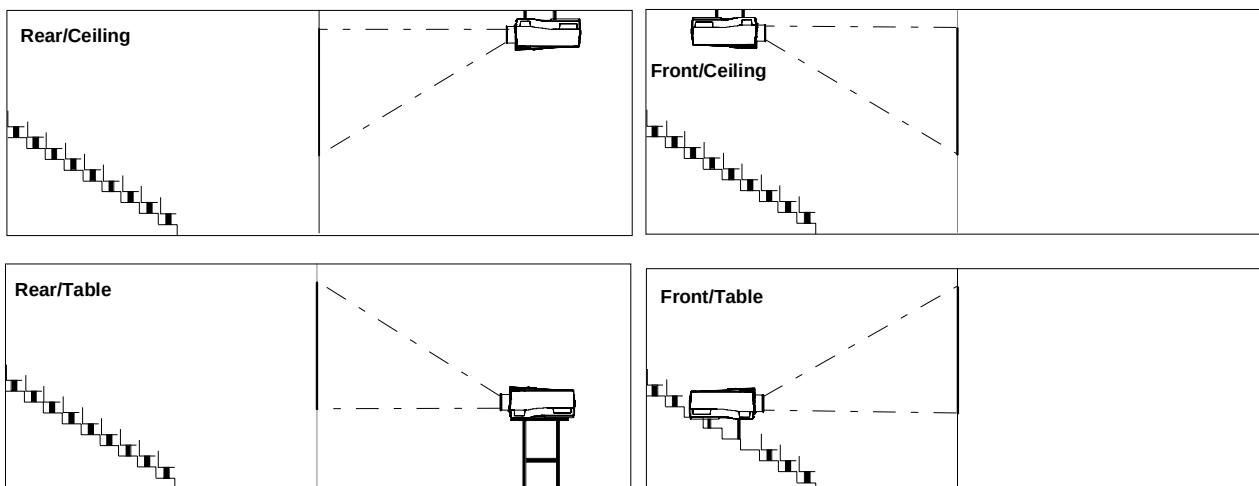
The projector is designed for projecting an image size (video) from 1.00m (3.3ft) to 6.00m (19.7ft) with a aspect ratio of 5 to 4.

Projector Configurations

Which configuration can be used ?

The projector can be installed to project images in four different configurations :

- Front/table
- Rear/table
- Front/ceiling or
- Rear/ceiling



Positioning the Projector

Drawing are given for a nominal lens position.

Definitions of the Abbreviation on drawings

B = Distance between ceiling and top of the screen or between floor and bottom of the screen.

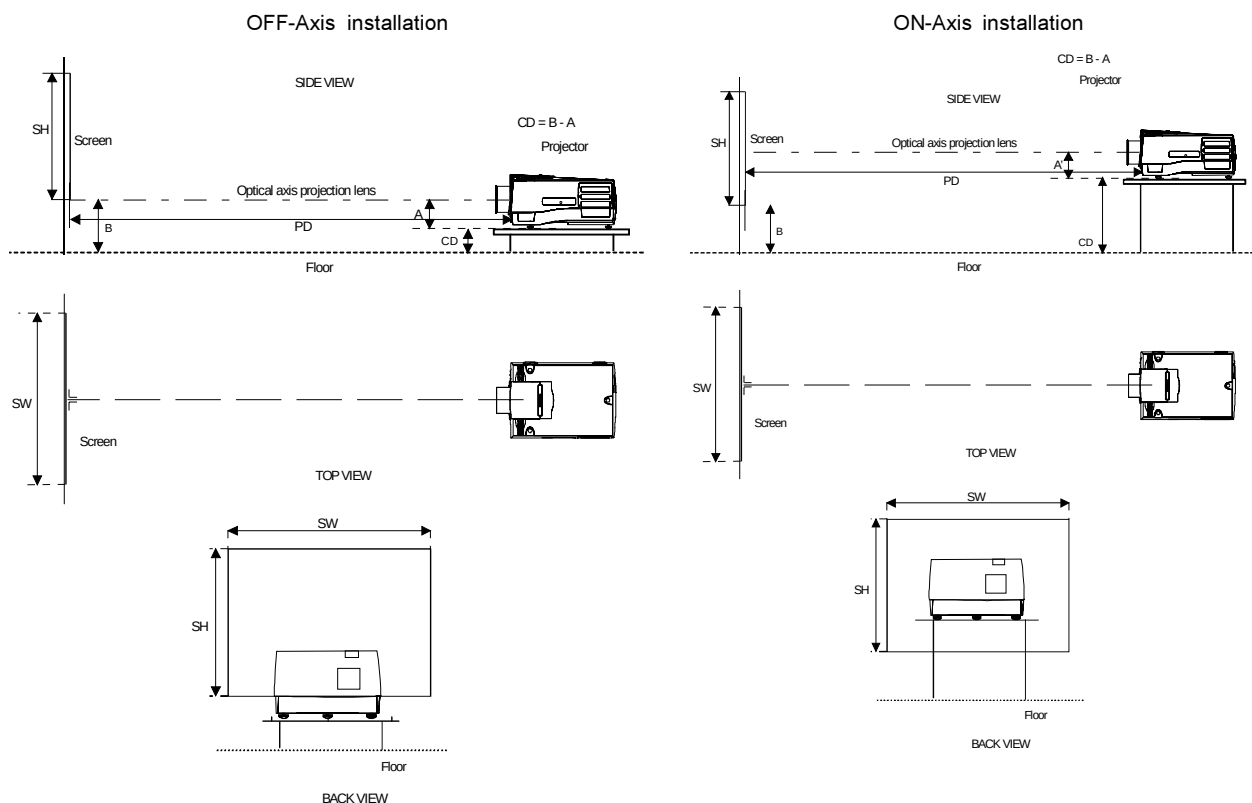
A = Correction value, distance between bottom side of projector (without feet) and middle of the lens. Value to be subtracted from B to obtain the correct installation position. (A value is a constant value for all screen widths and type of lenses, A = 124.1 mm or 4.89 inch)

CD = Total distance between projector and ceiling or projector and floor.

SW = Screen width.

SH = Screen height (image height).

PD = Projector Distance, distance between screen and projector.



Lenses

Which lens has to be selected.

- 1 Determine the required screen width.
 - 2 Determine the approximate position of the projector in the projection room with regard to the screen and measure the projector-screen distance (PD).
 - 3 Use the lens formulas to find the best corresponding PD with regard to the measured projector-screen distance for the required screen width.
- The desired lens is determined.

Available lenses

The projector is supplied without any lens.

The following lenses are available, or will become available (contact a Barco service center) as an option :

Lenses	Standard version
QFD(1.27:1)	R9840400
QFD(2.5:1)	R9840290
QFD(1.4-2.1:1)	R9840380
QFD(2.1-3.0:1)	R9840390
QGD(3.5-4.5:1)	R9840060
QFD(4.5-6.0:1)	R9840100
QFD(7:1)	R9840410

Lens formulas to calculate the projector distance.

	Metric formulas (meter)	Inch formulas (inch)
QFD(1.27:1)	$PD = 1.29 \times SW - 0.0195 + 0.00276/SW$	$PD = 1.29 \times SW - 0.77 + 42.78/SW$
QFD(2.5:1)	$PD = 1.324 \times SW - 0.065 + 0.0297/SW$	$PD = 1.324 \times SW - 0.77 + 46.03/SW$
QFD(1.4-2.1:1)	$PD_{min} = 1.44 \times SW + 0.0287 - 0.022/SW$ $PD_{max} = 2.20 \times SW - 0.01 + 0.02/SW$	$PD_{min} = 1.44 \times SW + 1.3 - 34.10/SW$ $PD_{max} = 2.20 \times SW - 0.39 + 31.0/SW$
QFD(2.1-3.0:1)	$PD_{min} = 2.13 \times SW - 0.10 + 0.056/SW$ $PD_{max} = 2.90 \times SW + 0.10 - 0.0745/SW$	$PD_{min} = 2.13 \times SW - 0.39 + 86.80/SW$ $PD_{max} = 2.90 \times SW + 0.39 - 115.47/SW$
QFD(3.5-4.5:1)	$PD_{min} = 3.374 \times SW - 0.115 + 0.0575/SW$ $PD_{max} = 4.433 \times SW - 0.133 + 0.0556/SW$	$PD_{min} = 3.374 \times SW - 4.53 + 89.12/SW$ $PD_{max} = 4.433 \times SW - 5.24 + 86.18/SW$
QFD(4.5-6.0:1)	$PD_{min} = 4.29 \times SW - 0.02 + 0.0009/SW$ $PD_{max} = 5.86 \times SW + 0.15 + 0.0121/SW$	$PD_{min} = 4.29 \times SW - 0.79 + 1.395/SW$ $PD_{max} = 5.86 \times SW + 5.91 + 18.755/SW$
QFD(7.0:1) Metric	$PD = 7.021 \times SW + 0.047 + 0.0093/SW$	$PD = 7.021 \times SW + 1.85 + 14.41/SW$

Lens program to calculate the projector distance is available on the BARCO website :
http://www.barco.com/projection_systems/customer_services/lens_program.asp

How to install the lens?

Follow the next procedure :

1. Take the lens out of its packing material.
2. Open the lens cover of the projector by pivoting it up and take it off (image 1).
3. Open both lens locks (B) by pulling them backwards. Unlock first by pulling clip (A) forwards (image 2).
4. Put the lens on the lens holder.
5. Fix the lens by closing both locks (B) until they are secured (image 3).
6. Plug the wires of motor unit into the connector (C) (image 3).
7. Re-install the lens cover (image 4)

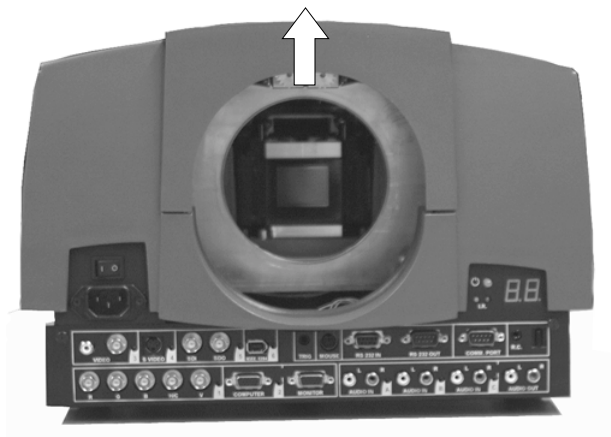


Image 1

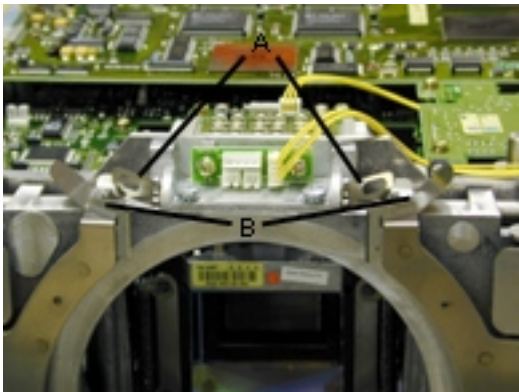


Image 2

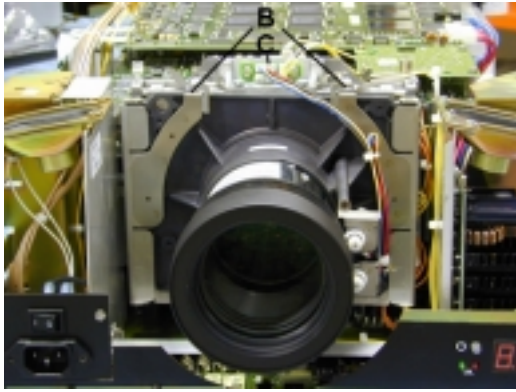


Image 3



Image 4

Cleaning the Lens

To minimize the possibility of damaging the optical coating or scratching exposed lens surface, we have developed recommendations for cleaning the lens. FIRST, we recommend you try to remove any material from the lens by blowing it off with clean, dry deionized air. DO NOT use any liquid to clean the lenses.

A Toraysee™ cloth is included with the lens kit.

Proceed as follows :

1. Always wipe lenses with a CLEAN Toraysee™ cloth.
2. Always wipe lenses in a single direction. Do not wipe back and forwards across the lens surface as this tends to grind dirt into the coating.
3. Do not leave cleaning cloth in either an open room or lab coat pocket, as doing so can contaminate the cloth.
4. If smears occur when cleaning lenses, replace the cloth. Smears are the first indication of a dirty cloth.
5. Do not use fabric softener when washing the cleaning cloth or softener sheets when drying the cloth.
6. Do not use liquid cleaners on the cloth as doing so will contaminate the cloth.

Order number for a new Toraysee™ cloth : R379058.

Other lenses can also be cleaned safely with this Toraysee™ cloth.

Battery installation in the RCU.

Inserting the Batteries.

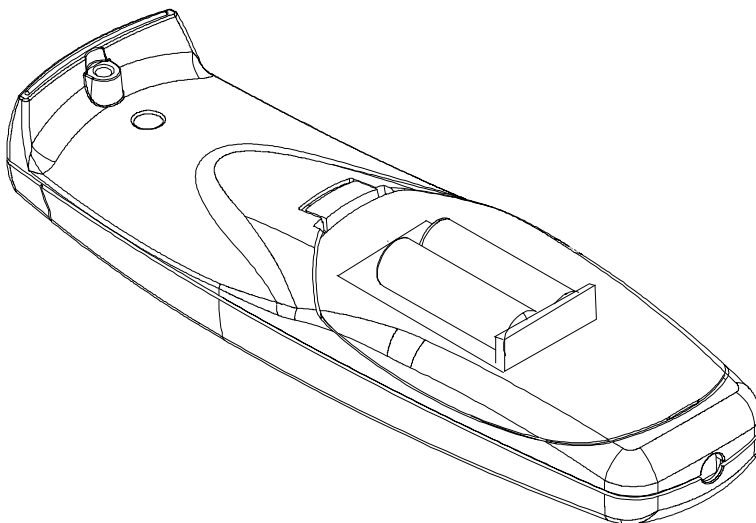
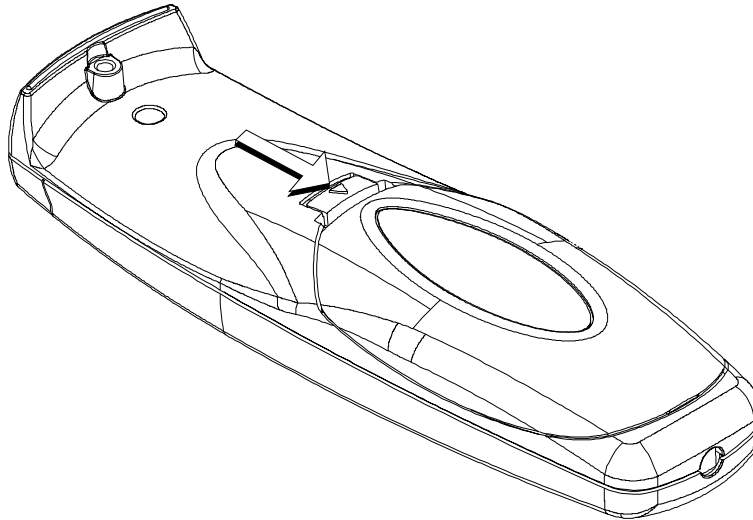
Two batteries are packed together with the RCU. Before using your RCU, install first these batteries.

- 1 Remove the battery cover on the backside by pushing the handle a little towards the bottom of the RCU.
- 2 Lift up the top side of the cover at the same time.
- 3 Insert the batteries as indicated in the RCU.
- 4 Put the battery cover on its place.

How to replace the batteries in the RCU ?

To replace the batteries :

- 1 Remove the battery cover on the backside by pushing the handle a little towards the bottom of the RCU.
- 2 Lift up the top side of the cover at the same time.
- 3 Push on the + side of the battery towards the - side
- 4 Lift up the battery at the same time.
- 5 Repeat for the second battery.
- 6 Insert the batteries as indicated in the RCU (battery type AA or LR6 or equivalent).
- 7 Put the battery cover on its place.



Note

Note, only important if more than one projector is installed in the room :

1. The common address can be zero (0) or one (1). The standard RCU are setup for common address zero. To change the common address of the RCU, contact a BARCO service center. If it is necessary to program the projector address into the RCU, see chapter 'Getting Started'.
2. Projector address has to be reprogrammed everytime the battery is changed, the RCU will always switch to the default address.

4

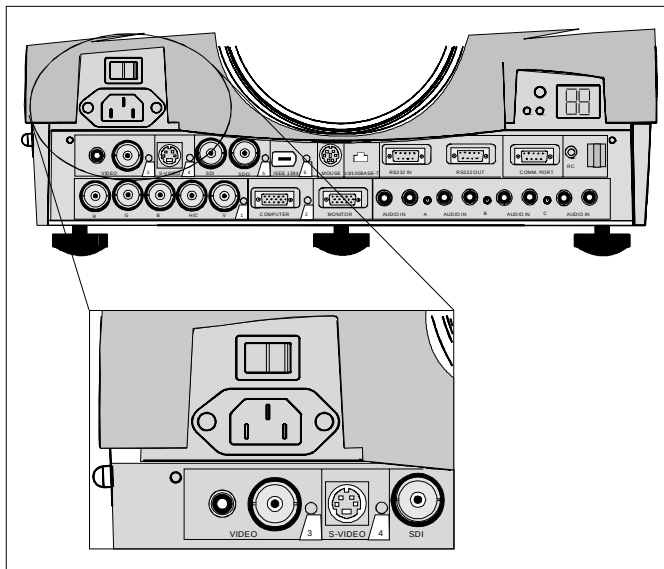
CONNECTIONS

Power connection to Projector

AC 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.

The power input is auto-ranging from **90 to 240 VAC**.



Fuses

Warning

For continued protection against fire hazard :

- refer replacement to qualified service personnel
- ask to replace with the same type of fuse.

Fuse type : T10 AH/250V

Switching on

Use the power switch to switch on.

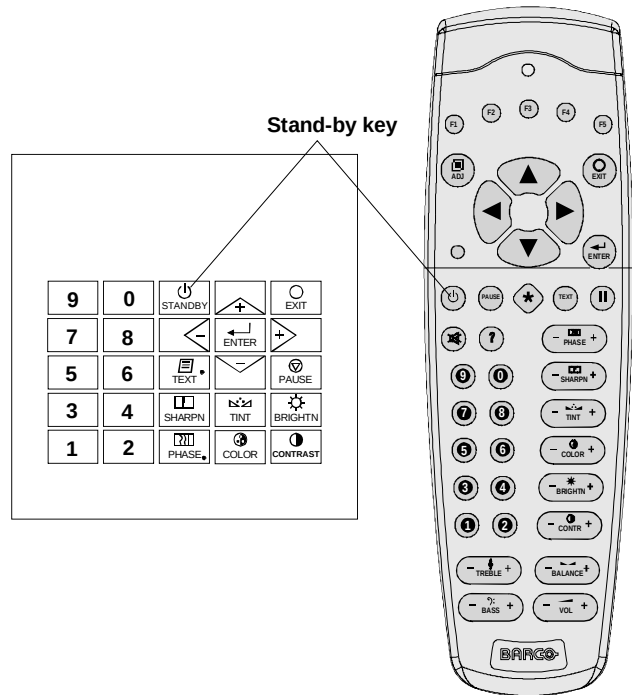
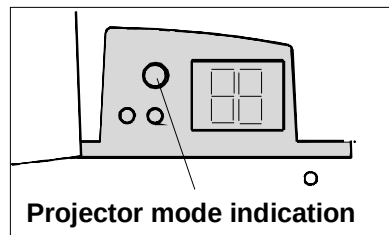
When '0' is visible, the projector is switched off.

When '1' is visible, the projector is switched on.

When switching on with the power switch, the projector starts in the stand by mode. The projector mode indication lamp is red.

To start image projection :

- press the 'Stand by' button once on the local keypad or on the remote control. The projector mode indication lamp will be green.
- press a digit button to select an input source. The projector mode indication lamp will be green.



Lamp Run Time

When the total run time of the lamp is 970 hours or more, the following warning message will be displayed for 1 minute. This warning message will be repeated every 30 minutes. Press EXIT to remove the message before the minute is over.

Remaining
Lamp run time
20 h

When the total run time of the lamp is 1000 hours or more, the following warning message, with the exact run time is displayed on the screen.

WARNING

Lamp run time is 1000 hours
Operating the lamp longer
than 8000 hours may damage
the projector.
Please replace the lamp

<ENTER> to continue

Lamp run time is 1000 hours. Operating the lamp longer than 1000 hours may damage the projector. Please replace the lamp.

When OK (ENTER) is pressed to go on, the warning will be repeated every 30 min.

The total lifetime of the lamp for a safe operation is 1000 hours max. Do not use it longer. Always replace with a same type of lamp. Call a BARCO authorized service technician for lamp replacement.

Lamp Run Time Warning

Using a lamp for more than 1000 hours is dangerous as the lamp could explode.

Switching to Stand-by.

When the projector is running and you want to go to stand-by, press the stand-by key for 2 seconds until the message 'Saving data, please wait' is displayed. Do not press any longer on the standby key otherwise the projector will restart.

Saving data, Please wait

Switching Off

To switch off:

- First press **STANDBY** key for 2 seconds. When the message 'Saving data, please wait' is displayed, do not press any longer on the standby key otherwise the projector will restart. Let cool down the projector at least 10 min.
- Switch off the projector with the power switch.

Switching to Stand-by Warning

When switching to standby, it is possible to restart within the first 5sec.. When not restarted within these first 5 sec., the projector waits for 1 min. to restart again. During this period the LED display will show a jumping square with a dash. After one minute, two dashes will be displayed and the projector can restart.

Input Source Connection

Input facilities

5-cable input
Computer
Video
S-Video
Serial digital input
IEEE 1394 (optional)

Input Selection

This can be manually or automatically.

When 'automatic' is selected in the Input slots menu, by starting up the projector, it searches for an input source by scanning the inputs one by one. If only one source is found, this source will be projected. If different sources are found, the priority is as follow:

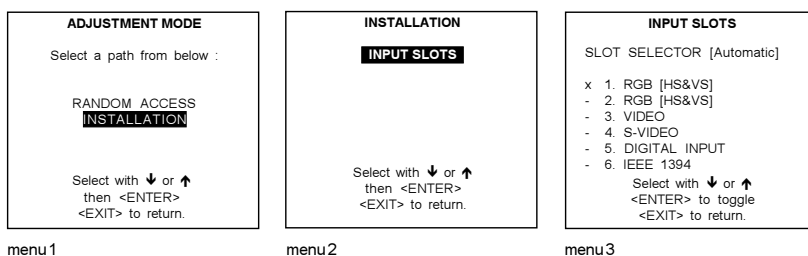
1. Video
2. S-Video
3. 5 Cable input
4. Computer input

SDI input and IEEE input are never automatically selected.

Note : When a RCVDS is connected to the projector, the 'Automatic' selection is disabled.

Set up of the input selection

- 1 Press **ENTER** to start up the adjustment mode.
- 2 Press the cursor key **↑** or **↓** to select 'Installation' (menu 1).
- 3 Press **ENTER** to display the Installation menu.
- 4 Press the cursor key **↑** or **↓** to select 'Input Slots' (menu 2).
- 5 Press **ENTER** to display the Input slots menu.
- 6 Press the cursor key **↑** or **↓** to select 'Input Slots' (menu 3).
- 7 Press **ENTER** to toggle between [Manual] or [Automatic].
- 8 Press **EXIT** several times to leave the adjustment mode.



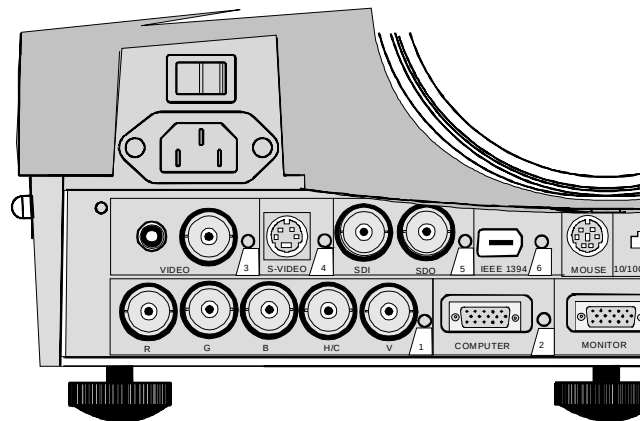
Input Facilities, RCVDS05 connected.

When using a RCVDS05, it is recommended to use a 5-cable output module in the RCVDS. The outputs of this module have to be connected to the 5 cable input (slot 1) of the projector.

To switch the projector in the 5-cable mode see chapter 'Installation mode'.

5-cable Input Slot (slot 1)

Slot 1 has 5 BNC input terminals.



Which signals can be connected to the 5-cable input

The following signals can be connected to these BNC connectors :

Connector name	R	G	B	H	V
Input signal					
RGBHV	R	G	B	H	V
RGBS	R	G	B	S	-
RGsB	R	Gs	B	-	-
Composite Video	-	Video	-	-	-
Super Video	-	Y	-	-	C
Component Video - SS	R-Y	Y	B-Y	S	-
Component Video - SOY	R-Y	Ys	B-Y	-	-

How to select input Slot 1

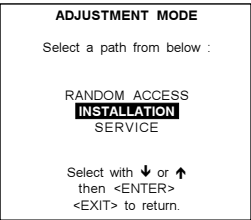
Key in 1 on the RCU or the local keypad.

Configuration of the 5-cable input

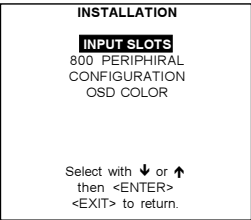
The configuration has to be done on the 'Input slot' menu.

To change the signal format :

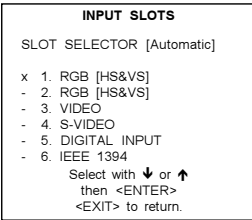
- 1 Press **ADJUST** or **ENTER** key to start up the Adjustment mode (menu 1).
- 2 Push the cursor key **↑** or **↓** to select *Installation*
- 3 Press **ENTER**.
- 4 Press the cursor key **↑** or **↓** to select 'Input Slots' (menu 2)
- 5 Press **ENTER**. The internal system will scan the inputs and displays the result in the 'Input Slots' menu.
- 6 Push the cursor key **↑** or **↓** to select the first slot (menu 3).
- 7 Press **ENTER** key to toggle the input signal priority.



menu1



menu2



menu3

Possible indication :

RGB [HS&VS] = RGB analog signals, separate sync is horizontal and vertical sync.
 RGB CS = RGB analog signals, separate sync is composite sync.
 RGB CV = RGB analog signals, separate sync is composite video or tri-level sync.
 RGB-SOG = RGB analog signals, sync on green is composite sync.
 COMPONENT VIDEO - CS = separate sync is composite sync.
 COMPONENT VIDEO = component video with composite sync on Y or composite tri-level sync on Y.
 VIDEO
 S-VIDEO

Note for RCVDS05 users

When using an RCVDS 05 with a 5 cable output module, connect these 5 cables to this 5-cable input slot (slot1) of the projector. All sources of the RCVDS can now be accepted by the projector.

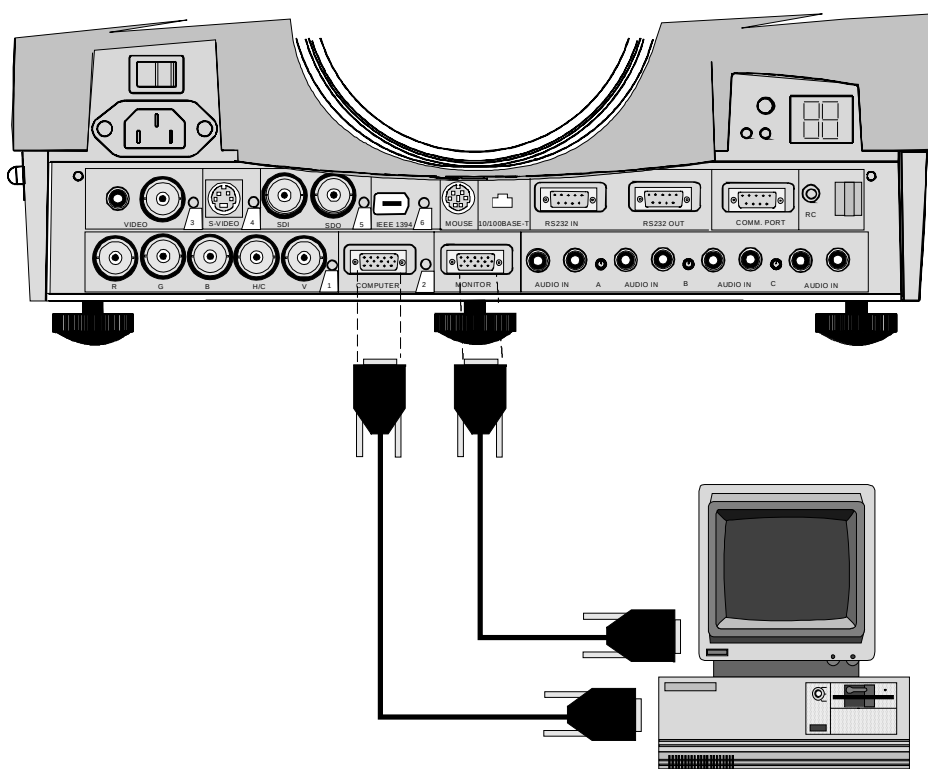
Audio connection

Connect the audio input to one of the 3 audio inputs.
See 'audio configuration' in this chapter for more explanation.

Computer input/Monitor output

Connect the output of the graphical card of the computer to the Computer input of the projector (connection < 60 cm) or insert an interface between the output of the computer and the input of the projector.

Connect the monitor of the computer to the monitor output of the projector.
This monitor output is only available when the computer input is used as input.

**Pin configuration of the D15 connector :**

1	RED	8	ground
2	GREEN	9	loop through to monitor
3	BLUE	10	ground
4	loop through to monitor	11	loop through to monitor
5	ground	12	loop through to monitor
6	ground	13	horizontal/composite sync
7	ground	14	vertical sync
		15	loop through to monitor

How to select Slot 2

Key in 2 on the RCU or the local keypad.

Video Input

What can be connected

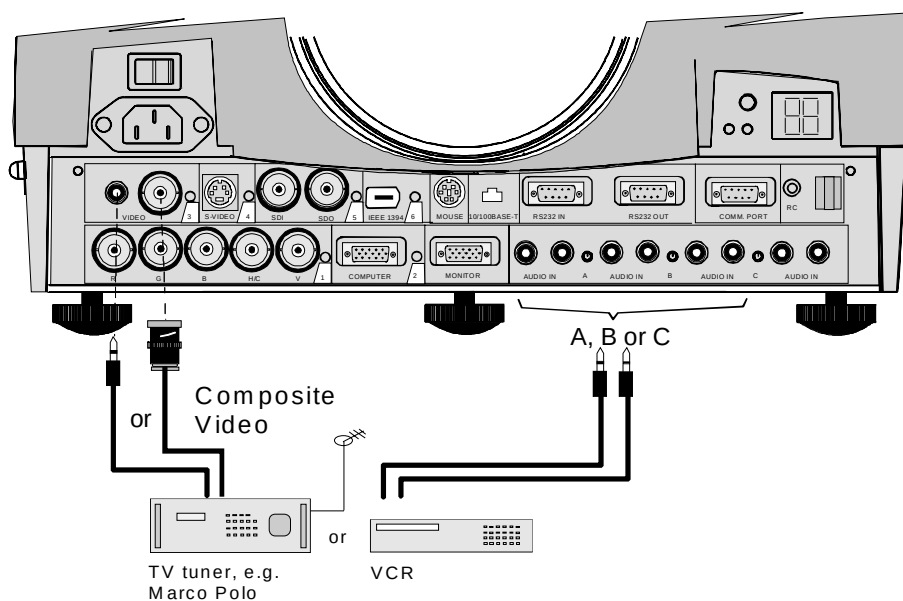
Composite video signals from a VCR, OFF air signal decoder, etc...

1 x BNC or cinch 1.0Vpp $\pm$ 3 dB

No loop through.

What is composite video ?

Composite Video is a single video signal that contains luminance, color and synchronization information. NTSC, PAL and SECAM are examples of composite video systems.



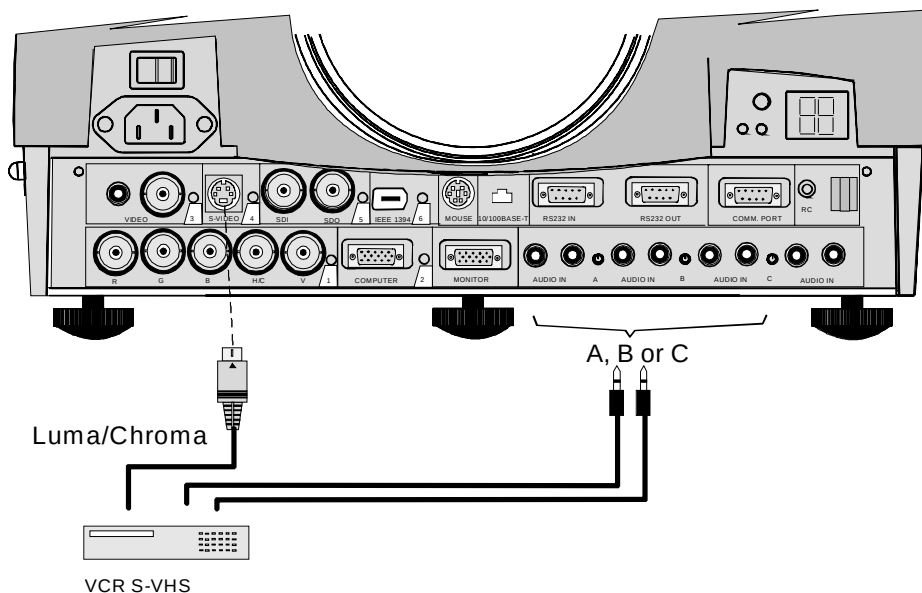
How to select Slot 3

Key in 3 on the RCU or the local keypad.

S-Video Input

What can be connected

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



Pin configuration mini DIN plug

1	ground luminance
2	ground chrominance
3	luminance $1.0V_{pp} \pm 3 \text{ dB}$
4	chrominance $282 \text{ mV}_{pp} \pm 3 \text{ dB}$

How to select Slot 4

Key in 4 on the RCU or the local keypad.

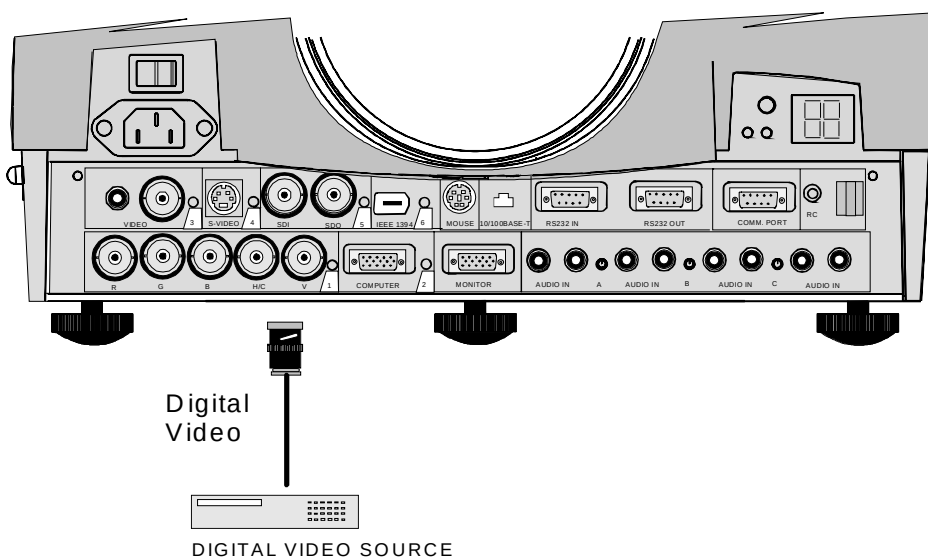
Serial Digital Input / Serial Digital Output (optional)

What can be connected to this input ?

Full compatibility with digital Betacam, or digital video sources.

This avoids the need for analog processing anywhere in the video production chain and guarantees the ultimate image quality.

An active loop through of the SDI input signal is provided for monitoring or for double or triple stacking applications.



connections :

1 x BNC input and 1 x BNC output.

The input is always 75 W terminated. The output impedance of the SDO is 75 W.

How to select Slot 5

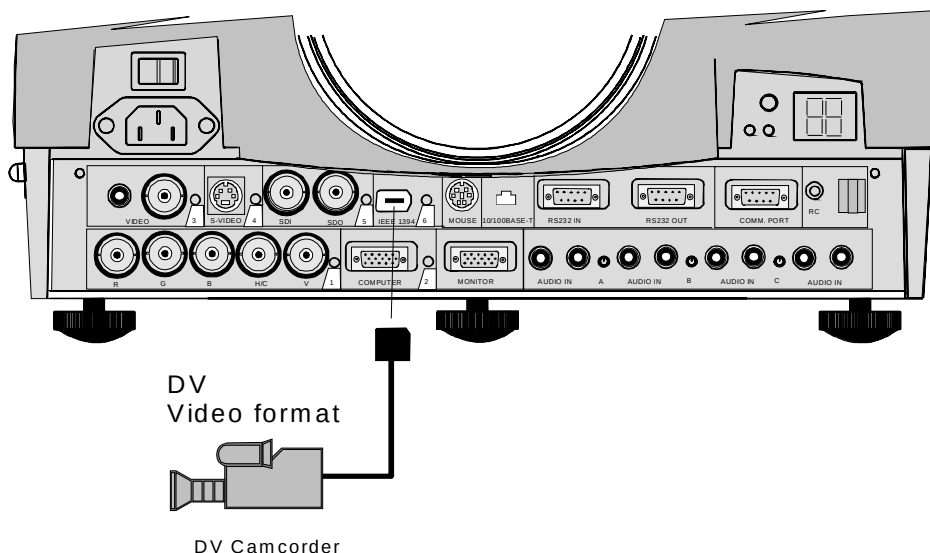
Key in 5 on the RCU or the local keypad.

Note : When a RCVD505 is connected to the projector, the SDI input is available by keying in 85 on the RCU.

IEEE 1394 Input

What can be connected to IEEE 1394 input?

This input allows to display video in DV format on the 1394 bus (also called Firewire™ or i.Link™). When a DV camcorder is in camera mode or in VCR mode, playing a tape, it will broadcast the compressed video and audio on the 1394 bus.



How to select Slot 6

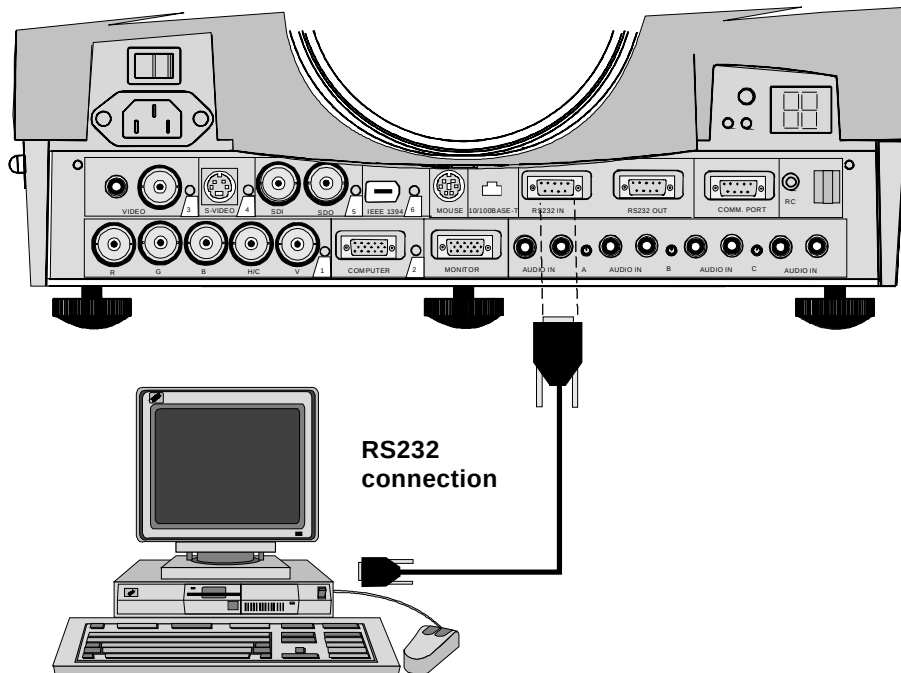
Key in 6 on the RCU or the local keypad.

When slot 6 is selected, the projector will automatically detect the presence of video on the bus and display it. If not, the 1394 setup command in the Random access adjustment mode can be used to start the decoding manually (only for sources that not fully implement the AV/C protocol).

RS232 Connection

RS232 in / RS232 out

To connect a Computer, e.g. IBM PC (or compatible), Apple Macintosh to the RS 232 input of the projector to allow communicate between the computer and the projector.



Applications :

- a) remote control :
 - easy adjustment of projector via IBM PC (or compatible) or MAC connection.
 - allow storage of multiple projector configurations and set ups.
 - wide range of control possibilities.
 - address range from 0 to 255.
- b) data communications :
 - sending data to the projector or copying the data from the projector to a hard memory device (hard disc, floppy, etc.).

Set up of the Baud Rate for Communication with a Computer :

See 'Change Baudrate PC' in chapter 'Service mode'.

Communication port for communication with peripherals

Configurations of the port.

This port can be configured to accept PPM or RC5 coded signals.
To change the port configuration see 800 Peripherals in Chapter Installation.

Connecting a RCVDS 05 to the projector.

- Up to 20 inputs with the RCVDS 05 and 90 inputs when RCVDS's are linked via the expansion module.
- Serial communication with the projector.
- Remote control buttons on the RCVDS to control the projector (source selection and analog settings).
- The selected source number will be displayed on a 2 digit display and the selected input module will be indicated with a LED on the rear.

For more information about the use of the RCVDS 05, consult the owner's manual of the RCVDS05.

MOUSE

When available ?

Mouse function is only available with the Executive Remote Control (Order number : R9829960). The computer can then be controlled via the projector.

How to activate ?

To activate this mouse function, handle as follow :

- 1 Start up your computer with the computer mouse plugged in. The mouse driver should be loaded.
 - 2 Unplug the computer mouse without switching off the computer.
 - 3 Plug the delivered cable between the mouse input of the computer and the mouse output of the projector.
 - 4 Computer can now be controlled with the executive remote control.
- For more information about the mouse buttons or functions, consult the owner's manual of the Executive Remote Control.

Warning : before swithing off, disconnect first the mouse cable.

Available Mouse Functions

Left click, right click or double click are the same as for a traditional mouse.

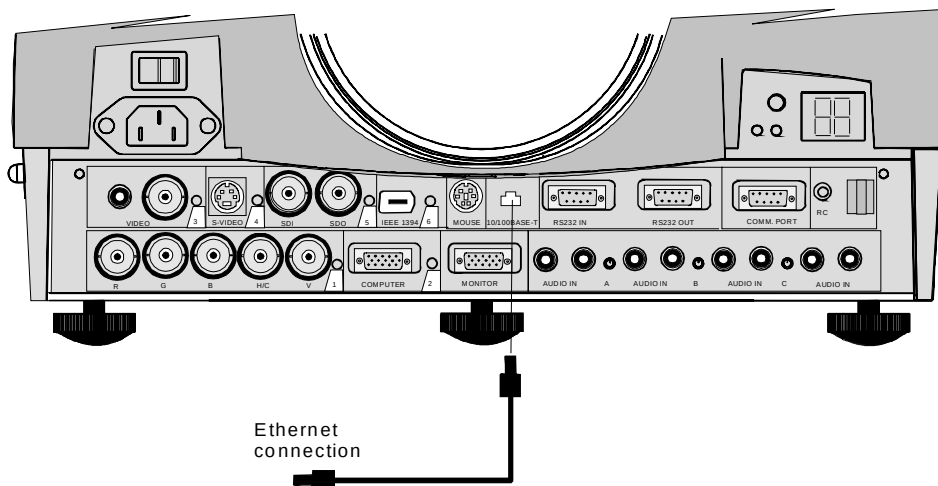
For Click and drag : push for 2 seconds on the left (right) mouse button, the move the mouse arrow with the mouse navigator and click again very short on the left (right) mouse button to interrupt the drag function.

Network Connection (optional)

What can be done ?

When the optional network connection is installed, the projector can be connected to a LAN (local area network) (ethernet). Once installed and connected to the LAN, users are capable of accessing the projector from any location, inside or outside their company network from a standard web browser.

The projector acts as web server and generates a webside with all functions of the projector listed. Via an internet explorer 4.0 or higher, or a Netscatpe communicator, the user can insert the correct IP-adress of the projector and access the webpages. Once the webside is accessed, it is possible to chech and manupulate all the projector settings. Remote diagnostics, control and monitoring of the projector can then become a daily and very simple operation. The network connectivity permits to detect potential errors and consequently improve the time to servicing. For the complete documentation about the use of the network connection, consult appendix C.



Remark

Always use an ethernet cable with ferriet core to connect the projector to the LAN.

Audio Connections

What is available ?

Three audio inputs and one audio output are available. Each audio input can be associated with an input source using the control software of the projector. e.g. source 1 can be locked with audio input B.

How to lock an audio input ?

Locking an audio input to a source input :

- 1 Press **ENTER** to start up the adjustment mode.
- 2 Press the cursor key **↑** or **↓** to select 'Random Access'.
- 3 Press **ENTER** to display the Random Access menu.
- 4 Press the cursor key **↑** or **↓** to select 'Audio Tuning'.
- 5 Press **ENTER** to display the Audio Tuning menu.
- 6 Press the cursor key **↑** or **↓** to select 'Video-Audio lock'.
- 7 Press the cursor key **←** or **→** to select the desired source input.
- 8 Press **ENTER** to toggle between [A], [B] or [C].
- 9 Press several times **EXIT** or **ADJUST** to return to the operational mode.

See also 'Video - Audio lock' in chapter 'Random Access Adjustment Mode'.

5

GETTING STARTED

Remote Control & Local Keypad

How controlling the projector ?

The projector can be controlled by the local keypad or by the remote control unit.

Location of the local keypad

The local keypad is located on the backside of the projector.

Remote control

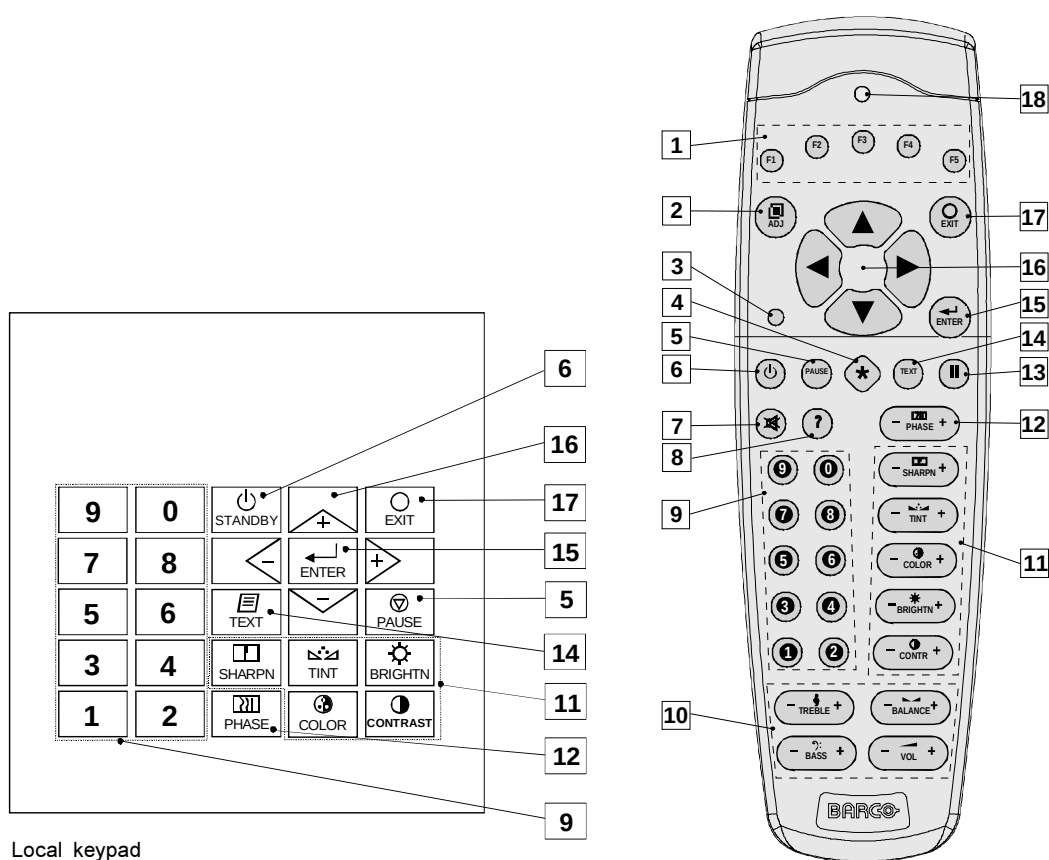
This remote control includes a battery powered infrared (IR) transmitter that allows the user to control the projector remotely. This remote control is used for source selection, control, adaptation and set up. It includes automatic storing of :

- picture controls (Brightness, Sharpness...)
- settings

Other functions of the remote control are :

- switching between standby and operational mode.
- switching to "pause" (blanked picture, full power for immediate restarting)
- direct access to all connected sources.

Overview of Terminology



Remote Control (RCU)

- 1 **Function keys** : user programmable keys with functions for direct access.
- 2 **ADJ.** : ADJUST key, to enter or exit the adjustment mode.
- 3 **Address key** (recessed key), to enter the address of the projector (between 0 and 9). Press the recessed address key with a pencil, followed by pressing one digit button between 0 and 9.
- 4 **Selection key (*)** : to direct access the zoom/focus/shift functions.
- 5 **PAUSE** : to stop projection for a short time, press 'PAUSE'. The image disappears but full power is retained for immediate restarting.
- 6 **STBY** : stand-by button, to start projector when the power switch is switched on and to switch off the projector without switching off the power switch.

Attention : Switching to Stand-by.

When the projector is running and you want to go to stand-by, press the stand-by key for 2 seconds until the message 'Saving data, please wait' is displayed. Do not press any longer on the stand-by key otherwise the projector will restart.

- 7 **Mute** : to interrupt the sound reproduction.
- 8 **?** : Auto image, to center the image on the active LCD surface.
- 9 **Digit buttons** : direct input selection.
- 10 **Audio controls** : use these buttons to obtain the desired sound level.
- 11 **Picture controls** : use these buttons to obtain the desired picture analog level.
- 12 **PHASE** : used to remove the instability of the image.
- 13 **FREEZ** : press to freeze the projected image.
- 14 **TEXT** : when adjusting one of the image, e.g. 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.
- 15 **ENTER** : to start up the adjustment mode or to confirm an adjustment or selection in the adjustment mode.
- 16 **Cursor Keys** (on RCU) or **'+' and '-' keys** (cursor keys) on the local keypad : to make menu selections when in the adjustment mode or to zoom/focus when the direct access is active.

Comparison between the cursor keys and the use of the '+' and '-' keys on the local keypad :

RCU	=	local keypad
cursor key up	=	'+' key up
cursor key down	=	'-' key down
cursor key right	=	'+' key right
cursor key left	=	'-' key left

Use the **'+' and '-' keys** (cursor keys) : to increase or decrease the analog level of the image controls when they are first selected.

- 17 **EXIT** : to leave the adjustment mode or to scroll upwards when in the adjustment mode.
- 18 **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)

Operating the Projector

Switching on

Use the power switch to switch on.

When '0' is visible, the projector is switched off.

When '1' is visible, the projector is switched on.

When switching on with the power switch, the projector starts in the stand by mode. The projector mode indication lamp is red.

To start image projection :

- a. press the 'Stand by' button once on the local keypad or on the remote control. The projector mode indication lamp will be green.
- b. press a digit button to select an input source. The projector mode indication lamp will be green.

Lamp Run Time

When the total run time of the lamp is 970 hours or more, the following warning message will be displayed for 1 minute. This warning message will be repeated every 30 minutes. Press EXIT to remove the message before the minute is over.

Remaining
Lamp run time
20 h

When the total run time of the lamp is 1000 hours or more, the following warning message, with the exact run time is displayed on the screen.

Lamp run time is 1000 hours. Operating the lamp longer than 1000 hours may damage the projector. Please replace the lamp.

WARNING

Lamp run time is 1000 hours
Operating the lamp longer
than 1000 hours may damage
the projector.
Please replace the lamp

<ENTER> to continue

When OK (ENTER) is pressed to go on, the warning will be repeated every 30 min.

The total lifetime of the lamp for a safe operation is 1000 hours max. Do not use it longer. Always replace with a same type of lamp. Call a BARCO authorized service technician for lamp replacement.

Lamp Run Time Warning

Using a lamp for more than 1000 hours is dangerous as the lamp could explode.

Switching to Stand-by.

When the projector is running and you want to go to stand-by, press the stand-by key for 2 seconds until the message 'Saving data, please wait' is displayed. Do not press any longer on the standby key otherwise the projector will restart.

Saving data, Please wait

Switching Off

To switch off:

- First press **STANDBY** key for 2 seconds. When the message 'Saving data, please wait' is displayed, do not press any longer on the standby key otherwise the projector will restart. Let cool down the projector at least 10 min.
- Switch off the projector with the power switch.

Switching to Stand-by Warning

When switching to standby, it is possible to restart within the first 5sec.. When not restarted within these first 5 sec., the projector waits for 1 min. to restart again. During this period the LED display will show a jumping square with a dash. After one minute, two dashes will be displayed and the projector can restart.

Quick Set Up Adjustments

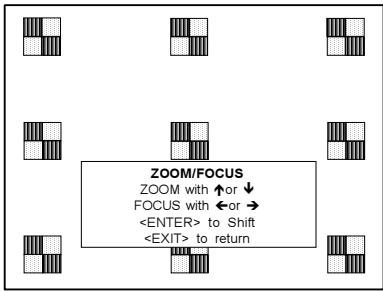
Quick Lens Adjustment

For a quick lens set up and image shift, press the Selection key (* key), to display immediately the zoom/focus menu. Only available for motorized lenses.

For a quick set-up, handle as follow :

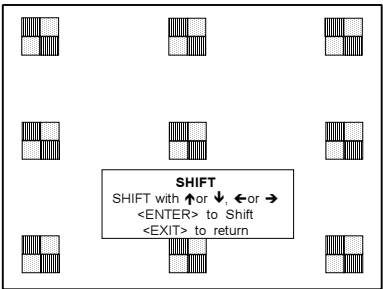
A. Zoom/focus of the lens.

- 1 Press the Selection key.
The zoom/focus menu will be displayed.
- 2 Push the cursor key **↑** or **↓** to zoom and **←** and **→** to focus the image.
- 3 When finished, press **EXIT** key to return or **ENTER** to continue to the shift adjustment.



B. Image shift

- 1 Press the selection key.
The zoom/focus menu will be displayed.
- 2 Press **ENTER**. The shift menu will be displayed.
- 3 Push the cursor key **↑** or **↓** to shift the image up or down and **←** and **→** to shift the image left and right.
- 4 When finished, press **EXIT** key to return or **ENTER** to continue to zoom/focus.

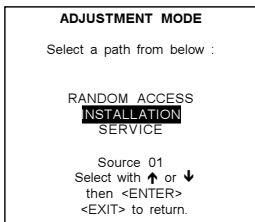


Quick On Screen Color change

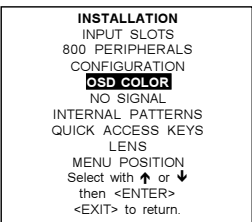
For quick change of the the on-screen color of the highlighted items.
The highlighted items on the menus can be displayed in red, green or yellow.

For a quick set-up, handle as follow :

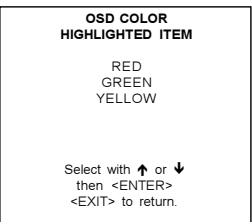
- 1 Press **ENTER** to start up the adjustment mode.
- 2 Push the cursor key **↑** or **↓** to highlight 'Installation'.
- 3 Press **ENTER** to display Installation menu.
- 4 Push the cursor key **↑** or **↓** to highlight 'OSD Color'.
- 5 Press **ENTER** to display the OSD color menu.
- 6 Push the cursor key **↑** or **↓** to highlight the desired color.
- 7 Press **ENTER** to select.



menu1



menu2

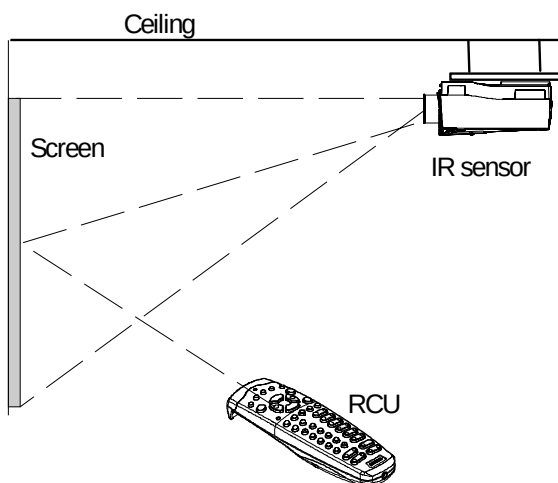


menu3

Using the RCU

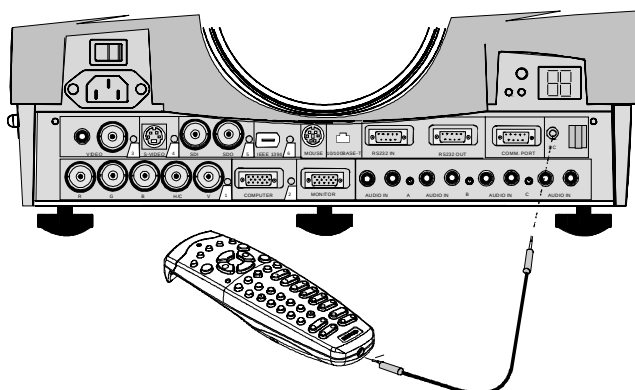
Pointing to the reflective screen

Point the front of the RCU to the reflective screen surface.



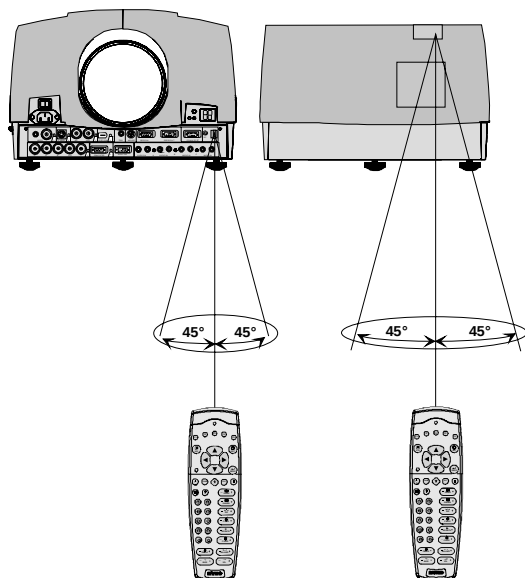
Hardwired Remote Input.

Plug one end of the remote cable in the connector on the bottom of the RCU and the second side in the connector in the front panel of the projector labelled 'RC'.



Directly to one of the IR sensors of 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 IR sensor.



Projector address

Why a projector address ?

As more than one projector can be installed in a room, the separate projector should be separately addressable with an RCU or computer. There for each projector has its own address.

Set up an Individual Projector Address.

The set up of a projector address can be done via the software.
See 'Change projector address' in chapter 'Service mode'.

How to control the projector or projectors.

Every projector requires an individual address between 0 and 255 which can be set in the Service mode.
When the address is set, the projector can be controlled now:

- RCU for addresses between 0 and 9.
- computer, e.g. IBM PC (or compatible), Apple MAC, etc. for addresses between 0 and 255.

Note : a projector will respond to a RCU set to the common address ('0' or '1') regardless of what address is set in the projector itself.

Before using the RCU.

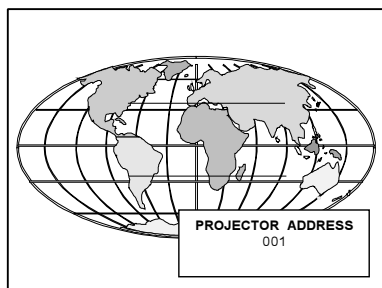
The RCU is default programmed with address 0 or 1, 'common address'. With that 'common address' programmed into the RCU, every projector, without exception will listen to the commands given by this RCU. If it is necessary to control a specific projector, then enter the projector address into the RCU (only when that address is between 0 and 9). The projector with the corresponding address will listen to that specific RCU.

Common Address

Every projector has a common address '0' or '1'. The choice between '0' and '1' can be selected in the Service mode.

Displaying the Projector Address on the Screen.

Press the **ADDRESS** key (recessed key on the RCU) with a pencil. The projector's address will be displayed in a 'Text box'. This text box disappears after a few seconds.



To continue using the RCU with that specific address, it is necessary to enter the same address with the digit buttons (address between 0 and 9) within 5 seconds after pushing the address key. For example : if the Address key displays projector address 003, then press "3" digit button on the RCU to set the RCU's address to match the projector's address. Do not press 003 digits. This will address the remote control to '0' and control all projectors in the room.

If the address is not entered within 5 seconds, the RCU returns to its default address (zero address) and control all projectors in the room.

How to Program an Address into the RCU?

Press the **ADDRESS** key (recessed key on the RCU) with a pencil and enter the address with the digit buttons within 5 seconds after pushing the address key. That address can be any digit between 0 and 9.

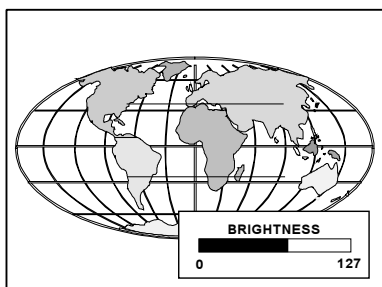
Controlling the Projector

Input Selection

Key in the corresponding slot number with the digit keys on the RCU. The selected source will be displayed.

Picture controls.

When an image control is pressed, a text box with a bar scale, icon and function name of the control, e.g. 'brightness...' appears on the screen (only if text is ON). See example screen. The length of the bar scale and the value of the numeric indication indicate the current memorized setting for this source. The bar scale changes as the control stick on the RCU is pressed or the + or - buttons on the local keypad.



Brightness Control

A correct 'brightness' setting is important for good image reproduction.

Use the + button for a higher brightness.

Use the - button for a 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.

Use the + button for a higher contrast.

Use the - button for lower contrast.

Color Saturation

(optional)

Color saturation is only active for Video and S-Video. Adjust the color intensity of the picture.

Use the + button for richer colors.

Use the - button for lighter colors.

Tint Control

(optional)

Tint is only active for Video and S-Video when using the NTSC 4.43 or NTSC 3.58 system.

Use the + button

Use the - button.

Sharpness Control.

Use the + button for a sharper picture.

Use the - button for a softer picture.

Phase Control

Use the control disc to adjust the phase.

Freez key

Press Freez to freeze the displayed image.

Sound Controls

When a sound control is pressed, a text box with a bar scale, icon and function name of the control, e.g. 'volume...' appears on the screen (only if text is ON). See example screen. The length of the bar scale indicates the current memorized setting for this source. The bar scale changes as the + or - buttons of the control are pressed.

The picture controls can only be adjusted with the RCU.

Volume Control

Volume control adjusts the volume.
Use the + button for a higher volume.
Use the - button for a lower volume.

Bass Control

Bass control adjusts the bass level (low tones).
Use the + button for more low tones.
Use the - button for less low tones.

Treble Control

Treble control adjusts the treble level (high tones).
Use the + button for more high tones.
Use the - button for less high tones.

Balance Control

Is only effective if a external amplifier with loudspeakers is connected to the audio output.
The balance control adjust the sound level between the left and the right box.
Use the + button for a higher sound level on the right box than on the left one.
Use the - button for a higher sound level on the left box than on the right one.

The Pause key.

When the Pause key is pressed, the image projection is stopped, a blue screen will be displayed and the projector remains with full power for immediate restart. The sound is not interrupted.
The display on front of the projector will show a "P".
To restart the image :

- 1 press pause key,
- 2 press exit key or
- 3 select a source number.

The Selection key.

See Quick Lens Adjustment in this chapter.

6

START UP OF THE ADJUSTMENT MODE

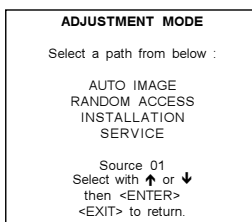
Adjustment Mode

Start Up

All source parameters, picture and audio tuning, and geometry are made while in the 'Adjustment Mode'. Press the **ADJUST** or **ENTER** key to enter the 'Adjustment mode'.

You are now in the 'Adjustment Mode'.

- 1 The cursor key (RCU) or '+' or '-' keys (local keypad) are used to make menu selections and also for adjustments.
- 2 The **ENTER** and **EXIT** keys are used to move forward and backward through the menu structure.
- 3 The **ADJUST** key can be used to terminate the adjustment mode while any path selection menu is displayed.



menu 1

Possible Paths

There are 4 possible paths to follow once in the Adjustment Mode. They are :

Auto Image - Auto image will center the image on the LCD panel when a file is loaded.

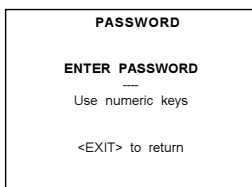
Installation - Installation should be selected if a new input module is installed or a new source is connected to an existing input module. Also when the projector is relocated in a new configuration.

Random Access - Random Access should be selected to set up a new source.

Service - Service should be selected if the user intends to change general settings such as password, language, address, etc. or some service actions as reset lamp run time, panel adjustments, etc. or get set-up information.

Password Protection

Some items in the Adjustment mode are password protected. While selecting such an item, the projector asks to enter your password (Password protection is only available when the password strap on the controller module is ON, call an authorised service center to change the position of the password strap).



Entering the Password

The password contains 4 digits.

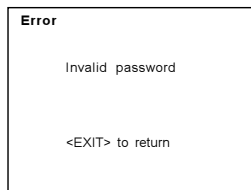
Enter the digits with the numeric keys.
Example : 2 3 1 9

The first digit position is highlighted. Enter with the numeric keys. The highlighted square jumps to the next position. Continue until all 4 digits are filled in.

Start up of the Adjustment Mode

When your password is correct, you gain access to the selected item.

When your password is wrong. The error message "Invalid password" is displayed on the screen. Press **EXIT** to continue and to return to the Service menu.



Factory programmed password : 0 0 0 0

Once the password is correctly entered, all other password protected items are accessible without re-entering the password.

Remark

When re-entering the Adjustment mode, it will be necessary to enter the password again when selecting a password protected item.

Setting up your own password

See 'Changing password' in the Service mode.

7

AUTO IMAGE ADJUSTMENT

Auto Image Adjustment

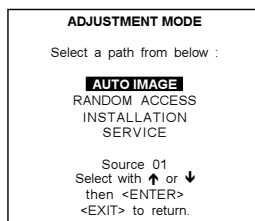
Why Auto Image ?

Auto image will center the image on the LCD panel when a file is loaded.

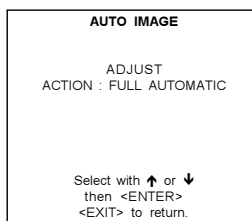
Start Up

Handle as follow to start up the auto image function :

- 1 Push the cursor key $\uparrow$ or $\downarrow$ to highlight 'Auto Image' (image 1).
- 2 Press **ENTER**.
The auto image menu will be displayed (image 2).



menu1



menu2

With auto image, it is possible to switch the auto image function 'on' or 'off' and to adjust an existing image when the auto image function is off.

Adjust

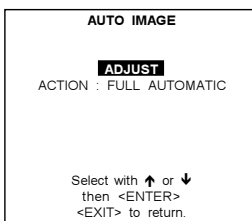
What can be done ?

By selecting Adjust the image will be centered on the active area of the LCD surface.
The centering will be done by adapting the values for 'pixel start', 'pixel end', 'line start' and 'line end'.

Image Adjustment

To center the image :

- 1 Push the cursor key $\leftarrow$ or $\rightarrow$ to highlight 'Adjust' (menu 1).
- 2 Press **ENTER** to activate. The image will be centered on the LCD surface.
This is the same function as the '?' key on the remote control when in operational mode.
The menu is automatically exited.
The adjustment values will be saved when switching to another source.



menu 1

Action

What can be done ?

The action function can be toggled between :

- full automatic
- on new file
- manual

[full automatic] : the best fitting file will be loaded automatically when a source is selected. At the same time the image will be automatically centered on the active surface of the LCD.

The centering of the image will be disabled when :

- 1 The black edges of the image take more than 25% of the complete image.
- 2 The connected source is video, s-video, digital video or HDTV.
- 3 Custom file already exists.

[on new file] : only on a new file, the image will be centered on the active surface of the LCD.

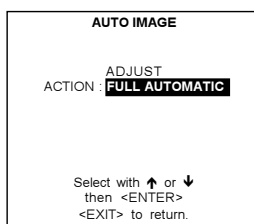
[manual] : the auto image function is switched OFF, no centering, no file load.

Setup

To setup the Action function :

- 1 Push the cursor key **↑** or **↓** to highlight 'ACTION' (image 1).
- 2 Press **ENTER** to toggle between FULL AUTOMATIC, ON NEW FILE and MANUAL.

The values of automatically adjusted sources will not be saved.



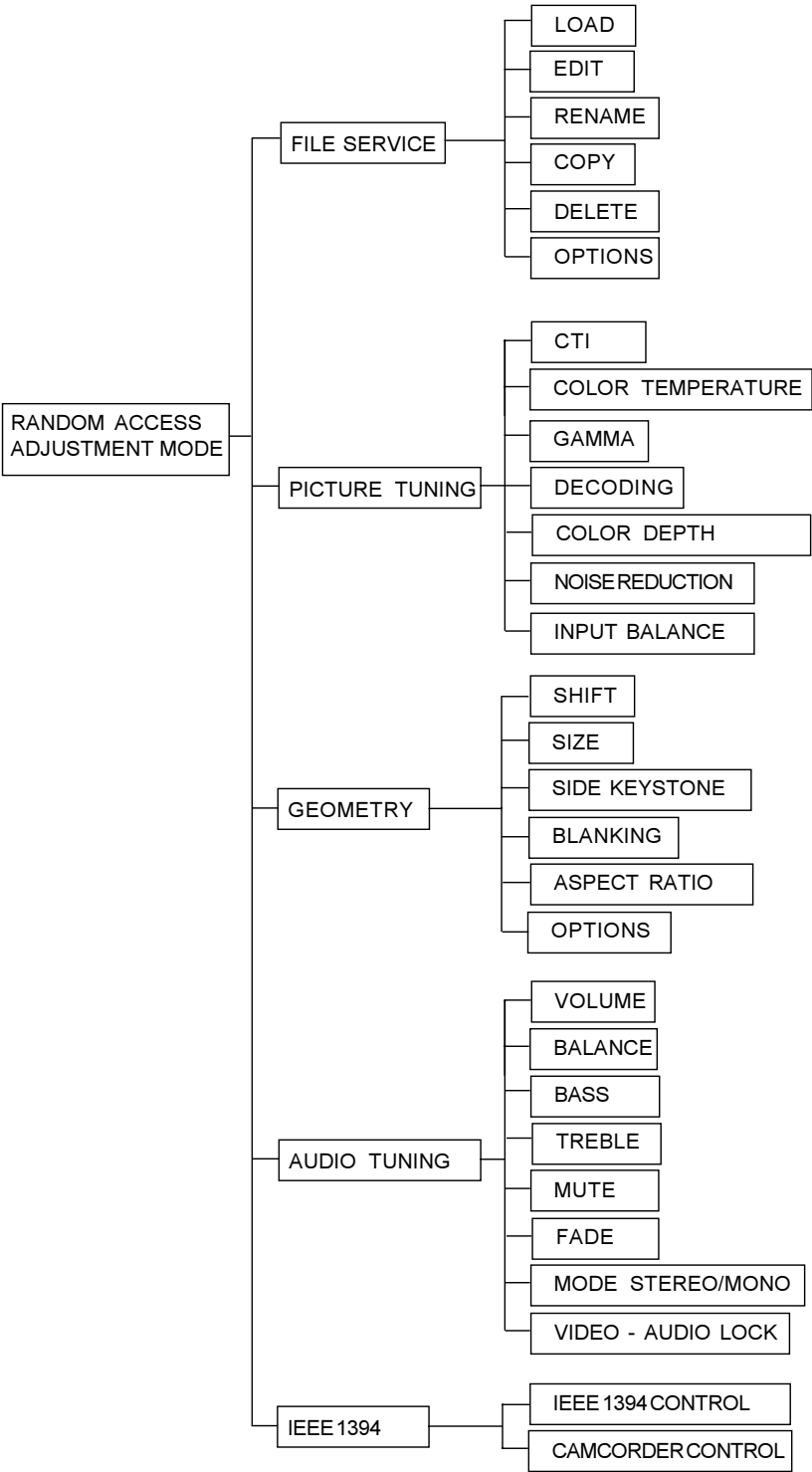
menu1

8

RANDOM ACCESS ADJUSTMENT MODE

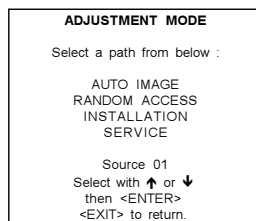
Random Access Mode

Overview Flowchart



Starting Up

Push the cursor key $\uparrow$ or $\downarrow$ to highlight 'Random Access' and then press **ENTER**.



Picture Service

Connecting a new Source.

Before using a new source, a correct file has to be installed. The projector's memory contains a list of files corresponding to the most used sources. When the new source corresponds with one of these files, the file can be loaded and saved for future use. When there is a little difference, the file can also be loaded and then edited until the source specs are reached.

Note : file loading can be done automatically (see File Options, in this chapter).

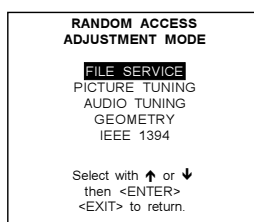
Files with a ~ in front of the file name are temporary files. These files will be deleted when switching to another source.

Start up the File Service.

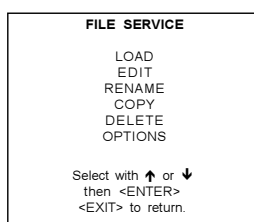
To enter the File Service, handle as follow :

- 1 Pushing the cursor key $\uparrow$ or $\downarrow$ to highlight 'File Service' (menu 1).
 - 2 Press **ENTER** to select.
- The File service menu will be displayed (menu 2).

Note : **EXIT** returns to the Path selection menu.
ADJUST returns to operational mode.



menu 1



menu 2

Possible File Manipulations.

The following file manipulations are possible :

- Load : installation of a file for a new source.
- Edit : editing a loaded file to the source specs.
- Rename : renaming a file.
- Copy : copying a file to a new file.
- Delete : deleting an existing file.
- Options : way of sorting the files.

File Annotation.

xxxxxxxx.xxx x xxxxXxxxxi
 | | | |
 | | | | i or blank : i = interlaced, blank = not interlaced
 | | | |
 | | | | xxxxXxxxx : active pixel rating
 | | | | x : source number
 | | | |
 | | | | xxx : file extension, first character is C (for custom made files) or S (for standard files).
 | | | | The second and third character is used for a following number (=file index)
 | | | | file index for custom files : 00 to 63.
 | | | |
 | | | | xxxxxxxx : base name, 8 characters.

Load File

Start up the Load File

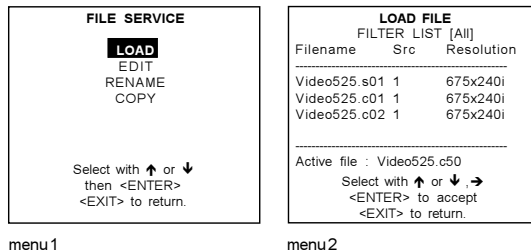
- 1 Push the cursor key $\uparrow$ or $\downarrow$ to highlight 'Load' (menu 1).
- 2 Press **ENTER** to select.
The Load menu displays the corresponding files depending on the installed filter (menu 2).

This filter can be "Fit" or "All". To change the filter :

- 1 Push the cursor key $\rightarrow$ or $\leftarrow$ highlight 'filter list'.
- 2 Press **ENTER** to toggle the annotation between brackets.

"All" : all files that can be loaded will be displayed.

"Fit" : only the best fitting files will be displayed (with a distinction of ± 2 lines and line duration distinction of ± 300 ns, if nothing is found within this small area, the projector continues searching until it finds something.)



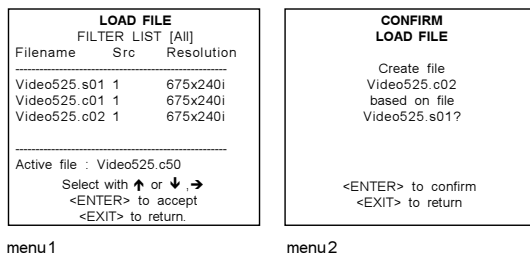
How to load a file ?

- 1 Push the cursor key $\uparrow$ or $\downarrow$ to select the best fitting file.
- 2 Press **ENTER** to select.
A confirm Load file menu will be displayed with the newly created file and the one on which the new file is based on.
- 3 Press **ENTER** to confirm the new creation or **EXIT** to return to the load file menu.

During a load file, the actual active file is displayed next to the indication 'Active file'.

Note:

When scrolling through the files, the image will be adapted according to the settings of the selected file (on line adaptation).



The image is not perfect ?

If the displayed image is not correct after selecting the best fitting file, go to the Edit menu, select the active file and change the File settings.

Edit File

What can be done with the Edit File menu ?

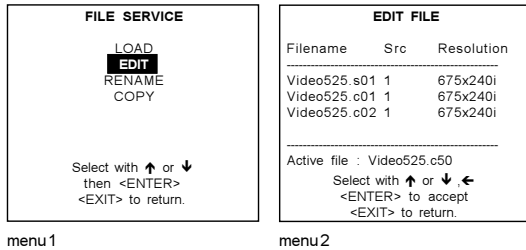
The Edit file menu makes it possible to change the settings of the file according to the real settings of the connected source. Consult the source specification before entering the data.

How to start up the Edit menu ?

To start up the EDIT menu:

- 1 Push the cursor key $\uparrow$ or $\downarrow$ to highlight 'Edit'.
- 2 Press **ENTER** to select.
The Edit file adaptation menu will be displayed.
- 3 Select the file which must be edited (mostly the active file).
- 4 Press **ENTER**.

The file name will be displayed in the upper right corner.

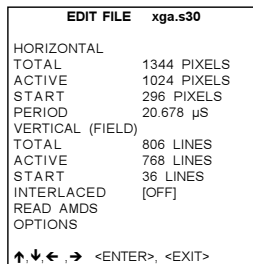


Which items can be adjusted ?

The following items can be adjusted :

- Total quantity horizontal pixels
- Active quantity horizontal pixels
- Horizontal start in pixels
- Horizontal period in μs (is automatically adapted during the installation of a file with LOAD)
- Total vertical lines (is automatically adapted during the installation of a file with LOAD)
- Active vertical lines
- Vertical start in lines
- Interlaced : toggle on/off (is automatically set to its correct position during the installation of a file with LOAD)

All settings can individually be changed.



How to change the settings ?

- 1 Push the cursor key $\uparrow$ or $\downarrow$ to select an item.
The color of the selected item will change and follow one of the three methods to change the value.

a. method 1:

- 1 press **ENTER** to activate the digits
- 2 enter directly with the numeric keys on the RCU or local keypad the new value or

b. method 2:

- 1 Press **ENTER** to activate the digits
- 2 Push the cursor key $\rightarrow$ or $\leftarrow$ to select the changing digit.
- 3 Push the cursor key $\uparrow$ or $\downarrow$ to scroll to desired digit.
- 4 When finished press **ENTER** to confirm.

c. method 3

- 1 Counting up or down by pushing the cursor key $\rightarrow$ or $\leftarrow$.

How to find the correct values for the displayed item?

During the installation of a file with LOAD, the horizontal period, the total number of vertical lines and the interlaced mode are automatically measured and filled in in the menu table. These values will be available when starting up the EDIT procedure of an active file.

(Caution : Do not adjust these settings on an active file, they are used to identify the input source file.)

If the value for "Horizontal Total Pixels" is wrong, sampling mistakes (small vertical bars in the projected image) will be seen in the image. Select "Total" and adjust the pixel quantity. Adjust for zero bars (hint: if the number of bars increase, adjust in the other direction).

The "Active Pixels" : determine the width of the window on the screen. This value is normally given in the source specifications. If not, adjust until full image is displayed (no missing pixels).

"Horizontal Start" : number of pixels between the beginning of the input signal and the start of the video information in the signal.

"Horizontal Period" : already filled in with the correct value when active file. (see caution above).

The "Vertical Total Lines" are already filled when an active file is selected to be edited (see caution above).

The "Active Lines" : number of horizontal lines determining the height of the projected image. This value is normally given in the specification of the source. If not, adjust until full image height is displayed (no missing lines)

Vertical start : number of lines between the start of the input signal and start of the image on the screen.

Interlaced [On] or [Off] : this selection is automatically filled when active file has to be edited. If the image is wrong due to mismeasurement, use the ENTER key to toggle between [On] and [Off]. (for interlaced images, 1 frame contains 2 fields).

Read AMDS

AMDS = automatic mode detection & synchronisation

During the installation of a file with LOAD, the system automatically measured the horizontal period, the total vertical lines and the interlaced mode.

When selecting Read AMDS, the system remeasures the above indicated items.

Options

EDIT FILE OPTIONS	
Source number	1
Clamp position	[leading]
Clamp delay	0
Clamp width	10
Field polarity	[pos]
Field select	[both]
Vertical refresh	[sync]
Vertical sync polarity	[leading]

Select with ↑ or ↓
 <ENTER> to toggle
 ← or → to change value
 <EXIT> to return

Source Number : The source number of a non-active source can be changed to any other source number. This makes it possible to create a file for future source numbers.

Clamp Position : Clamping determines the black level of the signal.

The clamp pulse can be related to the leading or the trailing edge of the sync pulse. Use the ENTER key to toggle between [leading] and [trailing].

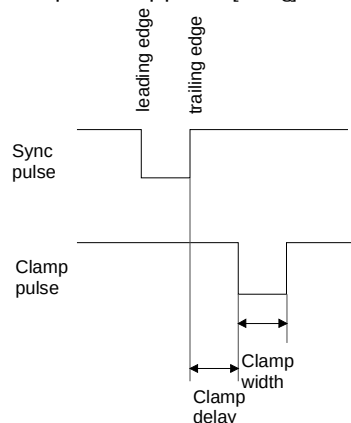
Clamp Delay : The time between the leading edge of the clamp pulse and the locked edge of the sync pulse.

Can be any value between 0 and 255. Change the value by pushing the cursor key → or ←.

Clamp Width : The width of the clamp pulse

Can be any value between 0 and 255. Change the value by pushing the cursor key → or ←.

Example for clamp position [trailing]



Field Polarity :

The field polarity function is used for interlaced images. Both rasters of the image could be shifted in a wrong way (double lines are visible in the image). This can be corrected by forcing the field polarity to [neg] or [pos].

Use the **ENTER** key to toggle between [pos] and [neg].

Field Select : Default [both]

The field select is only used for interlaced images. One frame of an interlaced image contains two fields, an even and an odd field.

The choice exists to project [both] fields on the screen or only the [even] or [odd] field. This can be useful for 3D projection.

Use the **ENTER** key to toggle between [both], [even] and [odd].

Vertical Refresh [sync/async] : The way of updating the image information on the LCD panels.

Not available for PAL-NTSC-SECAM sources. This option will be displayed in gray.

- 1 For sources with a vertical frequency up to 60 Hz : the vertical refresh rate is the same as the vertical frequency of the incoming source. This is a necessity to project moving images without 'motion artifacts'. For stationary images with a vertical frequency up to 60 Hz it is still possible to use asynchronous refresh. When loading Pal, Secam, NTSC-files the synchronous mode is default, for all other sources below 60 Hz asynchronous mode is default.
- 2 For sources with a vertical frequency higher than 60 Hz : the vertical refresh is different than the vertical frequency of the incoming source. Synchronous refresh cannot be used.

Vertical Sync Polarity : [leading] or [trailing]

The vertical refresh can be synchronised with the leading sync edge or trailing sync edge. Default on [leading].

Toggle to [trailing] is only necessary for special applications where the trailing edge of the sync signal has to be taken as a reference.

Use the **ENTER** key to toggle between [leading] or [trailing]

Press **EXIT** to leave the Edit File Option menu.

A 'Confirm Edit File' menu will be displayed.

**CONFIRM
EDIT FILE**

Save changes to file
xga.c30?

<ENTER> to confirm
<EXIT> to return

Rename a file

Start Up

To change the name of a selected file:

- 1 Push the cursor key **↑** or **↓** to highlight 'Rename' (menu 1).
- 2 Press **ENTER**.
The Rename selection menu will be displayed (menu 2).
- 3 Push the cursor key **↑** or **↓** to select a file name (menu 2).
- 4 Press **ENTER** to select.

The Rename menu will be displayed with the selected file name already filled in, leave in the 'From file name :' area and in the 'To file name :' area.

The first character in the 'To file name :' area is highlighted (menu3).

FILE SERVICE

EDIT
RENAME
COPY
DELETE

Select with **↑** or **↓**
then <ENTER>
<EXIT> to return.

menu 1

Filename	Src	Resolution
Video525.s01	1	675x240i
Video525.c01	1	675x240i
Video525.c02	1	675x240i

Active file : Video525.c50

Select with **↑** or **↓**
<ENTER> to accept
<EXIT> to return.

menu 2

RENAME FILE

From file name :
Video525.s01

To file name :
demo.c10

Select with **←** or **→**
Reprogram with **↑** or **↓**
or numeric keys
<ENTER> to confirm
<EXIT> to return

menu 3

How to change the characters ?

- 1 Push the cursor key ← or → to select the desired character.
- 2 Change that character by pushing the cursor key ↑ or ↓. Numeric characters can be entered directly with numeric keys on the RCU.
- 3 Press **ENTER** to confirm. The renamed file is entered in the list of files.
- 4 Press **EXIT** to return to the Rename menu selection. No changes are made.

RENAME FILE

From file name :
Video525.s01
To file name :
demo.c10

Select with ↑ or ↓
Reprogram with ← or →
or numeric keys
<ENTER> to confirm
<EXIT> to return

menu 1

Copy a file

Start Up

To copy a selected file into a new file :

- 1 Push the cursor key ↑ or ↓ to highlight 'Copy' (menu 1).
- 2 Press **ENTER**.
The Copy selection menu will be displayed (menu 2).
- 3 Push the cursor key ↑ or ↓ to select a file name (menu 3).
- 4 Press **ENTER** to select.

The Copy menu will be displayed with the selected file name already filled in, in the 'From file name : ' area and in the 'To file name:' area.

The first character in the 'To file name : ' is highlighted.

FILE SERVICE

EDIT
RENAME
COPY
DELETE

Select with ↑ or ↓
then <ENTER>
<EXIT> to return.

menu 1

COPY FILE

Filename	Src	Resolution
Video525.s01	1	675x240i
Video525.c01	1	675x240i
Video525.c02	1	675x240i

Active file : Video525.c50
Select with ↑ or ↓
<ENTER> to accept
<EXIT> to return.

menu 2

COPY FILE

From file name :
xga_60.s03
To file name :
xga_60.c14

Select with ← or →
Reprogram with ↑ or ↓
or numeric keys
<ENTER> to confirm
<EXIT> to return

menu 3

How to change the characters ?

- 1 Push the cursor key ← or → to select the desired character (menu 4).
- 2 Change that character by pushing the cursor key ↑ or ↓. Numeric characters can be entered directly with numeric keys on the RCU.
- 3 Press **ENTER** to confirm. The renamed file is entered in the list of files.
- 4 Press **EXIT** to return to the Copy menu selection. No changes are made.

COPY FILE

From file name :
xga_60.s03
To file name :
xga_60.c14

Select with ← or →
Reprogram with ↑ or ↓
or numeric keys
<ENTER> to confirm
<EXIT> to return

menu 4

Delete

Start Up

- To delete a selected file out of the list of files :
- 1 Push the cursor key **↑** or **↓** to highlight 'Delete' (menu 1).
 - 2 Press **ENTER**.
The delete selection menu will be displayed (menu 2).
 - 3 Push the cursor key **↑** or **↓** to select a file name.
 - 4 Press **ENTER** to select.
If [All] is selected, your password has to be entered before all files will be deleted.

A confirmation menu "Delete file 'file name'?" is displayed (menu 3). When you want to delete the file, press **ENTER**. If you do not want to delete the file, press **EXIT**.
Note : the active file cannot be deleted.

FILE SERVICE

LOAD
EDIT
RENAME
COPY
DELETE
OPTIONS

Select with **↑** or **↓**
then **<ENTER>**
<EXIT> to return.

menu1

DELETE FILE

Filename	Src	Resolution
Video525.s01	1	675x240i
Video525.c01	1	675x240i
Video525.c02	1	675x240i

Active file : Video525.c50
Select with **↑** or **↓**
<ENTER> to accept
<EXIT> to return.

menu2

CONFIRM
DELETE FILE

Delete file:
Video525.c01?

<ENTER> to confirm
<EXIT> to return

menu3

File Options

Start Up

- 1 Push the cursor key **↑** or **↓** to highlight 'File Options' (menu 1).
- 2 Press **ENTER**.
The option selection menu will be displayed (menu 2).

FILE SERVICE

LOAD
EDIT
RENAME
COPY
DELETE
OPTIONS

Select with **↑** or **↓**
then **<ENTER>**
<EXIT> to return.

menu1

FILE OPTIONS

FILE SORT [NAME]

Select with **↑** or **↓**
then **<ENTER>**
<EXIT> to return.

menu2

File Sort

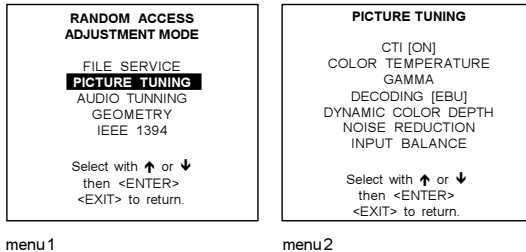
Press **ENTER** to toggle between [name] and [index]
[name] : The files in the file list will be sorted on the file name.
[index] : The files in the file list will be sorted on the file extension.

Picture Tuning

Start Up

To improve the image quality, the items in the Picture Tuning menu can be toggled or adjusted.
To start up the Picture Tuning :

- 1 Push the cursor key **↑** or **↓** to highlight 'Picture Tuning' (menu 1).
- 2 Press **ENTER** to select.
The Picture Tuning menu will be displayed (menu 2).



Which items are available ?

The next items are available :

- CTI ON/OFF (optional)
- color temperature
- gamma
- decoding EBU/IRE (optional)
- dynamic color depth
- noise reduction
- input balance

CTI ON/OFF

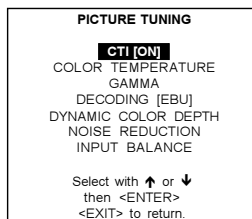
Optional

What is CTI ?

CTI : Color Transient Improvement.
To improve the transition from one color to another.

How to change the CTI settings

- 1 Push the cursor key **↑** or **↓** to highlight 'CTI'.
- 2 Press **ENTER** to toggle between ON and OFF.



Note :

This function applies to PAL and NTSC video or S-video inputs only.

Color Temperature

Start Up

- 1 Push the cursor key $\uparrow$ or $\downarrow$ to highlight 'Color Temperature'.
- 2 Press ENTER to select.
The color temperature selection menu will be displayed.

PICTURE TUNING

CTI [ON]

COLOR TEMPERATURE

GAMMA

DECODING [EBU]

DYNAMIC COLOR DEPTH

NOISE REDUCTION

INPUT BALANCE

Select with $\uparrow$ or $\downarrow$
then <ENTER>
<EXIT> to return.

COLOR TEMPERATURE

PROJECTOR WHITE

COMPUTER 9300K

VIDEO 6500K

FILM 5400K

BROADCAST 3200K

CUSTOM BALANCE

Select with $\uparrow$ or $\downarrow$
then <ENTER>
<EXIT> to return.

menu1 menu2

Available Color Temperature :

- Projector white
- Broadcast 3200 K
- Film 5400 K
- Video 6500 K
- Computer 9300 K
- Custom balance.

Adjusting the Color Temperature

Push the cursor key up or down to select a fixed color temperature or custom balance.

Projector white will provide maximum projector light output.
The calibrated 'Broadcast', 'Film', 'Video' and 'Computer' presets will provide optimum color tracking.
Custom balance allows the user to set his own preferred color temperature.

Custom Balance

To adjust Custom Balance, handle as follow :

- 1 Push the cursor key $\uparrow$ or $\downarrow$ to highlight 'Custom Balance' (menu 1).
- 2 Press ENTER to select.
- 3 Push the cursor key $\uparrow$ or $\downarrow$ to adjust red and push the cursor key $\leftarrow$ or $\rightarrow$ to adjust blue (range 0 to 2.5) in comparison with the green color (menu 2).

COLOR TEMPERATURE

PROJECTOR WHITE

COMPUTER 9300K

VIDEO 6500K

FILM 5400K

BROADCAST 3200K

CUSTOM BALANCE

Select with $\uparrow$ or $\downarrow$
then <ENTER>
<EXIT> to return.

GAIN RED

0 2.5

menu1 menu2

Gamma

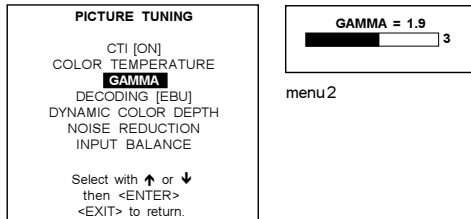
What can be adjusted ?

With the gamma correction adjustment, it is possible to accurately set the gamma of the projector image.

How to change the gamma value ?

- 1 Push the cursor key $\uparrow$ or $\downarrow$ to highlight 'Gamma' (menu 1).
- 2 Press **ENTER** to select.
- 3 Change the gamma value by pushing the cursor key $\leftarrow$ or $\rightarrow$ until the desired value is reached (menu 2).
- 4 Press **EXIT** to return to the Picture Tuning menu.

Default value of gamma = 1.9



menu 1

menu 2

Decoding EBU/IRE

Note :

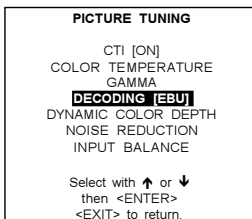
Only for NTSC signals.

What can be done ?

The possibility is offered to decode the NTSC video signals via the default American IRE standard or via the European EBU standard. Decoding a NTSC signal using the European EBU standard may result in a greenish tint.

How can it be selected ?

- 1 Push the cursor key $\uparrow$ or $\downarrow$ to highlight 'Decoding' (menu 1).
- 2 Press **ENTER** to toggle between EBU or IRE.
- 3 Press **EXIT** to return.



menu 1

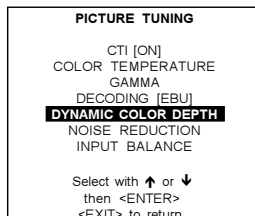
Dynamic Color Depth

Purpose

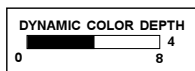
Increases color contrast for all video and data sources.

To change the Dynamic Color depth value :

- 1 Push the cursor key **↑** or **↓** to highlight 'Dynamic Color Depth' (menu 1).
- 2 Press **ENTER** to select.
- 3 Change the value by pushing the cursor key **←** or **→** until the desired dark color saturation is reached (menu 2).
Adjustment range : 0 ... 8
Default : 4
- 4 Press **EXIT** to return to the Picture Tuning menu.



menu 1



menu2

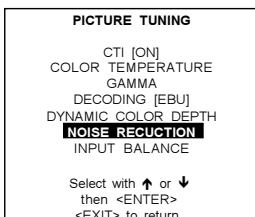
Noise Reduction

Purpose

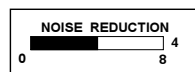
Reduces noise and pixel jitter in all video and data sources

To change the noise reduction value :

- 1 Push the cursor key **↑** or **↓** to highlight 'Noise reduction' (menu 1).
- 2 Press **ENTER** to select.
- 3 Change the value by pushing the cursor key **←** or **→** until the desired noise level is reached.
Adjustment range : 0 ... 8
- 4 Press **EXIT** to return to the Picture Tuning menu.



menu 1



menu2

Input Balance

Why adjusting the input balance ?

The input balance is normally correct adjusted in the factory. But due to signal distribution or signal transmission, a color imbalance can be the result. This imbalance can be adjusted source by source for color critical applications. These adjustments influence only the actual custom adjustment file. This procedure is not so easy.

Attention : Before starting the Input Balance function, generate a signal with dominant black and white areas.

How to adjust the input balance ?

The default values are normally loaded when selecting a source. If the image is not as desired, adjust for this source as follow :

- 1 Push the cursor key **↑** or **↓** to highlight 'Input Balance' (menu 1).
- 2 Press **ENTER** to select.

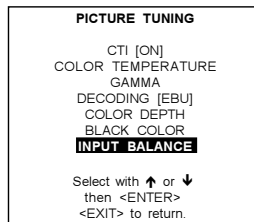
The Input Balance menu will be displayed (menu 2).

Start with the Black Balance :

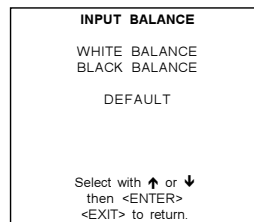
- 1 Push the cursor key **↑** or **↓** to highlight 'Black Balance' (menu 2).
- 2 Press **ENTER** to select.
- 3 Adjust the Brightness to a maximum value until there is just no green noise visible in the black areas.
- 4 Adjust with the cursor key **↑** or **↓** or **←** or **→** until there is no red or blue noise visible in the black areas.

Continue with the White Balance :

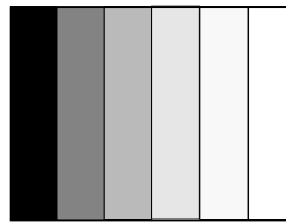
- 1 Push the cursor key $\uparrow$ or $\downarrow$ to highlight 'White Balance' (menu 2).
- 2 Press **ENTER** to select.
- 3 Adjust the Contrast to a maximum value until the white areas are just white (without green noise) and return one step.
- 4 Adjust with the cursor key $\uparrow$ or $\downarrow$ or $\leftarrow$ or $\rightarrow$ until there is no red or blue noise visible in the white areas.



menu 1



menu 2



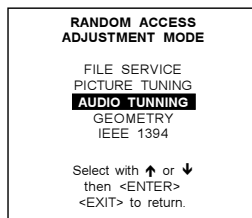
menu 3

Audio Tuning

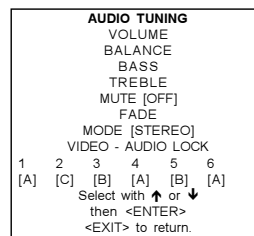
Start Up

- 1 Push the cursor key $\uparrow$ or $\downarrow$ to highlight 'Audio Tuning' (menu 1).
- 2 Press **ENTER** to select.
The Audio Tuning menu will be displayed (menu 2).

Available items



menu 1



menu 2

- Volume
- Balance
- Bass
- Treble
- Mute
- Fade
- Mode
- Video - Audio lock

Volume, Balance, Bass and Treble

How to adjust ?

When a sound control is selected by highlighting the item with the cursor key, a text box with a bar scale, icon and function name of the control, e.g. 'Volume' appears on the screen (only when text is ON). The length of the bar scale indicates the current memory setting for this source. For more information about the sound controls, see 'Sound controls with direct access' in the Chapter 'Controlling'.

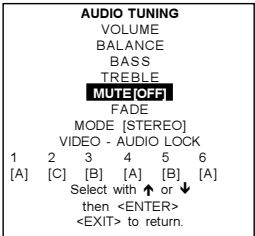
Mute

Purpose

To stop the sound reproduction.

How to stop sound reproduction ?

- 1 Push the cursor key $\uparrow$ or $\downarrow$ to highlight 'Mute' (menu 1).
- 2 Press ENTER to toggle between [on] or [off].



menu 1

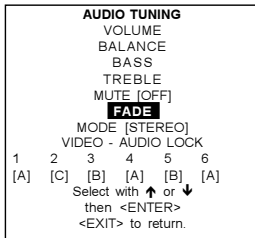
Fade

Purpose

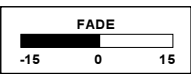
Determine where the sound signals will be reproduced, internally or externally.

How to set up the fade ?

- 1 Push the cursor key $\uparrow$ or $\downarrow$ to highlight 'Fade' (menu 1).
- 2 Press ENTER to select.
- 3 Adjust the desired fade level.
The fade can be adjusted between -15 and 15 (menu 2).



menu 1



menu 2

Fade on -15 : no sound reproduction on the external loudspeakers, max on the internal loudspeaker with the same volume level as adjusted with the volume control.

Fade on 15 : no sound reproduction on the internal loudspeakers but max on the external loudspeakers with the same volume level as adjusted with the volume control.

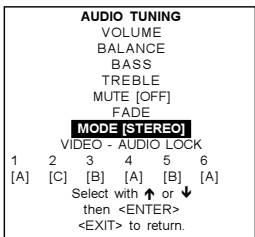
Mode [stereo]/[mono]

Purpose

To switch the sound reproduction between mono and stereo.

How to install the sound mode ?

- 1 Push the cursor key $\uparrow$ or $\downarrow$ to highlight 'Mode' (menu 1).
- 2 Press ENTER to toggle between [stereo] or [mono].



menu 1

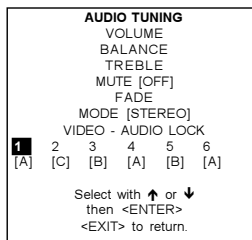
Video - Audio lock

Purpose

An input source can be locked to an audio input.

How to lock input source to an audio source ?

- 1 Push the cursor key $\uparrow$ or $\downarrow$ to highlight the first input source (menu 1).
- 2 Press **ENTER** to scroll the associated audio input between [A], [B] or [C].
- 3 Push the cursor key $\leftarrow$ or $\rightarrow$ to highlight another input source.
- 4 Press **ENTER** to scroll between [A], [B] or [C].
- 5 Continue for the other inputs in the same way.

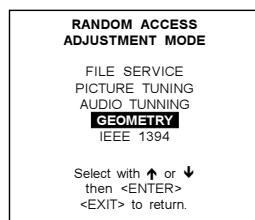


menu 1

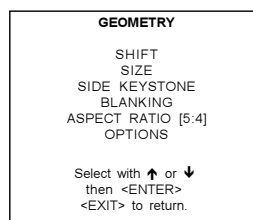
Geometry

To start up the Geometry functions

- 1 Push the cursor key $\uparrow$ or $\downarrow$ to highlight 'Geometry' (menu 1).
- 2 Press **ENTER** to select.
The geometry menu will be displayed (menu 2).



menu 1



menu 2

Which Geometry adjustments are possible ?

- horizontal and vertical image shift.
- horizontal and vertical image size
- side keystone (only necessary if the projector is mounted at a non standard projection angle).
- blanking
- aspect ratio
- options

How can an adjustment be adjusted ?

- 1 Using the cursor key to adjust or
- 2 Entering the value with the digit keys. Therefore, press **ENTER** to select the indicated value and enter the desired value with the digit keys. Press **ENTER** to confirm the entered value.

Shift

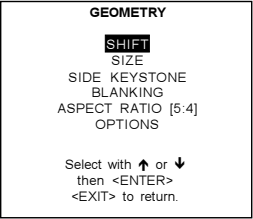
What can be done ?

The image can be shifted in a horizontal or vertical direction.

To start up the shift action :

- 1 Push the cursor key or to highlight 'Shift' (menu 1).
- 2 Press **ENTER** to select.
- 3 Push the cursor key or to shift the image in a vertical direction. Push the cursor key or to shift the image in a horizontal direction.

The default value for the shift is 0.
Shifting in a vertical direction : when the shift value is positive, the image is shifted upwards, when the value is negative, the image is shifted downwards.
Shifting in a horizontal direction : when the shift value is positive, the image is shifted to the right, when the value is negative, the image is shifted to the left.



menu 1

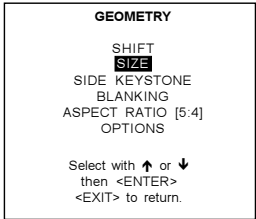
Size

What can be done ?

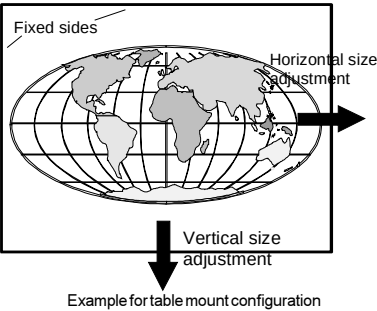
The size can be adjusted in a vertical or horizontal way.
When adjusting the vertical size,
The upper side of the image is fixed (table and ceiling mounted configurations) and only the lower side can be moved to its exact position.
When adjusting the horizontal size, the left side of the image is fixed and only the right side can be moved to its exact position.

To start up the size adjustment :

- 1 Push the cursor key or to highlight 'Size' (menu 1).
- 2 Press **ENTER** to select.
- 3 Push the cursor key or to size the image in a vertical direction. Push the cursor key or to size the image in a horizontal direction.



menu 1



Side Keystone

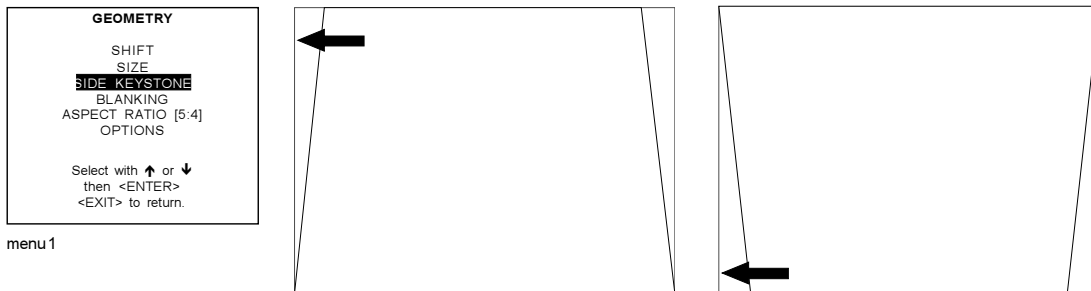
What can be done ?

The side keystone adjustment is used to align the image if the projector is mounted at a nonstandard projection angle.

Aligning the keystone

- 1 Push the cursor key $\uparrow$ or $\downarrow$ to highlight 'Side Keystone' (menu 1).
- 2 Press **ENTER** to select.
- 3 Push the cursor key $\leftarrow$ or $\rightarrow$ to adjust the keystone of the image.
When the upper part of the image is wider than the lower part of the image, push the cursor key $\leftarrow$. The number indication below the bar scale will be negative.

When the upper part of the image is smaller than the lower part of the image, push the cursor key $\rightarrow$. The number indication below the bar scale will be positive.



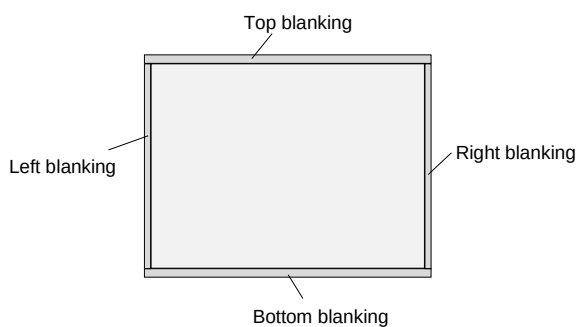
Blanking

What can be done ?

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.

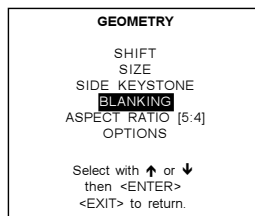
Available Blanking Adjustments

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

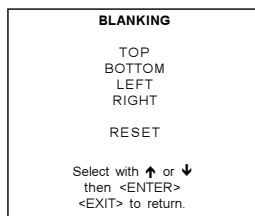


Adjusting the blanking.

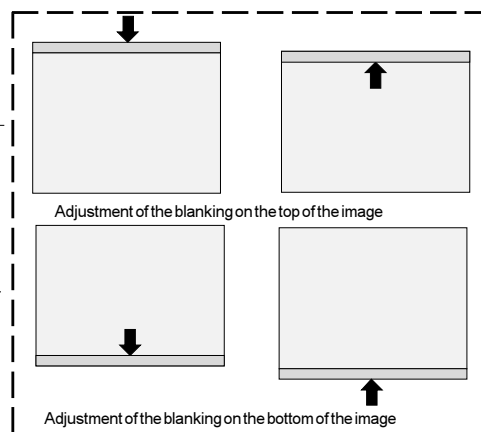
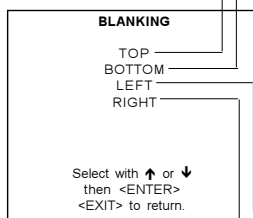
- 1 Push the cursor key $\uparrow$ or $\downarrow$ to highlight 'Blanking' (menu 1).
- 2 Press **ENTER** to display the blanking menu.
- 3 Push the cursor key $\uparrow$ or $\downarrow$ to highlight the desired blanking (menu 2)
- 4 Press **ENTER** to start up the chosen blanking.
- 5 Use the cursor keys to adjust the blanking.



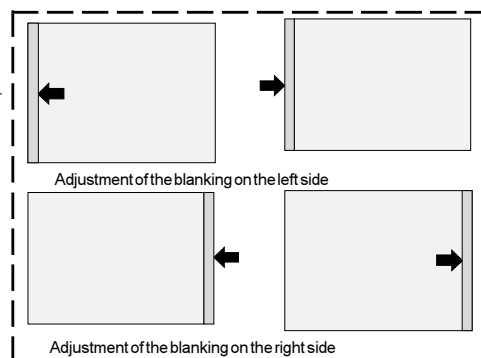
menu 1



menu 2



Correct by pushing the cursor key up or down



Correct by pushing the cursor key to the right or to the left

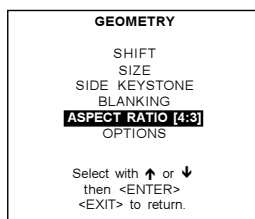
Aspect Ratio [4:3]/[16:9]

Purpose

To force the projector in a typical aspect ratio. E.g. projecting a 4:3 image in a 16:9 aspect ratio.

How to setup the desired aspect ratio ?

- 1 Push the cursor key $\uparrow$ or $\downarrow$ to highlight 'Aspect Ratio' (menu 1).
- 2 Press **ENTER** to scroll between [4:3] or [16:9].

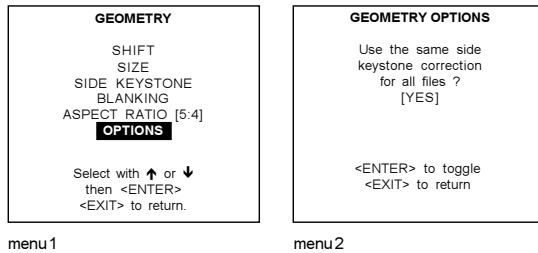


menu 1

Options

How to change the geometry options ?

- 1 Push the cursor key **↑** or **↓** to highlight 'Options' (menu 1).
- 2 Press **ENTER** to display the Geometry options menu (menu 2).



The next question will be asked by the projector :

'Use the same side keystone correction for all files ? [YES] or [NO].

[YES] : the same keystone correction will be used for all installed files.

[NO] : the keystone has to be adjusted file per file.

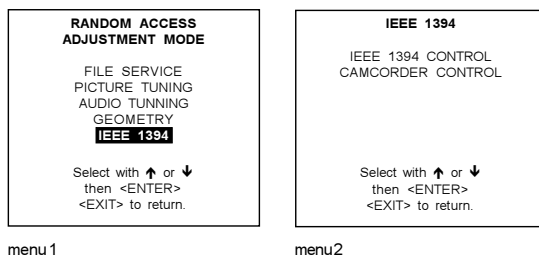
- 1 Push the **ENTER** key to toggle between [YES] or [NO].
- 2 Press **EXIT** to return to the Geometry menu.

IEEE 1394**Purpose**

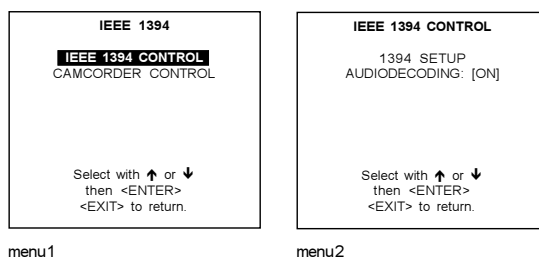
To start decoding and displaying DV sources which do not fully implement AV/C protocol preventing the automatic start of video decoding.

To start up the IEEE 1394 functions

- 1 Push the cursor key **↑** or **↓** to highlight 'IEEE 1394' (menu 1).
 - 2 Press **ENTER** to select.
- The IEEE 1394 menu will be displayed (menu 2).

**IEEE 1394 Control****To start up the IEEE 1394 control functions**

- 1 Push the cursor key **↑** or **↓** to highlight 'IEEE 1394 CONTROL' (menu 1).
 - 2 Press **ENTER** to select.
- The IEEE 1394 Control menu will be displayed (menu 2).



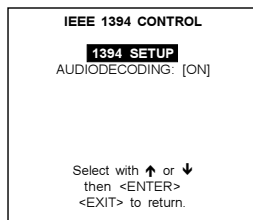
1394 Setup

Purpose

To manually start the decoding and display of an active video channel on the bus.

How to start up ?

- 1 Push the cursor key **↑** or **↓** to highlight '1394 SETUP' (menu 1).
- 2 Press **ENTER** to activate the setup.
The item in the menu will get another color during the setup and returns to its normal color when the setup is executed. As customer, you cannot see more than that color change.



menu1

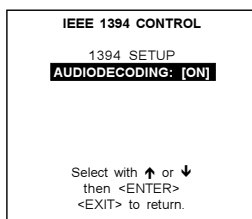
Audiodecoding

Purpose

To activate the decoding of the audio signals on the IEEE1394 bus.

How to toggle ?

- 1 Push the cursor key **↑** or **↓** to highlight 'AUDIODECODING' (menu 1).
- 2 Press **ENTER** to toggle autodecoding between [on] or [off].



menu1

Camcorder Control

Purpose

To control your camcorder via the projector remote control.

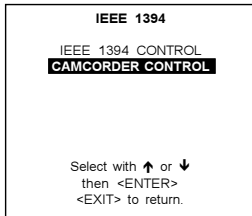
Which functions are available?

The following function are available :

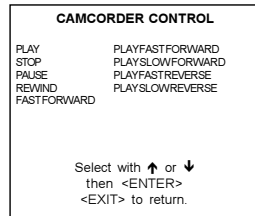
play
play fast forward
play slow forward
play fast reverse
play slow reverse
stop
pause
rewind
fast forward

How to select a function ?

- 1 Push the cursor key **↑** or **↓** to highlight 'Camcorder Control' (menu 1).
- 2 Press **ENTER** to select.
The camcorder control menus will be displayed (menu 2).
- 3 Push the cursor key **↑** or **↓** to highlight the desired camcorder control.
- 4 Press **ENTER** to activate.



menu1



menu2

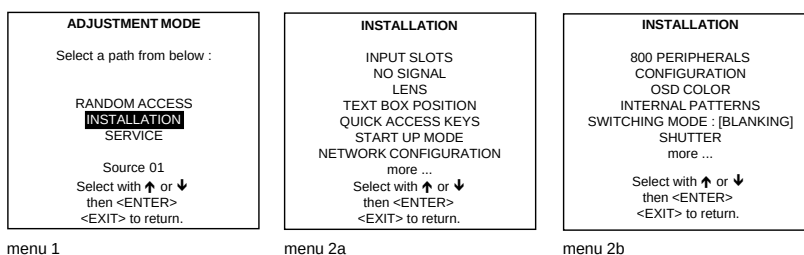
9

INSTALLATION MODE

Installation Mode

Start Up

Push the cursor key **↑** or **↓** to highlight 'Installation Mode' and then press **ENTER**.



The following item can be selected in the Installation mode :

- Input slots : to set up the input priority.
- No Signal : background color can be black or blue.
- Lens : to adjust the lens
- Menu Position : to force the menu in the middle of the screen.
- Quick Access Keys : function keys for direct access.
- Start up mode : to setup the way of start up.
- Network configuration : to setup the network configuration for the projector (optional).
- 800 Peripheral : to select the type of output module used in the RCVDS05 and the type of communication code, PPM or RC05.
- Configuration : to set up the projector position.
- OSD color : to change the color of the highlighted item.
- Internal Patterns
- Switching mode
- Shutter : optional

Built-up of the installation mode.

The installation menu is built-up in two parts which are connected together with the 'more' item.
If the desired item is not in the list of the displayed menu, select 'more' with the cursor key and push **ENTER** to display the other items in the installation menu.

Input Slots

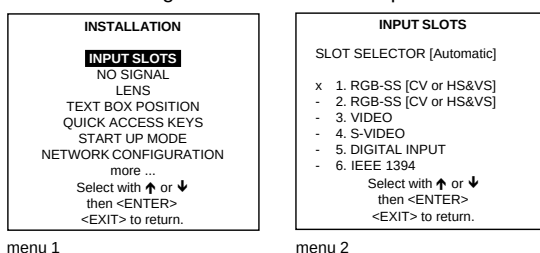
What can be done ?

The input configuration of the variable inputs is shown in the input slots menu.

To view or to change the input configuration :

- 1 Push the cursor key **↑** or **↓** to highlight 'Input Slots'.
 - 2 Press **ENTER** to select.
- The internal system will scan the input slots and displays the result in the Input slots menu.

The black indicated inputs are selectable and changeable. The gray indicated inputs are fix inputs and are not changeable.
The indication in front of the digit means :
x : valid signal connected to the input.
- : no valid signal connected to the input.



Possible results for the input slots :

Source	indication
Video or S-Video	Video S-Video
RGB analog	RGB-CV : separate sync is composite video signal on H/C input RGB-HS&VS : separate sync is horizontal and vertical sync RGB-CS : separate sync is composite sync RGB-SOG : sync on green
Component video	Component Video
IEE1394	IEEE1394
SDI	Digital input

What if a switcher is connected to the projector ?

If a RCVDS (switched on) or VS05 is connected to the projector, it will be also indicated on the menu by adding +800 peripheral. If no 800 peripheral indication is made on the menu, there are still two possibilities :

- no RCVDS or VS05 connected or
- RCVDS is switched off.

When a 800 peripheral is connected to the projector, the input slots are not accessible with the cursor key to toggle their function.

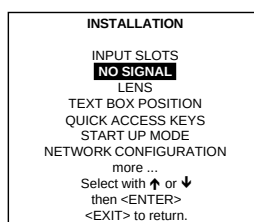
No Signal

What will happen ?

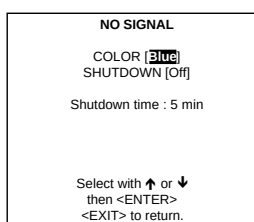
- If there is no signal connect to the projector,
- the background color can be black or blue and
 - the projector can shutdown after a certain time.

Changing the background color

- 1 Push the cursor key **↑** or **↓** to highlight 'No signal' (menu 1).
- 2 Press **ENTER** to select.
The 'No Signal' menu will be displayed.
- 3 Push the cursor key **↑** or **↓** to highlight 'Color' (menu 2).
- 4 Press **ENTER** to toggle between [blue] or [black].



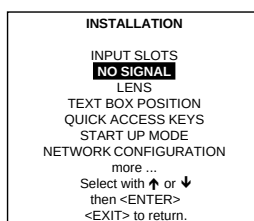
menu 1



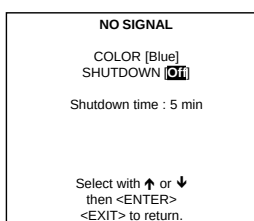
menu 2

Changing the shutdown setting

- 1 Push the cursor key **↑** or **↓** to highlight 'No signal' (menu 1).
- 2 Press **ENTER** to select.
The 'No Signal' menu will be displayed.
- 3 Push the cursor key **↑** or **↓** to highlight 'Shutdown' (menu 2).
- 4 Press **ENTER** to toggle between [On] or [Off].



menu 1



menu 2

Changing the Shutdown Time

The shutdown time can be set between 5 min and 60 min.

To set up the shutdown time, handle as follow :

- 1 Push the cursor key $\uparrow$ or $\downarrow$ to highlight 'No signal' (menu 1).
- 2 Press **ENTER** to select.
- 3 Push the cursor key $\uparrow$ or $\downarrow$ to highlight 'Shutdown time' (menu 2).
- 4 Push the cursor key $\uparrow$ or $\downarrow$ to change the digits or
Enter the digits directly with the digits keys on the RCU.

Lens Adjustments

What can be done ?

All lens adjustments are motorized and can be adjusted with the RCU.

The following items can be adjusted:

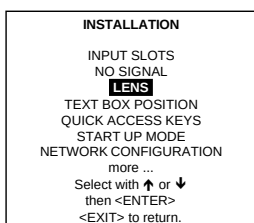
- Zoom/Focus
- Shift

To adjust all lens functions such as zoom, focus and shift, handle as follow :

- 1 Push the cursor key $\uparrow$ or $\downarrow$ to highlight 'Lens' (menu 1).
- 2 Press **ENTER** to select.

The Adjustment pattern will be displayed.

With the **TEXT** key it is possible to toggle between the internal adjustment pattern or the connected source.



menu 1

Zoom/Focus/Shift

The Zoom/Focus function is only applied when a motorised zoom lens is mounted.

To focus or zoom the image :

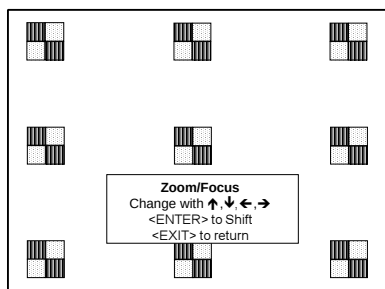
- 1 Push the cursor key $\uparrow$ or $\downarrow$ to zoom and $\leftarrow$ or $\rightarrow$ to focus the image (menu 1).
- 2 When finished, press **EXIT** to return to the installation menu or press **ENTER** to go to the shift function.

To shift the image :

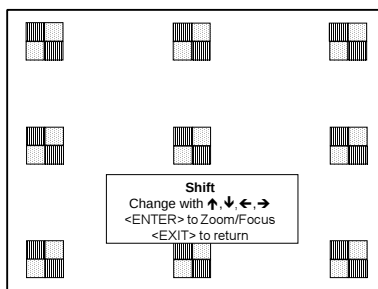
- 1 Press **ENTER** to switch to the shift menu
- 2 Push the cursor key $\uparrow$ or $\downarrow$ to shift the image up or down and $\leftarrow$ or $\rightarrow$ to shift the image left or right (menu 2).
- 3 When finished, press **EXIT** to return to the shift menu or press **ENTER** to go to the zoom/focus function.

The lens can be shifted in a range of :

- vertical direction : - 2 mm to + 20 mm
- horizontal direction : - 5 mm to + 5 mm



menu 1



menu 2

Text Box Position

What can be done ?

The text box position can be changed from bottom right to automatic, dependig the aspect ratio the projector chooses a position, to center, always in the center of the image.

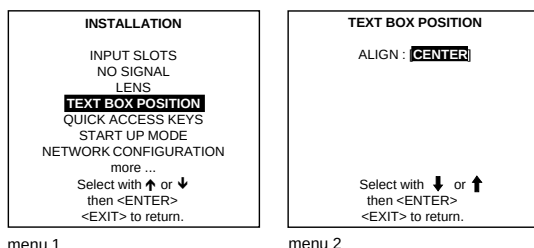
How to change the setting ?

- 1 Push the cursor key **↑** or **↓** to highlight 'Text Box Position' (menu 1).
- 2 Press **ENTER** to select.
The Text Box menu will be displayed (menu 2).
- 3 Align will be selected. Press **ENTER** to toggle between [Bottom Right], [Automatic] or [Center].

[Bottom Right] : text box will always be displayed in the bottom righ corner.

[Automatic] : the text box position depends on the aspect ratio.

[Center] : the text box position will always be in the middle of the image.



Quick Access Keys

What can be done ?

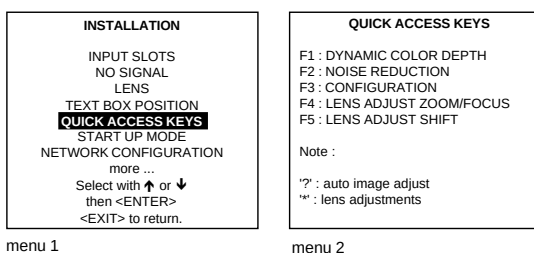
The function keys on top of the RCU can be associated with an adjustment item in one of the adjustment menus. Each item which is not password protected or does not have a key on the RCU can associated to a function key.

Getting an overview

The menu Quick Access keys gives an overview of the actual programmed functions.

To get an overview, handle as follow :

- 1 Push the cursor key **↑** or **↓** to highlight 'Quick Access Keys' (menu 1).
- 2 Press **ENTER** to select.
The Quick Access Keys menu will be displayed (menu 2).



Factory preprogrammed keys

- F1 : color depth
- F2 : noise reduction
- F3 : configuration
- F4 : lens adjust zoom/focus
- F5 : lens adjust shift

How to program the quick access keys (function keys) :

- 1 Scroll through the menus until the desired menu is active
- 2 Push the desired function key for 3 seconds.
The message 'Quick access to this menu with Fx', where x is the digit of the selected function key.
If the selected menu is not a valid menu for the quick access keys the next message will be displayed : "Quick access to this menu impossible".

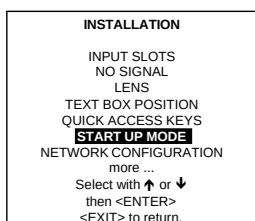
Start Up mode

What can be done ?

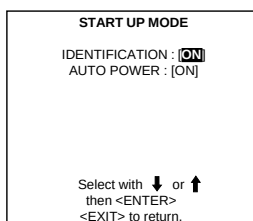
- 1 During start up, the projector can show first the identification screen or a blank screen.
- 2 The projector can start up with auto power. The projector starts up in the same power condition as it was before power supply was interrupted.

Start up Identification

- 1 Push the cursor key **↑** or **↓** to highlight 'Start Up Mode' (menu 1).
- 2 Press **ENTER** to display the start up mode menu (menu 2).
- 3 Push the cursor key **↑** or **↓** to highlight 'Identification' (menu 2).
- 4 Press **ENTER** to toggle between [ON] or [OFF].
 Identification [ON] : projector identification will be displayed during start up.
 Identification [OFF] : a blank screen will be displayed during start up.



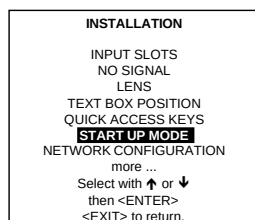
menu 1



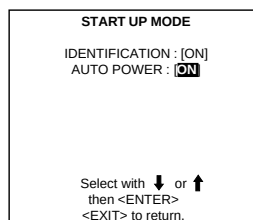
menu 2

Start up Auto Power mode

- 1 Push the cursor key **↑** or **↓** to highlight 'Start Up Mode' (menu 1).
- 2 Press **ENTER** to display the start up mode menu (menu 2).
- 3 Push the cursor key **↑** or **↓** to highlight 'Auto Power' (menu 2).
- 4 Press **ENTER** to toggle between [ON] or [OFF].
 Auto power [ON] : projector power starts up as it was switched off before. When the projector was in stand by before it was switched off, it starts up in stand by. When it was switched off with full power, it starts up with full power.
 Autopower [OFF] : projector always starts up in stand by mode.



menu 1



menu 2

Network configuration

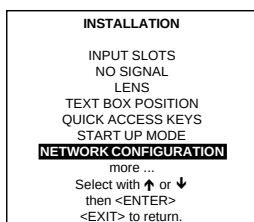
What can be done ?

The necessary network addresses (configuration) can be entered so that the projector can be connected to a LAN (local area network).

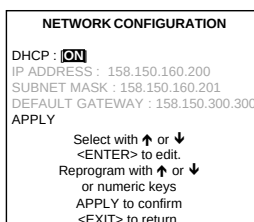
Set up the network configuration

To set up the network configuration, follow the next procedure :

- 1 Push the cursor key **↑** or **↓** to highlight 'Network configuration' (menu 1).
- 2 Press **ENTER** to display the network configuration menu (menu 2).
- 3 Set DHCP on or off (contact your network responsible for the correct setting in your environment).
DHCP : dynamic host configuration protocol
DHCP on : DHCP server assigned an IP address to the client (network projector).
DHCP off : the client has to fill out the IP address, the subnet mask and the default gateway.



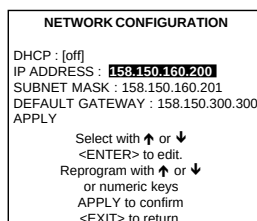
menu 1



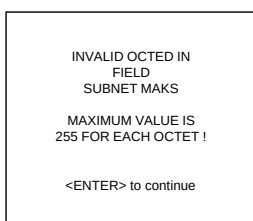
menu 2

Entering the necessary addresses

- 1 Select the IP address with the cursor keys (menu 1).
- 2 Press **ENTER** to edit.
- 3 Enter or reprogram the address with the numeric keys (contact your network responsible for the correct address).
An address contains 4 octets with a maximum value of 255, separated by a bullet.
- 4 Repeat the above steps for the subnet mask and the gateway.
- 5 Select **APPLY** and press **ENTER** to install the entered addresses.
If a wrong value for an octet is entered, the following error message will be displayed to indicate where the error is located. Example of message : "Invalid octet in field Subnet mask, Maximum value is 255 for each octet !" (menu 2).



menu 1



menu 2

800 Peripheral

What can be installed ?

- The type of output module in a RCVDS05.
- The type of communication protocol.

Defining the Output module of the RCVDS05

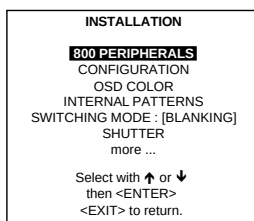
When a RCVDS05 is connected to the projector, the type of output module of this RCVDS05 has to be defined in the 800 peripheral menu.

The type of output module can be :

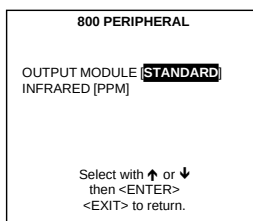
- standard output module or
- 5 cable output module.

To define the output module :

- 1 Push the cursor key **↑** or **↓** to highlight '800 Peripheral' (menu 1).
- 2 Press **ENTER** to select.
- 3 Push the cursor key **↑** or **↓** to highlight 'Output module' (menu 2).
- 4 Press **ENTER** to toggle between 'Standard' or '5-cable'.



menu 1



menu 2

Defining the Infrared Communication protocol

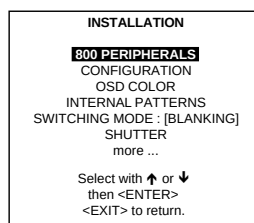
When a peripheral is connected to the 'Comm Port', the communication can be in PPM or RC5.

The type of communication can be set to :

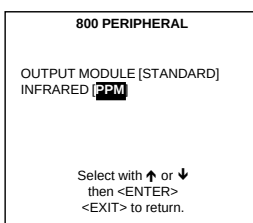
- PPM
- RC5

To define the communication :

- 1 Push the cursor key **↑** or **↓** to highlight 'Infrared' (menu 1).
- 2 Press **ENTER** to select.
3. Press **ENTER** to toggle between [PPM] or [RC5].



menu 1



menu 2

Configuration

What can be done ?

The way of physical installation of the projector can be defined to the projector.

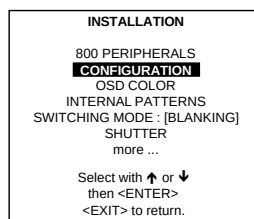
The following installation configurations are possible :

- front/table
- front/ceiling
- rear/ceiling
- rear/table

Set up the Correct Configuration

- 1 Push the cursor key **↑** or **↓** to highlight 'Configuration' (menu 1).
- 2 Press **ENTER** to select.
The Configuration menu will be displayed.

For more information, see Projector Configuration in chapter 3 : 'Installation Guidelines'.



menu 1

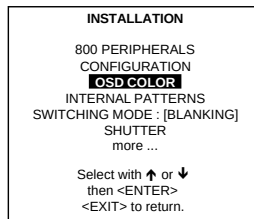
OSD color (On-Screen Display)

What can be done ?

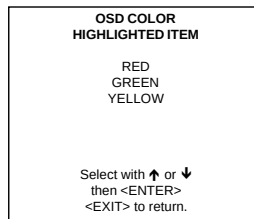
The highlighted items on the menus can be displayed in red, green or yellow.

How to change this color setting ?

- 1 Push the cursor key ↑ or ↓ to highlight 'OSD color'.
- 2 Press **ENTER** to select.
The OSD color menu will be displayed.
- 3 Push the cursor key ↑ or ↓ to highlight a color.
- 4 Press **ENTER** to select.



menu 1



menu 2

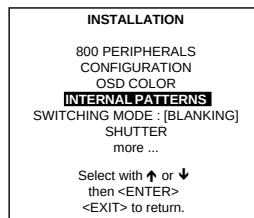
Internal Patterns

What can be done with these internal patterns ?

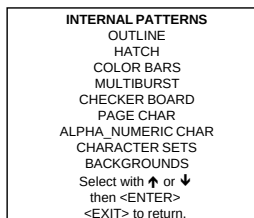
The projector is equipped with different internal patterns which can be used for measurment purposes.

How to select an internal pattern ?

- 1 Push the cursor key ↑ or ↓ to highlight 'Internal Patterns' (menu 1).
- 2 Press **ENTER** to select.
The internal pattern menu will be displayed (menu 2).
- 3 Push the cursor key ↑ or ↓ to highlight the Internal Patterns.
- 4 Press **ENTER** to display the select internal pattern.



menu 1



menu 2

Available patterns

Outline
Hatch
Color Bars
Multiburst
Checker Board
Page Characters
Alpha-numeric characters
Character Sets
Backgrounds

Switching Mode

What can be set up with the switching mode ?

When switching from one source to another, the time between the switch off of the first source and the upcoming new source can be filled up with a blank image or with a freeze of the last projected image.

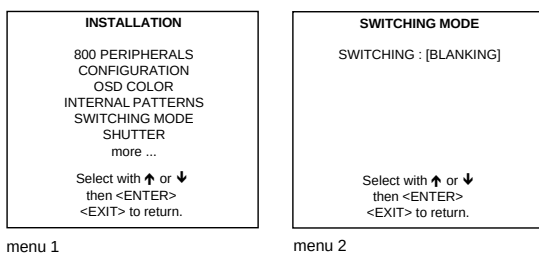
How to install the switching mode ?

To install the switching mode, follow the next procedure :

- 1 Push the cursor key **↑** or **↓** to highlight 'Switching mode' (menu 1).
- 2 Press **ENTER** to select.
The switching mode menu will be displayed (menu 2).
- 3 Select 'Switching' and press **ENTER** to toggle between [blanking] or [freeze].

[blanking] : by switching from one source to another the image will be blanked out and the installed color in the item 'No Signal' will be displayed.

[freeze] : by switching from one source to another the last projected image will be frozen until the new source is displayed.



Shutter

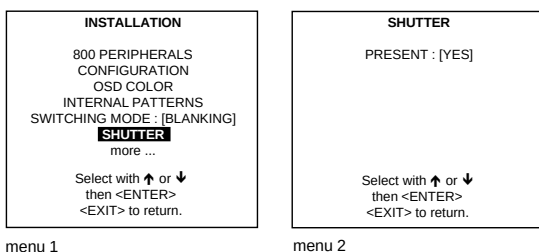
What should be done ?

When a shutter is installed in the projector, the presence of it should be indicated in the shutter menu before this shutter can work.

How to activate the shutter ?

To announce the present of a shutter, handle as follow :

- 1 Push the cursor key **↑** or **↓** to highlight 'Shutter' (menu 1).
- 2 Press **ENTER** to select.
The shutter menu will be displayed (menu 2).
- 3 Press **ENTER** to toggle between [YES] or [NO].
Present [YES] : shutter available and is activated.
Present [NO] : no shutter available.



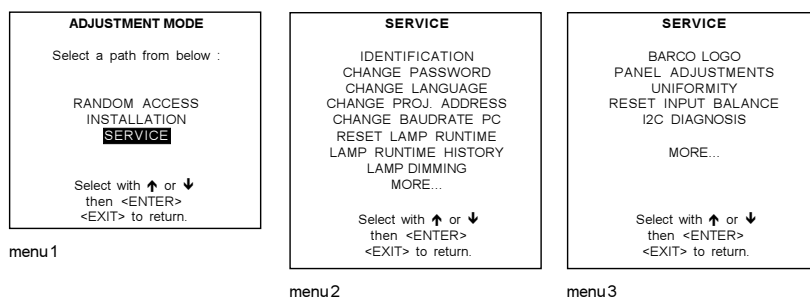
10 SERVICE MODE

Service Mode

Start Up

Push the cursor key $\uparrow$ or $\downarrow$ to highlight 'Service' and then press **ENTER**.

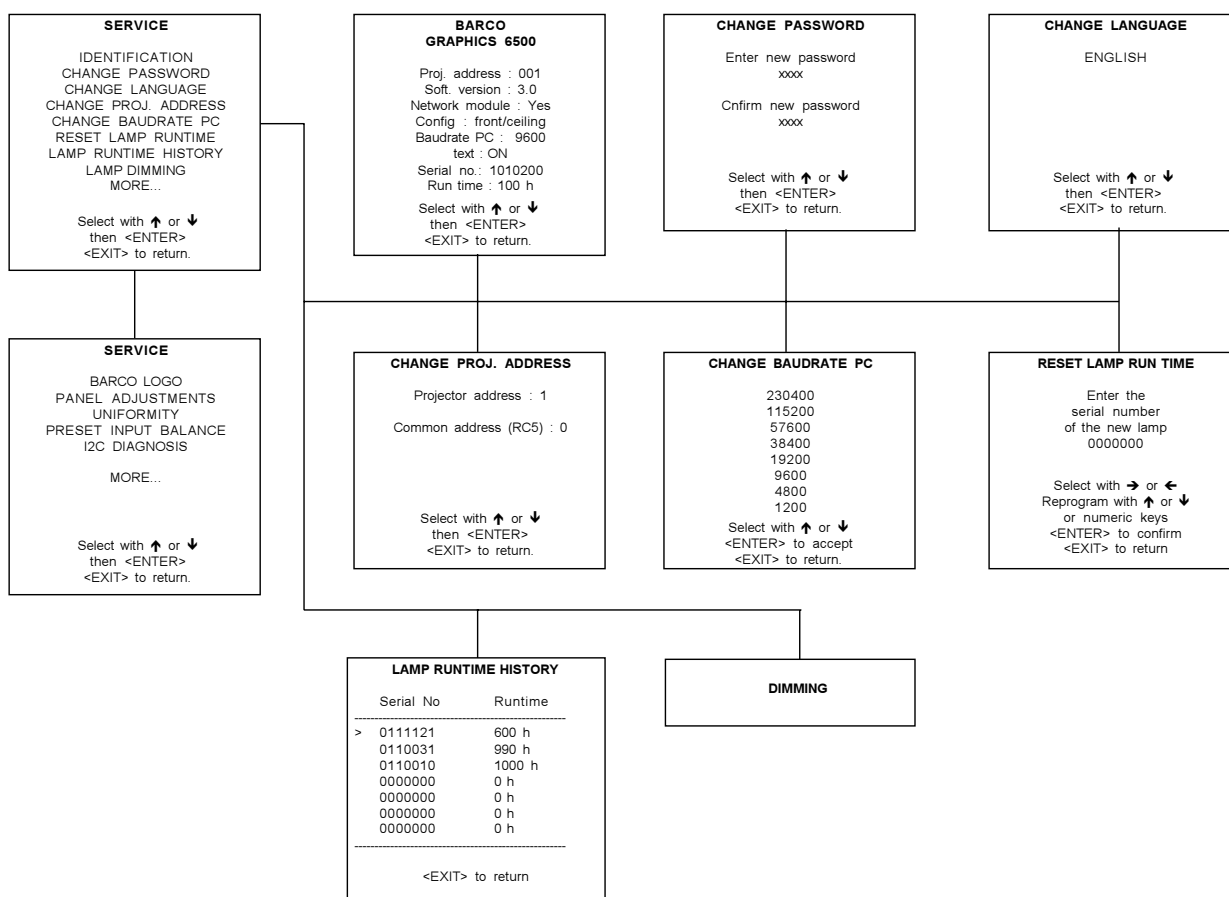
Some items in the Service mode are password protected (when the password function is active). Enter the password to continue. All other password protected items are now available if you stay in the adjustment mode.

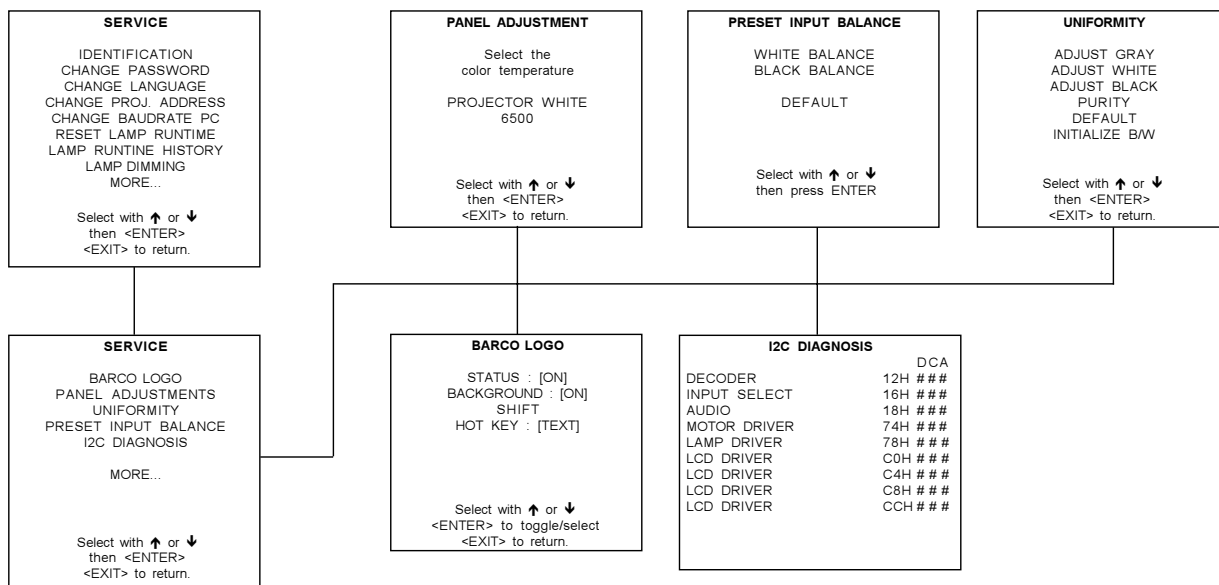


Built-up of the service mode.

The service menu is built-up in two parts which are connected together with the 'more' item.

If the desired item is not in the list of the displayed menu, select 'more' with the cursor key and push **ENTER** to display the other items in the service menu.





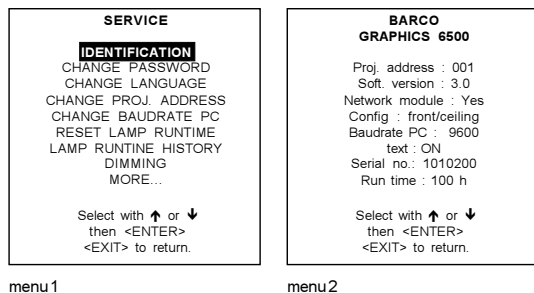
Identification

What can be seen ?

The identification shows the general information of the projector.

Start Up

- 1 Push the cursor key **↑** or **↓** to highlight 'Identification' (menu 1).
- 2 Press **ENTER** to display the Identification screen (menu 2).



What will be indicated on the identification screen ?

- *type* of projector : BARCOGRAPHICS 6500
- *software version*
- *Network module* : yes if network module is installed.
- *Proj. Address* : to change the address of the projector, see Change Projector Address in this chapter.
- *Installation* : possible installations :
 - * Front/Ceiling
 - * Front/Table
 - * Rear/Ceiling
 - * Rear/Table

To change the installation configuration follow the instructions in chapter Installation Guidelines.

- *Baud rate* : transfer speed for communication with an 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, consult 'Change Baudrate PC' in this chapter.
- *Projector Run Time* : gives the total run time since the first start up. All projectors leave the factory with a run time of approximately 24 hours.
- *Projector Serial number* : indicates the fabrication number of the projector. This number can be useful when calling for technical assistance.

Change Password

How to enable or disable the password function ?

This item is password protected when the password strap is installed.

The password function is enabled when the password strap on the controller module is installed. Consult an authorised Barco service technician to change the strap position.

How to change the password ?

- 1 Push the cursor key **↑** or **↓** to highlight 'Change password' (menu 1).
- 2 Press **ENTER** to display the *Change Password* menu (menu 2).
4 ' ' characters are displayed. A new password can be entered with the digit keys of the RCU or local keypad. Everytime a digit is entered, a 'X' appears on the screen. The confirm new password is still grayed out.
- 3 Press **ENTER**, the confirm new password item becomes active.
Press **EXIT** if no changes have to be made.
- 4 4 'X' characters are displayed in the confirm new password area. Key in your password again with the digit keys of the RCU or the local keypad.
- 5 Press **ENTER**.
If the confirm new password entry is the same as the entered new password, the password is changed.

SERVICE IDENTIFICATION CHANGE PASSWORD CHANGE LANGUAGE CHANGE PROJ. ADDRESS CHANGE BAUDRATE PC RESET LAMP RUNTIME LAMP RUNTIME HISTORY LAMP DIMMING MORE... Select with ↑ or ↓ then <ENTER> <EXIT> to return.	CHANGE PASSWORD Enter new password xxxx Confirm new password xxxx Select with ↑ or ↓ then <ENTER> <EXIT> to return.
--	--

menu1

menu2

Change Language

Start Up

- 1 Push the cursor key **↑** or **↓** to highlight 'Change Language' (menu 1).
- 2 Press **ENTER** to display the *Change Language* menu (menu 2).
- 3 Push the cursor key **↑** or **↓** to highlight the desired language.
- 4 Press **ENTER** to change the language.
Available languages : English

SERVICE IDENTIFICATION CHANGE PASSWORD CHANGE LANGUAGE CHANGE PROJ. ADDRESS CHANGE BAUDRATE PC RESET LAMP RUNTIME LAMP RUNTIME HISTORY LAMP DIMMING MORE ... Select with ↑ or ↓ then <ENTER> <EXIT> to return.	CHANGE LANGUAGE English Select with ↑ or ↓ then <ENTER> <EXIT> to return.
---	---

menu1

menu2

Change Projector Address

What can be changed ?

Within the 'Change Projector Address' item, the follow items can be changed :

- Projector address
- Common address

Start up

- 1 Push the cursor key **↑** or **↓** to highlight 'Change Projector Address' (menu 1).
- 2 Press **ENTER** to select.
The Change Projector Address menu will be displayed.

SERVICE

IDENTIFICATION
CHANGE PASSWORD
CHANGE LANGUAGE
CHANGE PROJ. ADDRESS
CHANGE BAUDRATE PC
RESET LAMP RUNTIME
LAMP RUNTIME HISTORY
DIMMING
MORE ...

Select with **↑** or **↓**
then <ENTER>
<EXIT> to return.

CHANGE PROJ. ADDRESS

Projector address : 1
Common address (RC5) : 0

Select with **↑** or **↓**
then <ENTER>
<EXIT> to return.

menu1

menu2

Projector Address

How to change that address ?

- 1 Push the cursor key **↑** or **↓** to highlight 'Projector Address' (menu 1).
- 2 Press **ENTER** to select.
The actual address is filled in.
The first digit is highlighted.

CHANGE PROJ. ADDRESS

Projector address : 1
Common address (RC5) : 0

Select with **↑** or **↓**
then <ENTER>
<EXIT> to return.

menu1

Entering the new projector address

- with the digit keys on the RCU or the local keypad or
 - push the cursor key **←** or **→** to select a digit and change the value by pushing the cursor key **↑** or **↓** until the new value is reached.
Continue with the other digits on the same way.
- That individual address must be between 0 and 255.

Common Address

How to change that common address ?

- 1 Push the cursor key **↑** or **↓** to highlight the active 'Common Address' (menu 1).
- 2 Press **ENTER** to select.

CHANGE PROJ. ADDRESS

Projector address : 1
Common address (RC5) : **0**
Common address (PPM) : 0

Select with **↑** or **↓**
then <ENTER>
<EXIT> to return.

menu1

Entering the new common address

Only addresses between 0 and 1 are valid.

- with the digit keys on the RCU or the local keypad or
- pushing the cursor key **↑** or **↓** until the new value is reached.

Change Baudrate PC

Start Up

- 1 Push the cursor key **↑** or **↓** to highlight 'Change Baudrate PC' (menu 1).
- 2 Press **ENTER** to display the *Change Baudrate PC* menu. The actual baudrate will be highlighted.
The following baud rates are available :
230400/115200/57600/38400/19200/9600/4800/1200
- 3 Push the cursor key **↑** or **↓** to highlight the desired baudrate.
- 4 Press **ENTER** to select.

SERVICE	CHANGE BAUDRATE PC
IDENTIFICATION	230400
CHANGE PASSWORD	115200
CHANGE LANGUAGE	57600
CHANGE PROJ. ADDRESS	38400
CHANGE BAUDRATE PC	19200
RESET LAMP RUNTIME	9600
LAMP RUNTIME HISTORY	4800
LAMP DIMMING	1200
MORE...	
Select with ↑ or ↓ then <ENTER> <EXIT> to return.	Select with ↑ or ↓ then <ENTER> <EXIT> to return.

menu1 menu2

Reset Lamp Runtime

When is it allowed ?

Reset lamp run time is only allowed when a new lamp is installed.

Start Up

- 1 Push the cursor key **↑** or **↓** to highlight 'Reset Lamp Run Time' (menu 1).
- 2 Press **ENTER**.
The following warning will be displayed (menu 2):
Risk of electrical shock. Reset lamp run time is reserved to qualified service personnel.
If you are not qualified, press **EXIT** to cancel the reset operation.

SERVICE	WARNING
IDENTIFICATION	
CHANGE PASSWORD	
CHANGE LANGUAGE	
CHANGE PROJ. ADDRESS	
CHANGE BAUDRATE PC	
RESET LAMP RUNTIME	RISK OF ELECTRICAL SHOCK
LAMP RUNTIME HISTORY	RESET LAMP RUN TIME is reserved to qualified service personnel
LAMP DIMMING	<ENTER> to accept <EXIT> to return.
MORE...	
Select with ↑ or ↓ then <ENTER> <EXIT> to return.	

menu1 menu2

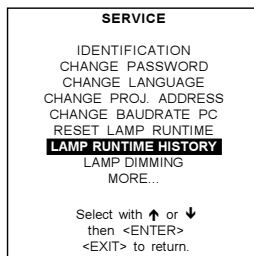
Lamp Run Time History

What can be done ?

Getting an overview of the different lamp run times

Start Up

- 1 Push the cursor key **↑** or **↓** to highlight 'Lamp Run Time History' (menu 1).
- 2 Press **ENTER** to display the *Lamp Run Time* overview (menu 2).
A listing with the lamp serial number and the corresponding run time will be displayed.
The actual installed lamp will be marked.
- 3 Press **EXIT** to return to the service mode selection menu.



menu1

LAMP RUNTIME HISTORY	
Serial No	Runtime
>	
0111121	600 h
0110031	980 h
0110010	1000 h
0000000	0 h
0000000	0 h
0000000	0 h
<ENTER> for detail <EXIT> to return	

menu2

Lamp Dimming

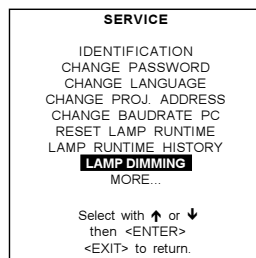
What can be done ?

The lamp can be dimmed via the lamp dimming feature.

Start Up

- 1 Push the cursor key **↑** or **↓** to highlight 'Lamp Dimming' (menu 1).
- 2 Press **ENTER** to select.
- 3 Push the cursor key **←** or **→** to dim the lamp.

Remark : The projector starts always with full lamp power.



menu1

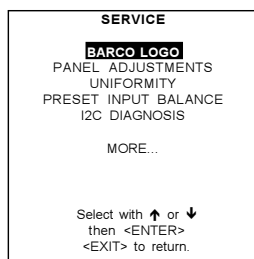
BARCO logo

What can be done ?

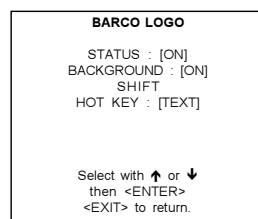
The BARCO logo can be added to the image, in overlay or on a background, on any place on the screen.

How to add the BARCO logo or to change a setting ?

- 1 Push the cursor key **↑** or **↓** to highlight 'BARCO logo' (menu 1).
- 2 Press **ENTER** to select.
The *BARCO logo* menu will be displayed (menu 2) . The actual settings will be displayed.
Within this menu, three toggle settings and a shift control are available.



menu1



menu2

Available settings

STATUS[ON/OFF]

ON : BARCO logo will be displayed on the screen.
OFF : No BARCO logo displayed on the screen.

BACKGROUND[ON/OFF]

ON : BARCO logo will be displayed on a black background.
OFF : BARCO logo will be displayed without any background.

SHIFT

By pushing the cursor key $\uparrow$, $\downarrow$, $\leftarrow$ or $\rightarrow$, the BARCO logo can be positioned anywhere on the screen.

HOTKEY[TEXT/OFF]

OFF : no key on the RCU is used to display the BARCO logo.
TEXT : the TEXT key on the RCU is used to display or to remove the BARCO logo with one single push on this key (only in operational mode).

Panel Adjustments

Warning

Changing these settings may seriously affect the performance of the projector.

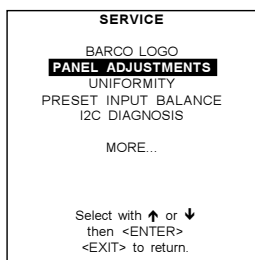
All panel adjustments are factory adjusted. If not really necessary, do not touch any of these adjustments. They are useful when a new panel is installed.

Start Up

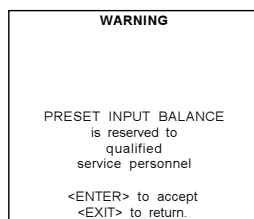
- 1 Push the cursor key $\uparrow$ or $\downarrow$ to highlight 'Panel Adjustments' (menu 1).
- 2 Press ENTER to select.

The following warning will be displayed :

Panel Adjustments is reserved to qualified service personnel.
If you are not qualified, press EXIT to cancel the panel adjustments.



menu1



menu2

Uniformity

Warning

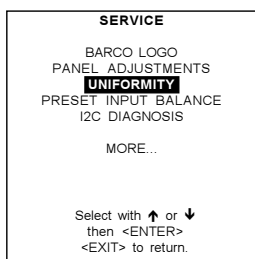
Changing these settings may seriously affect the performance of the projector.

Start Up

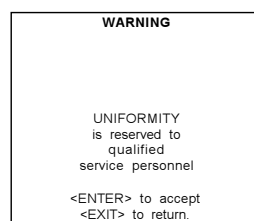
- 1 Push the cursor key $\uparrow$ or $\downarrow$ to highlight 'Uniformity' (menu 1).
- 2 Press ENTER to select.

The following warning will be displayed :

Uniformity is reserved to qualified service personnel.
If you are not qualified, press EXIT to cancel the uniformity.



menu1



menu2

Preset Input Balance

Warning

Changing these settings may seriously affect the performance of the projector.

Start Up

- 1 Push the cursor key **↑** or **↓** to highlight "Preset Input Balance" (menu 1).
- 2 Press **ENTER** to select.

The following warning will be displayed :
Preset Input Balance is reserved to qualified service personnel.
If you are not qualified, press **EXIT** to cancel the preset input balance.

SERVICE

BARCO LOGO
PANEL ADJUSTMENTS
UNIFORMITY
PRESET INPUT BALANCE
I2C DIAGNOSIS

MORE...

Select with **↑** or **↓**
then **<ENTER>**
<EXIT> to return.

WARNING

PRESET INPUT BALANCE
is reserved to
qualified
service personnel

<ENTER> to accept
<EXIT> to return.

menu1

menu2

I2C Diagnosis

What can be done ?

This menu gives an overview of the correct working of the I²C controlled IC's.

How to start the I2C diagnosis ?

- 1 Push the cursor key **↑** or **↓** to highlight "I2C Diagnosis" (menu 1).
- 2 Press **ENTER** to display the overview.

SERVICE

BARCO LOGO
PANEL ADJUSTMENTS
UNIFORMITY
PRESET INPUT BALANCE
I2C DIAGNOSIS

MORE...

Select with **↑** or **↓**
then **<ENTER>**
<EXIT> to return.

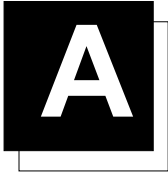
I2C DIAGNOSIS

	DCA
DECODER	12H ###
INPUT SELECT	16H ###
AUDIO	18H ###
MOTOR DRIVER	74H ###
LAMP DRIVER	78H ###
LCD DRIVER	C0H ###
LCD DRIVER	C4H ###
LCD DRIVER	C8H ###
LCD DRIVER	CCH ###

<EXIT> TO RETURN

menu1

menu2



STANDARD SOURCE SET UP FILES

NAME	RESOLUTION	FVERT Hz	FHOR kHz	FPIX MHz	PTOT	PACT	LTOT	LACT
1600_48V	1600 X 600I	48,040	62,500	135,000	2160	1600	651	600
1600_60V	1600 X 1200	60,000	75,000	162,000	2160	1600	1250	1200
1600_65V	1600 X 1200	65,000	81,250	175,500	2160	1600	1250	1200
1600_70V	1600 X 1200	70,000	87,500	189,000	2160	1600	1250	1200
8514_A	1024 X 384I	43,479	35,522	44,900	1264	1024	409	384
CGA	640 X 200	59,924	15,700	14,318	912	640	262	200
COMPUSC4	1024 X 480I	29,945	30,694	39,779	1296	1024	512	480
ED	735 X 480	59,943	31,470	28,638	910	735	525	480
EGA	640 X 350	59,702	21,851	16,257	744	640	366	350
EWS_50	1280 X 1024	50,000	52,350	87,948	1680	1280	1047	1024
EWS_60	1280 X 1024	60,000	63,900	107,352	1680	1280	1065	1024
EWS_60V	1280 X 1024	60,282	63,657	110,000	1728	1280	1056	1024
EWS_72	1280 X 1024	72,000	76,968	130,076	1690	1280	1069	1024
EWS_75	1280 X 1024	75,025	79,976	135,000	1688	1280	1066	1024
FMR	640 X 400I	42,323	36,440	28,570	784	640	431	400
FMTO_2	640 X 400	55,370	24,370	21,056	864	640	440	400
HD_1080I	1920 X 540I	30,000	33,750	74,250	2200	1920	562	540
HD720P	1280 X 720	60,000	45,000	74,250	1650	1200	750	720
HDMAC	1252 X 570I	25,020	31,250	39,125	1252	1024	625	570
INTER_GR	1184 X 886	67,170	61,796	92,941	1504	1184	920	886
MAC_2	640 X 480	66,667	35,000	30,240	864	640	525	480
MAC_3	512 X 384	60,147	24,480	15,667	640	512	407	384
MAC_4	560 X 384	60,147	24,480	17,234	704	560	407	384
MAC_5	512 X 342	60,158	22,259	15,670	704	512	370	342
MAC_6	832 X 624	74,546	49,722	57,280	1152	832	667	624
MAC_7	1024 X 768	74,907	60,150	80,000	1330	1024	803	768
MAC_LC	640 X 480	66,619	34,975	31,338	896	640	525	480
MAC_POR	640 X 870	74,996	68,846	57,280	832	640	918	870
MUSE	1172 X 518I	30,000	33,750	37,125	1172	1024	563	518
MXGA_60	1152 X 864	60,000	54,540	60,000	1456	1152	909	864
MXGA_70	1152 X 864	70,000	63,630	94,500	1480	1152	909	864
MXGA_75	1152 X 864	75,000	67,500	75,000	1600	1152	900	864
MXGA_80	1152 X 864	80,000	76,640	80,000	1440	1152	958	864
MXGA_85	1152 X 864	85,000	77,055	121,5	1576	1152	907	864
VIDEO525	1302 X 239I	29,970	15,734	32,207	1302	1024	263	239
VIDEO625	1024 X 278I	25,000	15,625	31,984	1310	1024	313	278
PAM500	640 X 400	60,000	26,400	22,810	864	640	440	400

Name : name of file, contains the settings
Resolution : image resolution, when followed by ...I means interlaced.

FVERT Hz : vertical frame frequency of the source

FHOR kHz : horizontal frequency of the source.

FPIX MHz : pixel frequency

PTOT : total pixels on one horizontal line

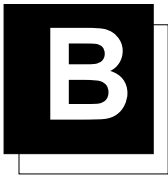
PACT : active pixels on one horizontal line

LTOT : total lines in one field

LACT : active lines in one field

Appendix A : Standard Source Set Up Files

NAME	RESOLUTION	FVERT Hz	FHOR kHz	FPIX MHz	PTOT	PACT	LTOT	LACT
PAM800	1120 X 375I	44,936	36,443	50,000	1372	1120	406	375
PC98_1	640 X 400	56,416	24,823	21,050	848	640	440	400
PC98_2	1120 X 375I	39,994	32,835	47,840	1457	1120	411	375
PC98_3	1120 X 750	60,000	50,000	78,569	1571	1120	833	750
S1152_66	1152 X 900	66,004	61,846	94,500	1528	1152	937	900
S1152_76	1152 X 900	76,637	71,809	108,000	1504	1152	937	900
SDI_625	675 X 278I	25,000	15,625	13,500	864	720	313	278
SDI_525	675 X 240I	29,970	15,734	13,500	858	720	263	240
SG_50	1600 X 1200	50,000	62,500	130,313	2085	1600	1250	1200
SG_60_1	1280 X 1024	60,000	63,900	107,352	1680	1280	1065	1024
SG_60_2	1024 X 768	60,000	48,780	64,390	1320	1024	813	768
SG_60_3	960 X 680	60,000	43,200	54,432	1260	960	720	680
SG_60_4	1600 X 1200	60,000	75,000	156,375	2085	1600	1250	1200
SUNNEWS67	1280 X 1024	67,189	71,691	117,000	1632	1280	1067	1024
SUNNEWS76	1280 X 1024	76,107	81,130	135,000	1664	1280	1066	1024
SUNXGA60	1024 X 768	59,984	48,287	64,125	1328	1024	805	768
SUNXGA70	1024 X 768	70,041	56,596	74,250	1312	1024	808	768
SUNXGA77	1024 X 768	77,069	62,040	84,375	1360	1024	805	768
SUP_MAC	1024 X 768	60,000	48,780	63,999	1312	1024	813	768
SVGA_56V	800 X 600	56,250	35,156	36,000	1024	800	625	600
SVGA_60V	800 X 600	60,317	37,879	40,000	1056	800	628	600
SVGA_72V	800 X 600	72,084	48,080	50,003	1040	800	667	600
SVGA_75	800 X 600	75,000	46,875	75,000	1056	800	625	600
SVGA_85	800 X 600	85,000	53,635	56,250	1048	800	631	600
SVGA_100	800 X 600	100,000	62,800	100,000	1056	800	628	600
VGA_72V	640 X 480	72,800	37,856	31,496	832	640	520	480
VGA_GR	640 X 480	59,941	31,469	25,175	800	640	525	480
VGA_TXT	720 X 400	70,087	31,469	28,322	900	720	449	400
VGA75ISO	640 X 480	75,000	39,375	31,500	800	640	525	480
XGA_60	1024 X 768	60,000	48,360	64,996	1344	1024	806	768
XGA_70	1024 X 768	70,000	57,050	78,044	1368	1024	815	768
XGA_70V	1024 X 768	69,705	56,182	74,610	1328	1024	806	768
XGA_72	1024 X 768	71,955	58,140	80,000	1376	1024	808	768
XGA_75	1024 X 768	75,781	61,080	86,000	1408	1024	806	768
XGA75_GS	1024 X 768	74,534	59,701	79,284	1328	1024	801	768
XGA_85	1024X768	85,000	68,680	94,500	1376	1024	808	768
XGA_100	1024X768	100,000	80,800	100,000	1368	1024	808	768



SOURCE NUMBERS 81 - 86 AND 91 - 96

Projector without any 800 peripheral connected.

The source numbers 81 - 86 and 91 - 96 do not correspond to physical inputs. An additional adjustment file can be created for these source numbers. This file can contain different settings. The relationship between sources 1 - 6 and 91 - 96 or between 1 - 6 and 81 - 86 is shown in the diagram below.

source input 1	source number 1	file A
	source number 81	file A'
	source number 91	file A''
source input 2	source number 2	file B
	source number 82	file B'
	source number 92	file B''
source input 3	source number 3	file C
	source number 83	file C'
	source number 93	file C''
•		
•		
source input 6	source number 6	file F
	source number 86	file F'
	source number 96	file F''

Follow the steps below to create a second or a third file for sources 1 to 6 :

1. Select the source between 1 and 6.
2. Select the corresponding source number between 81 and 86 or 91 and 96 with the digit keys on the RCU.
3. Enter the adjustment mode and load a corresponding file. Edit this file if necessary.
4. Save the file and exit the adjustment mode.

Projector with a 800 peripheral connected.

Source numbers 91 - 99.

The source numbers 91 - 99 do not correspond to physical inputs. An additional adjustment file can be created for these source numbers (source numbers of the 800 peripheral). This file can contain different settings. The relationship between sources 1 - 9 of the 800 peripheral and 91 - 99 is shown in the diagram below.

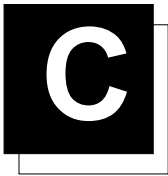
source input 1	source number 1	file A
	source number 91	file A'
source input 2	source number 2	file B
	source number 92	file B'
source input 3	source number 3	file C
	source number 93	file C'
•		
•		
source input 9	source number 9	file I
	source number 99	file I'

Follow the same procedure as for a projector without a 800 peripheral connected.

Source numbers 81 - 86

Only valid if no input module is connected to slot 81 - 86 of a RCVDS05.
The source numbers 81 - 86 correspond to the physical inputs 1 - 6 of the projector.
e.g. When slot 1 of the projector has to be selected, key in source number 81.
The relationship between the sources of slot 1 - 6 of the projector with 800 peripheral is shown in the table below.

source of slot 1	source number 81
source of slot 2	source number 82
source of slot 3	source number 83
source of slot 4	source number 84
source of slot 5	source number 85
source of slot 6	source number 86



BARCO CONTROL MANAGER

Control Manager

Functionality

Controlling and monitoring of the projector settings. Remote diagnostics to detect potential errors.

Computer requirements

A computer with standard web browser (Internet explorer, Netscape communicator, ...) connected to a LAN (local area network) is sufficient to run the control manager and to get access to the projector.

As Java technology (Java Applets) is used, the application is downloaded when needed and run within a web browser. Unfortunately, not all web browsers provide this possibility.

The Barco Control Manager has been successfully tested on Microsoft Windows platform (98/NT 4.0/Windows 2000) with Internet Explorer 4.0 or higher and Netscape 4.7 or higher.

On other platforms and with other browsers, it should run fine when the browser supports Java Applets and supports the Java Swing library.

As an alternative, when on a specific platform there is no browser supporting the above requirements, it should be possible to run the application using an Applet Viewer.

Note : with most web browsers, it is not the web browser itself that executes the Java applet but the Java Virtual Machine (VM). E.g. for Microsoft Explorer, the latest Java VM can be found at the following URL : http://www.microsoft.com/java/vm/dl_vm40.htm

Embedded projector software

For Reality projectors : Version 1.10 or higher

For Graphics projectors : Version 1.30 or higher

About the control manager

Start Up

To start up the Control Manager, follow the procedure as described below :

- 1 Start up your web browser.
- 2 In the Address bar of your web browser, start typing the IP address (or nick name) of the network projector.
If you've typed a similar entry before, AutoComplete lists possible matches as you type.
If a suggestion in the list matches what you want to enter in that field, click the suggestion.
If not, continue typing.
- 3 Press **ENTER** to launch you request.
The projector acts as a webserver and returns its start up page (image 1)



image 1

Information on the Start Up page.

The nick name of the projector is shown in the middle of the screen. E.g. default indicated as 'Barco - projector'. Below the location of the projector, default indicated as 'Location'.

This name and location can be replaced by any other name or location, see Configuration window / Settings.

Control manager Start Page

Starting up the control manager

Click on Enter to start up the Barco Control Manager.

The control manager start page will be displayed (image 2).

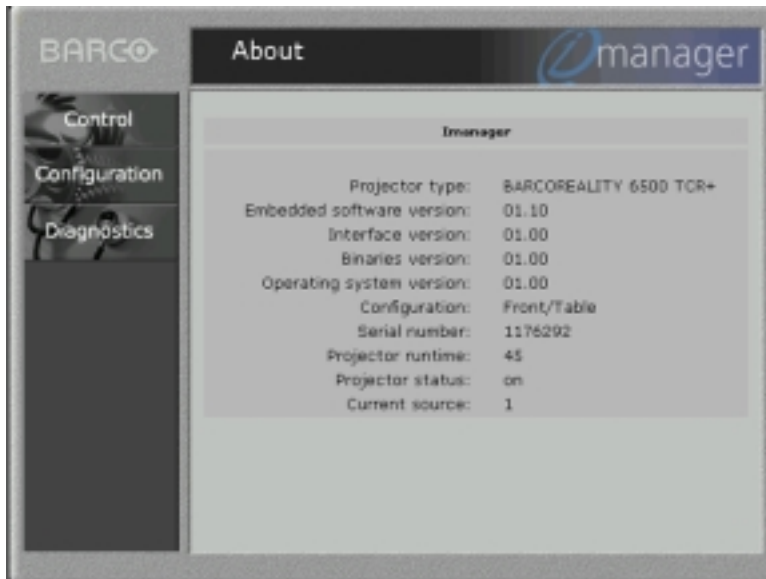


image2

Using the default window

The following areas can be recognized (image3) :

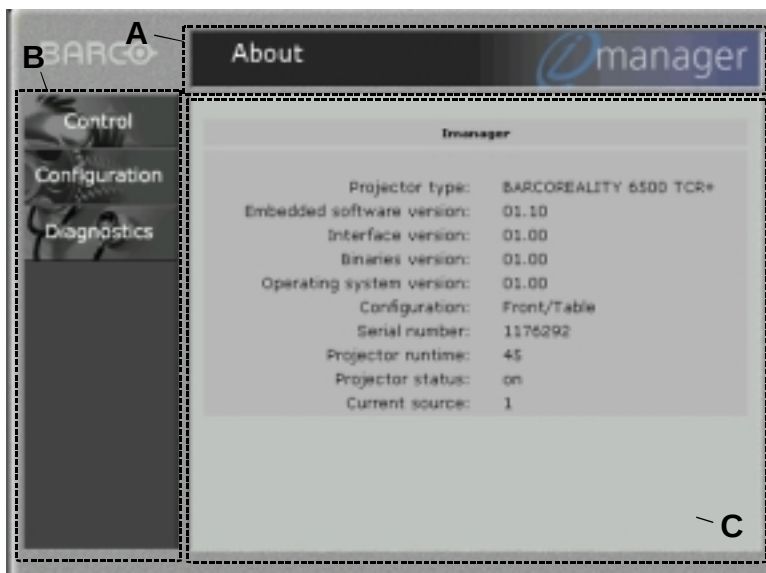


image3

A : Title area, displays the title of the active window.

B : Menu bar with drop down menus.

C : Content pane, gives information or fill out boxes or slide bars for the active window.

To select an item, click on it in the menu bar and select the desired item in the drop down menu.

Control

Start Up

To start up the control window :

- 1 Click on control.
A drop down menu will be displayed (image 4).

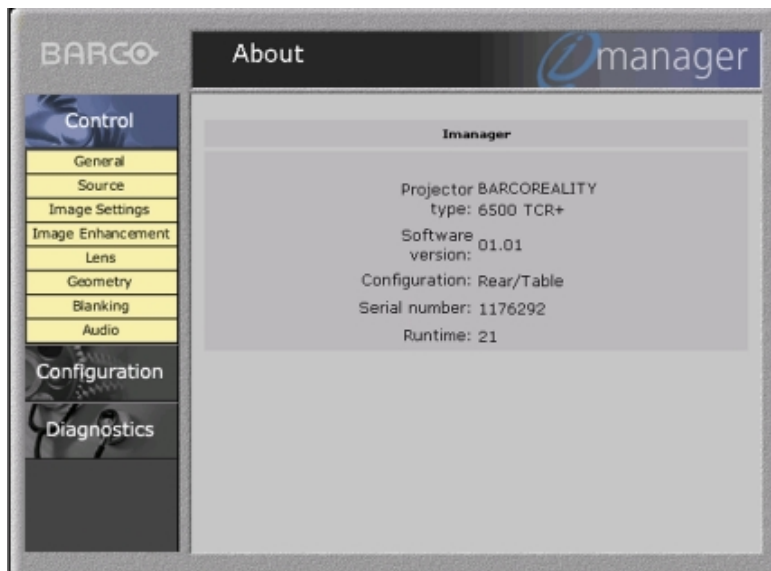


image 4

Available items

General Control :	Projector 'On' or in 'Standby'
	Pause on/off
	Freeze on/off
	Text on/off.
Source :	selecting the desired source.
Image settings :	Contrast
	Brightness
	Color
	Tint
	Sharpness
	Phase
	Gamma.
Image enhancement :	Noise reduction
	Dynamic Color Dept
	CTI on/off
	Decoding 'ebu' or 'ire'
Lens	Zoom
	Focus
	Shift
Geometry	Image Shift
	Size
	Aspect Ratio
	Keystone Correction
Blanking	Changing the blanking settings
Audio	Volume
	Bass
	Treble
	Balance
	Fade

Security

When selecting an item in the control drop down menu, the security login and password will be asked (image 5).
Factory fitted user name and password are twice 'advanced'.
The system administrator can change the user name and password (see configuration, securities).

Once your password is correctly entered, all items in the control menu are available.

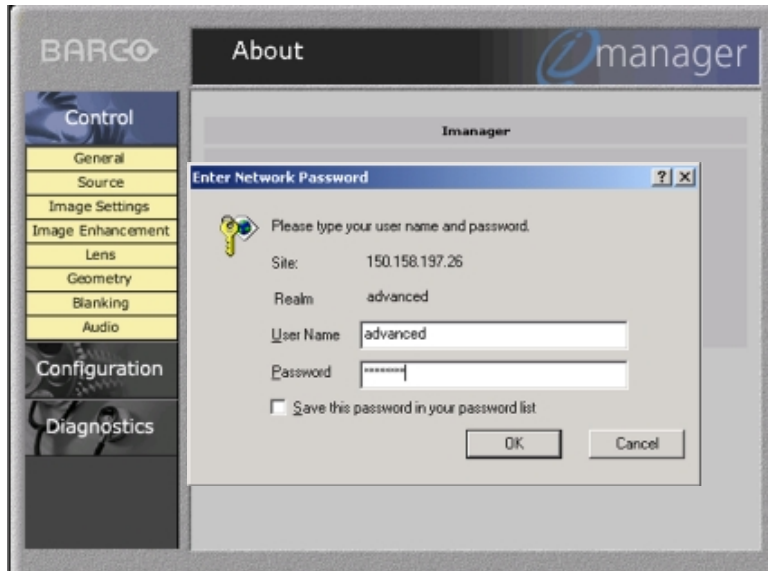


image5

General Control

By clicking on one of the buttons on the content pane, the indicated function can be switched on or off. When the green light in the bottom lights up, the function is on (image 6).

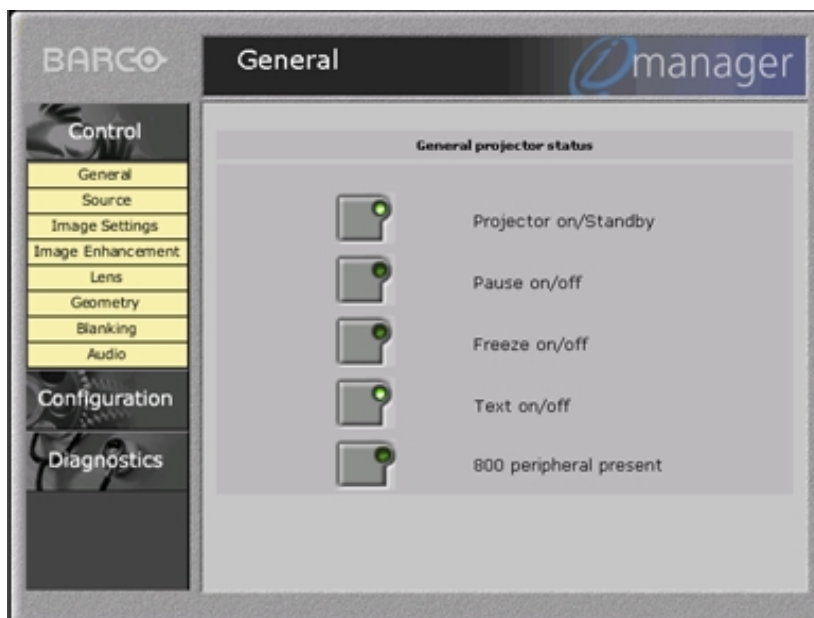


image6

The following items can be switched on or off :

Projector on/Standby
Pause on/off
Freeze on/off
Text on/off

The 800 peripheral present item is not selectable, but if such a peripheral is present the green light lights up.

Source

By clicking on one of the buttons on the content pane, the indicated source is selected. The green light in the button lights up to indicate that this source is selected (image 7). When there is no signal on the selected slot, the projector returns to previous displayed source.

The source names next to the slot indications can be freely chosen. To enter or to change these names, go to 'Configuration' and select item 'Source'.



image 7

Image Settings

The image settings as Contrast, Brightness, Color, Tint, Sharpness, Phase and Gamma can be changed by (image 8) :

- 1 moving with the mouse the slide bar up or down,
- or
- 2 clicking on the up or down arrow on the edges of the slide bar.

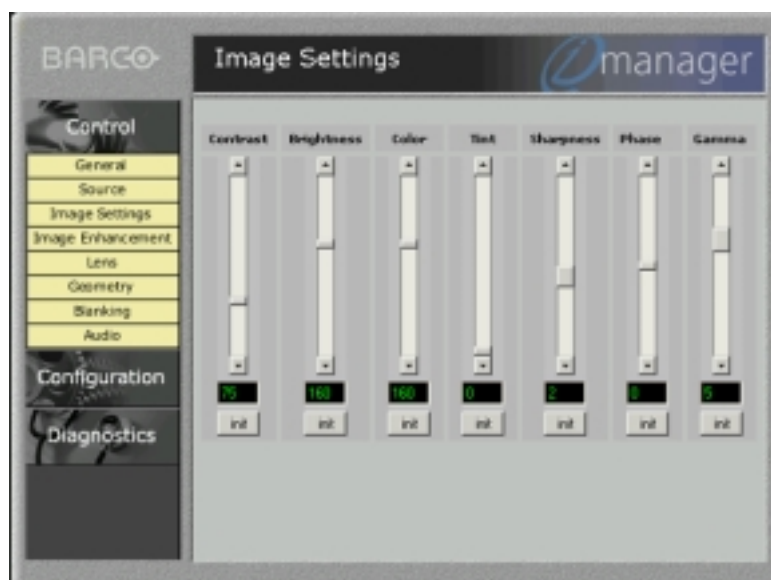


image 8

A value indication for the setting will be given just below the slide bar of the adjustment. Changing a setting will have immediate influence on the displayed image.

Click on init to go back to the default value.

Attention :

While changing one off these image settings with the RCU, the values indicated on the image settings web page will only be changed after 15 min.

Image Enhancement

Noise reduction (reduces noise and pixel jitter in all video and data sources) and dynamic color depth (increases color contrast for all video and data sources) can be changed by (image 9) :

1 moving with the mouse the slide bar up or down,

or

2 clicking on the up or down arrow on the edges of the slide bar.

A value indication for the setting will be given just below the slide bar of the adjustment.

Click on init to return to the default value.

The CTI (color transient improvement, to improve the transition from one color to another) can be switched on or off.

Decoding : the possibility is offered to decode the NTSC video signals via the default American IRE standard or via the European EBU standard. Decoding a NTSC signal using the European EBU standard may result in a greenish tint.

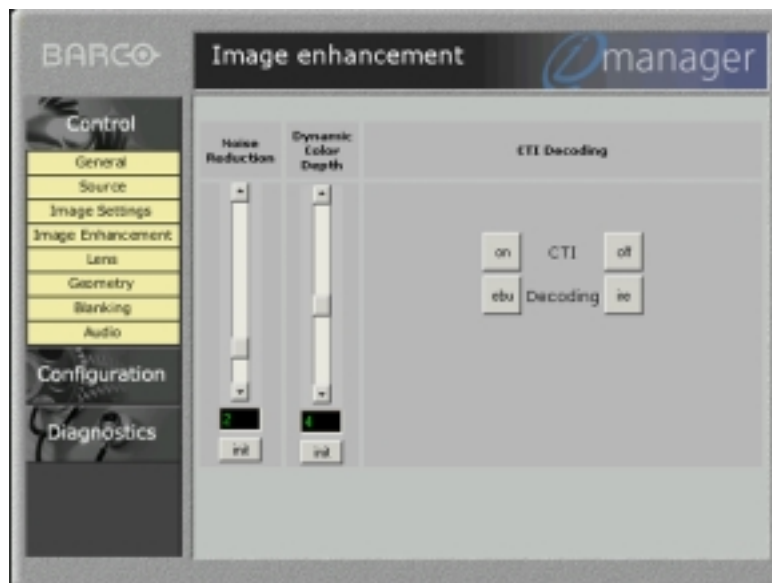


image9

Attention :

While changing one off these enhanced image settings with the RCU, the values indicated on the enhanced image settings web page will only be changed after 15 min.

Lens adjustment

The lens adjustment can be done with lens web page (image 10).

Zoom : click on '+' to zoom out,
click on '-' to zoom in.

Focus : click on 'near' for a image which is focussed in front of the screen
click on 'far' for a image which is focussed behind the screen

Lens shift : click on the arrow up or down to shift the image in a vertical direction (- 2 mm to + 20 mm)
click on the arrow left or right to shift the image in a horizontal direction (- 5 mm to + 5 mm)



image10

Geometry adjustment

Shift, Size and Keystone can be adjusted (image 11).

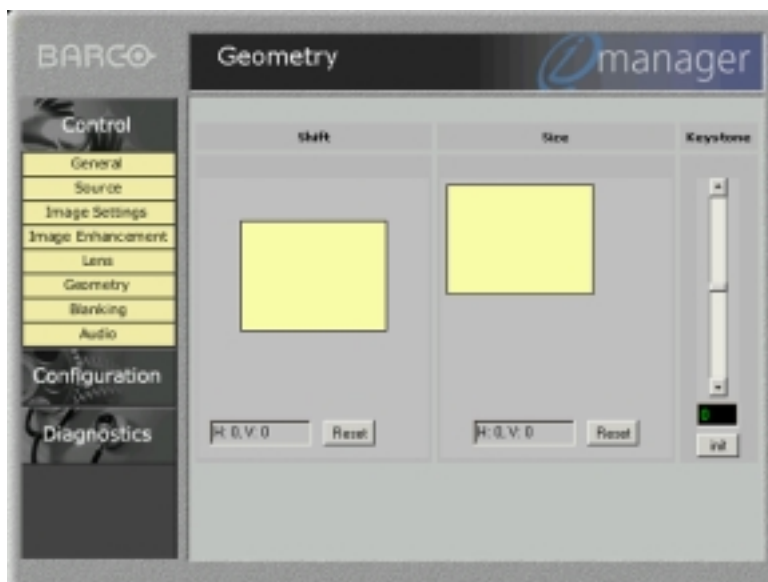


image11

Shift adjustment :

- 1 Click and drag the yellow screen in the direction you want to shift the image (steps of 8 pixels). The black screen indicates its initial position. The shift values are given in a text box below the shifted image.

or

- 2 Click once with the mouse on the shift screen and use the cursor keys on the keyboard to shift the image (steps of 1 pixel). The black screen indicates its initial position. The shift values are given in a text box below the shifted image.

To return to the default position, click on Reset.

Size adjustment :

The size can be adjusted in a vertical or horizontal way.

When adjusting the vertical size,

The upper side of the image is fixed (table and ceiling mounted configurations) and only the lower side can be moved to its exact position. Therefore :

- 1 Click on the lower side of the image and drag it up or down until its correct position is obtained (steps of 8 pixels).
- or
- 2 Click once on the size screen and use the **↑** or **↓** keys on the keyboard to resize the image (steps of 1 pixel).

When adjusting the horizontal size, the left side of the image is fixed and only the right side can be moved to its exact position.

Therefore:

- 1 Click on the right side of the image and drag it to the left or right until its correct position is obtained (steps of 8 pixels).
- or
- 2 Click once on the size screen and use the **←** or **→** keys on the keyboard to resize the image (steps of 1 pixel).

The black screen indicates its initial position. The size values are given in a text box below the resized image.

To return to the default position, click on Reset.

Keystone adjustment :

Keystone adjustment can be changed by (image 11) :

- 1 moving with the mouse the slide bar up or down,
- or
- 2 clicking on the up or down arrow on the edges of the slide bar.

A value indication for the setting will be given just below the slide bar of the keystone adjustment.

Click on init to return to the default value.

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' value in the text box indicates no blanking.

Blanking adjustment can be adjusted by (image 12) :

- 1 Click on a side of the image and drag up/down or left/right until the desired blanking is reached (steps of 8 pixels).
- or
- 2 Click on the arrows of the chosen side until the desired blanking is obtained (every click is one pixel).

The blanking values are given in a text box below the image.

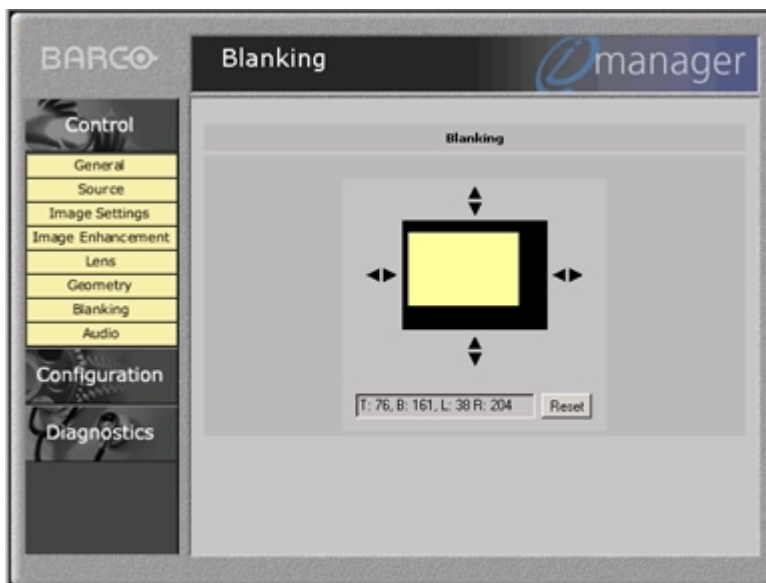


image 12

To return to the default position, click on Reset.

Audio adjustment

The audio settings as Volume, Bass, Treble, Balance or Fade can be changed by (image 13) :

- 1 moving with the mouse the slide bar up or down,
- or
- 2 clicking on the up or down arrow on the edges of the scroll bar.



image13

A value indication for the setting will be given just below the scroll bar of the adjustment. Changing a setting will have immediate influence on the produced sound

Click on init to return to the default value.

Attention :

While changing one off these audio settings with the RCU, the values indicated on the audio settings web page will only be changed after 15 min.

Configuration

Start Up

To start up the configuration window :

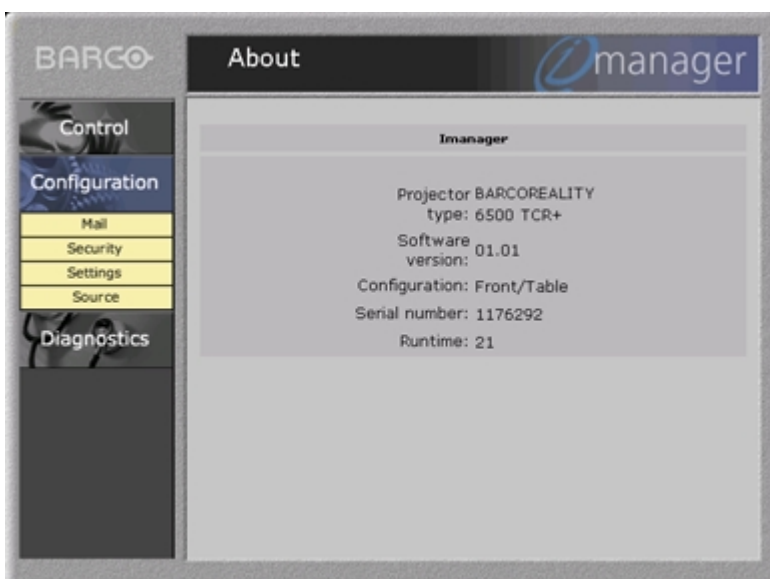


image14

- 1 Click on configuration.
A drop down menu will be displayed (image 14).

Available items

Mail setup : to configure up to 3 mail address for auto feedback on a pre-defined time.

Security : set up of access password for the user and changing the administrator password.

Settings : to set up the projector name, location and mail server address.

Date & Time : set the date/time and time zone for your projector.

Source : to enter a name or nick name for each slot. These names will be visible on the Control Source screen.

Security

When selecting an item in the configuration drop down menu, the security login and password for administrator will be asked (image 15).

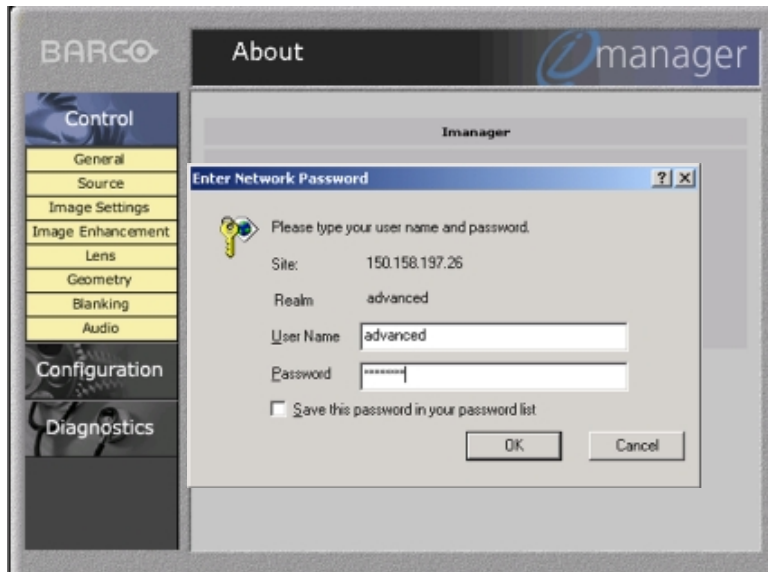


image 15

Factory fitted administrator user name and password are twice 'admin'.

The system administrator can change the administrator user name and password (see Configuration, Securities).

Once your password is correctly entered, all items in the configuration menu are available.

Mail Setup

3 mail addresses can be configured to send feedback about the status of the projector at different time intervals . The content of the mail can be selected during configuration of the mail setup.

To set up a mail configuration, handle as follow (image 16):

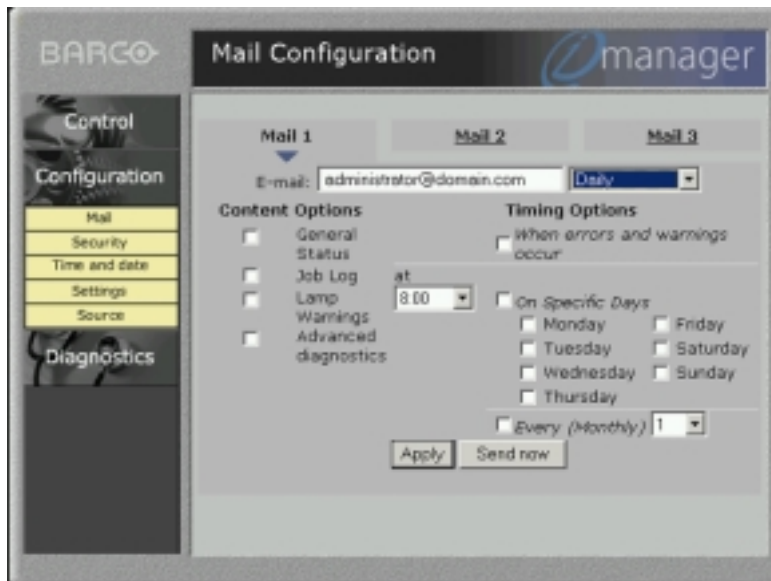


image 16

- 1 Select one of the headings 'Mail 1', 'Mail 2' or 'Mail 3'.
- 2 Fill out the E-mail address with an existing E-mail address.
- 3 Select the content options by selecting the appropriate options.
The following options are available :
 - General Status (contains Projector type, Serial number, Software version, Configuration, Projector runtime, Lamp runtime)
 - Job Log
 - Lamp Warnings
 - Advanced diagnostics (contains I²C errors)
- 4 Fill out the timing options.
Select the desired timing by clicking in the drop down box next to the e-mail address box.
The following options are possible :
 - Daily
 - Weekly
 - Monthly

If Daily is selected :
fill out the exact hour in the 'at' area.

If Weekly is selected :
fill out the exact hour in the 'at' area and select a day (or days) out of the list.

If Monthly is selected :
fill out the exact hour in the 'at' area and select the day of the month in the 'every monthly' area.
- 5 Click 'Apply' to finish the configuration.

To send an E-mail immediately, click on 'Send now'.

Repeat the above steps for the other mail configurations if necessary.

Security

The administrator can add or change the advanced user password and the administrator password (image 17).

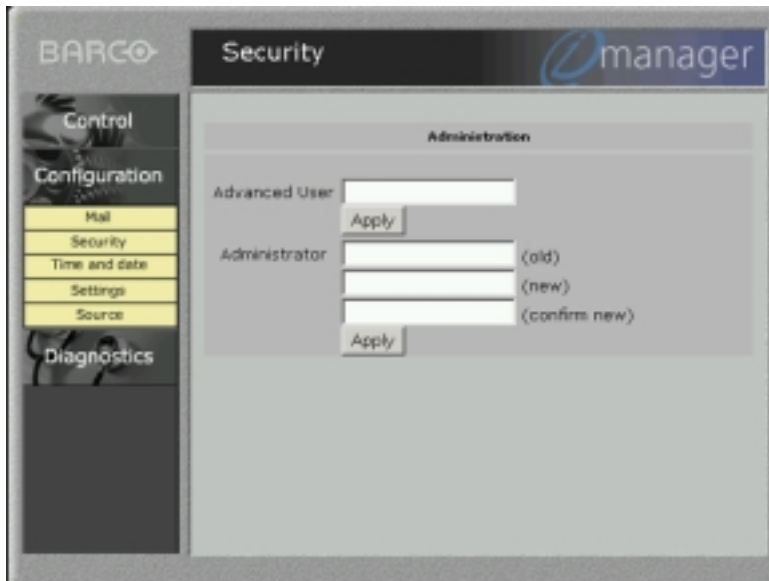


image17

Handle as follow to change the advanced user password :

- 1 Enter the new password. Only x's will be displayed on the screen while typing in the new password.
- 2 Click on apply to activate the password.

Handle as follow to change the administrator password :

- 1 Enter the old password. Only x's will be displayed on the screen while typing in the password.
- 2 Enter the new password.
- 3 Enter again the new password to confirm.
- 4 Click on apply to activate new the password.

Date & Time

The time and date can be set up (image 18).

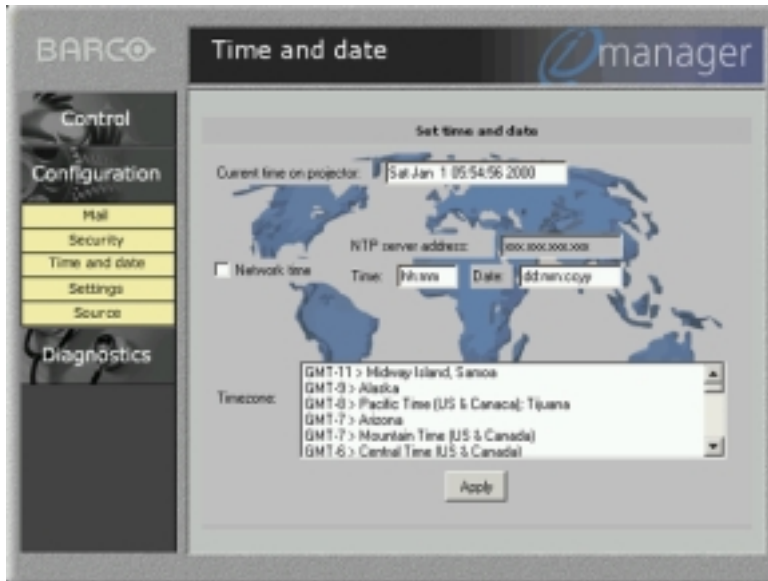


image 18

To set up the time and date, handle as follow :

- 1 Select the time zone by clicking on the corresponding time zone in the Time zone list.
 - 2 Select 'network time' by checking the network time box and fill out the IP-address of your local NTP server (network time protocol). This server gives normally the GMT time, but due to time zone indication, the correct time will be filled out in the time and date text box after Apply is click.
The 'Time' and 'Date' area will be grayed out but filled out with the correct time and date.
The current time on projector will be adapted.
- or
- 3 Fill out the time and date text box with the following mask :
Time : hh:mm
Date : dd-mm-ccyy
The NTP server address box will be grayed out.
 - 4 Click on Apply to activate.
The current time on projector will be adapted.

Remark :

Each time the projector is powered down, the date & time settings has be filled out again when chosen for the second methode.

Settings

The projector nick name, location and SMTP server address can be filled in (image 19).

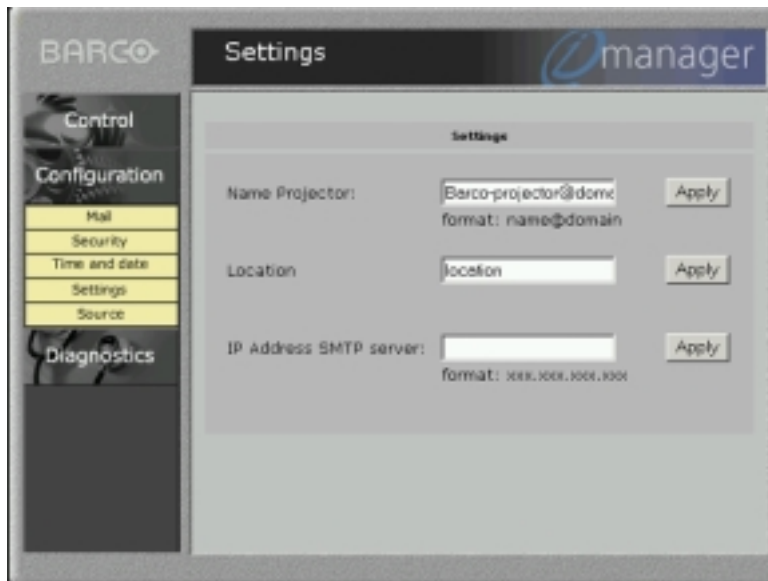


image 19

How to set up the settings :

Projector name :

- 1 Click in the projector name text field.
- 2 Fill out the projector nick name.
Use the format : name@domain
- 3 Click on apply to add the projector name to the general start up screen.

Projector location :

- 1 Click in the location text field.
- 2 Fill out the location.
- 3 Click on apply to add the location to the general start up screen.

IP address SMTP server :

- 1 Click in the SMTP server text field.
- 2 Fill out the IP address for the SMTP server (e-mail server).

Source

The source screen (image 20) allows to enter a name or nick name for each slot. These names will be visible on the Control Source

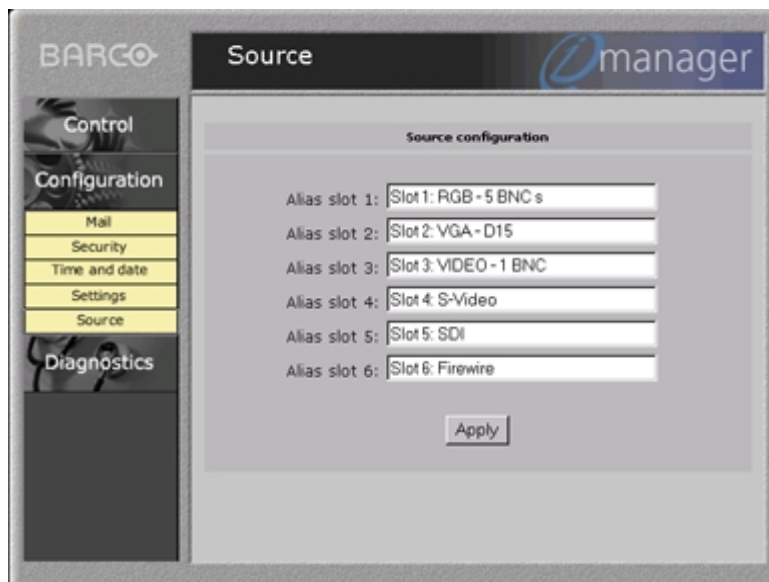


image 20

screen.

To enter a name, handle as follow :

- 1 Click in the corresponding text area.
- 2 Enter the name.
- 3 Repeat both steps for other slots.
- 4 When finished, click on 'Apply' to activate these names.
These names will become visible when selecting Control item Source.

Diagnostics

To start up the control window :

- 1 Click on Diagnostics.
A drop down menu will be displayed (image 21).

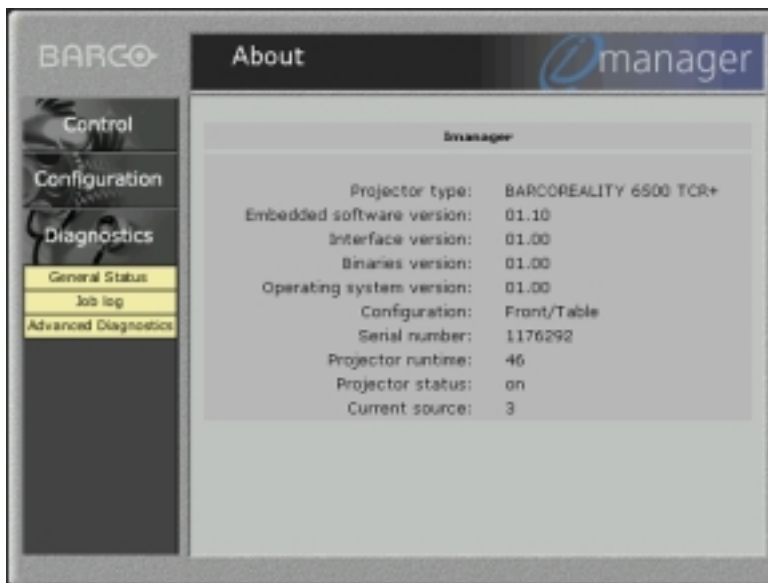


image 21

Available items

General Status :
Job Log
Advanced Diagnostics

General Status

The general status page gives an overview of the projector status, type of projector, current source, run time, lamp life time, software version.

Job Log

The job log screen (image 22) gives an overview of the last 30 logs stored in the projector.

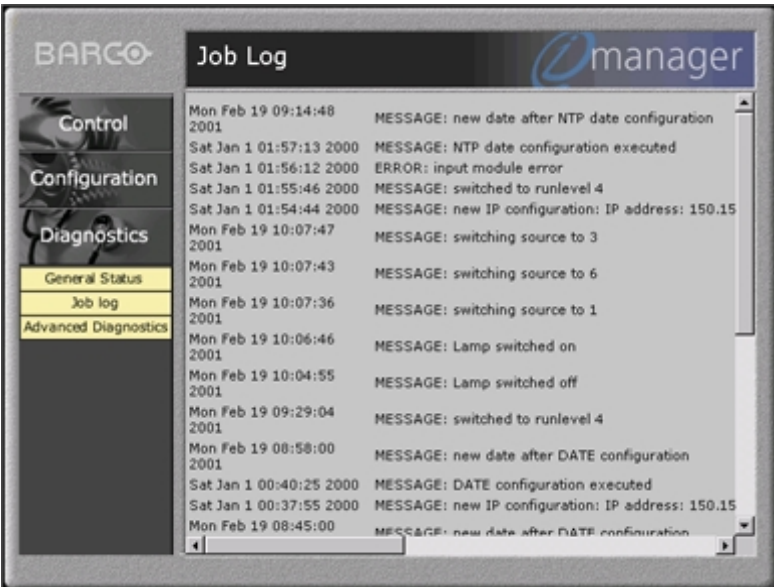


image22

Advanced Diagnostics

The advanced diagnostics screen (image 23) gives an overview of errors and warnings on motors, divices, I²C busses, drivers, etc.

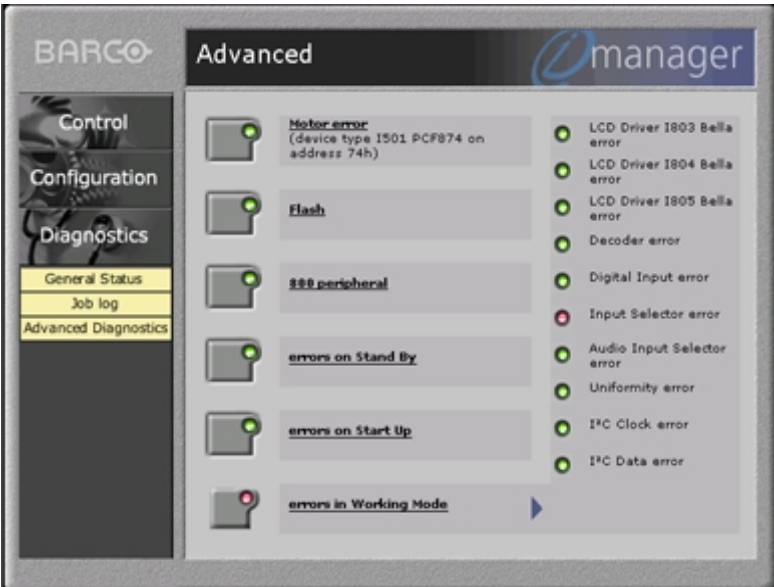
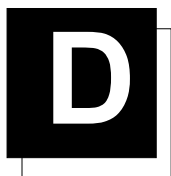


image23

When the lights in the buttons are green, no errors and no warnings for this projector at the moment. To see the possible errors or warnings of an item, click on the button to expand an error list on the right side of the advanced diagnostic screen. The lights before the items should be green.

When a warning or error occurred, one of the lights in the buttons will be red and the error list for that button will be expand on the right side of the advanced diagnostic screen. The occurred error should be indicated by a red light.



CLEANING THE DUSTFILTER

Cleaning the dustfilter

When should it be done ?

Depending on the environment, the dust filters should be cleaned at least when replacing the lamp.
When the projector operates in dusty environment, clean the dust filters earlier than when replacing the lamp.

How to clean the dustfilter ?

To clean the dustfilter, follow the next procedure :

- 1 Turn the projector upside down.
- 2 Turn out the 2 fixation screws of both dust filters (image 1 & 2).
- 3 Clean the dust filter with a dry cloth.
- 4 Re-insert the dust filter.
- 5 Secure their position by insertion and tightening 2 fixation screws.

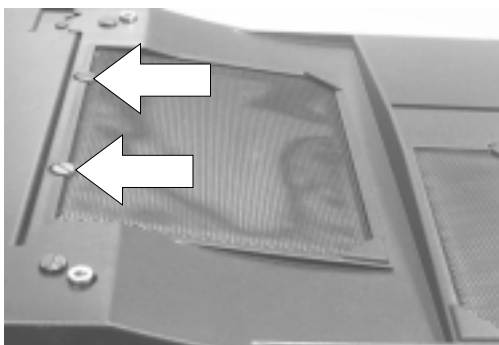


Image 1

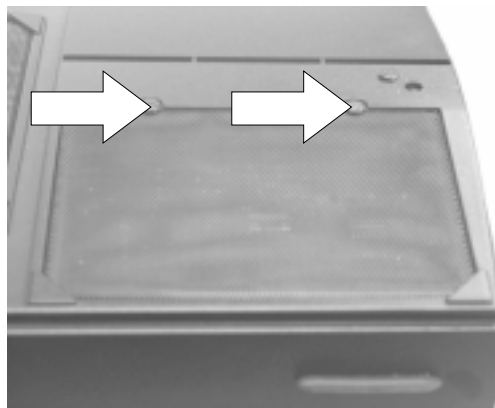
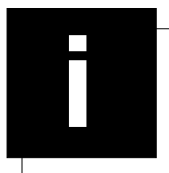


Image 2



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