BARCO

SIMULATION PRODUCTS

BARCO GALAXY

R9040310
R9040311

OWNER'S MANUAL

TABLE OF CONTENTS

1. SAFETY INSTRUCTIONS

1.1 Warnings

To prevent personnel injury

The customer should never attempt to disassemble the lamp casing or to dispose of the lamp casing other than by returning it to BARCO.

To prevent injuries and physical damage, always read this manual and all labels on the system before connecting to the wall outlet, or adjusting the projector.

To prevent injuries, take note of the weight of the projector. Minimum 2 persons are needed to carry the projector.

NEVER look into the lens ! Due to the high luminance damage to the eye can happen.

Before attempting to remove the projector's cover, you must turn off the projector and disconnect from the wall outlet.

When performing set up work at a ceiling mounted projector, to prevent injury caused by falling objects or the system, set out a keep out area.

Consult a professional structural engineer prior to suspending the ceiling mount from a structure not intended for that use. Always ensure the working load limit of the structure supporting the projector.

The power input at the projector side is considered as the disconnect device. When mentioned to switch of the projector, to access some parts inside, always disconnect the power cord at the projector side.

To prevent projector damage

If the Air Filters are not regularly replaced, the air flow inside the projector could be disrupted, causing overheating. Overheating may lead to the projector shutting down during operation.

In order to ensure that correct airflow is maintained, and that the projector complies with Electromagnetic Compatibility requirements, it should always be operated with all of it's covers in place.

Ensure that nothing can be spilled on, or dropped inside the projector. If this does happen, switch off and unplug the mains supply immediately. Do not operate the projector again until it has been checked by qualified service personnel.

The projector must always be mounted in a manner which ensures free flow of air into its air inlets and unimpeded evacuation of the hot air exhausted from its cooling system. Heat sensitive materials should not be placed in the path of the exhausted air.

Special care should be used when DLP projectors are used in the same room as performant laser equipment. Direct or indirect hitting of a laser beam on to the lens can severely damage the Digital Mirror Devices (TM) in which case there is a loss of warranty

To prevent battery explosion

Danger of explosion if battery is incorrectly replaced.

Replace only with the same or equivalent type recommended by the manufacturer.

Dispose of used batteries according to the manufacturer's instructions.

1.2 FCC statement

Federal Communication Commission (FCC Statement)

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

1.3 Note

Definitions

Definition Qualified service technicians or Qualified technicians : Persons having appropriate technical training and experience necessary to be aware of hazards to which they are exposed in performing a task and of measures to minimize the danger to themselves or other persons.

Extra Safety manual

Read also safety instructions in separate manual (**R5976125**).

2. PACKAGING AND DIMENSIONS

This chapter handles about the way the projector is packed and gives an overview of the dimensions.

• Box Content
• Lens Packaging
• Projector Case

2.1 Box Content

Content

• 1 projector BARCO Galaxy (weight ± 46.5 kg or 102.5 lbs)
• 1 remote control unit + 2 batteries (1,5V)
• 1 European and 1 American power cable
• 1 owner's manual

2.2 Lens Packaging

Way of Packaging

Lenses are supplied as an individual item.

They are packed in a carton.

2.3 Projector Case

Dimensions

The dimensions are given in mm and inch (25.4 mm = 1 inch).
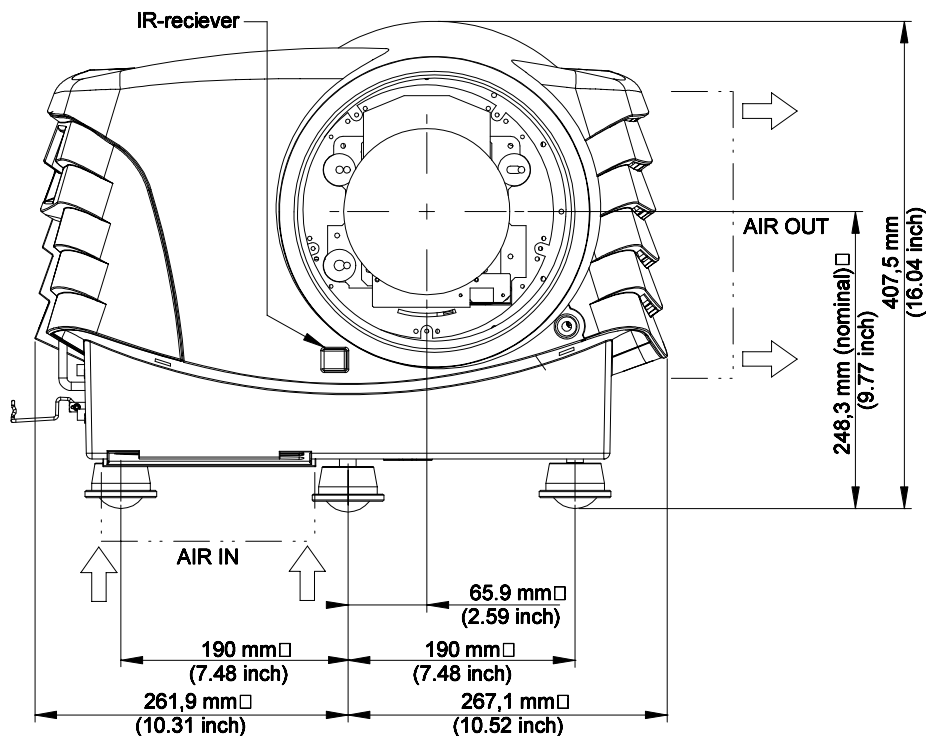
Image 2-1
Front view dimensions

Image 2-2
Left view dimensions
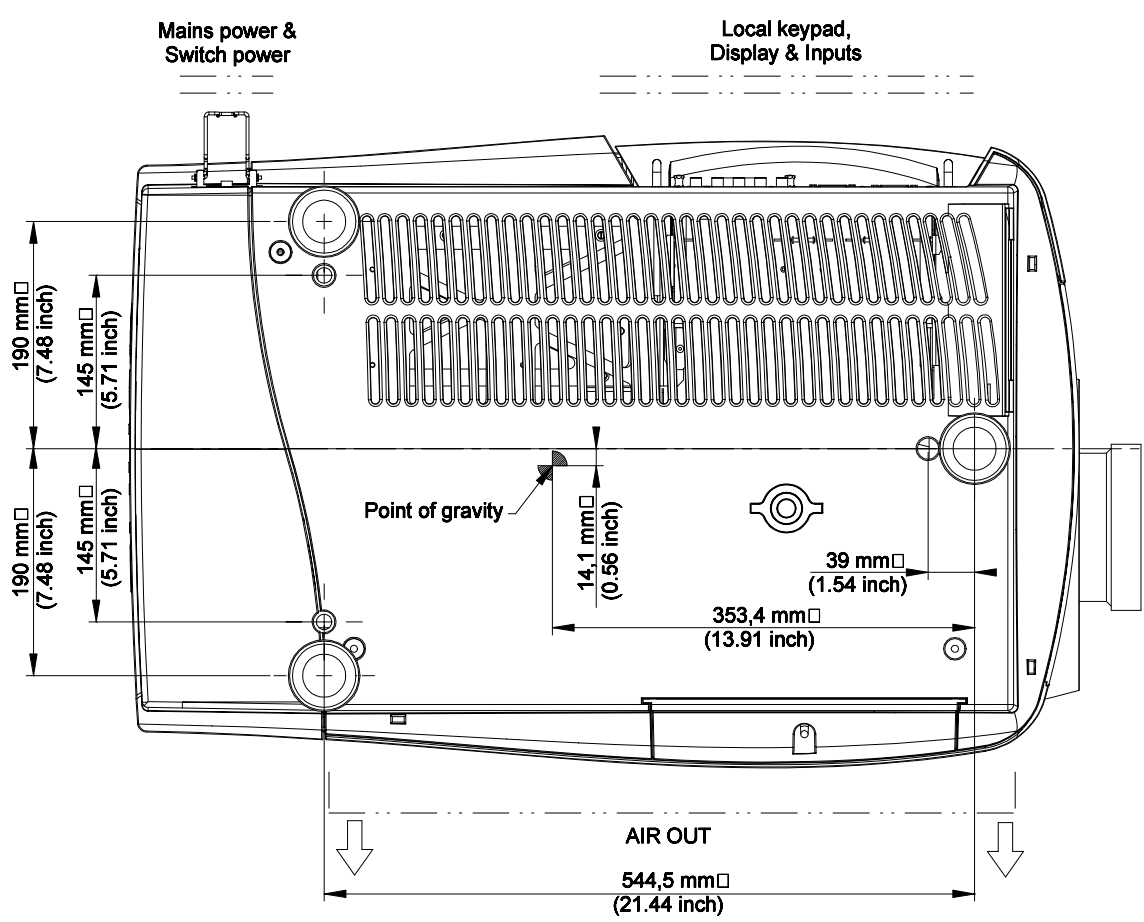
Image 2-3
Bottom view dimensions

3. INSTALLATION GUIDELINES

Overview

- General
- Configuration
- Safety Area arround the projector
- Re-adjusting the lamp position in the lamp casing
- Lenses
- Battery Installation in the RCU

Never use the projector when turned with the inputs downwards.

The engines are non sealed versions.

3.1 General

Before installing the projector, read first the safety instructions.

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 : 35°C or 104 $^{\circ}$F

Min. ambient temperature : 10 $^{\circ}$C or 50 $^{\circ}$F

The projector will not operate if ambient air temperature falls outside this range (10°C- 35°C or 50°F-10°F-95°F).

Storage temperature: -35°C to +65°C (-25.6°F to 149°F)

Humidity Conditions

Storage: 0 to 98 % RH Non-condensing

Operation: 0 to 95 % RH Non-condensing

Harmful Environmental Contamination Precaution

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

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 optoelectronics 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.

Special Care for Laser Beams

Special care should be used when DLP projectors are used in the same room as performant laser equipment. Direct or indirect hitting of a laser beam on to the lens can severely damage the Digital Mirror Devices (TM) in which case there is a loss of warranty

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.

What image size? How big should the image be?

The projector is designed for projecting an image size : min 1.00m (3.3ft) to max (15 m 49.2ft) (depending on the ambient light conditions), with a aspect ratio of 4 to 3.

3.2 Configuration

Which configuration can be used?

The projector can be installed to project images in four different configurations.
- Front Table
- Front Ceiling
- Rear Table
- Rear Ceiling

Positioning the projector

The Projector should be installed perpendicular with the screen on a distance PD and water leveled in both directions. The mounting positions in following images are shown for a nominal lens position.

Front Table

Side view

Projector

PD

Optical axis projection lens

SH

A

Screen

CD=SH/2+B-A

B

Floor

Top view

Optical axis projection lens

SW

Screen

Back view

SW

SH

Floor

Definitions on the abbreviation on the drawings:
A = Correction value.
B = Distance between floor and bottom of the screen.
CD = Total distance between projector and floor.
SW = Screen Width.
SH = Screen Height (Image height).
PD = Projector Distance, distance between screen and projector.

Image 3-1
Front table configuration
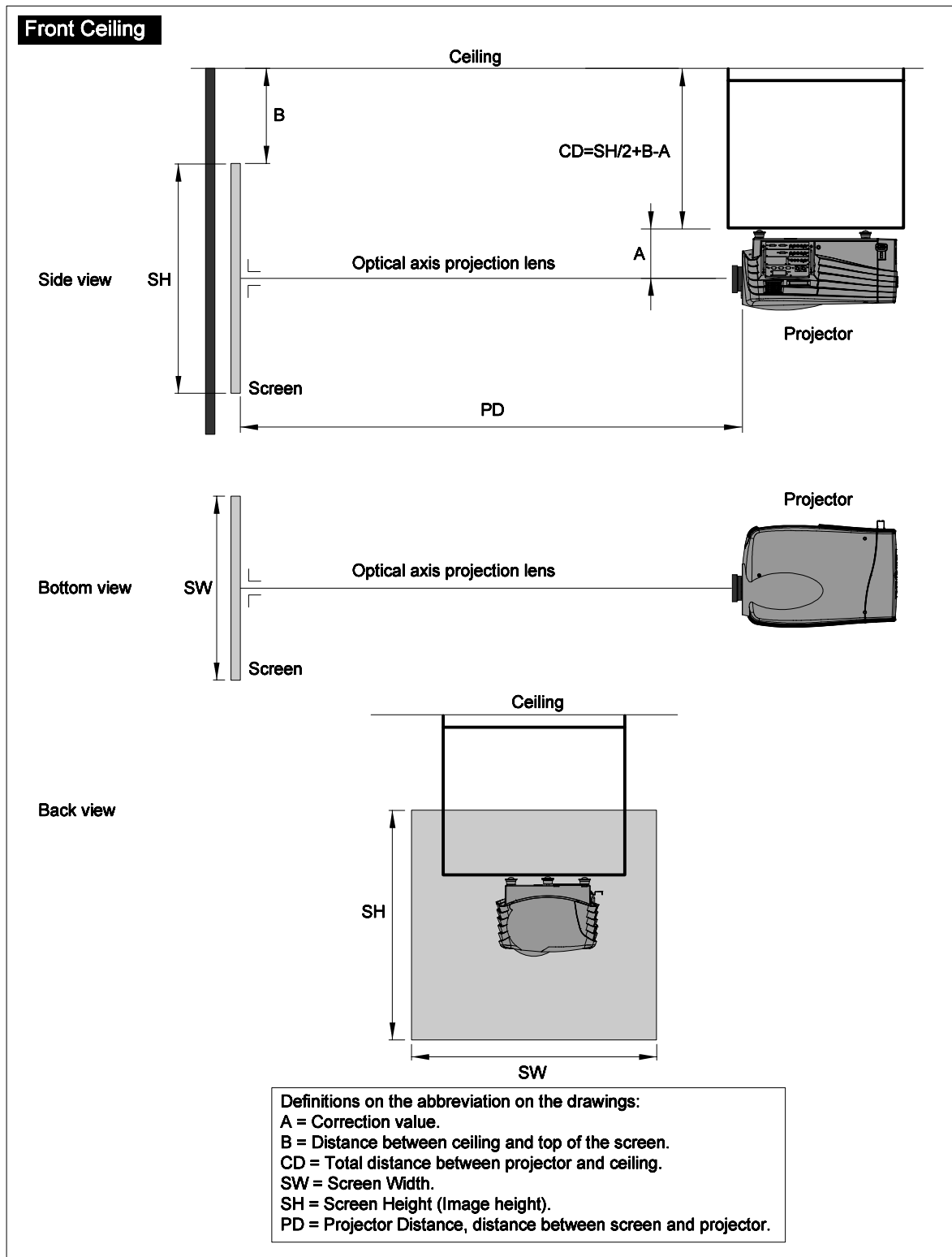
Image 3-2
Front ceiling configuration

3.3   Safety Area arround the projector

Safety area

Make sure the projector is located so that the air inlets and outlets for the cooling system are not obstructed. Leave a safety area A of about 1 meter on the left and the right side of the projector.
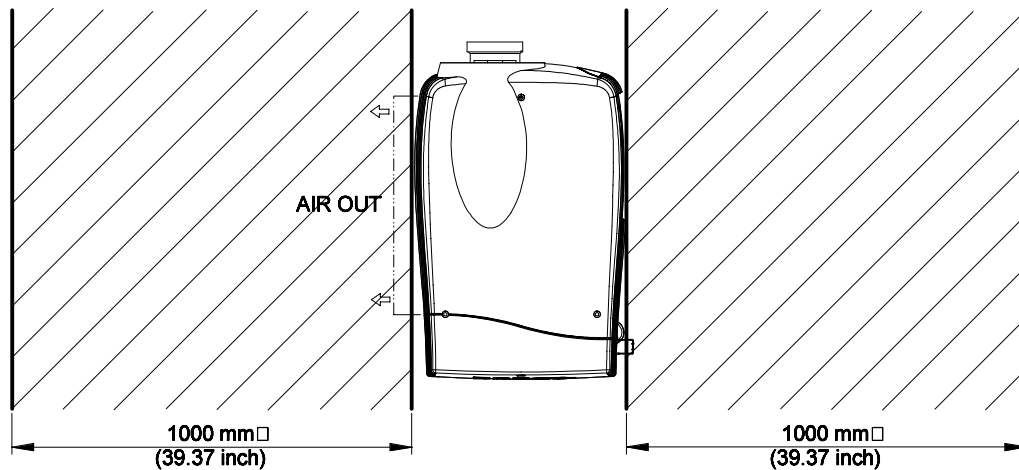
Image 3-3

3.4 Re-adjusting the lamp position in the lamp casing

As the projector has to be opened, this procedure has to be performed by qualified service technician.

Why

With higher run times, the light output of the lamp will decrease, which results in a lower light output on the screen. This light output decrease can be compensated by readjusting the position of the lamp.

How to readjust.

1. On the side of the inputs, turn the retaining bolt a quarter counter clockwise.

2. Flip the cover to the left side and take off. (image 3-4)

3. Start up the adjustment mode and select *Service*. (menu 3-1)

4. Select Lamp. The Z-axis indication (lamp menu in service mode) will be helpful while turning screw B . (menu 3-2)

5. Loosen the nut A (image 3-5)on the back of the lamp casing (nutdriver 10).

6. Adjust the screw B (image 3-5)with an Allen key by turning a little clockwise until the maximum light output is reached (the maximum value of the Z-AXIS indication on the lamp menu).

7. Fasten the nut on the back of the lamp casing to secure this position (nutdriver 10).

```
        ADJUSTMENT MODE

   Select a path from below :

        RANDOM ACCESS
         INSTALLATION
           SERVICE




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

Menu 3-1

```
           SERVICE

         IDENTIFICATION
        CHANGE PASSWORD
        CHANGE LANGUAGE
      CHANGE PROJ. ADDRESS
      SERIAL COMMUNICATION
            NETWORK
             LAMP
            MORE...


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

Menu 3-2

```
             LAMP

    Constant Light output [OFF]
         Mode [NORMAL]
     Serial number :  R101111
     Article number :  R9840xxx
       Run time :  10 hours
    Remaining run time :   490
             hours
    Number of strikes :  10
          Z_AXIS : 100



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

Menu 3-3

Image 3-4
Lamp adjustment access
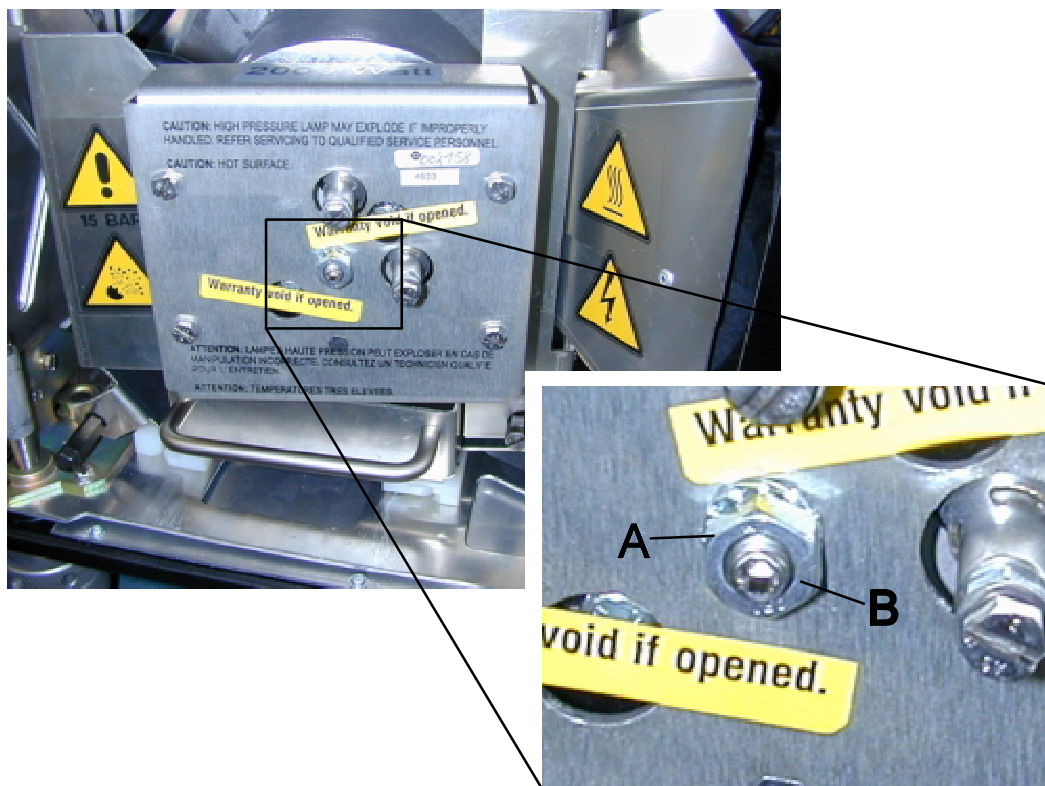
Image 3-5

⚠	**Never turn the other screws ! These are factory aligned.**

3.5 Lenses

Overview

- Lenses
- Lens selection
- Lens formulas
- Lens Installation
- Cleaning the lens

3.5.1 Lenses

Available lenses

TLD(1.6–2.0:1)	**R9840670**
TLD(2.0–2.8:1)	**R9840680**
TLD(2.8–5.0:1)	**R9840690**
TLD(1.2:1)	**R9840770**
TLD(0.8:1)	**R9840900**
TLD(5.0–8.0:1)	**R9840910**

3.5.2 Lens selection

How to select ?

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.

3.5.3 Lens formulas

Formulas

	Metric formulas (meter)	Inch formulas (inch)
TLD(0.8:1)	PD=0.84xSW-0.05	PD=0.84SW-1.97
TLD(1.2:1)	PD=1.20xSW-0.01	PD=1.20xSW-0.39
TLD(1.6–2.0:1)	PD_{min}=1.59xSW-0.09 PD_{max}=2.00xSW-0.13	PD_{min}=1.59xSW-3.54 PD_{max}=2.00xSW-5.12
TLD(2.0–2.8:1)	PD_{min}=2.00xSW-0.17 PD_{max}=2.84xSW-0.24	PD_{min}=2.00xSW-6.69 PD_{max}=2.84xSW-9.45
TLD(2.8–5.0:1)	PD_{min}=2.80xSW-0.16 PD_{max}=5.10xSW-0.38	PD_{min}=2.80xSW-6.30 PD_{max}=5.10xSW-14.96
TLD(5.0–8.0:1)	PD_{min}=4.90xSW-0.01 PD_{max}=8.16xSW-0.29	PD_{min}=4.90xSW-0.39 PD_{max}=8.16xSW-11.42

> Lens program to calculate the projector distance is available on the BARCO web side : http://www.barco.com/projection systems/customer services/lens program.asp

3.5.4 Lens Installation

How to install ?

Follow the next procedure:

1. Remove the foam rubber in the opening of the lens holder.

2. Take the lens assembly out of its packing material and remove the lens caps on both sides.

3. Move the handle (A) of the lens anchor system to the right. (image 3-6)

4. Push the lens, motors at the top, in the lens block gap horizontally, lining up the motor connector on the lens with the connector on the lens block (B), until the lens clicks in the lens anchor system. (image 3-7)
   Caution: *On a table mounted projector, hold the projector when pushing the lens into the lens block to avoid sliding off from the table.*
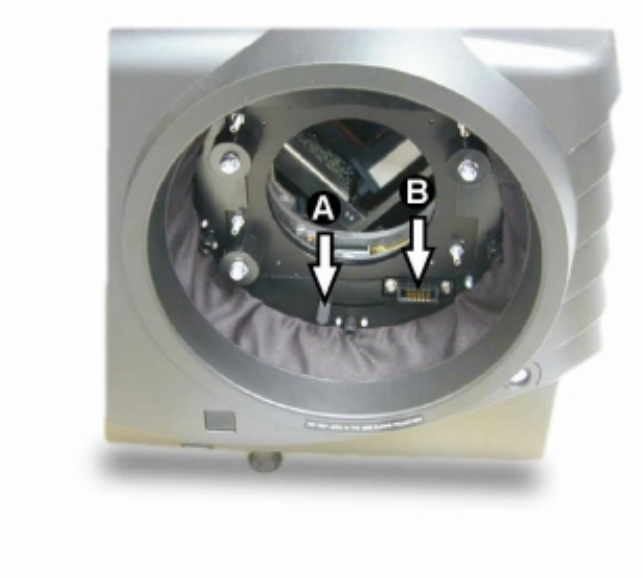
Image 3-6
Lens installation

Image 3-7
Mounted Lens

3.5.5 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.

Necessary tools

Toraysee™ cloth (delivered together with the lens kit). Order number : R379058.

How to clean the lens ?

Proceed as follow :

1. Always wipe lenses with a CLEAN Toraysee™ cloth.

2. Always wipe lenses in a single direction.
   Warning: *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.

Do not use fabric softener when washing the cleaning cloth or softener sheets when drying the cloth.

Do not use liquid cleaners on the cloth as doing so will contaminate the cloth.

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

3.6 Battery Installation in the RCU

How are the batteries delivered ?

The batteries (not yet installed to save the battery life time) are delivered inside the plastic bag with the power cord.

How to install

1. Remove the battery cover on the backside of the remote control by pushing the indicated 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 2 new 1,5 V batteries as indicated in the RCU. (image 3-8)

4. Put the battery cover back on its place.
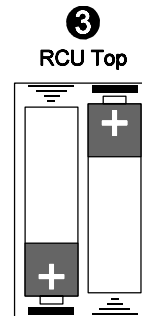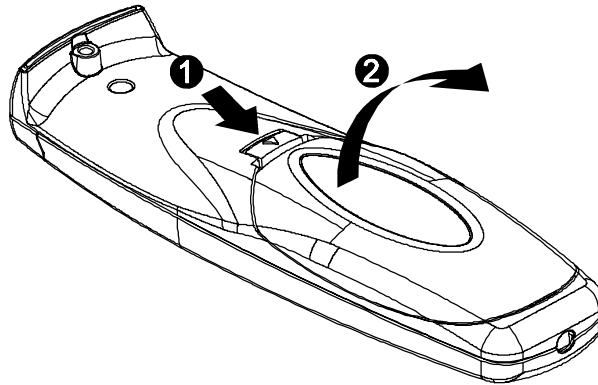
Image 3-8
Battery installation

4. STEREO MODE

4.1 Stereo Source Specifications

Stereo Source Specifications

- Maximum Vertical frequency is 110 Hz.
- Maximum Horizontal Frequency is 113.63 KHz.
- Pixel clock of incoming signal must exceed 150 MHz and be lower than 205 MHz.
- The Active number of pixels has to be 1280x1024 for stereo operation.

4.2 Running in Stereo Mode

When does the projector run in Stereo Mode ?

- It is possible to program a Turnover frequency for the BARCO Galaxy projector, when a source is detected with a vertical frequency that exceeds this Turnover point the projector will switch from Mono Mode to Stereo Mode.
- Going in Stereo Mode will enable Stereo Phase, Invert Stereo and the Stereo Timings menu, at the same time the Geometry Adjustment menus and Gamma Menu are disabled.

Why distorted images in Stereo Mode when selecting a menu ?

As soon as you select a menu when running in Stereo Mode, the projector switches back to Mono Mode to enable the on screen display generated by the PMP. As a consequence, the stereo image might look a little bit distorted, this is normal as the PMP cannot handle such a high bit clock.

Rudimentary Barscale in Stereo Mode

When running in Stereo Mode an rudimentary barscale is displayed in the Bottom Right corner.

Image 4-1
Rudimentary Barscale in Stereo Mode

Pressing the ? key on the RCU or Local Keypad will force the projector to run in Mono Mode and will display the more detailed bar scale as displayed in Mono Mode, however since this is generated by the PMP a distorted stereo image will occur. Use the ? key to return to Stereo Mode.
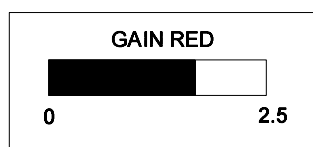
Image 4-2
Barscale in Mono Mode

4.3 Quick Stereo Set Up

How to set up a Stereo Source ?

1. Connect the Image Generator and Stereo Emitters to the projector(see chapter 5. Connections, Input 1 & 2, page 23)(see chapter 5. Connections, Left/Right Phasing module (Input 3), page 25).

2. With the File Load menu you have to select a memory block that matches your source as close as possible. (some standard source are already on board e.g. SGI_108 and SGI_110 other will follow)(see chapter 8. Random Access Adjustment Mode, Load file, page 40).

3. *Edit* the memory file and set the total and active number of pixels both horizontal and vertical to the appropriate values(see chapter 8. Random Access Adjustment Mode, Edit File, page 41).

4. Select the second page and adjust the clamping delay and width (these values will be lower compared to standard mono sources)(see chapter 8. Random Access Adjustment Mode, Correct value, page 42).

5. *Save* the changes to the memory file.

6. Select the *Stereo Options* in the main menu, put *Invert Phase* to ON and adjust the *Stereo Phase.*(see chapter 8. Random Access Adjustment Mode, Stereo Options, page 56).

7. Select *Stereo Timings*, adjust the vertical back porch and horizontal delay.(see chapter 8. Random Access Adjustment Mode, Stereo Timings, page 59).

5. CONNECTIONS

Overview

- Power connection
- Switching On
- Switching to standby
- Switching off
- Input Source Connections
- Communication Connections

5.1 Power connection

AC Power 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 left of the projector. The power input is 230 VAC.

Fuses

For continued protection against fire hazard :

- refer replacement to qualified service personnel.
- ask to replace with the same type of fuse (T7 AH/250V).

5.2 Switching On

How to switch on ?

1. Press the power switch to switch on the projector.
   - When '0' is visible, the projector is switched off.
   - When '1' is visible, the projector is switched on.

   The projector starts in standby mode. The projector indication lamp is red.

Starting image projection

1. Press **Stand by** key once on the local keypad or on the remote control. (image 5-1)

   The projector mode indication lamp will be green.
   Or,
   Press a digit button to select an input source.
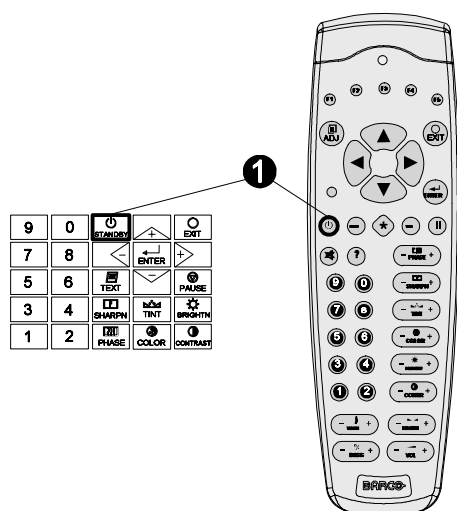
Image 5-1
Stand by keys on RCU and local keypad

Lamp run time indication while running

When the total run time of the lamp is 30 hours less then 1000 or 1500 (depending on the lamp type), 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.

When the total run time of the lamp is 1000 or 1500 (depending on the lamp type) hours or more, the following warning message, with the exact run time is displayed on the screen.
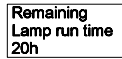
```
Remaining
Lamp run time
20h
```
Image 5-2

Lamp run time is 1000 or 1500 (depending on the lamp type) hours. Operating the lamp longer than 1000 hours may damage the projector. Please replace the lamp.

When **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 or 1500 (depending on the lamp type) hours max. Do not use it longer. Always replace with a same type of lamp. Call a BARCO authorized service technician for lamp replacement.

> ⚠ **Using a lamp for more than 1000 or 1500 (depending on the lamp type) hours is dangerous as the lamp could explode.**

Lamp Light Output Indication

When starting up and the center lumens measurement is lower than 50 % of its initial value, the lamp light output warning will be displayed. Press **ENTER** to continue. The message will not be repeated during operation.

```
                WARNING

     Lamp run time is X hours
   The light output of the lamp
             is less
  than 50% of its initial value.
  It is advisable to replace the
             lamp
      before damage occurs.




        <ENTER> to confirm
```
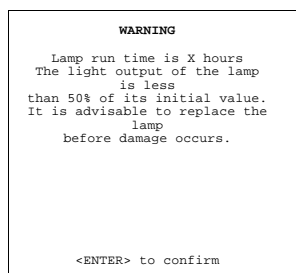
Menu 5-1

When the 'Constant Light Output' (CLO) options is installed, the light output message will appear on the screen when the light output is reduced with 33% from its initial value.

This message will be repeated every hour.

5.3 Switching to standby

How to switch to standby?

1. Press **Standby** to switch the projector to standby.

5.4 Switching off

How to switch off the projector?

1. Press first **Standby**.

2. Let cool down the projector until the fans stop blowing, at least 15 min.

3. Switch off the projector with the power switch.

5.5 Input Source Connections

5.5.1 Input Facilities

Overview input facilities
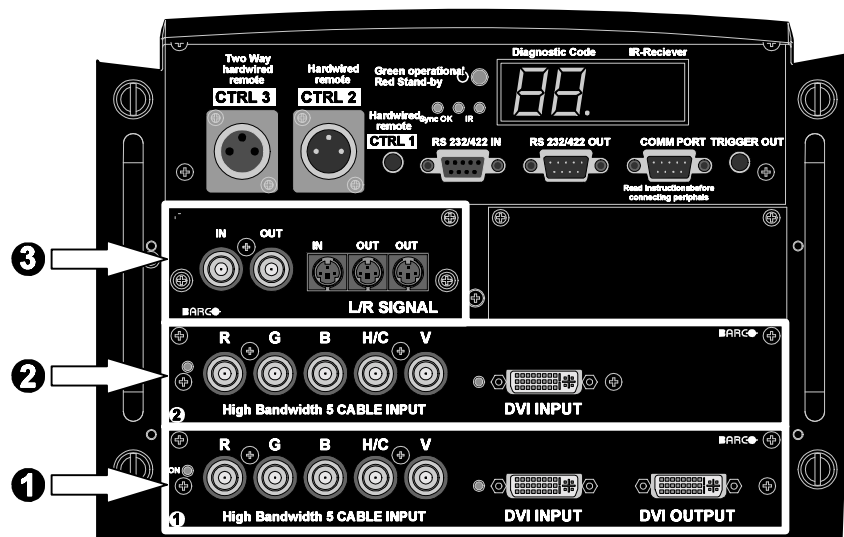
Image 5-3
Input Facilities

Input number	Type of input
1	5 cable input or DVI input and DVI output
2	5 cable input or DVI input
3	Left/Right Phasing module

5.5.2 Inputs via RCVDS05

Overview

When using a RCVDS05, the input configuration must be as follows:

slot 1	RGB/Component
slot 2	Video
slot 3	not used
slot 4	not used

When using a RCVDS05, it is recommended to use a 5-cable output module in the RCVDS. The outputs of this module has to be connected to slot 1 of the projector. To switch the projector in the 5-cable mode see 'Input slots' in the chapter Installation mode.

5.5.3 Input 1 & 2

Input 1 & 2 specifications ?

• Input 1& 2 have 5 BNC input terminals for 5 cable input and a DVI plug for DVI input.
• Within the installation mode it is possible to setup the input for 5 cable or DVI.
• Input 1 has also an DVI output for loop through to a second projector.
• Composite video and super video signals can be connected on Input 1 when an optional decoder is installed.
• Input 2 has no decoder so composite video and super video signals can not be connected.
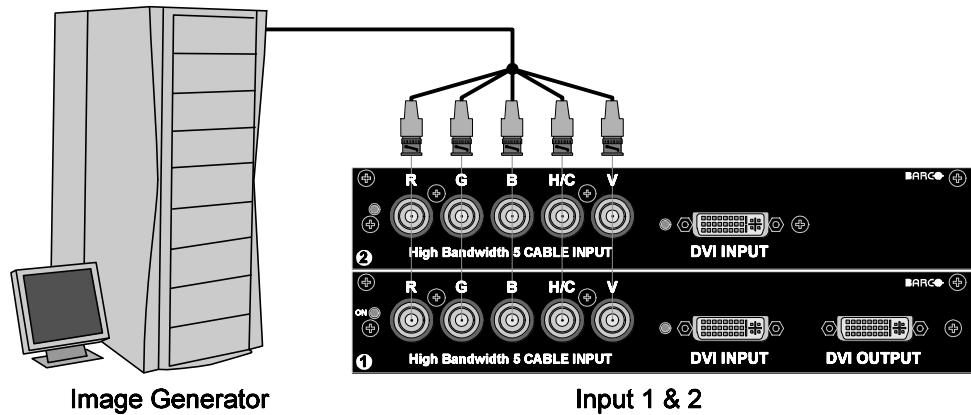
Image 5-4
Input 1 & 2 connection

Which signals can be connected to Input 1 & 2 ?

Connector name/ Input signal	R	G	B	H	V
RGBHV	R	G	B	H	V
RGBS	R	G	B	S	-
RGsB	R	Gs	B	-	-
Composite Video[1]	-	Video	-	-	-
Super Video[1]	-	Y	-	-	C
Component Video — SS	R-Y	Y	B-Y	S	-
Component Video — SOY	R-Y	Ys	B-Y	-	-

DVI signals can be connected to the DVI input connector.

Pin assignment for the DVI connector.

Pin 1	TMDS DATA2-	Pin 13	TMDS DATA3+
Pin 2	TMDS DATA2+	Pin 14	+5 Power
Pin 3	TMDS DATA2/4 Shield	Pin 15	Ground (for +5V)
Pin 4	TMDS DATA4-	Pin 16	Hot Plug Detect
Pin 5	TMDS DATA4+	Pin 17	TMDS DATA0-
Pin 6	DDC Clock	Pin 18	TMDS DATA0+
Pin 7	DDC Data	Pin 19	TMDS DATA0/5 Shield
Pin 8	No connect	Pin 20	TMDS DATA5-
Pin 9	TMDS DATA1-	Pin 21	TMDS DATA5+
Pin 10	TMDS DATA1+	Pin 22	TMDS Clock Shield
Pin 11	TMDS DATA1/3 Shield	Pin 23	TMDS Clock+
Pin 12	TMDS DATA3-	Pin 24	TMDS Clock-

How to select input slot 1 or 2 ?

1. Key in **1** or **2** on the RCU or on the local keypad.

---

1. Only available on Input 1 when an optional decoder is installed.

How to change the input slot setting?

1. Press **ADJUST** or **ENTER** key to start up the Adjustment mode.

2. Push the cursor key ↑ or ↓ to select *Installation*. (menu 5-2)

3. Press **ENTER**.

4. Press the cursor key ↑ or ↓ to select *Input Slots*. (menu 5-3)

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 or second slot. (menu 5-4)

```
        ADJUSTMENT MODE                      INSTALLATION                          INPUT SLOTS

   Select a path from below :              INPUT SLOTS                     1. RGB-SS [CV or HS & VS]
                                          800 PERIPHERAL                   2. RGB-SS [CV or HS & VS]
      RANDOM ACCESS                       SOURCE SWITCHING                 3. No module
      INSTALLATION                            NO SIGNAL                    4. No module
         SERVICE                           CONVERGENCE                     _____
                                          CONFIGURATION                   1. DVI OUTPUT [Active Image]
                                              LENS
                                         QUICK ACCESS KEYS
                                               OSD
                                         INTERNAL PATTERNS

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

Menu 5-2   Menu 5-3   Menu 5-4

Possible indications on the input slot menu.

- RGS-SS [CV or HS&VS] = RGB analog signals, separate sync is composite sync or horizontal and vertical sync.
- RGB-SS [CV] = RGB analog signals, separate sync is composite video.
- RGB-SOG [SOG or 3LSOG] = RGB analog signals, sync on green is composite sync or composite tri-level sync.
- COMPONENT VIDEO - SS [SS or 3LSS] = separate sync is composite sync or composite tri-level sync.
- COMPONENT VIDEO - SOY [SOY or 3LSOY] = component video with composite sync on Y or composite tri-level sync on Y.
- DVI
- VIDEO[1]
- S-VIDEO.[1]

When changing from an analog signal on the 5 cable module to the DVI input the indication led on the front panel of the module will switch from the 5 cable input to the DVI input.

5.5.4   Left/Right Phasing module (Input 3)

Purpose

The Left/Right Phasing module allows us to manipulate the Stereo Emitter Signal that activate the Stereo Glasses.

How to connect the stereo emitter signal ?

1. Connect the stereo emitter signal from the Image Generator to the input (BNC or Mini DIN) of the Left/Right Phasing module.

2. Connect the IR emitters to the output (BNC[2] or Mini DINS) of the Left/Right Phasing module. (image 5-5)

Image 5-5
Left/Right phasing module connections

---
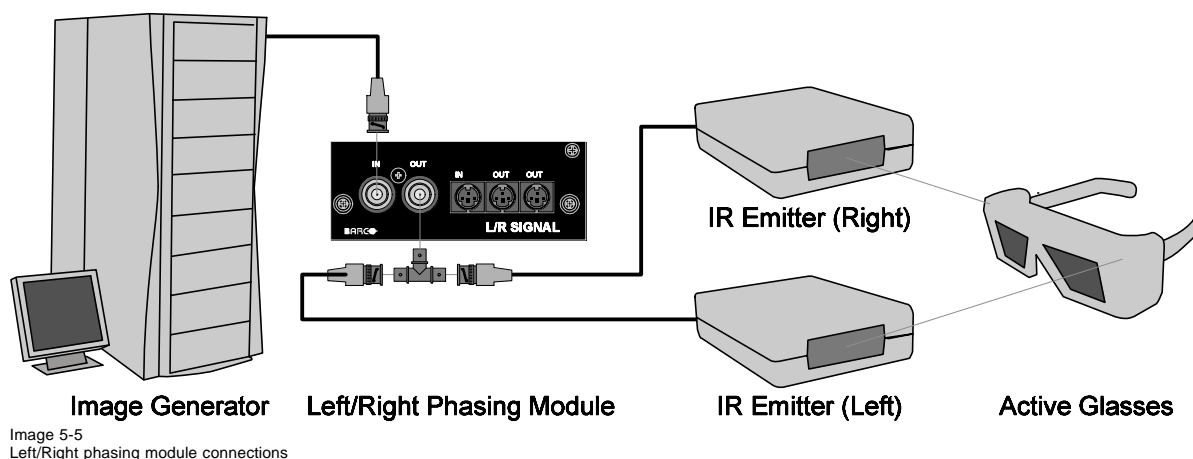
2. A BNC T-splitter is required.

5.6   Communication Connections

Overview

- RS232 (RS422) Connection
- Communication with peripherals
- Trigger output

5.6.1   RS232 (RS422) Connection

Application

1. Remote control :
   - easy adjustment of projector via an 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.
2. 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 Baud rate Setting, page 78.

5.6.2   Communication with peripherals

What is possible with an RCVDS05 connected.

- 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 RCVDS05, consult the owner's manual of the RCVDS05.

What is possible with an VS05 connected.

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

For more information about the use of the VS05, consult the VS05 owner's manual.

Connecting an IR Remote Receiver to the projector.

This infrared receiver unit makes it possible to control the projector from another room. There is a communication line cable between the IR receiver and the projector or the RCVDS. The control information from the RCU can now be sent to the IR Remote Receiver.

The IR Remote Receiver displays the selected source on a 7-segment display.

Connecting a Rugged Remote to the projector.

The Rugged Remote Control allows following functions:
- Remote mode : sends actions to and reads information from the projector.
- Lamp read mode : reads information stored in the lamp information module.

The following types of Rugged Remote Control are available:
- wireless (order number **R9840171**)
- wired to CTRL3 (order number **R9840170**)

For more information about the use of this remote control, consult the user manual R5976251.

5.6.3   Trigger output

Purpose

This trigger output can deliver a 5 V output voltage to trigger an external device (max. 10 mA). This voltage is available when the projector is on.

6. GETTING STARTED

Overview

- RCU & Local keypad
- Terminology overview
- Operating the projector
- Quick Set Up Adjustments
- Using the RCU
- Projector Address
- Controlling the Projector

6.1 RCU & 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 input side of the projector.

Remote control functions.

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...) and settings.

Other functions of the remote control are :

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

6.2 Terminology overview

Overview

The following table gives an overview of the different functionalities of the keys.

1	Function keys	user programmable keys with functions for direct access.
2	ADJ.	Adjust key, to enter 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	standby 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 Standby. When the projector is running and you want to go to standby, press the standby 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.**
7	MUTE	to interrupt the sound reproduction.
8	?	When running in Stereo Mode use this button to toggle the projector between Mono Mode and Stereo Mode.
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 color setting.
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	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
17	EXIT	to leave the adjustment mode or to scroll upwards when in the adjustment mode.
18	RCU operation 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)

Table 6-1

6.3 Operating the projector

Overview

- Switching On
- Switching to standby
- Switching off
- Temperature error DMD

6.3.1 Switching On

How to switch on ?

1. Press the power switch to switch on the projector.
   - When '0' is visible, the projector is switched off.
   - When '1' is visible, the projector is switched on.

   The projector starts in standby mode. The projector indication lamp is red.

Starting image projection

1. Press **Stand by** key once on the local keypad or on the remote control.

   The projector mode indication lamp will be green.
   Or,
   Press a digit button to select an input source.

Lamp Run time indication

Lamp Light output indication

6.3.2 Switching to standby

How to switch to standby?

1. Press **Standby** to switch the projector to standby.

> **Switching to Standby. When the projector is running and you want to go to standby, press the standby 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.**

6.3.3 Switching off

How to switch off the projector?

1. Press first **Standby**.

2. Let cool down the projector until the fans stop blowing, at least 15 min.

3. Switch off the projector with the power switch.

6.3.4 Temperature error DMD

Overview

When the temperature of one of the DMD is too low or too high the projector will be switched automatically to standby. Before switching to standby, the following message appears for 3 seconds on the screen : 'DMD out of operating temperature range. Automatic shutdown is activated.'.

A '-t' appears on the LED display to indicate the user that the projector is switched to standby due to DMD temperature problems.

Operating temperature range of the DMD : +10°C and +40°C.

```
              ERROR
      DMD out of operating
          temperature
             range




       Automatic shutdown is
            activated
```
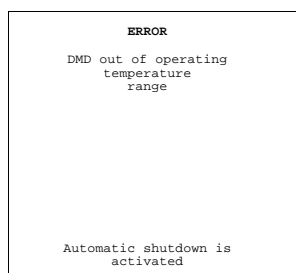
Menu 6-1

6.4 Quick Set Up Adjustments

Overview

• Quick Language Change
• Quick Lens Adjustment
• Quick On Screen Color change

6.4.1 Quick Language Change

What can be done?

Only if different on screen languages are available, these can be changed in quick way by following the next procedure.

How to change

1. Press **ENTER** to start up the adjustment mode.

2. Press the cursor key ↑ or ↓ to highlight *Service*. (menu 6-2)

   When password protected, your password will be asked. (more explanation about access by password can be found in Chapter 'Start up the Adjustment mode'.

3. Press **ENTER** to display the Service mode menu.

4. Push the cursor key ↑ or ↓ to highlight *Change Language* . If not visible in the menu, highlight first *More* and press **ENTER** to display a second service menu. Select then *Change Language*. (menu 6-3)

5. Press **ENTER** to display the *language selection* menu.

6. Push the cursor key ↑ or ↓ to highlight the desired language. (menu 6-4)
   Note: *For the moment, only English is available.*

```
        ADJUSTMENT MODE                      SERVICE                      CHANGE LANGUAGE

   Select a path from below :           IDENTIFICATION                       ENGLISH
                                        CHANGE PASSWORD
        RANDOM ACCESS                   CHANGE LANGUAGE
        INSTALLATION               CHANGE PROJ. ADDRESS
        SERVICE                    SERIAL COMMUNICATION
                                        NETWORK
                                         LAMP
                                        MORE...


        Select with ↑ or ↓              Select with ↑ or ↓              Select with ↑ or ↓
          then <ENTER>                    then <ENTER>                    then <ENTER>
        <EXIT> to return.               <EXIT> to return.               <EXIT> to return.
```
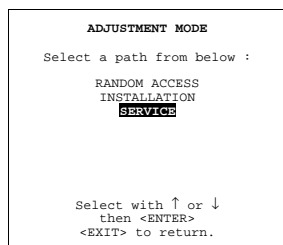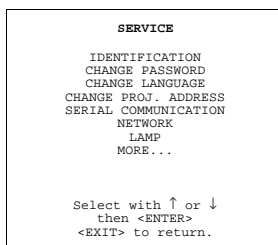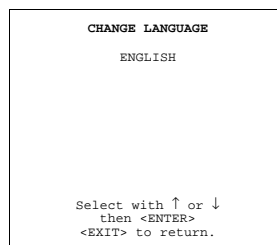
Menu 6-2   Menu 6-3   Menu 6-4

6.4.2   Quick Lens Adjustment

Quick zoom/focus adjustment

1. Press the Selection key *****, Barco key.

   The zoom/focus menu will be displayed. (image 6-1)

2. Push the cursor key ↑ or ↓ to zoom and ← or → to focus the image.

3. When finished, press **EXIT** key to return or **ENTER** to continue to the shift adjustment.

```
LENS ADJUSTMENT ZOOM/FOCUS
ZOOM with  ↑ or ↓ ,
FOCUS with  ← or →
<ENTER> to shift
<EXIT> to return
```
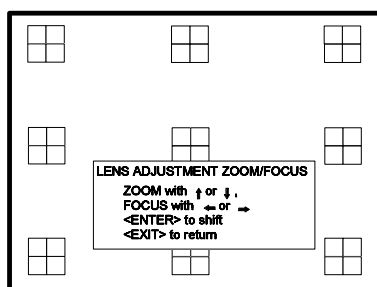
Image 6-1

Quick shift adjustment

1. Press the Selection key *****, Barco key.

   The zoom/focus menu will be displayed (image 6-1).

2. Press **ENTER**.

   The shift menu will be displayed. (image 6-2)

3. Push the cursor key ↑ or ↓ to shift the image up or down and ← or → to shift the image left or right.

4. When finished, press **EXIT** key to return or **ENTER** to continue to zoom/focus.

```
LENS ADJUSTMENT SHIFT
SHIFT with  ↑ or ↓ , ← or →
<ENTER> to zoom/focus
<EXIT> to return
```
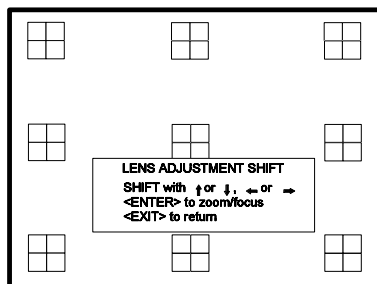
Image 6-2

6.4.3   Quick On Screen Color change

What can be done ?

For quick change of the on-screen color of the highlighted items.

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

How to change ?

1. Press **ENTER** to start up the adjustment mode.

2. Push the cursor key ↑ or ↓ to highlight *Installation*. (menu 6-5)

3. Press **ENTER** to select.

4. Push the cursor key ↑ or ↓ to highlight *OSD*. (menu 6-6)

5. Press **ENTER** to select.

    The OSD menu will be displayed. (menu 6-7)

6. Push the cursor key ↑ or ↓ to highlight *Highlighted item color*.

7. Press **ENTER** to toggle between red, green and yellow.

```
        ADJUSTMENT MODE

   Select a path from below :

        RANDOM ACCESS
        INSTALLATION
           SERVICE




       Select with ↑ or ↓
         then <ENTER>
       <EXIT> to return.
```
Menu 6-5

```
          INSTALLATION

          INPUT SLOTS
          800 PERIPHERAL
        SOURCE SWITCHING
            NO SIGNAL
           CONVERGENCE
          CONFIGURATION
              LENS
       QUICK ACCESS KEYS
              OSD
        INTERNAL PATTERNS

       Select with ↑ or ↓
         then <ENTER>
       <EXIT> to return.
```
Menu 6-6
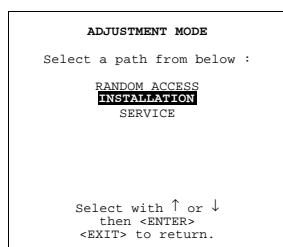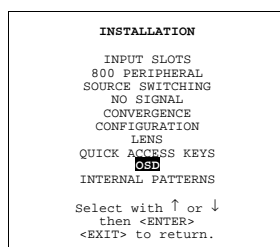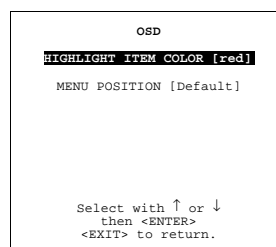
```
              OSD

     HIGHLIGHT ITEM COLOR [red]

       MENU POSITION [Default]




       Select with ↑ or ↓
         then <ENTER>
       <EXIT> to return.
```
Menu 6-7

6.5   Using the RCU

Pointing to the reflective screen

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

Hardwired Remote Input

1. Plug one end of the remote cable in the connector on the bottom of the RCU.

2. Plug the other end in the connector in the front panel of the projector labelled *RC*. (image 6-3)
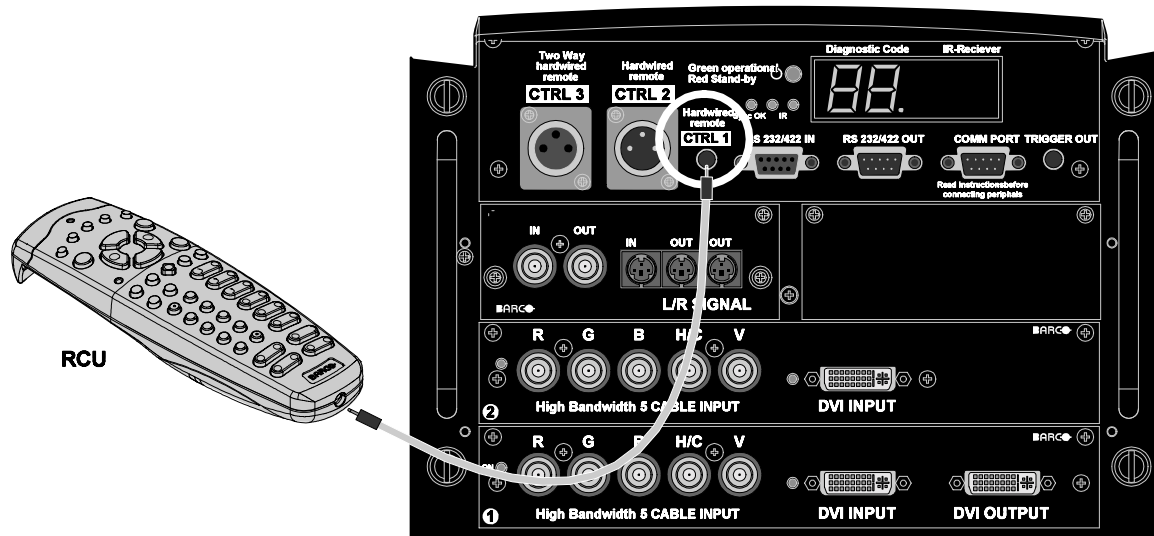
Image 6-3
Hardwired to remote

Hardwired to the XLR input

1. Plug one end of the remote cable in the connector on the bottom of the RCU

2. Plug the other end in the connector in the front panel of the projector labelled *Hardwired CTRL2*. (image 6-4)
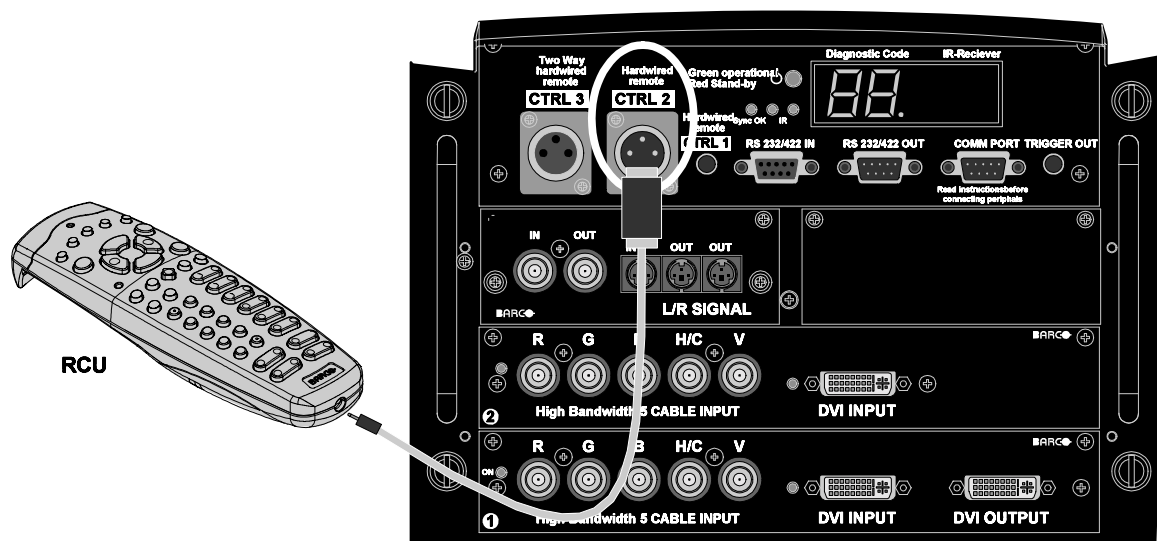
Image 6-4
Hardwired to XLR

Directly to one of the IR sensors

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.

6.6 Projector Address

6.6.1   Controlling the projector

Projector address

Address installed in the projector to be individually controlled.

Common address

Default address. Projector will always execute the command coming from a RCU programmed with that common 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'.

Projector controlling.

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.

Common Address

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

6.6.2 Displaying and Programming addresses

Displaying the Projector Address on the Screen.

1. Press **Address** key (recessed key on the RCU) with a pencil.

   The projector's address will be displayed in a 'Text box'

> **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?

1. Press the **Address** key (recessed key on the RCU) with a pencil.

2. Enter the address with the digit buttons within 5 seconds after pushing the address key.
   Note: *That address can be any digit between 0 and 9.*

6.7 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

In Mono Mode, during the picture control adjustments, 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.

In Stereo Mode an rudimentary barscale will appear.

Brightness	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	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	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	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	Use the + button for a sharper picture.
	Use the - button for a softer picture.
Phase	Use the arrow buttons to adjust the phase.

The Pause Key

When the Pause key is pressed, the image projection is stopped, a black screen will be displayed and the projector remains with full power for immediate restart. The display on front of the projector will show a "P".

To restart the image :
- Press **Pause** key.
- Press **EXIT** key
- Select a source number.

The Stand-by Key

When the Stand-by key is pressed, the image projection is stopped and the projector goes to stand-by. This situation is used when a projection stop is planned for a longer period.

7. START UP OF THE ADJUSTMENT MODE

7.1 Start up

Possible paths

There are 3 possible paths to follow once in the Adjustment mode. They are :
*   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 or get set-up information.

How to start up.

1. Press **ADJUST** or **ENTER** to enter the Adjustment mode.

   The adjustment mode opens. (menu 7-1)

2. The cursor key (RCU) or '+ or '-' keys (local keypad) are used to make menu selections and also for adjustments.

3. The **ENTER** and **EXIT** keys are used to move forward and backward through the menu structure.

4. The **ADJUST** key can be used to terminate the adjustment mode while any path selection menu is displayed.

```
        ADJUSTMENT MODE
    Select a path from below :

        RANDOM ACCESS
         INSTALLATION
            SERVICE



    Select with ↑ or ↓
         then <ENTER>
      <EXIT> to return.
```
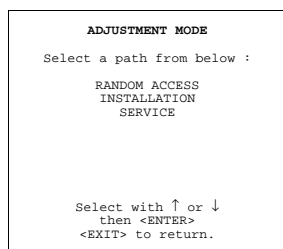
Menu 7-1

7.2 Password

Password protection of some items.

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 authorized service center to change the position of the password strap).

Entering your password

1. The first digit position is highlighted. Enter the first digit. (menu 7-2)

   The highlighted square jumps to the next position.

2. Continue with the other digits

   Example : 2 3 1 9

   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 adjustment menu.

```
          PASSWORD

       ENTER PASSWORD
           ----
       Use numeric keys




       <EXIT> to return
```
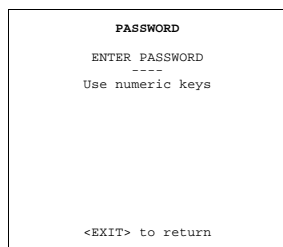
Menu 7-2

Factory programmed password : 0 0 0 0

Password remark

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

Changing your password

To change your password, see chapter Service Mode, Change Password.

7.3 Menus on Local LCD Display

Overview

When text is 'off', no menus will be displayed on the projection screen. But on the local LCD display, it is still possible to scroll through the menus. The menus will be displayed line by line in the same order as they were displayed on the projection screen. Adjustments can be done while the projector is running without projecting the disturbing menus on the screen.

Use the cursor keys to scroll through the menus and press **ENTER** to activate the displayed menu.

8. RANDOM ACCESS ADJUSTMENT MODE

Overview

- Overview Flow
- File Service
- Picture Tuning
- Geometry
- Stereo Options

8.1 Overview Flow

Overview
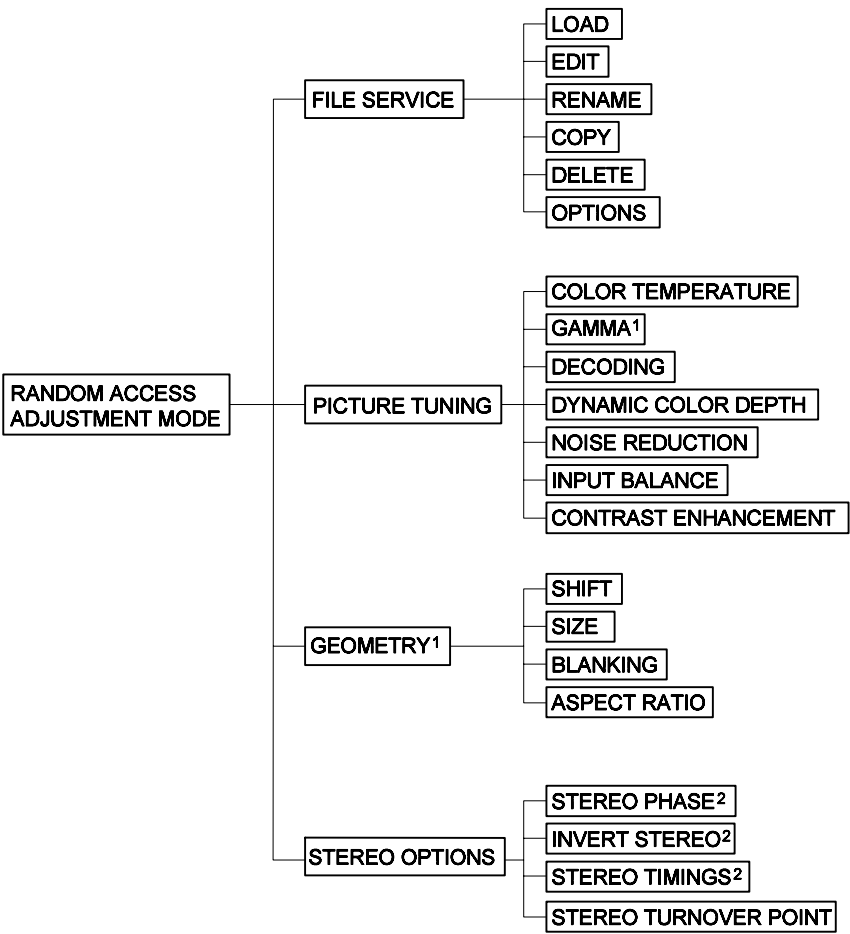
¹ Only available in Mono Mode
² Only available in Stereo Mode

Image 8-1
Overview Flow Random Access Adjustment Mode

Start up

1. Push the cursor key ↑ or ↓ to highlight *Random Access*. (menu 8-1)

2. Press **ENTER**. (menu 8-2)

```
        ADJUSTMENT MODE

   Select a path from below :

       RANDOM ACCESS
       INSTALLATION
          SERVICE




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

```
        RANDOM ACCESS
      ADJUSTMENT MODE

        FILE SERVICE
       PICTURE TUNING
         GEOMETRY
         SCENERGIX
            PIP
       STEREO OPTIONS



       Select with ↑ or ↓
         then <ENTER>
       <EXIT> to return.
```
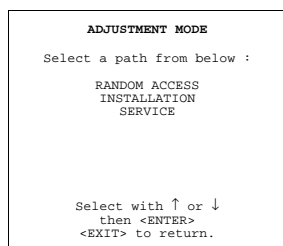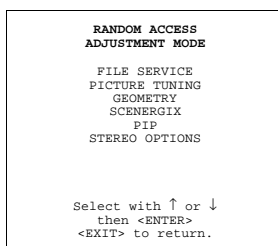
Menu 8-1   Menu 8-2

8.2 File Service

8.2.1 File annotation

How a file is built up

The file notation on a menu is built up in different parts. Let us have a look to these parts.

Take the following notation : xxxxxxxx.eee n ppppXppppi

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

Table 8-1

8.2.2 Possible file manipulations

Connecting a new Mono 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.

> **file loading can be done automatically. Files with a ~ in front of the file name are temporary files. These files will be deleted when switching to another source.**

Connecting a new Stereo source

Keep in mind that the Stereo Source answers the Projector's Stereo Source Specificationssee chapter 4. Stereo Mode, Stereo Source Specifications, page 19.

When using a Stereo Source 2 files are already in the list: SGI_108 and SGI_110, other will follow.

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.
- Delete : deleting a file
- Options : way of sorting the files.

8.2.3 Possible file manipulations

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.

file loading can be done automatically (see File Options, page 46). Files with a ~ in front of the file name are temporary files. These files will be deleted when switching to another source.

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.
- Delete : deleting a file
- Options : way of sorting the files.

8.2.4 Start up

Start up

To enter the File Service, handle as follow :
1. Push the cursor key ↑ or ↓ to highlight *File Service*. (menu 8-3)
2. Press **ENTER** to select.

   The *File Service* menu will be displayed. (menu 8-4)

```
        RANDOM ACCESS
       ADJUSTMENT MODE

        FILE SERVICE
       PICTURE TUNING
          GEOMETRY
          SCENERGIX
             PIP
       STEREO OPTIONS



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

Menu 8-3

```
        FILE SERVICE

            LOAD
            EDIT
           RENAME
            COPY
           DELETE
           OPTIONS




       Select with ↑ or ↓
          then <ENTER>
        <EXIT> to return.
```
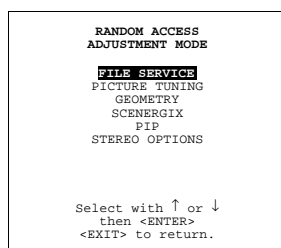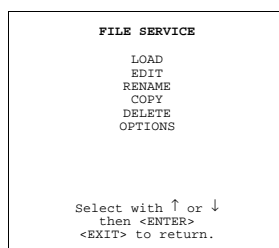
Menu 8-4

8.2.5   Load file

Start up Load file

To start up the load file, handle as follow :

1. Push the cursor key ↑ or ↓ to highlight *Load*. (menu 8-5)

2. Press **ENTER** to select.

   The *Load* menu displays the corresponding files depending on the installed filter. (menu 8-6)

```
       FILE SERVICE

          LOAD
          EDIT
         RENAME
          COPY
         DELETE
         OPTIONS




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

```
          LOAD FILE
      FILTER LIST [All]

  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.
```
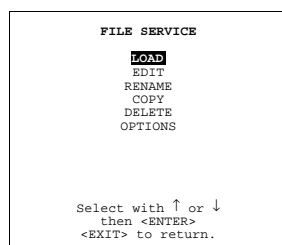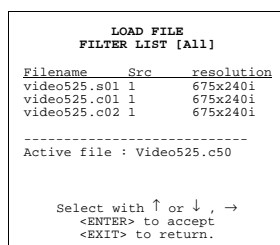
Menu 8-5   Menu 8-6

Changing the filter setting

1. Push the cursor key ↑ or ↓ 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 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 ↑ or ↓ to select the best fitting file. (menu 8-7)

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. (menu 8-8)

3. Press **ENTER** to confirm the new creation or **EXIT** to return to the load file menu.

```
          LOAD FILE
      FILTER LIST [All]

  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.
```

```
           CONFIRM
          LOAD FILE

          create file
          Video525.c02
         based on file
          Video525.s01?






       <ENTER> to return
       <EXIT> to return.
```
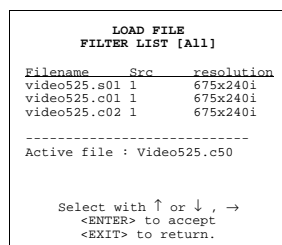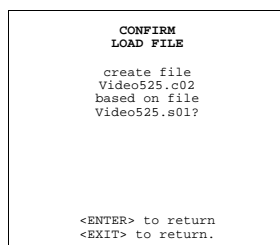
Menu 8-7   Menu 8-8

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

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.

8.2.6 Edit File

8.2.6.1 Start up

How to start up the Edit menu ?

To start up the EDIT menu :

1. Push the cursor key ↑ or ↓ to highlight *Edit*. (menu 8-9)

2. Press **ENTER** to select.

   The Edit file adaptation menu will be displayed. (menu 8-10)

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. (menu 8-11)

```
        FILE SERVICE

           LOAD
           EDIT
          RENAME
           COPY
          DELETE
          OPTIONS




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

Menu 8-9

```
              EDIT 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 8-10

```
             EDIT FILE xga.s30

   HORIZONTAL
   TOTAL      1344 PIXELS
   ACTIVE     1024 PIXELS
   START       296 PIXELS
   PERIOD     20.678 µs
   VERTICAL (FIELD)
   TOTAL       806 LINES
   ACTIVE      768 LINES
   START        36 LINES
   INTERLACED [OFF]
   READ AMDS
   OPTIONS

   ↑ , ↓ , ← , → <ENTER>, <EXIT>
```

Menu 8-11

8.2.6.2 Changing the settings

Different methods

The 3 different methods to change a setting will be describe hereafter. These methods are :

- with the numeric keys on the remote control.
- with the arrow keys selecting the changing digit.
- with the arrow keys counting up or down.

How to change a setting with the numeric keys?

1. Push the cursor key ↑ or ↓ to select an item.

   The color of the selected item will change.

2. Press **ENTER** to activate the digits.

3. Enter directly with the numeric keys on the RCU or local keypad the new value.

How to change a setting with the cursor keys?

1. Push the cursor key ↑ or ↓ to select an item.

   The color of the selected item will change.

2. Push the cursor key ← or → to select the changing digit.

3. Push the cursor key ↑ or ↓ to scroll to the desired digit.

4. When finished, press **ENTER** to confirm.

How to change a setting with the cursor keys and counting up or down?

1. Push the cursor key ↑ or ↓ to select an item.

   The color of the selected item will change.

2. Counting up or down by pushing the cursor key ← or →.

8.2.6.3 Correct value

What is already available during start up?

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 the menu table. These values will be available when starting up the EDIT procedure of an active file.

> ⚠ **Do not adjust these settings on an active file, they are used to identify the input source file.**

How to find the correct values for the item in the Edit file menu?

Horizontal Total Pixels	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.
Active Pixels	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[3]	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.
Vertical Total Lines	already filled when an active file is selected to be edited
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[3]	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 & synchronization
	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.

How to install the correct settings for the options in the Edit file menu.

```
        EDIT FILE OPTIONS

Source number           1
Clamp position          [leading]
Clamp delay             0
Clamp width             10
Field polarity          [pos]
Field select            [both]
Vertical refresh        [sync]
Film Mode Detection     [on]
Banner Protect          [on]

      Select with ↑ or ↓
      <ENTER> to toggle
  ↑ or ↓ to change value
      <EXIT> to return.
```

Menu 8-12

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[4]	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[4]	The width of the clamp pulse can be any value between 0 and 255. Change the value by pushing the cursor key ↑ or ↓.

---

3. The Start Positions have no real meaning for stereo sources
4. When adjusting a Stereo Source these values will be lower compared to Mono Sources.
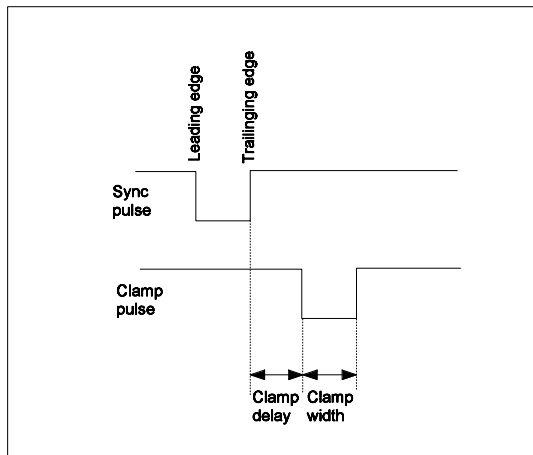
Image 8-2
Clamp delay + Clamp width

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. • 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. • For sources with a vertical frequency higher that 60 Hz : the vertical refresh is different than the vertical frequency of the incoming source. Synchronous refresh cannot be used.
Film mode detection: [On] or [Off]	Detects in the [on] mode if the source is film or video. Use the **ENTER** key to toggle between [on] or [off]

8.2.7   Rename

Start Up

To change the name of a selected file :

1. Push the cursor key ↑ or ↓ to highlight *Rename*. (menu 8-13)

2. Press **ENTER**.

    The Rename selection menu will be displayed. (menu 8-14)

3. Push the cursor key ↑ or ↓ to select a file name.

4. Press **ENTER** to select.

    The Rename file 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 :' area is highlighted. (menu 8-15)

```
        FILE SERVICE

          LOAD
          EDIT
         RENAME
          COPY
         DELETE
         OPTIONS




    Select with ↑ or ↓
        then <ENTER>
    <EXIT> to return.
```
Menu 8-13

```
         RENAME 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 8-14

```
         RENAME FILE

    From file name :
       Video525.c01
     To file name :
        demo.c10




     Select with ← or →
    Reprogram with ↑ or ↓
       or numeric keys
       <ENTER> to confirm
       <EXIT> to return.
```
Menu 8-15

Changing the characters

1. Push the cursor keys ← or → to select the desired character. (menu 8-16)
    Or,
    Change that character by pushing the cursor keys ↑ or ↓. Numeric characters can be entered directly with numeric keys on the RCU.
    Or,
    Press **ENTER** to confirm.

    The renamed file is entered in the list of files.

2. Press **EXIT** to return to the Rename menu selection.

    No changes are made.

```
         RENAME FILE

    From file name :
       Video525.c01
     To file name :
        demo.c10




     Select with ← or →
    Reprogram with ↑ or ↓
       or numeric keys
       <ENTER> to confirm
       <EXIT> to return.
```
Menu 8-16

8.2.8 Copy

Start Up

To copy the name of a selected file :

1. Push the cursor key ↑ or ↓ to highlight *Copy*.

2. Press **ENTER**.

   The Copy selection menu will be displayed. (menu 8-17)

3. Push the cursor key ↑ or ↓ to select a file name.

4. Press **ENTER** to select.

   The Copy file 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 :' area is highlighted. (menu 8-18)

```
        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 8-17

```
        COPY FILE

  Frome 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 8-18

Changing the characters

1. Push the cursor keys ← or → to select the desired character. (menu 8-19)
   Or,
   Change that character by pushing the cursor keys ↑ or ↓. Numeric characters can be entered directly with numeric keys on the RCU.
   Or,
   Press **ENTER** to confirm.

   The copy file is entered in the list of files.

2. Press **EXIT** to return to the Copy menu selection.

   No changes are made.

```
        COPY FILE

  Frome 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 8-19

8.2.9 Delete

Start up and delete

To delete a selected file out of the list of files :

1. Push the cursor key ↑ or ↓ to highlight *Delete*. (menu 8-20)

2. Press **ENTER**.

   The delete selection menu will be displayed. (menu 8-21)

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 8-22)

5. Press **ENTER** to delete the file, press **EXIT** if you want to keep it.
   Note: *The active file cannot be deleted.*

```
     FILE SERVICE

       LOAD
       EDIT
      RENAME
       COPY
      DELETE
      OPTIONS




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

```
        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.
```

```
        CONFIRM
      DELETE FILE

     Delete file :
     Video525.c01?






   <ENTER> to confirm
   <EXIT> to return.
```

Menu 8-20   Menu 8-21   Menu 8-22

8.2.10 File Options

Start up

1. Push the cursor key ↑ or ↓ to highlight *Options.* (menu 8-23)

2. Press **ENTER**.

   The option selection menu will be displayed. (menu 8-24)

```
     FILE SERVICE

       LOAD
       EDIT
      RENAME
       COPY
      DELETE
      OPTIONS




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

```
      FILE OPTIONS

   FILE SORT [NAME]
   FILE LOAD [AUTOMATIC]






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

Menu 8-23   Menu 8-24

File Sort

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

File Load

1. Press **ENTER** to toggle between [automatic] and [manual].
   - [automatic] : correct file will be loaded automatically.
   - [manual] : correct file has to be loaded manually.

8.3 Picture Tuning

Overview

- Start up
- Color Temperature
- Gamma
- Decoding
- Dynamic Color Depth
- Noise Reduction
- Input Balance

8.3.1 Start up

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 8-25)

2. Press **ENTER** to select.

   The picture tuning menu will be displayed. (menu 8-26)

```
        RANDOM ACCESS
       ADJUSTMENT MODE

        FILE SERVICE
       PICTURE TUNING
          GEOMETRY
          SCENERGIX
            PIP
       STEREO OPTIONS



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

```
        PICTURE TUNING

      COLOR TEMPERATURE
            GAMMA
       DECODING [EBU]
    DYNAMIC COLOR DEPTH
       NOISE REDUCTION
        INPUT BALANCE



     Select with ↑ or ↓
        then <ENTER>
      <EXIT> to return.
```
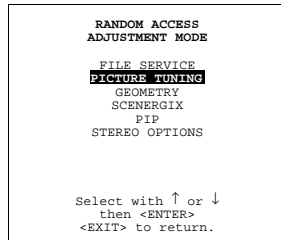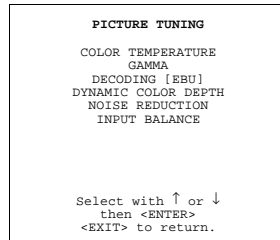
Menu 8-25   Menu 8-26

8.3.2 Color Temperature

Available Color temperatures

- Projector white

- Broadcast 3200K

- Film 5400K

- Video 6500K

- Computer 9300K

- Custom balance

Start Up

1. Push the cursor key ↑ or ↓ to highlight *Color Temperature*. (menu 8-27)

2. Press **ENTER** to select.

   The color temperature selection menu will be displayed. (menu 8-28)

```
        PICTURE TUNING

      COLOR TEMPERATURE
            GAMMA
       DECODING [EBU]
    DYNAMIC COLOR DEPTH
       NOISE REDUCTION
        INPUT BALANCE



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

```
       COLOR TEMPERATURE

       PROJECTOR WHITE
       COMPUTER 9300K
         VIDEO 6500K
         FILM 5400K
       BROADCAST 3200K

        CUSTOM BALANCE


     Select with ↑ or ↓
        then <ENTER>
      <EXIT> to return.
```
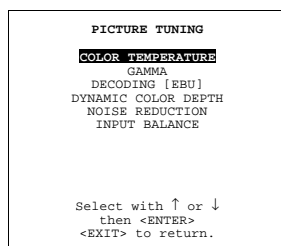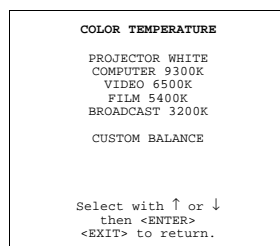
Menu 8-27   Menu 8-28

Adjusting the color balance

1. Adjusting the color balance by selecting a fixed color balance ?
   Push the cursor key ↑ or ↓ to highlight one of the preprogrammed color balances. Press **ENTER** to select
   Note: *Projector white will provide maximum projector light output. The calibrated 'Broadcast', 'Film', 'Video' and 'Computer' presets will provide optimum color tracking.*

   If no, go to step 2

2. Push the cursor key ↑ or ↓ to adjust red and push the cursor key ← or → to adjust blue (range 0 to 255) in comparison with the green color. (image 8-3)
   Note: *Even when running in Stereo Mode it is possible to pop up this barscale by pushing the **?** key on the RCU or local keypad.*
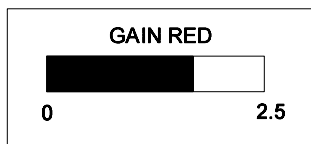
Image 8-3

8.3.3 Gamma

What can be adjusted ?

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

Changing the gamma value

1. Push the cursor key ↑ or ↓ to highlight *Gamma*. (menu 8-29)

2. Press **ENTER** to select.

3. Change the gamma value by pushing the cursor key ← or → until the desired value is reached.
   Note: *Default value of gamma : 2.2*

4. Press **EXIT** to return to the *Picture Tuning* menu.

```
           PICTURE TUNING

        COLOR TEMPERATURE
             GAMMA
          DECODING [EBU]
        DYNAMIC COLOR DEPTH
         NOISE REDUCTION
           INPUT BALANCE



        Select with ↑ or ↓
           then <ENTER>
        <EXIT> to return.
```
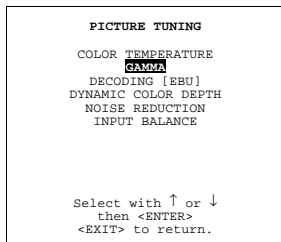
Menu 8-29

8.3.4 Decoding

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 to change the decoding setting ?

1. Push the cursor key ↑ or ↓ to highlight *Decoding*. (menu 8-30)

2. Press **ENTER** to toggle between EBU or IRE.

3. Press **EXIT** to return.

```
           PICTURE TUNING

        COLOR TEMPERATURE
             GAMMA
          DECODING [EBU]
        DYNAMIC COLOR DEPTH
         NOISE REDUCTION
           INPUT BALANCE



        Select with ↑ or ↓
           then <ENTER>
        <EXIT> to return.
```
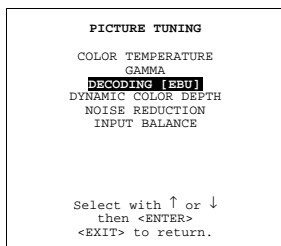
Menu 8-30

8.3.5 Dynamic Color Depth

Purpose

Increases color contrast for all video and data sources.

Changing the Dynamic Color depth value.

1. Push the cursor key ↑ or ↓ to highlight *Dynamic Color Depth.* (menu 8-31)

2. Press **ENTER** to select.

3. Change the value by pushing the cursor key ← or → until the desired dark color saturation is reached.

4. Press **EXIT** to return the *Picture Tuning* menu.

```
        PICTURE TUNING

     COLOR TEMPERATURE
          GAMMA
      DECODING [EBU]
   DYNAMIC COLOR DEPTH
     NOISE REDUCTION
      INPUT BALANCE



    Select with ↑ or ↓
       then <ENTER>
    <EXIT> to return.
```
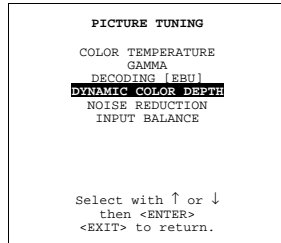
Menu 8-31

8.3.6 Noise Reduction

Purpose

Reduces noise and pixel jitter in all video and data sources

Changing the noise reduction value.

1. Push the cursor key ↑ or ↓ to highlight *Noise Reduction.* (menu 8-32)

2. Press **ENTER** to select.

3. Change the value by pushing the cursor key ← or → until the desired noise level is reached.

4. Press **EXIT** to return the *Picture Tuning* menu.

```
        PICTURE TUNING

     COLOR TEMPERATURE
          GAMMA
      DECODING [EBU]
   DYNAMIC COLOR DEPTH
     NOISE REDUCTION
      INPUT BALANCE



    Select with ↑ or ↓
       then <ENTER>
    <EXIT> to return.
```
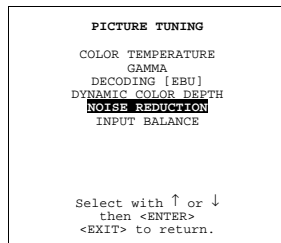
Menu 8-32

8.3.7 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 adjustmens influence only the actual custom adjustment file. This procedure is not so easy.

Overview

- Input Balance for RGB input signals
- Input Balance for YUV signals

There are 2 different adjustment procedures, one for RGB (included Video and S-Video) and one for YUV input signals.

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

8.3.7.1 Input Balance for RGB input signals

Step to be taken for RGB input signals

To adjust the input balance, the following steps have to be executed in the following order :

1. Start with the black balance.
2. Continue with the white balance.

The default values are normally loaded when selecting a source. If the image is not as desired, continue with the next procedure.

Black balance adjustment

1. Is the input balance menu already activated ?
   If yes, go to step 4
   If no, go to step 2

2. Push the cursor key ↑ or ↓ to highlight *Input Balance*. (menu 8-33)

3. Press **ENTER** to select.

   The Input Balance menu will be displayed. (menu 8-34)

4. Push the cursor key ↑ or ↓ to highlight *Black Balance* menu 8-34.

5. Press **ENTER** to select.

6. Adjust the Brightness to a maximum value until there is just no green noise visible in the black areas.

7. Adjust with the cursor keys ↑ or ↓ or ← or → until there is no red or blue noise visible in the black areas.

```
        PICTURE TUNING

      COLOR TEMPERATURE
           GAMMA
        DECODING [EBU]
     DYNAMIC COLOR DEPTH
       NOISE REDUCTION
       INPUT BALANCE




       Select with ↑ or ↓
          then <ENTER>
        <EXIT> to return.
```
Menu 8-33
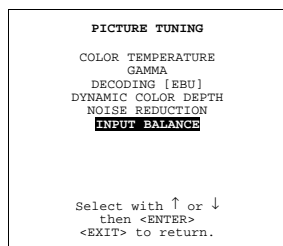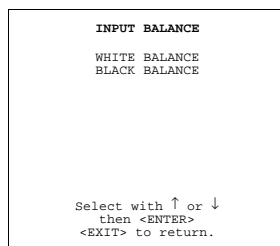
```
        INPUT BALANCE

      WHITE BALANCE
      BLACK BALANCE




       Select with ↑ or ↓
          then <ENTER>
        <EXIT> to return.
```
Menu 8-34

White balance adjustement

1. Push the cursor key ↑ or ↓ to highlight *White Balance*. (menu 8-35)

2. Press **ENTER** to select.

3. Put the Gain Red and Gain Blue to -32.

4. Adjust the contrast to a maximum value until the green noise becomes visible in the white areas and return one step.

5. Adjust with the cursor keys ↑ or ↓ or ← or → until the red respectively blue noise becomes visible in the white areas and return one step.
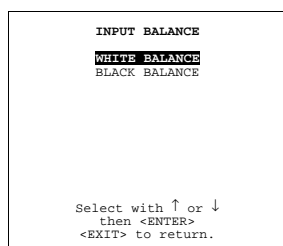
```
        INPUT BALANCE

      WHITE BALANCE
      BLACK BALANCE




       Select with ↑ or ↓
          then <ENTER>
        <EXIT> to return.
```
Menu 8-35

8.3.7.2 Input Balance for YUV signals

Steps to be taken for YUV

1. Is the input balance menu already activated ?
   If yes, go to step 4
   If no, go to step 2

2. Push the cursor key ↑ or ↓ to highlight *Input Balance.* (menu 8-36)

3. Press **ENTER** to select.

   The Input Balance menu will be displayed. (menu 8-37)

4. Push the cursor key ↑ or ↓ to highlight *Black Balance* menu 8-34.

5. Press **ENTER** to select.

6. Decrease the Brightness a lot, for example to a value 50 on the barscale.

7. Adjust RED Black Balance with the cursor key ↑ or ↓ until the red noise becomes visible in the left bar.

8. Adjust the BLUE Black Balance with the cursor key ← or → until blue noise becomes visible in the left bar.

9. Increase the brightness until the left bar displays approximately 50% white noise.

10. Correct Red and Blue Black Balance adjustment in such a way the blue and red noise are just visible and a small Brightness increase maintain a grey colour.

```
        PICTURE TUNING

      COLOR TEMPERATURE
           GAMMA
        DECODING [EBU]
     DYNAMIC COLOR DEPTH
       NOISE REDUCTION
       INPUT BALANCE




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

```
         INPUT BALANCE

       WHITE BALANCE
       BLACK BALANCE




       Select with ↑ or ↓
          then <ENTER>
       <EXIT> to return.
```
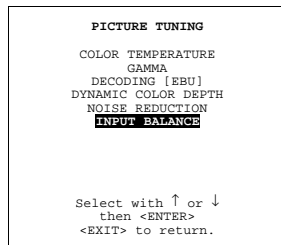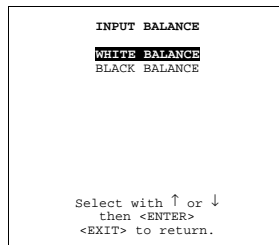
Menu 8-36   Menu 8-37

Checking the White Balance

There is no adjustment procedure for the white balance. This menu is usefull for checking the color tracking in relation to Contrast and Saturation adjustment, which are adjustable in this menu item.

8.4 Geometry

Overview

- Introduction
- Geometry start up
- Shift
- Size
- Side Keystone
- Blanking
- Aspect Ratio

8.4.1 Introduction

Geometry is only available in Mono Mode

Geometry is only available in Mono Mode, when running in Stereo Mode this item will be grayed out in the *Random Access* menu.

For shifting an image in Stereo Modesee chapter 8. Random Access Adjustment Mode, Stereo Timings, page 59

How the adjustment is done ?

An adjustment can be done as follow :

1. Using the cursor key to adjust
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.

8.4.2 Geometry start up

Start up

1. Push the cursor key ↑ or ↓ to highlight *Geometry*. (menu 8-38)

2. Press **ENTER** to select.

   The geometry menu will be displayed. (menu 8-39)

```
        ADJUSTMENT MODE

    Select a path from below :

         RANDOM ACCESS
         INSTALLATION
            SERVICE




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

Menu 8-38

```
           GEOMETRY

             SHIFT
             SIZE
         SIDE KEYSTONE
           BLANKING
       ASPECT RATIO [4:3]




       Select with ↑ or ↓
          then <ENTER>
        <EXIT> to return.
```
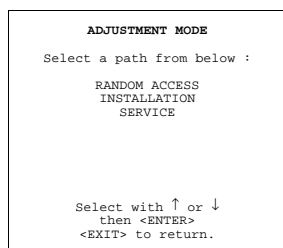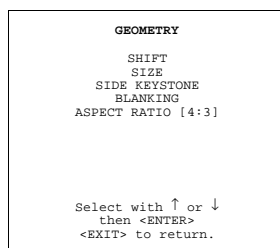
Menu 8-39

8.4.3 Shift

What can be done ?

The image can be shifted in a horizontal or vertical direction.
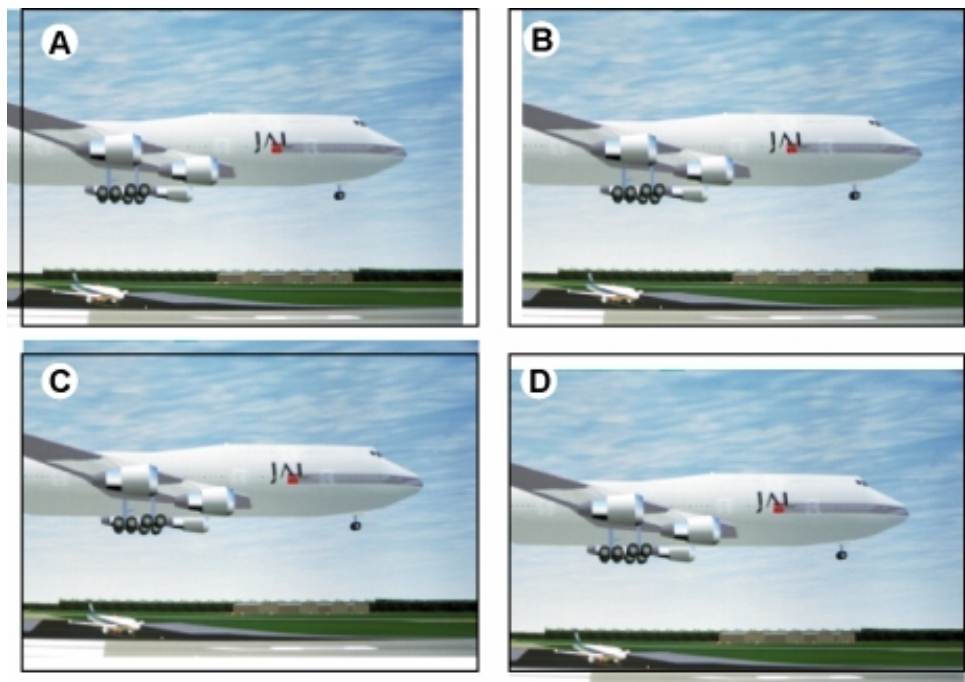
Image 8-4
Shift adjustment

A   Shift to the left
B   Shift to the right
C   Shift upwards
D   Shift downwards

How to shift the image ?

1. Push the cursor key ↑ or ↓ to highlight *Shift.* (menu 8-40)

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.
   Note: *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.

```
            GEOMETRY

              SHIFT
              SIZE
          SIDE KEYSTONE
            BLANKING
        ASPECT RATIO [4:3]




        Select with ↑ or ↓
            then <ENTER>
        <EXIT> to return.
```
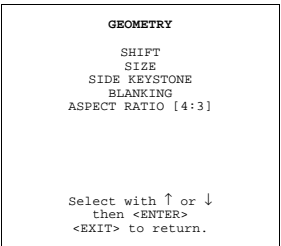
Menu 8-40

8.4.4   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.
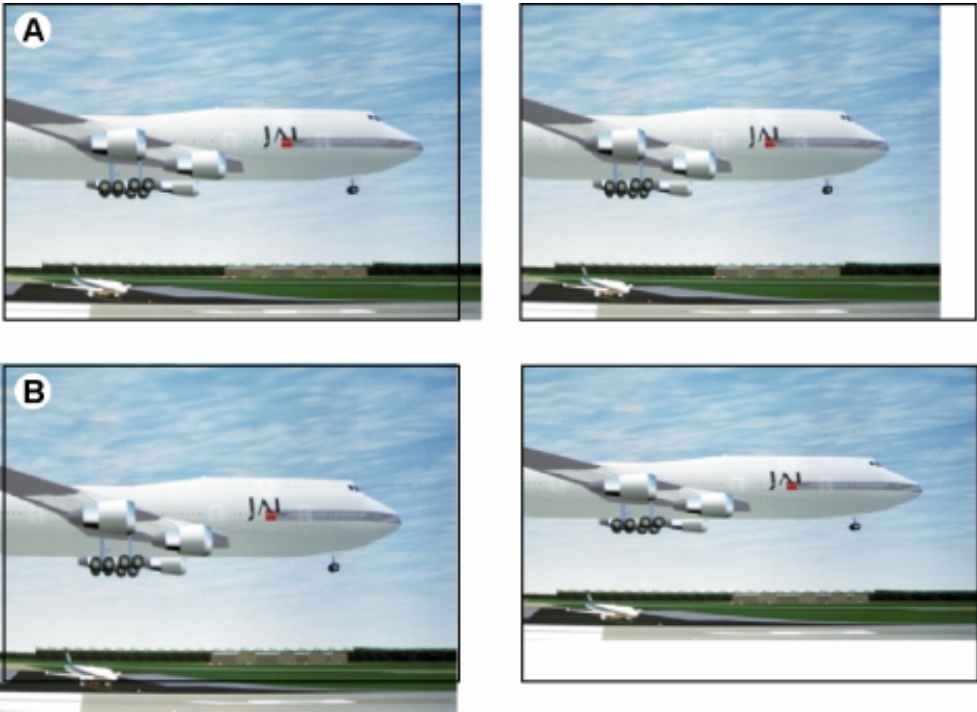
Image 8-5
Size adjustment

A   Horizontal size adjustment
B   Vertical size adjustment

Size adjustment

1. Push the cursor key ↑ or ↓ to highlight *Size*. (menu 8-41)

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.

```
         GEOMETRY

            SHIFT
            SIZE
        SIDE KEYSTONE
           BLANKING
      ASPECT RATIO [4:3]




      Select with ↑ or ↓
          then <ENTER>
       <EXIT> to return.
```
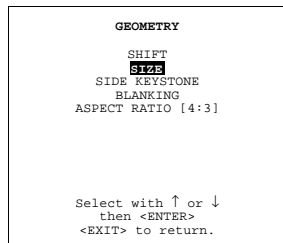
Menu 8-41

8.4.5   Side Keystone

What can be done?

The side keystone adjustment is used to align the image if the projector is mounted at a non standard projection angle.
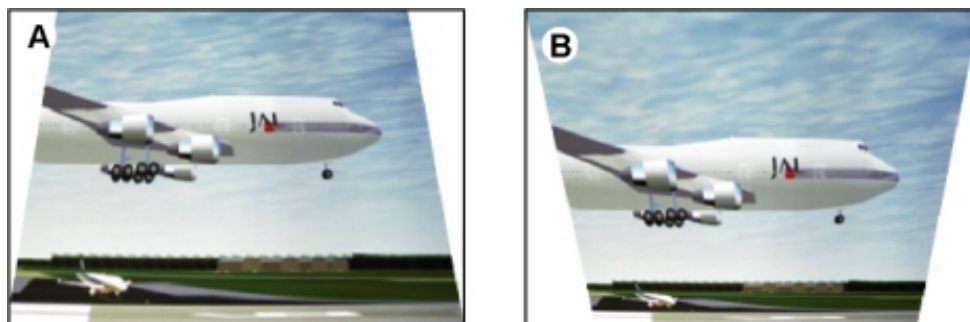
Image 8-6
Side Keystone

Side keystone adjustment

1. Push the cursor key ↑ or ↓ to highlight *Side Keystone*. (menu 8-42)

2. Press **ENTER** to select.

3. Push the cursor key ← or → 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 ←. 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 →. The number indication below the bar scale will be positive.

```
         GEOMETRY

            SHIFT
            SIZE
        SIDE KEYSTONE
           BLANKING
      ASPECT RATIO [4:3]




      Select with ↑ or ↓
          then <ENTER>
       <EXIT> to return.
```
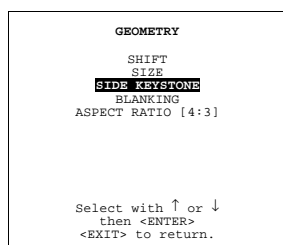
Menu 8-42

8.4.6   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.

Which blanking adjustments are available ?

- top blanking
- bottom blanking
- left blanking
- right blanking
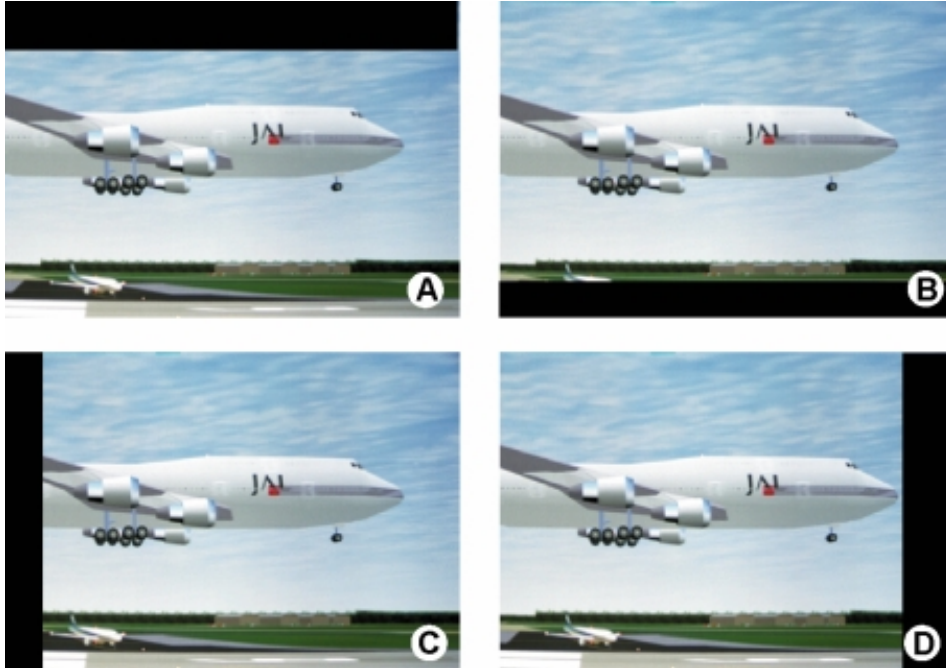
Image 8-7
Blanking

A   Top blanking
B   Bottom blanking
C   Left blanking
D   Right blanking

Adjusting the blanking.

1. Push the cursor key ↑ or ↓ to highlight *Blanking.* (menu 8-43)

2. Press **ENTER** to display the blanking menu. (menu 8-44)

3. Push the cursor key ↑ or ↓ to highlight the desired blanking.

4. Press **ENTER** to start up the chosen blanking.

5. Use the cursor keys to adjust the blanking.


```
            GEOMETRY

             SHIFT
             SIZE
         SIDE KEYSTONE
           BLANKING
        ASPECT RATIO [4:3]




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

Menu 8-43

```
            BLANKING

              TOP
            BOTTOM
             LEFT
            RIGHT




       Select with ↑ or ↓
          then <ENTER>
        <EXIT> to return.
```
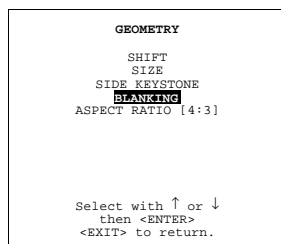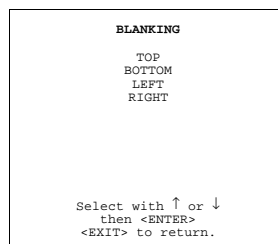
Menu 8-44

8.4.7   Aspect Ratio

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 set up the desired aspect ratio ?

1. Push the cursor key ↑ or ↓ to highlight *Aspect Ratio.* (menu 8-45)

2. Press **ENTER** to scroll between [5:4], [4:3], [16:9], [2.35], [1.88] or [1.78].

```
        GEOMETRY

         SHIFT
          SIZE
     SIDE KEYSTONE
       BLANKING
  ASPECT RATIO [4:3]




    Select with ↑ or ↓
      then <ENTER>
    <EXIT> to return.
```
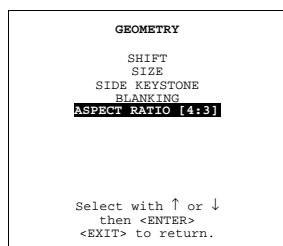
Menu 8-45

8.5 Stereo Options

Overview

• Running in Stereo Mode
• Start up of the Stereo Options
• Turnover Point
• Stereo Phase
• Invert Stereo
• Stereo Timings

8.5.1 Running in Stereo Mode

Stereo Options are only available when running in Stereo Mode

Stereo Phase, *Invert Stereo* and the *Stereo Timings* menu are only available when running in Stereo Mode.

When running in Mono Mode these items will be grayed out.

When does the projector run in Stereo Mode ?

• It is possible to program a Turnover frequency for the BARCO Galaxy projector, when a source is detected with a vertical frequency that exceeds this Turnover point the projector will switch from Mono Mode to Stereo Mode.

• Going in Stereo Mode will enable *Stereo Phase*, *Invert Stereo* and the *Stereo Timings* menu, at the same time the Geometry Adjustment menus and Gamma Menu are disabled.

8.5.2 Start up of the Stereo Options

Start up

To enter the *Stereo Options*, handle as follow:

1. Push the cursor key ↑ or ↓ to highlight *Stereo Options*. (menu 8-46)

2. Press **ENTER** to select.

   The Stereo Options menu will be displayed. (menu 8-47)

```
    RANDOM ACCESS
   ADJUSTMENT MODE

    FILE SERVICE
   PICTURE TUNING
      GEOMETRY
      SCENERGIX
        PIP
   STEREO OPTIONS



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

```
    STEREO OPTIONS

     STEREO PHASE
   INVERT STEREO [ON]
    STEREO TIMINGS

  TURNOVER POINT: 075 Hz



   Select with ↑ or ↓
     then <ENTER>
  Program the frequency
    with numeric keys
   <EXIT> to return.
```
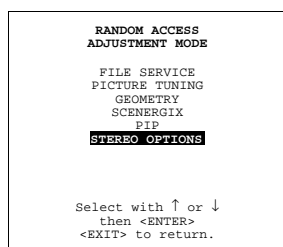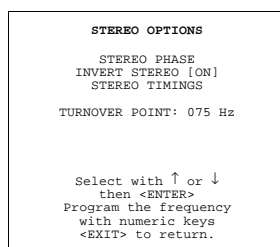
Menu 8-46   Menu 8-47

8.5.3 Turnover Point

What can be done ?

It is possible to program a Turnover frequency (75 to 110 Hz) when a source is detected with a vertical frequency that exceeds this Turnover point the projector will switch from Mono Mode to Stereo Mode.

Turnover Point

1. Push the cursor key ↑ or ↓ to highlight *Turnover Point.* (menu 8-48)

2. Press **ENTER** to select.

3. Use the ← or → keys to highlight the desired digit.

4. Use the ↑ or ↓ keys to adjust the value of the selected digit.

5. Press **ENTER** to apply the V Frequency adjustment.

```
            STEREO OPTIONS

            STEREO PHASE
         INVERT STEREO [ON]
           STEREO TIMINGS

      TURNOVER POINT: 075 Hz



         Select with ↑ or ↓
             then <ENTER>
        Program the frequency
          with numeric keys
           <EXIT> to return.
```
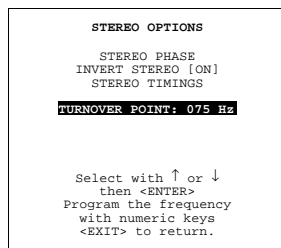
Menu 8-48

8.5.4 Stereo Phase

What can be done ?

With Stereo Phase it is possible to apply an adjustable time delay on the stereo emitter signal.
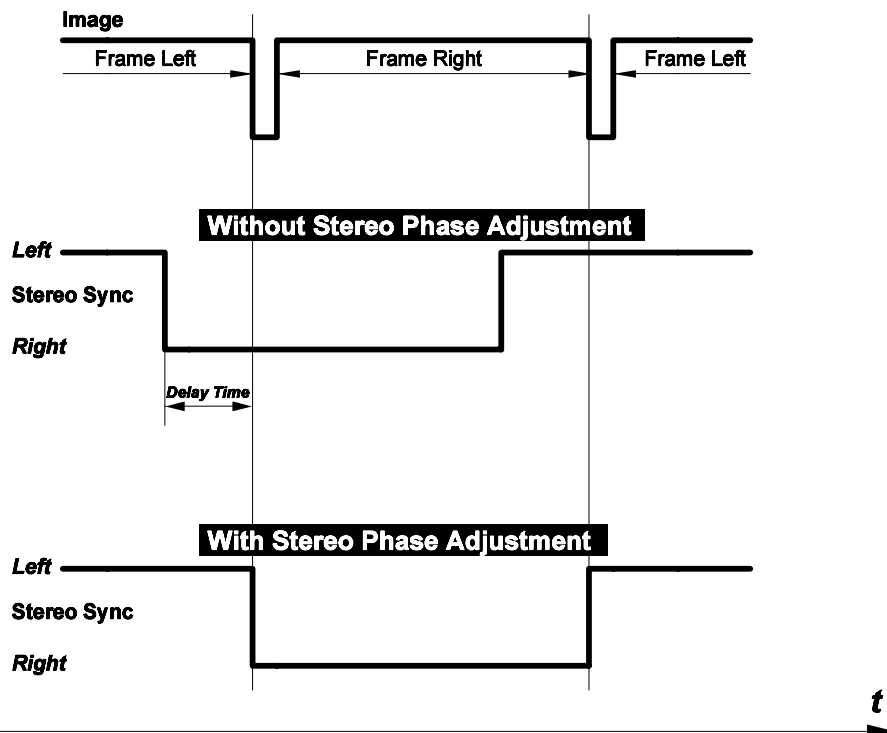
Image 8-8
Stereo Phase Adjustment

How to adjust Stereo Phase ?

1. Push the cursor key ↑ or ↓ to highlight *Stereo Phase*. (menu 8-49)

2. Press **ENTER** to select.

3. Push the ← or → keys for fine adjustment of 1step (= 400 nanoseconds) or push the↑ or ↓ keys for a coarse adjustment of 100 steps.
   Note: *Adjustment is possible until a full frame delay is reached.*

4. Press **Exit** to return to the *Stereo Options* menu.

```
              STEREO OPTIONS
             ┌──────────────┐
             │ STEREO PHASE │
             └──────────────┘
            INVERT STEREO [ON]
             STEREO TIMINGS

        TURNOVER POINT: 075 Hz




            Select with ↑ or ↓
               then <ENTER>
          Program the frequency
            with numeric keys
            <EXIT> to return.
```
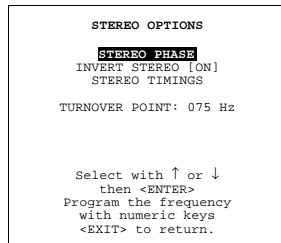
Menu 8-49

8.5.5   Invert Stereo

What can be done ?

With *Invert Stereo* we can invert the stereo emitter signal (Left eye opens when a right image is supplied to the projector)

We advise to set *Invert Stereo* ON, one frame delay is inherent to DLP technology.
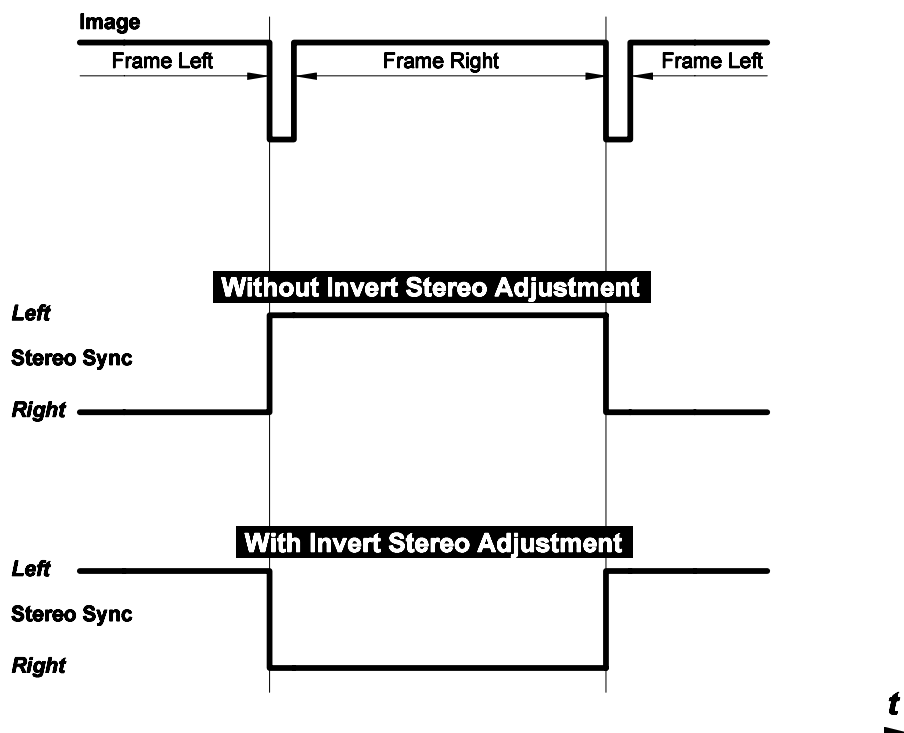
Image 8-9
Invert Stereo Adjustment

How to activate Invert Stereo ?

1. Push the cursor key ↑ or ↓ to highlight *Invert Stereo.* (menu 8-50)

2. Press **ENTER** to toggle between ON or OFF.

```
          STEREO OPTIONS

           STEREO PHASE
         INVERT STEREO [ON]
          STEREO TIMINGS

       TURNOVER POINT: 075 Hz



          Select with ↑ or ↓
             then <ENTER>
         Program the frequency
           with numeric keys
           <EXIT> to return.
```

Menu 8-50

8.5.6   Stereo Timings

Overview

- Start up of the Stereo Timings
- Horizontal Delay
- Vertical Back Porch
- Vertical Frequency Offset
- Auto Vertical Frequency

8.5.6.1   Start up of the Stereo Timings

Start up

1. Push the cursor key ↑ or ↓ to highlight *Stereo Timings.* (menu 8-51)

2. Press **ENTER** to select.

   See menu 8-52.

```
          STEREO OPTIONS

           STEREO PHASE
         INVERT STEREO [ON]
          STEREO TIMINGS

       TURNOVER POINT: 075 Hz



          Select with ↑ or ↓
             then <ENTER>
         Program the frequency
           with numeric keys
           <EXIT> to return.
```

Menu 8-51

```
          STEREO TIMINGS

          HORIZONTAL DELAY
         VERTICAL BACK PORCH
         V FREQUENCY OFFSET
        AUTO V FREQUENCY [ON]

        V FREQUENCY: 105 Hz


          Select with ↑ or ↓
             then <ENTER>
         If autofrequency is
      off, program the frequency
           with numeric keys
           <EXIT> to return.
```

Menu 8-52

8.5.6.2   Horizontal Delay

What can be done ?

The Stereo image can be shifted in a horizontal direction.

How to adjust the Horizontal Delay

1. Push the cursor key ↑ or ↓ to highlight *Horizontal Delay*. (menu 8-53)

2. Press **ENTER** to select.

3. Move the left side of the image to coincide with the left edge of the screen, using the cursor keys. (image 8-10)
   Tip: *If you are now missing information at the right side of the screen it means that your total/active horizontal number of pixels does not match.*

4. Press **Exit** to return to the *Stereo Timings* menu.

```
        STEREO TIMINGS

       HORIZONTAL DELAY
     VERTICAL BACK PORCH
      V FREQUENCY OFFSET
    AUTO V FREQUENCY [ON]

      V FREQUENCY: 105 Hz


      Select with ↑ or ↓
         then <ENTER>
      If autofrequency is
   off, program the frequency
       with numeric keys
       <EXIT> to return.
```

Menu 8-53

Image 8-10
Horizontal Delay Adjustment

8.5.6.3 Vertical Back Porch

What can be done ?

The Stereo image can be shifted in a vertical direction.

How to adjust the Vertical Porch

1. Push the cursor key ↑ or ↓ to highlight *Vertical Porch*. (menu 8-54)

2. Press **ENTER** to select.

3. Move the top of the image to coincide with the top edge of the screen, using the cursor keys. (image 8-11)
   Tip: *If you are out of range the image might look to small.*

4. Press **Exit** to return to the *Stereo Timings* menu.

```
        STEREO TIMINGS

       HORIZONTAL DELAY
     VERTICAL BACK PORCH
      V FREQUENCY OFFSET
    AUTO V FREQUENCY [ON]

      V FREQUENCY: 105 Hz


      Select with ↑ or ↓
         then <ENTER>
      If autofrequency is
   off, program the frequency
       with numeric keys
       <EXIT> to return.
```
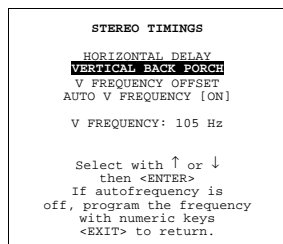
Menu 8-54
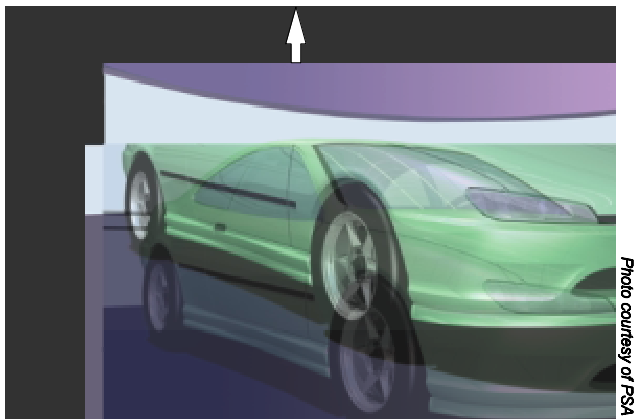
Image 8-11
Vertical Back Porch Adjustment

8.5.6.4   Vertical Frequency Offset

What can be done ?

With Vertical Frequency adjustment it is possible to fine tune the stereo sync signal so that each eye receives only the data intended for it.

   We advise this is done only by experienced users.

How to adjust Vertical Frequency Offset ?

1. Push the cursor key ↑ or ↓ to highlight *V Frequency Offset.* (menu 8-55)

2. Press **ENTER** to select.

3. Push the cursor keys to adjust (in steps of 0.01 Hz) the V Frequency Offset.

4. Press **Exit** to return to the *Stereo Options* menu.

```
          STEREO TIMINGS

        HORIZONTAL DELAY
       VERTICAL BACK PORCH
      V FREQUENCY OFFSET
       AUTO V FREQUENCY [ON]

       V FREQUENCY: 105 Hz

       Select with ↑ or ↓
          then <ENTER>
       If autofrequency is
    off, program the frequency
         with numeric keys
         <EXIT> to return.
```
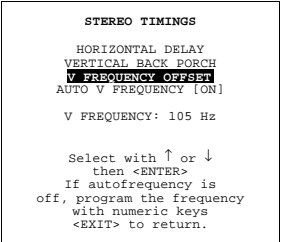
Menu 8-55

8.5.6.5   Auto Vertical Frequency

   We advise to set Auto Vertical Frequency ON.

How to toggle Auto Vertical Frequency ON/OFF

1. Push the cursor key ↑ or ↓ to highlight *Auto V Frequency*. (menu 8-56)

2. Press **ENTER** to toggle between ON or OFF.

    ON   Auto V Frequency is active and *V Frequency* is grayed out, in the Stereo Options menu.

    OFF   Auto V Frequency is not active and the *V Frequency* is programmable

See menu 8-57.

```
        STEREO TIMINGS

      HORIZONTAL DELAY
      VERTICAL BACK PORCH
       V FREQUENCY OFFSET
    AUTO V FREQUENCY [ON]

     V FREQUENCY: 105 Hz


      Select with ↑ or ↓
          then <ENTER>
      If autofrequency is
   off, program the frequency
      with numeric keys
        <EXIT> to return.
```
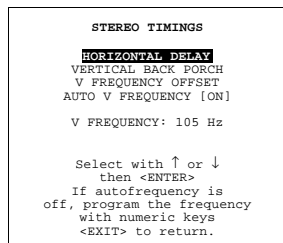
Menu 8-56

```
        STEREO TIMINGS

      HORIZONTAL DELAY
      VERTICAL BACK PORCH
       V FREQUENCY OFFSET
    AUTO V FREQUENCY [OFF]

     V FREQUENCY: 090 Hz


      Select with ↑ or ↓
          then <ENTER>
      If autofrequency is
   off, program the frequency
      with numeric keys
        <EXIT> to return.
```

Menu 8-57

How to program the V Frequency when Auto Frequency is set to OFF ?[5]

1. Push the ↑ or ↓ keys to highlight the digits field of *V Frequency*. (menu 8-58)

2. Press **ENTER** to select.

3. Use the ← or → keys to highlight the desired digit.

4. Use the ↑ or ↓ keys to adjust the value of the selected digit.

5. Press **ENTER** to apply the V Frequency adjustment.

```
        STEREO TIMINGS

      HORIZONTAL DELAY
      VERTICAL BACK PORCH
       V FREQUENCY OFFSET
    AUTO V FREQUENCY [OFF]

    V FREQUENCY: 090 Hz

      Select with ↑ or ↓
          then <ENTER>
      If autofrequency is
   off, program the frequency
      with numeric keys
        <EXIT> to return.
```

Menu 8-58

---

5. We advise this is done only by experienced users.

9. INSTALLATION MODE

Overview

- Start up of the Installation mode
- Input Slots
- 800 peripheral
- Source Switching
- No Signal
- Convergence
- Configuration
- Lens Adjustment
- Quick Access Keys
- OSD
- Internal Patterns

9.1 Start up of the Installation mode

Start up

1. Push the cursor key ↑ or ↓ to highlight *Installation*. (menu 9-1)

2. Press **ENTER**.

   The Installation mode menu will be displayed. (menu 9-2)

```
       ADJUSTMENT MODE

  Select a path from below :

        RANDOM ACCESS
        INSTALLATION
           SERVICE




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

```
          INSTALLATION

          INPUT SLOTS
         800 PERIPHERAL
        SOURCE SWITCHING
           NO SIGNAL
          CONVERGENCE
         CONFIGURATION
             LENS
       QUICK ACCESS KEYS
             OSD
       INTERNAL PATTERNS

     Select with ↑ or ↓
        then <ENTER>
     <EXIT> to return.
```
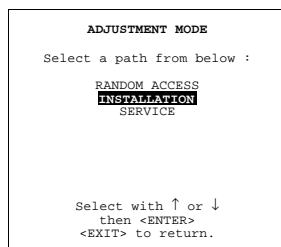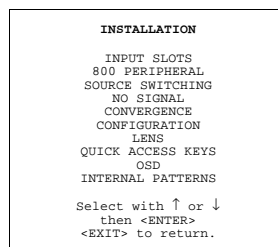
Menu 9-1   Menu 9-2

9.2 Input Slots

What can be done ?

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

To view or the change the input configuration.

1. Push the cursor key ↑ or ↓ to highlight *Input Slots*. (menu 9-3)

2. Press **ENTER** to select.

   The input slots menu will be displayed. (menu 9-4)

```
          INSTALLATION

          INPUT SLOTS
         800 PERIPHERAL
        SOURCE SWITCHING
           NO SIGNAL
          CONVERGENCE
         CONFIGURATION
             LENS
       QUICK ACCESS KEYS
             OSD
       INTERNAL PATTERNS

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

```
           INPUT SLOTS

  1. RGB-SS [CV or HS & VS]
  2. RGB-SS [CV or HS & VS]
  3. No module
  4. No module
  _____
  1. DVI OUTPUT [Active Image]



     Select with ↑ or ↓
        then <ENTER>
     <EXIT> to return.
```
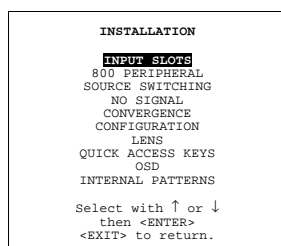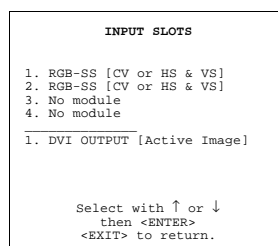
Menu 9-3   Menu 9-4

Possible results for the fixed input slots (1&2).

Source	Indication
RGB analog	RGB-SS[CV] : separate sync is composite video on H/C input
	RGB-SS[HS&VS or CV]: separate sync is horizontal and vertical sync
	RGB-SOG : sync on green
Component Video	Component video - SS : Component video with separate sync
	Component video - SOY : Component video with sync on Y
	Component video - 3LSS : Component video with 3 level separate sync.
	Component video - 3LSOY : Component video with 3 level sync on Y.
RGB analog with tri-level-sync	RGB-SS[3LSS] : RGB with separate Tri level sync.
	RGB3L-SOG[3LSOY]: RGB with Tri-level sync on green.
DVI	DVI
Video or S-Video[6]	Video
	S-video

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.

9.3   800 peripheral

Overview

• Defining the output module of the RCVDS05.
• Defining the Infrared Communication protocol

9.3.1   Defining the output module of the RCVDS05.

Which module are available?

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.

• standard output module
• 5 cable output module

---

6. Only available on Input 1 when an optional decoder is installed.

Defining the output module

To define the output module:

1. Push the cursor key ↑ or ↓ to highlight *800 Peripheral*. (menu 9-5)

2. Press **ENTER** to select.

3. Push the cursor key ↑ or ↓ to highlight *Output module*. (menu 9-6)

```
          INSTALLATION

           INPUT SLOTS
          800 PERIPHERAL
          SOURCE SWITCHING
            NO SIGNAL
           CONVERGENCE
          CONFIGURATION
              LENS
         QUICK ACCESS KEYS
              OSD
         INTERNAL PATTERNS

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

```
          800 PERIPHERAL

     OUTPUT MODULE [STANDARD]
         INFRARED [PPM]




        Select with ↑ or ↓
           then <ENTER>
        <EXIT> to return.
```
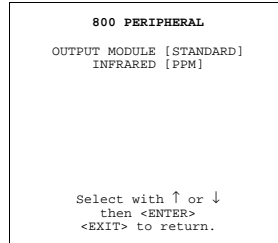
Menu 9-5   Menu 9-6

9.3.2   Defining the Infrared Communication protocol

Which protocols are available?

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

Defining the communication protocol.

1. Push the cursor key ↑ or ↓ to highlight *800 Peripheral*. (menu 9-7)

2. Press **ENTER** to select.

3. Push the cursor key ↑ or ↓ to highlight *Infrared*. (menu 9-8)

4. Press **ENTER** to select.

5. Press **ENTER** to toggle between [PPM] or [RC5].

```
          INSTALLATION

           INPUT SLOTS
          800 PERIPHERAL
          SOURCE SWITCHING
            NO SIGNAL
           CONVERGENCE
          CONFIGURATION
              LENS
         QUICK ACCESS KEYS
              OSD
         INTERNAL PATTERNS

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

```
          800 PERIPHERAL

     OUTPUT MODULE [STANDARD]
         INFRARED [PPM]




        Select with ↑ or ↓
           then <ENTER>
        <EXIT> to return.
```
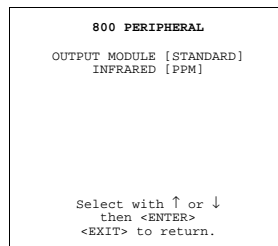
Menu 9-7   Menu 9-8

9.4 Source Switching

Switching from one source to another.

To minimize undesired effects when switching from one source to another one can use the Seamless switching mode, beside Seamless switching there is a choice between several effects which render the transitions more enjoyable.

How to select a switching mode

1. Push the cursor key ↑ or ↓ to highlight *Source Switching*. (menu 9-9)

2. Press **ENTER** to select.

   The seamless source switching menu will be displayed. (menu 9-10)

3. Press **ENTER** to toggle between [NO TRANSITION], [FADE], ...

   OFF   no effect installed.

   RANDOM TRANSITION   source switching will happens with an effect, random chosen between the available effects.

   See image 9-1.

```
        INSTALLATION
        INPUT SLOTS
      800 PERIPHERAL
    SOURCE SWITCHING
        NO SIGNAL
        CONVERGENCE
      CONFIGURATION
          LENS
    QUICK ACCESS KEYS
           OSD
     INTERNAL PATTERNS

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

```
         SEAMLESS
      SOURCE SWITCHING

   EFFECT [NO TRANSITION]





       <ENTER> to toggle
       <EXIT> to return.
```
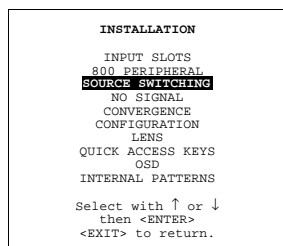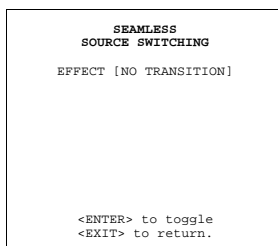
Menu 9-9   Menu 9-10

Image 9-1
Example of seamless switching with Fade effect.

> **When an effect is selected within seamless source switching, wait until the effect is terminated before switching to another source (± 2 seconds).**

9.5 No Signal

Overview

- Changing the Background Color
- Changing the Shutdown Setting
- Changing the Shutdown Time

9.5.1 Changing the Background Color

How to change ?

1. Push the cursor key ↑ or ↓ to highlight *No signal*. (menu 9-11)

2. Press **ENTER** to select.

   The no signal menu will be displayed. (menu 9-12)

3. Push the cursor key ↑ or ↓ to highlight *Color*.menu 9-12

4. Press **ENTER** to toggle between [blue] or [black].

```
         INSTALLATION

          INPUT SLOTS
         800 PERIPHERAL
        SOURCE SWITCHING
          NO SIGNAL
          CONVERGENCE
         CONFIGURATION
             LENS
       QUICK ACCESS KEYS
             OSD
       INTERNAL PATTERNS

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

```
          NO SIGNAL

        COLOR [Blue]
        SHUTDOWN [off]

     Shutdown time:  5 min




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

Menu 9-11   Menu 9-12

9.5.2 Changing the Shutdown Setting

How to change ?

1. Push the cursor key ↑ or ↓ to highlight *No Signal*. (menu 9-13)

2. Press **ENTER** to select.

   The no signal menu will be displayed. (menu 9-14)

3. Push the cursor key ↑ or ↓ to highlight *Shutdown*.menu 9-14

4. Press **ENTER** to toggle between [On] or [Off].

```
         INSTALLATION

          INPUT SLOTS
         800 PERIPHERAL
        SOURCE SWITCHING
          NO SIGNAL
          CONVERGENCE
         CONFIGURATION
             LENS
       QUICK ACCESS KEYS
             OSD
       INTERNAL PATTERNS

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

```
          NO SIGNAL

        COLOR [Blue]
        SHUTDOWN [off]

     Shutdown time:  5 min




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

Menu 9-13   Menu 9-14

9.5.3 Changing the Shutdown Time

Range

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

How to change ?

To set up the shutdown time, handle as follow:

1. Push the cursor key ↑ or ↓ to highlight *No Signal.* (menu 9-15)

2. Press **ENTER** to select.

   The no signal menu will be displayed. (menu 9-16)

3. Push the cursor key ↑ or ↓ to highlight *Shutdown Time.*menu 9-16

4. Push the cursor key ↑ or ↓ to change the digits.
   Or,
   Enter the digits directly with the digit keys on the RCU.

```
        INSTALLATION
       INPUT SLOTS
      800 PERIPHERAL
     SOURCE SWITCHING
        NO SIGNAL
        CONVERGENCE
       CONFIGURATION
           LENS
     QUICK ACCESS KEYS
           OSD
     INTERNAL PATTERNS

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

Menu 9-15

```
          NO SIGNAL

       COLOR [Blue]
       SHUTDOWN [off]

    Shutdown time:  5 min




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

Menu 9-16

9.6 Convergence

What can be done?

The convergence of the displayed image can be adjusted only by a qualified service technician.

How to start up?

1. Push the cursor key ↑ or ↓ to highlight *Convergence.* (menu 9-17)

2. Press **ENTER** to select.

   The following message will be displayed : "Convergence is reserved to qualified service personnel." (menu 9-18)

```
        INSTALLATION
       INPUT SLOTS
      800 PERIPHERAL
     SOURCE SWITCHING
        NO SIGNAL
        CONVERGENCE
       CONFIGURATION
           LENS
     QUICK ACCESS KEYS
           OSD
     INTERNAL PATTERNS

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

Menu 9-17

```
          WARNING


        CONVERGENCE
       is reserved to
         qualified
     service personnel




     <ENTER> to accept
     <EXIT> to return
```

Menu 9-18

9.7 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/table
*   rear/table

Set up the Correct Configuration

1. Push the cursor key ↑ or ↓ to highlight *Configuration.* (menu 9-19)

2. Press **ENTER** to select.

   The configuration menu will be displayed.

```
            INSTALLATION

           INPUT SLOTS
          800 PERIPHERAL
         SOURCE SWITCHING
             NO SIGNAL
            CONVERGENCE
          CONFIGURATION
               LENS
         QUICK ACCESS KEYS
               OSD
         INTERNAL PATTERNS

        Select with ↑ or ↓
            then <ENTER>
          <EXIT> to return.
```
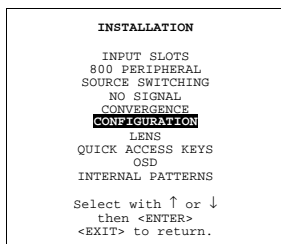
Menu 9-19

> **For more information, see Installation Guidelines .**

9.8 Lens Adjustment

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
- Options : same zoom/focus for all files, yes or no.

How to start up.

1. Push the cursor key ↑ or ↓ to highlight *Lens.* (menu 9-20)

2. Press **ENTER** to select.

   The lens menu will be displayed. (menu 9-21)

```
            INSTALLATION

           INPUT SLOTS
          800 PERIPHERAL
         SOURCE SWITCHING
             NO SIGNAL
            CONVERGENCE
           CONFIGURATION
               LENS
         QUICK ACCESS KEYS
               OSD
         INTERNAL PATTERNS

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

Menu 9-20

```
          LENS ADJUSTMENT

            ZOOM/FOCUS
              SHIFT
             OPTIONS




        Select with ↑ or ↓
            then <ENTER>
          <EXIT> to return.
```
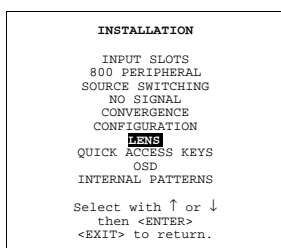
Menu 9-21

How to Zoom/Focus ?

1. Push the cursor key ↑ or ↓ to select Zoom/Focus. (menu 9-22)

2. Push the cursor key ↑ or ↓ to zoom and ← or → to focus the image. see Quick Set Up Adjustments, page 29

3. When finished, press **EXIT** to return to the lens adjustment menu or press **ENTER** to go to the shift function.

```
        LENS ADJUSTMENT

        ZOOM/FOCUS
          SHIFT
          OPTIONS




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

Menu 9-22

How to shift the image?

1. When on the Zoom/Focus menu, press **ENTER** to switch to the shift menu or

2. When on the Lens Adjustment menu, Push the cursor key ↑ or ↓ to highlight *Shift* and press ENTER to display the shift menu. (menu 9-23)

3. Push the cursor key ↑ or ↓ to shift the image up or down and ← or → to shift the image left or right.

4. When finished, press **EXIT** to go to the lens adjustment menu or press **ENTER** to go to the zoom/focus function.

```
        LENS ADJUSTMENT

         ZOOM/FOCUS
          SHIFT
          OPTIONS




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

Menu 9-23

Options

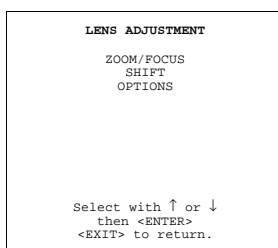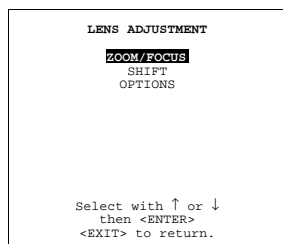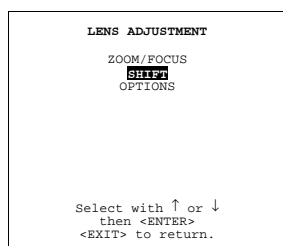The zoom/focus and shift can be set the same for all files.

1. Push the cursor key ↑ or ↓ to highlight *Options*. (menu 9-24)

2. Press **ENTER** to select.

   The Lens Options menu will be displayed. (menu 9-25)

3. Press **ENTER** to toggle between 'Yes' or 'No'.

   [Yes]   all lens settings will be the same for all files

   [No]   different lens settings for all files

                 Default setting : [Yes]

```
        LENS ADJUSTMENT

         ZOOM/FOCUS
          SHIFT
          OPTIONS




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

Menu 9-24

```
         LENS OPTIONS

         Use the same
        zoom and focus
          of the lens
         for all files?
            [No]




        <ENTER> to toggle
        <EXIT> to return.
```
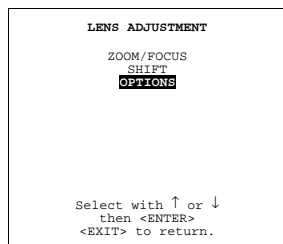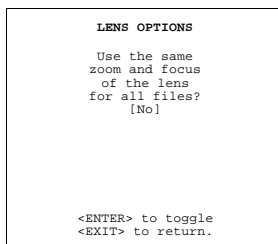
Menu 9-25

When in the 'No' position, the lens memory is using incremental motors which have an accuracy of 1 to 2 steps. This has no implication for zoom, but focus might demand some fine-tuning when switching from one source to another.

9.9 Quick Access Keys

What can be done?

It is possible to get an overview of the programmed functions of the different function keys (only accessible with an adapted RCU).

How to get an overview.

1. Push the cursor key ↑ or ↓ to highlight *Quick Access Keys*. (menu 9-26)

2. Press **ENTER** to select.

   The Quick Access Overview menu will be displayed. (menu 9-27)
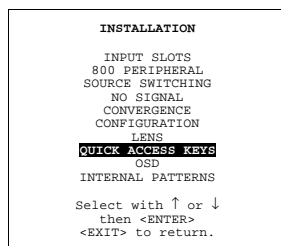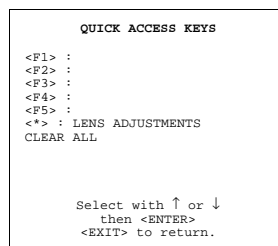
```
         INSTALLATION

         INPUT SLOTS
        800 PERIPHERAL
       SOURCE SWITCHING
          NO SIGNAL
         CONVERGENCE
        CONFIGURATION
            LENS
     QUICK ACCESS KEYS
            OSD
      INTERNAL PATTERNS

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

Menu 9-26

```
       QUICK ACCESS KEYS

  <F1> :
  <F2> :
  <F3> :
  <F4> :
  <F5> :
  <*> : LENS ADJUSTMENTS
  CLEAR ALL



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

Menu 9-27

No functions are preprogrammed.

9.10 OSD

Overview

• Color Settings
• Menu Position

9.10.1 Color Settings

How to change

1. Push the cursor key ↑ or ↓ to highlight *OSD*. (menu 9-28)

2. Press **ENTER** to select.

3. Push the cursor key ↑ or ↓ to highlight *Highlighted item color*. (menu 9-29)

4. Press **ENTER** to toggle between Yellow, Red and Blue.

```
         INSTALLATION

         INPUT SLOTS
        800 PERIPHERAL
       SOURCE SWITCHING
          NO SIGNAL
         CONVERGENCE
        CONFIGURATION
            LENS
       QUICK ACCESS KEYS
            OSD
      INTERNAL PATTERNS

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

Menu 9-28

```
              OSD

   HIGHLIGHT ITEM COLOR [red]

     MENU POSITION [Default]




     Select with ↑ or ↓
        then <ENTER>
     <EXIT> to return.
```
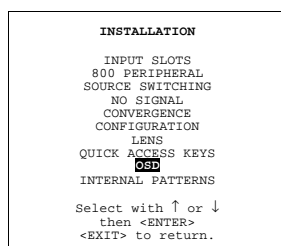
Menu 9-29

9.10.2 Menu Position
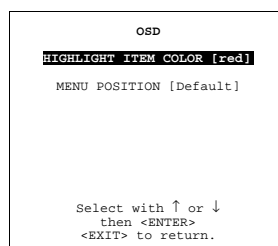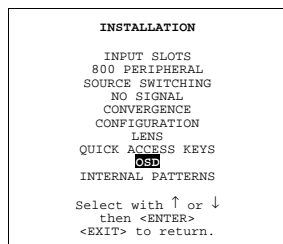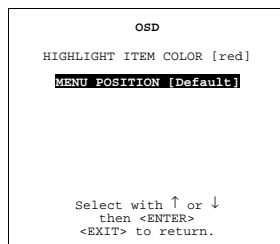
How to change

1. Push the cursor key ↑ or ↓ to highlight *OSD*. (menu 9-30)

2. Press **ENTER** to select.

3. Push the cursor key ↑ or ↓ to highlight *Menu Position*. (menu 9-31)

4. Press **ENTER** to toggle between [DEFAULT] and [CENTER].

   DEFAULT   menus displayed in the center, adjustment boxes displayed in the corner.

   CENTER   menus and adjustment boxes displayed in the center of the image.

```
        INSTALLATION

      INPUT SLOTS
     800 PERIPHERAL
   SOURCE SWITCHING
      NO SIGNAL
      CONVERGENCE
    CONFIGURATION
          LENS
  QUICK ACCESS KEYS
          OSD
   INTERNAL PATTERNS

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

```
           OSD

 HIGHLIGHT ITEM COLOR [red]
 MENU POSITION [Default]




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

Menu 9-30   Menu 9-31

9.11 Internal Patterns

What can be done with these internal patterns?

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

Available patterns

-   Outline
-   Hatch
-   Color bars
-   Multiburst
-   Checker board
-   Page Char
-   Alpha numeric char

How to select an internal patterns?

1. Push the cursor key ↑ or ↓ to highlight *Internal Patterns*. (menu 9-32)

2. Press **ENTER** to select.

   The internal patterns menu will be displayed. (menu 9-33)

```
        INSTALLATION

      INPUT SLOTS
     800 PERIPHERAL
   SOURCE SWITCHING
      NO SIGNAL
      CONVERGENCE
    CONFIGURATION
          LENS
  QUICK ACCESS KEYS
          OSD
   INTERNAL PATTERNS

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

```
     INTERNAL PATTERNS

        OUTLINE
         HATCH
       COLOR BARS
       MULTIBURST
      CHECKER BOARD
        PURITY
        PAGE CHAR
   ALPHA_NUMERIC CHARS


   Select with ↑ or ↓
       then <ENTER>
    <EXIT> to return.
```
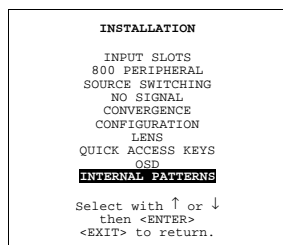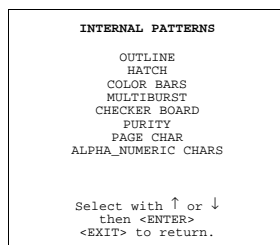
Menu 9-32   Menu 9-33

10. SERVICE MODE

Overview

- Built-up
- Start up
- Identification
- Password
- Changing Language
- Change Projector Address
- Serial Communication
- Lamp
- BARCO Logo
- Add-Ins
- Preset Input Balance
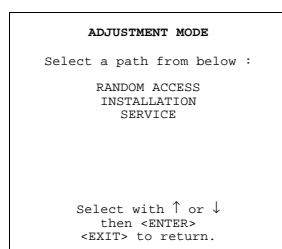- Diagnosis

10.1 Built-up

Built-up

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.
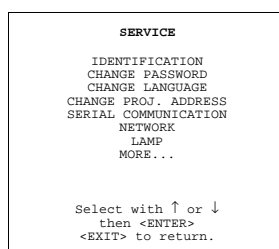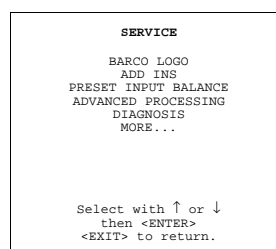
10.2 Start up

Start up

1. Push the cursor key ↑ or ↓ to highlight *Service*. (menu 10-1)

2. Press **ENTER** to display the service mode menu. (menu 10-2)

```
        ADJUSTMENT MODE

    Select a path from below :

        RANDOM ACCESS
         INSTALLATION
           SERVICE




        Select with ↑ or ↓
          then <ENTER>
        <EXIT> to return.
```
Menu 10-1

```
            SERVICE

          IDENTIFICATION
         CHANGE PASSWORD
         CHANGE LANGUAGE
       CHANGE PROJ. ADDRESS
      SERIAL COMMUNICATION
            NETWORK
             LAMP
            MORE...

        Select with ↑ or ↓
          then <ENTER>
        <EXIT> to return.
```
Menu 10-2

```
            SERVICE

          BARCO LOGO
           ADD INS
       PRESET INPUT BALANCE
      ADVANCED PROCESSING
          DIAGNOSIS
            MORE...



        Select with ↑ or ↓
          then <ENTER>
        <EXIT> to return.
```
Menu 10-3

> **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.**

10.3 Identification
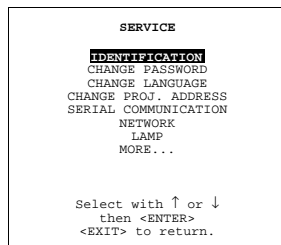
What can be seen on the identification screen?

The identification screen shows the general information of the projector.
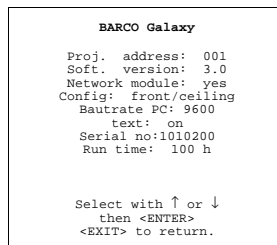
The following items will be displayed:

- Type of projector: BARCO Galaxy
- Software version
- Network module: yes
- Proj. address: To change the address of the projector, see Change Projector Address, page 77
- Installation:
    - front/ceiling
    - front/table
    - rear/ceiling
    - rear/table
- 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.

Start Up

1. Push the cursor key ↑ or ↓ to highlight *Identification.* (menu 10-4)

2. Press **ENTER** to display the Identification screen. (menu 10-5)

```
          SERVICE

        IDENTIFICATION
        CHANGE PASSWORD
        CHANGE LANGUAGE
      CHANGE PROJ. ADDRESS
      SERIAL COMMUNICATION
            NETWORK
             LAMP
            MORE...


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

Menu 10-4

```
         BARCO Galaxy

      Proj.  address:  001
      Soft.  version:  3.0
      Network module:  yes
      Config:  front/ceiling
       Bautrate PC: 9600
            text:  on
       Serial no:1010200
       Run time:  100 h


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

Menu 10-5

10.4 Password

Overview

- Change Password
- Access Control List

10.4.1 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, second switch of S2 on the controller module is installed. Consult an authorized Barco service technician to change the strap position.

About password types.

3 different password levels are built in, in the projector software.

The different levels are:

- owner
- user
- guest

Depending on your password level some password protected items are accessible and others not. The owner (which has the highest level) can set up via the 'Access control list' the accessibility of the different items. See 'Access Control List'.

Get access to the controller module

1. Power down the projector and disconnect the power cord from the wall outlet.

2. Loosen the indicate screws of the input box. (image 10-1)

3. Pull out the input box by both handlers.

4. When looking inside the box, the controller module with the switches is situated in the middle of the box. (image 10-2)
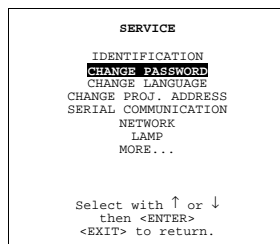
5. Change the position of S2.

Image 10-2

Image 10-1
Access password switch

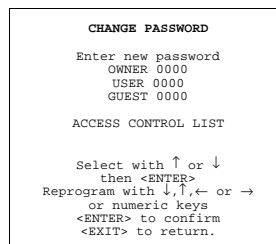### How to change the password ?

1. Push the cursor key ↑ or ↓ to highlight *Change Password*. (menu 10-6)

2. Press **ENTER** to display the *Change Password* menu. (menu 10-7)
   Note: *Only possible when Owner.*

   The old passwords are displayed.

3. Push the cursor key ↑ or ↓ to highlight the password which must be changed.

4. Press **ENTER** to select.

   Enter the new password with the numeric keys of the RCU or local keypad.

5. Select the next password or press **ENTER** to save the changes.
   Press **EXIT** to return without saving the new passwords.

```
          SERVICE

      IDENTIFICATION
    CHANGE PASSWORD
      CHANGE LANGUAGE
  CHANGE PROJ. ADDRESS
  SERIAL COMMUNICATION
         NETWORK
          LAMP
         MORE...


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

```
       CHANGE PASSWORD

   Enter new password
       OWNER 0000
        USER 0000
       GUEST 0000

   ACCESS CONTROL LIST


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

Menu 10-6   Menu 10-7

10.4.2 Access Control List

What is possible?

In the access control list the owner can set up the access possibilities for the user and the guest.

Set up of an Access Control List.

1. Push the cursor key ↑ or ↓ to highlight Change Password. (menu 10-8)

2. Press **ENTER** to display the Change password menu. (menu 10-9)
   Note: *Only possible when Owner.*

3. Push the cursor key ↑ or ↓ to highlight *Access Control List*.

4. Press **ENTER** to display the Access Control List menu. (menu 10-10)

   For each item an access possibility can be set for owner, user, guest or everybody.

```
        SERVICE

     IDENTIFICATION
     CHANGE PASSWORD
     CHANGE LANGUAGE
   CHANGE PROJ. ADDRESS
   SERIAL COMMUNICATION
        NETWORK
         LAMP
        MORE...


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

Menu 10-8

```
    CHANGE PASSWORD

   Enter new password
     OWNER  0000
     USER   0000
     GUEST  0000

  ACCESS CONTROL LIST


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

Menu 10-9

```
   ACCESS CONTROL LIST

 Menu        O  U  G  E
 Adj mode    Y  Y  Y  Y
 BARCO LOGO  Y  -  -  -
 Change add  Y  Y  -  -

 O=owner, U=user, G=Guest
 E=everybody



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

Menu 10-10

Changing an access possibility

1. Push the cursor key ↑ or ↓ to select an item in the scroll list.

2. Press **ENTER** to select.

3. Push the cursor key ← or → to select owner, user, guest or everybody.

4. Press **ENTER** to toggle between Y(yes) or N(no).

5. Repeat both steps if necessary.

Access Levels

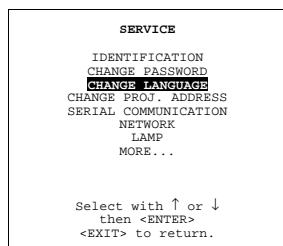An access level can be added to the following items:
- Adjustment mode
- Barco logo
- Change projector address
- File delete
- File delete all
- Input balance
- Installation
- Random access
- Serial communication
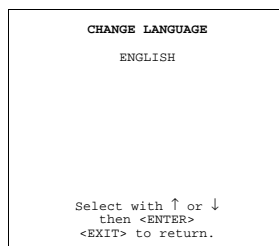- Service

10.5 Changing Language

Start up

1. Push the cursor key ↑ or ↓ to highlight *Change Language*. (menu 10-11)

2. Press **ENTER** to display the *Change Language* menu. (menu 10-12)

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
     SERIAL COMMUNICATION
          NETWORK
            LAMP
           MORE...


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

Menu 10-11

```
       CHANGE LANGUAGE

          ENGLISH








       Select with ↑ or ↓
         then <ENTER>
       <EXIT> to return.
```
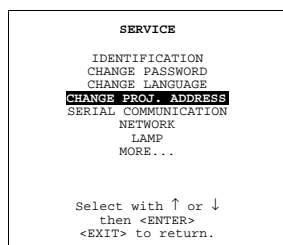
Menu 10-12

10.6 Change Projector Address

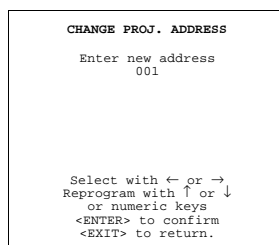### How to change that address?

1. Push the cursor key ↑ or ↓ to highlight *Change Proj Address*. (menu 10-13)

2. Press **ENTER**.

   The Change Projector Address menu will be displayed and the actual address will be filled in.

   The first digit is highlighted (menu 10-14)

```
          SERVICE

       IDENTIFICATION
       CHANGE PASSWORD
       CHANGE LANGUAGE
     CHANGE PROJ. ADDRESS
     SERIAL COMMUNICATION
          NETWORK
            LAMP
           MORE...


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

Menu 10-13

```
      CHANGE PROJ. ADDRESS

       Enter new address
             001




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

Menu 10-14

10.7 Serial Communication

Overview

• Start Up of the Serial Communication
• Baud rate Setting
• Setting up the Interface Standard
• RS422 Termination

10.7.1 Start Up of the Serial Communication

Start up

1. Push the cursor key ↑ or ↓ to highlight *Serial communication*. (menu 10-15)

2. Press **ENTER** to display the Serial Communication menu. (menu 10-16)

```
            SERVICE

         IDENTIFICATION
         CHANGE PASSWORD
        CHANGE LANGUAGE
      CHANGE PROJ. ADDRESS
      SERIAL COMMUNICATION
            NETWORK
             LAMP
            MORE...


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

Menu 10-15

```
       SERIAL COMMUNICATION

      PROJECTOR ADDRESS 001
        BAUDRATE [115200]
    INTERFACE STANDARD [RS232]
      RS422 TERMINATION [ON]




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

Menu 10-16

10.7.2 Baud rate Setting

Set up

To change the baud rate, handle as follow:

1. Push the cursor key ↑ or ↓ to highlight *Baudrate*. (menu 10-17)

   The actual baud rate will be displayed.

2. Press **ENTER** to toggle between the available baudrates.

   Default : 9600

```
       SERIAL COMMUNICATION

      PROJECTOR ADDRESS 001
        BAUDRATE [115200]
    INTERFACE STANDARD [RS232]
      RS422 TERMINATION [ON]




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

Menu 10-17

Available baud rates.

115200/57600/38400/19200/9600/4800/1200

### 10.7.3 Setting up the Interface Standard

Set up

The communication protocol for the communication between the projector and a computer can be set on RS232 or RS422. To set up the desired protocol, handle as follow :

1. Push the cursor key ↑ or ↓ to highlight *Interface Standard*. (menu 10-18)

   The actual interface standard will be displayed.

2. Press **ENTER** to toggle between RS232 and RS422.
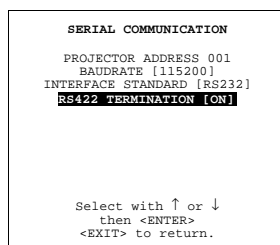
   Default : RS232

```
            SERIAL COMMUNICATION

         PROJECTOR ADDRESS 001
            BAUDRATE [115200]
        INTERFACE STANDARD [RS232]
         RS422 TERMINATION [ON]




            Select with ↑ or ↓
               then <ENTER>
            <EXIT> to return.
```
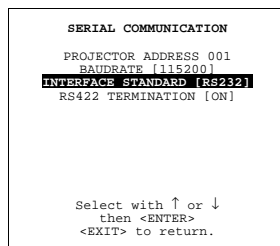
Menu 10-18

10.7.4 RS422 Termination

Set up

The last projector in a line should be RS422 terminated (ON position). All others in the line should be in the OFF position. To change the termination position :

1. Push the cursor key ↑ or ↓ to highlight RS422 Termination. (menu 10-19)

   The actual setting will be displayed.

2. Press **ENTER** to toggle between ON and OFF.

   Default : ON

```
            SERIAL COMMUNICATION

         PROJECTOR ADDRESS 001
            BAUDRATE [115200]
        INTERFACE STANDARD [RS232]
         RS422 TERMINATION [ON]




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

Menu 10-19

10.8 Lamp

Lamp information light output switching

All information about the lamp is stored inside the lamp house and can be displayed via the projector software on the projection screen. No information can be changed.

The Constant light output function can be changed between OFF, [slave] and [master].

Linked CLO

The constant light output of projectors in a chain (maximum 12 projectors) can be set to the same value by linking the projectors via the RS232 connector.

To the RS232in of the first projector, a terminator must be connected (**Z3498823**). The out of the first must be connected to the in of the next projector, etc.

All projectors must have a different projector address between 1 and 12.

All must have the same baud rate and RS mode.

The constant light output setting of one projector must be in the master position. All others must be in the slave position.
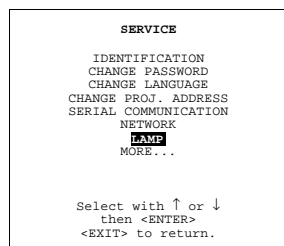

Image 10-3
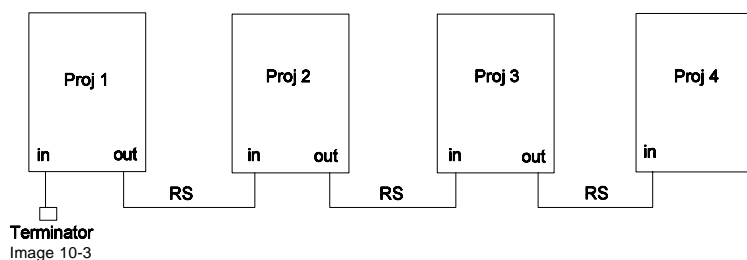
Which information is available

serial number	unique serial number of the lamp
type	lamp type
run time	total time the lamp is used in this or other projectors.
remaining run time	time left before the lamp must be replaced Using the lamp longer than the maximum run time may damage the projector.
number of strikes	Total times the lamp is started up.
Z-AXIS	indication to adjust the Z-AXIS of the lamp (see Re-adjustment of the lamp position in chapter Installation Guidelines).

How to display the lamp menu

1. Push the cursor key ↑ or ↓ to highlight *Lamp.* (menu 10-20)

2. Press **ENTER** to select.

   The lamp menu will be displayed. (menu 10-21)


```
          SERVICE

       IDENTIFICATION
       CHANGE PASSWORD
       CHANGE LANGUAGE
    CHANGE PROJ. ADDRESS
    SERIAL COMMUNICATION
          NETWORK
          LAMP
          MORE...


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

Menu 10-20


```
           LAMP

  Constant Light output [OFF]
       Mode [NORMAL]
    Serial number :  R101111
   Article number :  R9840xxx
      Run time :  10 hours
   Remaining run time :  490
             hours
   Number of strikes :  10
        Z_AXIS : 100


     Select with ↑ or ↓
        then <ENTER>
      <EXIT> to return.
```
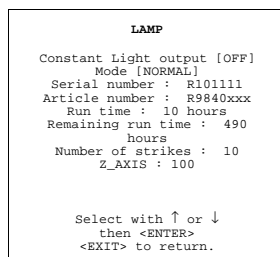
Menu 10-21

How to switch the constant light output?

1. Push the cursor key ↑ or ↓ to highlight *Constant Light Output.*menu 10-21

2. Press **ENTER** to toggle between [OFF], [SLAVE] and [MASTER].

[OFF]	fixed power, no power adaptation.
[SLAVE]	follows the master projector to adjust the CLO. When stand alone and the light output should be adjusted, put on slave.
[MAS-TER]	master projector to control the CLO in a chain of projectors.

Mode switching

1. Push the cursor key ↑ or ↓ to highlight *Mode.*menu 10-21

2. Press **ENTER** to toggle between [NORMAL] and [ECONOMIC].

normal	normal light output
eco-nomic	reduced light output

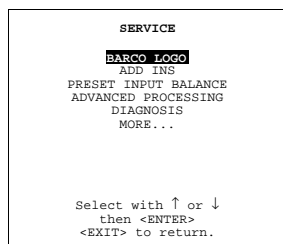## 10.9 BARCO Logo

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.

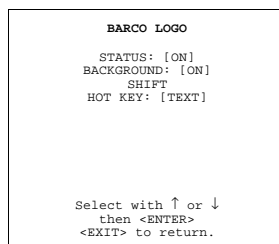### How to add the BARCO logo or to change the setting?

1. Push the cursor key ↑ or ↓ to highlight *BARCO logo.* (menu 10-22)

2. Press **ENTER** to select.

   The *BARCO logo* menu will be displayed. (menu 10-23)

   The actual settings will be displayed. Within this menu, three toggle settings and a shift control are available.

```
          SERVICE

       BARCO LOGO
         ADD INS
   PRESET INPUT BALANCE
   ADVANCED PROCESSING
        DIAGNOSIS
         MORE...



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

Menu 10-22

```
         BARCO LOGO

      STATUS: [ON]
    BACKGROUND: [ON]
         SHIFT
    HOT KEY: [TEXT]




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

Menu 10-23

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 ↑, ↓, ← or →, the BARCO logo can be positioned anywhere on the screen.
- HOT KEY [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).

10.10 Add-Ins

How to get add ins?

The available add-ins can be activated by entering your personal access key when buying this function. Please contact your reseller.

He will ask for the serial number of your projector.

Available Add Ins

CLO : When activated, the lamp option 'Constant light output' in the menu 'Lamp' becomes available.

Scenergix : When activated, soft edging becomes possible in the Random access adjustment mode.

How to activate an add-ins?

1. Push the cursor key ↑ or ↓ to highlight *Add-Ins.* (menu 10-24)

   The Add-Ins menu will be displayed. (menu 10-25)

2. Push the cursor key ↑ or ↓ to highlight an Add-Ins.

3. Press **ENTER** to activate.

   The Install Add-Ins menu will be displayed. E.g. (menu 10-26)

4. Enter your personal key.

   The key exists out of 16 alphanumeric characters.

5. To reprogram the key, use the cursor key ↑ , ↓,← or → or the numeric keys for the digits.

   When the entered key is correct, the indication 'Software : not activated' will change in 'activated'.

6. Press **ENTER** to confirm.

```
        SERVICE                      ADD-INS                 INSTALL ADD-INS
                                                                  CLO
      BARCO LOGO                 CLO [INACTIVE]
       ADD INS                  SCENERGIX [INACTIVE]        KEY :xxxxxxxxxxxxxx
   PRESET INPUT BALANCE                                     ───────────────────
   ADVANCED PROCESSING                                      Hardware :  OK
       DIAGNOSIS                                            Software :  Not activated
         MORE...




    Select with ↑ or ↓          Select with ↑ or ↓           Select with ↑ or ↓
      then <ENTER>                 then <ENTER>          Reprogram with ↑,↓,← or →
    <EXIT> to return.           <EXIT> to return.           <ENTER> to confirm
                                                            <EXIT> to return.
```

Menu 10-24   Menu 10-25   Menu 10-26

10.11 Preset Input Balance

⚠️ **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 10-27)

2. Press **ENTER** to select.

   The following warning will be displayed : (menu 10-28)

   Preset input balance is reserved to qualified service personnel. If you are not qualified, press **EXIT** to cancel the panel adjustments.

```
        SERVICE                       WARNING

      BARCO LOGO
       ADD INS
   PRESET INPUT BALANCE            PRESET INPUT BALANCE
   ADVANCED PROCESSING                is reserved to
       DIAGNOSIS                        qualified
         MORE...                    service personnel




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

Menu 10-27   Menu 10-28

10.12 Diagnosis

## 10.12.1 How to start up the Diagnosis?

What can be seen?

The diagnosis menu gives the possibility to select an overview of the I²C controlled IC's and an overview of the working of the formatter.
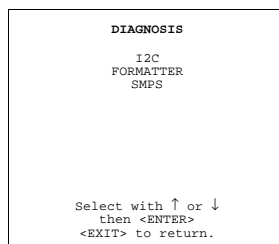
Start up

1. Push the cursor key ↑ or ↓ to highlight *Diagnosis.* (menu 10-29)

2. Press **ENTER** to select.

   The diagnosis menu will be displayed. (menu 10-30)

```
        SERVICE

      BARCO LOGO
       ADD INS
  PRESET INPUT BALANCE
  ADVANCED PROCESSING
      DIAGNOSIS
       MORE...



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

```
       DIAGNOSIS

         I2C
       FORMATTER
         SMPS



  Select with ↑ or ↓
     then <ENTER>
  <EXIT> to return.
```
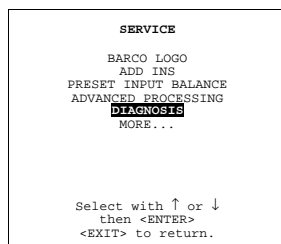
Menu 10-29   Menu 10-30

10.12.2 I²C Diagnoses

How to select?

1. Push the cursor key ↑ or ↓ to highlight *I2C.* (menu 10-31)

2. Press **ENTER** to select.

   The I2C Diagnosis overview will be displayed.

   If the indication behind the hex code is green, everything is ok.

   If the indication is red, something is wrong with that indicated address. (menu 10-32)

```
       DIAGNOSIS

         I2C
       FORMATTER
         SMPS




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

```
       I2C DIAGNOSIS

DECODER          12H ###
MOTOR DRIVER     1AH ###
LIGHT SENSOR     1CH ###
LAMP DRIVER      20H ###
POWER SUPPLY     30H ###
FORMATTER        34H ###
PMP              4AH ###
INPUT SELECTOR   72H ###
INPUT SELECTOR   98H ###
INPUT SELECTOR   9AH ###
LAMP MODULE      A0H ###

     Select with ↑ or ↓
     <EXIT> to return.
```
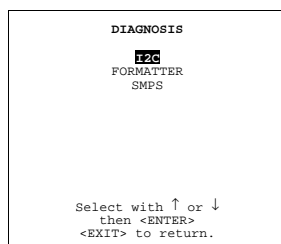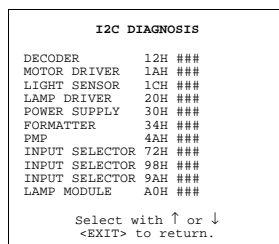
Menu 10-31   Menu 10-32

10.12.3 Formatter

How to select the overview?

1. Push the cursor key ↑ or ↓ to highlight *Formatter.* (menu 10-33)

2. Press **ENTER** to select.

   An overview of the working of the formatter will be displayed.

```
       DIAGNOSIS

         I2C
       FORMATTER
         SMPS




  Select with ↑ or ↓
     then <ENTER>
  <EXIT> to return.
```
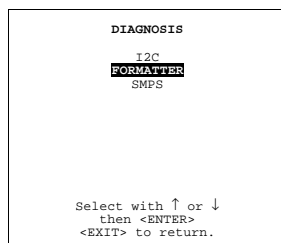
Menu 10-33

10.12.4 SMPS

How to select the overview?

1. Push the cursor key ↑ or ↓ to highlight *SMPS*. (menu 10-34)

2. Press ENTER to select.

   The SMPS overview menu will be displayed. (menu 10-35)

```
          DIAGNOSIS

             I2C
          FORMATTER
            SMPS






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

```
              SMPS

  I2C (30H)         OK
  AMBIENT           OK
  NTC               OK
  TILT SWITCH       OK
  MICRO SWITCH      OK
  LAMP TEMP         OK
  LPS MAINS         OK
  POWER             OK




         <EXIT> to return.
```

Menu 10-34   Menu 10-35

11. PROGRAMMABLE FUNCTION KEYS

11.1 Function Keys

What can be done with these keys?

The five function keys on top of an adapted remote control can be programmed as short cut keys (quick access) to almost any adjustment menu.

How can a function key be programmed?

A function key can only be programmed when in the adjustment mode. Handle as follow :

1. Scroll through the menus until the desired menu is reached.

2. Press the desired function key for this menu during a few seconds.

   A confirmation menu will be displayed : " <F1> will be used to quickly access this menu". (menu 11-1)

```
         CONFIRM
       QUICK ACCESS

      <F1> will be used
      to quickly access
         this menu.




       <ENTER> to confirm
        <EXIT> to cancel
```
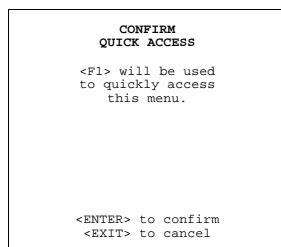
Menu 11-1

A. STANDARD SOURCE SET UP FILES

A.1 Table overview

Table overview

The following standard source files are pre-programmed in the projector.

Name[7]	Resolu-tion[8]	Fvert Hz[9]	FHor kHz[10]	Fpix MHz[11]	Ptot[12]	Pact[13]	Ltot[14]	Lact[15]
1600_48V	1600x600i	48,040	62,500	135,000	2160	1600	651	600
1600_60V	1600x1200	60,000	75,000	162,000	2160	1600	1250	1200
1600_65V	1600x1200	65,000	81,250	175,500	2160	1600	1250	1200
1600_70V	1600x1200	70,000	87,500	189,000	2160	1600	1250	1200
8514_A	1024x384i	43,479	35,522	44,900	1264	1024	409	384
CGA	640x200	59,924	15.700	14.318	912	640	262	200
COMPUSC4	1024x480i	29,945	30,694	39,779	1296	1024	512	480
ED	735x480	59,943	31,470	28,638	910	735	525	480
EGA	640x350	59,702	21,851	16,257	744	640	366	350
EWS_50	1280x1024	50,000	52,350	87,948	1680	1280	1047	1024
EWS_60	1280x1024	60,000	63,900	107,352	1680	1280	1065	1024
EWS_60V	1280x1024	60,282	63,657	110,000	1728	1280	1056	1024
EWS_72	1280x1024	72,000	76,968	130,076	1690	1280	1069	1024
EWS_75	1280x1024	75,025	79,976	135,000	1688	1280	1066	1024
FMR	640x400i	42,323	36,440	28,570	784	640	431	400
FMTO_2	640x400	55,370	24,370	21,056	864	640	440	400
HD_24P	1920x1080	24,000	27,000	74,250	2750	1920	1125	1080
HD_25I	1920x540I	25,000	28,125	74,250	2640	1920	563	540
HD_25P	1920x1080	25,000	28,125	74,250	2640	1920	1125	1080
HD_30I	1920x540I	30,000	33n750	74,250	200	1920	563	540
HD_30I_2	1920x517I	30,000	33,750	74,250	2200	1920	563	517
HD_30P	1920x1080	30,000	33,750	74,250	2200	1920	1125	1080
HD_60P	1920x720	60,000	45,000	74,250	1650	1280	750	720
HDMAC	1252x570i	25,020	31,250	39,125	1252	1024	625	570
INTER_GR	1184x886	67,170	61,796	92,941	1504	1184	920	886
MAC_2	640x480	66,667	35,000	30,240	864	640	525	480

---

7. Name: name of file, contains the settings.
8. Resolution: image resolution, when followed by ..i means interlaced.
9. Fvert Hz: vertical frame frequency of the source.
10. FHor kHz: horizontal frequency of the source
11. Fpix MHz: pixel frequency
12. Ftot : total pixels on one horizontal line.
13. Pact: active pixels on one horizontal line.
14. Ltot: total lines in one field
15. Lact: active lines in one field.

A. Standard Source set up Files

Name[7]	Resolution[8]	Fvert Hz[9]	FHor kHz[10]	Fpix MHz[11]	Ptot[12]	Pact[13]	Ltot[14]	Lact[15]
MAC_3	512x384	60,147	24,480	15,667	640	512	407	384
MAC_4	560_384	60,147	24,480	17,234	704	560	407	384
MAC_5	512x342	60,158	22,259	16,670	704	512	370	342
MAC_6	832x624	74,546	49,722	57,280	1152	832	667	624
MAC_7	1024x768	74,907	60,150	80,000	1330	1024	803	768
MAC_LC	640x480	66,619	34,975	31,338	896	640	525	480
MAC_POR	640x870	74,996	68,846	57,280	932	640	918	870
MUSE	1172x518i	30,000	33,750	37,125	1172	1024	563	518
VIDEO525	1302x239i	29,970	15,734	32,207	1302	1024	263	239
VIDEO625	1024x278i	25,000	15,625	31,984	1310	1024	313	278
PAM500	640x400	60,000	26,400	22,810	864	640	440	400
PAM800	1120x375i	44,936	36,443	50,000	1372	1120	406	375
PC98_1	640x400	56,416	24,823	21,050	848	640	440	400
PC98_2	1120x375i	39,994	32,835	47,840	1457	1120	411	375
PC98_3	1120x750	60,000	50,000	78,569	1571	1120	833	750
S1152_66	1152x900	66,004	61,846	94,500	1528	1152	937	900
S1152_76	1152x900	76,637	71,809	108,000	1504	1152	937	900
SDI_625	675x2781	25,000	15,625	13,500	864	720	313	278
SDI_525	675x2401	29,970	15,734	13,500	858	720	263	240
SG_50	1600x1200	50,000	62,500	130,313	2085	1600	1250	1200
SG_60_2	1024x768	60,000	48,780	64,390	1320	1024	813	768
SG_60_3	960x680	60,000	43,200	54,432	1260	960	720	680
SG_60_4	1600x1200	60,000	75,000	156,375	2085	1600	1250	1200
SUNEWS67	1280x1024	67,189	71,691	117,000	1632	1280	1067	1024
SUNEWS76	1280x124	76,107	81,130	135,000	1664	1280	1066	1024
SUNXGA60	1024x768	59,984	48,287	64,125	1328	1024	805	768
SUNXGA70	1024x768	70,041	56,596	74,250	1312	1024	808	768
SUNXGA77	1024x768	77,069	62,040	84,375	1360	1024	805	768
SUP_MAC	1024x768	60,000	48,780	63,999	1312	1024	813	768
SVGA_56V	800x600	56,250	35,156	36,000	1024	800	625	600
SVGA_60V	800x600	60,317	37,879	40,000	1056	800	628	600

Name[7]	Resolu-tion[8]	Fvert Hz[9]	FHor kHz[10]	Fpix MHz[11]	Ptot[12]	Pact[13]	Ltot[14]	Lact[15]
SVGA_72V	800x600	72,084	48,080	50,003	1040	800	667	600
VGA_72V	640x480	72,800	37,856	31,496	832	640	520	480
VGA_GR	640x480	59,941	31,469	25,175	800	640	525	480
VGA_TXT	720x400	70,087	31,469	28,322	900	720	449	400
VGA75ISO	640x480	75,000	39,375	31,500	800	640	525	480
XGA_60	1024x768	60,000	48,360	64,996	1344	1024	806	768
XGA_70	1024x768	70,000	57,050	78,044	1368	1024	815	768
XGA_70V	1024x768	69,705	56,182	74,610	1328	1024	806	768
XGA_72	1024x768	71,955	58,140	80,000	1376	1024	808	768
XGA_75	1024x768	75,781	61,080	86,000	1408	1024	806	768
XGA75_GS	1024x768	74,534	59,701	79,284	1328	1024	801	768
SGI_108V	1280x1024	108	112,676	164.145	1460	1280	1041	1024
SGI_110V	1280x1024	110	114,286	167.160	1464	1280	1038	1024
SGI_96V	1280x1024	96	102,564	163.277	1600	1280	1063	1024
HP_100V	1280x1024	100	108,108	187.488	1728	1280	1085	1024
SUN								

Table A-1

INDEX

Revision Sheet

To:

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From: _____

Date: _____

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