BARCOPROJECTION

BARCOSLM G8 EXECUTIVE

R9002970

OWNERS MANUAL

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TABLE OF CONTENTS

1. Safety Instructions 5
1.1 Warnings 5
1.2 FCC statement 5
1.3 Note 5

2. Packaging and Dimensions 7
2.1 Box Content 7
2.2 Projector Packaging 7
2.3 Lens Packaging 7
2.4 Projector Case 8

3. Installation Guidelines 11
3.1 General 11
3.2 Projector Position 12
3.3 Configuration 13
3.4 Safety Area arround the projector 15
3.5 Re-adjusting the lamp position in the lamp casing 16
3.6 Lenses 17
3.6.1 Lenses 18
3.6.2 Lens selection 18
3.6.3 Lens formulas 18
3.6.4 Lens Installation 19
3.6.5 Cleaning the lens 19
3.7 Battery Installation in the RCU 20

4. Connections 21
4.1 Power connection 21
4.2 Switching on 21
4.3 Switching to standby 23
4.4 Switching off 23
4.5 Input Source Connections 23
4.5.1 Input Facilities 23
4.5.2 Inputs via RCVDS05 23
4.5.3 Input module insertion 24
4.5.4 Fixed slot (slot 1 & 2) 25
4.5.5 Serial Digital Input (slot 3 & 4) 26
4.5.6 HD SDI Digital input (slot 3 & 4) 27
4.5.7 Digital Video Decoder Input 28
4.6 Communication Connections 30
4.6.1 RS232 (RS422) Connection 30
4.6.2 Communication with peripherals 30
4.6.3 Network connection 30

5. Getting Started 33
5.1 RCU & Local keypad 33
5.2 Terminology overview 33
5.3 Operating the projector 35
5.3.1 Switching On 35
5.3.2 Switching to standby 36
5.3.3 Switching off 36
5.3.4 Temperature error DMD 36
5.4 Quick Set Up Adjustments 36
5.4.1 Quick Language Change 36
5.4.2 Quick Lens Adjustment 37
5.4.3 Quick On Screen Color change 38
5.5 Using the RCU 38
5.6 Projector Address 40
5.6.1 Controlling the projector 40
5.6.2 Displaying and Programming addresses 41
5.7 Controlling the Projector 41

6. Start up of the Adjustment mode 43
6.1 Start up 43
6.2 Password 43
6.3 Menus on Local LCD Display 44

7. Random Access Adjustment Mode 45
7.1 Overview Flow 45
7.2 Picture Services 46
7.2.1 File annotation 46
7.2.2 Possible file manipulations 46
7.2.3 Start up 47
7.2.4 Load file 47

7.2.5 Edit File ... 48
7.2.5.1 Start up ... 48
7.2.5.2 Changing the settings ... 49
7.2.5.3 Correct value ... 49
7.2.6 Rename ... 52
7.2.7 Copy ... 53
7.2.8 Delete ... 53
7.2.9 File Options ... 54
7.3 Picture Tuning ... 55
7.3.1 Start up ... 55
7.3.2 CTI ... 55
7.3.3 Color Temperature ... 56
7.3.4 Gamma ... 56
7.3.5 Decoding ... 57
7.3.6 Dynamic Color Depth ... 57
7.3.7 Noise Reduction ... 58
7.3.8 Input Balance ... 58
7.3.8.1 Input Balance for RGB input signals ... 59
7.3.8.2 Input Balance for YUV signals ... 60
7.3.8.3 Returning to the factory defaults ... 60
7.4 Geometry ... 61
7.4.1 Introduction ... 61
7.4.2 Geometry start up ... 61
7.4.3 Shift ... 61
7.4.4 Size ... 62
7.4.5 Side Keystone ... 63
7.4.6 Blanking ... 64
7.4.7 Aspect Ratio ... 65
7.4.8 Geometry Options ... 66
7.5 ScenergiX ... 66
7.5.1 Introduction ... 66
7.5.2 Preparations ... 67
7.5.3 Scenergix ... 68
7.5.4 ScenergiX overlap zone (horizontal scenergix) ... 68
7.5.5 ScenergiX overlap zone (vertical scenergix) ... 69
7.5.6 ScenergiX size adjustment ... 70
7.5.7 Adjusting the black level of the images ... 72
7.6 Picture in Picture (PiP) ... 73
7.6.1 Introduction to PiP ... 73
7.6.2 Picture in Picture activation ... 74
7.6.3 Picture in Picture source ... 74
7.6.4 Position of Picture in Picture window ... 74
7.6.5 Set up of the Quick Selection ... 75
7.7 Save Changes ... 75

8. Installation Mode ... 77
8.1 Start up of the Installation mode ... 77
8.2 Input Slots ... 77
8.3 800 peripheral ... 79
8.3.1 Defining the output module of the RCVDS05 ... 79
8.3.2 Defining the Infrared Communication protocol ... 79
8.4 Source Switching ... 80
8.5 No Signal ... 80
8.5.1 Changing the Background Color ... 81
8.5.2 Changing the Shutdown Setting ... 81
8.5.3 Changing the Shutdown Time ... 81
8.6 Contrast Enhancement ... 82
8.7 Convergence ... 83
8.8 Configuration ... 83
8.9 Lens Adjustment ... 84
8.10 Quick Access Keys ... 85
8.11 OSD ... 86
8.11.1 Color Settings ... 86
8.11.2 Menu Position ... 86
8.12 Internal Patterns ... 86

9. Service Mode ... 89
9.1 Built-up ... 89
9.2 Start up ... 89
9.3 Identification ... 89
9.4 Password ... 90
9.4.1 Change Password ... 90
9.4.2 Access Control List ... 91
9.5 Changing Language ... 93
9.6 Change Projector Address ... 93
9.7 Serial Communication ... 94

9.7.1 Start Up of the Serial Communication 94
9.7.2 Baud rate Setting 95
9.7.3 Setting up the Interface Standard 95
9.7.4 RS422 Termination 96
9.8 Network Configuration 96
9.9 Lamp 97
9.10 Dimming 100
9.11 BARCO Logo 100
9.12 Add-Ins 101
9.13 Preset Input Balance 101
9.14 Advanced Processing 102
9.14.1 Minimum Delay 102
9.15 Diagnosis 103
9.15.1 How to start up the Diagnosis? 103
9.15.2 I^2C Diagnoses 103
9.15.3 Formatter 104
9.15.4 SMPS 104
9.15.5 LPS (lamp power supply) 104
9.15.6 Voltages 105

10. Programmable Function Keys 107
10.1 Function Keys 107

A. Standard Source set up Files 109
A.1 Table overview 109

B. Barco Control Manager 113
B.1 General requirements 113
B.2 About the control manager 114
B.3 Control manager Start Page 114
B.4 Control 115
B.4.1 Start up 116
B.4.2 General Control 117
B.4.3 Source 118
B.4.4 Image Settings 118
B.4.5 Image Enhancement 119
B.4.6 Lens adjustment 120
B.4.7 Geometry adjustment 120
B.4.8 Blanking adjustment 121
B.5 Configuration 122
B.5.1 Start up 122
B.5.2 Mail Set up 123
B.5.3 Security 124
B.5.4 Data & Time 125
B.5.5 Settings 126
B.6 Diagnostics 127
B.6.1 Start Up 127
B.6.2 General Status 128
B.6.3 Job Log 128
B.6.4 Advanced Diagnostics 128

Index 131

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
- Projector Packaging
- Lens Packaging
- Projector Case

2.1 Box Content

Content

- 1 projector BARCO SLM G8 (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 Projector Packaging

Way of Packaging

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

To unpack

1. Release the fastening clips.
2. Remove the banding. Handle as shown in the drawing. (image 2-1)
3. Take the projector out of its shipping carton and place it on a table.

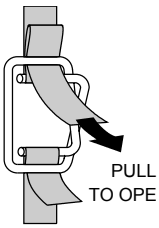


Image 2-1

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

Never transport the projector with the lens mounted on it !

Always remove the lens before transporting the projector.

2.3 Lens Packaging

Way of Packaging

Lenses are supplied as an individual item.

They are packed in a carton.

2.4 Projector Case

Dimensions

The dimensions are given in mm and inch (25.4 mm = 1 inch).

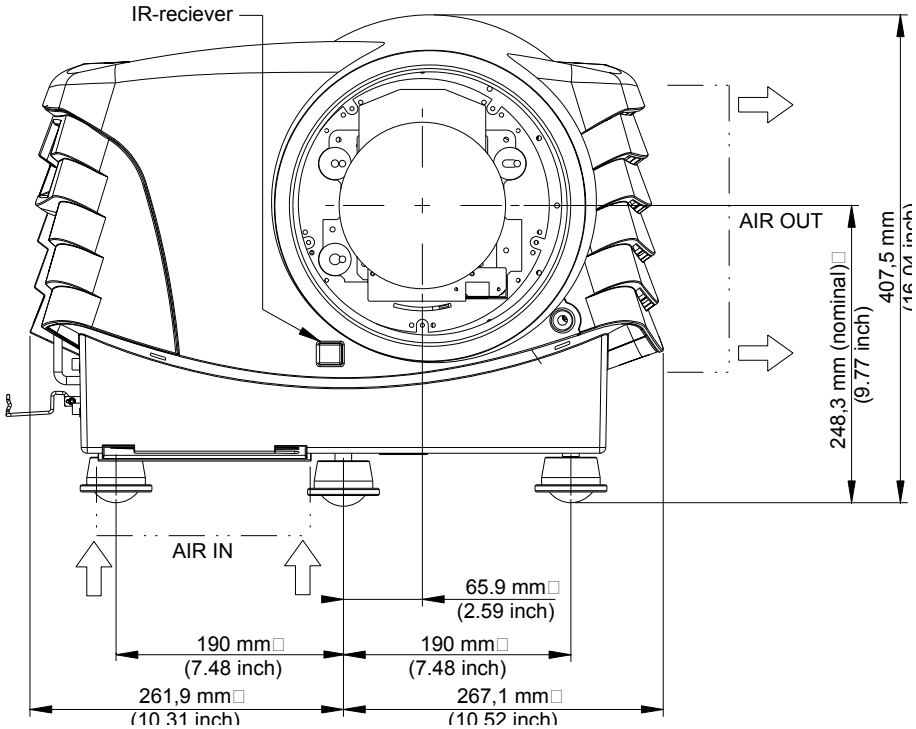


Image 2-2
Front view dimensions

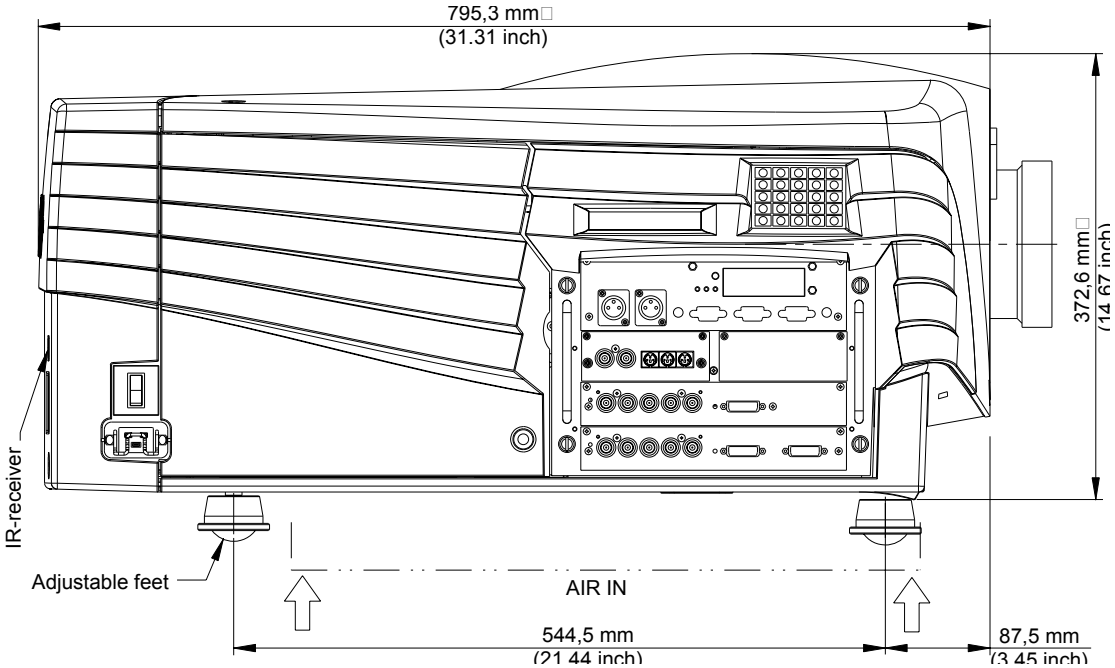


Image 2-3
Left view dimensions

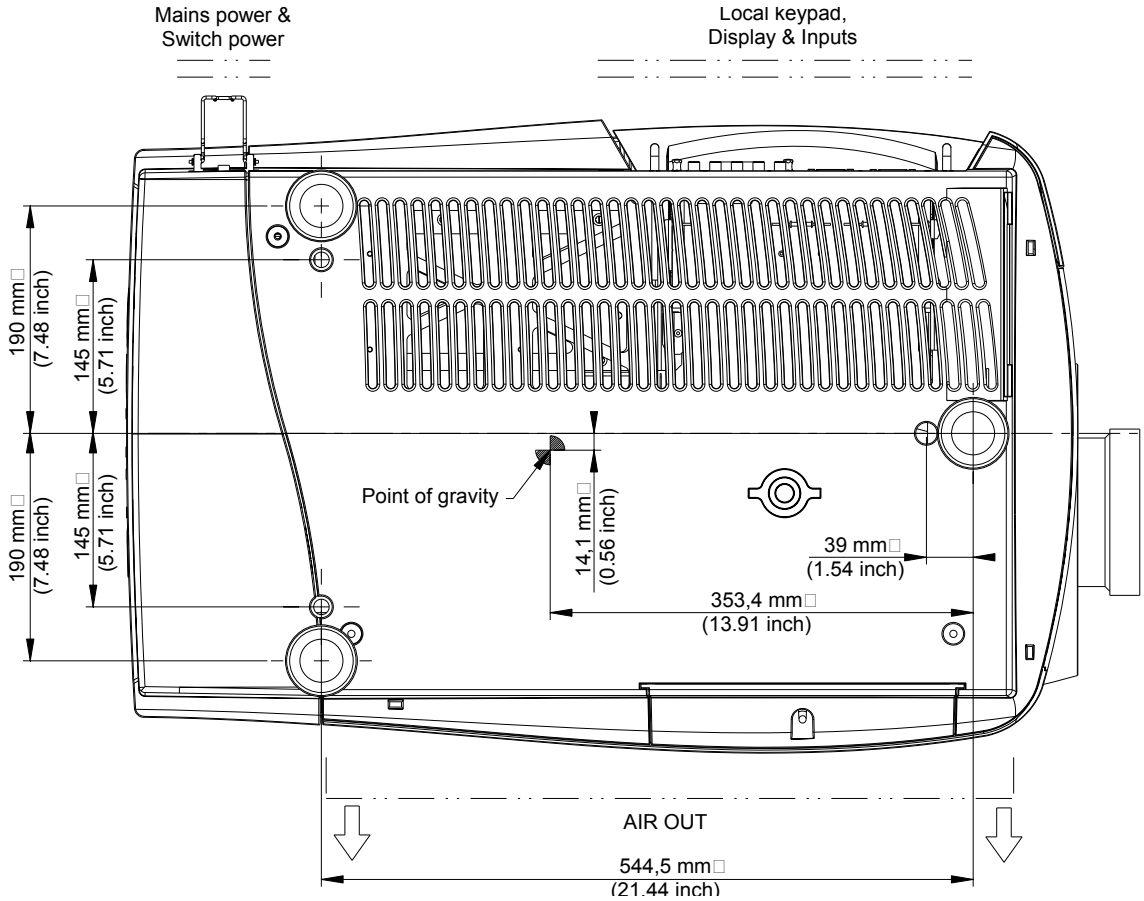


Image 2-4
Bottom view dimensions

3. INSTALLATION GUIDELINES

Overview

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

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 : 40°C or 104 °F

Min. ambient temperature : 10 °C or 50 °F

The projector will not operate if ambient air temperature falls outside this range (10°C- 40°C or 50°F-104°F).

Storage temperature: -35°C to +65°C (-31°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 manufacturer's recommended cleaning kit which has been specifically designed for cleaning optical parts, never use industrial strength cleaners on the projector's 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 manufacturer's 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 manufacturer 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 MicroMirror Devices™ 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 an aspect ratio of 4 to 3.

3.2 Projector Position

Projector Position Guidelines

The lamp axis, as it is drawn on this picture, can be oriented according to the specifications:

- pointed in any downward direction
- up to 15° in an upward position.

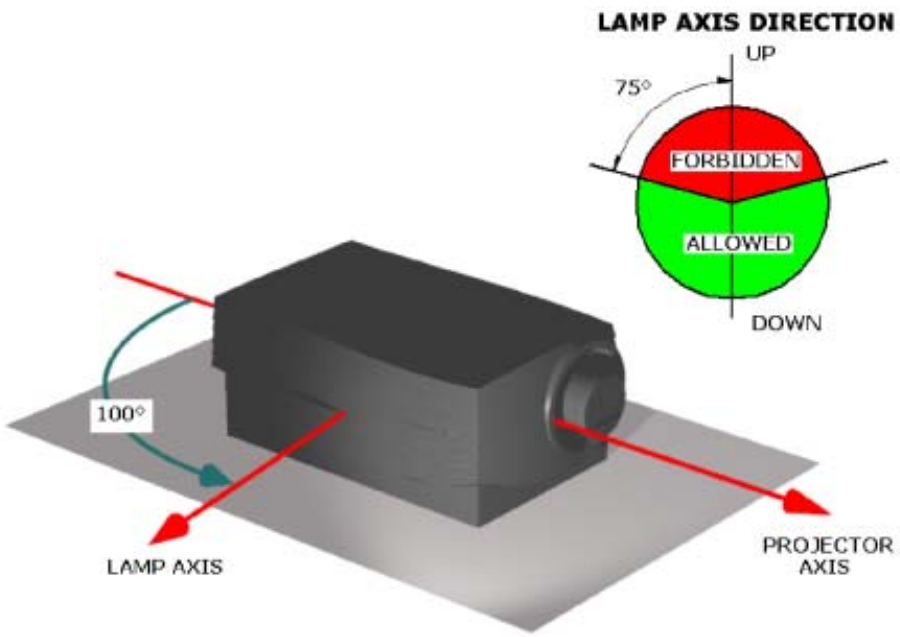


Image 3-1
Projector position

Never use the projector when turned with the inputs downwards.

3.3 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.

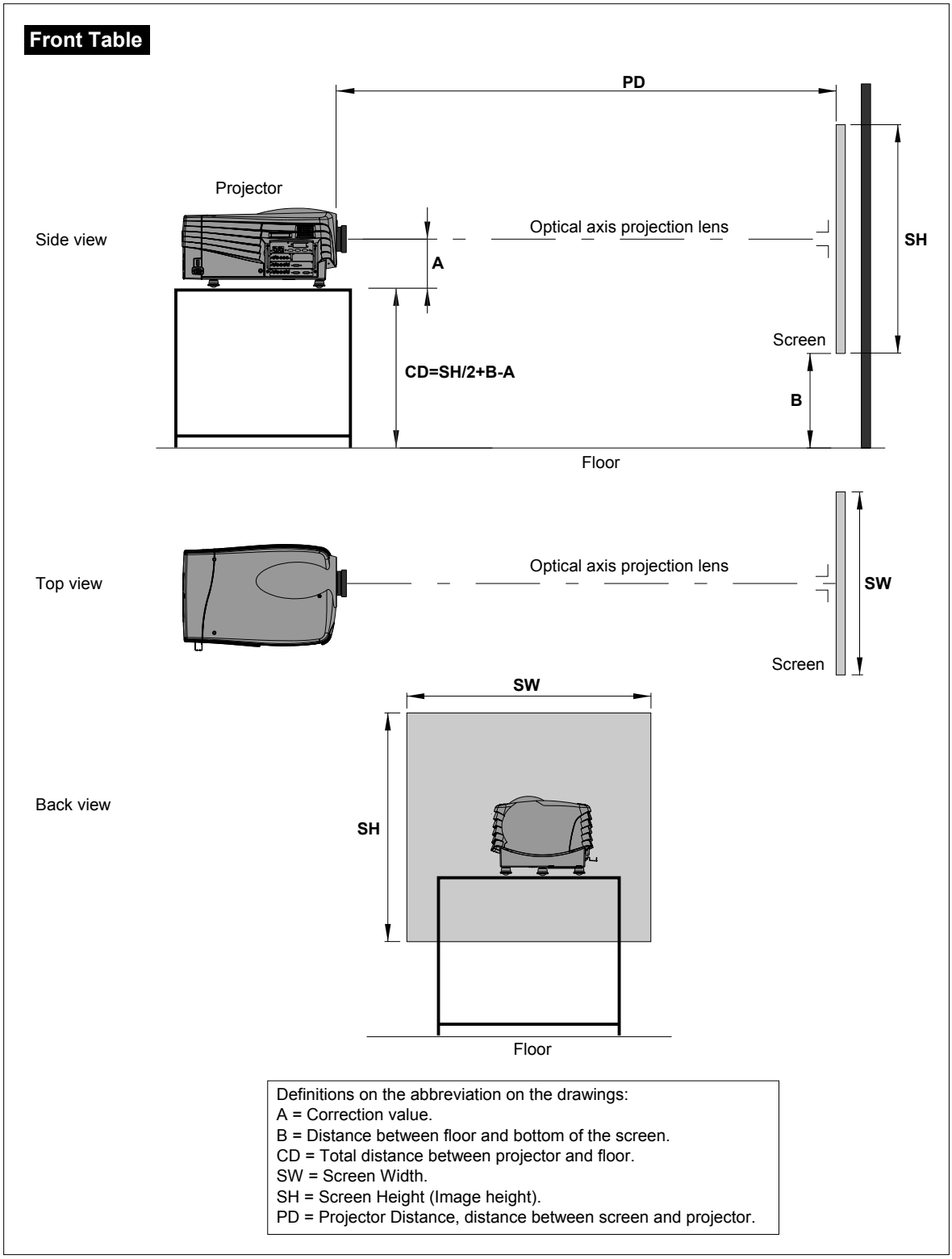


Image 3-2
Front table configuration

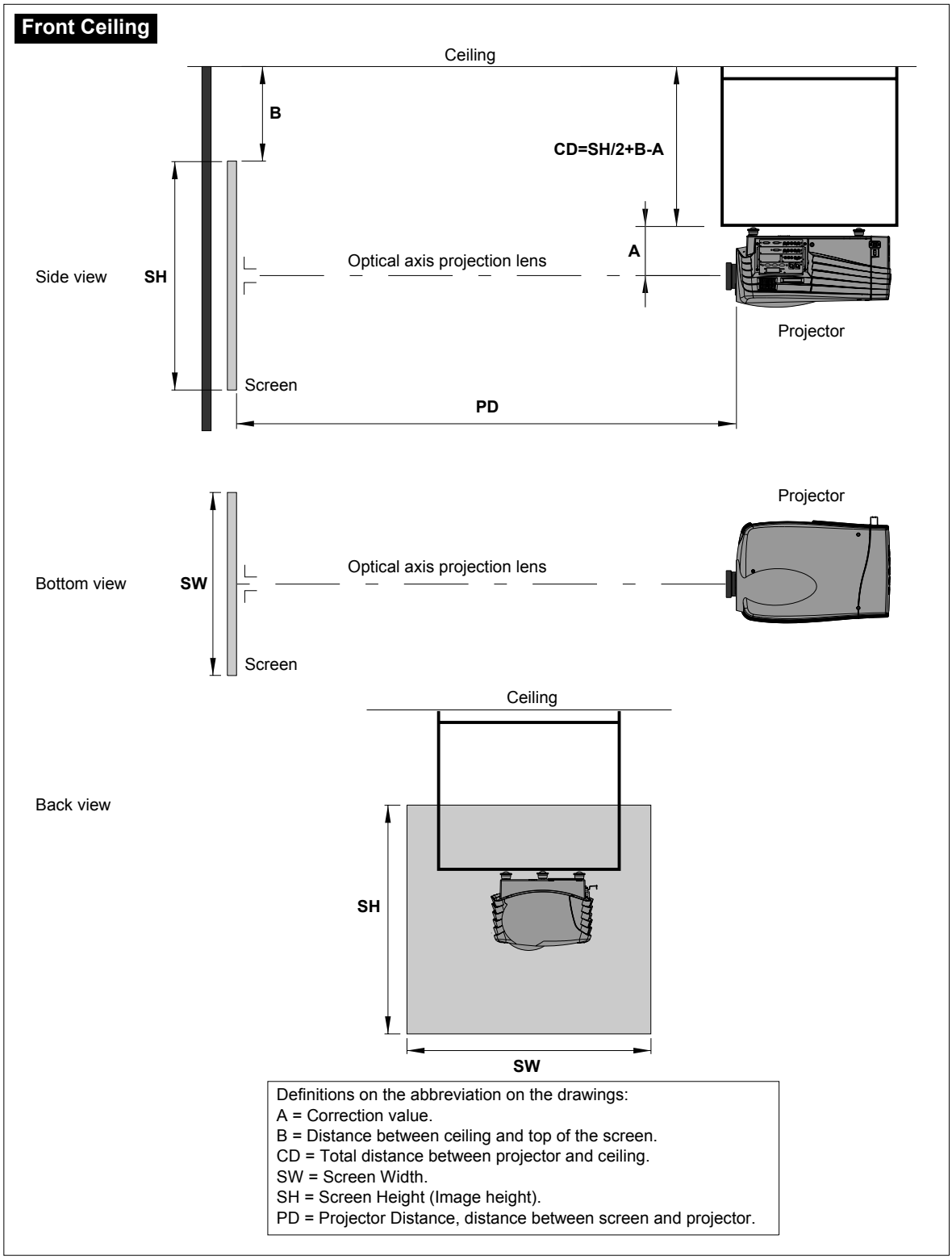


Image 3-3
Front ceiling configuration

3.4 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.

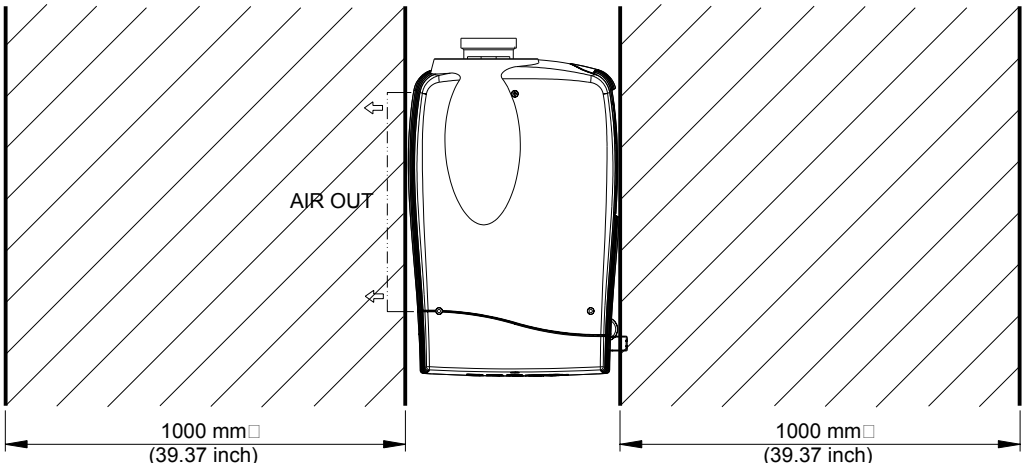


Image 3-4

3.5 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 3-5)
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 3-6)on the back of the lamp casing (nutdriver 10).
6. Adjust the screw B (image 3-6)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
DIMMING
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 3-5
Lamp adjustment access

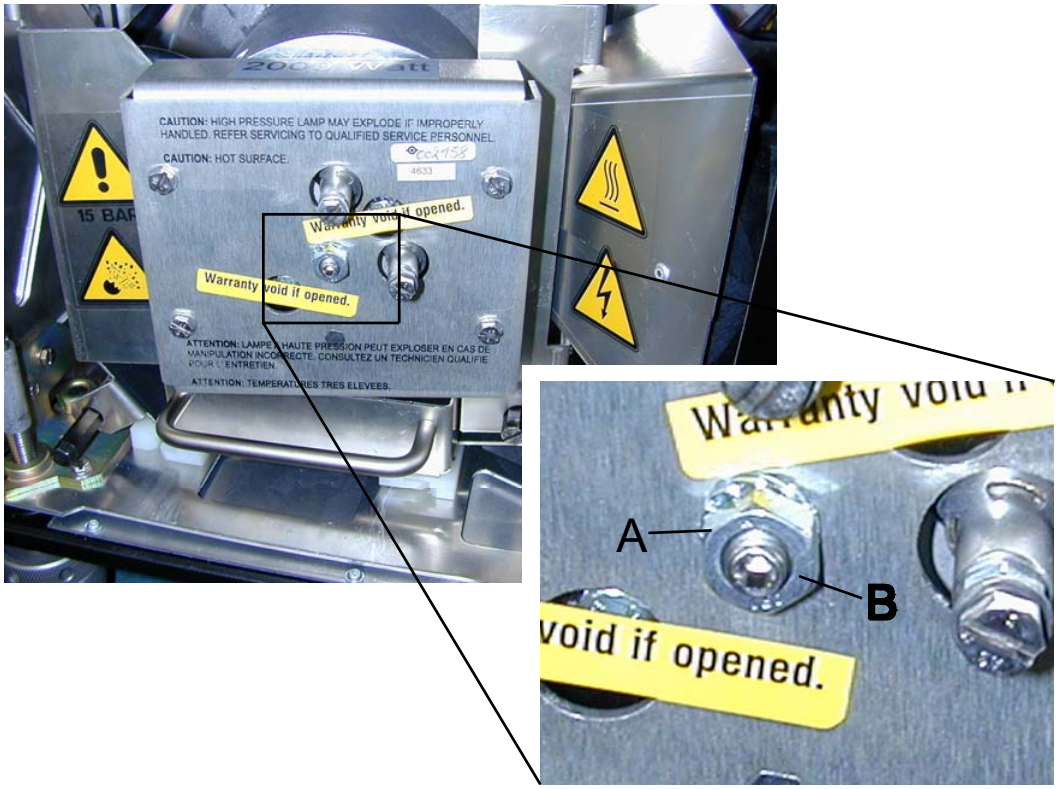


Image 3-6

Never turn the other screws ! These are factory aligned.

3.6 Lenses

Overview

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

3.6.1 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**
TLD HB(0.8:1)	**R9842040**
TLD HB(1.6–2.0:1)	**R9842060**
TLD HB(2.0–2.8:1)	**R9842080**
TLD HB(2.8–5.0:1)	**R9842100**
TLD HB(5.0–8.0:1)	**R9842120**

3.6.2 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.

3.6.3 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

3.6.4 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 3-7)
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 3-8)
   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 3-7
Lens installation

Image 3-8
Mounted Lens

3.6.5 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.

3.7 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 3-9)
4. Put the battery cover back on its place.

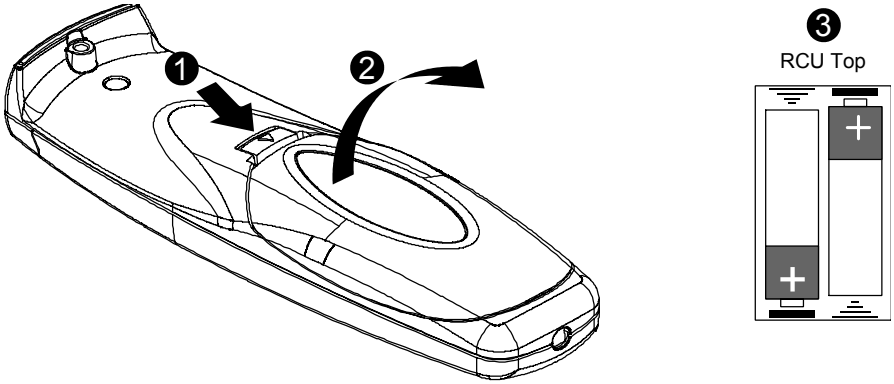


Image 3-9
Battery installation

4. CONNECTIONS

Overview

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

4.1 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

The projector is protected with an automatic circuit breaker of 15A which is built in into the power switch.

4.2 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.

   The projector mode indication lamp will be green (image 4-1)
   Or,
   Press a digit button to select an input source.

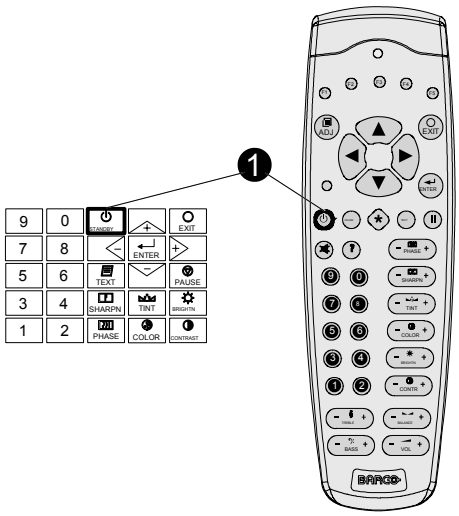


Image 4-1
Standby indication

Lamp run time indication while running

When the total run time of the lamp is 30 hours less then 1000, the following warning message will be displayed for 1 minute. This warning message will be repeated every 30 minutes. Press **EXIT** to remove the message before the minute is over.

```
Remaining
Lamp run time
20h
```

Image 4-2

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

```
WARNING

Lamp run time is x hours
operating the lamp longer
than x hours may damage
the projector.
Please replace the lamp

<ENTER> to continue
```

Menu 4-1

Lamp run time is 1000 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 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 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 4-2

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.

Lamp Z-axis indication

When starting up and the run time is 100 hours or 250 hours a Z-axis warning will be displayed. This warning will advise to adjust the Z-axis of the lamp to obtain maximum light output. Press **ENTER** to continue. The message will not be repeated during operation.

```
WARNING

Lamp run time is X hours.
It is advisable to
adjust the Z-axis
of the lamp to
obtain maximum
light output
(see owner's manual)

<ENTER> to confirm
```

Menu 4-3

4.3 Switching to standby

How to switch to standby?

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

4.4 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.

4.5 Input Source Connections

4.5.1 Input Facilities

Overview input facilities

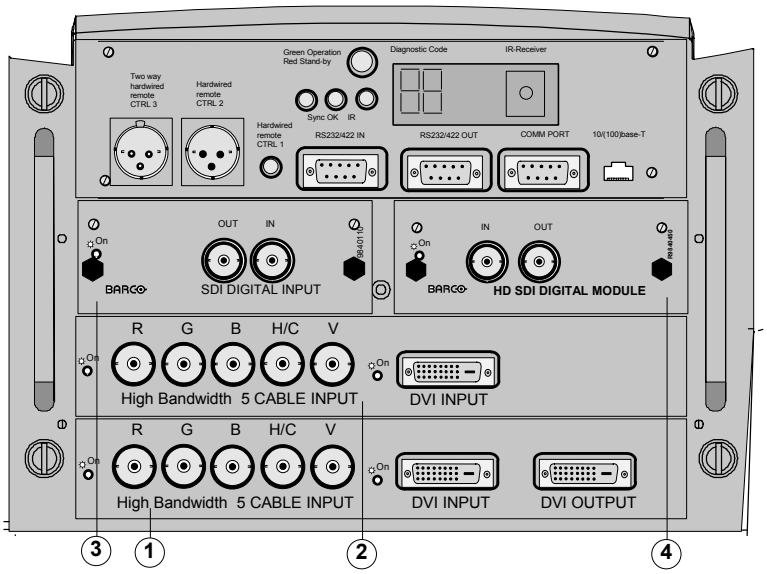


Image 4-3
Input facilities

Input number	Type of input
1	Fixed input, 5 cable input or DVI input and DVI output
2	Fixed input, 5 cable input or DVI input
3 & 4	Variable inputs Two digital inputs available. • SDI input (**R9840110**) • HD SDI Digital input (**R9840450**) Digital Video Decoder (**R9841170**)

4.5.2 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 Fixed slot (slot 1 & 2), page 25.

4.5.3 Input module insertion

How to insert an input module?

To insert a module in one of the free slots, handle as follow :

1. Power down the projector and disconnect the power cord from the wall outlet.
2. Remove the dummy plate covering the chosen input slot by turning out both screws.
3. Slide the input module in the free slot. Insure the module is seated correctly in the guide grooves.
4. Press on both handles of the input module until the module plug seats in the connector of the projector. (image 4-4)
5. Secure the input module by tightening both retaining screws.
6. Reconnect the power cord to the wall outlet and switch on the projector.

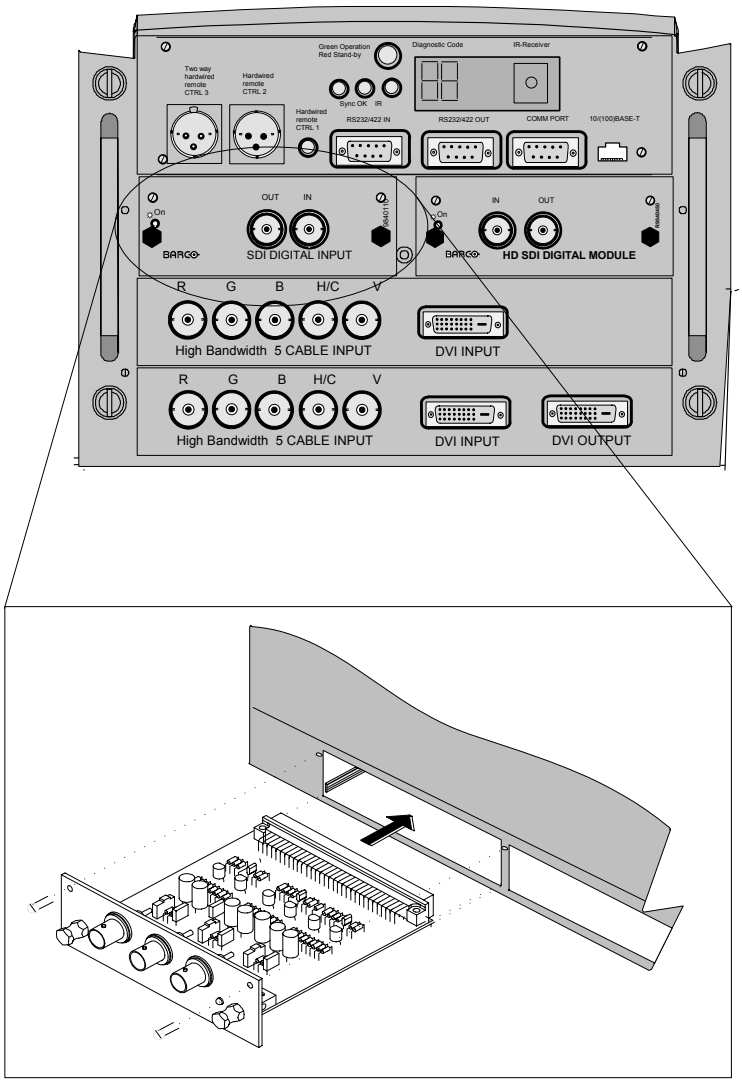


Image 4-4

How to select the new installed module?

The new installed module can be selected with the digit buttons on the RCU or the local keypad.

4.5.4 Fixed slot (slot 1 & 2)

Where to find?

Slot 1 & 2 has 5 BNC input terminals for 5 cable input and a DVI plug for DVI input. Slot 1 has also an DVI output for loop through to a second projector. Within the installation mode it is possible to setup the input for 5 cable or DVI (PanelLink).

Which signals can be connected to slot 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	-	Video	-	-	-
Super Video	-	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 the local keypad.

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

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 4-6)

```
ADJUSTMENT MODE

Select a path from below :

RANDOM ACCESS
INSTALLATION
SERVICE

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

Menu 4-4

```
INSTALLATION

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

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

Menu 4-5

```
INPUT SLOTS

Slot Module type [config]
1.   RGB-SS [CV]
2.   RGB-SOG
3.   SDI
4.   SDI
_______________
1. DVI OUTPUT [DVI input]

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

Menu 4-6

Possible indications on the input slot menu.

For the input side:

- 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.
- VIDEO
- S-VIDEO
- DVI

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

For the output on fixed slot 1:

- DVI input : DVI in signal is looped through to the DVI out connector as it is.
- Active image : active image signal, what ever the input is, is available in DVI on the DVI output signal (processing is incorporated in the signal). Set the minimum delay in *Installation > Advanced processing* to OFF.
- DVI resync : DVI in signal is resyncronized with a stable clock and put on the DVI out connector

When using an RCVDS 05 with a 5 cable output module, connect these 5 cables to this fixed 5-input slot (slot 1) of the projector. All sources of the RCVDS can now be accepted by the projector.

4.5.5 Serial Digital Input (slot 3 & 4)

What can be connected to this input?

This input is full compatibility with digital Betacam, or other digital video sources. This avoids the need for analog video processing anywhere in the video production chain and guarantees the ultimate image quality.

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

How to connect ?

1. Connect the output of your SDI source to the input BNC of the SDI input. (image 4-5)
   Note: *The input is always 75 Ω terminated.*

2. If loop through is needed, use the OUT to connect to the next device.

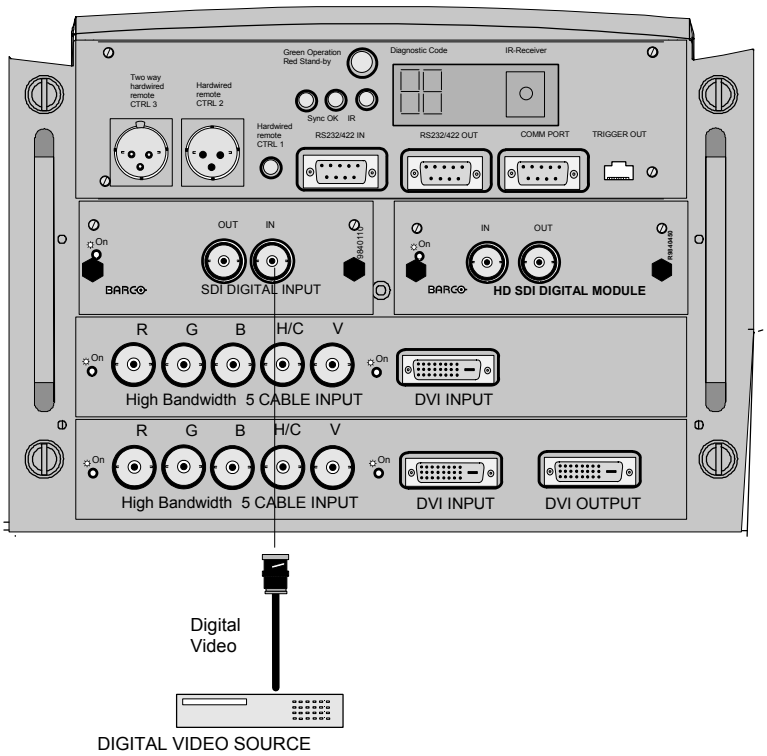


Image 4-5

How to select the digital input?

1. Key in the corresponding slot number on the RCU or the local keypad.

When a RCVDS05 is connected to the projector, the SDI input is available by keying in 83 or 84 on the RCU.

4.5.6 HD SDI Digital input (slot 3 & 4)

What can be connected to this input?

This input is full compatibility with HD digital sources. This avoids the need for analog video processing anywhere in the video production chain and guarantees the ultimate image quality.

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

How to connect ?

1. Connect the output of your HD SDI source to the input BNC of the HD SDI input. (image 4-6)
   Note: *The input is always 75 Ω terminated.*
2. If loop through is needed, use the OUT to connect to the next device.

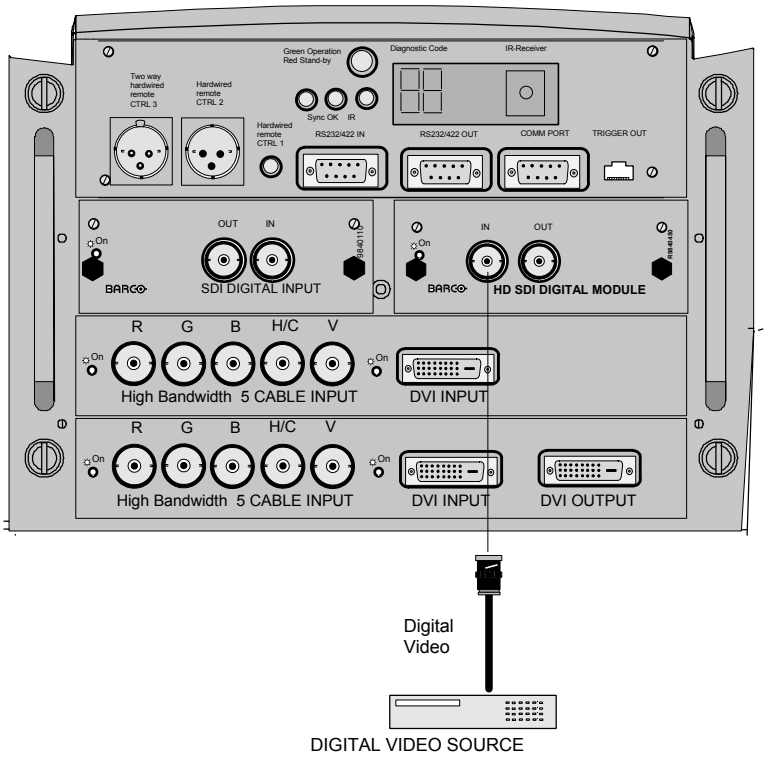


Image 4-6

How to select the digital input?

1. Key in the corresponding slot number on the RCU or the local keypad.

When a RCVDS05 is connected to the projector, the SDI input is available by keying in 83 or 84 on the RCU.

4.5.7 Digital Video Decoder Input

What can be connected to this input?

The following source types can be connected:

- S-Video
- Component Video
- Composite Video

Which signal can be connected to the Digital Video Decoder module?

Connector name/ Input signal	**Pb**	**Y/Vid**	**Pr**	**S-Video**
Component Video	B-Y	Ys	R-Y	-
Composite Video	-	Video	-	-
S-Video	-	-	-	S-Video

How to connect?

1. Connect the output of your source to the corresponding inputs on the Digital Video Decoder module. (image 4-7)

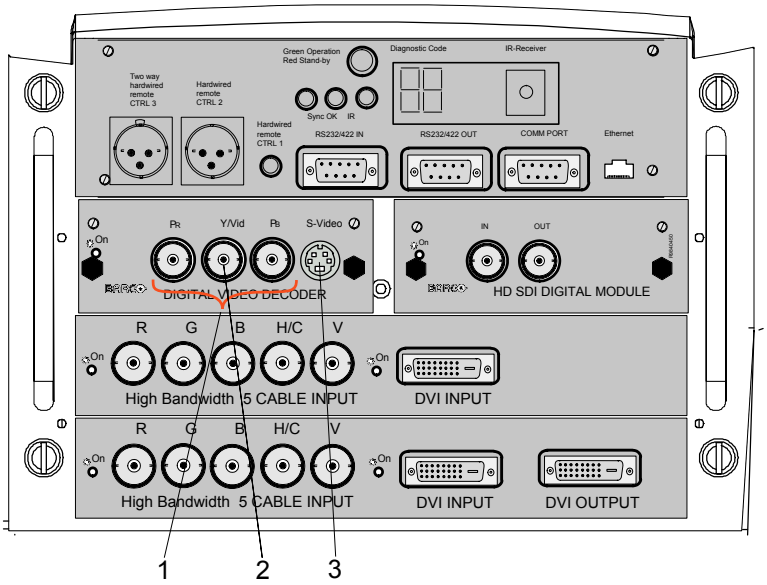


Image 4-7

1 Component video input
2 Composite Video input
3 S-Video input

How to select the digital video decoder input?

1. Key in the corresponding slot number on the RCU or the local keypad.

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 4-7)
3. Press **ENTER**.
4. Press the cursor key ↑ or ↓ to select *Input Slots*. (menu 4-8)
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 third or fourth slot. (menu 4-9)
7. Press **ENTER** to toggle.
   Possible indications on the input slot menu.
   - VIDEO[VDEO]
   - VIDEO[S-VIDEO]
   - VIDEO[YUV]

```
ADJUSTMENT MODE

Select a path from below :

RANDOM ACCESS
INSTALLATION
SERVICE


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

Menu 4-7

```
INSTALLATION

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

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

Menu 4-8

```
INPUT SLOTS

Slot Module type [config]
1.   RGB-SS [CV]
2.   RGB-SOG
3.   SDI
4.   SDI
_____________
1. DVI OUTPUT [DVI input]


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

Menu 4-9

4.6 Communication Connections

Overview

- RS232 (RS422) Connection
- Communication with peripherals
- Network connection

4.6.1 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 95.

4.6.2 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.

4.6.3 Network connection

Only 10 Base-T connection

What can be done?

When the optional network connection is installed, the projector can be connected to a LAN (local area network) (Ethernet). Once installed and connected to the LAN, users are capable of accessing the projector from any location, inside or outside their company network from a standard web browser. The projector acts as web server and generates a web site with all functions of the projector listed. Via an internet explorer 4.0 or higher, or a Netscape communicator, the user can insert the correct IP-address of the projector and access the webpages. Once the web site is accessed, it is possible to check and manipulate all the projector settings. Remote diagnostics, control and monitoring of the projector can then become a daily and very simple operation. The network connectivity permits to detect potential errors and consequently improve the time to servicing.

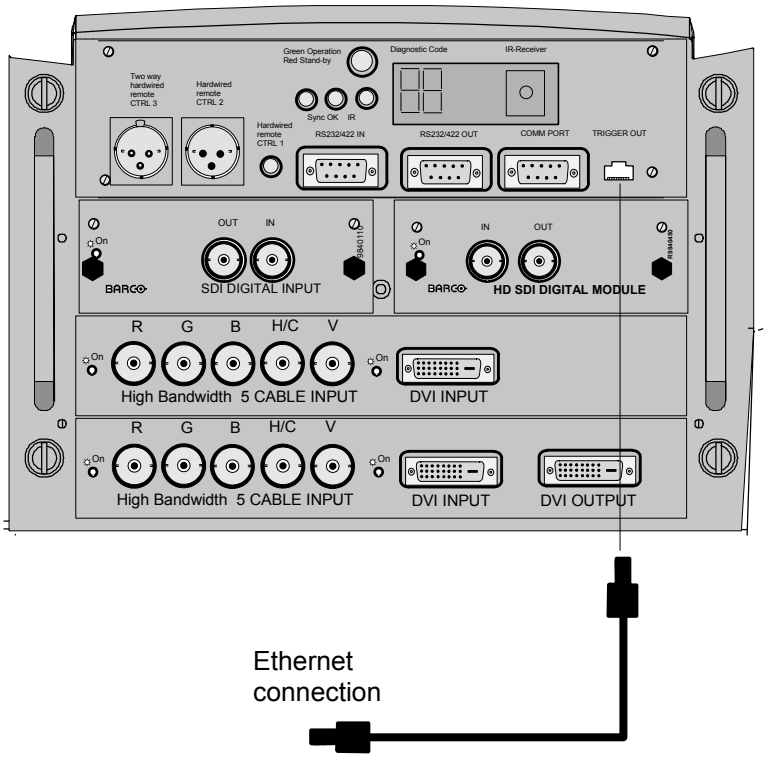


Image 4-8

Always use an Ethernet cable with ferrite core to connect the projector to the LAN.

5. GETTING STARTED

Overview

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

5.1 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.

5.2 Terminology overview

Overview

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

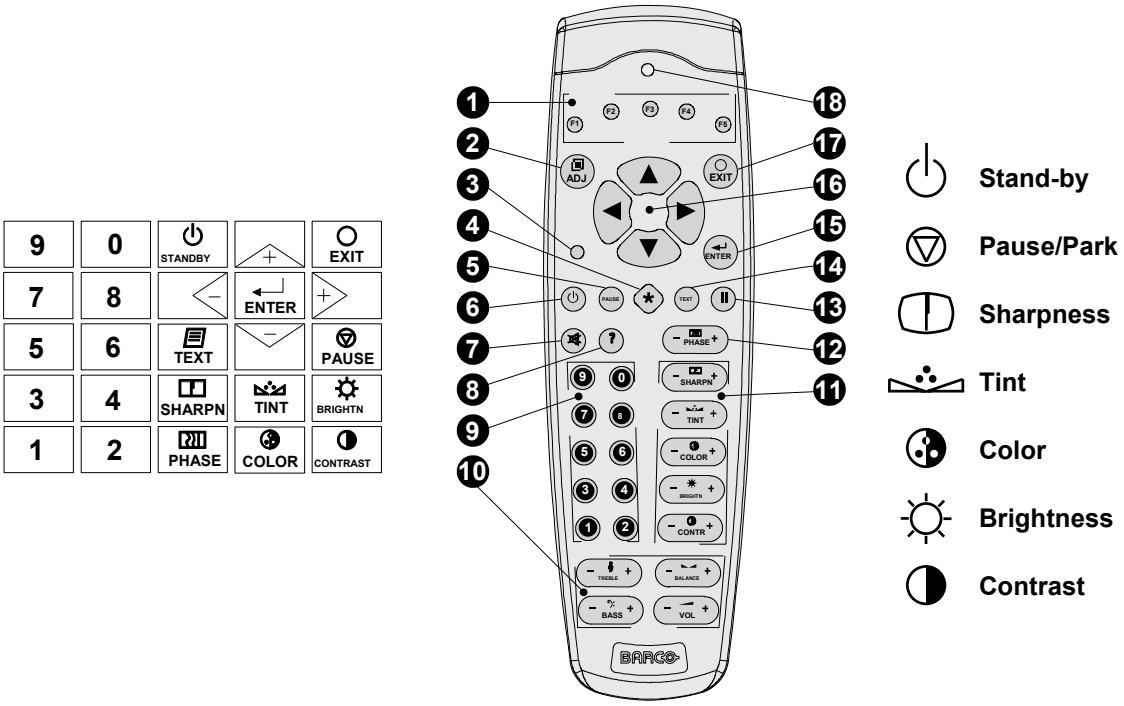


Image 5-1
RCU & Local Keypad overview

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 (no audio available).
8	?	On line help information (no yet available)
9	Digit buttons	direct input selection.
10	Audio controls	use these buttons to obtain the desired sound level (no audio available).
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. when text is off, no adjustment menu's will be displayed on the screen when entering the adjustment mode.
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 5-1

5.3 Operating the projector

Overview

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

5.3.1 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. (image 5-2)

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

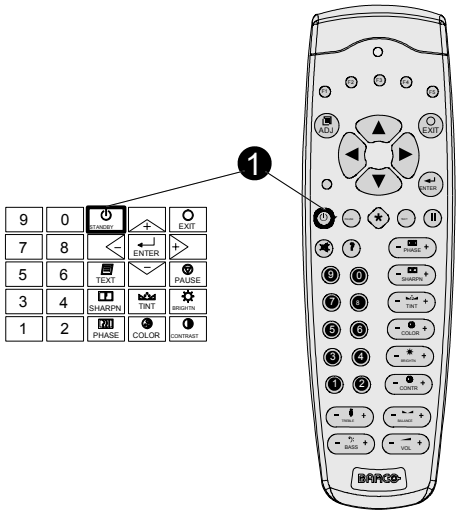


Image 5-2
Standby key

Lamp Run time indication

see chapter "4. Connections", "Switching on", page 21

Lamp Light output indication

see chapter "4. Connections", "Switching on", page 21

5.3.2 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.

5.3.3 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.

5.3.4 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 +35°C.

```
ERROR

DMD out of operating
temperature
range

Automatic shutdown is
activated
```

Menu 5-1

5.4 Quick Set Up Adjustments

Overview

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

5.4.1 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 5-2)

   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 5-3)
5. Press **ENTER** to display the *language selection* menu.
6. Push the cursor key ↑ or ↓ to highlight the desired language. (menu 5-4)
   Note: *For the moment, only English is available.*

```
ADJUSTMENT MODE

Select a path from below :

RANDOM ACCESS
INSTALLATION
SERVICE

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

Menu 5-2

```
SERVICE

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

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

Menu 5-3

```
CHANGE LANGUAGE

ENGLISH

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

Menu 5-4

5.4.2 Quick Lens Adjustment

Quick zoom/focus adjustment

1. Press the Selection key *, Barco key.

   The zoom/focus menu will be displayed. (image 5-3)
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.

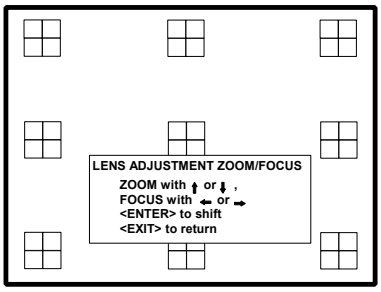


Image 5-3

Quick shift adjustment

1. Press the Selection key *, Barco key.

   The zoom/focus menu will be displayed (image 5-3).
2. Press **ENTER**.

   The shift menu will be displayed. (image 5-4)
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.

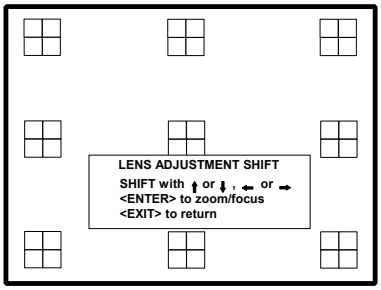


Image 5-4

5.4.3 Quick On Screen Color change

What can be done ?

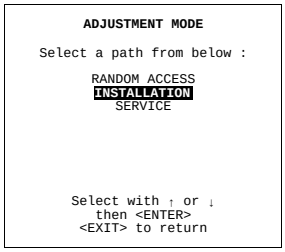
For quick change of the on-screen color of the highlighted items.

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

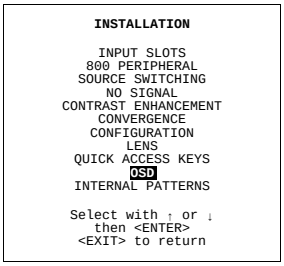
How to change ?

1. Press **ENTER** to start up the adjustment mode.
2. Push the cursor key ↑ or ↓ to highlight *Installation*. (menu 5-5)
3. Press **ENTER** to select.
4. Push the cursor key ↑ or ↓ to highlight *OSD*. (menu 5-6)
5. Press **ENTER** to select.

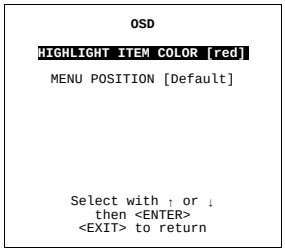
   The OSD menu will be displayed. (menu 5-7)
6. Push the cursor key ↑ or ↓ to highlight *Highlighted item color*.
7. Press **ENTER** to toggle between red, green and yellow.



Menu 5-5



Menu 5-6



Menu 5-7

5.5 Using the RCU

Pointing to the reflective screen

1. Point the front of the RCU to the reflective screen surface. (image 5-5)

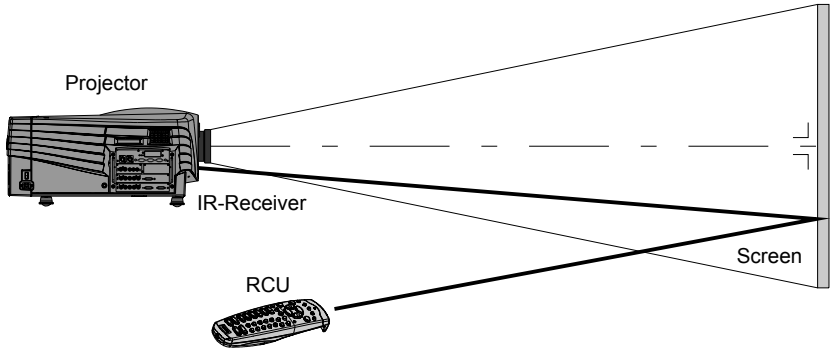


Image 5-5
RCU to screen

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***.

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***.

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.

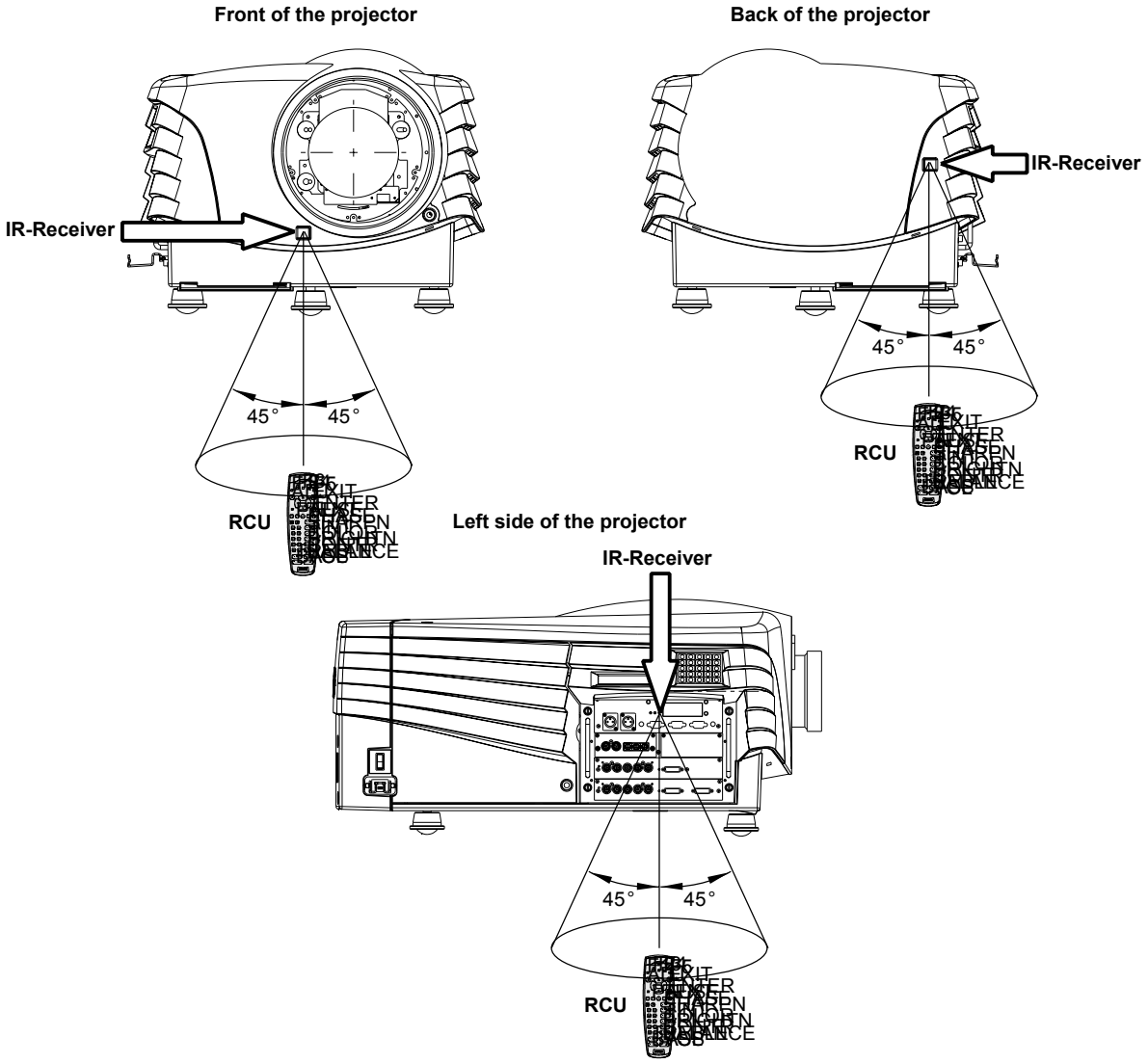


Image 5-6
RCU to IR sensors

5.6 Projector Address

5.6.1 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.

5.6.2 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.*

5.7 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

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

Brightness	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	no sharpness available
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 sound is not interrupted. 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.

6. START UP OF THE ADJUSTMENT MODE

6.1 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 6-1)

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 6-1

6.2 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 6-2)

   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 6-2

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.

6.3 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.

7. RANDOM ACCESS ADJUSTMENT MODE

Overview

- Overview Flow
- Picture Services
- Picture Tuning
- Geometry
- ScenergiX
- Picture in Picture (PiP)
- Save Changes

7.1 Overview Flow

Overview

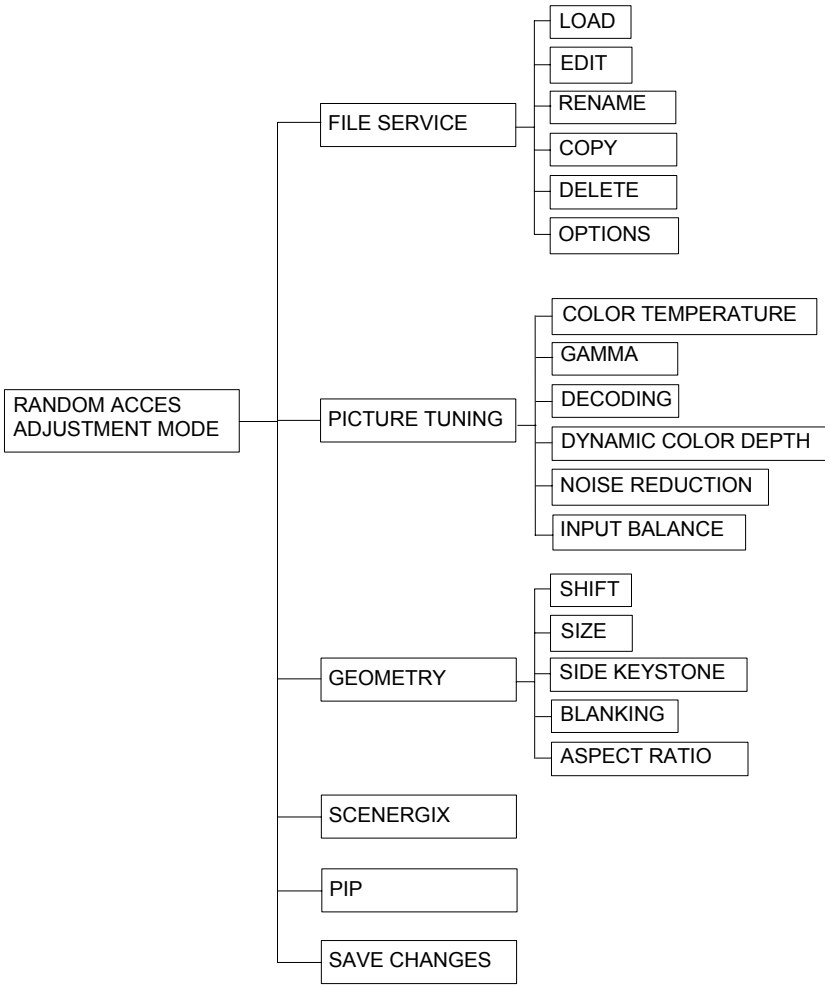


Image 7-1

Start up

1. Push the cursor key ↑ or ↓ to highlight *Random Access*. (menu 7-1)
2. Press **ENTER**. (menu 7-2)

```
ADJUSTMENT MODE

Select a path from below :

RANDOM ACCESS
INSTALLATION
SERVICE

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

Menu 7-1

```
RANDOM ACCESS
ADJUSTMENT MODE

FILE SERVICE
PICTURE TUNING
GEOMETRY
SCENERGIX
PIP
SAVE CHANGES

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

Menu 7-2

7.2 Picture Services

7.2.1 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 ppppXpppi

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 7-1

7.2.2 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 54). 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.

7.2.3 Start up

Start up

To enter the File Service, handle as follow :

1. Push the cursor key ↑ or ↓ to highlight *File Service*. (menu 7-3)
2. Press **ENTER** to select.

   The *File Service* menu will be displayed. (menu 7-4)

```
RANDOM ACCESS
ADJUSTMENT MODE

FILE SERVICE
PICTURE TUNING
GEOMETRY
SCENERGIX
PIP
SAVE CHANGES

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

Menu 7-3

```
FILE SERVICE

LOAD
EDIT
RENAME
COPY
DELETE
OPTIONS

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

Menu 7-4

7.2.4 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 7-5)
2. Press **ENTER** to select.

   The *Load* menu displays the corresponding files depending on the installed filter. (menu 7-6)

```
FILE SERVICE

LOAD
EDIT
RENAME
COPY
DELETE
OPTIONS

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

Menu 7-5

```
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 7-6

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 7-7)
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 7-8)
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
```

Menu 7-7

```
CONFIRM
LOAD FILE

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

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

Menu 7-8

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.

7.2.5 Edit File

7.2.5.1 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 7-9)
2. Press **ENTER** to select.

   The Edit file adaptation menu will be displayed. (menu 7-10)
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 7-11)

```
FILE SERVICE

LOAD
EDIT
RENAME
COPY
DELETE
OPTIONS

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

Menu 7-9

```
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 7-10

```
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 7-11

7.2.5.2 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 highlight 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 highlight an item.

   The color of the selected item will change.
2. Press **ENTER** to activate the digits.
3. Push the cursor key ← or → to select the changing digit.
4. Push the cursor key ↑ or ↓ to scroll to the desired digit.
5. 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 highlight an item.

   The color of the selected item will change.
2. Press **ENTER** to activate.
3. Counting up or down by pushing the cursor key ← or →.

7.2.5.3 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 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	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	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 7-12

Source number	The source number of a non-active file can be changed to any other source number. This makes it possible to create a file for future source numbers.
Clamp position	Clamping determines the black level of the signal. The clamp pulse can be related to the leading or the trailing edge of the sync pulse. Use the **ENTER** key to toggle between [leading] and [trailing].
Clamp delay	The time between the leading edge of the clamp pulse and the locked edge of the sync pulse. Can be any value between 0 and 255. Change the value by pushing the cursor key ↑ or ↓.
Clamp width	The width of the clamp pulse can be any value between 0 and 255. Change the value by pushing the cursor key ↑ or ↓.

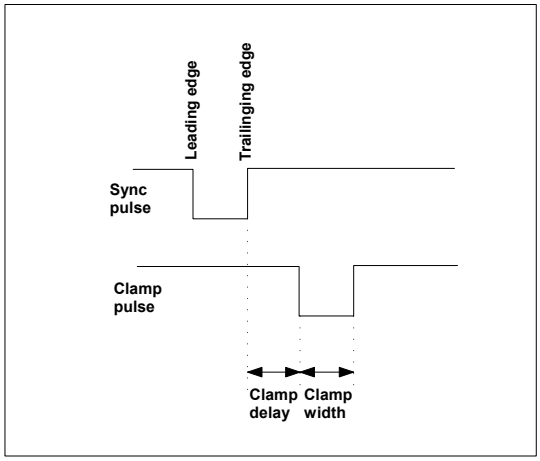


Image 7-2
Example for *Clamp position* [trailing]

Field polarity	The field polarity function is used for interlaced images. Both rasters of the image could be shifted in a wrong way (double lines are visible in the image). This can be corrected by forcing the field polarity to [neg] or [pos]. Use the **ENTER** key to toggle between [pos] and [neg].
Field select	Default [both] The field select is only used for interlaced images. One frame of an interlaced image contains two fields, an even and an odd field. The choice exists to project [both] fields on the screen or only the [even] or [odd] field. This can be useful for 3D projection. Use the **ENTER** key to toggle between [both], [even] and [odd].

Vertical refresh [sync/async]	The way of updating the image information. 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] When enabled, the hardware looks for tell-tale signs of 3:2 or 2:2 pull-down sequences. These are the result of converting cinema material recorded at 24 frames-per-second to the television frequencies of 60 or 50 interlaced fields per second respectively. When FILM conversion is detected, the original 24 frames-per-second are restored. This avoids deinterlacing artefacts, and results in a perfect artefact-free display. Note that in some cases (video clips, scrolling newstickers,...) FILM and VIDEO material are mixed on one screen. This may confuse the detector and cause it to go into FILM restoration mode. This will cause "jaggies" or motion artefacts. In such cases, disabling FILM mode processing is the best cure.
Banner Protect: [On] or [Off]	Only active when film mode detection is in the on position. Use the **ENTER** key to toggle between [on] or [off]. FILM mode processing normally processes the entire display, but this may cause problems on sources where video and FILM content are mixed. One very common example is scrolling banners at the bottom of the screen (e.g. financial news). For those cases, the "banner protect" feature will force the bottom quarter of the screen to be always processed in VIDEO mode, regardless of the rest of the screen, which may be either video or FILM mode.

3:2 pull-down

Method used to map the 24 fps of film onto the 30 fps (60 fields) or 25 fps (50 fields), so that one film frame occupies three video fields, the next two, etc. It means the two fields of every other video frame come from different film frames making operations such as rotoscoping impossible, and requiring care in editing. Some sophisticated equipment can unravel the 3:2 sequence to allow frame-by-frame treatment and subsequently re-compose 3:2. The 3:2 sequence repeats every five video frames and four film frames, the latter identified as A-D. Only film frame A is fully on a video frame and so exists at one time code only, making it the editable point of the video sequence.

2:2 pull-down

The process of transferring 24-frames/sec film format into video by repeating each frame (used for PAL DVD's) as two video fields. (AD)

Artefacts

Undesirable elements or defects in a video picture. These may occur naturally in the video process and must be eliminated in order to achieve a high-quality picture. Most common in analog are cross color and cross luminance. Most common in digital are macroblocks, which resemble pixelation of the video image.

7.2.6 Rename

Start Up

To change the name of a selected file :

1. Push the cursor key ↑ or ↓ to highlight *Rename*. (menu 7-13)
2. Press **ENTER**.

   The Rename selection menu will be displayed. (menu 7-14)
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 7-15)

```
FILE SERVICE

LOAD
EDIT
RENAME
COPY
DELETE
OPTIONS

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

Menu 7-13

```
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 7-14

```
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 7-15

Changing the characters

1. Push the cursor keys ← or → to select the desired character. (menu 7-16)
   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 7-16

7.2.7 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 7-17)
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 7-18)

```
              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 7-17

```
              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 7-18

Changing the characters

1. Push the cursor keys ← or → to select the desired character. (menu 7-19)
   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 7-19

7.2.8 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 7-20)
2. Press **ENTER**.

   The delete selection menu will be displayed. (menu 7-21)
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 7-22)

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
```

Menu 7-20

```
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
```

Menu 7-21

```
CONFIRM
DELETE FILE

Delete file :
Video525.c01?

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

Menu 7-22

7.2.9 File Options

Start up

1. Push the cursor key ↑ or ↓ to highlight *Options*. (menu 7-23)
2. Press **ENTER**.

   The option selection menu will be displayed. (menu 7-24)

```
FILE SERVICE

LOAD
EDIT
RENAME
COPY
DELETE
OPTIONS

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

Menu 7-23

```
FILE OPTIONS

FILE SORT [NAME]
FILE LOAD [AUTOMATIC]

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

Menu 7-24

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.

7.3 Picture Tuning

Overview

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

7.3.1 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 7-25)
2. Press **ENTER** to select.

   The picture tuning menu will be displayed. (menu 7-26)

```
RANDOM ACCESS
ADJUSTMENT MODE

FILE SERVICE
PICTURE TUNING
GEOMETRY
SCENERGIX
PIP
SAVE CHANGES

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

Menu 7-25

```
PICTURE TUNING

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

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

Menu 7-26

7.3.2 CTI

CTI

Color transient improvement. To improve the transition from one color to another.

Changing the CTI setting

1. Push the cursor key ↑ or ↓ to highlight *CTI*. (menu 7-27)
2. Press **ENTER** to toggle between ON and OFF.

```
PICTURE TUNING

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

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

Menu 7-27

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

7.3.3 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 7-28)
2. Press **ENTER** to select.

   The color temperature selection menu will be displayed. (menu 7-29)

```
PICTURE TUNING

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

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

Menu 7-28

```
COLOR TEMPERATURE

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

CUSTOM BALANCE

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

Menu 7-29

Adjusting the color balance

1. Adjusting the color balance by selecting a fixed color balance ?
   If yes, 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 2.5)in comparison with the green color. (image 7-3)

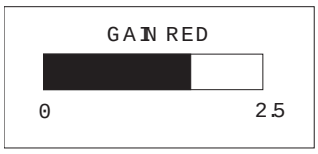


Image 7-3

7.3.4 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 7-30)
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

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

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

Menu 7-30

7.3.5 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 7-31)
2. Press **ENTER** to toggle between EBU or IRE.
3. Press **EXIT** to return.

```
PICTURE TUNING

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

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

Menu 7-31

7.3.6 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 7-32)
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

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

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

Menu 7-32

7.3.7 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 7-33)
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

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

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

Menu 7-33

7.3.8 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
- Returning to the factory defaults

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.

7.3.8.1 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 7-34)
3. Press **ENTER** to select.

   The Input Balance menu will be displayed. (menu 7-35)
4. Push the cursor key ↑ or ↓ to highlight *Black Balance* menu 7-35.
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

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

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

Menu 7-34

```
INPUT BALANCE

BLACK BALANCE
WHITE BALANCE

DEFAULT

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

Adjust
red with ↑ or ↓
blue with ← or →
```

Menu 7-35

White balance adjustement

1. Push the cursor key ↑ or ↓ to highlight *White Balance*. (menu 7-36)
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

BLACK BALANCE
WHITE BALANCE

DEFAULT

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

Adjust
red with ↑ or ↓
blue with ← or →
```

Menu 7-36

7.3.8.2 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 7-37)
3. Press **ENTER** to select.

   The Input Balance menu will be displayed. (menu 7-38)
4. Push the cursor key ↑ or ↓ to highlight *Black Balance* menu 7-35.
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

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

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

Menu 7-37

```
INPUT BALANCE

BLACK BALANCE
WHITE BALANCE

DEFAULT

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

Adjust
red with ↑ or ↓
blue with ← or →
```

Menu 7-38

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.

7.3.8.3 Returning to the factory defaults

How to return to the factory defaults

1. Push the cursor key ↑ or ↓ to highlight *Default*. (menu 7-39)
2. Press **ENTER** to select.

   The default settings will be loaded.

```
INPUT BALANCE

BLACK BALANCE
WHITE BALANCE

DEFAULT

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

Adjust
red with ↑ or ↓
blue with ← or →
```

Menu 7-39

7.4 Geometry

Overview

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

7.4.1 Introduction

Introduction

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.

7.4.2 Geometry start up

Start up

1. Push the cursor key ↑ or ↓ to highlight *Geometry*. (menu 7-40)
2. Press **ENTER** to select.

   The geometry menu will be displayed. (menu 7-41)

```
ADJUSTMENT MODE

Select a path from below :

RANDOM ACCESS
INSTALLATION
SERVICE

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

Menu 7-40

```
GEOMETRY

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

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

Menu 7-41

7.4.3 Shift

What can be done ?

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

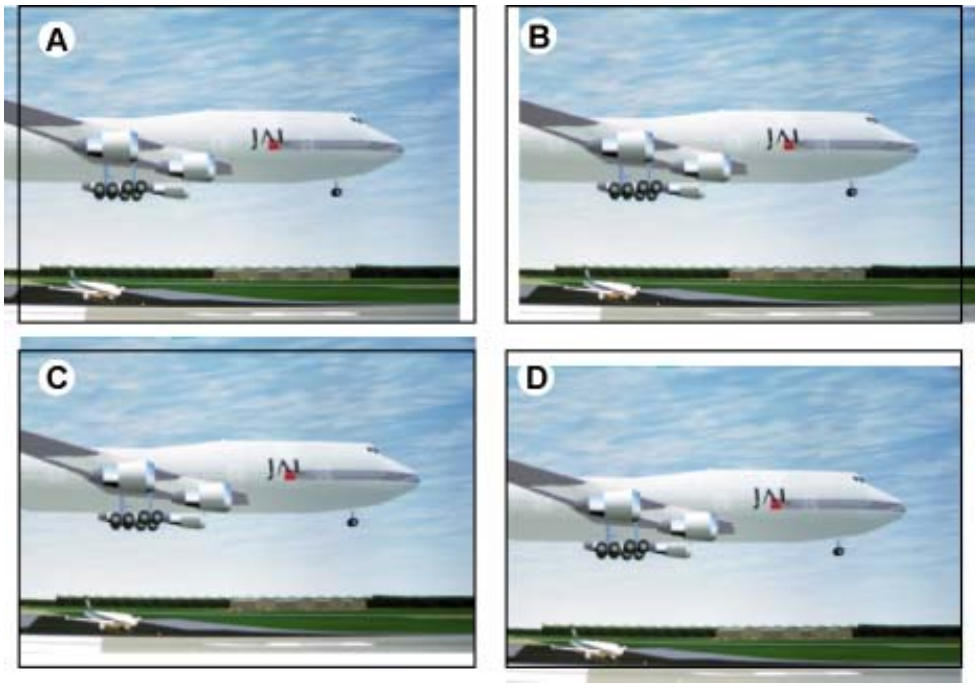


Image 7-4
Shift adjustment

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 7-42)
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]
OPTIONS



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

Menu 7-42

While the bar scale window is on the screen, press ENTER to change the value indication to an input field. Enter the desired value with the numeric keys on the RCU. Always 3 digits should be entered. To toggle + to - or vice versa, use the up or down arrow key.

7.4.4 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.

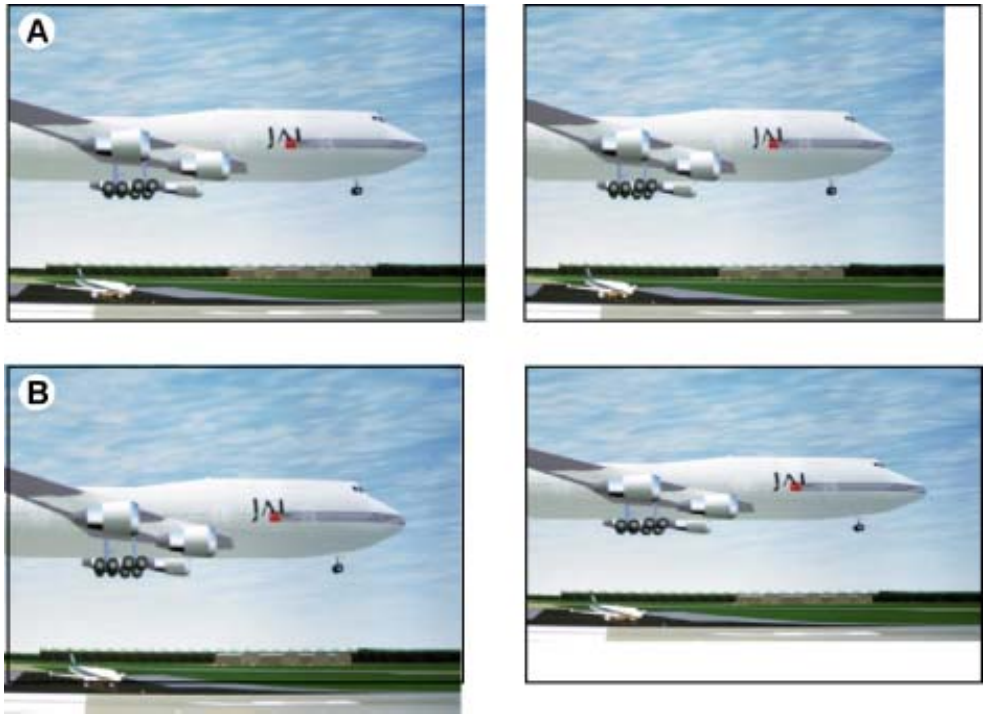


Image 7-5
Size adjustment

A Horizontal size adjustment
B Vertical size adjustment

Size adjustment

1. Push the cursor key ↑ or ↓ to highlight *Size*. (menu 7-43)
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]
OPTIONS



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

Menu 7-43

While the bar scale window is on the screen, press ENTER to change the value indication to an input field. Enter the desired value with the numeric keys on the RCU. Always 3 digits should be entered. To toggle + to - or vice versa, use the up or down arrow key.

7.4.5 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.

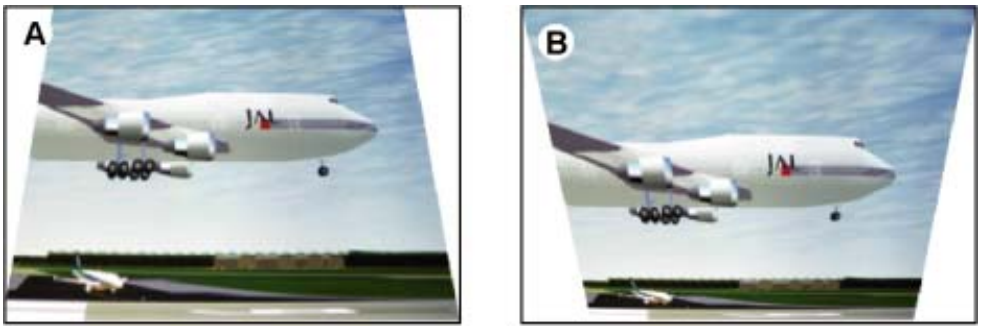


Image 7-6
Side Keystone

Side keystone adjustment

1. Push the cursor key ↑ or ↓ to highlight *Side Keystone*. (menu 7-44)
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]
OPTIONS



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

Menu 7-44

While the bar scale window is on the screen, press ENTER to change the value indication to an input field. Enter the desired value with the numeric keys on the RCU. Always 3 digits should be entered. To toggle + to - or vice versa, use the up or down arrow key.

7.4.6 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

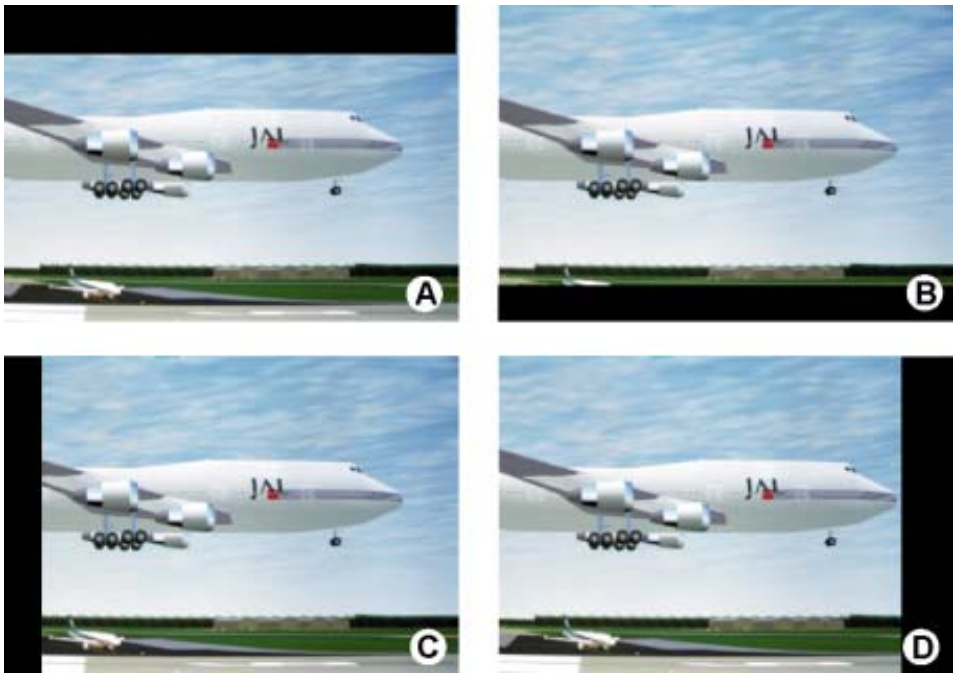


Image 7-7
Blanking

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 7-45)
2. Press **ENTER** to display the blanking menu. (menu 7-46)
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]
OPTIONS

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

Menu 7-45

```
BLANKING

TOP
BOTTOM
LEFT
RIGHT

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

Menu 7-46

While the bar scale window is on the screen, press ENTER to change the value indication to an input field. Enter the desired value with the numeric keys on the RCU. Always 3 digits should be entered. To toggle + to - or vice versa, use the up or down arrow key.

7.4.7 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 7-47)
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]
OPTIONS

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

Menu 7-47

7.4.8 Geometry Options

What is possible

The same side keystone correction can be used for all files.

How to toggle

1. Push the cursor key ↑ or ↓ to highlight Options. (menu 7-48)
2. Press **ENTER** to select.

   The *Geometry Options* menu will be displayed. (menu 7-49)
3. Press **ENTER** to toggle between [YES] or [NO].

NO	Side Keystone will be adjusted for the active file only.
YES	Side Keystone will be adjusted for all files.

```
GEOMETRY

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

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

Menu 7-48

```
GEOMETRY OPTIONS

Use the same side
keystone correction
for all files ?
[YES]

<ENTER> to toggle
<EXIT> to return
```

Menu 7-49

7.5 ScenergiX

Overview

- Introduction
- Preparations
- Scenergix
- ScenergiX overlap zone (horizontal scenergix)
- ScenergiX overlap zone (vertical scenergix)
- ScenergiX size adjustment
- Adjusting the black level of the images

7.5.1 Introduction

When available ?

ScenergiX is only available as an option, some menu items will be grayed out when this option is not installed.

Why ScenergiX ?

When working in a multichannel setup the BARCO SLM G8 and its Soft Edge possibilities enable an image blending that gives the appearance of a single view, thus achieving realistic immersion for the majority of wide screen applications.

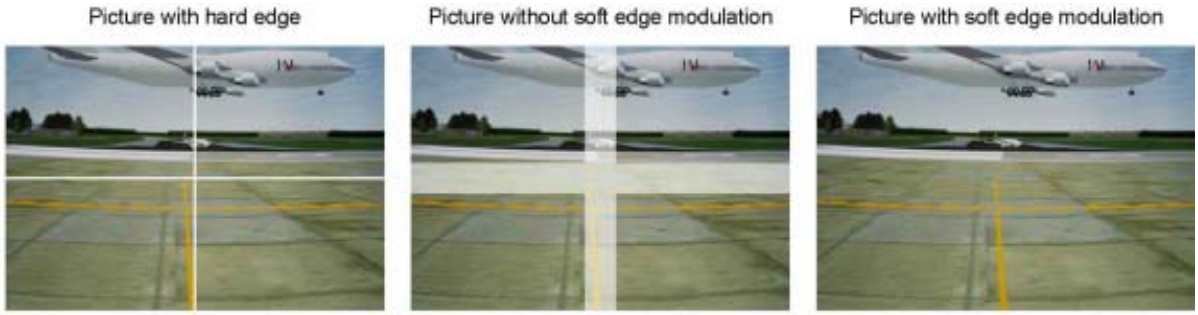


Image 7-8
Why Soft Edge?

What is the Basic Principal of ScenergiX ?

The principle of edge blending is archived by linear modulation of the light output in the overlap zone so that the light output in that zone equals the light output of the rest of the image.

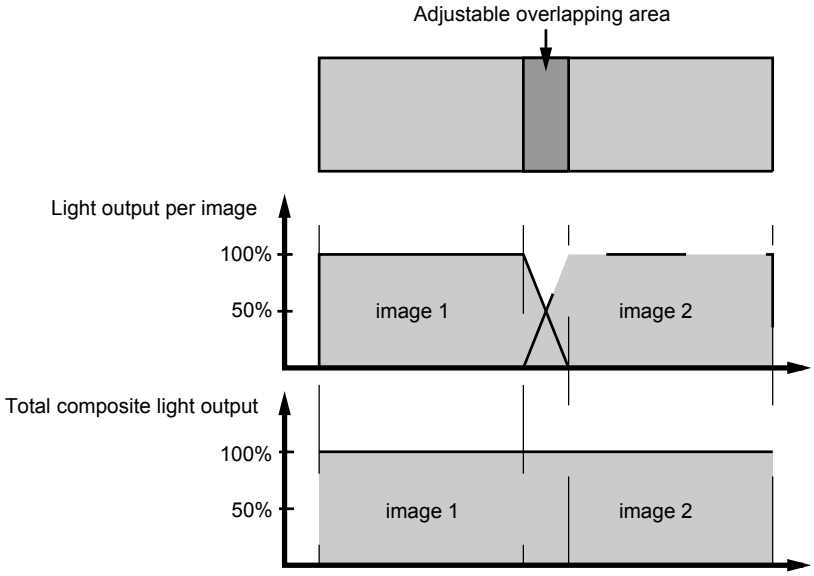


Image 7-9
ScenergiX Basic Principle

7.5.2 Preparations

ScenergiX Preparations

To ensure proper ScenergiX adjustment, be sure that the following adjustments are done perfectly on all projectors:

- Convergence (Electronic Convergence).
- Geometry
- Color Matching (Color Temperature, Input Balance, Gamma)

7.5.3 Scenergix

How to activate Scenergix?

1. Push the cursor key ↑ or ↓ to highlight *Scenergix*. (menu 7-50)
2. Press **ENTER** to select.
3. Push the cursor key ↑ or ↓ to highlight *Status*. (menu 7-51)
4. Press **ENTER** to toggle between ON and OFF.

ON	scenergix is active
OFF	scenergix is not active

```
RANDOM ACCESS
ADJUSTMENT MODE

FILE SERVICE
PICTURE TUNING
GEOMETRY
SCENERGIX
PIP
SAVE CHANGES

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

Menu 7-50

```
SCENERGIX

STATUS [ON]
- size -
TOP
BOTTOM
LEFT
RIGHT

- black level -
LEVEL

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

Menu 7-51

7.5.4 ScenergiX overlap zone (horizontal scenergix)

Definitions

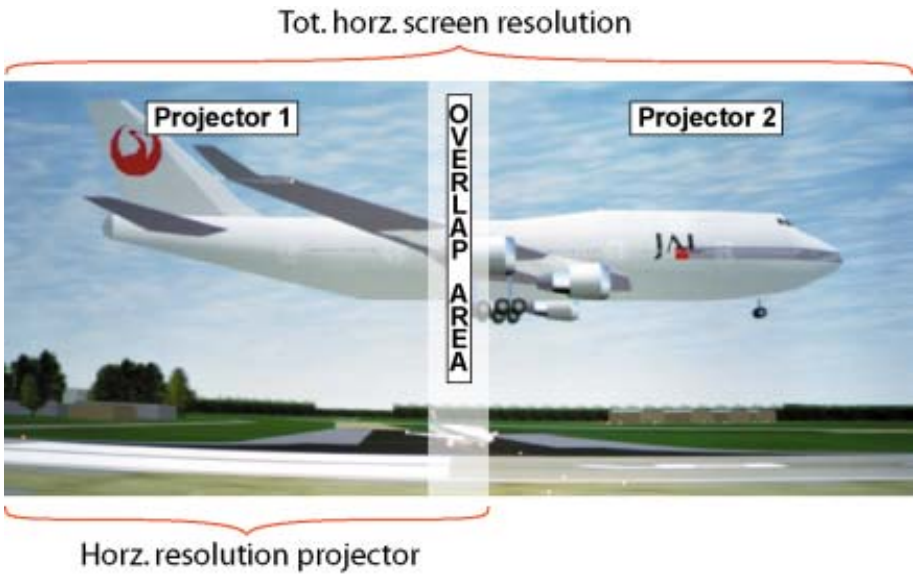


Image 7-10
Scenergix set up

Overlap : number of pixels that overlap

Horizontal resolution of 1 projector : 1024 for Graphics versions, 1280 for Reality versions, 1400 for SLM R12+.

Total horizontal screen resolution : [(horizontal resolution of 1 projector) x 2] minus overlap.

Horizontal Resolution source : number of active pixels of the source.

Adjustment of Active pixels (Pact) of the first projector

1. Go to File –> Edit menu of first projector.
2. Enter value for horizontal active (= Pact) as follows :
   Pact = [(Horz. resolution of 1 projector)/(Total horz. screen resolution)] x (horz. resolution source)
3. Horizontal start (= Pstart) remains the same.

Adjustment of Active pixels (Pact) of second projector

1. Go to File –> Edit menu of second projector.
2. Enter value for horizontal active (= Pact) as follows :
   Pact = [(Horz. resolution of 1 projector)/(Total horz. screen resolution)] x (horz. resolution source)
3. Horizontal start (= Pstart) = original start + [(Horz. resolution source) minus (newly calculated Pact)]

Example

Horizontal resolution source : 1600 pixels

horizontal resolution projector 1 & 2 : 1024 pixels

Overlap : 100 pixels

Total horizontal screen size in pixels : 1948 pixels

Pact projector 1 = [(1024 / 1948)] x 1600 = 841 pixels

Pact projector 2 = [(1024 / 1948)] x 1600 = 841 pixels

Pstart projector 2 = Pstart projector 1 + (1600 – 841)

7.5.5 ScenergiX overlap zone (vertical scenergix)

Definitions

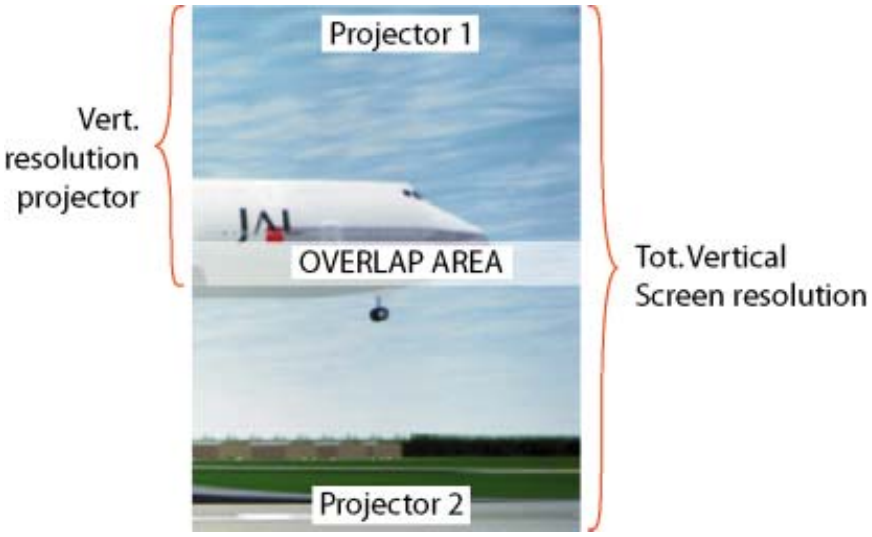


Image 7-11
Scenergix overlap zone vertical

Overlap : number of pixels that overlap

Vertical resolution of 1 projector : 768 for Graphics versions, 1024 for Reality versions, 1050 for SLM R12+.

Total vertical screen resolution : [(Vertical resolution of 1 projector) x 2] minus (overlap)

Vertical Resolution source : number of active lines of the source

Adjustment of Active lines (Lact) of the first projector

1. Go to File –> Edit menu of first projector.
2. Enter value for vertical act (= Lact) as follows :
   Lact = [(vert.. resolution of 1 projector)/(Total Vert. screen resolution)] x (Verti. resolution source)
3. Vertical start (= Lstart) remains the same.

Adjustment of Active lines (Lact) of second projector

1. Go to File –> Edit menu of second projector.
2. Enter value for vertical act (= Lact) as follows :
   Lact = [(Vert.. resolution of 1 projector)/(Total vert. screen resolution)] x (vert. resolution source)
3. Vertical start (= Lstart) = original start + [(Vert. resolution source) minus (newly calculated Lact)]

Example

Vertical resolution source : 1200 lines

Vertical resolution projector 1 & 2: 768 lines

Overlap : 50 lines

Total vertical screen size : 1486 lines

Lact projector 1 = (768 / 1486) x 1200 = 620 lines

Lact projector 2 = (768 / 1486/) x 1200 = 620 lines

Lstart projector 2 = Lstart projector 1 + (1200 – 620)

7.5.6 ScenergiX size adjustment

What can be done with the ScenergiX size menu?

Within this menu the width of the blending zone is set up.

How to adjust the size?

Only accessible when the status is in the ON position.

1. Push the cursor key ↑ or ↓ to highlight one of the four size adjustments, Top, Bottom, Left or Right. (menu 7-52)
2. Press **ENTER** to select.

   A pattern with the different areas will be displayed. (image 7-12)
3. Use the cursor keys to move the border of the overlap area to the desired position (value between 0 and 255). Set first the width of the first projector and repeat for the second one. (image 7-13, image 7-14)

```
SCENERGIX

STATUS [ON]
 - size -
   TOP
 BOTTOM
  LEFT
 RIGHT

- black level -
    LEVEL


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

Menu 7-52

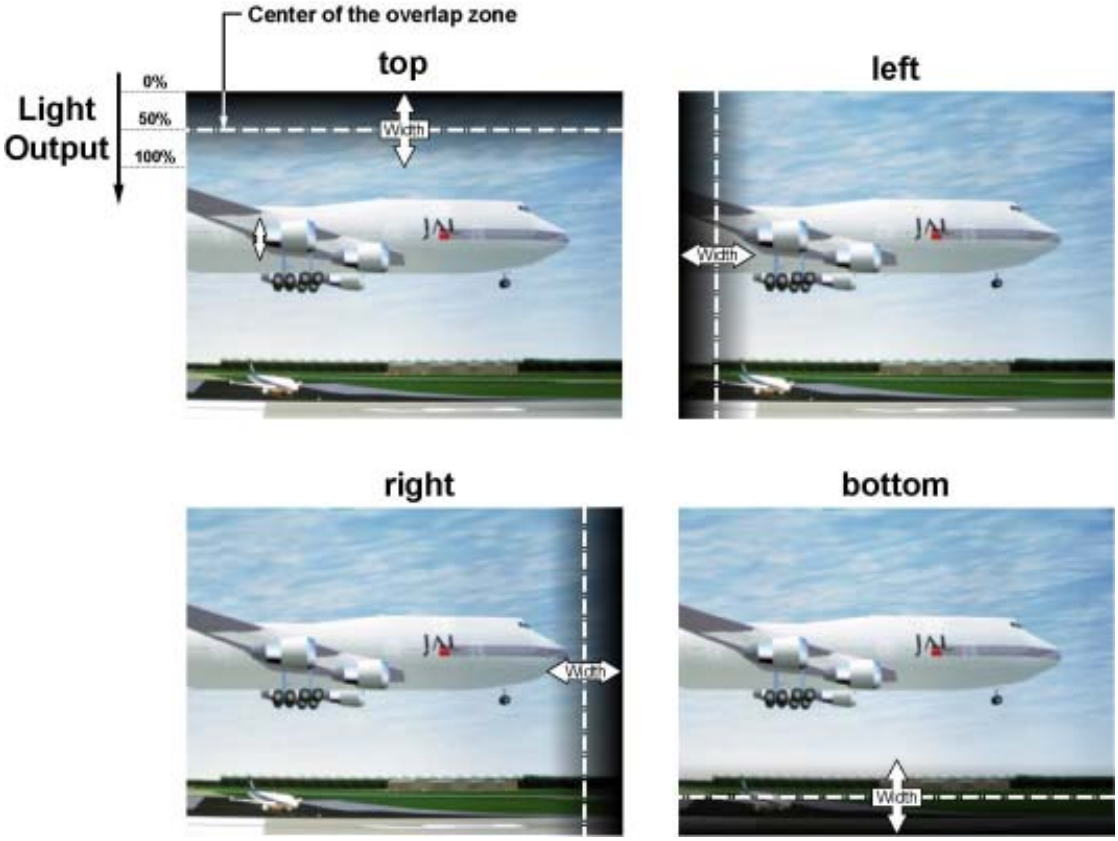


Image 7-12
Width selections

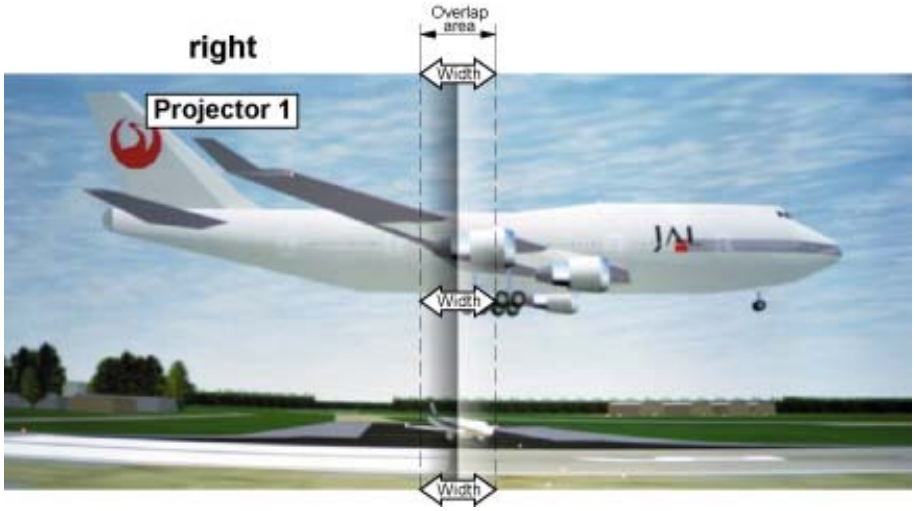


Image 7-13
Width set up for projector 1

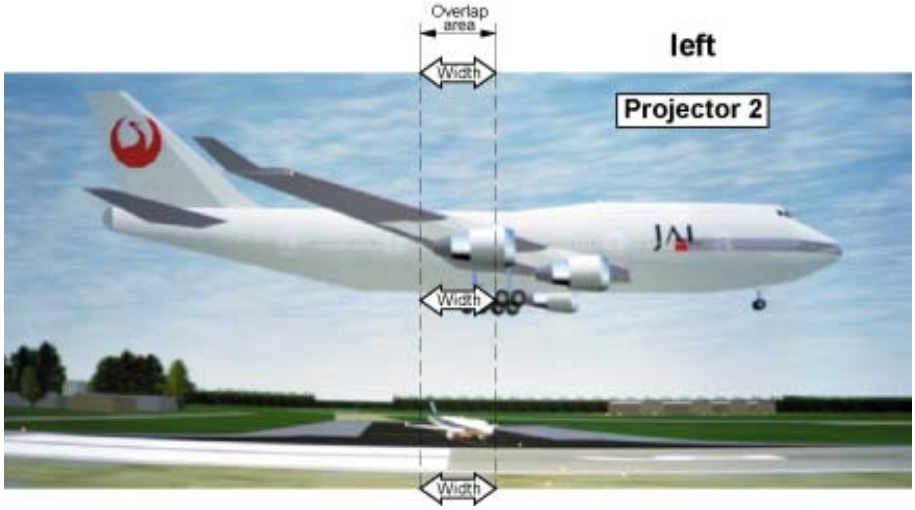


Image 7-14
Width set up for projector 2

7.5.7 Adjusting the black level of the images

Why

For dark images, the overlap zone will be brighter then the rest of the images. Therefore we can rise the black level of the remaining image (excluding the overlap zone).

How to adjust?

1. Push the cursor key ↑ or ↓ to highlight *Level*. (menu 7-53)
2. Press **ENTER** to activate.
3. Adjust the black level of area A until the black level of area A, B and C are equal. (image 7-15)

```
SCENERGIX

STATUS [ON]
 - size -
   TOP
 BOTTOM
  LEFT
 RIGHT

- black level -
   LEVEL


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

Menu 7-53

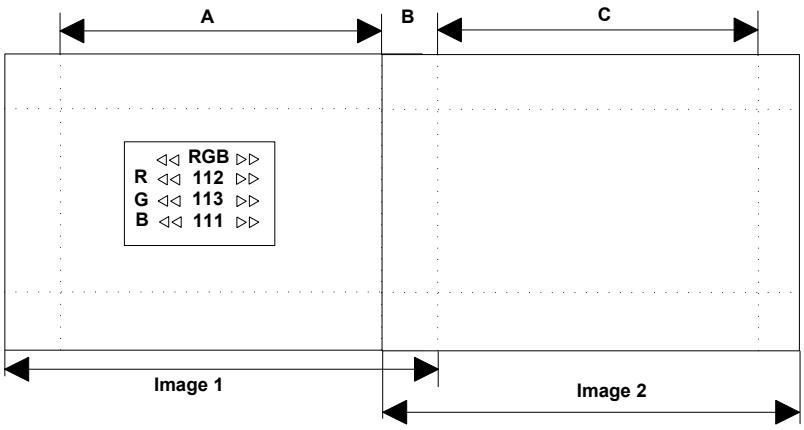


Image 7-15
Black level adjustment

7.6 Picture in Picture (PiP)

Overview

- Introduction to PiP
- Picture in Picture activation
- Picture in Picture source
- Position of Picture in Picture window
- Set up of the Quick Selection

7.6.1 Introduction to PiP

PiP

PiP stands for "Picture in Picture" and allows to display multiple windows containing each of them an image. The windows may be of the video or data type.

What are the different possibilities within the PiP mode ?

The input section of the SLM projector allows a combinations of different input signals which may be projected in the 2 windows of the PiP screen. The PiP window can be placed in one of the four corners of the main window.

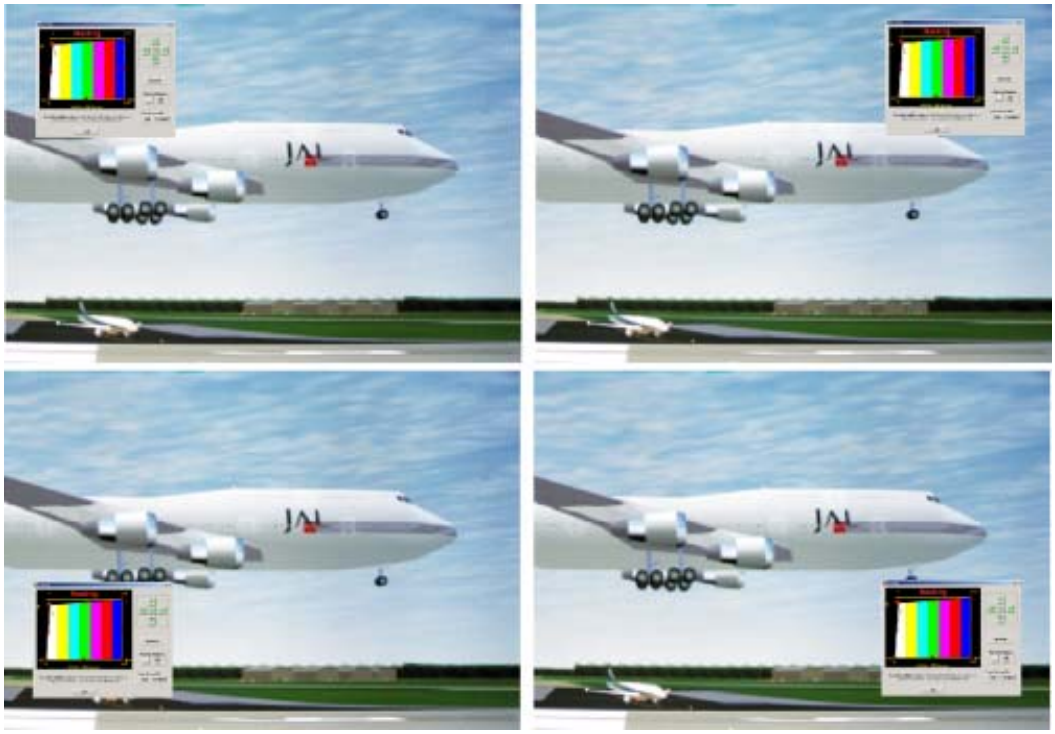


Image 7-16
Possible position for PiP

7.6.2 Picture in Picture activation

How to activate PIP?

1. Push the cursor key ↑ or ↓ to highlight *PIP*. (menu 7-54)
2. Press **ENTER** to select.

   The PIP menu will be displayed. (menu 7-55)
3. Push the cursor key ↑ or ↓ to highlight *Status*.
4. Press **ENTER** to toggle between ON and OFF.

ON	PIP is active
OFF	PIP is not active

```
RANDOM ACCESS
ADJUSTMENT MODE

FILE SERVICE
PICTURE TUNING
GEOMETRY
SCENERGIX
PIP
SAVE CHANGES

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

Menu 7-54

```
PIP

STATUS [ON]
SOURCE 01
POSITION [Top-Left]
QUICK SELECT [OFF]

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

Menu 7-55

7.6.3 Picture in Picture source

Which source displayed in PiP

1. Push the cursor key ↑ or ↓ to highlight *Source*. (menu 7-56)
2. Press **ENTER** to select.
3. Enter the source number with the remote control. Start always with 0.

```
PIP

STATUS [ON]
SOURCE 01
POSITION [Top-Left]
QUICK SELECT [OFF]

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

Menu 7-56

7.6.4 Position of Picture in Picture window

What can be done?

The PiP window can be placed in on of the four corners of the main window.

How to position?

1. Push the cursor key ↑ or ↓ to highlight *Position*. (menu 7-57)
2. Press **ENTER** to toggle between *Top-Left*, *Top-Right*, *Bottom-Left* or *Bottom-Right*.

```
PIP

STATUS [ON]
SOURCE 01
POSITION [Top-Left]
QUICK SELECT [OFF]

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

Menu 7-57

7.6.5 Set up of the Quick Selection

What is possible?

When the quick selection is active, the source inside the PiP window can be switched to another source by entering on the RCU or local keypad first 0 followed immediately by the source number. E.g. for source 2 in the PiP window, enter 02 on the RCU.

How to set

1. Push the cursor key ↑ or ↓ to highlight *Quick Select*. (menu 7-58)
2. Press **ENTER** to toggle between [OFF] and [<0>].

   OFF : no quick selection allowed.

   <0> : quick selection allowed by using 0 before the source number.

```
PIP

STATUS [ON]
SOURCE 01
POSITION [Top-Left]
QUICK SELECT [OFF]

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

Menu 7-58

7.7 Save Changes

What can be done

The system saves automatically the changes every x minutes. When you want to save it quicker, use the save changes option.

How to save

1. Push the cursor key ↑ or ↓ to highlight *Save Changes*. (menu 7-59)
2. Press **ENTER** to save the actual settings in the active file.

   A message will be displayed to wait a few second while the system is saving the data. (menu 7-60)

```
RANDOM ACCESS
ADJUSTMENT MODE

FILE SERVICE
PICTURE TUNING
GEOMETRY
SCENERGIX
PIP
SAVE CHANGES

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

Menu 7-59

```
Message

Saving data
please wait
```

Menu 7-60

8. INSTALLATION MODE

Overview

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

8.1 Start up of the Installation mode

Start up

1. Push the cursor key ↑ or ↓ to highlight *Installation*. (menu 8-1)
2. Press **ENTER**.

   The Installation mode menu will be displayed. (menu 8-2)

```
ADJUSTMENT MODE

Select a path from below :

RANDOM ACCESS
INSTALLATION
SERVICE

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

Menu 8-1

```
INSTALLATION

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

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

Menu 8-2

8.2 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 8-3)
2. Press **ENTER** to select.

   The input slots menu will be displayed. (menu 8-4)

```
INSTALLATION

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

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

Menu 8-3

```
INPUT SLOTS

Slot Module type [config]
1.   RGB-SS [CV]
2.   RGB-SOG
3.   SDI
4.   SDI
_____________
1. DVI OUTPUT [DVI input]

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

Menu 8-4

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

Source	Indication
Video or S-Video	Video S-video
RGB analog	RGB-SS[CV] : separate sync is composite video on H/C input RGB-SS[cS or HS&VS]: separate sync is composite sync or 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 syns 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

Possible results for input 3 and 4

SDI	Serial digital input
HD SDI	high definition digital input
Digital Video Decoder	VIDEO[VIDEO] VIDEO[S-VIDEO] VIDEO[YUV]

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.

8.3 800 peripheral

Overview

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

8.3.1 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

Defining the output module

To define the output module:

1. Push the cursor key ↑ or ↓ to highlight *800 Peripheral*. (menu 8-5)
2. Press **ENTER** to select.
3. Push the cursor key ↑ or ↓ to highlight *Output module*. (menu 8-6)

```
INSTALLATION

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

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

Menu 8-5

```
800 PERIPHERAL

OUTPUT MODULE [STANDARD]
INFRARED [PPM]

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

Menu 8-6

8.3.2 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 8-7)
2. Press **ENTER** to select.
3. Push the cursor key ↑ or ↓ to highlight *Infrared*. (menu 8-8)
4. Press **ENTER** to select.
5. Press **ENTER** to toggle between [PPM] or [RC5].

```
INSTALLATION

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

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

Menu 8-7

```
800 PERIPHERAL

OUTPUT MODULE [STANDARD]
INFRARED [PPM]

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

Menu 8-8

8.4 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 8-9)
2. Press **ENTER** to select.

   The seamless source switching menu will be displayed. (menu 8-10)
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 8-1.

```
INSTALLATION

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

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

Menu 8-9

```
SEAMLESS
SOURCE SWITCHING

EFFECT [NO TRANSITION]

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

Menu 8-10

Image 8-1
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).

8.5 No Signal

Overview

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

8.5.1 Changing the Background Color

How to change ?

1. Push the cursor key ↑ or ↓ to highlight *No signal*. (menu 8-11)
2. Press **ENTER** to select.

   The no signal menu will be displayed. (menu 8-12)
3. Push the cursor key ↑ or ↓ to highlight *Color*.menu 8-12
4. Press **ENTER** to toggle between [blue] or [black].

```
INSTALLATION

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

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

Menu 8-11

```
NO SIGNAL

COLOR [Blue]
SHUTDOWN [off]

Shutdown time:  5 min

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

Menu 8-12

8.5.2 Changing the Shutdown Setting

How to change ?

1. Push the cursor key ↑ or ↓ to highlight *No Signal*. (menu 8-13)
2. Press **ENTER** to select.

   The no signal menu will be displayed. (menu 8-14)
3. Push the cursor key ↑ or ↓ to highlight *Shutdown*.menu 8-14
4. Press **ENTER** to toggle between [On] or [Off].

```
INSTALLATION

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

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

Menu 8-13

```
NO SIGNAL

COLOR [Blue]
SHUTDOWN [off]

Shutdown time:  5 min

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

Menu 8-14

8.5.3 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 8-15)
2. Press **ENTER** to select.

   The no signal menu will be displayed. (menu 8-16)
3. Push the cursor key ↑ or ↓ to highlight *Shutdown Time*.menu 8-16
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
CONTRAST ENHANCEMENT
CONVERGENCE
CONFIGURATION
LENS
QUICK ACCESS KEYS
OSD
INTERNAL PATTERNS

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

Menu 8-15

```
NO SIGNAL

COLOR [Blue]
SHUTDOWN [off]

Shutdown time:  5 min

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

Menu 8-16

8.6 Contrast Enhancement

Purpose

Increases contrast for all video and data sources.

Contrast enhancement will reduce the light output of the projector.

To change the Contrast Enhancement value

1. Push the cursor key ↑ or ↓ to highlight *Contrast Enhancement*. (menu 8-17)
2. Press **ENTER** to select.

   The contrast enhancement menu will be displayed. (menu 8-18)
3. Push the cursor key ↑ or ↓ to highlight the desired contrast enhancement, normal or high.
4. Press **ENTER** to select.

   A timer will countdown from 45 seconds to 0. During this time, no action maybe undertaken. The projector is switching the contrast setting and has to recalculate the internal settings. (menu 8-19)

```
INSTALLATION

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

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

Menu 8-17

```
CONTRAST ENHANCEMENT

NORMAL CONTRAST
HIGH CONTRAST

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

Menu 8-18

```
CONTRAST ENHANCEMENT

NORMAL CONTRAST
HIGH CONTRAST

Remaining time :  44 sec

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

Menu 8-19

8.7 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 8-20)
2. Press **ENTER** to select.

   The following message will be displayed : “Convergence is reserved to qualified service personnel.” (menu 8-21)

```
INSTALLATION

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

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

Menu 8-20

```
WARNING

CONVERGENCE
is reserved to
qualified
service personnel

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

Menu 8-21

8.8 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 8-22)
2. Press **ENTER** to select.

   The configuration menu will be displayed.

```
INSTALLATION

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

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

Menu 8-22

For more information, see Installation Guidelines .

8.9 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 8-23)
2. Press **ENTER** to select.

   The lens menu will be displayed. (menu 8-24)

```
INSTALLATION

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

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

Menu 8-23

```
LENS ADJUSTMENT

ZOOM/FOCUS
SHIFT
OPTIONS

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

Menu 8-24

How to Zoom/Focus ?

1. Push the cursor key ↑ or ↓ to select Zoom/Focus. (menu 8-25)
2. Push the cursor key ↑ or ↓ to zoom and ← or → to focus the image.see "Quick Set Up Adjustments", page 36
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 8-25

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 8-26)
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 8-26

Options

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

1. Push the cursor key ↑ or ↓ to highlight *Options*. (menu 8-27)
2. Press **ENTER** to select.

   The Lens Options menu will be displayed. (menu 8-28)
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 8-27

```
LENS OPTIONS

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

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

Menu 8-28

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.

8.10 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 8-29)
2. Press **ENTER** to select.

   The Quick Access Overview menu will be displayed. (menu 8-30)

   <*> starts up the lens adjustment functions

   <0> 0 keys is used as prefix when selecting a PiP source. E.g. 0 + 2 will select source 2 as PiP source while only 2 will select source 2 as main source.

```
INSTALLATION

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

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

Menu 8-29

```
QUICK ACCESS KEYS

<F1> :
<F2> :
<F3> :
<F4> :
<F5> :
<*> : LENS ADJUSTMENTS
<0> : PiP SOURCE
CLEAR ALL

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

Menu 8-30

No functions are preprogrammed.

8.11 OSD

Overview

- Color Settings
- Menu Position

8.11.1 Color Settings

How to change

1. Push the cursor key ↑ or ↓ to highlight *OSD*. (menu 8-31)
2. Press **ENTER** to select.
3. Push the cursor key ↑ or ↓ to highlight *Highlighted item color*. (menu 8-32)
4. Press **ENTER** to toggle between Yellow, Red and Blue.

```
INSTALLATION

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

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

Menu 8-31

```
OSD

HIGHLIGHT ITEM COLOR [red]

MENU POSITION [Default]

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

Menu 8-32

8.11.2 Menu Position

How to change

1. Push the cursor key ↑ or ↓ to highlight *OSD*. (menu 8-33)
2. Press **ENTER** to select.
3. Push the cursor key ↑ or ↓ to highlight *Menu Position*. (menu 8-34)
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
CONTRAST ENHANCEMENT
CONVERGENCE
CONFIGURATION
LENS
QUICK ACCESS KEYS
OSD
INTERNAL PATTERNS

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

Menu 8-33

```
OSD

HIGHLIGHT ITEM COLOR [red]

MENU POSITION [Default]

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

Menu 8-34

8.12 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 8-35)
2. Press **ENTER** to select.

   The internal patterns menu will be displayed. (menu 8-36)

```
INSTALLATION

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

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

Menu 8-35

```
INTERNAL PATTERNS

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

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

Menu 8-36

9. SERVICE MODE

9.1 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.

9.2 Start up

Start up

1. Push the cursor key ↑ or ↓ to highlight *Service*. (menu 9-1)
2. Press **ENTER** to display the service mode menu. (menu 9-2)

```
ADJUSTMENT MODE

Select a path from below :

RANDOM ACCESS
INSTALLATION
SERVICE

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

Menu 9-1

```
SERVICE

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

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

Menu 9-2

```
SERVICE

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

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

Menu 9-3

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.

9.3 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 SLM G8
- Software version
- Network module: yes
- Proj. address: To change the address of the projector, see Change Projector Address, page 93
- 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 9-4)
2. Press **ENTER** to display the Identification screen. (menu 9-5)

```
SERVICE

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

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

Menu 9-4

```
BARCO SLM G8

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

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

Menu 9-5

9.4 Password

Overview

- Change Password
- Access Control List

9.4.1 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 9-1)
3. Pull out the input box by both handlers.
4. When a metal top cover of the box is mounted, remove first by turning out the screws. (image 9-2)
5. When looking inside the box, the controller module with the switches is situated in the middle of the box. (image 9-3)
6. Change the position of S2.

Image 9-1
Access password switch

Image 9-2
Metal top cover

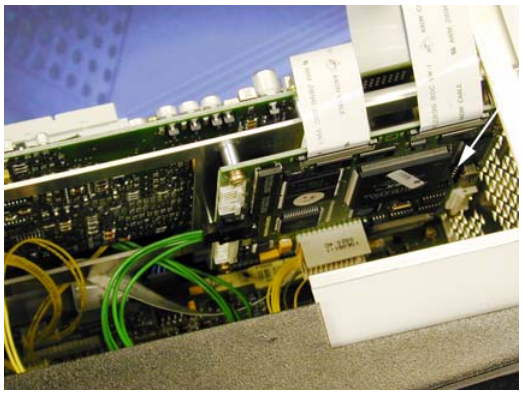


Image 9-3

How to change the password ?

1. Push the cursor key ↑ or ↓ to highlight *Change Password*. (menu 9-6)
2. Press **ENTER** to display the *Change Password* menu. (menu 9-7)
   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
DIMMING
MORE...

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

Menu 9-6

```
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 9-7

9.4.2 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 9-8)
2. Press **ENTER** to display the Change password menu. (menu 9-9)
   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 9-10)

   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
 DIMMING
 MORE...

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

Menu 9-8

```
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 9-9

```
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 9-10

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

9.5 Changing Language

Start up

1. Push the cursor key ↑ or ↓ to highlight *Change Language*. (menu 9-11)
2. Press **ENTER** to display the *Change Language* menu. (menu 9-12)
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
DIMMING
MORE...

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

Menu 9-11

```
CHANGE LANGUAGE

ENGLISH

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

Menu 9-12

9.6 Change Projector Address

How to change the projector address?

1. Push the cursor key ↑ or ↓ to highlight *Change Proj Address*. (menu 9-13)
2. Press **ENTER**.

   The Change Projector Address menu will be displayed and the actual address will be filled in. (menu 9-14)
3. Push the cursor key ↑ or ↓ to highlight *Projector address*.
4. Press **ENTER** to activate.

   The first digit will be highlighted.
5. Reprogram the address with ↑,↓,←,→ keys

   Use the ↑ or ↓ key to select a new value, use the ← or → key to select a new digit.
   Or,
   use the numeric keys on the RCU to enter the new address.

   The address must be between 0 and 9 when controlling the projector with the RCU or

   between 0 and 255 when controlling the projector via RS232.

```
SERVICE

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

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

Menu 9-13

```
CHANGE PROJ. ADDRESS

PROJECTOR ADDRESS    1

COMMON ADDRESS (RC5) 0
COMMON ADDRESS (PPM) 0

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

Menu 9-14

How to change the common address

1. Push the cursor key ↑ or ↓ to highlight *Change Proj Address*. (menu 9-15)
2. Press **ENTER**.

   The Change Projector Address menu will be displayed and the actual address will be filled in. (menu 9-16)
3. Push the cursor key ↑ or ↓ to highlight *Common address*.

4. Press **ENTER** to activate.

   The address digit will be highlighted.

5. Select 0 or 1 with the ↑ or ↓ keys
   Or,
   enter the new value with the numeric keys.

```
SERVICE

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

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

Menu 9-15

```
CHANGE PROJ. ADDRESS

PROJECTOR ADDRESS    1

COMMON ADDRESS (RC5) 0
COMMON ADDRESS (PPM) 0

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

Menu 9-16

9.7 Serial Communication

Overview

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

9.7.1 Start Up of the Serial Communication

Start up

1. Push the cursor key ↑ or ↓ to highlight *Serial communication*. (menu 9-17)
2. Press **ENTER** to display the Serial Communication menu. (menu 9-18)

```
SERVICE

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

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

Menu 9-17

```
SERIAL COMMUNICATION

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

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

Menu 9-18

9.7.2 Baud rate Setting

Set up

To change the baud rate, handle as follow:

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

   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 9-19

Available baud rates.

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

9.7.3 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 9-20)

   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 9-20

9.7.4 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 9-21)

   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 9-21

9.8 Network Configuration

DHCP

Dynamic host configuration protocol

What can be done?

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

Set up the network configuration.

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

1. Push the cursor key ↑ or ↓ to highlight *Network Configuration*. (menu 9-22)
2. Press **ENTER** to display the network configuration menu. (menu 9-23)
3. Set DHCP on or off (contact your network responsible for the correct setting in your environment).

DHCP on	DHCP server assigned an IP address to the client (network projector).
DHCP off	the client has to fill out the IP address, the subnet mask and the default gateway.

```
SERVICE

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

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

Menu 9-22

```
NETWORK CONFIGURATION

DHCP [ON]
IP ADDRESS 158.150.160.200
SUBNET MASK 158.150.160.201
DEFAULT GATEWAY
158.150.300.300
MAC ADDRESS 01:01:02:DB:FF:89
APPLY

Select with ↑ or ↓
<ENTER> to edit
Reprogram with ↑ or ↓
or numeric keys
APPLY to confirm
<EXIT> to return
```

Menu 9-23

Entering the necessary addresses.

1. Select the IP address with the cursor keys. (menu 9-24)
2. Press **ENTER** to edit.
3. Enter or reprogram the address with the numeric keys (contact your network responsible for the correct address).

   An address contains 4 octets with a maximum value of 255, separated by a bullet.
4. Repeat the above steps for the subnet mask and the default gateway.
5. Select *APPLY* and press **ENTER** to install the entered addresses.

   If a wrong value for an octet is entered, the following error message will be displayed to indicate where the error is located. Example of message : "Invalid octet. The maximum value is 255 for each octet ! " . (menu 9-25)

```
NETWORK CONFIGURATION

        DHCP [ON]
 IP ADDRESS 158.150.160.200
SUBNET MASK 158.150.160.201
      DEFAULT GATEWAY
      158.150.300.300
MAC ADDRESS 01:01:02:DB:FF:89
            APPLY


     Select with ↑ or ↓
       <ENTER> to edit
    Reprogram with ↑ or ↓
       or numeric keys
       APPLY to confirm
       <EXIT> to return
```

Menu 9-24

```
ERROR

    Invalid octet
 the maximum value is
 255 for each octet!


<EXIT> to return.
```

Menu 9-25

9.9 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].

By using the CLO function, the lamp life time will enlarge.

CLO for a single projector

When the CLO functions is in the OFF position, the lamp will follow the normal life cycle curve.

When the CLO function is ON (projector master or slave), the projector will regulate the lamp power until the preprogrammed CLO value (number of lumens) (full line) is reached. As long as this power is below the maximum power of the lamp, the projector will gives a constant light output. Once the maximum power is reached, the projector will follow again the normal lamp life cycle curve.

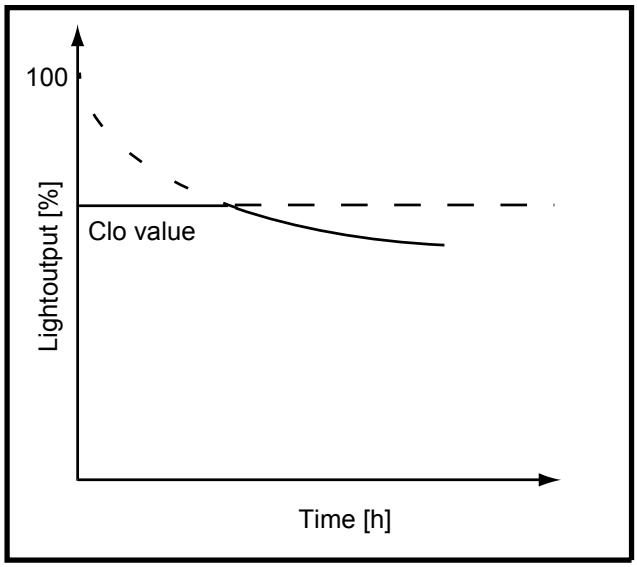


Image 9-4
CLO function of one projector

Linked CLO, used by multiple projectors

If the linked CLO function is in the OFF position, the lamp of each projector will follow its own life cycle curve (dotted lines). When in the ON position and linked as described below, all projectors will use the preprogrammed CLO value as long as no projector in the chain is using its maximum lamp power already. Once one projector is on its maximum lamp power (projector with the lowest light output) all other projectors will follow from now on the life cycle curve of this projector. That means that light output will be constant as long as no projector has reached its maximum lamp power. From then on, the light output of all projector will decrease (full line).

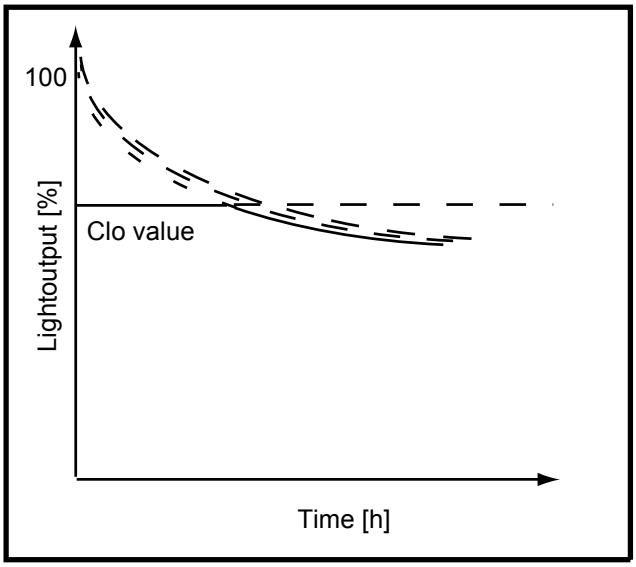


Image 9-5

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.

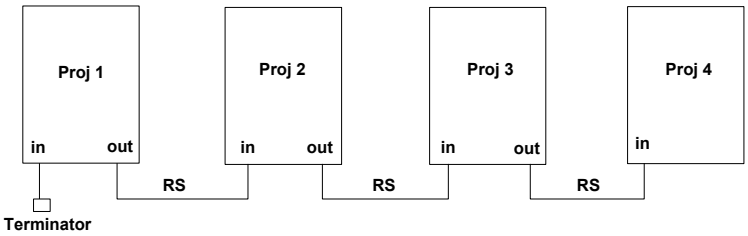


Image 9-6

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 9-26)
2. Press **ENTER** to select.

   The lamp menu will be displayed. (menu 9-27)

```
SERVICE

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

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

Menu 9-26

```
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 9-27

How to switch the constant light output?

1. Push the cursor key ↑ or ↓ to highlight *Constant Light Output*.menu 9-27
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 9-27
2. Press **ENTER** to toggle between [NORMAL] and [ECONOMIC].

normal	normal light output
eco-nomic	reduced light output

9.10 Dimming

What is possible

The lamp can be dimmed in small steps only when the lamp is used in *Normal* mode. The dimming can be done between normal mode and economic mode.

How to dim

1. Push the cursor key ↑ or ↓ to highlight *Dimming*. (menu 9-28)
2. Press **ENTER** to select.

   A dimming slider box appears on the screen.
3. Use the ↑ or ↓ keys to dim the lamp until the desired light output is reached.

```
SERVICE

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

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

Menu 9-28

9.11 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 9-29)
2. Press **ENTER** to select.

   The *BARCO logo* menu will be displayed. (menu 9-30)

   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 9-29

```
BARCO LOGO

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

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

Menu 9-30

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).

9.12 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 9-31)

   The Add-Ins menu will be displayed. (menu 9-32)
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 9-33)
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

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

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

Menu 9-31

```
ADD-INS

CLO [INACTIVE]
SCENERGIX [INACTIVE]

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

Menu 9-32

```
INSTALL ADD-INS
CLO

KEY :xxxxxxxxxxxxxx
_________________
Hardware :  OK
Software :  Not activated

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

Menu 9-33

9.13 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 9-34)
2. Press **ENTER** to select.

   The following warning will be displayed : (menu 9-35)

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

```
SERVICE

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

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

Menu 9-34

```
WARNING

PRESET INPUT BALANCE
is reserved to
qualified
service personnel

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

Menu 9-35

9.14 Advanced Processing

Overview

- Minimum Delay

9.14.1 Minimum Delay

Purpose

In normal mode, the processing (scaling and de-interlacing) in DLP projectors introduces a few frames delay (from input to screen). Setting the option *Minimum Delay* to "ON" disables all scaling and de-interlacing in the processing and reduces frame delay of the projector (from input to screen) to ONE frame, caused by the formatter board (DLP technology restriction). The intended use of this option is to apply native and progressive data to the projector and displaying it with minimum delay, using the full resolution of the projector. Other formats will be displayed either unscaled and/or interlaced.

This feature can be used if additional delay in the projector is not acceptable. For instance if a projector is showing the DVI loop out of another DLP or if an external scaler/de-interlacer does the processing.

How to toggle

1. Push the cursor key ↑ or ↓ to highlight *Advanced Processing*. (menu 9-36)
2. Press **ENTER** to select.

   The *Advanced Processing* menu will be displayed. (menu 9-37)
3. Select Minimum Delay and press ENTER to toggle between [ON] or [OFF].

```
SERVICE

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

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

Menu 9-36

```
ADVANCED PROCESSING

MINIMUM DELAY [ON]

<ENTER> to toggle
<EXIT> to return
```

Menu 9-37

9.15 Diagnosis

9.15.1 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 9-38)
2. Press **ENTER** to select.

   The diagnosis menu will be displayed. (menu 9-39)

```
SERVICE

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

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

Menu 9-38

```
DIAGNOSIS

I2C
FORMATTER
SMPS
LPS1
LPS2
LPS3
VOLTAGES
FANSPEED

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

Menu 9-39

9.15.2 I²C Diagnoses

How to select?

1. Push the cursor key ↑ or ↓ to highlight *I2C*. (menu 9-40)
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 9-41)

```
DIAGNOSIS

I2C
FORMATTER
SMPS
LPS1
LPS2
LPS3
VOLTAGES
FANSPEED

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

Menu 9-40

```
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 9-41

9.15.3 Formatter

How to select the overview?

1. Push the cursor key ↑ or ↓ to highlight *Formatter*. (menu 9-42)
2. Press **ENTER** to select.

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

```
DIAGNOSIS

   I2C
FORMATTER
   SMPS
   LPS1
   LPS2
   LPS3
VOLTAGES
FANSPEED


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

Menu 9-42

9.15.4 SMPS

How to select the overview?

1. Push the cursor key ↑ or ↓ to highlight *SMPS*. (menu 9-43)
2. Press ENTER to select.

   The SMPS overview menu will be displayed. (menu 9-44)

```
DIAGNOSIS

   I2C
FORMATTER
   SMPS
   LPS1
   LPS2
   LPS3
VOLTAGES
FANSPEED


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

Menu 9-43

```
SMPS

µC VERSION        03.01
EEPROM VERSION    03.00
Internal T.      26(45)C
NTC T.           38(80)C
Internal temp.    OK
NTC               OK
TILT SWITCH       OK
MICRO SWITCH      OK
LAMP TEMP         OK
LPS MAINS         OK
SMPS OUTPUT       OK


<EXIT> to return
```

Menu 9-44

9.15.5 LPS (lamp power supply)

How to select the overview?

1. Push the cursor key ↑ or ↓ to highlight *LPS*. (menu 9-45)
2. Press **ENTER** to select.

   The *LPS* overview menu will be displayed. (menu 9-46)

```
DIAGNOSIS

   I2C
FORMATTER
   SMPS
   LPS1
   LPS2
   LPS3
VOLTAGES
FANSPEED


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

Menu 9-45

```
LPS1

µC Version         02.01
EEPROM Version     01.11
Internal T.    029(075)C
Rectifier T.   037(105)C
Heats. PFC T.  029(100)C
Heats. LPS T.  028(100)C
Trafo T.       032(105)C
I2C                   OK




<EXIT> to return
```

Menu 9-46

9.15.6 Voltages

How to select the overview?

1. Push the cursor key ↑ or ↓ to highlight *Voltages*. (menu 9-47)
2. Press **ENTER** to select.

   The *voltage* overview window will be displayed. (menu 9-48)

```
DIAGNOSIS

   I2C
FORMATTER
   SMPS
   LPS1
   LPS2
   LPS3
 VOLTAGES
 FANSPEED


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

Menu 9-47

```
VOLTAGES

FAN1 VOLTAGE  14V  OK
FAN2 VOLTAGE  14V  OK
FAN3 VOLTAGE  17V  OK
15 VOLT        14V  OK
30 VOLT        29V  OK
12 VOLT        12V  OK
5 VOLT         5.0V OK
3.3 VOLT       3.1V OK

<EXIT> to return
```

Menu 9-48

10. PROGRAMMABLE FUNCTION KEYS

10.1 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 10-1)

```
CONFIRM
QUICK ACCESS

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

<ENTER> to confirm
<EXIT> to cancel
```

Menu 10-1

A. STANDARD SOURCE SET UP FILES

A.1 Table overview

Table overview

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

Name[1]	Resolu-tion[2]	Fvert Hz[3]	FHor kHz[4]	Fpix MHz[5]	Ptot[6]	Pact[7]	Ltot[8]	Lact[9]
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

1. Name: name of file, contains the settings.
2. Resolution: image resolution, when followed by ..i means interlaced.
3. Fvert Hz: vertical frame frequency of the source
4. FHor kHz: horizontal frequency of the source
5. Fpix MHz: pixel frequency
6. Ftot : total pixels on one horizontal line.
7. Pact: active pixels on one horizontal line.
8. Ltot: total lines in one field
9. Lact: active lines in one field.

Name[1]	Resolu-tion[2]	Fvert Hz[3]	FHor kHz[4]	Fpix MHz[5]	Ptot[6]	Pact[7]	Ltot[8]	Lact[9]
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[1]	Resolu-tion[2]	Fvert Hz[3]	FHor kHz[4]	Fpix MHz[5]	Ptot[6]	Pact[7]	Ltot[8]	Lact[9]
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

Table A-1

B. BARCO CONTROL MANAGER

Overview

- General requirements
- About the control manager
- Control manager Start Page
- Control
- Configuration
- Diagnostics

B.1 General requirements

Functionality

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

Computer requirements

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

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

The Barco Control Manager has been successfully tested on Microsoft Windows platform (98/NT 4.0/Windows 2000) with Internet Explorer 4.0. On other platforms and with other browsers, it should run fine when the browser supports Java Applets and supports the Java Swing library. As an alternative, when on a specific platform there is no browser supporting the above requirements, it should be possible to run the application using an Applet Viewer.

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

Required embedded projector software

SLM G5 projectors	Version 1.30 or higher
SLM R6 projectors	Version 1.30 or higher
SLM G8 projectors	Version 1.10 or higher
SLM R8 projectors	Version 1.10 or higher
SLM G10 projectors	Version 1.00 or higher
SLM R10 projectors	Version 1.00 or higher
SLM R12+ projectors	Version 1.00 or higher
ELM R12D projectors	Version 3.10 or higher
ELM R18 projectors	Version 1.10 or higher

B.2 About the control manager

Start up

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

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

   The projector acts as a webserver and returns its start up page. (image B-1)

Image B-1
Start up screen

Information on the Start Up page.

The nick name of the projector is shown in the middle of the screen. E.g. default indicated as 'Barco - projector'. Below the location of the projector, default indicated as 'Location'. This name and location can be replaced by any other name or location, see Configuration window / Settings.

B.3 Control manager Start Page

Starting up

1. Click on **Enter** to start up the Barco Control Manager.

   The Control Manager start page will be displayed. (image B-2)

Image B-2
About screen

Using the default window

The following areas can be recognized :

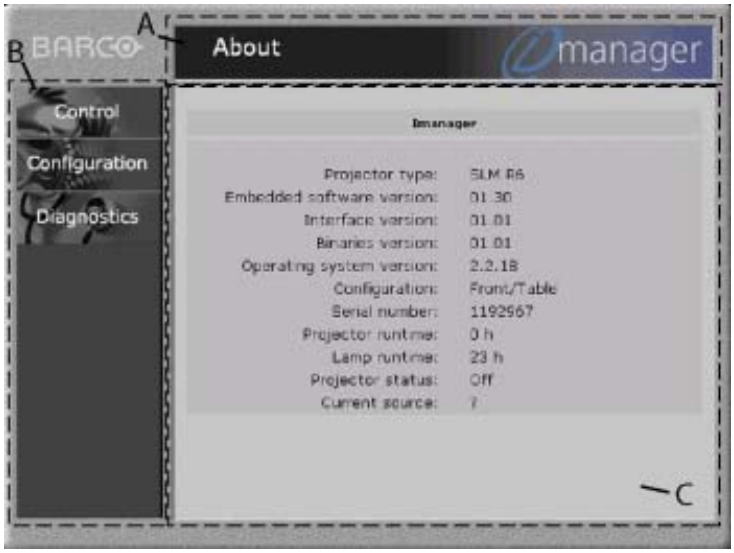


Image B-3
Pane indication

A Title area, displays the title of the active window
B Menu bar with drop down menus
C Content pane, gives information or filf out boxes or slide bars for the active window

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

B.4 Control

Overview

- Start up
- General Control
- Source
- Image Settings
- Image Enhancement
- Lens adjustment
- Geometry adjustment
- Blanking adjustment

B.4.1 Start up

Start up

To start up the control window :

1. Click on *Control.*

   A drop down menu will be displayed. (image B-4)

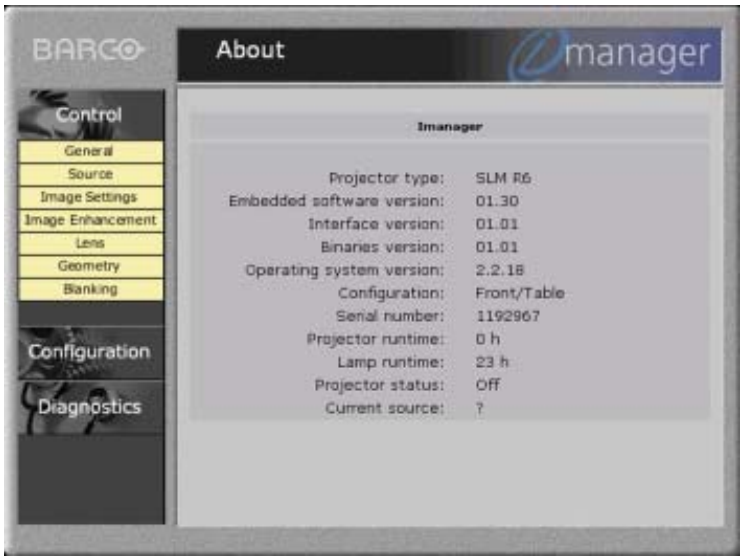


Image B-4
Control selected

Available items

General Control	Projector 'On' or in 'Standby'
	Pause on/off
	Freeze on/off
	Text on/off
Source	selecting the desired source
Image settings	Contrast
	Brightness
	Color
	Tint
	Sharpness
	Phase
	Gamma
Image enhancement	Noise reduction
	Dynamic Color Dept
	CTI on/off
	Decoding 'ebu' or 'ire'
Lens	Zoom
	Focus
	Shift
Geometry	Image Shift

	Size
	Aspect Ratio
	Keystone Correction
Blanking	Changing the blanking settings

Security

When selecting an item in the control drop down menu, the security login and password will be asked.

Image B-5
Network login window

Factory fitted user name and password are twice 'advanced'. The system administrator can change the user name and password (see "Security", page 124).

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

B.4.2 General Control

What can be done

The following items can be switched on or off:

- projector on/off (off is equal to standby)
- pause on/off
- freeze on/off
- test on/off

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

How to select

1. Click on one of the buttons on the content pane. (image B-6)

   The indicated function can be switched on or off. When the green light in the button lights up, the function is on.

Image B-6
Control General window

B.4.3 Source

How to select

1. Click on one of the buttons on the content pane. (image B-7)

   The indicated source is selected. The green light in the button lights up to indicate that this source is selected. When there is no signal on the selected slot, the projector returns to previous displayed source.

Image B-7
Source switching

B.4.4 Image Settings

How to change

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

1. moving with the mouse the slide bar up or down
   Or,
   clicking on the up or down arrow on the edges of the slide bar. (image B-8)

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

   Changing a setting will have immediate influence on the displayed image.

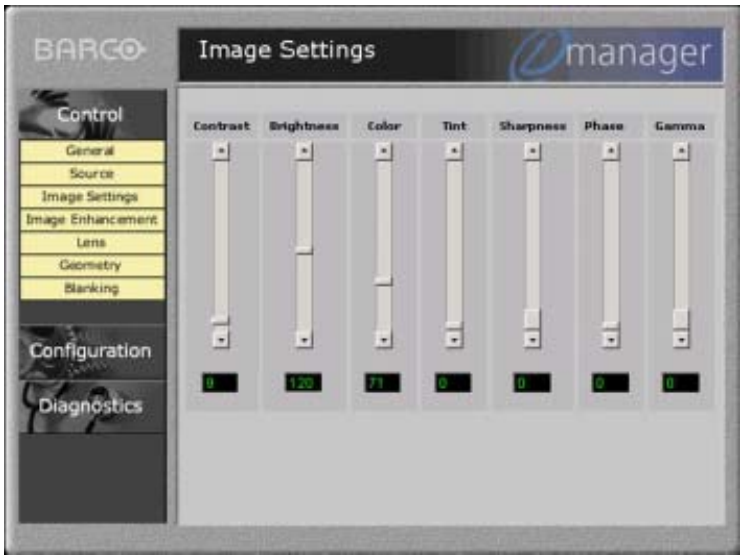


Image B-8
Image settings

B.4.5 Image Enhancement

Changing noise reduction & dynamic color

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

1. Moving with the mouse the slide bar up or down (image B-9)
   Or,
   Clicking on the up or down arrow on the edges of the slide bar.

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

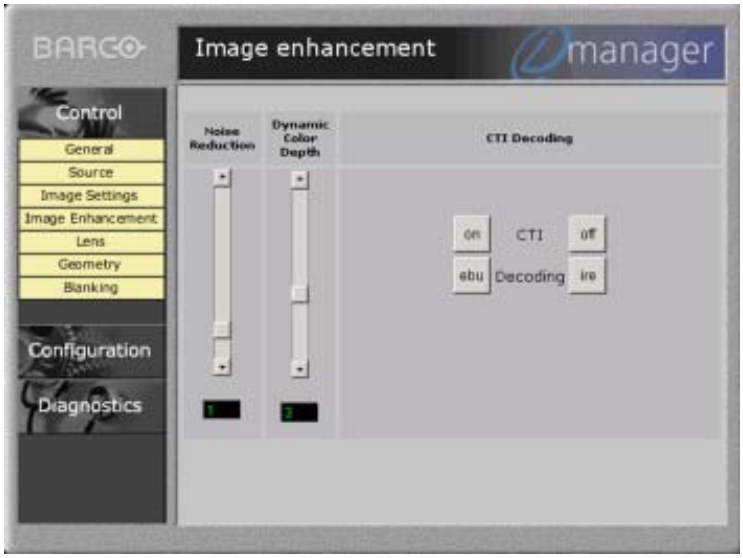


Image B-9
Image Enhancement

CTI

Color transient improvement

CTI and decoding toggle

1. Click with the mouse on the 'on' or 'off' button of the CTI or decoding item to switch on or off.

What is decoding

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

B.4.6 Lens adjustment

How to change

The lens adjustment can be done with lens web page .

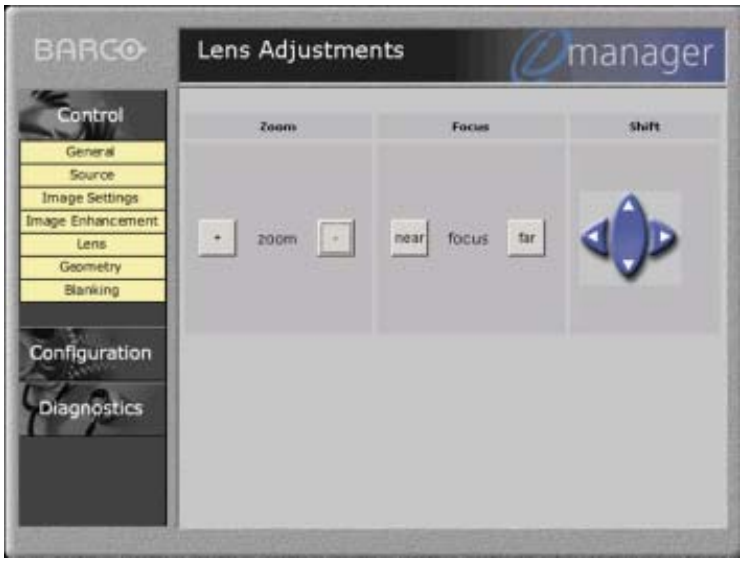


Image B-10
Lens Adjustment

Zoom	click on '+' to zoom out click on '-' to zoom in
Focus	click on 'near' for a image which is focussed in front of the screen click on 'far' for a image which is focussed behind the screen
Lens shift	click on the arrow up or down to shift the image in a vertical direction click on the arrow left or right to shift the image in a horizontal direction

B.4.7 Geometry adjustment

What can be adjusted

Shift, Size and Keystone can be adjusted.

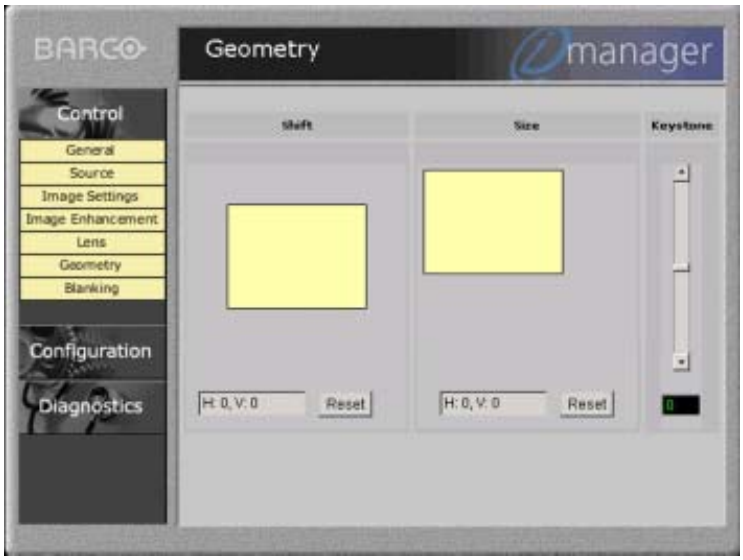


Image B-11
Geometry adjustment

Shift adjustment

1. Click and drag the yellow screen in the direction you want to shift the image (steps of 8 pixels). The black screen indicates its initial position. The shift values are given in a text box below the shifted image.
   Or,
   Click once with the mouse on the shift screen and use the cursor keys on the keyboard to shift the image (steps of 1 pixel). The black screen indicates its initial position. The shift values are given in a text box below the shifted image.

To return to the default position, click on Reset.

Size adjustment

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

The black screen indicates its initial position (image B-11). The size values are given in a text box below the resized image. To return to the default position, click on Reset.

Vertical Size adjustment

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

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

Horizontal Size adjustment

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

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

Keystone adjustment

Keystone adjustment can be changed by :

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

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

B.4.8 Blanking adjustment

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).

The blanking values are given in a text box below the image. A ’0’ value in the text box indicates no blanking.

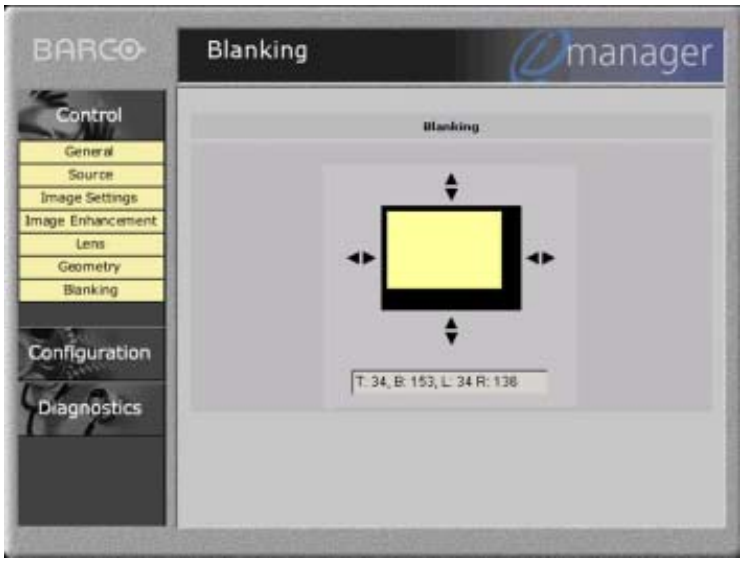


Image B-12
Blanking adjustment

How to adjust

Blanking adjustment can be adjusted by :

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

B.5 Configuration

Overview

- Start up
- Mail Set up
- Security
- Data & Time
- Settings

B.5.1 Start up

Start up

To start up the configuration window :

1. Click on configuration.

   A drop down menu will be displayed. (image B-13)

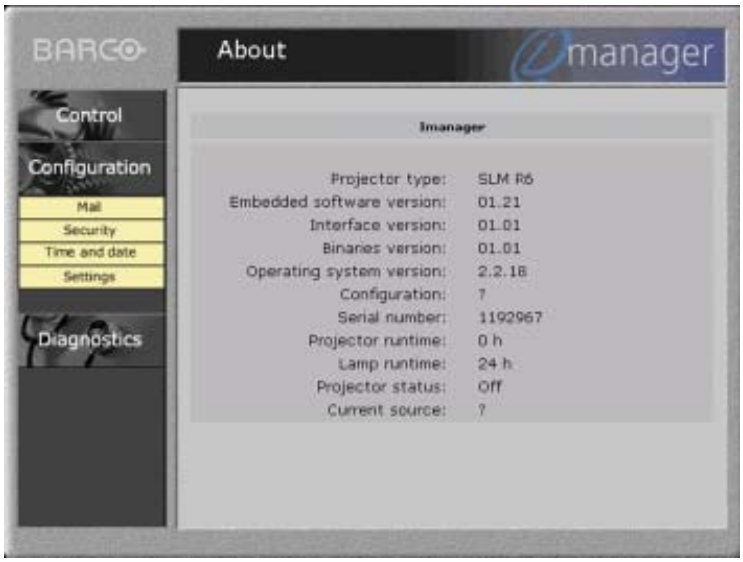


Image B-13
Configuration start up

Available items

Mail set up	to configure up to 3 mail addresses for auto feedback on a pre-defined time.
Security	set up of access password for the user and changing the administrator password.
Settings	to set up the projector name, location and mail server address.
Date & time	set up date/time and time zone for your projector
Source	to enter a name or nick name for each slot. These names will be visible on the Control Source screen.

Security

When selecting an item in the configuration drop down menu, the security login and password for administrator will be asked(image B-5).

Factory fitted administrator user name and password are twice 'admin'. The system administrator can change the administrator user name and password. Once your password is correctly entered, all items in the configuration menu are available.

B.5.2 Mail Set up

What can be done

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

Set up

To set up a mail configuration, handle as follow :

1. Select one of the headings *'Mail 1'*, *'Mail 2'* or *'Mail 3'*. (image B-14)
2. Fill out the E-mail address with an existing E-mail address.
3. Select the content options by selecting the appropriate options.
   The following options are available :
   - General Status (contains Projector type, Serial number, Software version, Configuration, Projector runtime, Lamp runtime)
   - Job log
   - Lamp Warnings
   - Advanced diagnostics (contains I²C errors)
4. Fill out the timing options.
   Select the desired timing by clicking in the drop down box next to the e-mail address box.
   The following options are possible :
   - Daily : fill out the exact hour in the at area.
   - Weekly : fill out the exact hour in the 'at' area and select a day (or days) out of the list.
   - Monthly : fill out the exact hour in the 'at' area and select the day of the month in the 'every monthly' area.

5. Click 'Apply' to finish the configuration.
6. To send an E-mail immediately, click on 'Send now'.

Image B-14
Mail configuration

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

B.5.3 Security

What can be done

The administrator can add or change the advanced user password and the administrator password.

Image B-15
Security management

Set up of the advanced user password.

Handle as follow :

1. Enter the new password.

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

Changing the administrator password.

Handle as follow :

1. Enter the old password.

   Only x's will be displayed on the screen while typing in the new password.

2. Enter the new password.
3. Enter again the new password to confirm.
4. Click on apply to activate the new password.

B.5.4 Data & Time

IP

Internet Protocol. The network layer of TCP/IP. Required for communication with the internet.

TCP/IP

Transmission Control Protocol/Internet Protocol. The native protocol of the internet.

NTP

Network time protocol

Set up

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

1. Select the time zone by clicking on the corresponding time zone in the Time zone list. (image B-16)
2. Select '*Network time*' by checking the *Use NTP server* box and fill out the IP-address of your local NTP server. This server gives normally the GMT time, but due to time zone indication, the correct time will be filled out in the time and date text box after *Apply* is click.

   The 'Time' and 'Date' area will be grayed out but filled out with the correct time and date. The current time on projector will be adapted.
   Or,
   Fill out the time and date text box with the following mask :
   Time : hh:mm
   Date : dd-mm-ccyy

   The NTP server address box will be grayed out.

3. When summer time is active in your region and the time setting set up via the network time, check 'Daylight saving time' to obtain the correct time setting during the summer.
4. Click on **Apply** to activate.

   The current time on projector will be adapted.

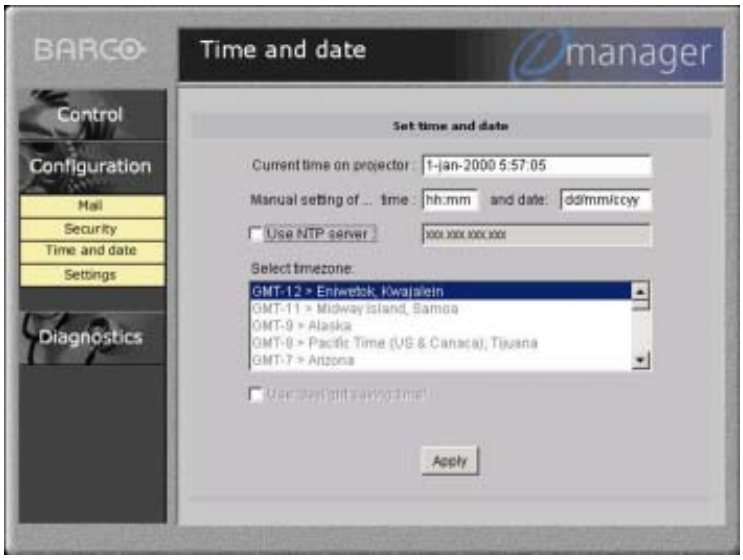


Image B-16
Date & time set up

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

B.5.5 Settings

What can be done

The projector nick name, location, SMTP server address and Lamp warning message time can be filled in.

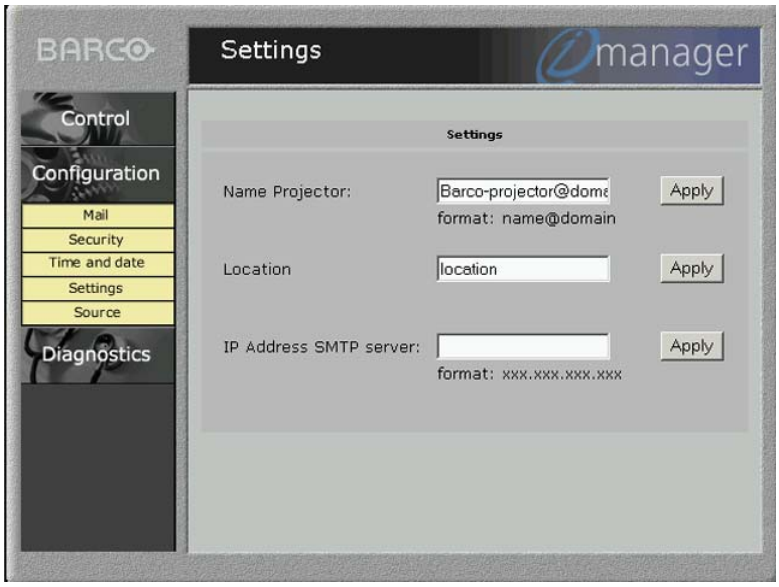


Image B-17
Settings screen

SMTP

Simple Mail Transfer Protocol. A protocol used to move internet E-mail between systems.

Projector name set up

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

Projector location set up

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

IP address SMPT server set up

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

Lamp Warning message time

1. Click in the Lamp warning text field.
2. Fill out the time a lamp warning message has to be send.

B.6 Diagnostics

Overview

- Start Up
- General Status
- Job Log
- Advanced Diagnostics

B.6.1 Start Up

Start Up

To start up the control window:

1. Click on Diagnostics.

   A drop down menu will be displayed. (image B-18)

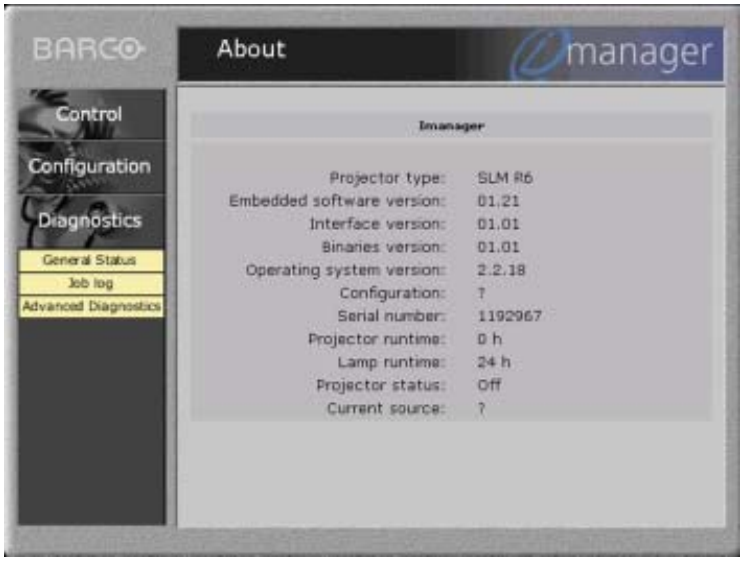


Image B-18
Diagnostics start up page

Available items

- General Status
- Job Log
- Advanced Diagnostics

B.6.2 General Status

What is available

The general status page gives an overview of:

- the projector status
- type of projector
- current source
- run time
- lamp life time
- software version

B.6.3 Job Log

Overview

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

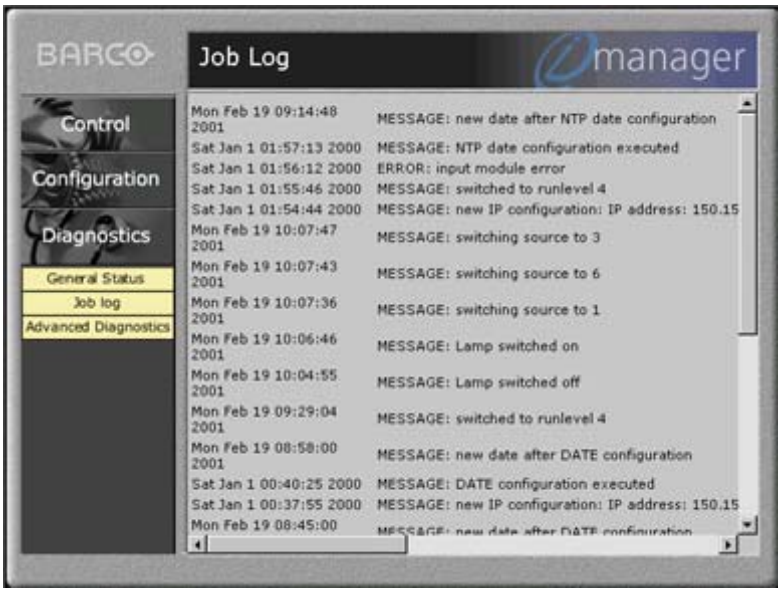


Image B-19
Job log screen

B.6.4 Advanced Diagnostics

Overview

The advanced diagnostics screen gives an overview of errors and warnings on motors, devices, I²C busses, drivers, etc.

Image B-20
Advanced diagnostics screen

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

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

INDEX

A

Address 41
  Program 41
    RCU 41
Adjustment 37–38, 44
  Local LCD Display 44
  Quick set up 37–38
    Lens 37
    On screen color 38
Adjustment mode 43, 45–46
  Random Access 45–46
    Picture Services 46
    Start up 45
  start up 43
Aspect ratio 65

C

Color Temperature 56
  Available Temperatures 56
Connections 21, 23–28, 30, 36
  Communication 30
    peripherals 30
    RS232 30
    RS422 30
  Digital Video Decoder Input 28
  fixed slot 25
  HD SDI input 27
  input sources 23
  Inputs via RCVDS05 23
  module insertion 24
  Network 30
  Power 21
  SDI input 26
  Switching off 23, 36
  Switching on 21
Content 7
Control manager 113–114, 116–128
  about 114
  computer requirements 113
  Configuration 122, 124–126
    Data & Time 125
    Security 124
    Settings 126
    Start up 122
  control 117–118
    general 117
    Image Settings 118
    source 118
  Control 119–121, 123
    Blanking adjustment 121
    Geometry adjustment 120
    Image Enhancement 119
    Lens adjustment 120
    Mail Set up 123
  Diagnostics 127–128
    Advanced Diagnostics 128
    General Status 128
    Job Log 128
    Start Up 127
  general requirements 113
  image control 116
    start up 116
  start page 114
Control Manager 113, 115
  Control 115

D

Diagnosis 104–105
  LPS 104
  SMPS 104
  Voltages 105
Dimensions 7–8
  Projector 7

F

File Service 46–49, 52–54, 57–60
  Annotation 46
  Copy 53
  Delete 53
  Dynamic Color Depth 57
  Edit 48–49
    Change settings 49
    Start up 48
    Values 49
  File options 54
  Input Balance 58–60
    Default settings 60
    RGB 59–60
  Load 47
  Manipulations 46
  Noise Reduction 58
  Rename 52
  start up 47
Function Keys 107
  programming 107
Fuses 21

G

geometry 61
  introduction 61
Geometry 61–66
  Aspect ratio 65
  Blanking 64
  Options 66
  Shift 61
  Side Keystone 63
  Size 62
  start up 61
Getting Started 33, 35–36, 38, 41
  Controlling the projector 41
  Operating the projector 35
  Quick set up 36
  RCU & local keypad 33
  Switching On 35
  Temperature error DMD 36
  Using the RCU 38

I

Input Balance 59
  Black Balance 59
Inputs 23
  facilities 23
Installation 82
  Contrast Enhancement 82
Installation guidelines 15
  Safety area 15
Installation Guidelines 11–13, 16–17, 20
  Ambient Temperature 11
  Battery Installation 20
  Condition Check 11
  Configuration 13
  Environment 11
  General 11
  Lamp positioning 16
  Laser Beams 12
  Lenses 17
  Screen Type 12
Installation Mode 77, 79–81, 83–86
  800 peripheral 79

IR Comm protocol 79
Output module RCVDS 79
Configuration 83
Convergence 83
Input Slots 77
Internal Patterns 86
Lens 84
No Signal 80–81
Background color 81
Shutdown Setting 81
Shutdown time 81
OSD 86
Color settings 86
Menu Position 86
Quick Access Keys 85
Source Switching 80
Start up 77

L

Lamp 21
Run time 21
Lens 18–19, 84
Adjustment 84
Cleaning 19
Selection 18
Lenses 17–19
Available lenses 18
Formulas 18
installation 19

O

Operating the projector 35

P

Packaging 7
Lens 7
Projector 7
Password 43–44, 90
Change 90
Entering 44
Protection 43
Use 43
Picture Tuning 55–57, 59
Color Temperature 56
Available Temperatures 56
CTI 55
Decoding 57
Gamma 56
Input Balance 59
Black Balance 59
Start up 55
PiP 74–75
Quick selection 75
Source 74
Window position 74
PIP 74
Activation 74
Position 12
Projector 12
Projector 7, 12, 40
Address 40
Controlling 40
Packaging 7
unpack 7
Position 12
Projector Address 40

Q

Quick set up 36–37
language 36
Lens 37

R

random access 61
geometry 61
introduction 61
Random Access 45–46, 55, 61, 68–70, 72–73, 75
Geometry 61
Picture Services 46
Picture Tuning 55
PiP 73
Save changes 75
Scenergix 68–70, 72
Black level 72
Horz. overlap zone 68
Size adjustment 70
Vert. overlap zone 69
Start up 45
Randon Access 66
Scenergix 66
RCU 33
Terminology 33
Overview 33
RS232 30
RS422 30

S

Safety Instructions 5
FCC statement 5
Note 5
Warnings 5
Scenergix 66–70, 72
Black level 72
Horz. overlap zone 68
Preparations 67
Size adjustment 70
Vert. overlap zone 69
ScenergiX 66
Introduction 66
SDI input 26
service mode 89
built-up 89
Service Mode 89–91, 93–97, 100–104
Add-Ins 101
Advanced Processing 102
Minimum Delay 102
BARCO Logo 100
Change Password 90
Common address 93
Change 93
Diagnosis 103–104
Formatter 104
I²C Diagnoses 103
Start up 103
Dimming 100
Identification 89
Lamp 97
Language 93
Changing 93
Network Configuration 96
Password 90–91
Access Control List 91
Preset Input Balance 101
Projector Address 93
Change 93
Serial Communication 94–96
Baud rate 95
Interface standard 95
RS422 termination 96
Start up 94
Start up 89
source files 109
standard 109
Standard source files 109
Switching off 23, 36
Switching on 21

Switching On 35
Switching to standby 23, 36

T

Temperature 11
Ambient 11

Revision Sheet

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page	wrong	correct