BARCO

BARCO TRACE

R9040340

OWNER'S MANUAL

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Changes

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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.

TABLE OF CONTENTS

1. SAFETY INSTRUCTIONS

1.1 Warnings

To prevent personnel injury

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

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

To prevent injuries, take note of the weight of the projector. Minimum 4 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 Barco TRACE is packed and gives an overview of the dimensions.

- Packaging
- Box Content
- Dimensions

2.1 Packaging

Way of Packaging

The Barco TRACE is shipped in a wooden box. To provide protection during transportation, the products are surrounded with foam. The package is secured with banding and fastening clips.

The Shipping Crate

The Shipping Crate consists of a Top Cover Crate and a Bottom Crate.
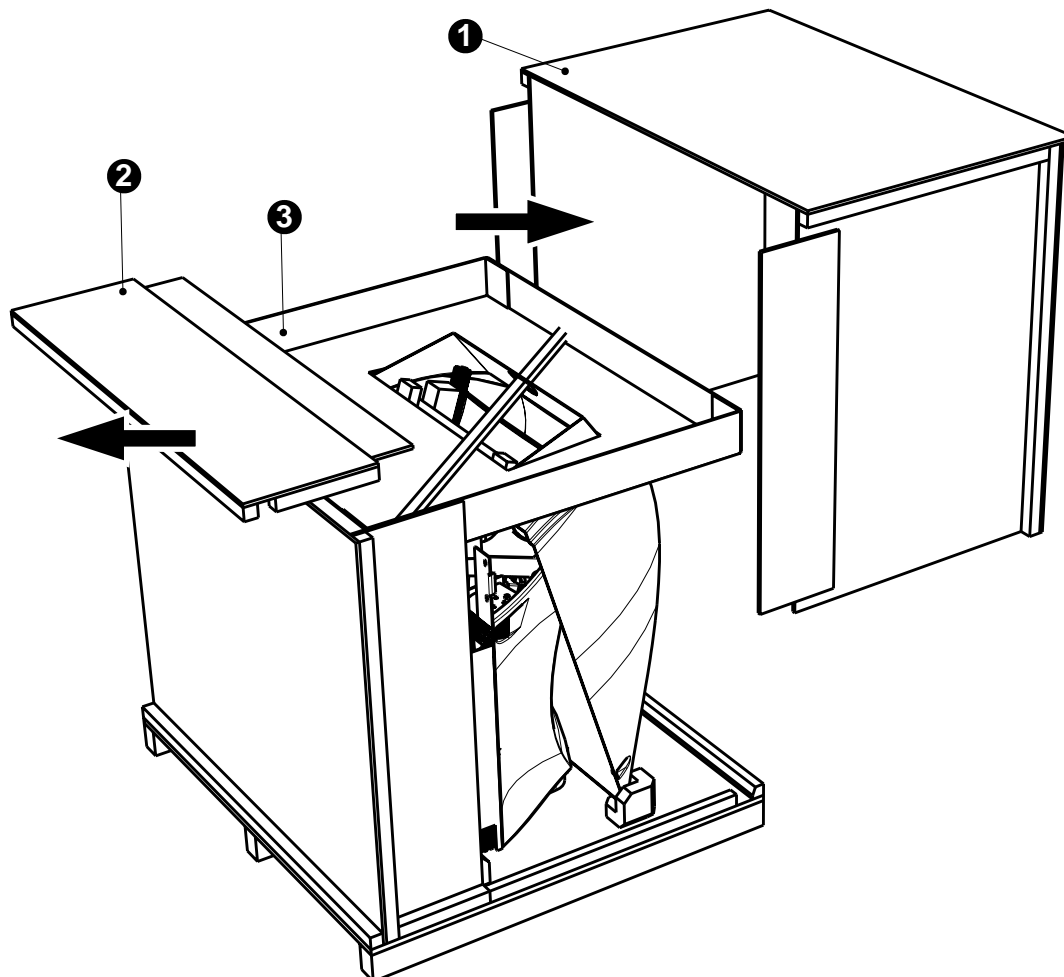
Image 2-1
Shipping Crate

1   Top Cover Crate
2   Small Cover
3   Carton Support

2.2   Box Content

⚠	**Do not unpack the Barco TRACE to check this content list, First read this manual and follow the Installation Guidelines to Unpack and Install the Barco TRACE, otherwise damage may occur to the Barco TRACE parts.**

Content

- • 1 Barco Trace:
    - - 1 Barco Trace Projector Unit (Bottom Unit)
    - - 1 Barco Trace Screen Unit (Top Unit)
- • Covers:
    - - Left Top Bezel
    - - Left Bottom Bezel
    - - Right Top Bezel
    - - Right Bottom Bezel
    - - Rear Top Cabinet
    - - Rear Bottom Cabinet (Already mounted on the Trace Projector Unit)
    - - Front Cover (Already mounted on the Trace Projector Unit)
- • Bolts to mount the Covers to the Barco TRACE
- • 1 Barco TLD 0.8:1 Lens (The lens is packed separately in a carton)
- • 1 Remote Control Unit (RCU) + 2 Batteries 1,5V
- • 1 Installation Manual
- • 1 Owner's Manual

2.3   Dimensions

Dimensions

The dimensions of the Barco TRACE are given in mm and inch (25,4mm = 1 inch).
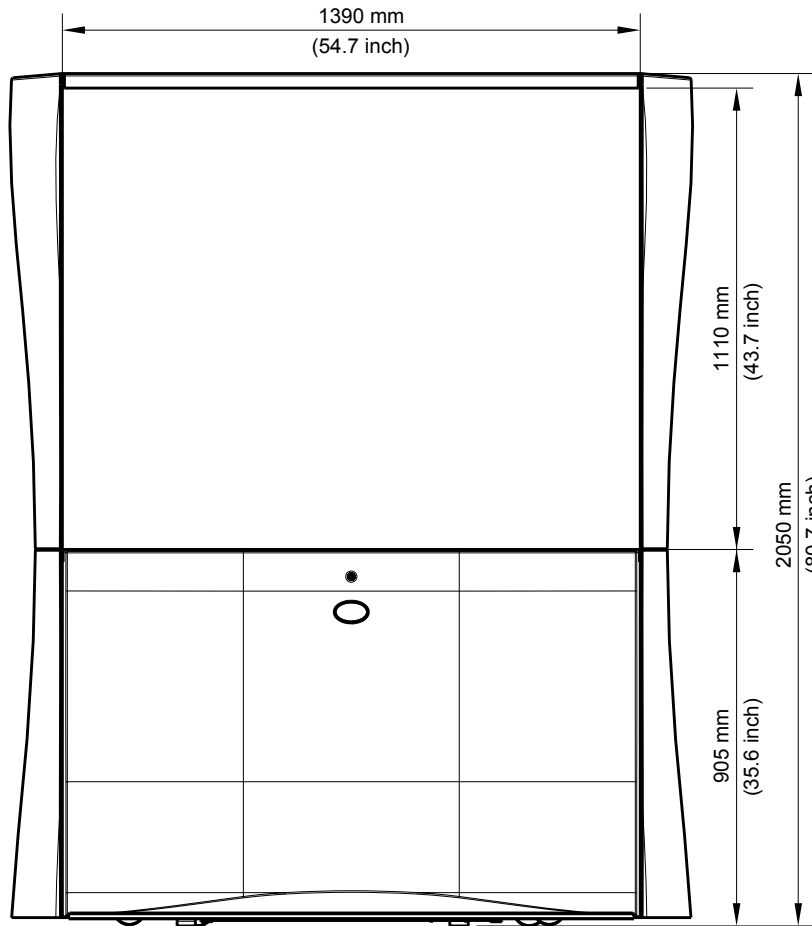
Image 2-2
Front View Dimensions
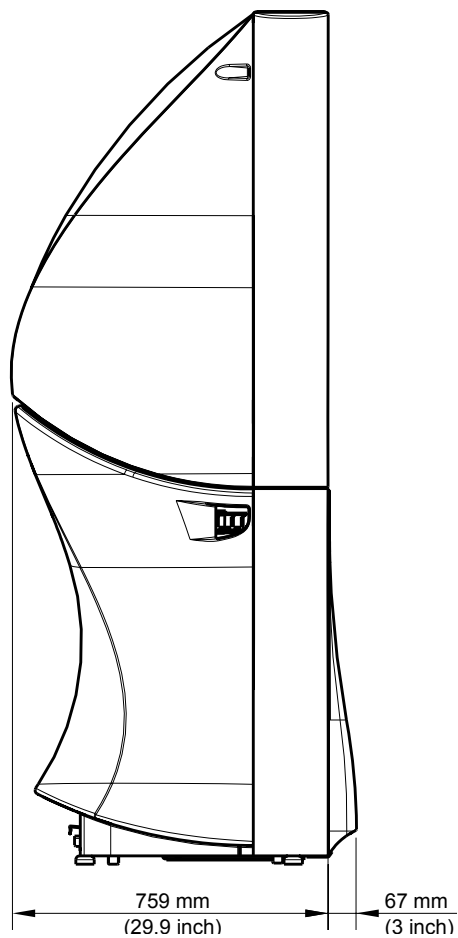
Image 2-3
Right View Dimensions

759 mm
(29.9 inch)

67 mm
(3 inch)

1390 mm
(54.7 inch)

178 mm
(7.0 inch)

760 mm
(29.9 inch)

1635 mm
(64.4 inch)
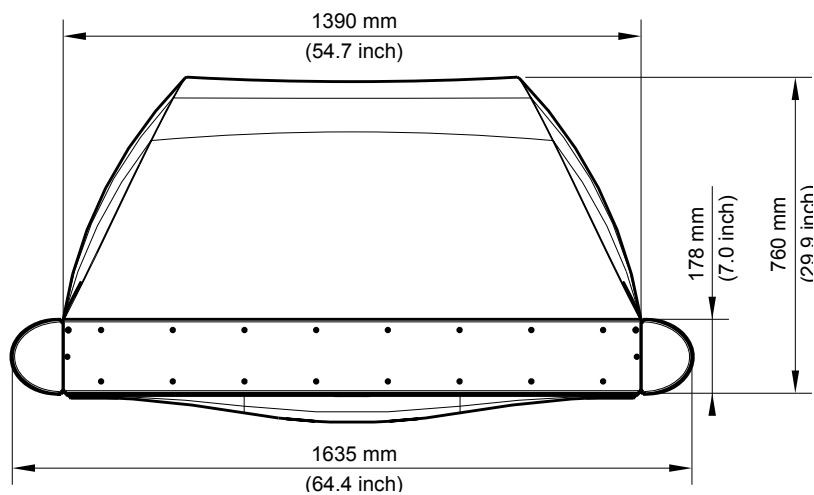
Image 2-4
Top View Dimensions
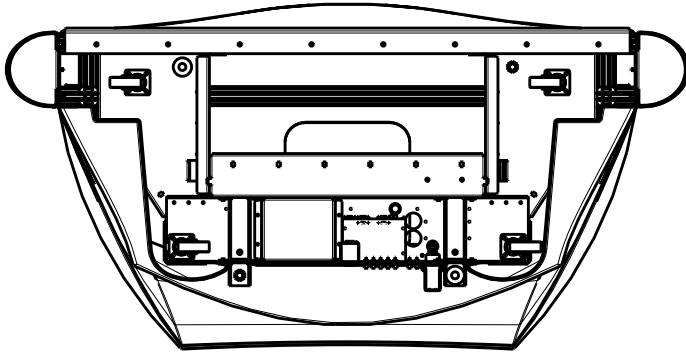
Image 2-5
Bottom View Dimensions

3. INSTALLATION GUIDELINES

Overview

- Introduction
- General
- Projector Position
- Re-adjusting the lamp position in the lamp casing
- Battery Installation in the RCU

The engines are non sealed versions.

3.1 Introduction

Installation Manual

This chapter will describe some general installation guidelines, to install the Barco TRACE always follow the procedures as described in the Installation Manual.

3.2 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-10°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 Mirror Devices (TM) in which case there is a loss of warranty

3.3 Projector Position

Projector Position of the Barco TRACE

An Active Barco TRACE always has to be placed on a flat surface, this will always be conform with the General Projector Position Guidelines.

General 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.
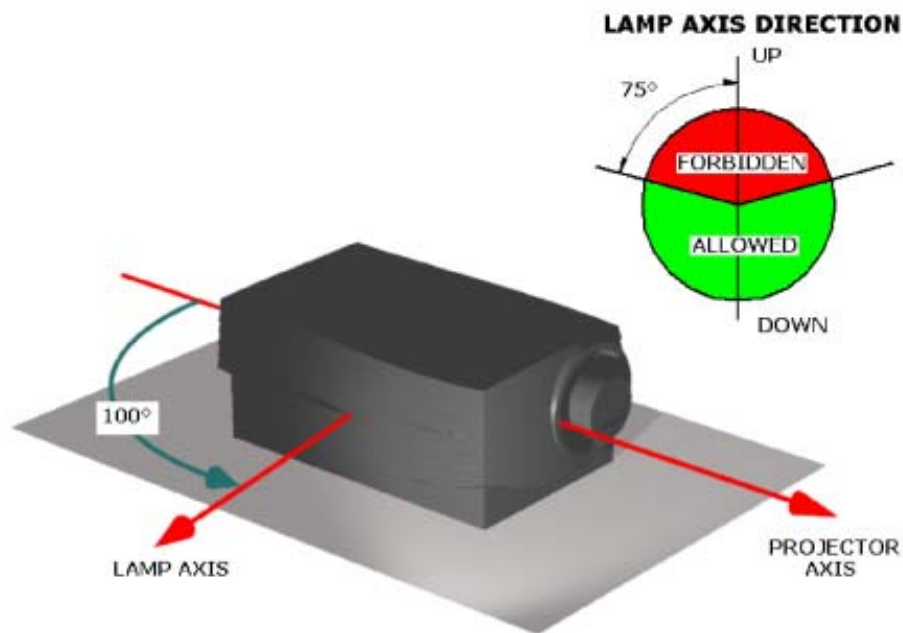
Image 3-1
Projector position

⚠️	**Never use the projector when turned with the inputs downwards.**

3.4 Re-adjusting the lamp position in the lamp casing

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

Why

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

Preparation

1. Push on the top corners of the Front Panel untill a click is heard. (image 3-2, image 3-3)

2. Loosen the Front Panel.

   The Front Panel will come to front.

3. Pull off the Front Panel from its Magnet Lock and take it off completly

4. On the side of the inputs, turn the retaining bolt a quarter counter clockwise. (image 3-4, image 3-5)

5. Flip the cover to the left side and take off. (image 3-6)
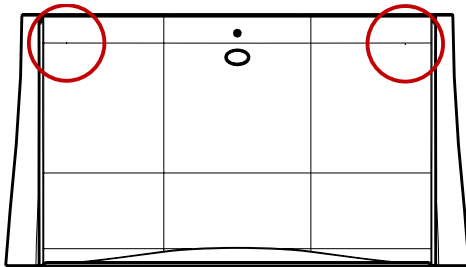
Image 3-2
Push on the top corners of the Front Panel untill a click is heard
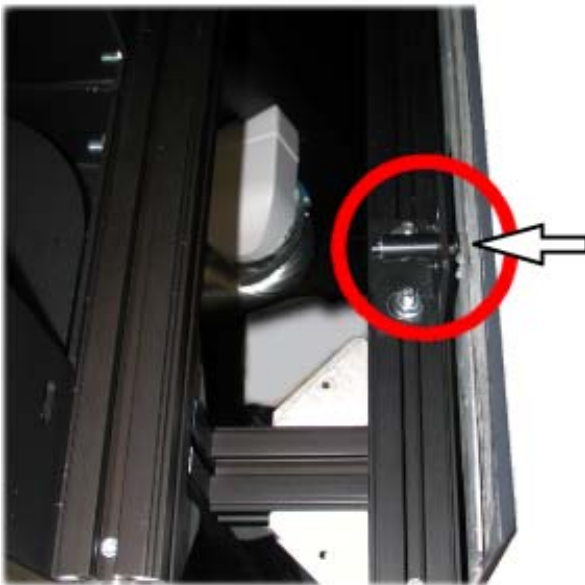
Image 3-3
Push on the top corners of the front panel untill a click is heard
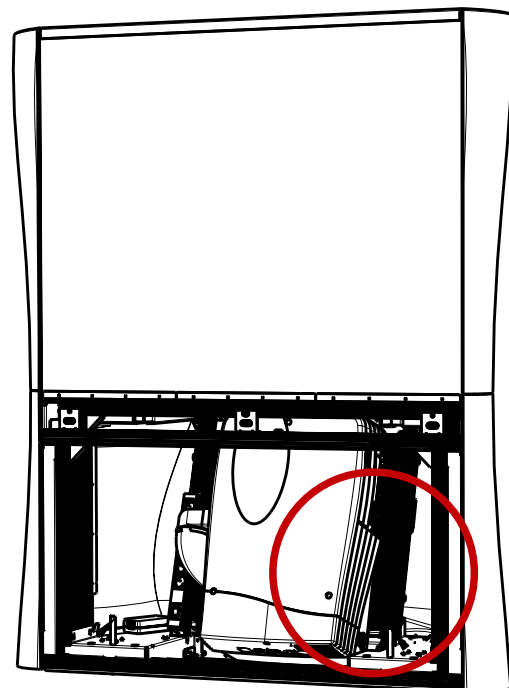
Image 3-4
The bolt is located on the side of the inputs

Image 3-5
Turn the retaining bolt a quarter counter clockwise

Image 3-6
Flip the cover to the left side and take off

How to re-adjusting the lamp position?

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

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

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

4. Adjust the screw B 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).

5. 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
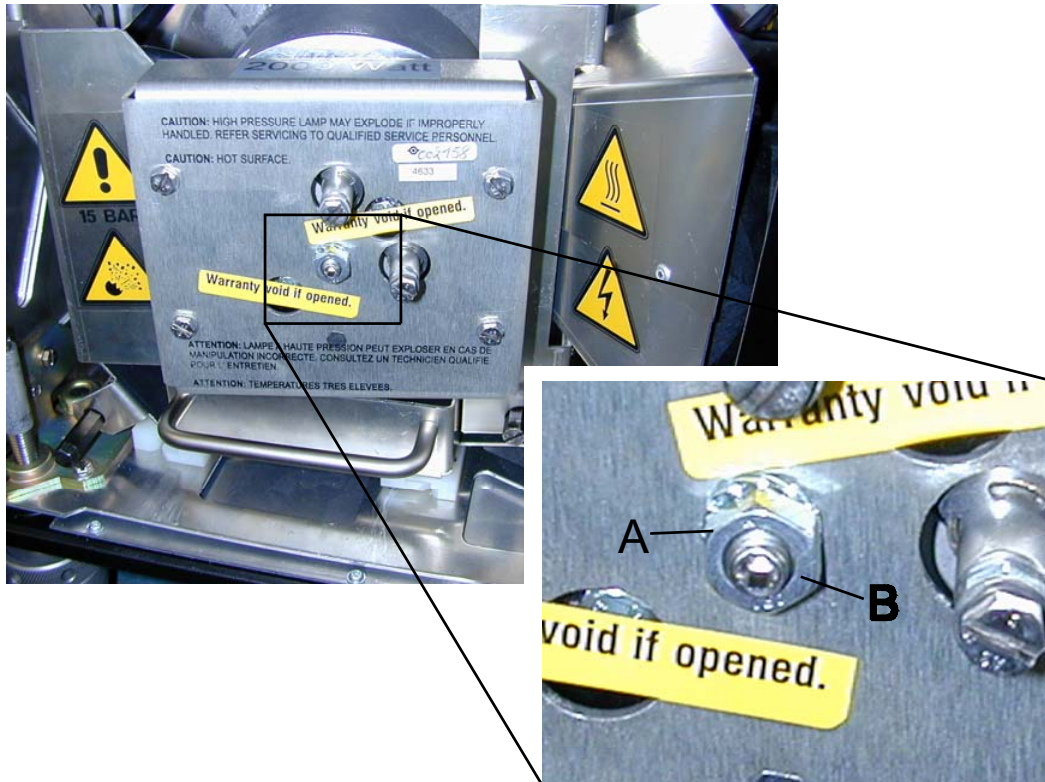
Image 3-7

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

3.5 Battery Installation in the RCU

How are the batteries delivered ?

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

How to install

1. Remove the battery cover on the backside of the remote control by pushing the indicated handle a little towards the bottom of the RCU.

2. Lift up the top side of the cover at the same time.

3. Insert the 2 new 1,5 V batteries as indicated in the RCU. (image 3-8)

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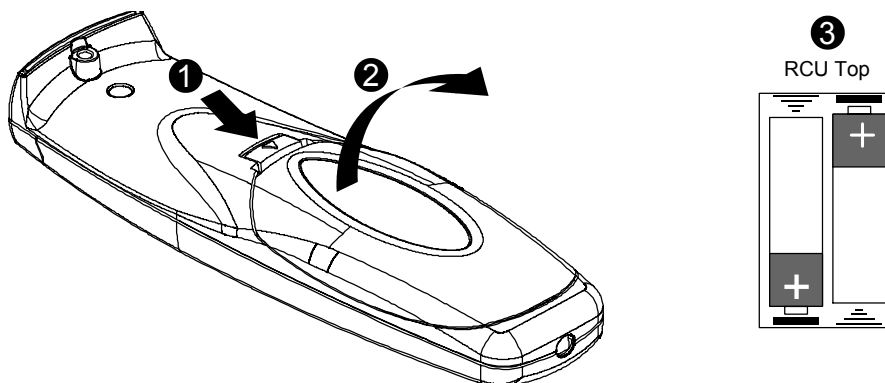
Image 3-8
Battery installation

4. BARCO TRACE CONNECTIONS

The following procedures will describe the connections when installing a single Barco TRACE.

Overview

- Connections Location
- Connections Overview
- Power Cord Connection
- Operating the Barco TRACE
- Input Connections
- Communication Connections
- Stereo Connection
- Multi-Channel Connections

4.1 Connections Location

Where to find the Connections?

All Connections are located on the Patch-Panel on the Rear Bottom Side of the Barco TRACE.
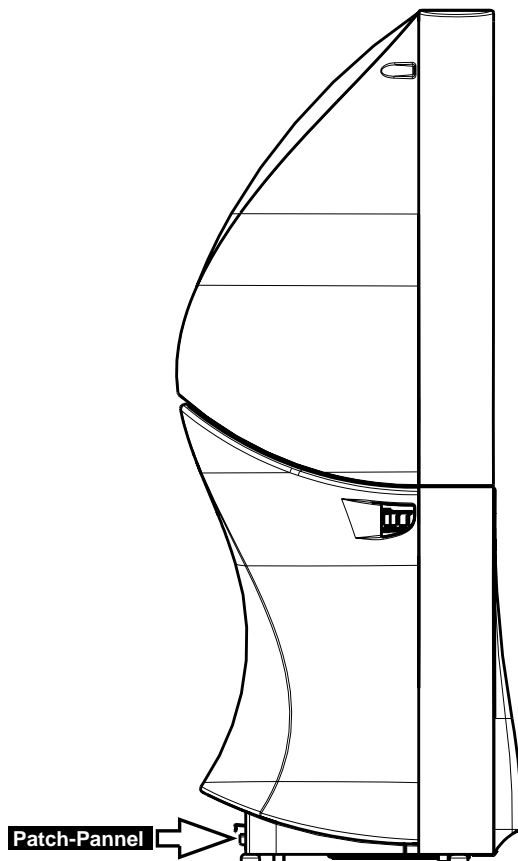
Patch-Pannel

Image 4-1
Patch-Panel Location

4.2 Connections Overview

Connections Overview
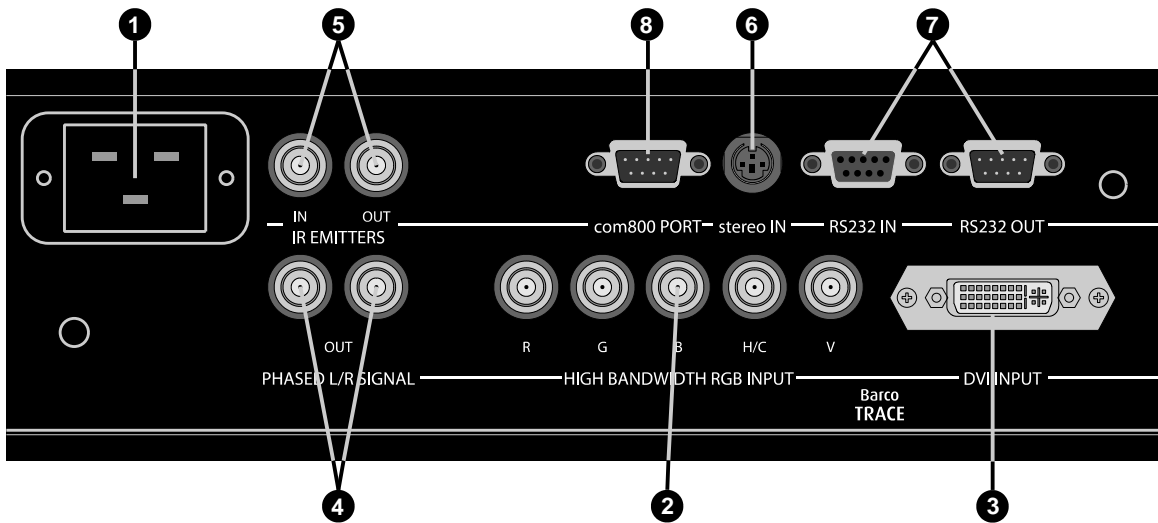
Image 4-2
Connections Overview

1	Power Cord Connection
2	5–BNC Cable Input
3	DVI Input
4	Phased L/R Signal Connections
5	IR Emitters Connections
6	Stereo In Input
7	RS232 Communication Connections
8	Com. 800 Peripherals Connection

4.3 Power Cord Connection

Power Cord Connection

The power input is auto-ranging from 90 to 240 VAC. Use the supplied Power Cord to connect the Barco TRACE to the wall outlet. Plug the female power connector into the male connector at the front of the projector.
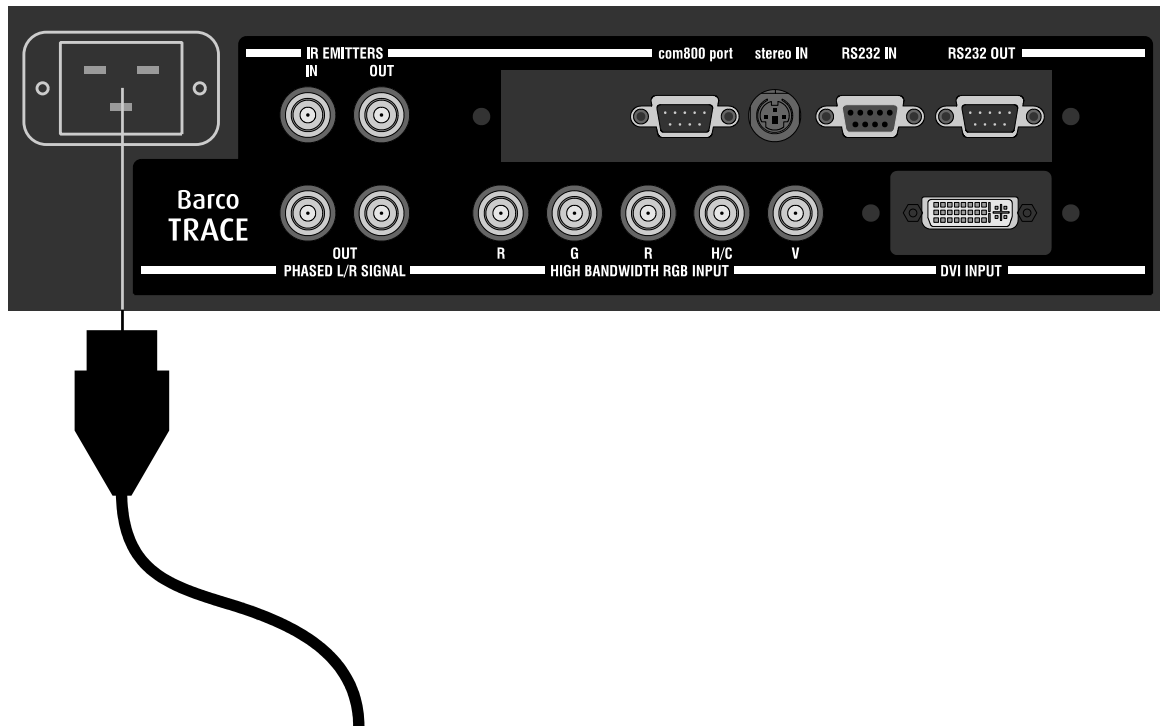
Image 4-3
Power Cord Connection

4.4 Operating the Barco TRACE

Overview

- • Switching On
- • Switching to Standby
- • Switching Off

4.4.1 Switching On

How to Switch to Standby?

The Barco TRACE will Start Up to Standby automatically when inserting the Power Cord, the Barco TRACE Status Led, located on the front side sill light up red.
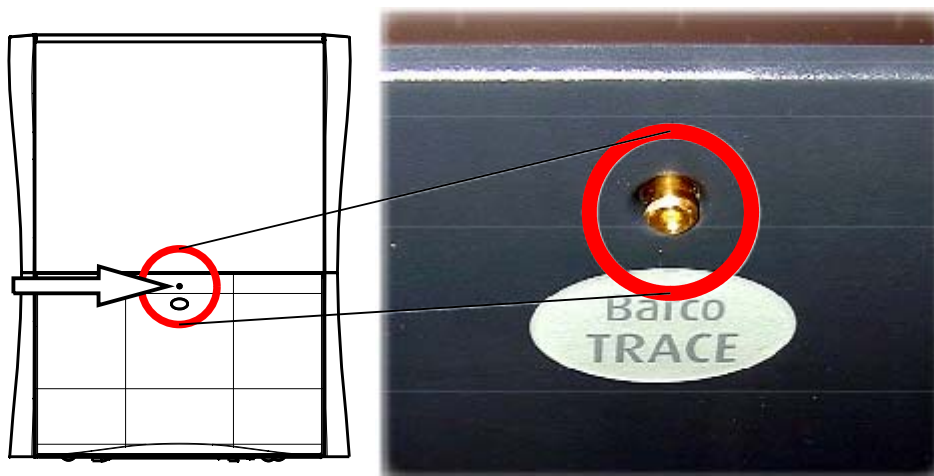
Image 4-4
Barco TRACE Status Led

How to Start Image Projection?

1. Press the **Standby** key on the RCU. (image 4-5)
   Tip: *Point the RCU towards the Barco TRACE Screen.*

   Note: *For more information on how to use the RCU see chapter 'Getting Started' of the Owner's Manual.*

   The IR Communication Led on the RCU will light up (for more information see chapter 'Getting Started' of the Owner's Manual).

   The Barco TRACE Status Led will Light Up Green and Image Projection will be started.
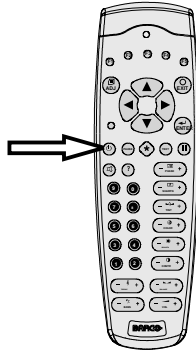
Image 4-5
Standby key on the RCU

4.4.2   Switching to Standby

How to Switch to Standby?

1. Press the Standby key to switch the Barco TRACE to standby.

4.4.3   Switching Off

How to Switch Off?

1. Unplug the Power Cord from the Wall Outlet.

4.5   Input Connections

Overview

• Source Connections

4.5.1   Source Connections

Source Connection Specifications ?

• The Input has a 5 BNC input terminals for 5 cable input and a DVI plug for DVI input.
• Within the installation mode it is possible to setup the input for 5 cable or DVI (See Owner's Manual).
• Composite video and super video signals can be connected when an optional decoder is installed.
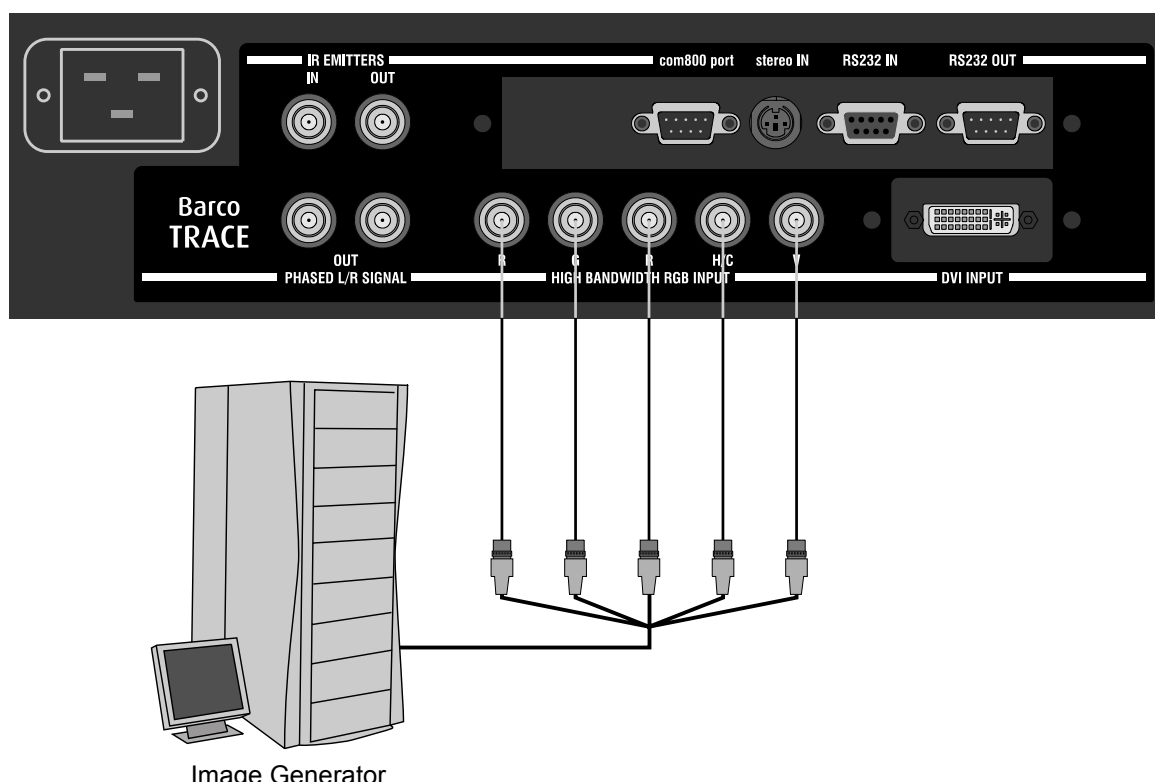
Image 4-6
RGB Input

Which signals can be connected to the Source Connection?

Connector name/ Input signal	R	G	B	H	V
RGBHV	R	G	B	H	V
RGBS	R	G	B	S	-
RGsB	R	Gs	B	-	-

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 the Source Connection?

1. Key in **1** on the RCU.

How to change the Source Connection (Input 1) setting?

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

2. Push the cursor key ↑ or ↓ to select *Installation.* (menu 4-1)

3. Press **ENTER**.

4. Press the cursor key ↑ or ↓ to select *Input Slots.* (menu 4-2)

5. Press **ENTER**.

   The internal system will scan the inputs and displays the result in the *Input Slots* menu. (menu 4-3)

6. Push the cursor key ↑ or ↓ to select the first or second slot.

```
        ADJUSTMENT MODE

   Select a path from below :

       RANDOM ACCESS
       INSTALLATION
          SERVICE




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

Menu 4-1

```
         INSTALLATION

        INPUT SLOTS
         NO SIGNAL
           LENS
    MENU POSITION [CENTER]
      800-PERIPHERAL
       CONFIGURATION
         OSD COLOR
     INTERNAL PATTERNS


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

Menu 4-2

```
          INPUT SLOTS

   SLOT SELECTION [AUTOMATIC]
   X SLOT 1 : RGB - SOG

   - SLOT 2 : DVI




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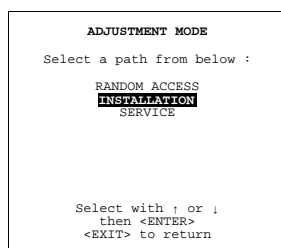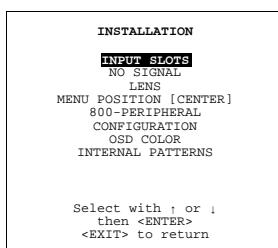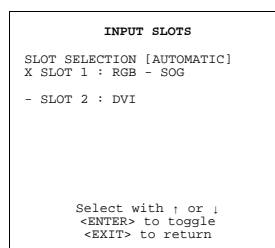
Menu 4-3

Possible indications on input slot menu

- Input 1:
  - RGS-SS [CV or HS&VS] = RGB analog signals, separate sync is composite sync or horizontal and vertical sync.
  - RGB-SOG = RGB analog signals, sync on green is composite sync
- Input 2:
  - DVI

4.6 Communication Connections

4.6.1 RS232 Connection

What is possible with the RS232 Connection?
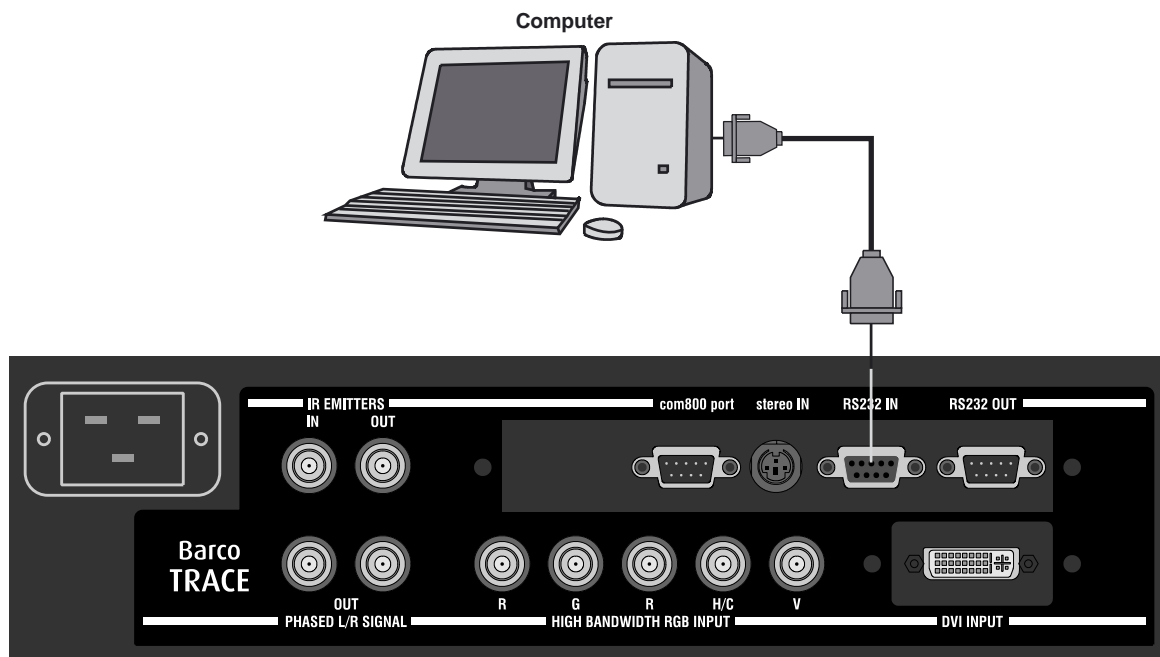
Image 4-7
RS232 Connection

- Remote Control:
  - Easy adjustment of the Barco TRACE when connected to an computer.
  - Allow storage of multiple Barco TRACE configurations and set ups.
  - Wide range of control possibilities.
  - Address range from 0 to 255.
- Data Communications: Sending data to the Barco TRACE or copying the data from the Barco TRACE to a memory device connected to the computer.

Communication Port

This port allows communication with Barco Peripherals (Switchers, ...).

RCVDS 05 switcher
(R9827880)
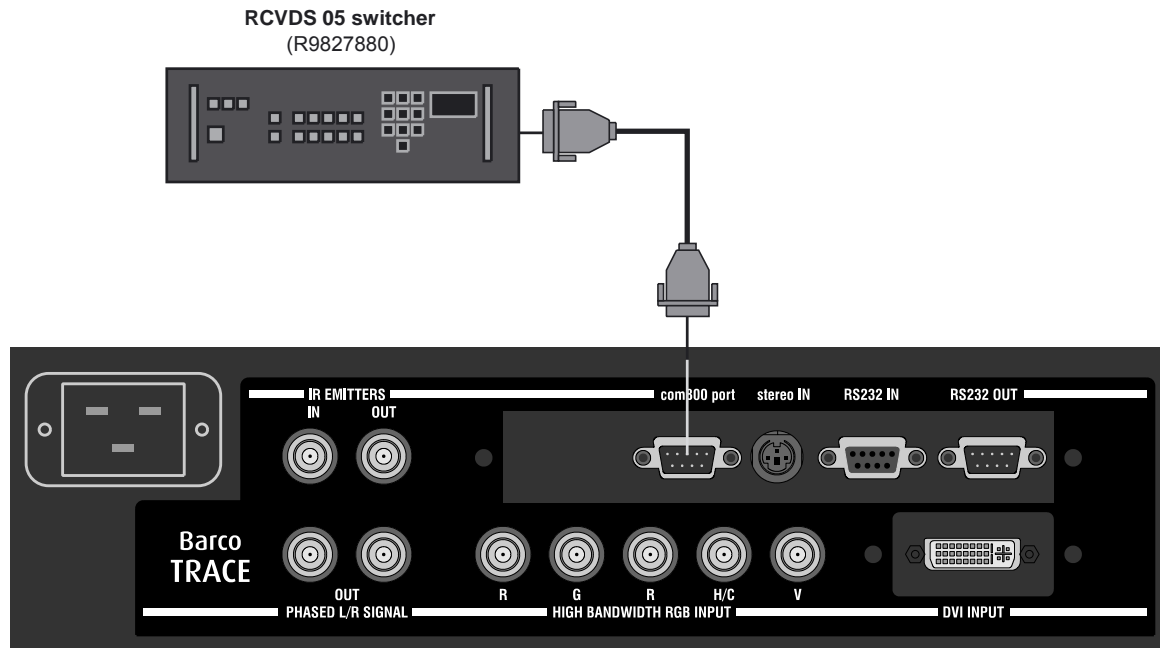
Image 4-8
Communication Port

What is possible when connecting Barco's RCVDS05?

• Up to 20 inputs with Barco's RCVDS 05 switcher (**R9827880**) 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 switcher (R9827880), consult the owner's manual of the RCVDS05.

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.

4.7 Stereo Connection

How to Connect the Stereo Sync Signal?

The Stereo Sync Signal coming from the IG is connected to the Stereo In Mini DIN input on the Patch-Panel of the Barco TRACE.
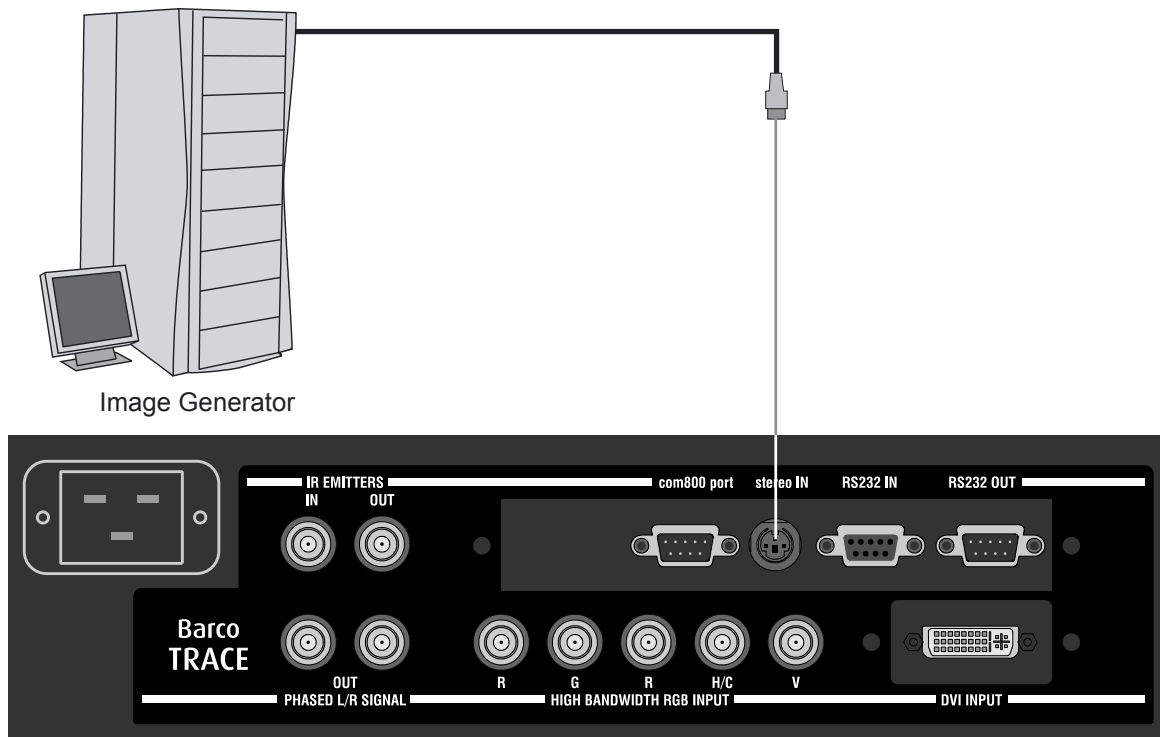
Image 4-9
Stereo Sync Connection

4.8 Multi-Channel Connections

Multi-Channel Connections

For more information on 'how to connect' Multi-Channel Configurations please consult the Barco TRACE Installation manual.

5. GETTING STARTED

Overview

- RCU & Local keypad
- Terminology overview
- Operating the projector
- Quick Set Up Adjustments
- Using the RCU
- 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.
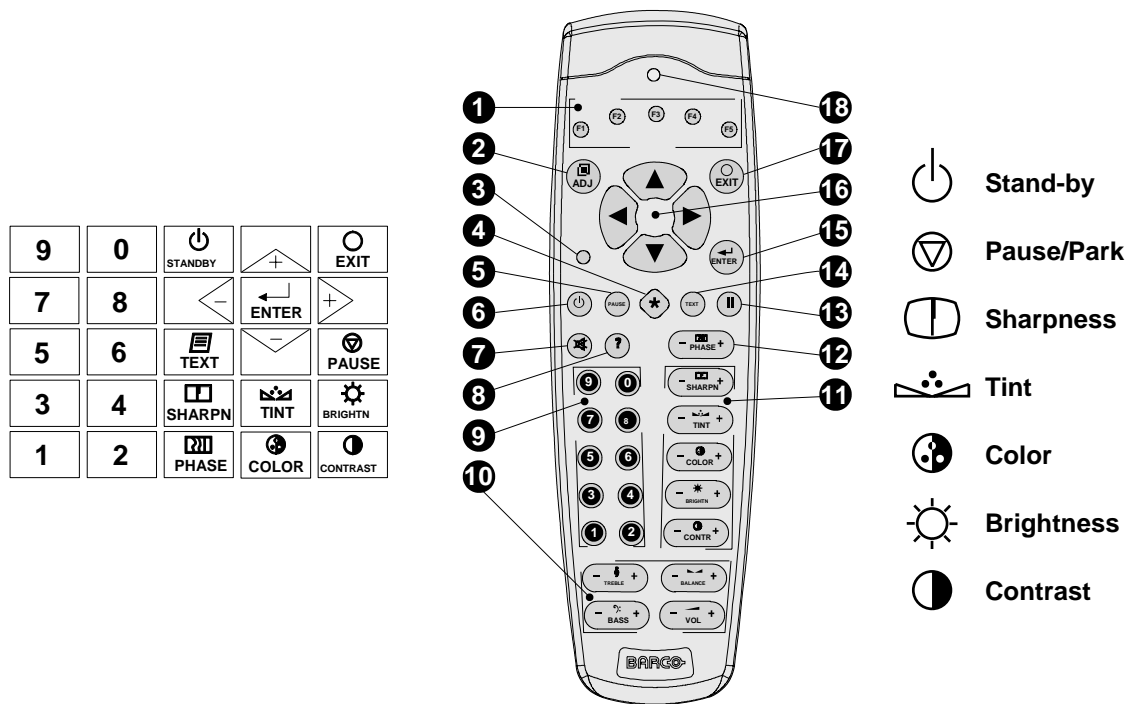
Image 5-1
RCU & Local Keypad overview

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	not used
8	?	not used
9	Digit buttons	direct input selection.
10	Audio controls	not used
11	Picture controls	use these buttons to obtain the desired color setting.
12	Phase	used to remove the instability of the image.
13	FREEZ	press to freeze the projected image.
14	TEXT	when adjusting one of the image, e.g. controls during a meeting, the displayed bar scale can be removed by pressing 'TEXT' key first. To re-display the bar scale on the screen, press 'TEXT' key again.
15	ENTER	to start up the adjustment mode or to confirm an adjustment or selection in the adjustment mode.

16	Cursor keys	to make menu selections when in the adjustment mode or to zoom/focus when the direct access is active.
		Comparison between the cursor keys and the use of the '+' and '-' keys on the local keypad : RCU = local keypad
		cursor key up = '+' key up
		cursor key down = '-' key down
		cursor key right = '+' key right
		cursor key left = '-' key left
17	EXIT	to leave the adjustment mode or to scroll upwards when in the adjustment mode.
18	RCU operation indication	lights up when a button on the remote control is pressed. (This is a visual indicator to check the operation of the remote control)

Table 5-1

5.3 Operating the projector

Overview

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

5.3.1 Switching On

> The Barco TRACE will Start Up to Standby automatically when inserting the Power Cord, the Barco TRACE Status Led, located on the front side sill light up 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.
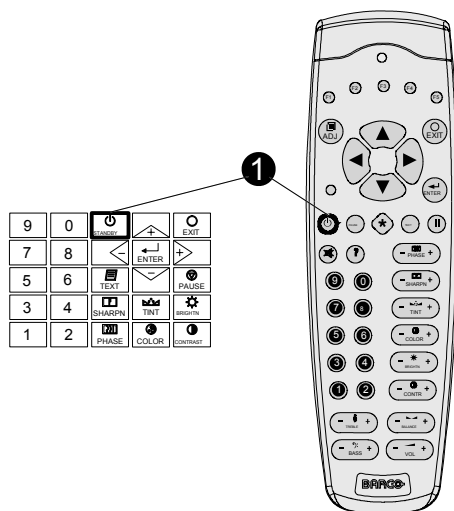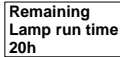
Image 5-2
Standby key

Lamp run time indication while running

When the total run time of the lamp is 30 hours less then 1000 or 1500 (depending on the lamp type), the following warning message will be displayed for 1 minute. This warning message will be repeated every 30 minutes. Press **EXIT** to remove the message before the minute is over.

When the total run time of the lamp is 1000 or 1500 (depending on the lamp type) hours or more, the following warning message, with the exact run time is displayed on the screen.

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

Image 5-3
Lamp warning message

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

When **ENTER** is pressed to go on, the warning will be repeated every 30 min.
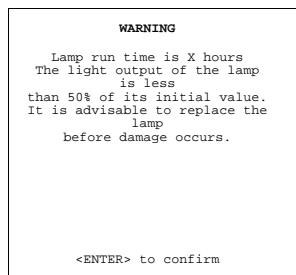
The total lifetime of the lamp for a safe operation is 1000 or 1500 (depending on the lamp type) hours max. Do not use it longer. Always replace with a same type of lamp. Call a BARCO authorized service technician for lamp replacement.

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

Lamp Light Output Indication

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

```
                WARNING

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




      <ENTER> to confirm
```

Menu 5-1

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

This message will be repeated every hour.

5.3.2   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
```
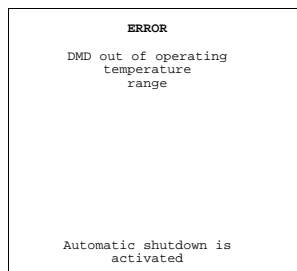
Menu 5-2

5.4 Quick Set Up Adjustments

Overview

- Quick Lens Adjustment
- Quick OSD Color Change

5.4.1 Quick Lens Adjustment

Necessary tools

Nut spinner M8

When no external Lens Adjustment Pattern is available from the source, press the shortcut * key on the RCU to display the internal Lens Adjustment Pattern.


```
LENS ADJUSTMENT ZOOM/FOCUS
   ZOOM with ↑ or ↓ ,
   FOCUS with ← or →
   <ENTER> to shift
   <EXIT> to return
```
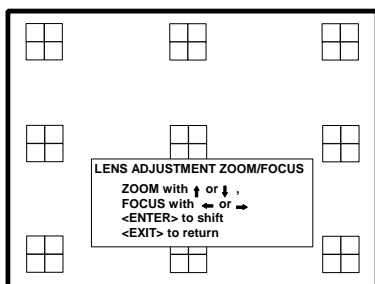
Image 5-4
The internal Lens Adjustment Pattern

What can be done?

This will adjust the focus of the lens.

How to Focus the Lens?

1. Loosen the 2 bolts connecting the Top Rear Cover to the Barco Trace. (image 5-5)

2. Remove the Top Rear Cover.

3. Adjust the Focus of the lens by turning the Focus Ring on the Lens. (image 5-6)

4. Reverse this procedure to mount the Cover back to the Barco Trace.
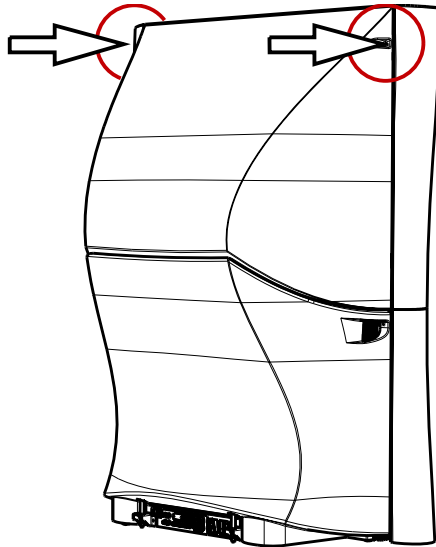
Image 5-5
Loosen the 2 bolts connecting the Top Rear Cover to the Barco Trace

Image 5-6
Adjust the Focus of the lens by turning the Focus Ring

5.4.2 Quick OSD Color Change

What can be done?

Quick change of the color of the highlighted items.

The highlighted items can be displayed in:
- Red
- Green
- Yellow

How to change the On Screen Color

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

2. Push the cursor key ↑ or ↓ to highlight *Installation*. (menu 5-3)

3. Press **ENTER** to select.

    The *OSD* menu will be displayed. (menu 5-4)

4. Push the cursor key ↑ or ↓ to highlight *the desired color*.

5. Press **ENTER** to activate the selected color.

```
            INSTALLATION

            INPUT SLOTS
             NO SIGNAL
                LENS
       MENU POSITION [CENTER]
          800-PERIPHERAL
           CONFIGURATION
            OSD COLOR
         INTERNAL PATTERNS


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

Menu 5-3

```
              OSD COLOR
           HIGHLIGHTED ITEM

                 RED
                GREEN
                YELLOW




         Select with ↑ or ↓
          <ENTER> to accept
          <EXIT> to return
```
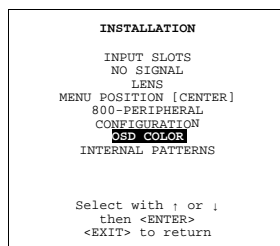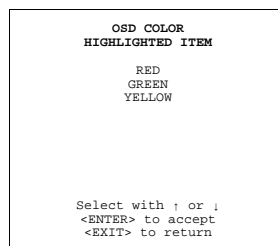
Menu 5-4

5.5 Using the RCU

Pointing to the Screen

1. Point the front of the RCU to screen. (image 5-7)

Barco TRACE
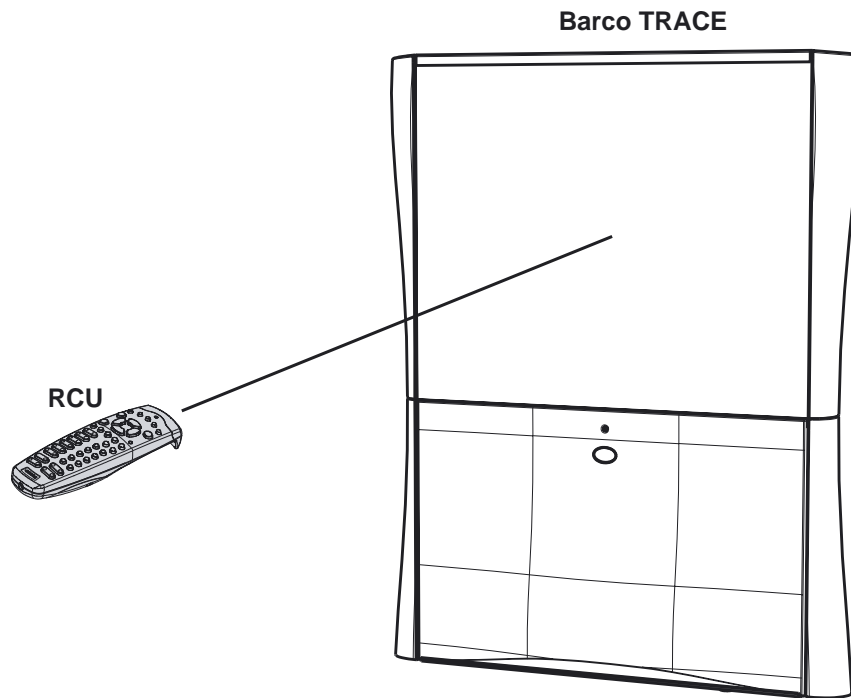
Image 5-7
Point the front of the RCU to screen

The IR Communication Leds

> **This leds are located on the projector and can only be seen when the Rear Bottom Cover or front cover is removed, for more information on how to remove these covers please consult the Installation Manual.**

• Whenever the IR Sensor on the projector receives an IR signal the Red IR–Received Led will light up.
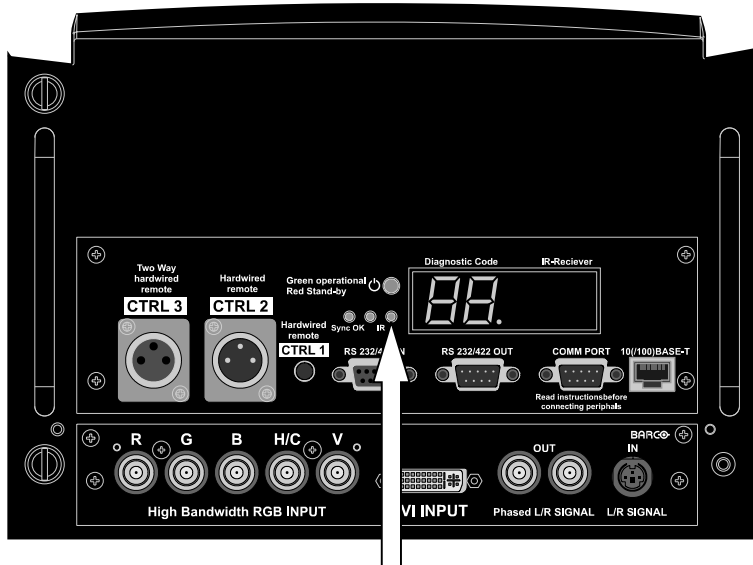
Image 5-8
IR-Received Led

• In case there is IR communication between the RCU and the projector the Green IR–Acknowledged Led will light up.
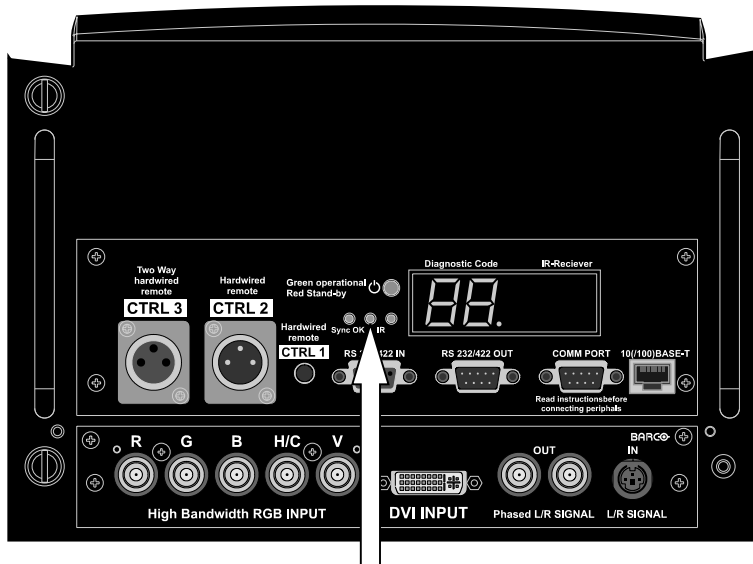
Image 5-9
IR-Acknowledged Led

5.6 Controlling the Projector

Overview

• Common Address
• Projector Address
• RCU Address
• Input Selection
• Picture Controls
• Menus on Local LCD Display

5.6.1 Common Address

What is Common Address 0?

Every projector has a Common Address default set to '0', when the RCU is set to address '0', every projector, without exception will listen to the commands given by this RCU.

When to use Common Address 0?

• Since the RCU is default set to address '0', this is used by default to control the projector in a single projector setup.
• The Common Address is used to control multiple projectors using only a single RCU.

When to use Common Address 1?

Most RCU's used by other electronic equipment are set to address '0', to disable the interference of other RCU's the Common Address of the projector(s) can be set to '1'. When the projector's RCU is set to address '1', every projector, without exception will listen to the commands given by this RCU.

How to set the Common Address?

See 'Change Common Address' in the chapter 'Service Mode'.

5.6.2 Projector Address

When to use the Projector Address?

To control a separate projector in a multiple projector setup.

What is the Projector Address?

Each projector can be set to an individual Projector Address, this can be set between '0' and '255'.

Projector Address	Controlled by
0–9	RCU
0–255	Computer (IBM PC or compatible, Apple, ...)

> **Regardless of the Projector Address, the projector will still respond to a RCU set to address '0' or '1' through the Common Address.**

How to set the Projector Address?

See 'Change Projector Address' in chapter 'Service Mode'.

5.6.3 RCU Address

> **The RCU Address can be any digit between '0' and '9'.**

How to set the RCU Address?

1. Press the recessed **Address** key with a pencil. (image 5-10)

   The Projector Address for every projector in the room will be displayed as a 3 digit code in a text box on the screen.

2. Enter the RCU Address by pressing a single digit key, within 5 seconds after pushing the address key.
   Note: *If the Projector Address displays '003' press the digit key **3** on the RCU. Do not enter the 3 digit code '003', this will set the RCU to address '0'.*

   Note: *If no digit is entered within 5 seconds the RCU will return to the default '0' address.*
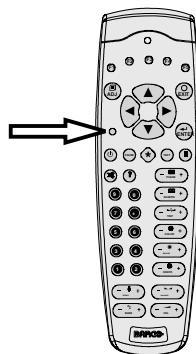
Image 5-10
Address Key

5.6.4 Input Selection

How to select the desired input?

1. Press the digit key on the RCU corresponding with the desired input.

Digit Key	Type of Input
1	5x BNC Cable Input
2	DVI Input

Table 5-3
Input Selection

5.6.5 Picture Controls

How to use Picture Controls?

1. Push the **+** or **–** key of the desired Picture Control e.g. 'brightness'. (image 5-11)

A text box with a bar scale indication and function name of the control, e.g. 'brightness' appears on the screen. The length of the bar scale and the value of the numeric indication indicate the current memorized setting for this source. The length of the bar scale and the value of the numeric indication will change whenever an adjustment is made. (image 5-12)

Brightness 50

Image 5-12
Barscale indication

Image 5-11
Picture Control key

Overview of the Picture Controls

Sharpness	Use the + button for a sharper picture.
	Use the - button for a softer picture.
Tint	Not used
Color	Not used

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.

5.6.6 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.

6. RANDOM ACCESS

Overview

- •   Random Access Overview
- •   Starting Up Random Access
- •   File Service
- •   Picture Tuning
- •   Geometry
- •   Stereo Options

6.1   Random Access Overview

Random Access Overview

- •   File Service
  -   - Load
  -   - Edit Warp 1
  -   - Edit Warp 2[1]
  -   - Rename
  -   - Copy
  -   - Delete
  -   - Options
    - ○ File Sort [Name/Index]
    - ○ File Load [Automatic/Manual]
    - ○ Serial File Load [On/Off]
- •   Picture Tuning
  -   - Color Temperature
  -   - Gamma
  -   - Input Balance
    - ○ White Balance
    - ○ Black Balance
    - ○ Default
  -   - Windowing
    - ○ Blanking
    - ○ Shift
    - ○ Size
    - ○ Geo Soft Edge [On/Off]

---

1. Only available in Stereo Mode

- • Geometry
  - Load
  - Edit
    - ○ Coarse
    - ○ Linearity
    - ○ Fine
    - ○ Shift
    - ○ Transport Delay
      - ○ Mode [Automatic/Manual]
      - ○ Transport Delay Setting
    - ○ Blanking/Soft Edge (Optional)
      - ○ Active [On/Off]
      - ○ Shape
      - ○ Soft Edge (Optional)
    - ○ Reset
      - ○ Coarse
      - ○ Linearity
      - ○ Fine
      - ○ Blanking/Soft Edge (Optional)
        - ○ Soft Edge (Optional)
        - ○ All
      - ○ All
  - Rename
  - Copy
  - Delete
- • Stereo Options[1]
  - Stereo Phase
  - Invert Stereo [Yes/No]
  - Master Channel [Left/Right]
  - Stereo Mode [Active/Passive]
  - Dark Time
  - Forced Asynchronous [Yes/No]

6.2 Starting Up Random Access

How to start up Random Access?

1. Press **ADJUST** or **ENTER** key to start up the *Adjustment Mode*. (image 6-1)

   The *Adjustment Mode* menu will be displayed.

2. Push the cursor key ↑ or ↓ to select *Random Access*. (menu 6-1)

3. Press **ENTER** to select.

   The *Random Access* menu will be displayed. (menu 6-2)

```
        ADJUSTMENT MODE

      Select a path from
            below

      RANDOM ACCESS
       INSTALLATION
         SERVICE




         Source 1

     Select with ↑ or ↓
        then <ENTER>
```

```
        RANDOM ACCESS
       ADJUSTMENT MODE

        FILE SERVICE
       PICTURE TUNING
          GEOMETRY
       STEREO OPTIONS




     Select with ↑ or ↓
        then <ENTER>
       <EXIT> to return
```
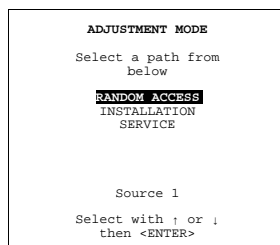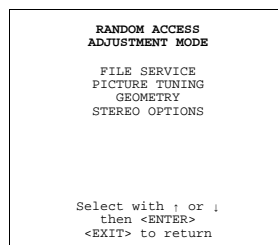
Menu 6-1   Menu 6-2
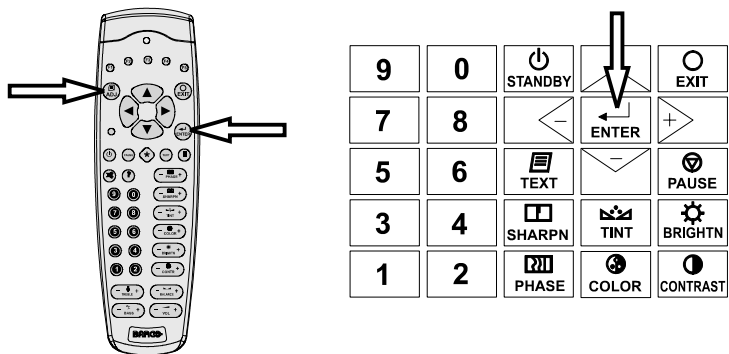
Image 6-1
Adjust or Enter key

6.3 File Service

Overview

- File annotation
- Possible file manipulations
- Starting Up File Service
- Load File
- Edit WARP1
- Edit WARP2
- Changing the settings
- Correct value
- Edit WARP2 File
- Rename File
- Copy File
- Delete File
- File Options

6.3.1 File annotation

How a file is built up

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

Take the following notation : xxxxxxxx.eee n ppppXppppi

xxxxxxxx	base name, 8 characters
eee	file extension
	first character C : custom made file
	first character S : standard file
	The second and third character is used for a following number (= file index). The file index for custom files : 01 to 20.
n	source number
ppppXpppp	active pixel rating
i	i or blank
	i = interlaced file
	blank = not interlaced

Table 6-1

6.3.2 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. 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.

6.3.3 Starting Up File Service

How to Start Up File Service?

1. Push the cursor key ↑ or ↓ to highlight *File Service*. (menu 6-3)

2. Press **ENTER** to select.

   The *File Service* menu will be displayed. (menu 6-4)

```
      RANDOM ACCESS
     ADJUSTMENT MODE

      FILE SERVICE
      PICTURE TUNING
        GEOMETRY
      STEREO OPTIONS




     Select with ↑ or ↓
        then <ENTER>
      <EXIT> to return
```
Menu 6-3
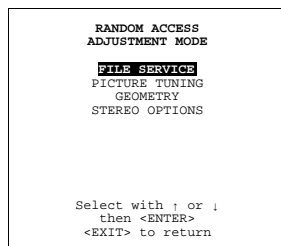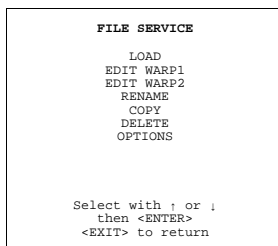
```
       FILE SERVICE

          LOAD
       EDIT WARP1
       EDIT WARP2
         RENAME
          COPY
         DELETE
        OPTIONS



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

6.3.4 Load File

How to Start Up Load File?

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

2. Press **ENTER** to select.

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

```
       FILE SERVICE

          LOAD
       EDIT WARP1
       EDIT WARP2
         RENAME
          COPY
         DELETE
        OPTIONS



     Select with ↑ or ↓
        then <ENTER>
      <EXIT> to return
```
Menu 6-5
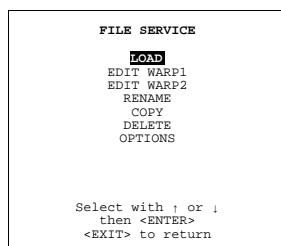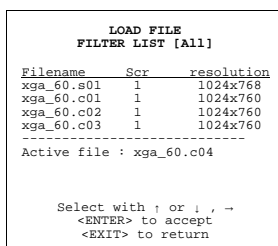
```
        LOAD FILE
     FILTER LIST [All]

  Filename    Scr    resolution
  xga_60.s01   1      1024x768
  xga_60.c01   1      1024x760
  xga_60.c02   1      1024x760
  xga_60.c03   1      1024x760
  --------------------------
  Active file : xga_60.c04


     Select with ↑ or ↓ , →
        <ENTER> to accept
        <EXIT> to return
```
Menu 6-6

How to change the Filter List Setting?

1. Push the cursor key ↑ or ↓ to to 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 6-7)

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 6-8)

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

```
          LOAD FILE
       FILTER LIST [All]

Filename     Scr     resolution
xga_60.s01    1       1024x768
xga_60.c01    1       1024x760
xga_60.c02    1       1024x760
xga_60.c03    1       1024x760
----------------------------
Active file : xga_60.c04


    Select with ↑ or ↓ , →
      <ENTER> to accept
      <EXIT> to return
```

Menu 6-7

```
          CONFIRM
         LOAD FILE

        create file
        xga_60.c02
       based on file
        xga_60.s01?




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

Menu 6-8

> **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 WARP1 menu, select the active file and change the File Settings.

6.3.5 Edit WARP1

What can be done?

- When a Mono Image is projected, within this menu, it is possible to change the File Settings of a selected source file.
- When a Stereo Image is projected, within this menu, it is possible to change the File Settings for the Left Image of a selected source file.

How to Start Up Edit WARP1 File?

1. Push the cursor key ↑ or ↓ to highlight *Edit WARP1*. (menu 6-9)

2. Press **ENTER** to select.

   The Edit file adaptation menu will be displayed. (menu 6-10)

3. Select the file which must be edited (mostly the active file).

   The file name will be displayed in the upper right corner. (menu 6-11)

```
          FILE SERVICE

              LOAD
          EDIT WARP1
          EDIT WARP2
            RENAME
             COPY
            DELETE
            OPTIONS




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

Menu 6-9

```
             EDIT FILE

   Filename    Scr     resolution
   xga_60.s01   1       1024x768
   xga_60.c01   1       1024x760
   xga_60.c02   1       1024x760
   xga_60.c03   1       1024x760
   --------------------------
   Active file : xga_60.c04




       Select with ↑ or ↓ , →
          <ENTER> to accept
          <EXIT> to return
```

Menu 6-10

```
         EDIT FILE xga_60.c02

   HORIZONTAL
   TOTAL      1344   PIXELS
   ACTIVE     1024   PIXELS
   START       266   PIXELS
   PERIOD    16.625 µs
   VERTICAL (FIELD)
   TOTAL       800 LINES
   ACTIVE      760 LINES
   START        37 LINES
   INTERLACED [OFF]
   READ AMDS
   OPTIONS

    ↑ , ↓ , ← , → <ENTER>, <EXIT>
```

Menu 6-11

6.3.6   Edit WARP2

When available?

The Edit WARP2 adjustment is only available when a Stereo Image is projected, when projecting a Mono Image this item will be grayed out in the *File Service* menu.

What can be done?

When a Stereo Image is projected, within this menu, it is possible to change the File Settings for the Right Image of a selected source file.

How to Start Up Edit WARP2 File?

1. Push the cursor key ↑ or ↓ to highlight *Edit WARP2*. (menu 6-12)

2. Press **ENTER** to select.

   The Edit file adaptation menu will be displayed. (menu 6-13)

3. Select the file which must be edited (mostly the active file).

   The file name will be displayed in the upper right corner. (menu 6-14)

```
          FILE SERVICE

              LOAD
          EDIT WARP1
          EDIT WARP2
            RENAME
             COPY
            DELETE
            OPTIONS




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

Menu 6-12

```
             EDIT FILE

   Filename    Scr     resolution
   xga_60.s01   1       1024x768
   xga_60.c01   1       1024x760
   xga_60.c02   1       1024x760
   xga_60.c03   1       1024x760
   --------------------------
   Active file : xga_60.c04




       Select with ↑ or ↓ , →
          <ENTER> to accept
          <EXIT> to return
```

Menu 6-13

```
         EDIT FILE xga_60.c02

   HORIZONTAL
   TOTAL      1344   PIXELS
   ACTIVE     1024   PIXELS
   START       266   PIXELS
   PERIOD    16.625 µs
   VERTICAL (FIELD)
   TOTAL       800 LINES
   ACTIVE      760 LINES
   START        37 LINES
   INTERLACED [OFF]
   READ AMDS
   OPTIONS

    ↑ , ↓ , ← , → <ENTER>, <EXIT>
```

Menu 6-14

6.3.7   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 →.

6.3.8   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 with noisy and unsharp data in the projected image) will be seen especially in high resolution images.
	Use a pixel on/off pattern when adjusting the Horizontal Total Pixels.
	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]
Vertical sync polarity  [leading]


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

Menu 6-15

Source number	The source number of a non-active source can be changed to any other source number. This makes it possible to create a file for future source numbers.
Clamp position	Clamping determines the black level of the signal. The clamp pulse can be related to the leading or the trailing edge of the sync pulse. Use the **ENTER** key to toggle between [leading] and [trailing].
Clamp delay	The time between the leading edge of the clamp pulse and the locked edge of the sync pulse. Can be any value between 0 and 255. Change the value by pushing the cursor key ↑ or ↓.
Clamp width	The width of the clamp pulse can be any value between 0 and 255. Change the value by pushing the cursor key ↑ or ↓.
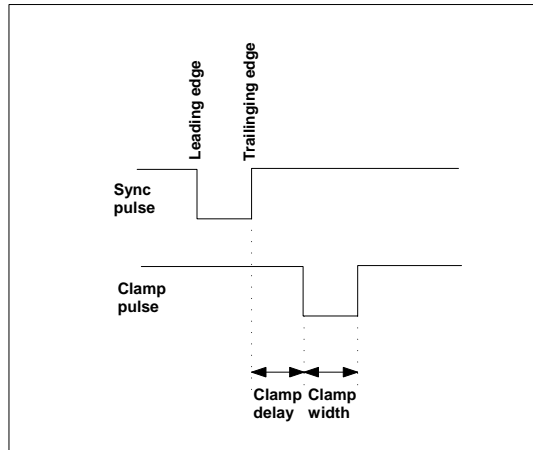
Image 6-2
Example for *Clamp position* [trailing]

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. Use the **ENTER** key to toggle between [both], [even] and [odd]. **If the active Stereo Compatibility Option is installed, the field select parameter will be changed into a [left] and [right] selecting parameter which will be selectable for stereo files. This setting will then be saved in the active image file.**

Vertical refresh [sync/async]	The way of updating the image information on the DMD panels. Not available for PAL-NTSC-SECAM sources. Where this option will be displayed in gray.
	• For sources with a vertical frequency up to 62 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 62 Hz it is still possible to use asynchronous refresh.
	• For sources with a vertical frequency higher than 62 Hz : the vertical refresh is different than the vertical frequency of the incoming source. Synchronous refresh cannot be used.
Vertical Sync Polarity: [leading] or [trailing]	The vertical refresh can be synchronized with the leading sync edge or trailing sync edge. Default on [leading]. Toggling to [trailing] is only necessary for special applications where the trailing edge of the sync signal has to be taken as a reference. Use the **ENTER** key to toggle between [leading] or [trailing]

6.3.9 Edit WARP2 File

What can be done?

> **This item is only available when running in Stereo Mode.**

How to Start Up Edit WARP2 File?

1. Push the cursor key ↑ or ↓ to highlight *Edit WARP2*.

2. Press **ENTER** to select.

   The Edit file adaptation menu will be displayed. (menu 6-16)

```
              EDIT FILE

Filename    Scr     resolution
xga_60.s01   1        1024x768
xga_60.c01   1        1024x760
xga_60.c02   1        1024x760
xga_60.c03   1        1024x760
---------------------------
Active file : xga_60.c04




    Select with ↑ or ↓ , →
        <ENTER> to accept
         <EXIT> to return
```

Menu 6-16

6.3.10 Rename File

How to Start Up File Rename?

1. Push the cursor key ↑ or ↓ to highlight *Rename*. (menu 6-17)

2. Press **ENTER** to select.

   The Rename selection menu will be displayed. (menu 6-18)

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, leave in the 'From file name :' area and in the 'To file name :' area. The first character in the 'To file name :' area is highlighted.

```
         FILE SERVICE

            LOAD
         EDIT WARP1
         EDIT WARP2
          RENAME
           COPY
          DELETE
          OPTIONS



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

Menu 6-17

```
            RENAME FILE

Filename    Scr     resolution
xga_60.s01   1        1024x768
xga_60.c01   1        1024x760
xga_60.c02   1        1024x760
xga_60.c03   1        1024x760
---------------------------
Active file : xga_60.c04



    Select with ↑ or ↓ , →
        <ENTER> to accept
         <EXIT> to return
```

Menu 6-18

Changing the characters

1. Push the cursor keys ← or → to select the desired character. (menu 6-19)
   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 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:
          xga_60.c02
        To file name :
           demo.c02




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

Menu 6-19

6.3.11 Copy File

How to Start Up Copy File?

1. Push the cursor key ↑ or ↓ to highlight *Copy*. (menu 6-20)

2. Press **ENTER** to select.

   The Copy selection menu will be displayed. (menu 6-21)

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, leave in the 'From file name :' area and in the 'To file name :' area. The first character in the 'To file name :' area is highlighted.

```
          FILE SERVICE

             LOAD
           EDIT WARP1
           EDIT WARP2
            RENAME
             COPY
            DELETE
            OPTIONS




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

```
             COPY FILE

       Filename    Scr    resolution
       xga_60.s01   1      1024x768
       xga_60.c01   1      1024x760
       xga_60.c02   1      1024x760
       xga_60.c03   1      1024x760
       --------------------------
       Active file : xga_60.c04



        Select with ↑ or ↓ , →
          <ENTER> to accept
          <EXIT> to return
```

Menu 6-20   Menu 6-21

Changing the characters

1. Push the cursor key ← or → to select the desired character. (menu 6-22)
   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

       From file name:
          xga_60.c02
        To file name :
           demo.c02




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

Menu 6-22

6.3.12 Delete File

How to Use Delete File?

1. Push the cursor key ↑ or ↓ to highlight *Delete*. (menu 6-23)

2. Press **ENTER** to select.

   The delete selection menu will be displayed. (menu 6-24)

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 name ?" is displayed. (menu 6-25)

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 WARP1
         EDIT WARP2
           RENAME
            COPY
           DELETE
          OPTIONS



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

```
            DELETE FILE

     Filename    Scr    resolution
     xga_60.s01   1      1024x768
     xga_60.c01   1      1024x760
     xga_60.c02   1      1024x760
     xga_60.c03   1      1024x760
     --------------------------
     Active file : xga_60.c04



       Select with ↑ or ↓ , →
         <ENTER> to accept
         <EXIT> to return
```

```
            CONFIRM
          DELETE FILE

        Delete file :
          xga_60.c02




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

Menu 6-23   Menu 6-24   Menu 6-25

6.3.13 File Options

How to Start Up File Options?

1. Push the cursor key ↑ or ↓ to highlight *Options*. (menu 6-26)

2. Press **ENTER** to select.

   The option selection menu will be displayed.

```
        FILE SERVICE

           LOAD
        EDIT WARP1
        EDIT WARP2
          RENAME
           COPY
          DELETE
        OPTIONS


    Select with ↑ or ↓
        then <ENTER>
      <EXIT> to return
```
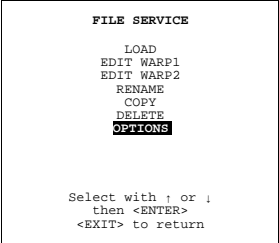
Menu 6-26

File Sort

1. Push the cursor key ↑ or ↓ to highlight *File Sort*. (menu 6-27)

2. Press **ENTER** to toggle between [NAME] or [INDEX].

   This File Sort setting is default set to [NAME].

[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 OPTIONS

     FILE SORT [NAME]
     FILE LOAD [AUTOMATIC]
     SERIAL FILE LOAD [OFF]




    Select with ↑ or ↓
      <ENTER> to accept
      <EXIT> to return
```
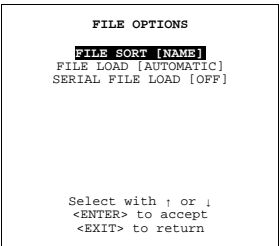
Menu 6-27

File Load

1. Push the cursor key ↑ or ↓ to highlight *File Load*. (menu 6-28)

2. Press **ENTER** to toggle between [AUTOMATIC] or [MANUAL].

   This File Load setting is default set to [AUTOMATIC].

[AUTOMATIC]	The projector will automatically load the file that is best suited for the selected Input Slot.
[MANUAL]	The user will select and load the desired file.

```
        FILE OPTIONS

     FILE SORT [NAME]
     FILE LOAD [AUTOMATIC]
     SERIAL FILE LOAD [OFF]




    Select with ↑ or ↓
      <ENTER> to accept
      <EXIT> to return
```
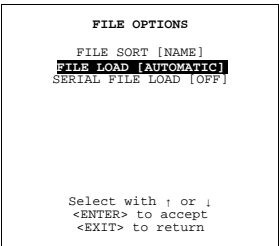
Menu 6-28

Serial File Load

1. Push the cursor key ↑ or ↓ to highlight *Serial File Load*. (menu 6-29)

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

   This Serial File Load setting is default set to [OFF].

[OFF]	The Serial File Load command is set to off.
[ON]	The projector is forced to load a file through RS232, all other means to load a file are disabled until Serial File Load is set to off.

```
         FILE OPTIONS

       FILE SORT [NAME]
     FILE LOAD [AUTOMATIC]
   SERIAL FILE LOAD [OFF]




       Select with ↑ or ↓
         <ENTER> to accept
         <EXIT> to return
```
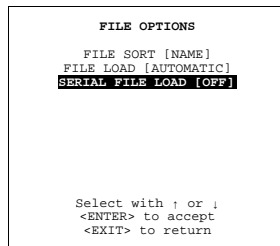
Menu 6-29

6.4 Picture Tuning

Overview

- Starting Up Picture Tuning
- Color Temperature
- Gamma
- Input Balance 1
- Input Balance 2
- Windowing

6.4.1 Starting Up Picture Tuning

How to Start Up Picture Tuning?

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

2. Press **ENTER** to select.

   The *Picture Tuning* menu will be displayed. (menu 6-30)

```
         PICTURE TUNING

       COLOR TEMPERATURE
            GAMMA
        INPUT BALANCE 1
        INPUT BALANCE 2
           WINDOWING



       Select with ↑ or ↓
          then <ENTER>
        <EXIT> to return
```
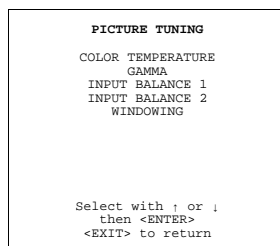
Menu 6-30

6.4.2 Color Temperature

Available Color Temperatures

Projector White

Broadcast 3200K

Film 5400K

Video 6500K

Computer 9300K

Custom Balance

How to Start Up Picture Tuning?

1. Push the cursor key ↑ or ↓ to highlight *Color Temperature*. (menu 6-31)

2. Press **ENTER** to select.

   The *Color Temperature* menu will be displayed. (menu 6-32)

3. Push the cursor key ↑ or ↓ to highlight the desired *Color Temperature*.

```
        PICTURE TUNING                      COLOR TEMPERATURE

     COLOR TEMPERATURE                      PROJECTOR WHITE
          GAMMA                             COMPUTER 9300K
       INPUT BALANCE 1                        VIDEO 6500K
       INPUT BALANCE 2                         FILM 5400K
          WINDOWING                         BROADCAST 3200K

                                             CUSTOM BALANCE


      Select with ↑ or ↓                    Select with ↑ or ↓
         then <ENTER>                           then <ENTER>
       <EXIT> to return                       <EXIT> to return
```
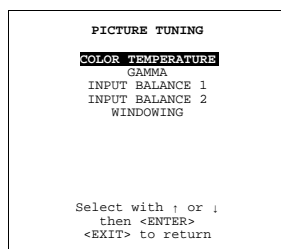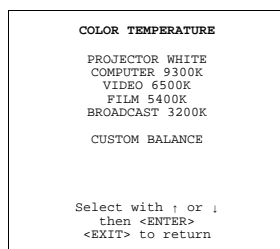
Menu 6-31   Menu 6-32

How to adjust 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 255) in comparison with the green color. (image 6-3)
   Note: *Even when running in Stereo Mode it is possible to pop up this barscale by pushing the **?** key on the RCU or local keypad.*

```
         GAIN RED

     ┌──────────┬─────┐
     │██████████│     │
     └──────────┴─────┘
     0              2.5
```
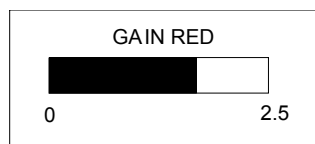
Image 6-3
Color Balance Barscale

6.4.3   Gamma

What can be done?

With the gamma correction adjustment, it is possible to match the Gamma of the IG and the Projector.

How to Start Up Gamma?

1. Push the cursor key ↑ or ↓ to highlight *Gamma*. (menu 6-33)

2. Press **ENTER** to select.

   The Gamma barscale will be displayed.

3. Change the Gamma Value by pushing the cursor key ← or → until the desired value is reached.
   Note: *Default value of gamma : 1.9*

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

```
          PICTURE TUNING

      COLOR TEMPERATURE
           GAMMA
        INPUT BALANCE 1
        INPUT BALANCE 2
          WINDOWING




        Select with ↑ or ↓
           then <ENTER>
        <EXIT> to return
```
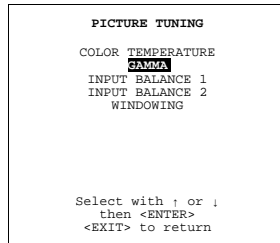
Menu 6-33

6.4.4   Input Balance 1

Why adjusting the Input Balance?

The input balance is normally correct adjusted in the factory. But due to signal distribution or signal transmission outputs a color imbalance can be the result. This imbalance can be adjusted source by source for color critical applications. These adjustments influence only the actual custom adjustment file. This procedure is not so easy and is best done or first demonstrated by an authorized Barco service technician.

What can be done?

- When a Mono Image is projected, within this menu, it is possible to adjust the Input Balance of the actual projected source.
- When a Stereo Image is projected, within this menu, it is possible to adjust the Input Balance of the Left Image.

Steps to be taken

To adjust the input balance, the following steps have to be executed in the following order:
1. The procedure is best done when using a source that can generate a full black and full white image.
2. Start with the Black Balance.
3. Continue with the White Balance.

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

How to Start Up Input Balance 1?

1. Push the cursor key ↑ or ↓ to highlight *Input Balance 1*. (menu 6-34)

2. Press **ENTER** to select.

   The *Input Balance* menu will be displayed. (menu 6-35)

```
          PICTURE TUNING

      COLOR TEMPERATURE
           GAMMA
       INPUT BALANCE 1
        INPUT BALANCE 2
          WINDOWING




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

```
          INPUT BALANCE

         WHITE BALANCE
         BLACK BALANCE

            DEFAULT


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

             Adjust
         red with ↑ or ↓
        blue with ← or →
```
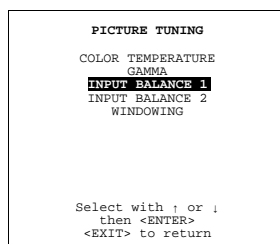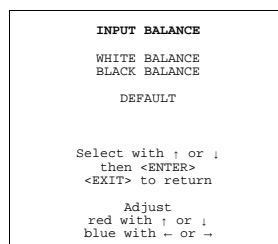
Menu 6-34   Menu 6-35

How to adjust the Black Balance?

1. Generate a full black image on the source. (image 6-4)

2. Push the cursor key ↑ or ↓ to highlight *Black Balance* and press **ENTER** to select. (menu 6-36)

3. Use the cursor keys ← and ↓ to lower the Black Level of the Blue and Red color.

4. Use the **Brightness + or –** key to adjust the Black Level of the Green Color until there is ±50% noise visible. (image 6-5)

5. Use the → and ↑ key to raise the Black Level of the Blue and Red Color until there is ±50% noise visible.

6. Press **EXIT** to return to *Input Balance* menu.

```
        INPUT BALANCE

        WHITE BALANCE
        BLACK BALANCE

          DEFAULT


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

           Adjust
      red with ↑ or ↓
      blue with ← or →
```
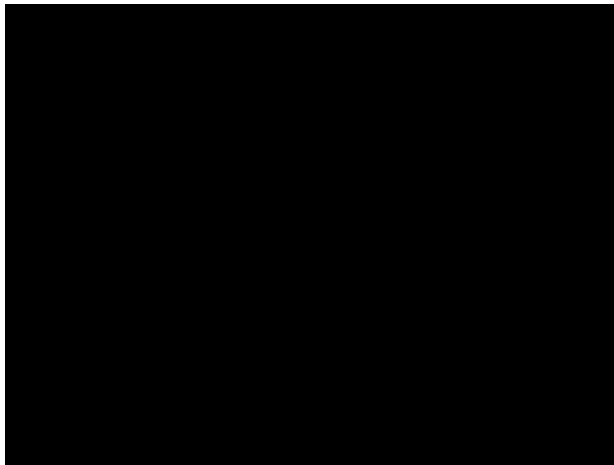
Menu 6-36

Image 6-4
Full black image on the source
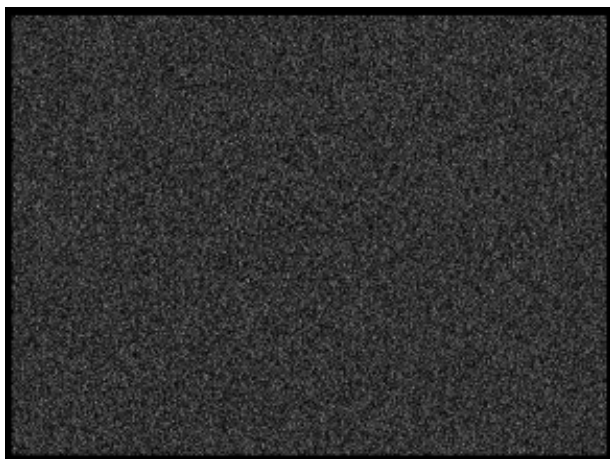
Image 6-5
Perfect Black Balance

How to adjust the White Balance?

1. Generate a full white image on the source. (image 6-6)

2. Push the cursor key ↑ or ↓ to highlight *White Balance* and press **ENTER** to select. (menu 6-37)

3. Use the cursor keys ← and ↓ to lower the Gain of the Blue and Red color.

4. Use the **Contrast + or –** key to adjust the Gain of the Green Color until there is ±50% noise visible. (image 6-7)

5. Use the → and ↑ key to raise the Gain of the Blue and Red Color until there is ±50% noise visible.

6. Press **EXIT** to return to *Input Balance* menu.

```
        INPUT BALANCE

   WHITE BALANCE
   BLACK BALANCE

        DEFAULT


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

        Adjust
   red with ↑ or ↓
   blue with ← or →
```
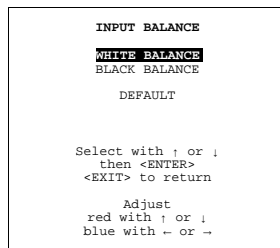
Menu 6-37

Image 6-6
Full white image on the source
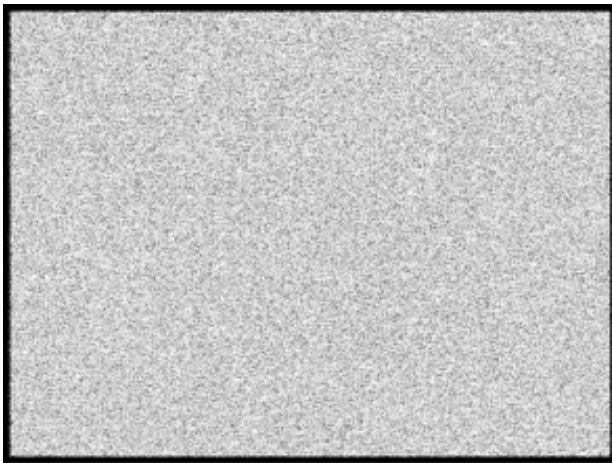
Image 6-7
Perfect White Balance

How to return to the Default Factory Preset?

1. Push the cursor key ↑ or ↓ to highlight *Default* and press **ENTER** to select. (menu 6-38)

   The input balance is set to the default factory preset.

```
          INPUT BALANCE

       WHITE BALANCE
       BLACK BALANCE

         DEFAULT


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

         Adjust
     red with ↑ or ↓
     blue with ← or →
```
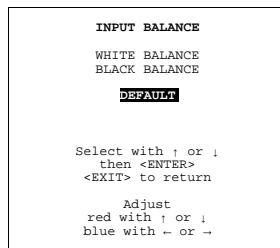
Menu 6-38

6.4.5   Input Balance 2

What can be done?

When a Stereo Image is projected, within this menu, it is possible to adjust the Input Balance of the Right Image.

> **Follow the same steps as described above in 'Steps to be taken' see "Input Balance 1", page 55.**

How to Start Up Input Balance 2?

1. Push the cursor key ↑ or ↓ to highlight *Input Balance 2*. (menu 6-39)

2. Press **ENTER** to select.

   The *Input Balance* menu will be displayed. (menu 6-40)

3. For more information on adjusting the White and Black Balance see "Input Balance 1", page 55.

```
        PICTURE TUNING

     COLOR TEMPERATURE
          GAMMA
       INPUT BALANCE 1
       INPUT BALANCE 2
         WINDOWING




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

Menu 6-39

```
          INPUT BALANCE

       WHITE BALANCE
       BLACK BALANCE

         DEFAULT


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

         Adjust
     red with ↑ or ↓
     blue with ← or →
```
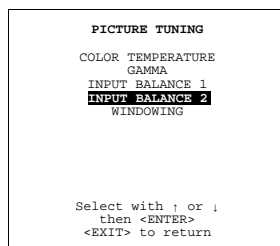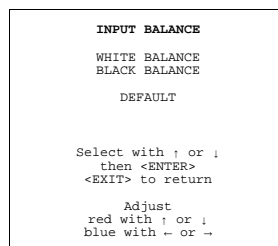
Menu 6-40

6.4.6   Windowing

Overview

- Starting Up Windowing
- Blanking (Windowing)
- Shift (Windowing)
- Size (Windowing)
- Geo Soft Edge

6.4.6.1 Starting Up Windowing

How to Start Up Windowing?

1. Push the cursor key ↑ or ↓ to highlight *Windowing*. (menu 6-41)

   The *Windowing* menu will be displayed. (menu 6-42)

```
        PICTURE TUNING                      WINDOWING

     COLOR TEMPERATURE                      BLANKING
          GAMMA                              SHIFT
      INPUT BALANCE 1                         SIZE
      INPUT BALANCE 2                   GEO SOFT EDGE [ON]
         WINDOWING




      Select with ↑ or ↓                 Select with ↑ or ↓
         then <ENTER>                        then <ENTER>
       <EXIT> to return                    <EXIT> to return
```
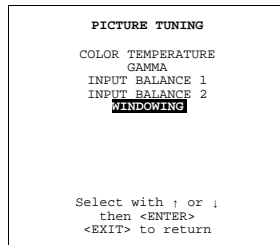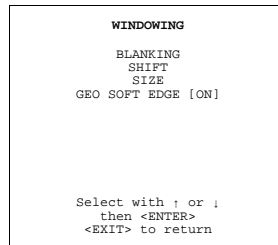
Menu 6-41   Menu 6-42

6.4.6.2 Blanking (Windowing)

What can be done with Blanking (Windowing)?

With the Blanking function it is possible to black out the side(s) of the image while keeping the pre-distorted WARP 6™ geometry settings of the image.

How to Start Up Windowing (Blanking)?

1. Push the cursor key ↑ or ↓ to highlight *Blanking*. (menu 6-43)

2. Press **ENTER** to select.

   The *Blanking* menu will be displayed. (menu 6-44)

```
        WINDOWING                            BLANKING

        BLANKING                              TOP
         SHIFT                               BOTTOM
          SIZE                                LEFT
    GEO SOFT EDGE [ON]                        RIGHT
                                              RESET




      Select with ↑ or ↓                 Select with ↑ or ↓
         then <ENTER>                        then <ENTER>
       <EXIT> to return                    <EXIT> to return
```
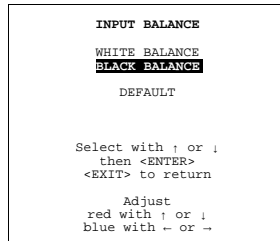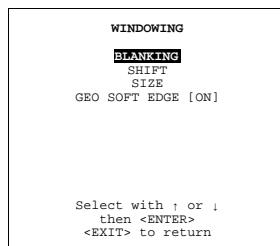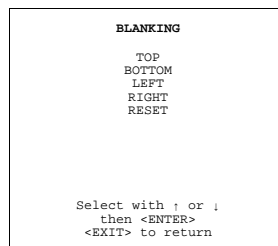
Menu 6-43   Menu 6-44

How to use the Blanking (Windowing) adjustment?

1. Push the cursor key ↑ or ↓ to highlight the desired side e.g. Top. (menu 6-45)

2. Press **ENTER** to select.

   A barscale indication will be displayed. (image 6-8)

3. Push the cursor keys to black out the side(s) of the image. (image 6-9)

```
        BLANKING

          TOP
         BOTTOM
          LEFT
          RIGHT
          RESET




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

Menu 6-45

TOP BLANKING

0.0
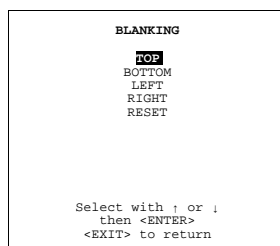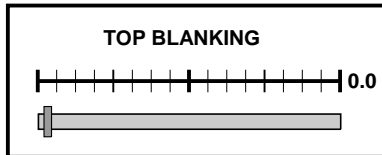
Image 6-8
Top Blanking barscale

Top Blanking

Bottom Blanking

Left Blanking
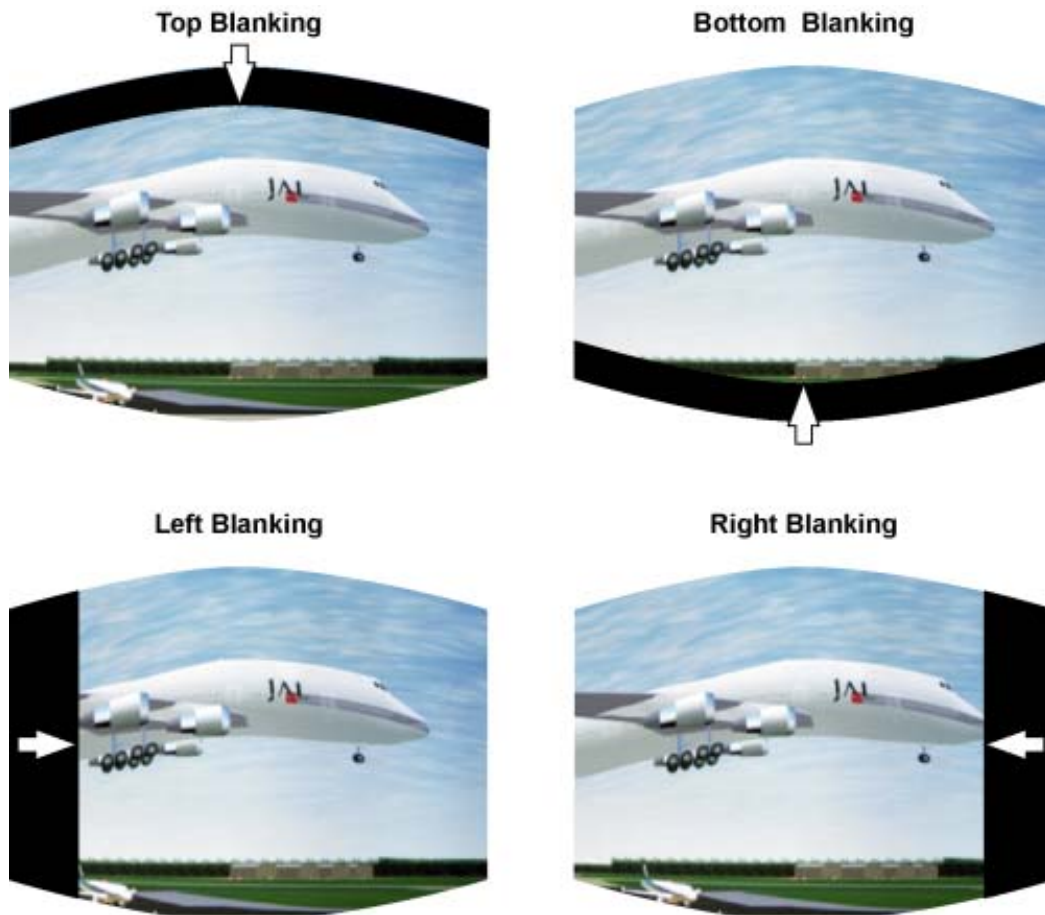
Right Blanking

Image 6-9
Blanking (Windowing) adjustment

How to reset the Blanking adjustment(s)?

1. Push the cursor key ↑ or ↓ to highlight *Reset*. (menu 6-46)

2. Press **ENTER** to reset all blanking adjustments.

```
        BLANKING

         TOP
        BOTTOM
         LEFT
         RIGHT
         RESET




   Select with ↑ or ↓
      then <ENTER>
   <EXIT> to return
```
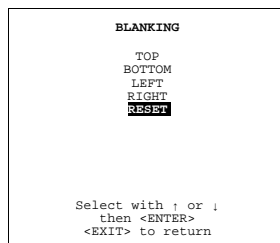
Menu 6-46

6.4.6.3 Shift (Windowing)

What can be done with Shift (Windowing)?

With the Shift function it is possible to shift the image while keeping the pre-distorted WARP 6™ geometry settings of the image.

How to Start Up the Shift adjustment?

1. Push the cursor key ↑ or ↓ to highlight *Shift*. (menu 6-47)

2. Press **ENTER** to select.

   A barscale indication will be displayed. (image 6-10)

3. Push the cursor key ← or → to shift the image horizontally. (image 6-11)

4. Push the cursor key ↑ or ↓ to shift the image vertically. (image 6-12)

```
              WINDOWING

           BLANKING
           SHIFT
            SIZE
      GEO SOFT EDGE [ON]




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

Menu 6-47

H SHIFT

0.0
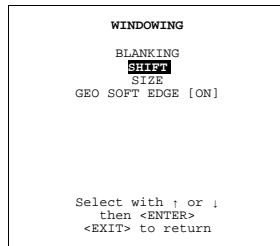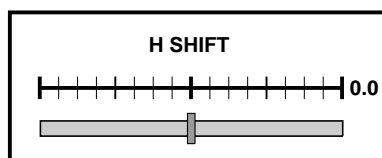
Image 6-10
Horizontal Shift barscale

Image 6-11
Horizontal Shift (Windowing) adjustment

Image 6-12
Vertical Shift (Windowing) adjustment

6.4.6.4 Size (Windowing)

What can be done with Size (Windowing)?

With the Size function it is possible to adjust the size of the image while keeping the pre-distorted WARP 6™ geometry settings of the image.

How to Start Up the Size adjustment?

1. Push the cursor key ↑ or ↓ to highlight *Size.* (menu 6-48)

2. Press **ENTER** to select.

   A barscale indication will be displayed. (image 6-13)

3. Push the cursor key ← or → to adjust the horizontal size of the image. (image 6-14)

4. Push the cursor key ↑ or ↓ to adjust the vertical size of the image. (image 6-15)

```
              WINDOWING

            BLANKING
             SHIFT
             SIZE
        GEO SOFT EDGE [ON]




        Select with ↑ or ↓
           then <ENTER>
         <EXIT> to return
```
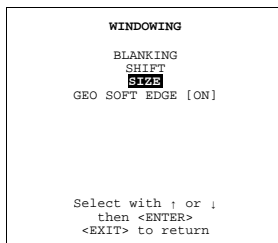
Menu 6-48
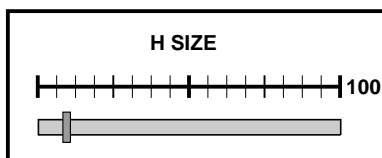
Image 6-13
H Size barscale indication
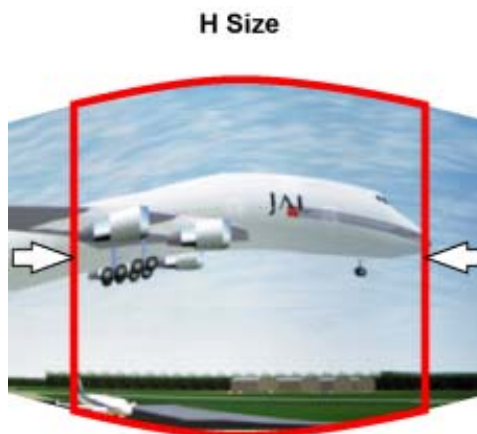
Image 6-14
Horizontal Size adjustment
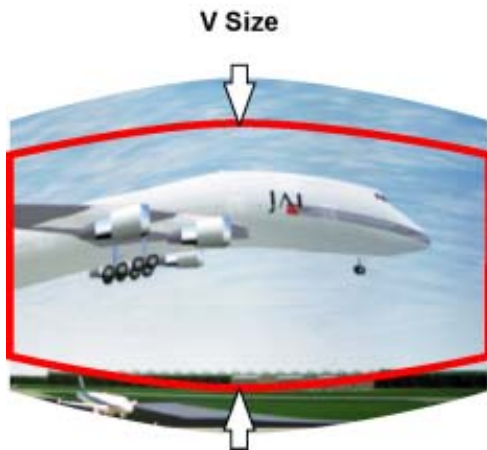
Image 6-15
Vertical Size adjustment

6.4.6.5 Geo Soft Edge

What can be done with Geo Soft Edge?

When setting up a soft edge (see Electronic Soft Edge), these setting are applied on all sources (source files). With the Geo Soft Edge toggle it is possible to disable the soft edge settings.

Geo Soft Edge is default set to On.

How to change the Geo Soft Edge Setting?

1. Push the cursor key ↑ or ↓ to highlight *Geo Soft Edge.* (menu 6-49)

2. Press **ENTER** to toggle *Geo Soft Edge* [OFF] or [ON].

```
        WINDOWING

       BLANKING
        SHIFT
        SIZE
  GEO SOFT EDGE [ON]




    Select with ↑ or ↓
       then <ENTER>
     <EXIT> to return
```
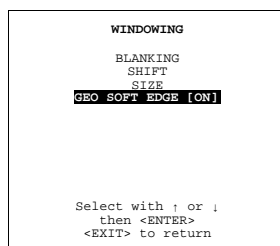
Menu 6-49

6.5 Geometry

Overview

- Introduction
- Starting Up Geometry
- Geometry file annotation
- Setting up a new Geometry file
- Possible Geometry file manipulations
- Load
- Edit
- Rename
- Copy
- Delete

6.5.1 Introduction

What can be done with the WARP 6™ Geometry adjustments ?

With the new WARP 6™ fitted in theBarco TRACE, fixed-matrix projectors can be used in a wide variety of curved-screen applications, ranging from straightforward cylindrical displays to the wildest shapes that can be imagined: by pre-distorting the image inside the projector, a correct geometry can be achieved on curved screens, without requiring additional computational power on the IG's side. Since WARP 6™ is integrated in the Barco TRACE Pixel Map Processor, it is an elegant and user-friendly solution for even the most demanding applications.

Using the intuitive user interface, bows can be set up and modified in a flash, giving the user real-time access to the distortion characteristics. For fine-tuning the image, the user has to access to individual grid points that can be shifted to their desired location.

6.5.2 Starting Up Geometry

How to Start Up Geometry?

1. Push the cursor key ↑ or ↓ to highlight *Geometry*. (menu 6-50)

2. Press **ENTER** to select.

   The *Geometry files* menu will be displayed. (menu 6-51)

```
        RANDOM ACCESS                        GEOMETRY FILES
      ADJUSTMENT MODE
                                                 LOAD
        FILE SERVICE                             EDIT
        PICTURE TUNING                          RENAME
          GEOMETRY                               COPY
        STEREO OPTIONS                          DELETE




      Select with ↑ or ↓                    Select with ↑ or ↓
         then <ENTER>                           then <ENTER>
      <EXIT> to return                       <EXIT> to return
```
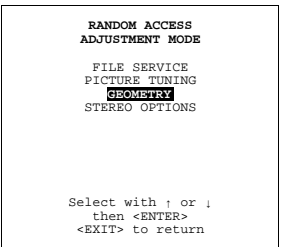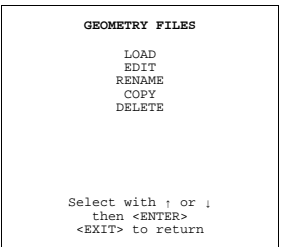
Menu 6-50   Menu 6-51

6.5.3 Geometry file annotation

How is a Geometry file built up ?

The file notation in the *Geometry files* menu is built up in different parts. Let us have a look to these parts.

Take the following notation : xxxxxxxx.eee

xxxxxxxx	base name, 8 characters
eee	file extension: first character t : geometry preset file. first character g : geometry user file. The second and third character is used for a following number (= file index). The file index for custom files : 00 to 63.

Table 6-9

6.5.4 Setting up a new Geometry file

How to set up a new Geometry file ?

1. Load the start up file: *t_nodist.t01.*

2. Select the *EDIT* menu and perform the necessary adjustments.

3. When leaving the *EDIT* menu a new geometry user file is automatically saved.

6.5.5 Possible Geometry file manipulations

What are the possible file manipulations ?

The following file manipulations are possible :

- Load : setting up a new geometry set up.
- Edit : editing a geometry file, when leaving the *EDIT* menu a geometry user file is automatically saved.
- Rename : renaming a geometry file.
- Copy : copying a geometry file.
- Delete : deleting a geometry file

6.5.6 Load

How to start up ?

To start up the *Load File* menu, handle as follow :

1. Push the cursor key ↑ or ↓ to highlight *Load*. (menu 6-52)

2. Press **ENTER** to select.

   The *Load File* menu will be displayed. (menu 6-53)

```
        GEOMETRY FILES

            LOAD
            EDIT
           RENAME
            COPY
           DELETE




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

```
          LOAD FILE
         PREVIEW[OFF]

    Filename
    geometry.g01
    t_bowing.t06
    t_bowlin.t02
    t_keyst.t03
    t_nodist.t01
    -----------------------------
    Active file : geometry.g01


      Select with ↑ or ↓ , →
          <ENTER> to accept
          <EXIT> to return
```

Menu 6-52   Menu 6-53

How to change the Preview setting ?

1. Push the cursor key → to highlight *Preview*.

2. Press **ENTER** to toggle the *Preview* mode [OFF] [ON].

OFF	When highlighting a geometry file from the list, the geometry adjustments will be applied only when selecting a file by pressing the ENTER key.
ON	The geometry adjustments are already applied when highlighting a file from the list, this will require some processing time from the projector when scrolling through the list of available files.

How to Load a file ?

1. When starting a new set up ?
   If yes, Push the ↓ key to highlight the *"t_nodist.t01"* filestep 2 (menu 6-54)
   If no, When editing an existing set up push the ↑ or ↓ to highlight the corresponding user file .

2. Press **ENTER** to select.

   The selected geometry file will become the active file and the *Geometry files* menu will be displayed again.

```
          LOAD FILE
         PREVIEW[OFF]

    Filename
    geometry.g01
    t_bowing.t06
    t_bowlin.t02
    t_keyst.t03
    t_nodist.t01
    -----------------------------
    Active file : geometry.g01


      Select with ↑ or ↓ , →
          <ENTER> to accept
          <EXIT> to return
```

Menu 6-54

6.5.7 Edit

Overview

- Introduction
- Start up
- Coarse
- Linearity adjustment
- Fine
- Shift
- Transport Delay
- Blanking
- Electronic Soft Edge (Optional)
- Reset

6.5.7.1 Introduction

How does it work ?

- The projected image on the screen is divided in 81 zones. Each zone represents a grid point that can be shifted to the desired location. These grid points will interact on each other in a hierarchic way, adjusting a grid point on a certain hierarchic level will affect all grid points underneath.
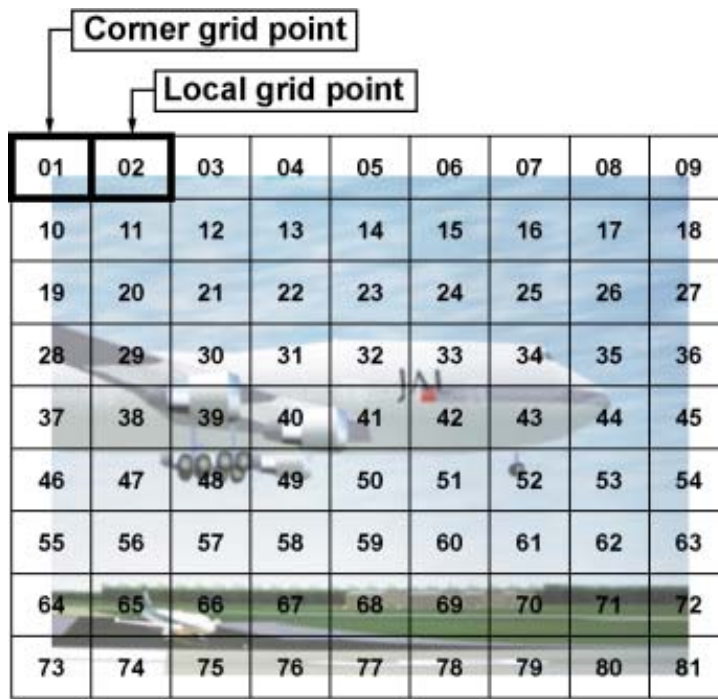
Image 6-16
81 grid points
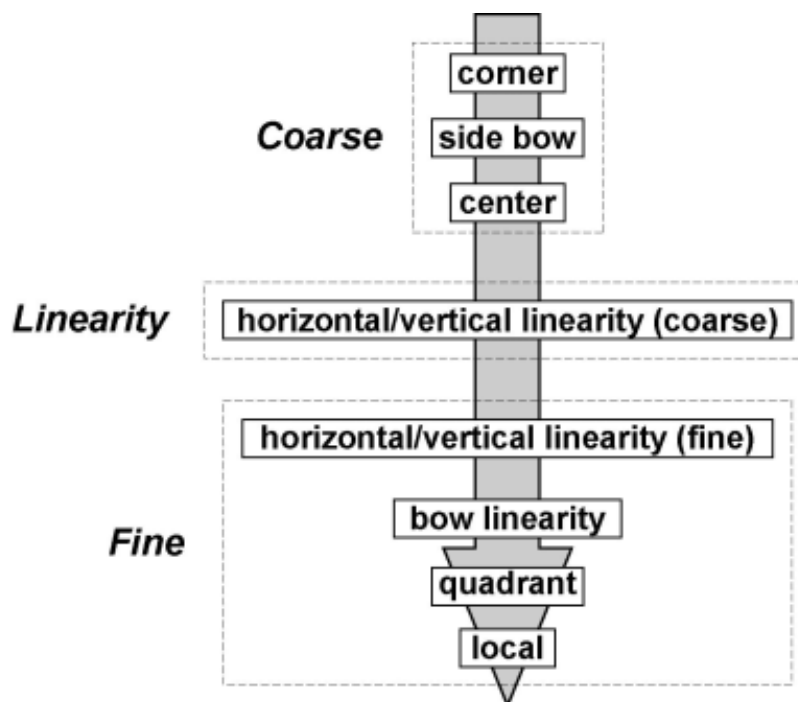
Image 6-17
Hierarchic editing structure

- On top of this hierarchy are the corner grid points, when adjusting these grid points all other points underneath will be adjusted.
- At the bottom of the structure we find the local points, adjusting these points will not affect any other grid points.
- The best results are obtained by applying the geometry settings in the same top to bottom order as listed in the menu interface.

6.5.7.2 Start up

How to Start up the Edit mode ?

1. Push the cursor key ↑ or ↓ to highlight *Edit* in the *Geometry Files* menu. (menu 6-55)

2. Press **ENTER** to select.

   The *Guided Geometry Map* menu will be displayed. (menu 6-56)

```
        GEOMETRY FILES                      GUIDED GEOMETRY MAP

            LOAD                                   COARSE
            EDIT                                  LINEARITY
           RENAME                                   FINE
            COPY                                    SHIFT
           DELETE                              TRANSPORT DELAY
                                            BLANKING/SOFT EDGE

                                                   RESET



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

Menu 6-55   Menu 6-56

6.5.7.3 Coarse

Overview

- Start up
- Corner selection
- Corner adjustment
- Side Bow selection
- Bow shaped pre-distortion set up
- Coarse linearity adjustment using Side Bows
- Center selection
- Center adjustment

6.5.7.3.1 Start up

How to Start up the Coarse adjustment ?

1. Push the cursor key ↑ or ↓ to highlight *Coarse* in the *Guided Geometry Map* menu. (menu 6-57)

2. Press **ENTER** to select.

   The *Geometry Distortion* menu will be displayed. (menu 6-58)

```
      GUIDED GEOMETRY MAP                    GEOMETRY DISTORTION

            COARSE                            corner left top
           LINEARITY
             FINE                                col = 0
            SHIFT                                row = 0
       TRANSPORT DELAY
     BLANKING/SOFT EDGE                      pixels x = 0
                                                    y = 0
            RESET
                                            subpixels x = 0
                                                      y = 0
     Select with ↑ or ↓
        then <ENTER>
      <EXIT> to return
```

Menu 6-57   Menu 6-58

6.5.7.3.2 Corner selection

What can be done ?

With the Coarse Corner selection it is possible to adjust the basic geometry and size of the projected image.

How to select the Corners ?

1. Push the cursor key ↑ or ↓ to highlight the Coarse selection. (menu 6-59)

2. By default *corner* is already selected, if not, press **ENTER** until *corner* is displayed.

3. Push the cursor key ← or → to select the desired Corner.

   The *COL* & *ROW* (Column and Rows) indicator[2] will show the corresponding position of the selected Corner and an indication box will be displayed on the screen. (image 6-18)

```
        GEOMETRY DISTORTION

        corner left top

            col = 0
            row = 0

        pixels x = 0
               y = 0

        subpixels x = 0
                  y = 0
```

Menu 6-59
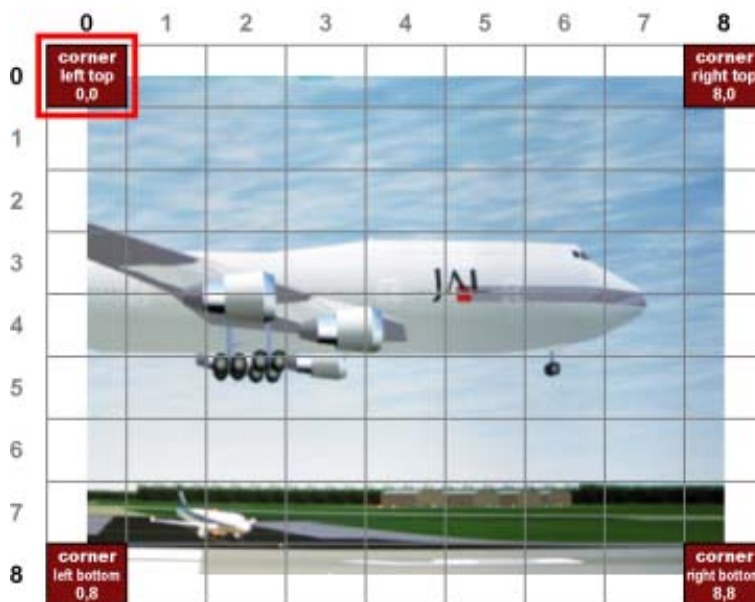
Image 6-18
Coarse Corner selections

6.5.7.3.3 Corner adjustment

> To change a setting, only the method using the arrow keys is mentioned in the following procedures, the projector will need to recalculate every adjustment step.
>
> For coarse adjustments it is also possible to enter the new value directly with the numeric keys on the RCU or local keypad.

What is Pixel and Subpixel adjustment ?

Pixel	Coarse adjustment, this will shift the Corner in steps of 1 pixel
Subpixel	Fine tuning adjustment, this will shift the Corner in steps of 1/32 of a pixel

2. This *COL* & *ROW* indicates the position of the selected grid point within the 81 zones.

How to adjust the Corners ?

1. Push the cursor key ↑ or ↓ to select *pixel x = 0* in the *Geometry Distortion* menu. (menu 6-60)

2. Push the cursor key ← or → to coarse shift the selected Corner in a horizontal way. (image 6-19)

3. Push the cursor key ↑ or ↓ to *select pixel y = 0* in the *Geometry Distortion* menu. (menu 6-61)

4. Push the cursor key ← or → to coarse shift the selected Corner in a vertical way (Follow this procedure in a similar way to adjust any desired corner position). (image 6-20)
   Note: *Apply this procedure to perform a keystone correction: this is used to align the image if the projector is mounted at a non standard projector angle. (image 6-21)*

5. Use the subpixel adjustments to fine shift the selected corners.

6. Continue with the Coarse Side Bow adjustment or press **EXIT** to return to the *Guided Geometry Map* menu.

```
        GEOMETRY DISTORTION

         corner left top

              col = 0
              row = 0

          pixels x = 0
                 y = 0

        subpixels x = 0
                  y = 0
```

Menu 6-60

```
        GEOMETRY DISTORTION

         corner left top

              col = 0
              row = 0

          pixels x = 0
                 y = 0

        subpixels x = 0
                  y = 0
```

Menu 6-61

Image 6-19
Corner pixel x adjustment

Image 6-20
Corner pixel y adjustment
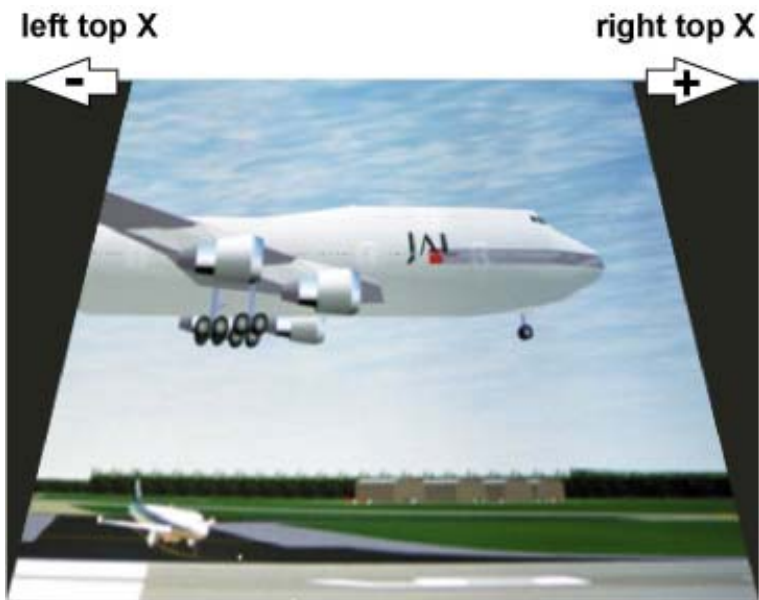
Image 6-21
Keystone correction

6.5.7.3.4 Side Bow selection

What can be done ?

With the Coarse Side Bow selection it is possible to:

- apply a bow shaped pre-distortion on the projected image.
- perform a coarse linearity adjustment off the projected image.

How to select the Side Bows ?

1. Push the cursor key ↑ or ↓ to highlight the Coarse selection. (menu 6-62)

2. Press **ENTER** to scroll through the available Coarse selections until *side bow* is displayed. (menu 6-63)

3. Push the cursor key ← or → to select the desired Side Bow.

   The *COL* & *ROW* (Column and Rows) indicator will show the corresponding position of the selected Side Bow and an indication box will be displayed on the screen. (image 6-22)

```
        GEOMETRY DISTORTION

        corner left top

           col = 0
           row = 0

        pixels x = 0
               y = 0

        subpixels x = 0
                  y = 0
```
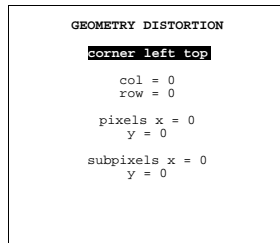
Menu 6-62

```
        GEOMETRY DISTORTION

         side bow top

           col = 4
           row = 0

        pixels x = 0
               y = 0

        subpixels x = 0
                  y = 0
```
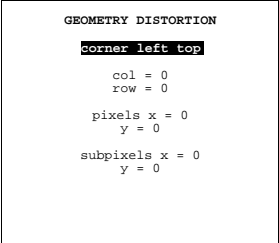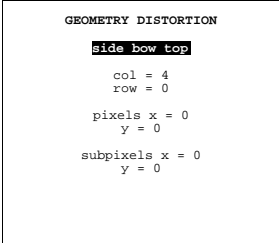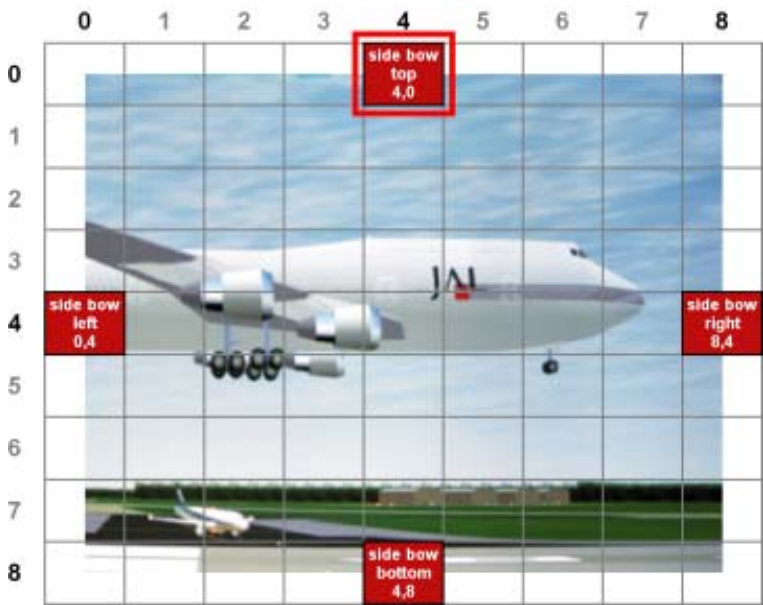
Menu 6-63

Image 6-22
Coarse Side Bow selections

6.5.7.3.5 Bow shaped pre-distortion set up

How to set up a bow shaped pre-distortion ?

We assume *side bow top* is selected.

1. Push the cursor key ↑ or ↓ to select *pixel y = 0* in the *Geometry Distortion* menu. (menu 6-64)

2. Push the cursor key ← or → to coarse shift the selected Side Bow in a vertical way.

   This will result in a bow shaped pre-distorted image (Follow this procedure in a similar way to apply the desired bow shaped distortion). (image 6-23)

3. Use the subpixel adjustments to fine shift the selected side bow.

4. Continue with the Coarse Side Bow or Center adjustment or press **EXIT** to return to the *Guided Geometry Map* menu.

```
        GEOMETRY DISTORTION

            side bow top

              col = 4
              row = 0

          pixels x = 0
                 y = 0

        subpixels x = 0
                  y = 0
```
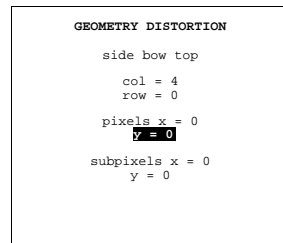
Menu 6-64
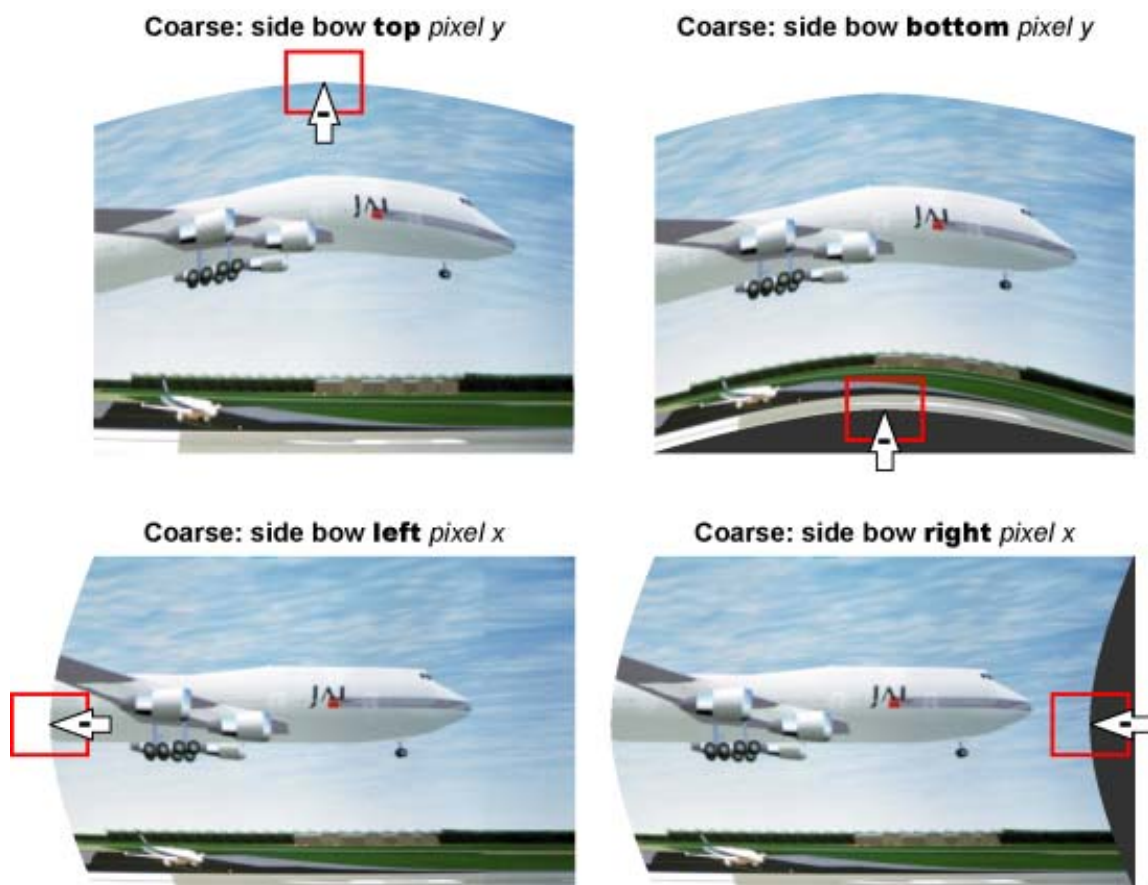
Image 6-23
Bow shaped pre-distortions

6.5.7.3.6 Coarse linearity adjustment using Side Bows

The Linearity adjustment is best done when a reference test pattern is projected on the screen.

> 👉 **By pressing the * key on the RCU an internal hatch pattern is projected instead of the image data.**

How to perform a coarse linearity adjustment by using the Side Bows?

We assume *side bow top* is selected.

1. Push the cursor key ↑ or ↓ to select *pixel x = 0* in the *Geometry Distortion* menu. (menu 6-65)

2. Push the cursor key ← or → to coarse shift the selected Side Bow in a horizontal way.

3. Repeat step 1 to 2 for the Coarse *side bow bottom* selection.

   This will shift the vertical center line, resulting in a coarse horizontal linearity adjustment (Follow this procedure in a similar way to shift the horizontal center line). (image 6-24)

4. Use the subpixel adjustments to fine shift the selected Side Bows.

5. Continue with the Coarse Center adjustment or press **EXIT** to return to the *Guided Geometry Map* menu.

```
        GEOMETRY DISTORTION

          side bow top

            col = 4
            row = 0
        pixels x = 0
               y = 0
       subpixels x = 0
               y = 0
```

Menu 6-65
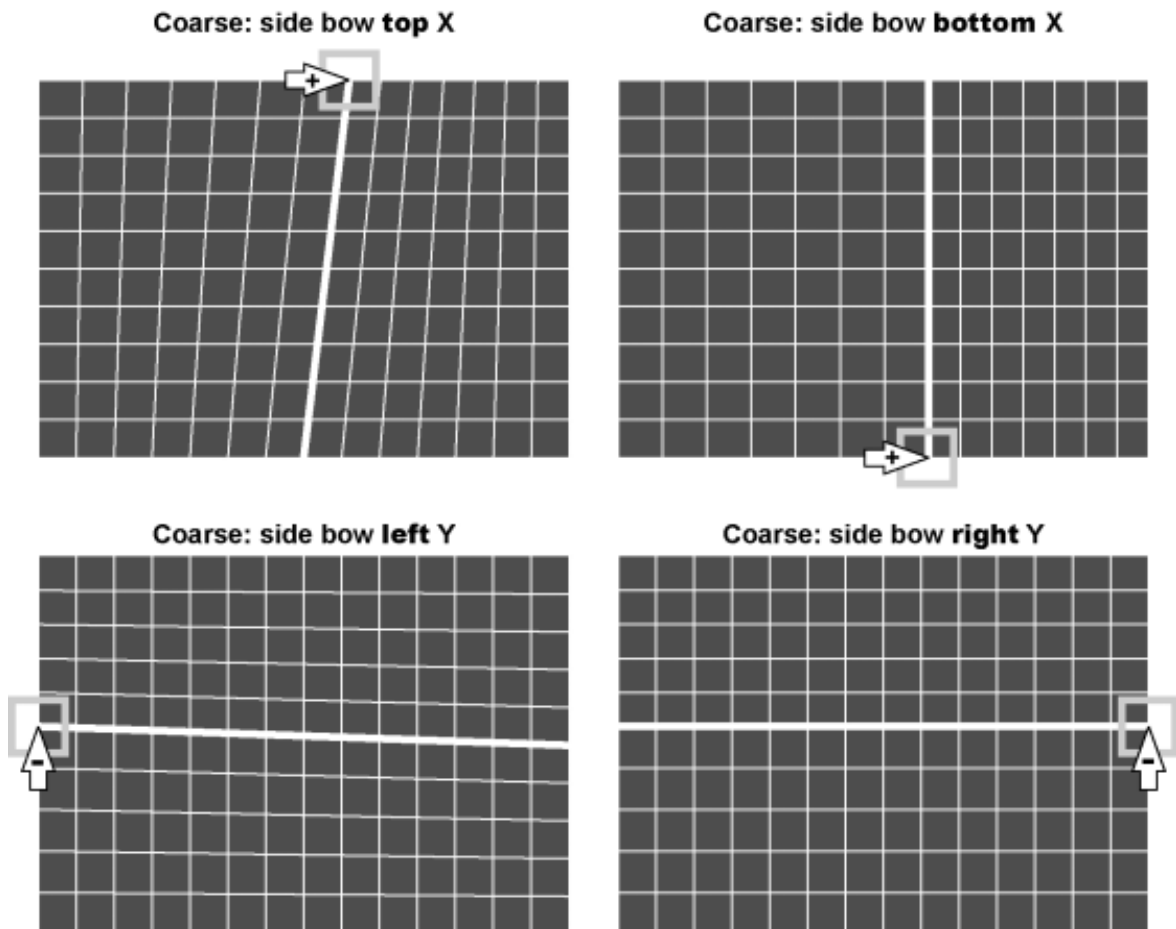
Image 6-24
Using side bows to perform a coarse linearity adjustment

6.5.7.3.7 Center selection

What can be done ?

With the Coarse Center selection it is possible to perform a coarse bow correction on the projected image.

How to select the Center ?

1. Push the cursor key ↑ or ↓ to to highlight the Coarse selection.

2. Press **ENTER** until *center* is displayed. (menu 6-66)

```
       GEOMETRY DISTORTION
            center

           col = 4
           row = 4

        pixels x = 0
               y = 0

      subpixels x = 0
               y = 0
```
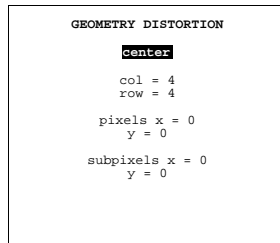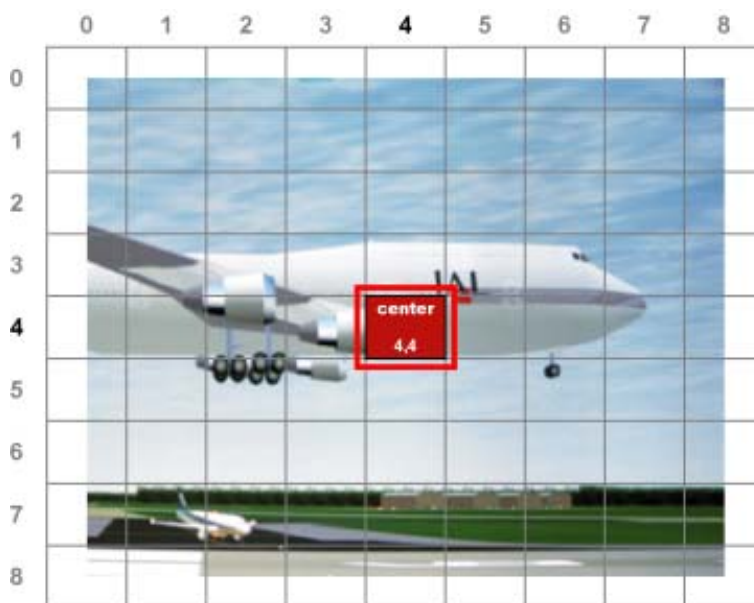
Menu 6-66

Image 6-25
Coarse Center selection

6.5.7.3.8 Center adjustment

How to adjust the Center ?

1. Push the cursor key ↑ or ↓ to select *pixel x = 0* in the *Geometry Distortion* menu. (menu 6-67)

2. Push the cursor key ← or → to coarse shift the Center in a horizontal way. (image 6-26)

3. Push the cursor key ↑ or ↓ to select *pixel y = 0* in the *Geometry Distortion* menu. (menu 6-68)

4. Push the cursor key ← or → to coarse shift the Center in a vertical way. (image 6-27)

5. Use the subpixel adjustments to fine shift the Center.

6. When the Coarse adjustment is finished press **EXIT** to return to the *Guided Geometry Map* menu.

```
      GEOMETRY DISTORTION

          center

         col = 4
         row = 4
      pixels x = 0
           y = 0

     subpixels x = 0
             y = 0
```

Menu 6-67

```
      GEOMETRY DISTORTION

          center

         col = 4
         row = 4
       pixels x = 0
            y = 0

      subpixels x = 0
              y = 0
```

Menu 6-68
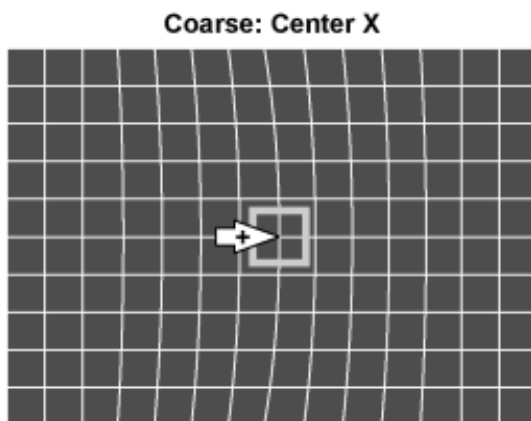
Image 6-26
Center pixel x adjustment
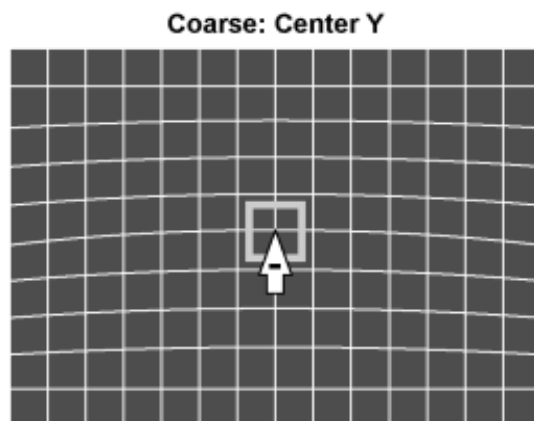
Image 6-27
Center pixel y adjustment

6.5.7.4 Linearity adjustment

Overview

- Start up
- Horizontal or Vertical Linearity selection
- Horizontal Linearity adjustment
- Vertical Linearity adjustment

6.5.7.4.1 Start up

How to Start up the Linearity adjustment ?

1. Push the cursor key ↑ or ↓ to highlight *Linearity* in the *Guided Geometry Map* menu. (menu 6-69)

2. Press **ENTER** to select.

   The *Linearity* menu will be displayed. (menu 6-70)

```
      GUIDED GEOMETRY MAP

            COARSE
          LINEARITY
            FINE
            SHIFT
        TRANSPORT DELAY
      BLANKING/SOFT EDGE

            RESET


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

Menu 6-69

```
           LINEARITY

          horizontal
           coarse 0
            right 0
           center 0
```

Menu 6-70

6.5.7.4.2 Horizontal or Vertical Linearity selection

What can be done with the Linearity adjustment ?

Within this Linearity adjustment mode it is possible to perform a coarse correction of the horizontal and vertical nonlinearity.

The Linearity adjustment is best done when a hatch pattern is projected on the screen.

By pressing the * key on the RCU an internal hatch pattern is projected instead of the image data.

How to select the Horizontal or Vertical Linearity ?

1. By default *horizontal* is selected.

2. Press **ENTER** to toggle between *horizontal* and *vertical*.

6.5.7.4.3 Horizontal Linearity adjustment

How to adjust the Horizontal Linearity ?

A correct Horizontal Linearity is achieved when the distances between the vertical lines of the hatch pattern are equal or almost equal from left to right.

1. Is *Horizontal* Linearity selected ?
   If yes, go to step 2
   If no, Push the cursor key ↑ or ↓ to highlight *Vertical* and press **ENTER** to toggle to *Horizontal*.

2. Push the cursor key ↑ or ↓ to highlight *coarse*. (menu 6-71)

3. Push the cursor key ← or → to perform a coarse linearity correction of both sides of the image. (image 6-28)

4. Push the cursor key ↑ or ↓ to highlight *right*. (menu 6-72)

5. Push the cursor key ← or → to correct the linearity of the right side of the image. (image 6-29)

6. Push the cursor key ↑ or ↓ to highlight *center*. (menu 6-73)

7. Push the cursor key ← or → to correct the linearity of the center of the image. (image 6-30)

8. Continue with the vertical linearity adjustment.

```
        LINEARITY                    LINEARITY                    LINEARITY

        horizontal                   horizontal                   horizontal
        coarse 0                     coarse 0                      coarse 0
         right 0                     right 0                        right 0
        center 0                     center 0                     center 0
```
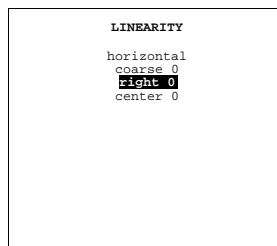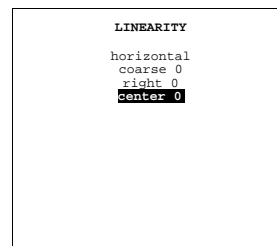
Menu 6-71   Menu 6-72   Menu 6-73

**Horizontal Linearity
Coarse +**
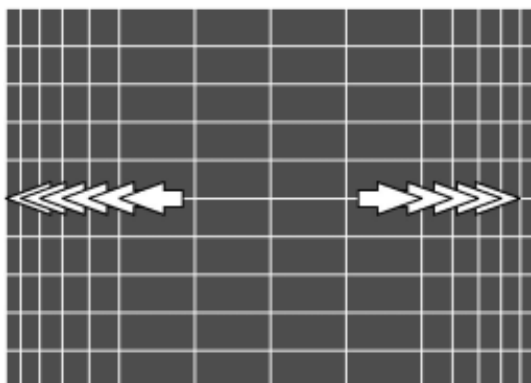
**Horizontal Linearity
Coarse -**
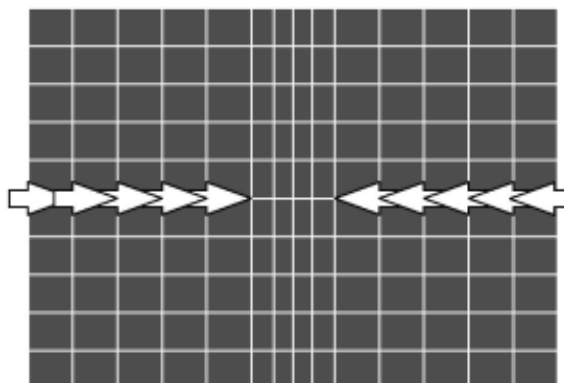
Image 6-28
Horizontal Linearity coarse adjustment

**Horizontal Linearity
Right +**
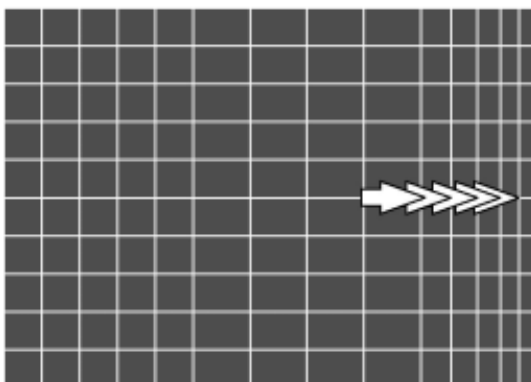
**Horizontal Linearity
Right -**
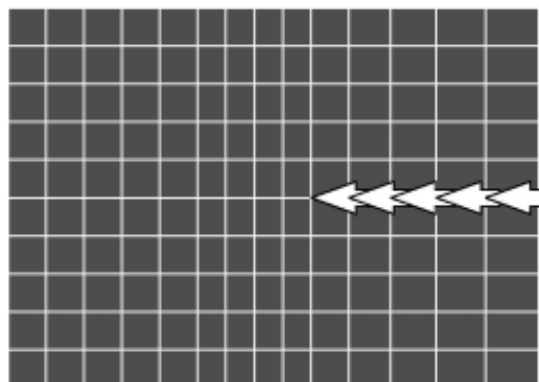
Image 6-29
Horizontal Linearity right adjustment

**Horizontal Linearity
Center +**
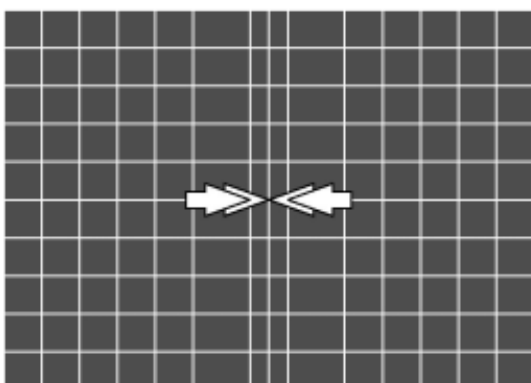
**Horizontal Linearity
Center -**
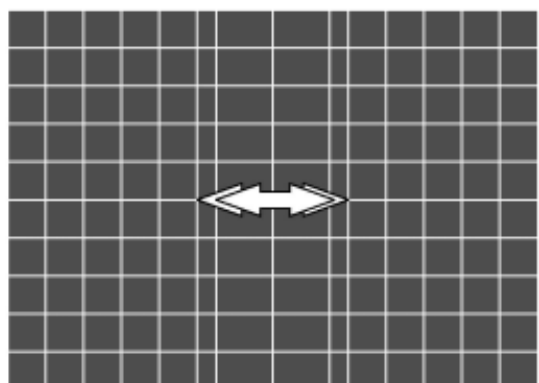
Image 6-30
Horizontal Linearity center adjustment

6.5.7.4.4   Vertical Linearity adjustment

How to adjust the Vertical Linearity ?

A correct Vertical Linearity is achieved when the distances between the horizontal lines of the hatch pattern are equal or almost equal from top to bottom.

1. Is *Vertical* Linearity selected ?
   If yes, go to step 2
   If no, Push the cursor key ↑ or ↓ to highlight *Horizontal* and press **ENTER** to toggle to *Vertical.*

2. Push the cursor key ↑ or ↓ to highlight *coarse.* (menu 6-74)

3. Push the cursor key ← or → to perform a coarse linearity correction of both sides of the image. (image 6-31)

4. Push the cursor key ↑ or ↓ to highlight bottom. (menu 6-75)

5. Push the cursor key ← or → to correct the linearity of the bottom side of the image. (image 6-32)

6. Push the cursor key ↑ or ↓ to highlight *center.* (menu 6-76)

7. Push the cursor key ← or → to correct the linearity of the center of the image. (image 6-33)

8. When finishing the Linearity adjustments, press **EXIT** to return to the *Guided Geometry Map* menu.

```
        LINEARITY                    LINEARITY                    LINEARITY

         vertical                     vertical                     vertical
        coarse 0                      coarse 0                      coarse 0
         bottom 0                     bottom 0                      bottom 0
         center 0                     center 0                     center 0
```
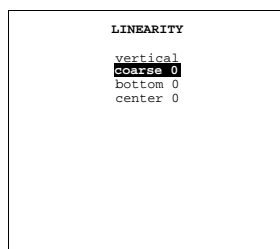
Menu 6-74   Menu 6-75   Menu 6-76

Vertical Linearity
Coarse +
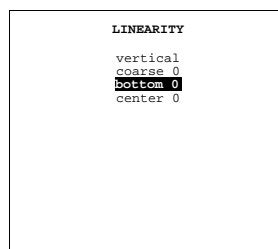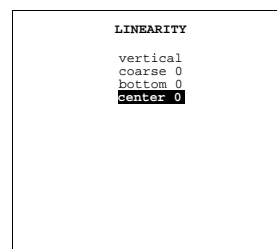
Vertical Linearity
Coarse -
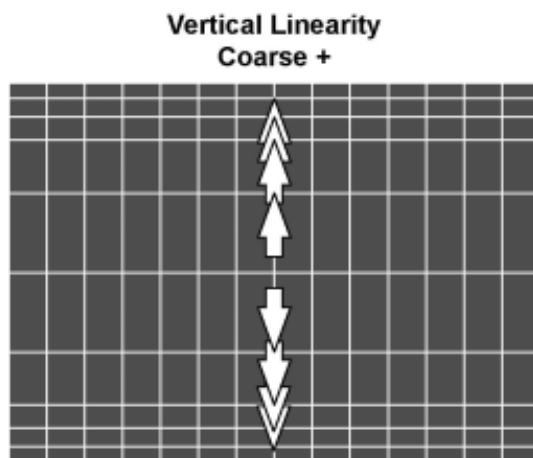
Image 6-31
Vertical Linearity coarse adjustment

**Vertical Linearity
Bottom +**
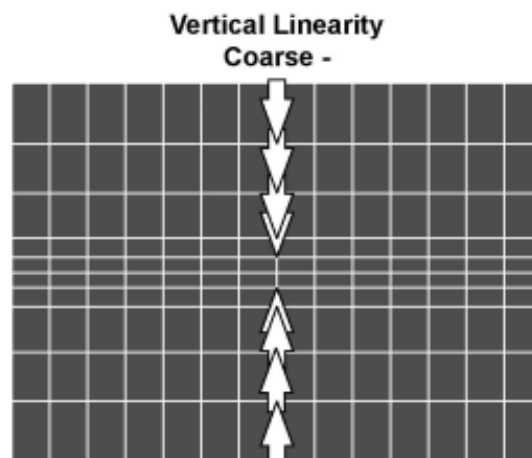
**Vertical Linearity
Bottom -**
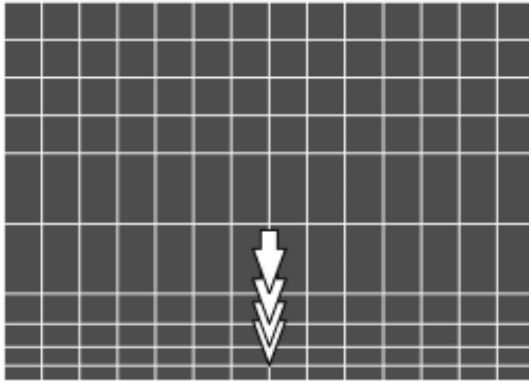
Image 6-32
Vertical Linearity bottom adjustment

**Vertical Linearity
Center +**
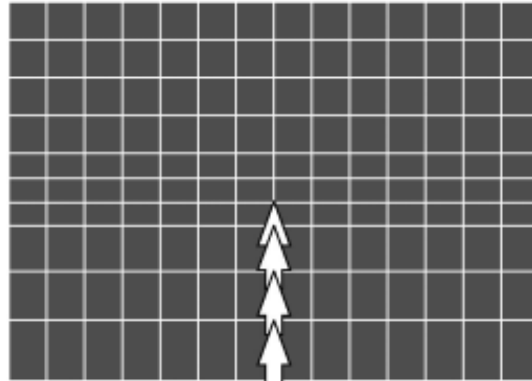
**Vertical Linearity
Center -**
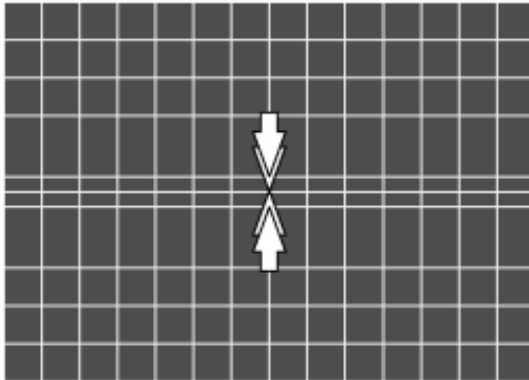
Image 6-33
Vertical Linearity center adjustment
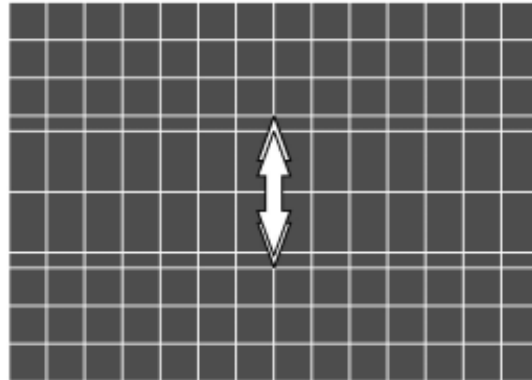
6.5.7.5 Fine

Overview

- Start up
- Horizontal or Vertical Linearity selection
- Fine Horizontal or Vertical Linearity adjustment
- Bow Linearity selection
- Bow Linearity adjustment
- Quadrant selection
- Quadrant adjustment
- Local selection
- Local adjustment

6.5.7.5.1 Start up

How to Start up the Fine adjustment ?

1. Push the cursor key ↑ or ↓ to highlight *Fine* in the *Edit* menu. (menu 6-77)

2. Press **ENTER** to select.

   The *Geometry Distortion* menu will be displayed. (menu 6-78)

```
        GUIDED GEOMETRY MAP

             COARSE
            LINEARITY
              FINE
              SHIFT
         TRANSPORT DELAY
      BLANKING/SOFT EDGE

              RESET


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

Menu 6-77

```
      GEOMETRY DISTORTION

      hor lin left top

             col = 2
             row = 0

        pixels x = 0
               y = 0
      subpixels x = 0
               y = 0
```

Menu 6-78

6.5.7.5.2 Horizontal or Vertical Linearity selection

What can be done ?

Within this menu it is possible to fine tune the linearity of the projected image.

> **The Linearity adjustment is best done when a hatch pattern is projected on the screen.**

> **By pressing the * key on the RCU an internal hatch pattern is projected instead of the image data.**

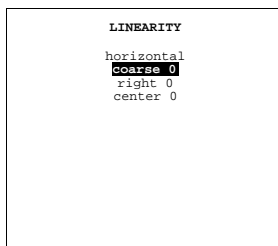#### How to select the Horizontal or Vertical Linearity ?

1. Push the cursor key ↑ or ↓ to highlight the Fine selection. (menu 6-79)

2. By default *hor lin* is already selected, if not, press **ENTER** to scroll through the available Fine selections until *hor lin* or *ver lin* is displayed.

3. Push the cursor key ← or → to select the desired horizontal or vertical linearity point.

   The COL & ROW indicator will show the corresponding position of the selected grid point and an indication box will show the selected grid point on the screen. (image 6-34)

```
      GEOMETRY DISTORTION

      hor lin left top

             col = 2
             row = 0

        pixels x = 0
               y = 0
      subpixels x = 0
               y = 0
```

Menu 6-79
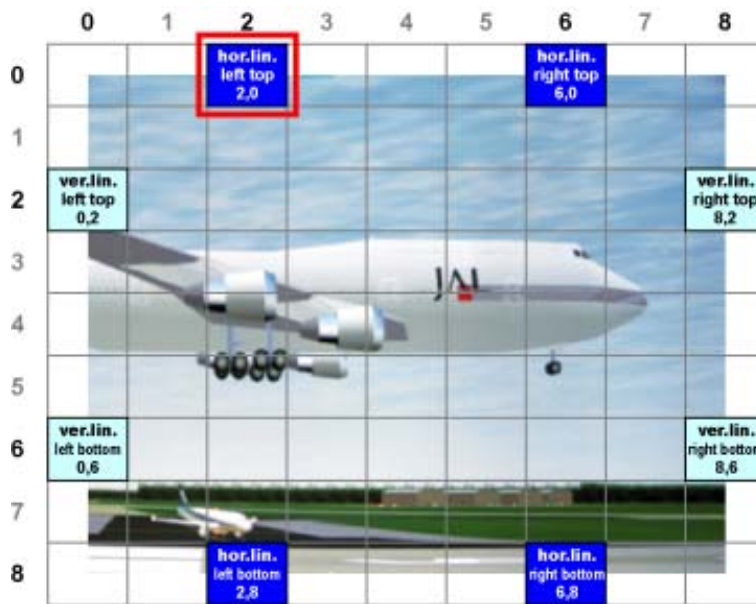
Image 6-34
Fine horizontal or vertical linearity selections

6.5.7.5.3   Fine Horizontal or Vertical Linearity adjustment

How to adjust the Fine Horizontal or Vertical Linearity ?

We assume *hor lin left* top is selected.

1. Push the cursor key ↑ or ↓ to highlight *pixel x = 0.* (menu 6-80)

2. Push the cursor key ← or → to shift the selected grid point in a horizontal way.

3. Repeat step 1 to 2 for the Fine *hor lin left bottom* selection.

   This will result in a fine horizontal linearity adjustment (Follow this procedure in a similar way to perform a fine vertical linearity adjustment). (image 6-35)

4. Use the subpixel adjustments to fine shift the selected grid point.

5. Continue with the Fine Bow Linearity adjustment or press **EXIT** to return to the *Guided Geometry Map*.

```
    GEOMETRY DISTORTION

   hor lin left top

        col = 2
        row = 0

   pixels x = 0
        y = 0

   subpixels x = 0
        y = 0
```
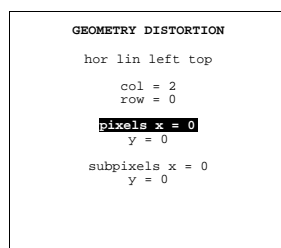
Menu 6-80
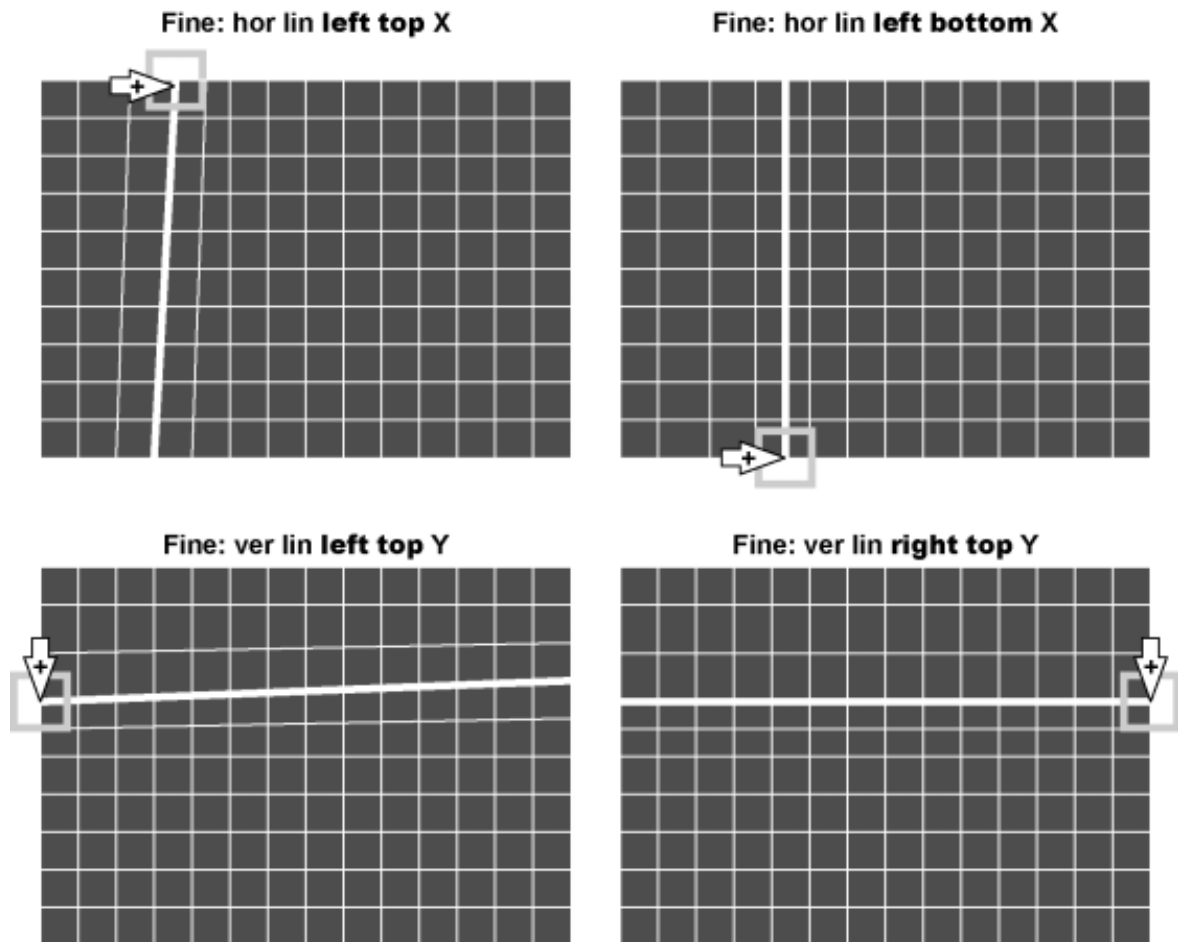
Image 6-35
Fine horizontal or vertical linearity adjustment

6.5.7.5.4 Bow Linearity selection

What can be done ?

Within this menu it is possible to perform a fine bow correction on the projected image.

How to select the Bow Linearity ?

1. Push the cursor key ↑ or ↓ to highlight the Fine selection. (menu 6-81)

2. Press **ENTER** to scroll through the available Fine selections until *bow lin* is displayed. (menu 6-82)

3. Push the cursor key ← or → to select the desired bow linearity point.

   The COL & ROW indicator will show the corresponding position of the selected grid point and an indication box will show the selected grid point on the screen. (image 6-36)
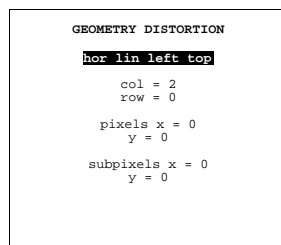
Menu 6-81
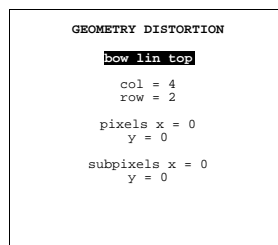
Menu 6-82
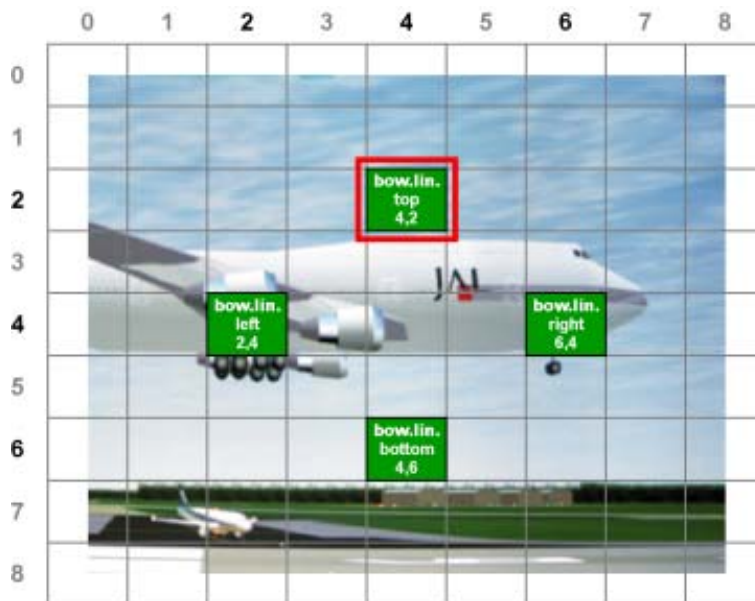
Image 6-36
Fine bow linearity selections

6.5.7.5.5 Bow Linearity adjustment

How to adjust the Bow Linearity ?

We assume *bow top* is selected.

1. Push the cursor key ↑ or ↓ to highlight *pixel y = 0.* (menu 6-83)

2. Push the cursor key ← or → to shift the selected grid point in a vertical way.

   This will result in a fine bow correction on the projected image (Follow this procedure in a similar way to apply a fine bow correction on any desired bow linearity selection). (image 6-37)

3. Use the subpixel adjustments to fine shift the selected grid point.

4. Continue with the Fine Quadrant adjustment or press **EXIT** to return to the *Guided Geometry Map*.


```
        GEOMETRY DISTORTION

           bow lin top

            col = 4
            row = 2

       pixels x = 0
            y = 0

     subpixels x = 0
            y = 0
```
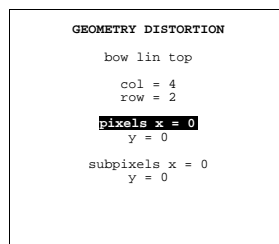
Menu 6-83
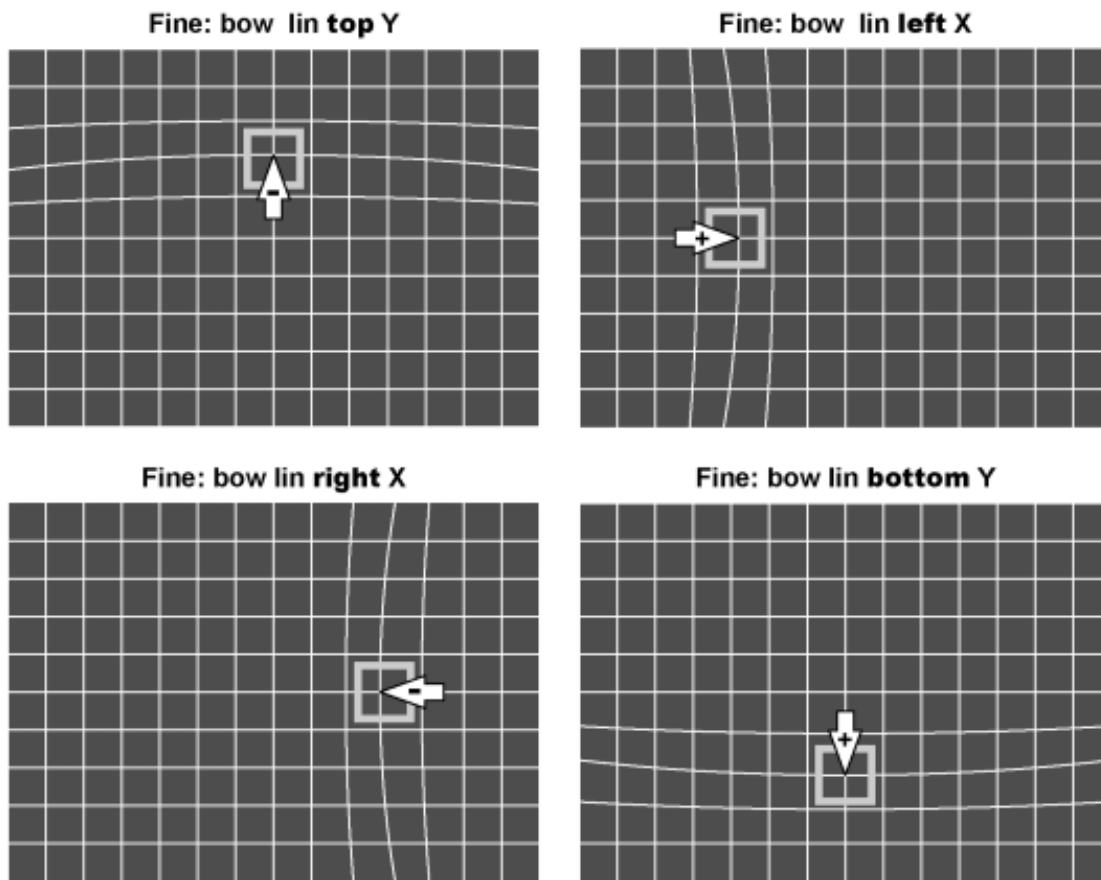
Image 6-37
Fine bow linearity adjustments

6.5.7.5.6 Quadrant selection

What can be done ?

Within this menu it is possible to perform a fine adjustment within a selected quadrant.

How to select the Quadrants ?

1. Push the cursor key ↑ or ↓ to highlight the Fine selection. (menu 6-84)

2. Press **ENTER** to scroll through the available Fine selections until *quadrant* is displayed. (menu 6-85)

3. Push the cursor key ← or → to select the desired quadrant point.

   The COL & ROW indicator will show the corresponding position of the selected grid point and an indication box will show the selected grid point on the screen. (image 6-38)

```
        GEOMETRY DISTORTION

          bow lin top

            col = 4
            row = 2

        pixels x = 0
               y = 0

     subpixels x = 0
               y = 0
```

```
        GEOMETRY DISTORTION

        quadrant left top

            col = 2
            row = 2

        pixels x = 0
               y = 0

     subpixels x = 0
               y = 0
```
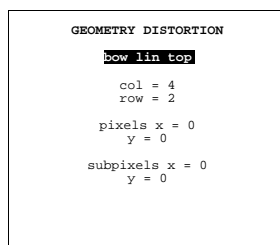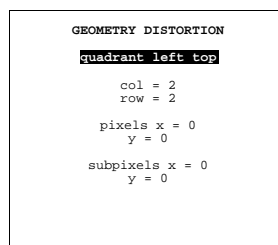
Menu 6-84   Menu 6-85
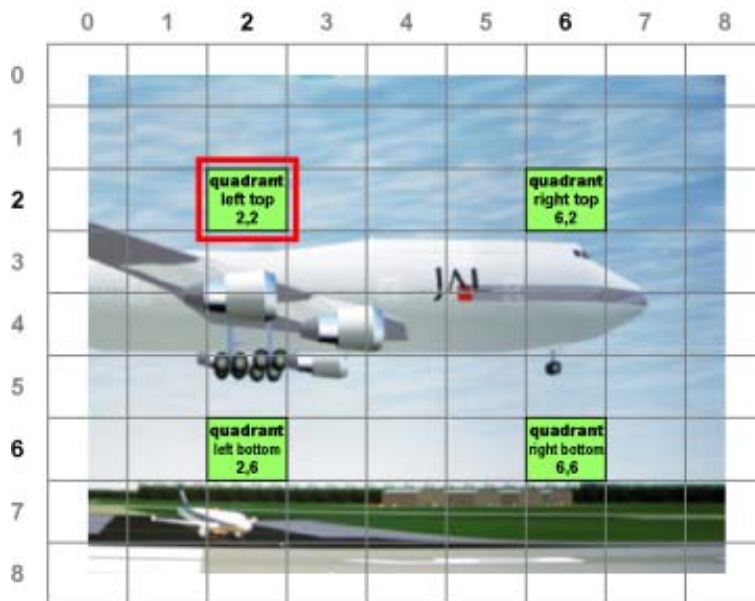
Image 6-38
Fine quadrant selections

6.5.7.5.7 Quadrant adjustment

How to adjust Quadrants ?

We assume *quadrant top left* is selected.

1. Push the cursor key ↑ or ↓ to highlight *pixel Y = 0.* (menu 6-86)

2. Push the cursor key ← or → to shift the selected grid point in a vertical way.

   This will result in a fine adjustment within the selected quadrant (Follow this procedure in a similar way to apply a fine adjustment on any desired quadrant). (image 6-39)

3. Use the subpixel adjustments to fine shift the selected grid point.

4. Continue with the Fine Quadrant adjustment or press **EXIT** to return to the *Guided Geometry Map*.
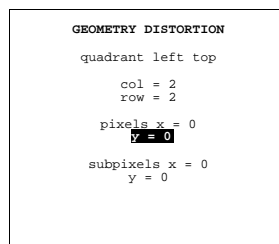
Menu 6-86
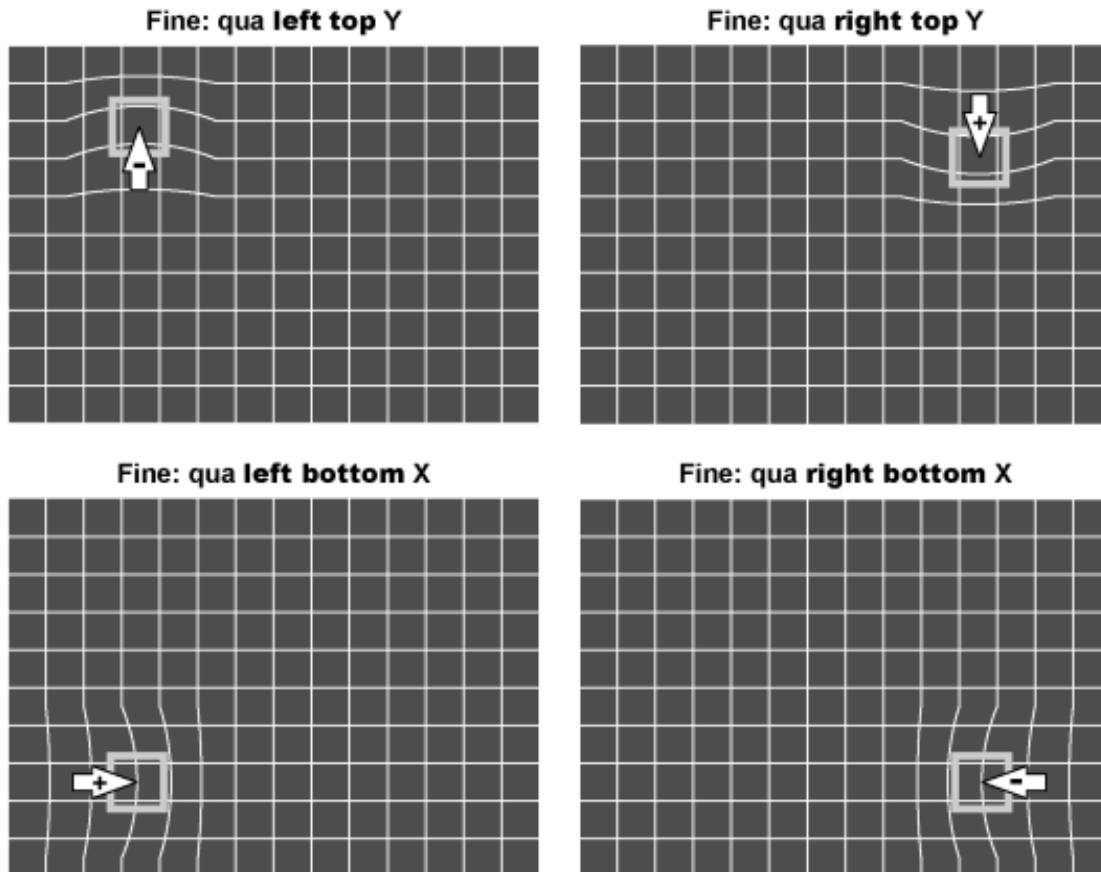
Image 6-39
Fine quadrant adjustments

6.5.7.5.8 Local selection

What can be done ?

Within this menu it is possible to smooth away bumps and irregularities within the selected local zone of the projected image.

How to select the Local grid points ?

1. Push the cursor key ↑ or ↓ to highlight the Fine selection. (menu 6-87)

2. Press **ENTER** to scroll through the available Fine selections until *local* is displayed.

   See menu 6-88.

3. Push the cursor key ↑ or ↓ to select col. (menu 6-89)

4. Push the cursor key ← or → to scroll through all available local grid points within this row.

   An indication box will show the selected local grid point on the screen (Follow this procedure in a similar way to select any desired local zone). (image 6-40)


```
    GEOMETRY DISTORTION

   quadrant left top

        col = 2
        row = 2

      pixels x = 0
            y = 0

   subpixels x = 0
            y = 0
```

Menu 6-87

```
    GEOMETRY DISTORTION

        local

        col = 1
        row = 0

      pixels x = 0
            y = 0

   subpixels x = 0
            y = 0
```

Menu 6-88

```
    GEOMETRY DISTORTION

        local

        col = 1
        row = 0

      pixels x = 0
            y = 0

   subpixels x = 0
            y = 0
```

Menu 6-89

Image 6-40
Fine local grid point selections

6.5.7.5.9   Local adjustment

How to adjust the Local grid points ?

1. Push the cursor key ↑ or ↓ to select *pixel x = 0* in the *Geometry Distortion* menu. (menu 6-90)

2. Push the cursor key ← or → to coarse shift the selected grid point in a horizontal way.

   This will result in a fine adjustment within the selected local zone (Follow this procedure in a similar way to apply a fine adjustment on any desired local zone). (image 6-41)

3. Use the subpixel adjustments to fine shift the selected grid point.

4. When finishing the Local grid point adjustment press **EXIT** to return to the *Guided Geometry Map*.

5. Press **EXIT** to return to the *Edit* menu.

```
     GEOMETRY DISTORTION

           local

          col = 1
          row = 0

     pixels x = 0
            y = 0

     subpixels x = 0
             y = 0
```
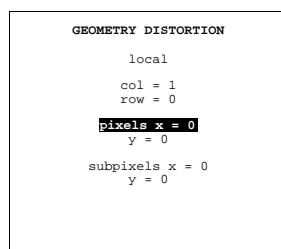
Menu 6-90
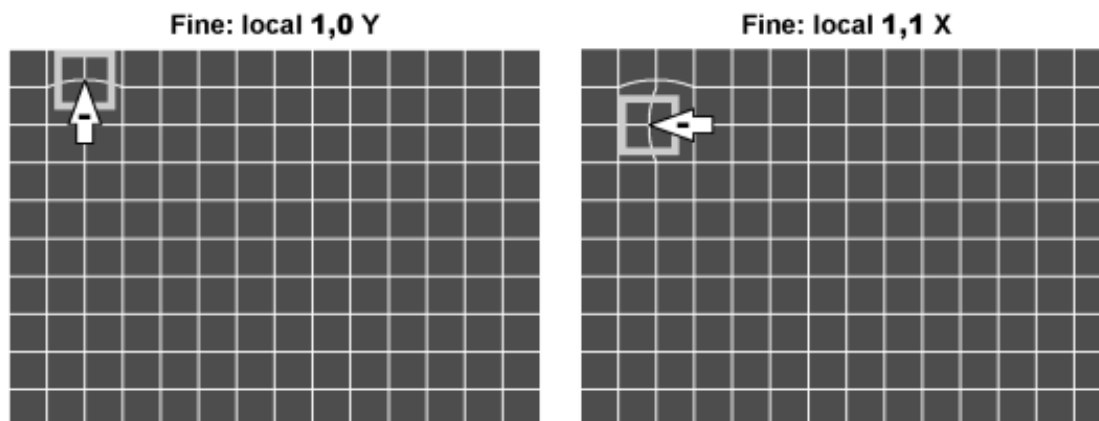
Image 6-41
Fine local adjustments

6.5.7.6   Shift

What can be done with the Shift adjustment ?

With Shift adjustment it is possible to shift the whole image.

How to Start up Shift adjustment ?

1. Push the cursor key ↑ or ↓ to highlight *Shift* in the *Edit* menu. (menu 6-91)

2. Press **ENTER** to select.

    The *Geometry Distortion* menu will be displayed. (menu 6-92)

```
        GUIDED GEOMETRY MAP

              COARSE
             LINEARITY
               FINE
              SHIFT
          TRANSPORT DELAY
        BLANKING/SOFT EDGE

               RESET


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

Menu 6-91

```
        GEOMETRY DISTORTION

               shift




          pixels x = 0
                 y = 0

        subpixels x = 0
                  y = 0
```

Menu 6-92

How to use the Shift adjustment ?

1. Push the cursor key ↑ or ↓ to select *Pixel x = 0* in the *Geometry Distortion* menu. (menu 6-93)

2. Push the cursor key ← or → to shift the whole image in a horizontal way.

3. Push the cursor key ↑ or ↓ to *Pixel y = 0* in the *Geometry Distortion* menu. (menu 6-94)

4. Push the cursor key ← or → to shift the whole image in a vertical way.

5. Use the subpixel selections to fine shift the whole image.

6. Press **EXIT** to return to the *Guided Geometry Map* menu.

```
        GEOMETRY DISTORTION

               shift



          pixels x = 0
                 y = 0

        subpixels x = 0
                  y = 0
```

Menu 6-93

```
        GEOMETRY DISTORTION

               shift



          pixels x = 0
                 y = 0

        subpixels x = 0
                  y = 0
```

Menu 6-94

6.5.7.7   Transport Delay

What can be done with the Transport Delay

The first image data the projector receives from the Image Generator is the start of the first active line. However when a top side bow pre-distortion is used, the first image data the projector needs is the image information that is halfway that first active line, to gather all this information before projecting it on the screen, an adjustable Transport Delay is applied on the received image data.
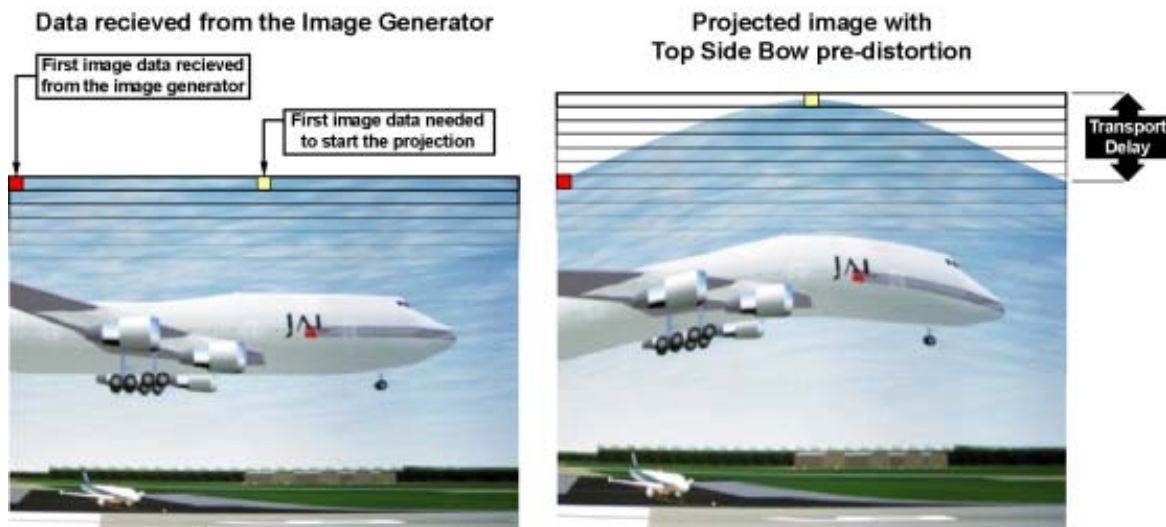
Image 6-42
Transport Delay basic principle

How to Start up the Transport Delay ?

1. Push the cursor key ↑ or ↓ to highlight *Transport Delay* in the *Edit* menu. (menu 6-95)

2. Press **ENTER** to select.

    The *Transport Delay* menu will be displayed. (menu 6-96)

```
         GUIDED GEOMETRY MAP

               COARSE
              LINEARITY
               FINE
               SHIFT
          TRANSPORT DELAY
        BLANKING/SOFT EDGE

               RESET


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

```
           TRANSPORT DELAY

            MODE [AUTOMATIC]

        TRANSPORT DELAY = 168




           Select with ↑ or ↓
              then <ENTER>
           <EXIT> to return
```
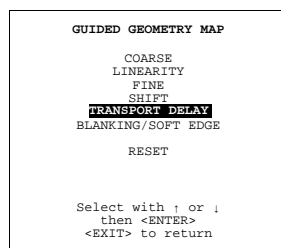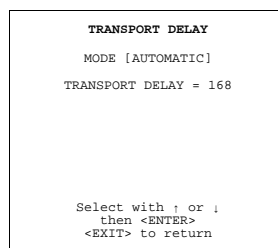
Menu 6-95   Menu 6-96

> **In a set up with 1 projector skip the following adjustment procedure and always leave the Transport Delay in the default automatic mode.**

How to adjust the Transport Delay ?

The following procedure is described for a system with 3 projectors, apply the same guidelines for a multi-projector set up.

1. Make sure the 3 projectors are set to the default [AUTOMATIC] Transport Delay mode. (menu 6-97)

    Each projector will automatically correct the Transport Delay to a certain value, e.g.:

Projector #	Automatic Transport Delay
Projector 1	200
Projector 2	250
Projector 3	190

2. Leave the projector with the maximum value on [AUTOMATIC], in this case projector 2 with an Automatic Transport Delay of 250.

3. On Projector 1, push the cursor key to highlight *Mode* in the *Transport Delay* menu. (menu 6-98)

4. Press **ENTER** to toggle from [AUTOMATIC] to [MANUAL]. (menu 6-99)

5. Push the cursor key ↑ or ↓ to highlight *Transport Delay*. (menu 6-100)

6. Push the → cursor key to set the Transport Delay to the maximum value in the set up, in this case set the Transport Delay manually to 250.

7. Repeat step 3 to 6 for projector 3.

8. Press **EXIT** to return to the *Guided Geometry Map* menu.

```
       TRANSPORT DELAY

    MODE [AUTOMATIC]

    TRANSPORT DELAY = 168




        Select with ↑ or ↓
          then <ENTER>
         <EXIT> to return
```
Menu 6-97

```
       TRANSPORT DELAY

    MODE [AUTOMATIC]

    TRANSPORT DELAY = 168




        Select with ↑ or ↓
          then <ENTER>
         <EXIT> to return
```
Menu 6-98

```
       TRANSPORT DELAY

    MODE [MANUAL]

    TRANSPORT DELAY = 168




        Select with ↑ or ↓
          then <ENTER>
         <EXIT> to return
```
Menu 6-99
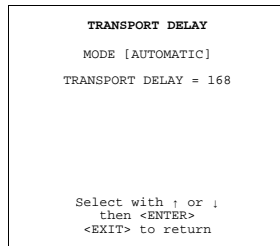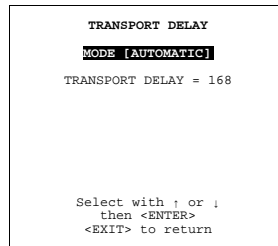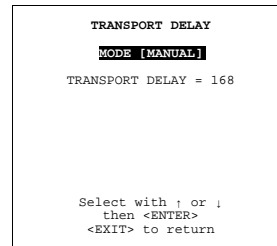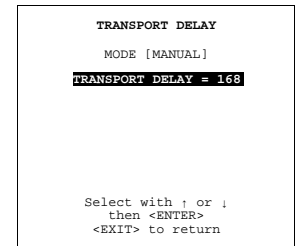
```
       TRANSPORT DELAY

    MODE [MANUAL]

    TRANSPORT DELAY = 168




        Select with ↑ or ↓
          then <ENTER>
         <EXIT> to return
```
Menu 6-100

6.5.7.8 Blanking

Overview

- Blanking Start up
- Blanking Active On
- Blanking Shape Start up
- Blanking Shape selections
- Blanking adjustment

6.5.7.8.1 Blanking Start up

What can be done with Blanking ?

Blanking adjustments affect only the edges of the projected image and are used to frame the projected image on the screen and to hide unwanted image information (or noise).

How to Start up Blanking ?

1. Push the cursor key ↑ or ↓ to highlight *Blanking/Soft Edge* within the *Guided Geometry map* menu. (menu 6-101)

2. Press **ENTER** to select.

    The *Blanking/Soft Edge* menu will be displayed. (menu 6-102)

```
     GUIDED GEOMETRY MAP

          COARSE
         LINEARITY
           FINE
           SHIFT
       TRANSPORT DELAY
     BLANKING/SOFT EDGE

           RESET


      Select with ↑ or ↓
         then <ENTER>
        <EXIT> to return
```
Menu 6-101
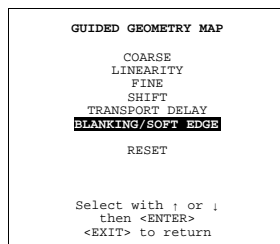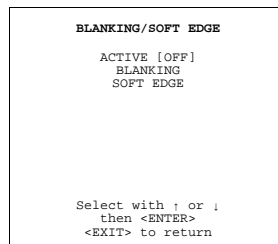
```
     BLANKING/SOFT EDGE

        ACTIVE [OFF]
          BLANKING
         SOFT EDGE




      Select with ↑ or ↓
         then <ENTER>
        <EXIT> to return
```
Menu 6-102

6.5.7.8.2 Blanking Active On

How to switch Blanking Active On ?

1. Push the cursor key ↑ or ↓ to highlight *Active* in the *Blanking/Soft Edge* menu. (menu 6-103)

2. Press **ENTER** to switch *Active* [OFF] to [ON].

   See menu 6-104.

   In the default setting Active is set to [OFF].

[OFF]	Blanking is disabled.
[ON]	Blanking is enabled.

```
      BLANKING/SOFT EDGE

        ACTIVE [OFF]
          BLANKING
          SOFT EDGE




       Select with ↑ or ↓
          then <ENTER>
        <EXIT> to return
```
Menu 6-103
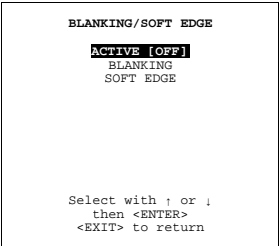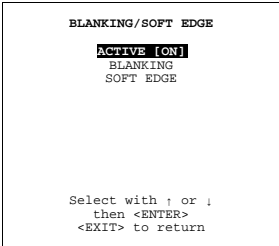
```
      BLANKING/SOFT EDGE

        ACTIVE [ON]
          BLANKING
          SOFT EDGE




       Select with ↑ or ↓
          then <ENTER>
        <EXIT> to return
```
Menu 6-104

6.5.7.8.3 Blanking Shape Start up

How to Start Up the Blanking Shape menu ?

1. Push the cursor key ↑ or ↓ to highlight *Blanking* in the *Blanking/Soft Edge* menu. (menu 6-105)

2. Press **ENTER** to select.

   The *Shape* menu will be displayed. (menu 6-106)

```
      BLANKING/SOFT EDGE

        ACTIVE [ON]
          BLANKING
          SOFT EDGE




       Select with ↑ or ↓
          then <ENTER>
        <EXIT> to return
```
Menu 6-105
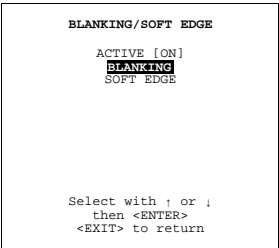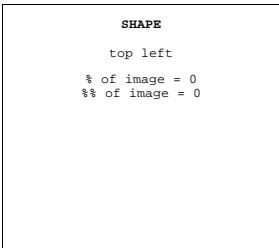
```
            SHAPE

           top left

        % of image = 0
        %% of image = 0
```
Menu 6-106

6.5.7.8.4 Blanking Shape selections

How to use the Blanking Shape selection ?

1. Push the cursor key ↑ or ↓ to highlight the first item in the *Shape* menu. (menu 6-107)

2. Press **ENTER** to scroll through the available coarse shape selections: top, bottom, left and right. (image 6-43)

3. Push the cursor key ← or → to scroll through the available fine shape selections.image 6-43
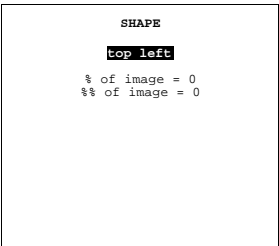
```
            SHAPE

           top left

        % of image = 0
        %% of image = 0
```
Menu 6-107
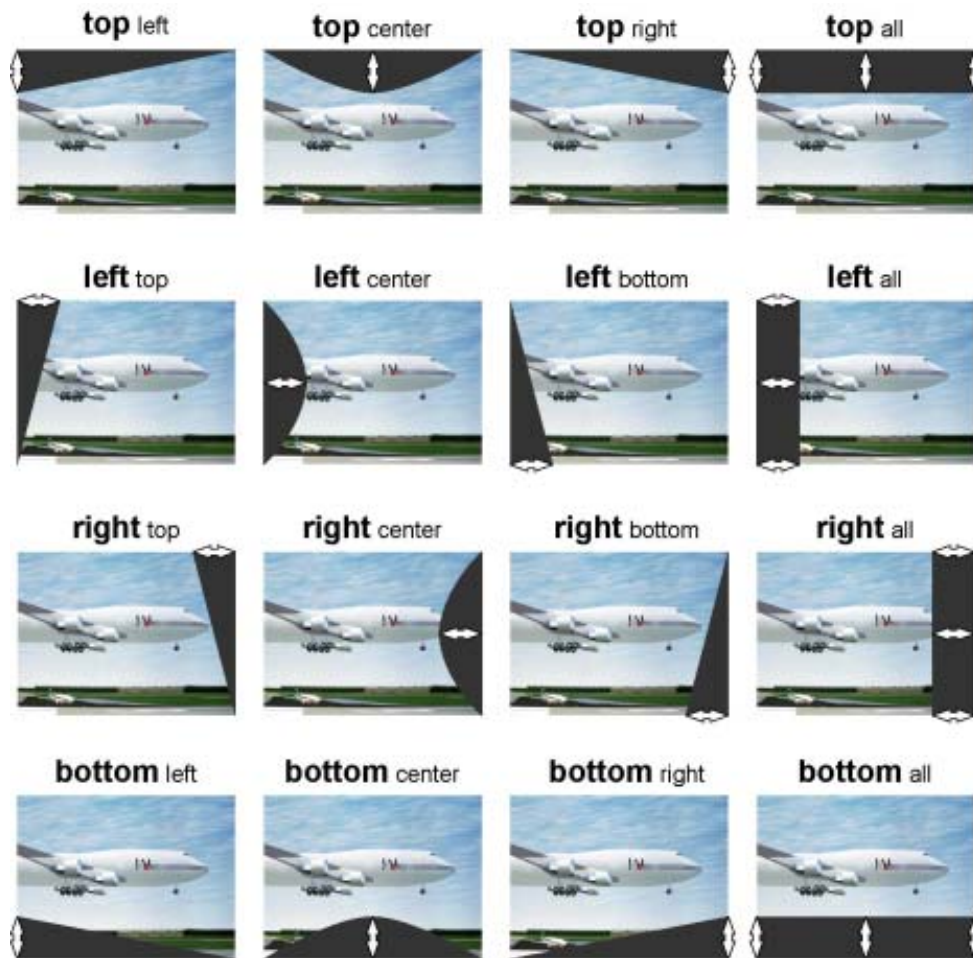
Image 6-43
Shape selections

6.5.7.8.5 Blanking adjustment

What is % of image and %% of image adjustment ?

% of image	Coarse adjustment, this will shift the blending zone in steps of 1/100 of the total image shape.
%% of image	Fine adjustment, this will shift the blending zone in steps of 1/10000 of the total image shape.

How to adjust the Blanking Shape ?

We assume *top left* is selected.

1. Push the cursor key ↑ or ↓ to select % of image. (menu 6-108)

2. Push the cursor key ← or → to black out the left top side of the image (Follow this procedure in a similar way to apply a desired blanking adjustment)image 6-43.

3. Use the %% of image adjustments to fine shift the selected grid point.

4. When finished press **EXIT** to return to the *Blanking/Soft Edge* menu.

5. Press **EXIT** to return to the *Guided Geometry Map* menu.

6. Press **EXIT** to return to the *Edit* menu.

```
              SHAPE
           top left
    % of image = 0
    %% of image = 0
```
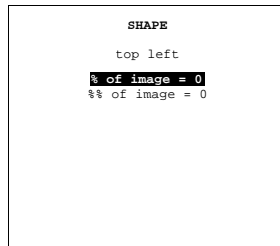
Menu 6-108

6.5.7.9 Electronic Soft Edge (Optional)

Whenever Soft Edge is mentioned in this chapter this always refer to Electronic Soft Edge.

The Electronic Soft Edge is only available as an option.

Overview

- Introduction
- Preparations
- Soft Edge Start up
- Soft Edge Active On
- Soft Edge Shape Start up
- Soft Edge Shape selections
- Basic Soft Edge Shape Set up
- Soft Edge Width Start up
- Soft Edge Width selections
- Basic Soft Edge Width Set up

6.5.7.9.1 Introduction

When available ?

The Electronic Soft Edge is only available as an option, some menu items will be grayed out when this option is not installed, the shape menu can always be used to blank out unwanted image information.

Why Soft Edge ?

When working in a multichannel setup the WARP 6™ and its extensive Soft Edge possibilities enable an image blending that gives the appearance of a single view, thus achieving realistic immersion for the majority of simulation and virtual reality applications.
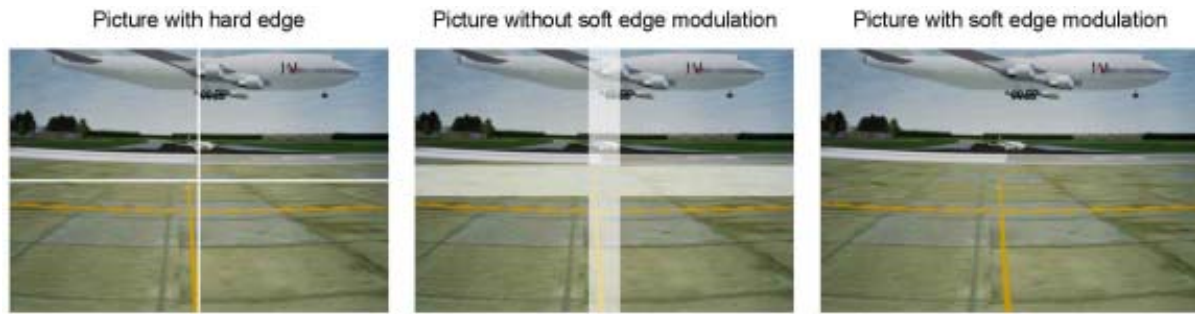
Image 6-44
WhySoft Edge ?

What is the Basic Principal of Soft Edge ?

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.
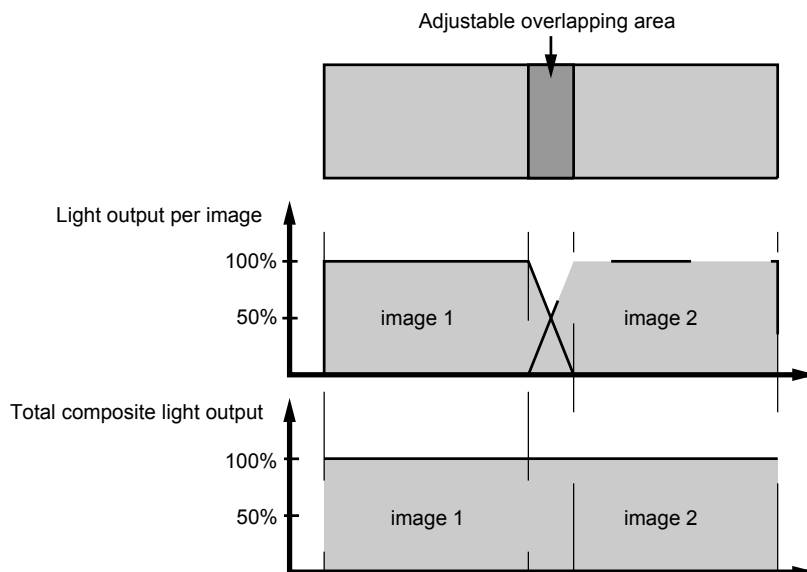
Image 6-45
Soft Edge Basic Principle

6.5.7.9.2   Preparations

Soft Edge Preparations

To ensure proper soft edge adjustment, be sure that the following adjustments are done perfectly on all projectors:
- Convergence (Electronic Convergence).
- Geometry
- Color Matching (Color Temperature, Input Balance, Gamma)

> **When projecting on a cylindrical screen, the adjustments mentioned above can be done by using the projector adjustments in combination with Polaris.**
>
> **Polaris is a Test Pattern Generator software that can generate a user-defined test pattern that is used to align projection systems. It also has the ability to generate predefined patterns for standardized projection systems. The software is developed to run on IRIX (Order numbers for Polaris: R9898300 for a 6 months license, R9893301 for a full license).**

6.5.7.9.3   Soft Edge Start up

How to Start up Soft Edge ?

1. Push the cursor key ↑ or ↓ to highlight *Blanking/Soft Edge* menu. (menu 6-109)

2. Press **ENTER** to select.

   The *Blanking/Soft Edge* menu will be displayed. (menu 6-110)

```
     GUIDED GEOMETRY MAP

          COARSE
         LINEARITY
           FINE
           SHIFT
      TRANSPORT DELAY
    BLANKING/SOFT EDGE

           RESET


     Select with ↑ or ↓
        then <ENTER>
      <EXIT> to return
```
Menu 6-109
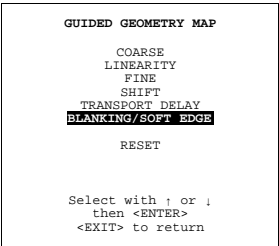
```
     BLANKING/SOFT EDGE

        ACTIVE [OFF]
          BLANKING
         SOFT EDGE




     Select with ↑ or ↓
        then <ENTER>
      <EXIT> to return
```
Menu 6-110

6.5.7.9.4   Soft Edge Active On

How to switch Soft Edge Active On ?

1. Push the cursor key ↑ or ↓ to highlight *Active* in the *Blanking/Soft Edge* menu. (menu 6-111)

2. Press **ENTER** to switch Soft Edge *Active* [OFF] to [ON]. (menu 6-112)

   In the default setting Active is set to [OFF].

[OFF]	Soft Edge is disabled
[ON]	Soft Edge is enabled

```
     BLANKING/SOFT EDGE

        ACTIVE [OFF]
          BLANKING
         SOFT EDGE




     Select with ↑ or ↓
        then <ENTER>
      <EXIT> to return
```
Menu 6-111
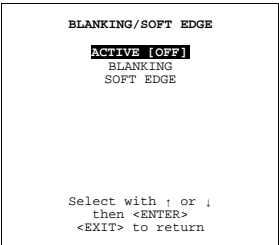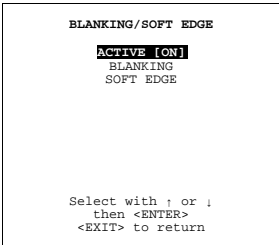
```
     BLANKING/SOFT EDGE

        ACTIVE [ON]
          BLANKING
         SOFT EDGE




     Select with ↑ or ↓
        then <ENTER>
      <EXIT> to return
```
Menu 6-112

6.5.7.9.5   Soft Edge Shape Start up

What can be done with the Soft Edge Shape menu ?

Before creating a soft edge, an overlap zone is created, the shape of this overlap zone is fully adjustable, within this menu the shape of the blending zone is aligned with the shape of the overlap zone.

How to Start Up the Soft Edge Shape menu ?

1. Push the cursor key ↑ or ↓ to highlight *Shape* in the *Blanking/Soft Edge* menu. (menu 6-113)

2. Press **ENTER** to select.

   The *Shape* menu will be displayed. (menu 6-114)

```
        BLANKING/SOFT EDGE

           ACTIVE [ON]
           BLANKING
           SOFT EDGE




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

Menu 6-113

```
              SHAPE

            top left

        % of image = 0
       %% of image = 0
```
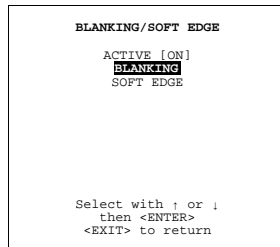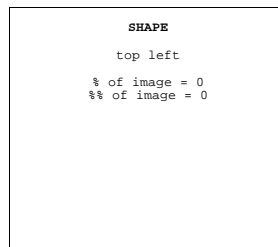
Menu 6-114

6.5.7.9.6 Soft Edge Shape selections

How the use the Soft Edge Shape selection ?

1. Push the cursor key ↑ or ↓ to highlight the first item in the *Shape* menu. (menu 6-115)

2. Press **ENTER** to scroll through the available coarse shape selections: top, bottom, left and right. (image 6-46)

3. Push the cursor key ← or → to scroll through the available fine shape selections.image 6-46

```
              SHAPE

            top left

        % of image = 0
       %% of image = 0
```
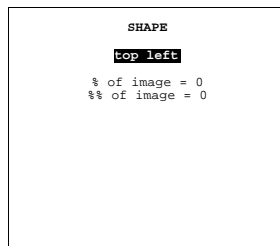
Menu 6-115
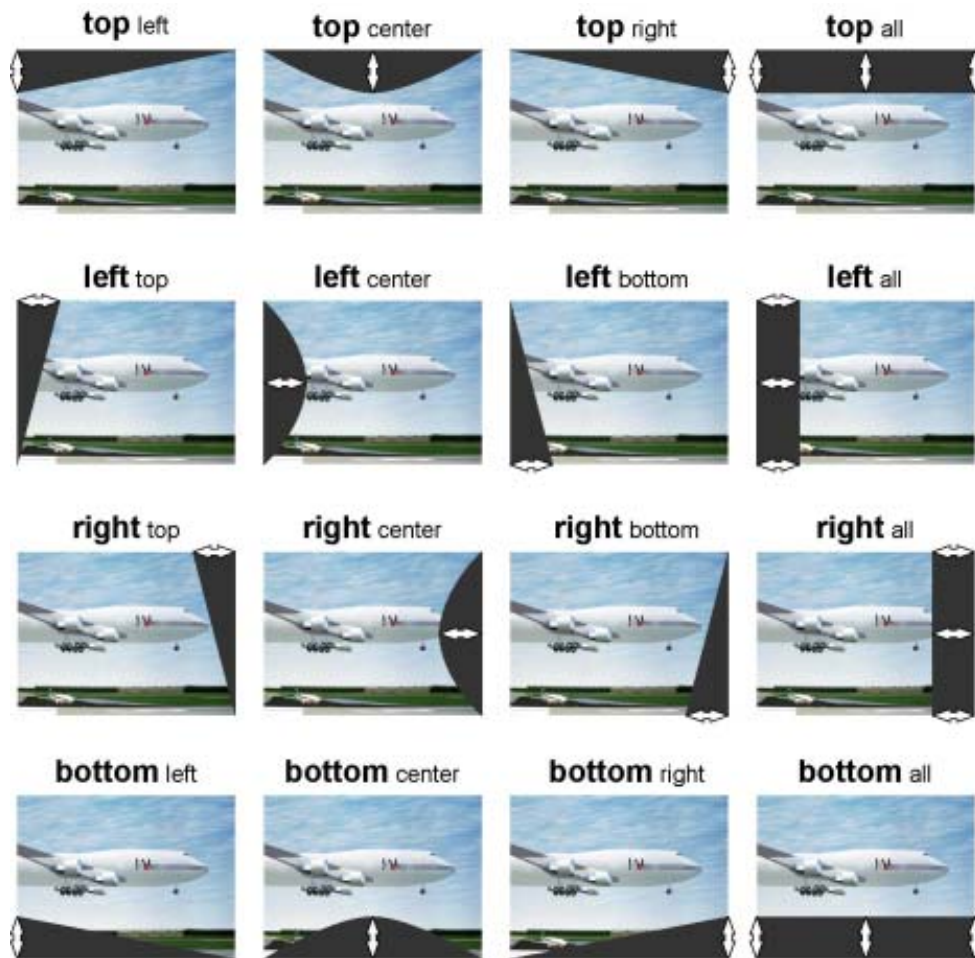
Image 6-46
Shape selections

6.5.7.9.7 Basic Soft Edge Shape Set up

> The following procedures will adjust the Shape of a basic Electronic Soft Edge set up with 2 projectors and a 12.5 % overlap zone, apply the same procedures for every Electronic Soft Edge you want to create in a multi-projector system.
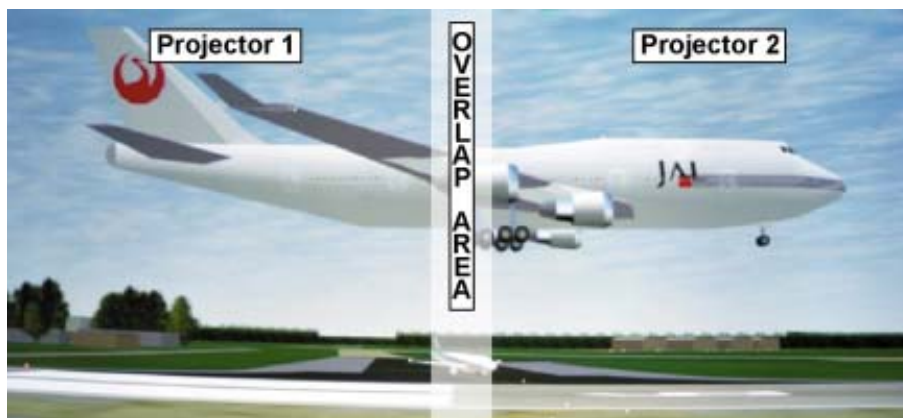
Image 6-47
Basic Electronic Soft Edge set up

> Be sure the Soft Edge Active mode is set to [ON] for both projectors.

Setting up the Shape for Projector 1

1. Use the combination of **ENTER** and the cursor key ← or → to select *right all*. (menu 6-116)

2. Push the cursor key ↑ or ↓ to select % of image. (menu 6-117)

3. Push the cursor key ← or → to coincide the right side of the image of Projector 1 with the center of the overlap area. (image 6-48)

4. Use the subpixel selections for fine adjustments.

```
            SHAPE
        right all
    % of image = 0
    %% of image = 0
```

Menu 6-116

```
            SHAPE
        right all
    % of image = 0
    %% of image = 0
```
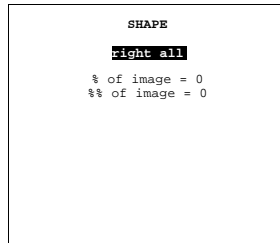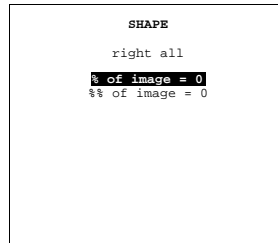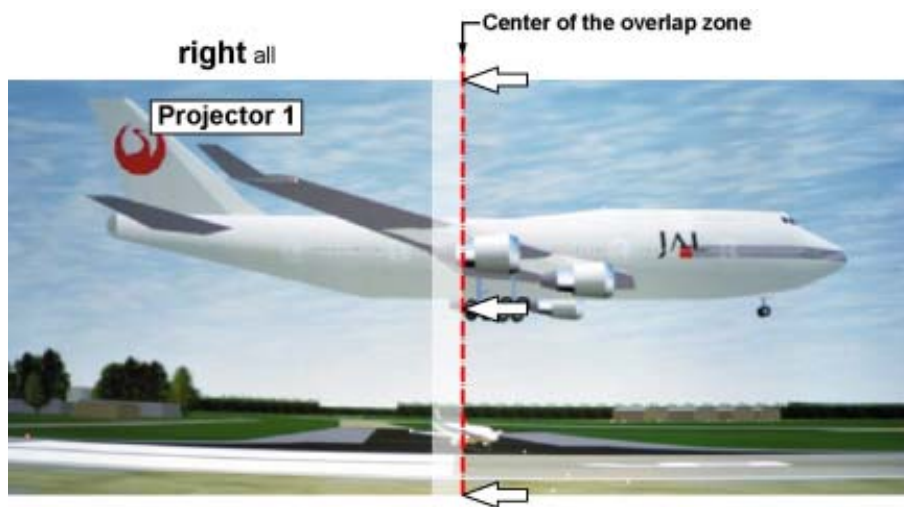
Menu 6-117

Image 6-48
Basic Shape set up for Projector 1

Setting up the Shape for Projector 2

1. Use the combination of **ENTER** and the cursor key ← or → to select *left all*. (menu 6-118)

2. Push the cursor key ↑ or ↓ to select % of image. (menu 6-119)

3. Push the cursor key ← or → to coincide the left side of the image of Projector 2 with the center of the overlap area. (image 6-49)

4. Use the subpixel selections for fine adjustments.

```
            SHAPE
        left all
    % of image = 0
    %% of image = 0
```

Menu 6-118

```
            SHAPE
        left all
    % of image = 0
    %% of image = 0
```
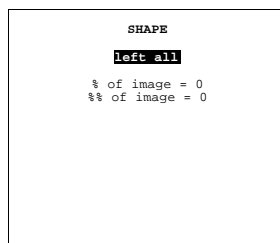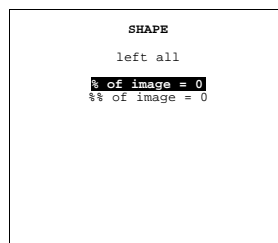
Menu 6-119
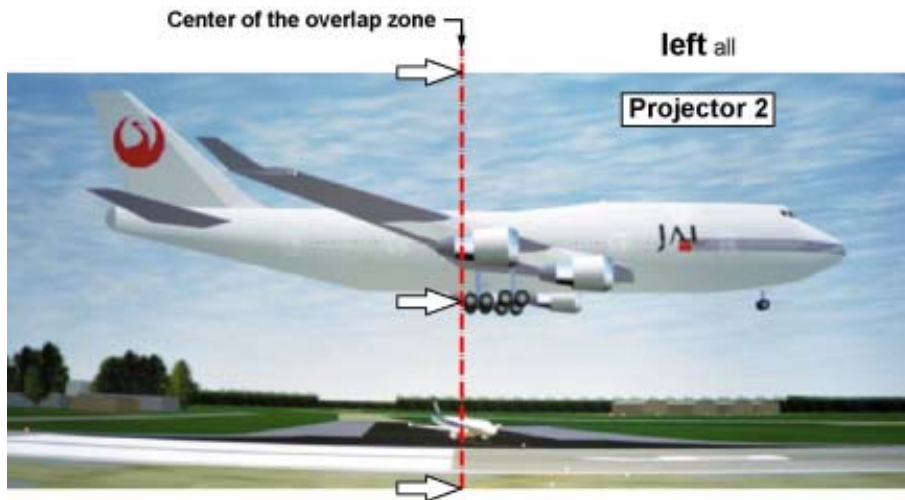
Image 6-49
Basic Shape set up for Projector 2

6.5.7.9.8 Soft Edge Width Start up

> When Soft Edge is not installed on the projector or when the Soft Edge *Active* mode is set to [OFF] this menu item will be grayed out.

What can be done with the Soft Edge Width menu ?

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

How to Start up the Soft Edge Width menu ?

1. Push the cursor key ↑ or ↓ to highlight *Soft Edge*. (menu 6-120)
2. Press **ENTER** to select.

   The *Soft Edge Width* barscale, displaying the width in % (Range from 00.0 to 25.5 %), will be displayed. (image 6-50)

```
        BLANKING/SOFT EDGE

           ACTIVE [ON]
            BLANKING
            SOFT EDGE




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

Menu 6-120
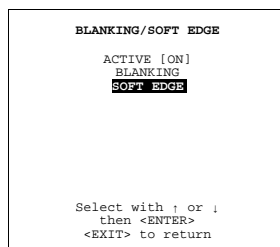
```
  SOFT EDGE WIDTH TOP

  |+++++++++++++++++++|  0.0
  [===█===============]
```
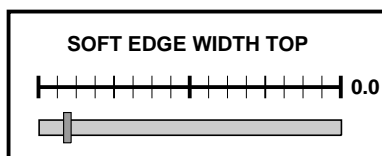
Image 6-50
The Soft Edge Width barscale

6.5.7.9.9 Soft Edge Width selections

How to use the Soft Edge Width selection ?

1. Press **ENTER** to scroll through all available Soft Edge Width selections: top, bottom, left and right. (image 6-51)
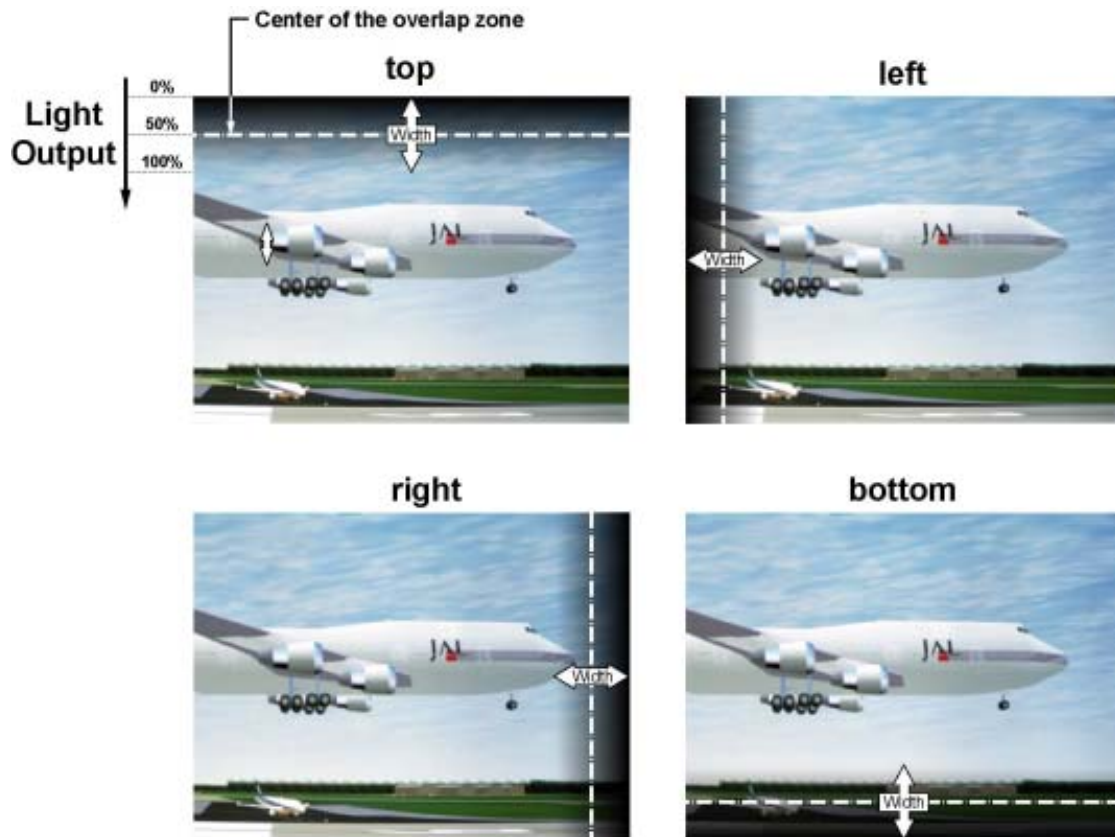
Image 6-51
Soft Edge Width selections

6.5.7.9.10 Basic Soft Edge Width Set up

Setting up the Width for Projector 1 ?

1. Press **ENTER** until *Right* is selected. (image 6-52)

2. Push the cursor key ← or → to adjust the *right width* until it matches or exceeds the width of the overlap zone. (image 6-53)

3. Press **EXIT** to return to the *Blanking/Soft Edge* menu.

4. Press **EXIT** to return to the *Guided Geometry Map* menu.

5. Press **EXIT** to return to the *Edit* menu.
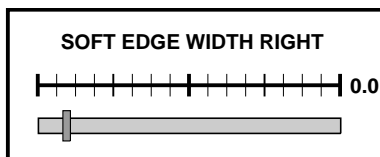
Image 6-52
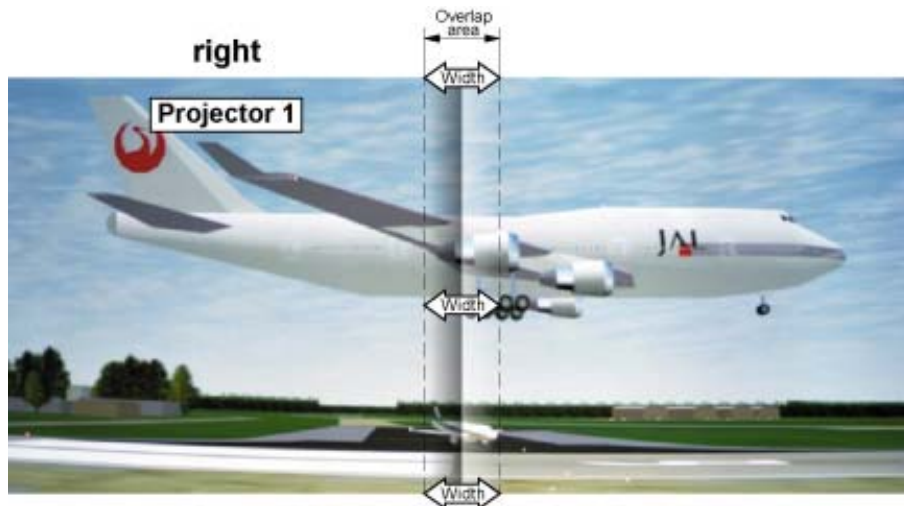
Image 6-53
Basic Width set up for Projector 1

Setting up the Width for Projector 2 ?

1. Press **ENTER** until *Left* is selected. (image 6-54)

2. Push the cursor key ← or → to adjust the *left width* until it matches the right width of projector 1. (image 6-55)

3. Press **EXIT** to return to the *Blanking/Soft Edge* menu.

4. Press **EXIT** to return to the *Guided Geometry Map* menu.

5. Press **EXIT** to return to the *Edit* menu.


```
┌─────────────────────────────────┐
│  SOFT EDGE WIDTH LEFT            │
│                                  │
│  ├┼┼┼┼┼┼┼┼┼┼┼┼┼┤ 0.0             │
│                                  │
│  ┌──┬───────────────────────┐    │
│  │▒▒│                       │    │
│  └──┴───────────────────────┘    │
└─────────────────────────────────┘
```
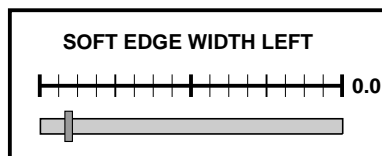
Image 6-54

Image 6-55
Basic Width set up for Projector 2

6.5.7.10 Reset

Overview

- Start up
- Coarse Reset
- Linearity Reset
- Reset Fine
- Reset Blanking/Soft Edge
- Reset All

What can be done with Reset ?

With the Reset menu item, a selection, or all Geometry and Soft Edge adjustment values, can be reset to their default values.

6.5.7.10.1 Start up

How to Start up Reset ?

1. Push the cursor key ↑ or ↓ to highlight *Reset* in the *Edit* menu. (menu 6-121)

2. Press **ENTER** to select.

   The *Geometry Reset* menu will be displayed. (menu 6-122)

```
    GUIDED GEOMETRY MAP

          COARSE
         LINEARITY
           FINE
           SHIFT
      TRANSPORT DELAY
    BLANKING/SOFT EDGE

          RESET


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

Menu 6-121

```
      GEOMETRY RESET

          COARSE
         LINEARITY
           FINE
    BLANKING/SOFT EDGE
           ALL



     Select with ↑ or ↓
        then <ENTER>
      <EXIT> to return
```
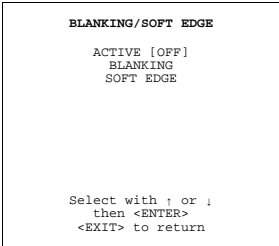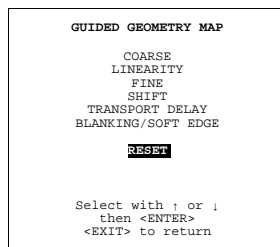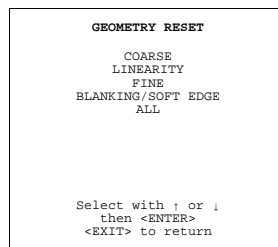
Menu 6-122

6.5.7.10.2 Coarse Reset

How to reset the Coarse adjustments ?

1. Push the cursor key ↑ or ↓ to highlight *Coarse* within the *Geometry Reset* menu. (menu 6-123)

2. Press **ENTER** to select.

   A warning will be displayed . (menu 6-124)

3. Press **ENTER** to reset the Coarse adjustments
   Or,
   Press **EXIT** to return to the Geometry Reset menu.

```
      GEOMETRY RESET

          COARSE
         LINEARITY
           FINE
    BLANKING/SOFT EDGE
           ALL



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

Menu 6-123

```
        WARNING

      This action will
     reset the selected
     geometry settings!
       are you sure?




      <ENTER> to confirm
      <EXIT> to return
```
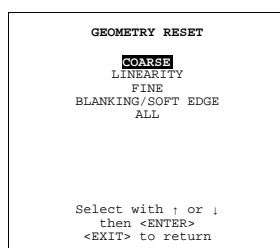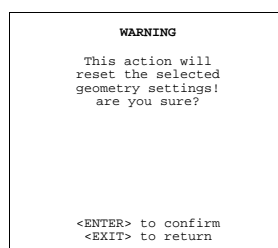
Menu 6-124

6.5.7.10.3 Linearity Reset

How to reset the Linearity adjustments ?

1. Push the cursor key ↑ or ↓ to highlight *Linearity* within the *Geometry Reset* menu. (menu 6-125)

2. Press **ENTER** to select.

    A warning will be displayed . (menu 6-126)

3. Press **ENTER** to reset the Linearity adjustments
    Or,
    Press **EXIT** to return to the Geometry Reset menu.

```
        GEOMETRY RESET

           COARSE
         LINEARITY
            FINE
      BLANKING/SOFT EDGE
            ALL




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

```
           WARNING

        This action will
       reset the selected
       geometry settings!
         are you sure?




        <ENTER> to confirm
         <EXIT> to return
```
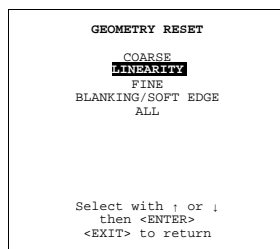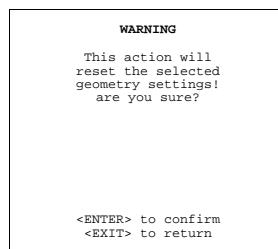
Menu 6-125   Menu 6-126

6.5.7.10.4 Reset Fine

How to reset the Fine adjustments ?

1. Push the cursor key ↑ or ↓ to highlight *Fine* within the *Geometry Reset* menu. (menu 6-127)

2. Press **ENTER** to select.

    A warning will be displayed . (menu 6-128)

3. Press **ENTER** to reset the Fine adjustments
    Or,
    Press **EXIT** to return to the Geometry Reset menu.

```
        GEOMETRY RESET

           COARSE
         LINEARITY
            FINE
      BLANKING/SOFT EDGE
            ALL




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

```
           WARNING

        This action will
       reset the selected
       geometry settings!
         are you sure?




        <ENTER> to confirm
         <EXIT> to return
```
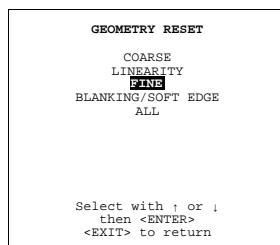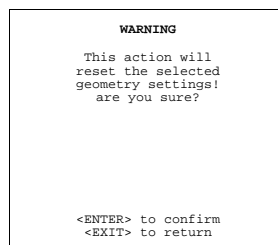
Menu 6-127   Menu 6-128

6.5.7.10.5 Reset Blanking/Soft Edge

How to reset the Blanking/Soft Edge adjustments ?

1. Push the cursor key ↑ or ↓ to highlight *Blanking/Soft Edge* within the *Geometry Reset* menu. (menu 6-129)

2. Press **ENTER** to select.

    The *Soft Edge Reset* menu will be displayed. (menu 6-130)

3. Push the cursor key ↑ or ↓ to highlight *Soft Edge* or *All* in the Soft Edge Reset menu.

Soft Edge	Only the Soft Edge Width values will be reset to their default values.
All	All Blanking/Soft Edge values will be reset to their default values.

4. Press **ENTER** to select the desired Blanking/Soft Edge Reset value.

   A warning will be displayed . (menu 6-131)

5. Press **ENTER** to reset the selected Blanking/Soft Edge adjustments
   Or,
   Press **EXIT** to return to the Geometry Reset menu.

```
┌─────────────────────────────┐   ┌─────────────────────────────┐   ┌─────────────────────────────┐
│       GEOMETRY RESET        │   │       SOFT EDGE RESET       │   │           WARNING           │
│                             │   │                             │   │                             │
│          COARSE             │   │          SOFT EDGE          │   │       This action will      │
│         LINEARITY           │   │            ALL              │   │     reset the selected      │
│           FINE              │   │                             │   │     geometry settings!      │
│   ▌BLANKING/SOFT EDGE▐      │   │                             │   │       are you sure?         │
│           ALL               │   │                             │   │                             │
│                             │   │                             │   │                             │
│                             │   │                             │   │                             │
│                             │   │                             │   │                             │
│      Select with ↑ or ↓     │   │      Select with ↑ or ↓     │   │                             │
│        then <ENTER>         │   │        then <ENTER>         │   │      <ENTER> to confirm     │
│       <EXIT> to return      │   │       <EXIT> to return      │   │       <EXIT> to return      │
└─────────────────────────────┘   └─────────────────────────────┘   └─────────────────────────────┘
```
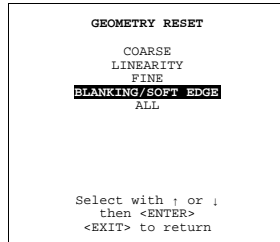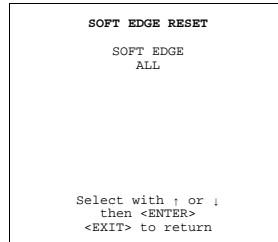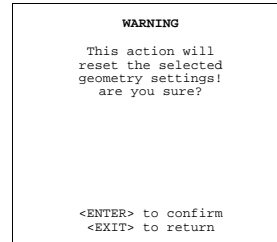
Menu 6-129   Menu 6-130   Menu 6-131

6.5.7.10.6 Reset All

How to reset the All geometry adjustments ?

1. Push the cursor key ↑ or ↓ to highlight *All* within the *Geometry Reset* menu. (menu 6-132)

2. Press **ENTER** to select.

   A warning will be displayed . (menu 6-133)

3. Press **ENTER** to reset the All geometry adjustments
   Or,
   Press **EXIT** to return to the Geometry Reset menu.

```
┌─────────────────────────────┐   ┌─────────────────────────────┐
│       GEOMETRY RESET        │   │           WARNING           │
│                             │   │                             │
│          COARSE             │   │       This action will      │
│         LINEARITY           │   │     reset the selected      │
│           FINE              │   │     geometry settings!      │
│    BLANKING/SOFT EDGE       │   │       are you sure?         │
│          ▌ALL▐             │   │                             │
│                             │   │                             │
│                             │   │                             │
│                             │   │                             │
│      Select with ↑ or ↓     │   │                             │
│        then <ENTER>         │   │      <ENTER> to confirm     │
│       <EXIT> to return      │   │       <EXIT> to return      │
└─────────────────────────────┘   └─────────────────────────────┘
```
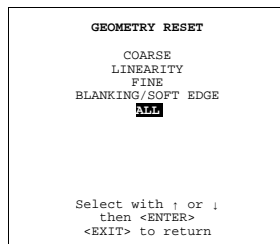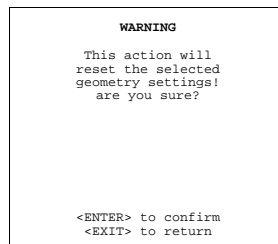
Menu 6-132   Menu 6-133

6.5.8 Rename

Start Up

To change the name of a selected file:

1. Push the cursor key ↑ or ↓ to highlight *Rename*. (menu 6-134)

2. Press **ENTER**.

   The Rename selection menu will be displayed. (menu 6-135)

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, leave in the 'From file name :' area and in the 'To file name :' area. The first character in the 'To file name :' area is highlighted.

```
        GEOMETRY FILES

               LOAD
               EDIT
             RENAME
               COPY
             DELETE




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

Menu 6-134

```
           RENAME FILE

      Filename
      geometry.g01
      t_bowing.t06
      t_bowlin.t02
      t_keyst.t03
      t_nodist.t01
      ----------------------------
      Active file : geometry.g01


        Select with ↑ or ↓ , →
           <ENTER> to accept
           <EXIT> to return
```

Menu 6-135

Changing the characters

1. Push the cursor keys ← or → to select the desired character. (menu 6-136)
   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:
          geometry.g01
         To file name :
             demo.g01




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

Menu 6-136

6.5.9 Copy

Start Up

To copy the name of a selected file :

1. Push the cursor key ↑ or ↓ to highlight *Copy*. (menu 6-137)

2. Press **ENTER**.

    The Copy selection menu will be displayed. (menu 6-138)

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, leave in the 'From file name :' area and in the 'To file name :' area. The first character in the 'To file name :' area is highlighted.

```
          GEOMETRY FILES

                LOAD
                EDIT
              RENAME
              COPY
              DELETE




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

Menu 6-137

```
              COPY FILE

      Filename
      geometry.g01
      t_bowing.t06
      t_bowlin.t02
      t_keyst.t03
      t_nodist.t01
      -----------------------------
      Active file : geometry.g01


         Select with ↑ or ↓ , →
            <ENTER> to accept
            <EXIT> to return
```

Menu 6-138

Changing the characters

1. Push the cursor key ← or → to select the desired character. (menu 6-139)
    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

         From file name:
          geometry.g01
         To file name :
            demo.g01




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

Menu 6-139

6.5.10 Delete

How to delete a Geometry file?

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

1. Push the cursor key ↑ or ↓ to highlight *Delete*. (menu 6-140)

2. Press **ENTER**.

    The delete selection menu will be displayed. (menu 6-141)

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 name ?" is displayed. (menu 6-142)

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

```
        GEOMETRY FILES

            LOAD
            EDIT
           RENAME
            COPY
           DELETE




      Select with ↑ or ↓
         then <ENTER>
       <EXIT> to return
```
Menu 6-140

```
         DELETE FILE

     Filename
     geometry.g01
     t_bowing.t06
     t_bowlin.t02
     t_keyst.t03
     t_nodist.t01
     --------------------------
     Active file : geometry.g01


     Select with ↑ or ↓ , →
        <ENTER> to accept
        <EXIT> to return
```
Menu 6-141

```
          CONFIRM
        DELETE FILE

        Delete file :
        geometry.g01




      Select with ← or →
    Reprogram with ↑ or ↓
       <ENTER> to confirm
        <EXIT> to return
```
Menu 6-142

6.6 Stereo Options

Overview

- Starting Up Stereo Options
- Stereo Phase
- Invert Stereo
- Master Channel
- Stereo Mode
- Dark Time
- Forced Asynchronous

6.6.1   Starting Up Stereo Options

Only available in Stereo Mode

The Stereo Options menu is only available when the projector is running in Stereo Mode = when a Stereo Source is provided by the IG.

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

How to Start Up Stereo Options?

1. Push the cursor key ↑ or ↓ to highlight *Stereo Options*. (menu 6-143)

2. Press **ENTER** to select.

   The *Stereo Options* menu will be displayed. (menu 6-144)

```
       RANDOM ACCESS
      ADJUSTMENT MODE

        FILE SERVICE
       PICTURE TUNING
          GEOMETRY
       STEREO OPTIONS




      Select with ↑ or ↓
         then <ENTER>
       <EXIT> to return
```
Menu 6-143

```
          STEREO OPTIONS

           STEREO PHASE
         INVERT STEREO [YES]
       MASTER CHANNEL [LEFT]
        STEREO MODE [ACTIVE]
             DARK TIME
     FORCED ASYNCHRONOUS [NO]


            WARNING
     All projectors in the chain
     must have the same setting
      for Asynchronous Mode !
       Select with ↑ or ↓
          then <ENTER>
        <EXIT> to return
```
Menu 6-144

6.6.2   Stereo Phase

What can be done ?

With Stereo Phase it is possible to apply an adjustable time delay on the stereo emitter signal.
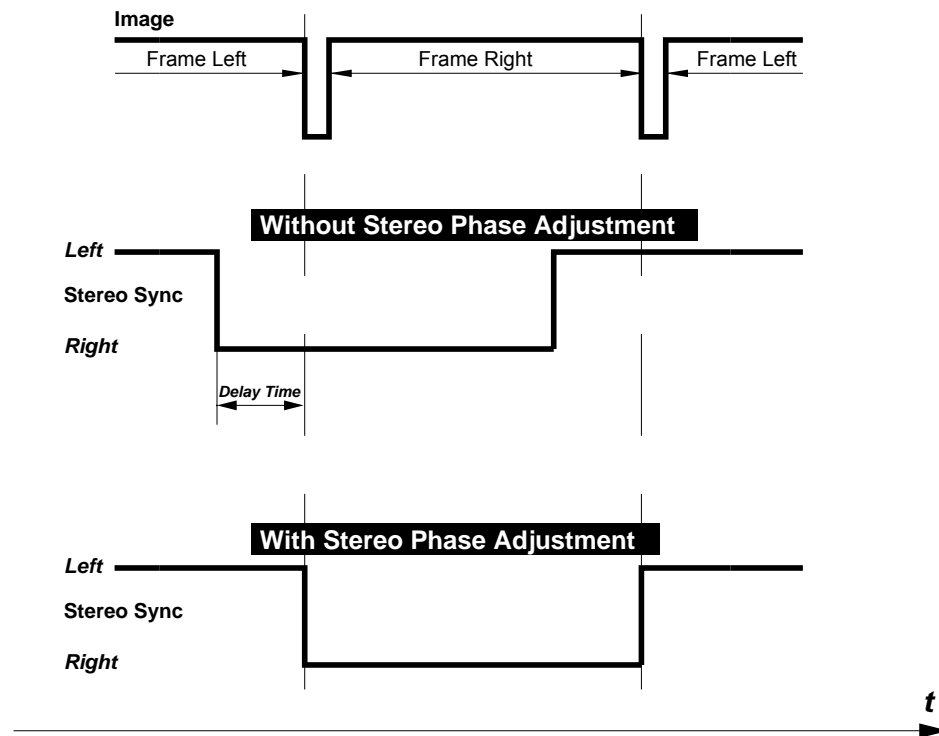
Image 6-56
Stereo Phase Adjustment

How to adjust Stereo Phase?

1. Push the cursor key ↑ or ↓ to highlight *Stereo Phase*. (menu 6-145)

2. Press **ENTER** to select.

   The Stereo Phase bar scale, displaying the Stereo Phase Adjustment Steps (1 Step = 400 nanoseconds, Range from 0 to 1500), will be displayed. (image 6-57)

3. Push the cursor key ← or → for a fine adjustment of 1step, or push the ↑ or ↓ keys for a coarse adjustment of 100 steps.
   Note: Adjustment is possible until a full frame delay is reached.

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

```
        STEREO OPTIONS

        STEREO PHASE
      INVERT STEREO [YES]
    MASTER CHANNEL [LEFT]
     STEREO MODE [ACTIVE]
         DARK TIME
   FORCED ASYNCHRONOUS [NO]


          WARNING
   All projectors in the chain
   must have the same setting
    for Asynchronous Mode !
     Select with ↑ or ↓
        then <ENTER>
      <EXIT> to return
```
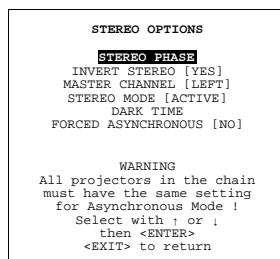
Menu 6-145
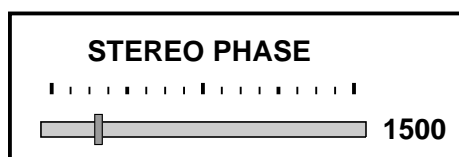
Image 6-57
The Stereo Phase bar scale

6.6.3   Invert Stereo

What can be done?

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

> **We advise to set *Invert Stereo* ON, one frame delay is inherent to DLP technology.**
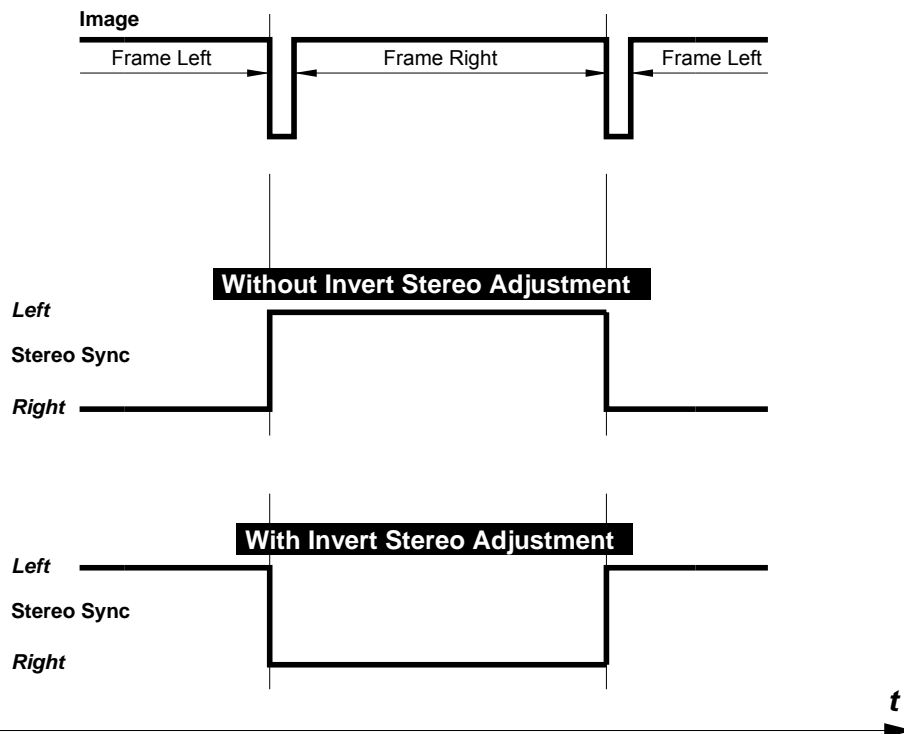
Image 6-58
Invert Stereo Adjustment

How to activate Invert Stereo?

1. Push the cursor key ↑ or ↓ to highlight *Invert Stereo*. (menu 6-146)

2. Press **ENTER** to toggle between [YES] or [NO].

3. Press **EXIT** to return to the *Stereo Options* menu.

```
            STEREO OPTIONS

           STEREO PHASE
      INVERT STEREO [YES]
     MASTER CHANNEL [LEFT]
     STEREO MODE [ACTIVE]
            DARK TIME
     FORCED ASYNCHRONOUS [NO]


              WARNING
    All projectors in the chain
     must have the same setting
      for Asynchronous Mode !
       Select with ↑ or ↓
           then <ENTER>
        <EXIT> to return
```
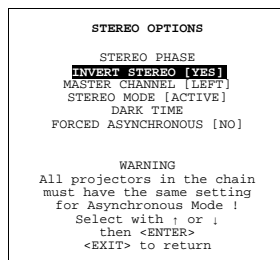
Menu 6-146

6.6.4 Master Channel

What can be done?

The Stereo IG will always provide a left + right image to the projector.

It is possible to force the projector into mono mode, by setting the Stereo Mode to Passive, only the left or the right image is displayed,

Use the *Master Channel* menu to select either the *Left* or the *Right* image, this Master Channel will be displayed when the Stereo Mode is set to Passive.

How to Select Master Channel?

1. Push the cursor key ↑ or ↓ to highlight *Master Channel*. (menu 6-147)

2. Press **ENTER** to toggle between [LEFT] or [RIGHT].

3. Press **EXIT** to return to the *Stereo Options* menu.

```
        STEREO OPTIONS

         STEREO PHASE
      INVERT STEREO [YES]
     MASTER CHANNEL [LEFT]
      STEREO MODE [ACTIVE]
           DARK TIME
    FORCED ASYNCHRONOUS [NO]


            WARNING
   All projectors in the chain
    must have the same setting
     for Asynchronous Mode !
      Select with ↑ or ↓
          then <ENTER>
        <EXIT> to return
```

Menu 6-147

6.6.5   Stereo Mode

What can be done?

Stereo Mode is default set to *Active*, a Stereo Image is projected when provided by the IG.

However it is possible to display only the left or right image of the Stereo Image Pair, this is done by setting the *Stereo Mode* to *Passive*.

Either the left or right image is projected, according to the Master Channel Selection.

How to Set Up Stereo Mode?

1. Push the cursor key ↑ or ↓ to highlight *Master Channel.* (menu 6-148)

2. Press **ENTER** to toggle between [ACTIVE] or [PASSIVE].

ACTIVE	The Projector will run in the default Stereo Mode, a stereo image is projected.
PASSIVE	The Projector will only display the left or right image of the Stereo Image, according to the Master Channel Selection, either de left or right image is projected.

3. Press **EXIT** to return to the *Stereo Options* menu.

```
        STEREO OPTIONS

         STEREO PHASE
      INVERT STEREO [YES]
     MASTER CHANNEL [LEFT]
      STEREO MODE [ACTIVE]
           DARK TIME
    FORCED ASYNCHRONOUS [NO]


            WARNING
   All projectors in the chain
    must have the same setting
     for Asynchronous Mode !
      Select with ↑ or ↓
          then <ENTER>
        <EXIT> to return
```

Menu 6-148

6.6.6   Dark Time

What can be done?

The principle of a pair of Stereo Glasses is quite simple:

1. When the left image is projected, the left shutter is open, allowing the left eye to see the left image. The shutter for the right eye is closed.

2. During the blanking period, before projecting the right image, the left shutter is closed and the right shutter will open.

3. The right image is projected, the right shutter is open, allowing the right eye to see the right image.

The ideal situation is when the opening/closing times of these shutters are in sync with the blanking time of DLP mirrors.

Opening + Closing = Blanking Time
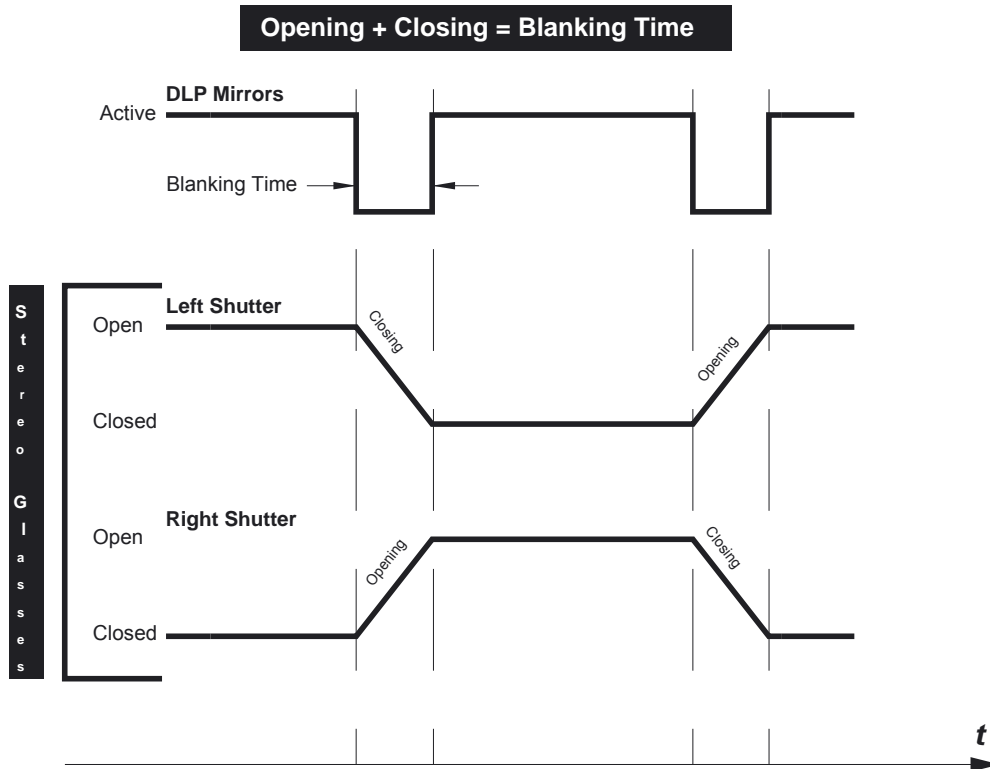
Image 6-59
Opening/closing times of the shutters in sync with the blanking time

Closing these shutters too late and/or opening too early will cause Cross-Talk.

Opening Too Early and/or Closing Too Late = Cross Talk
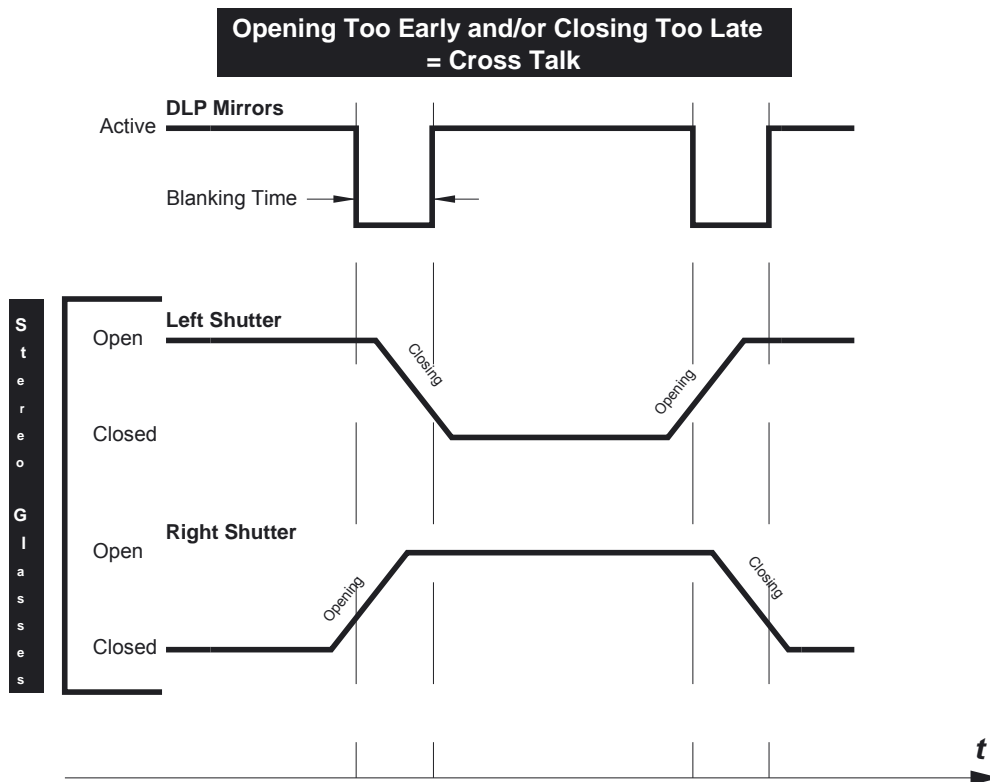
Image 6-60
Shutters closing too late and/or opening too early cause Cross-Talk

Closing these shutters too quickly and/or opening too slowly will cause Color Artifacts.

**Opening Too Late and/or Closing Too Early
= Color Artifacts**
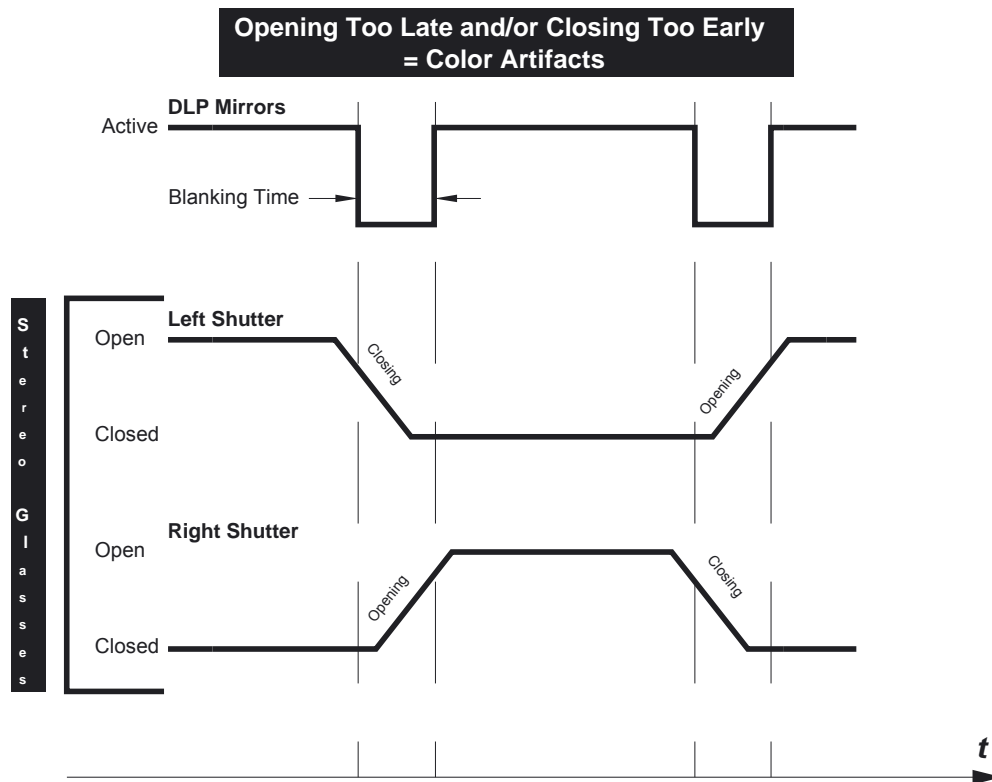
Image 6-61
Shutters closing too early and/or opening too late cause Color Artifacts

Adjusting the Dark Time will allow an easy synchronization of the Blanking Period of the DLP mirrors with the opening/closing time of the shutters in the Stereo Glasses.

How to Adjust Dark Time?

1. Push the cursor key ↑ or ↓ to highlight *Dark Time.* (menu 6-149)

2. Press **ENTER** to select.

   The Dark Time bar scale, displaying the width in % (Range from 0 to 100 %), will be displayed. (image 6-62)

3. Change the Dark Time Value by pushing the cursor key ← or → until the desired value is reached.
   Note: *By default Dark Time is set to maximum (100%).*

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

```
         STEREO OPTIONS

         STEREO PHASE
       INVERT STEREO [YES]
     MASTER CHANNEL [LEFT]
      STEREO MODE [ACTIVE]
           DARK TIME
    FORCED ASYNCHRONOUS [NO]


            WARNING
   All projectors in the chain
   must have the same setting
    for Asynchronous Mode !
      Select with ↑ or ↓
         then <ENTER>
       <EXIT> to return
```
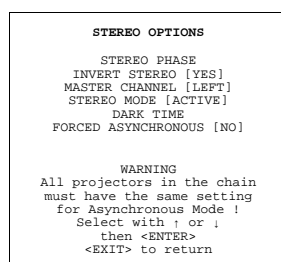
Menu 6-149

Image 6-62
The Dark Time bar scale

6.6.7 Forced Asynchronous

What is Synchronous Mode?

When the IG provides a signal within the range from 96Hz to 108Hz, the projector will run Synchronous with the IG, this will give the best result when projecting moving images.

What is Asynchronous Mode?

If the IG provides a signal that is not in the Synchronous Range (=96Hz to 108Hz), the projector will automatically run in Asynchronous Mode, the image will be displayed by the projector at 104Hz.

> **If the input is a Stereo Source and the frequency is in a range from 48Hz to 60 Hz, the image will be displayed by the projector at 104Hz.**

What is Forced Asynchronous Mode (What can be done)?

When projecting a non-moving image (e.g. CAD design) with an IG providing a signal within the range from 96Hz to 108Hz, the best result is achieved by projecting the non-moving image in the Asynchronous Mode.

By using the Forced Asynchronous menu, the projector is forced into the Asynchronous Mode, giving the best result when projecting an non-moving image.

How to Activate Forced Asynchronous?

1. Push the cursor key ↑ or ↓ to highlight *Forced Asynchronous.* (menu 6-150)

2. Press **ENTER** to toggle between [Yes] or [No].

Yes	The Projector will always run in Asynchronous Mode, projecting the image at 104Hz.
No	When the IG provides a signal within the range from 96Hz to 108Hz, the projector will run Synchronous with the IG, if not the Projector will run in Asynchronous Mode (=104Hz).

3. Press **EXIT** to return to the *Stereo Options* menu*.*

```
        STEREO OPTIONS

        STEREO PHASE
     INVERT STEREO [YES]
   MASTER CHANNEL [LEFT]
    STEREO MODE [ACTIVE]
          DARK TIME
  FORCED ASYNCHRONOUS [NO]


         WARNING
  All projectors in the chain
  must have the same setting
   for Asynchronous Mode !
     Select with ↑ or ↓
        then <ENTER>
      <EXIT> to return
```
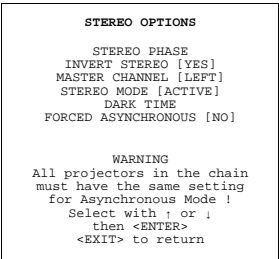
Menu 6-150

7. INSTALLATION MODE

Overview

- Installation Mode Overview
- Starting Up Installation
- Input Slots
- No Signal
- Lens Adjustment
- Changing the Menu Position
- 800–Peripheral
- Configuration
- OSD Color
- Internal Patterns

7.1 Installation Mode Overview

Installation Mode Overview

- Input Slots
- No Signal
  - Color [Blue/Black]
  - Shutdown [On/Off]
  - Shutdown Time
- Lens
  - Zoom/Focus
  - Shift
- Menu Position [Center/Edges]
- 800 Peripheral
  - Output Module [Standard/5 Cable]
  - Infrared [PPM/RC5]
- Configuration
  - Front /Table
  - Front / Ceiling
  - Rear / Table
  - Rear / Ceiling
- OSD Color
  - Red
  - Green
  - Yellow
- Internal Patterns
  - Outline
  - Hatch
  - Color Bars
  - Multiburst
  - Checker Board
  - Purity
  - Page Char
  - Alpha-Numeric Chars
  - Character Sets

7.2 Starting Up Installation

How to Start Up Installation?

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

   The *Adjustment Mode* menu will be displayed.

2. Push the cursor key ↑ or ↓ to highlight *Installation*. (menu 7-1)

3. Press **ENTER** to select.

   The *Installation* menu will be displayed. (menu 7-2)

```
        ADJUSTMENT MODE

      Select a path from
           below

      RANDOM ACCESS
      INSTALLATION
         SERVICE




          Source 1

      Select with ↑ or ↓
         then <ENTER>
```
Menu 7-1
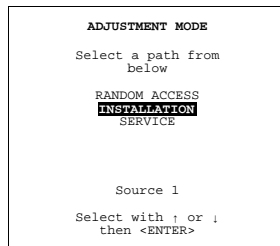
```
         INSTALLATION

        INPUT SLOTS
         NO SIGNAL
            LENS
    MENU POSITION [CENTER]
       800-PERIPHERAL
        CONFIGURATION
          OSD COLOR
      INTERNAL PATTERNS



      Select with ↑ or ↓
         then <ENTER>
       <EXIT> to return
```
Menu 7-2

Overview of the different settings of the Installation menu

- Input slots: to set up the input priority
- No signal: selection of a black or blue background color
- Lens: to adjust the zoom/focus and the horizontal/vertical shift of the lens
- Menu Position: to position the menu (picture settings: contrast, ...) in the center or at the edge of the screen
- 800 Peripheral: to select the type of output module and communication code used in the RCVDS 05
- Configuration: to set the projector configuration settings
- OSD color: to change the color of the highlighted item
- Internal Patterns: selection of different patterns

7.3 Input Slots

What can be done?

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

How to change the Input Slots Settings?

1. Push the cursor key ↑ or ↓ to highlight *Input Slots*. (menu 7-3)

2. Press **ENTER** to select.

   The *Input Slots* menu will be displayed. (menu 7-4)

```
         INSTALLATION

        INPUT SLOTS
         NO SIGNAL
            LENS
    MENU POSITION [CENTER]
       800-PERIPHERAL
        CONFIGURATION
          OSD COLOR
      INTERNAL PATTERNS



      Select with ↑ or ↓
         then <ENTER>
       <EXIT> to return
```
Menu 7-3
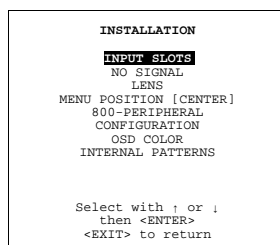
```
          INPUT SLOTS

    SLOT SELECTION [AUTOMATIC]
    X SLOT 1 : RGB - SOG

    - SLOT 2 : DVI




      Select with ↑ or ↓
       <ENTER> to toggle
       <EXIT> to return
```
Menu 7-4

The indication in front of the digit means:

X : Valid Signal connected to the input.

- : No Valid Signal connected to the input.

How to change the Slot Selection?

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

2. Press **ENTER** to toggle between [AUTOMATIC] or [MANUAL].
   Note: *The default setting for the Slot Selector is [AUTOMATIC].*

[AUTOMATIC]	The projector will scan the inputs one by one, if one source is found, this source will be projected, if different sources are found the priority is as follow (Input 1: 5 Cable Input, Input 2: Computer).
[MANUAL]	The user will select the desired input.

Possible results for the fixed inputs (1&2)

Source	Indication
RGB analog	RGB-SS [CS OR HS&VS] : Separate Sync is Composite Sync or Horizontal & Vertical Sync RGB-SOG : Sync On Green
DVI	DVI

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.

7.4   No Signal

Overview

- Starting Up No Signal
- Changing the Background Color
- Changing the Shutdown Setting
- Changing the Shutdown Time Setting

7.4.1   Starting Up No Signal

How to Start Up No Signal?

1. Push the cursor key ↑ or ↓ to highlight *No Signal*. (menu 7-5)

2. Press **ENTER** to select.

   The *No Signal* menu will be displayed. (menu 7-6)

```
        INSTALLATION

        INPUT SLOTS
        NO SIGNAL
           LENS
     MENU POSITION [CENTER]
        800-PERIPHERAL
        CONFIGURATION
          OSD COLOR
       INTERNAL PATTERNS



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

Menu 7-5

```
          NO SIGNAL

        COLOR [BLUE]
       SHUTDOWN [OFF]
     SHUTDOWN TIME 0 MIN




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

Menu 7-6

7.4.2   Changing the Background Color

What can be done?

When no source signal is present a Blue or Black background color will be displayed.

How to Change the Background Color?

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

2. Press **ENTER** to toggle between the [Blue] or [Black] Background Color Setting.

```
              NO SIGNAL

          COLOR [BLUE]
          SHUTDOWN [OFF]
       SHUTDOWN TIME 0 MIN




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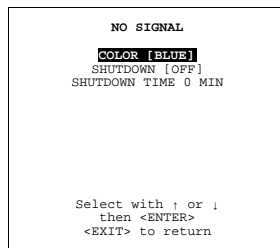
Menu 7-7

7.4.3 Changing the Shutdown Setting

What can be done?

Activating the Shutdown Setting will shut down the projector according to the Shutdown Time Setting.

How to change the Shutdown Setting?

1. Push the cursor key ↑ or ↓ to highlight *Shutdown*. (menu 7-8)

2. Press **ENTER** to toggle the Shutdown Setting [OFF] or [ON].

```
              NO SIGNAL

          COLOR [BLUE]
          SHUTDOWN [OFF]
       SHUTDOWN TIME 0 MIN




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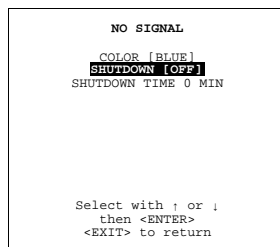
Menu 7-8

7.4.4 Changing the Shutdown Time Setting

In case Shutdown is set to [OFF] this item will be grayed out.

What can be done?

This Shutdown Time can be set between 5 min. and 60 min.

How to Change the Shutdown Time Setting?

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

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

```
              NO SIGNAL

          COLOR [BLUE]
          SHUTDOWN [OFF]
       SHUTDOWN TIME 0 MIN




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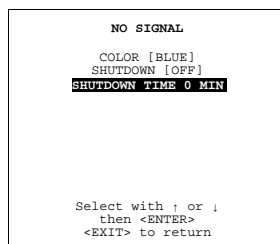
Menu 7-9

7.5 Lens Adjustment

Overview

- Starting Up Lens Adjustment
- Lens Zoom/Focus Adjustment
- Lens Shift Adjustment

7.5.1 Starting Up Lens Adjustment

What can be done?

This will adjust the zoom, focus, horizontal shift and vertical shift settings of the lens.
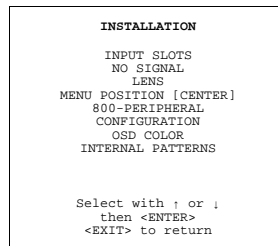
How to Start Up Lens Adjustment?

1. Push the cursor key ↑ or ↓ to highlight *Lens*. (menu 7-10)

2. Press **ENTER** to select.

   The *Lens Adjustment* menu will be displayed. (menu 7-11)

```
            INSTALLATION

           INPUT SLOTS
            NO SIGNAL
              LENS
     MENU POSITION [CENTER]
         800-PERIPHERAL
          CONFIGURATION
            OSD COLOR
        INTERNAL PATTERNS



        Select with ↑ or ↓
          then <ENTER>
        <EXIT> to return
```
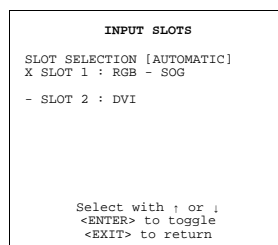
Menu 7-10

```
          LENS ADJUSTMENT

            ZOOM/FOCUS
              SHIFT






        Select with ↑ or ↓
         <ENTER> to select
         <EXIT> to return
```
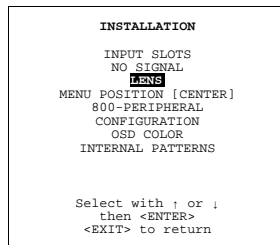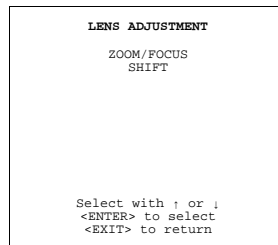
Menu 7-11

7.5.2 Lens Zoom/Focus Adjustment

How to adjust Zoom/Focus?

1. Push the cursor key ↑ or ↓ to highlight *Zoom/Focus*. (menu 7-12)

2. Press **ENTER** to select.

   The *Zoom/Focus Adjustment* menu will be displayed. (image 7-1)

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

4. Press **EXIT** to return to the *Lens Adjustment* menu.

```
          LENS ADJUSTMENT

            ZOOM/FOCUS
              SHIFT






        Select with ↑ or ↓
         <ENTER> to select
         <EXIT> to return
```
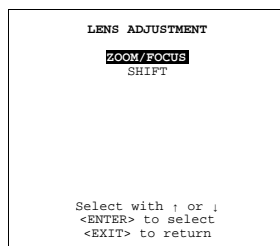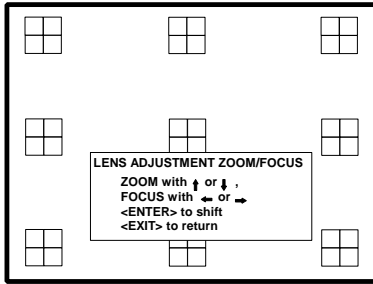
Menu 7-12

Image 7-1
Zoom/Focus adjustment menu

7.5.3   Lens Shift Adjustment

How to adjust the Horizontal/Vertical Shift?

1. Push the cursor key ↑ or ↓ to highlight *Shift*. (menu 7-13)

2. Press **ENTER** to select.

   The *Shift Adjustment* menu will be displayed. (image 7-2)

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

4. Press **EXIT** to return to the *Lens Adjustment* menu.

5. Press **EXIT** to return to the *Installation* menu.
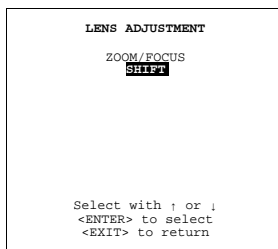
Menu 7-13
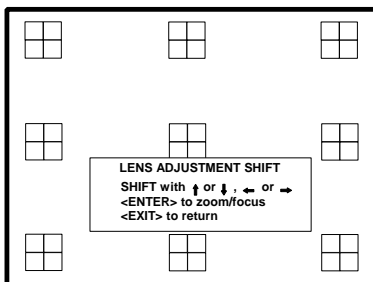
Image 7-2

7.6   Changing the Menu Position

What can be done?

The Menu can be displayed in the bottom right corner or the center of the displayed image.

How to change the Menu Position?

1. Push the cursor key ↑ or ↓ to highlight *Menu Position.* (menu 7-14)

2. Press **ENTER** to toggle between [CENTER] or [EDGES].

[EDGES]	The Menu will always be displayed in the bottom right corner.
[CENTER]	The Menu will always be in the middle of the image.

```
           INSTALLATION

          INPUT SLOTS
           NO SIGNAL
             LENS
    MENU POSITION [CENTER]
        800-PERIPHERAL
         CONFIGURATION
           OSD COLOR
       INTERNAL PATTERNS


       Select with ↑ or ↓
          then <ENTER>
        <EXIT> to return
```
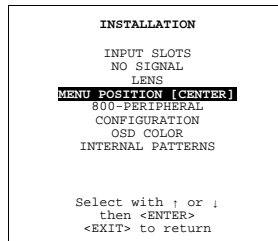
Menu 7-14

7.7   800–Peripheral

7.7.1   Starting Up 800–Peripheral

How to Start Up 800–Peripheral?

1. Push the cursor key ↑ or ↓ to highlight *800–Peripheral.* (menu 7-15)

2. Press **ENTER** to select.

   The *800–Peripheral* menu will be displayed. (menu 7-16)

```
           INSTALLATION

          INPUT SLOTS
           NO SIGNAL
             LENS
    MENU POSITION [CENTER]
        800-PERIPHERAL
         CONFIGURATION
           OSD COLOR
       INTERNAL PATTERNS


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

```
          800-PERIPHERAL

          INFRARED [PPM]
    CLO USING COM800:  [NO]






        <ENTER> to toggle
        <EXIT> to return
```
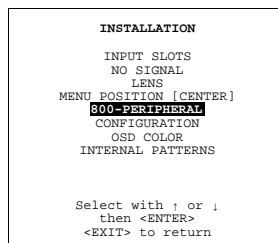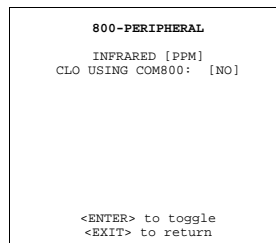
Menu 7-15   Menu 7-16

7.7.2   Defining the Communication Protocol of the RCVDS05

Which protocols are available ?

When a RCVDS05 is connected to the projector, the type of communication protocol used to communicate with the peripheral has to be defined in the 800 peripheral menu.

- PPM
- RC5

Defining the Communication Protocol

1. Push the cursor key ↑ or ↓ to highlight *Infrared*. (menu 7-17)

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

```
        800-PERIPHERAL
    INFRARED [PPM]
    CLO USING COM800:  [NO]




        <ENTER> to toggle
         <EXIT> to return
```
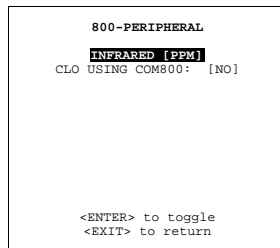
Menu 7-17

7.7.3 COM800 Protocol

What can be done?

CLO and Dynacolor™ can be activated in a linked system setup using the RS232 Protocol + Ports, or by using the COM800 Protocol + Ports.

> **By using the COM800 Protocol + Ports, the RS232 Ports can be used for a RS232 linked setup, CLO and Dynacolor™ are received through the COM800 Ports, general RS232 commands are received through the RS232 Ports.**

How to change the COM800 Protocol Activation?

1. Push the cursor key ↑ or ↓ to highlight CLO using COM800: [NO]. (menu 7-18)

2. Press **ENTER** to toggle between [NO] or [YES].

```
        800-PERIPHERAL
    INFRARED [PPM]
    CLO USING COM800:  [NO]




        <ENTER> to toggle
         <EXIT> to return
```
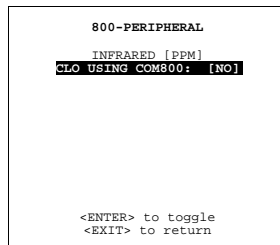
Menu 7-18

7.8 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

How to set Configuration?

1. Push the cursor key ↑ or ↓ to highlight *Configuration*. (menu 7-19)

2. Press **ENTER** to select.

   The configuration menu will be displayed. (menu 7-20)

3. Push the cursor key ↑ or ↓ to highlight the desired configuration e.g. Front / Table.

4. Press **ENTER** to confirm.

   The Projector will display the image according to the selected configuration.

5. Press **EXIT** to return to the *Installation* menu.

```
        INSTALLATION
      INPUT SLOTS
       NO SIGNAL
         LENS
  MENU POSITION [CENTER]
     800-PERIPHERAL
    CONFIGURATION
       OSD COLOR
    INTERNAL PATTERNS


    Select with ↑ or ↓
      then <ENTER>
    <EXIT> to return
```
Menu 7-19
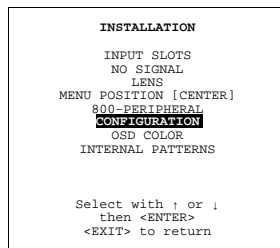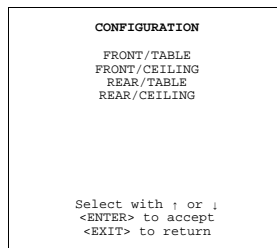
```
       CONFIGURATION
      FRONT/TABLE
     FRONT/CEILING
      REAR/TABLE
     REAR/CEILING




    Select with ↑ or ↓
    <ENTER> to accept
    <EXIT> to return
```
Menu 7-20

7.9   OSD Color

> **OSD = On Screen Display**

What can be done?

The highlighted items in the menu can be displayed in:
- Red
- Green
- Yellow

How to change the OSD Color ?

1. Push the cursor key ↑ or ↓ to highlight *OSD Color.* (menu 7-21)

2. Press **ENTER** to select.
   The OSD color menu will be displayed. (menu 7-22)

3. Push the cursor keys to select the desired color.

4. Press **ENTER** to select.

5. Press **EXIT** to return to the *Installation Mode* menu.

```
        INSTALLATION
      INPUT SLOTS
       NO SIGNAL
         LENS
  MENU POSITION [CENTER]
     800-PERIPHERAL
     CONFIGURATION
       OSD COLOR
    INTERNAL PATTERNS


    Select with ↑ or ↓
      then <ENTER>
    <EXIT> to return
```
Menu 7-21
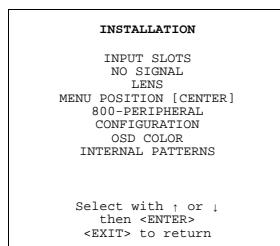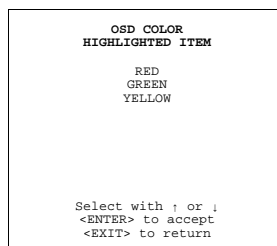
```
        OSD COLOR
     HIGHLIGHTED ITEM

          RED
         GREEN
        YELLOW




    Select with ↑ or ↓
    <ENTER> to accept
    <EXIT> to return
```
Menu 7-22

7.10 Internal Patterns

What can be done?

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

Available patterns

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

How to select an Internal Patterns?

1. Push the cursor key ↑ or ↓ to highlight *Internal Patterns*. (menu 7-23)

2. Press **ENTER** to select.

   The internal patterns menu will be displayed. (menu 7-24)

3. Push the cursor key ↑ or ↓ to select the desired pattern.

4. Press **ENTER** to select.

   The selected pattern will be displayed.

```
          INSTALLATION

         INPUT SLOTS
          NO SIGNAL
            LENS
   MENU POSITION [CENTER]
       800-PERIPHERAL
        CONFIGURATION
          OSD COLOR
     INTERNAL PATTERNS



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

```
        INTERNAL PATTERNS

           OUTLINE
            HATCH
          COLOR BARS
          MULTIBURST
         CHECKER BOARD
            PURITY
          PAGE CHAR
      ALPHA-NUMERIC CHARS
         CHARACTER SETS


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

Menu 7-23   Menu 7-24

8. SERVICE MODE

8.1 Service Mode Overview

Service Mode Overview

- Identification
- Change Password
- Change Proj. Address
  - Projector Address
  - Common Address (RC5)
  - Common Address (PPM)
- Change Baudrate PC
- Lamp
  - Constant Light Output [Master/Slave]
  - Mode [Normal/Economic]
- Barco Logo
  - Status [On/Off]
  - Background [On/Off]
  - Shift
  - Hot Key [Text/Off]
- Preset Input Balance Warp 1
- Preset Input Balance Warp 2
- Electronic Convergence
- Diagnosis
  - I²C
  - Formatter
  - SMPS
- DynaColor
  - Color Coordinates
  - Exec. Linked Dynacolor

8.2 Build-up

Build-up

The service menu is build-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.

8.3 Starting Up Service

How to Start Up Service?

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

   The *Adjustment Mode* menu will be displayed.

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

3. Press **ENTER** to select.

   The *Service* menu will be displayed. (menu 8-2)

```
      ADJUSTMENT MODE

    Select a path from
          below

     RANDOM ACCESS
      INSTALLATION
      SERVICE




        Source 1

    Select with ↑ or ↓
       then <ENTER>
```

```
         SERVICE

       IDENTIFICATION
      CHANGE PASSWORD
    CHANGE PROJ. ADDRESS
    CHANGE BAUDRATE PC
           LAMP

         MORE ...



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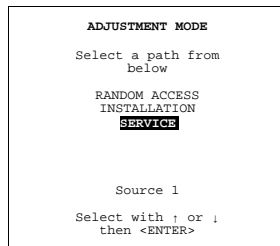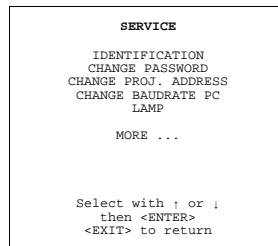
Menu 8-1   Menu 8-2

> **Some items in the Service menu 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.**

8.4 Identification Screen

What can be seen on the Identification Screen?

The title page screen shows the general information of the projector.

The following items will be displayed:

- Type of projector: Barco TRACE
- Proj. address
- Software version
- Configuration:
  - Front / Table
  - Front / Ceiling
  - Rear / Table
  - Rear / Ceiling
- Baudrate PC: transfer speed for communication with an IBM PC (or compatible) or MAC. The baudrate of the projector must be the same as the baudrate of the connected computer. When there is a difference, consult 'Change Baudrate PC' in this chapter.
- Text: Indicates if the on screen text information (picture setting textboxes: contrast,...) is enabled or not
- Projector Serial number: indicates the fabrication number of the projector. This number can be useful when calling for technical assistance.
- 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.

How to display the Identification Screen?

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

2. Press **ENTER** to select.

   The Identification Screen will be displayed. (menu 8-4)

```
          SERVICE

      IDENTIFICATION
      CHANGE PASSWORD
    CHANGE PROJ. ADDRESS
    CHANGE BAUDRATE PC
           LAMP

         MORE ...



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

```
           BARCO
           TRACE

    Proj. address :  006
    Soft. version :  1.40
       Config :  FRONT
              TABLE
    Baudrate PC : 57600
         Text :  ON
    Serial No.  : 1243439
      Run Time :  164 hrs
    Stereo Creator I V04



       <EXIT> to return
```

Menu 8-3   Menu 8-4

8.5 Change Password

How to Change the Password?

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

2. Press **ENTER** to select.

   The *Change Password* menu will be displayed. (menu 8-6)

   4 '_' characters are displayed. A new password can be entered with the digit keys of the RCU or local keypad. Every time a digit is entered, a 'X' appears on the screen. The confirm new password is still grayed out.

3. Do you want to activate the new password?
   If yes, Press **ENTER** to confirm the new password.

   4 'x' characters are displayed in the confirm new password area. Key in your password again with the digit keys of the RCU or the local keypad.

   If the confirm new password entry is the same as the entered new password, the password is changed.
   If no, Press **EXIT** if no changes have to be made.

```
          SERVICE

      IDENTIFICATION
      CHANGE PASSWORD
    CHANGE PROJ. ADDRESS
    CHANGE BAUDRATE PC
           LAMP

         MORE ...



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

```
      CHANGE PASSWORD

    Enter new password
          _ _ _ _
    Confirm new password
          _ _ _ _




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

Menu 8-5   Menu 8-6

8.6 Change Projector Address

What can done?

Within the Change Projector Address menu, following items can be changed:

- Projector Address
- Common Address

> **For more information on Common and Projector Address see 'Controlling the projector' in the chapter 'Getting Started'.**

8.6.1 Starting Up Change Projector Address

How to Start Up Change Projector Address?

1. Push the cursor key ↑ or ↓ to highlight *Change Proj Address.* (menu 8-7)

2. Press **ENTER** to select.

    The *Change Projector Address* menu will be displayed. (menu 8-8)

```
         SERVICE

       IDENTIFICATION
       CHANGE PASSWORD
   CHANGE PROJ. ADDRESS
     CHANGE BAUDRATE PC
          LAMP

          MORE ...



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

```
   CHANGE PROJECTOR ADDRESS

     PROJECTOR ADDRESS 6

   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 8-7   Menu 8-8

8.6.2 Changing the Projector Address

How to Change the Projector Address?

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

2. Press **ENTER** to select.

    The actual address is filled in.

    The first digit is highlighted.

```
   CHANGE PROJECTOR ADDRESS

    PROJECTOR ADDRESS 6

   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 8-9

How to Enter the new Projector Address?

1. Enter the digits with the digit keys on the RCU or local keypad.
   Or,
   push the cursor keys ← or → to select a digit and change the value by pushing the cursor key ↑ or ↓ until the new value is reached.

Continue with the other digits on the same way. The individual address must be between 0 and 255.

8.6.3 Changing the Common Address

How to Change the Common Address?

1. Push the cursor key ↑ or ↓ to highlight the active *Common Address* e.g. (RC5). (menu 8-10)

2. Press **ENTER** to select.

```
  CHANGE PROJECTOR ADDRESS

    PROJECTOR ADDRESS 6

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




    Select with ↑ or ↓
       then <ENTER>
 Reprogram with ↑,↓,←,→
      or numeric keys
    <ENTER> to confirm
     <EXIT> to return
```
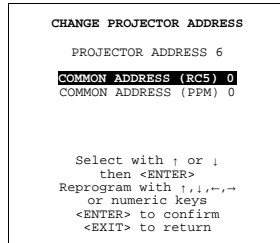
Menu 8-10

Entering the new Common Address

1. Enter with the digit keys on the RCU or the local keypad
   Or,
   pushing the cursor key ↑ or ↓ until the new value is reached.

> **Only addresses between 0 and 1 are valid.**

8.7 Change Baudrate PC

What can be done?

The baudrate of the projector must be the same as the baudrate of the connected computer. Use this menu to change the baudrate of the projector.

The following baud rates are available:
- 115200
- 57600
- 38400
- 19200
- 9600
- 4800
- 1200

How to Change Baudrate PC?

1. Push the cursor key ↑ or ↓ to highlight *Change Baudrate PC.* (menu 8-11)

2. Press **ENTER** to select.

   The *Change Baudrate PC* menu will be displayed.

   The actual baudrate will be highlighted. (menu 8-12)

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

4. Press **ENTER** to accept the selected Baudrate.

```
          SERVICE                        CHANGE BAUDRATE PC

       IDENTIFICATION                          115200
      CHANGE PASSWORD                           57600
    CHANGE PROJ. ADDRESS                        38400
    CHANGE BAUDRATE PC                          19200
           LAMP                                  9600
                                                 9600
        MORE ...                                 4800
                                                 1200



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

Menu 8-11   Menu 8-12

8.8 Lamp Menu

Overview

- Starting Up the Lamp Menu
- Constant Light Output (CLO)
- Lamp Mode

8.8.1 Starting Up the Lamp Menu

What can be done?

All information about the lamp is stored inside the lamp house and can be displayed via the projector software, no information can be changed.

Following Lamp Information can be consulted:

Serial number	Unique serial number of the lamp
Article number	Article number of the lamp
Run time	Total time the lamp is used in this projector
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, for more information see 'Re-adjusting the lamp position in the lamp casing' in chapter 'Installation Guidelines'

Table 8-1
Lamp Information

Following Lamp Settings can be changed:
- Constant Light Output
- (Lamp) Mode

How to Start Up the Lamp Menu?

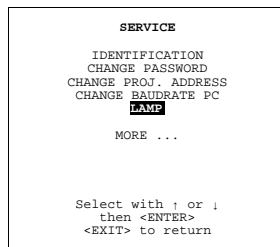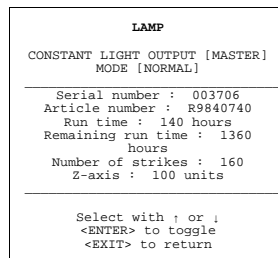1. Push the cursor key ↑ or ↓ to highlight *Lamp.* (menu 8-13)

2. Press **ENTER** to select.

   The Lamp Menu will be displayed. (menu 8-14)

```
            SERVICE

         IDENTIFICATION
         CHANGE PASSWORD
       CHANGE PROJ. ADDRESS
       CHANGE BAUDRATE PC
            LAMP

            MORE ...



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

Menu 8-13

```
              LAMP

     CONSTANT LIGHT OUTPUT [MASTER]
             MODE [NORMAL]

       Serial number :  003706
     Article number :  R9840740
       Run time :  140 hours
     Remaining run time :  1360
               hours
     Number of strikes :  160
         Z-axis :  100 units


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

Menu 8-14

8.8.2 Constant Light Output (CLO)

What can be done?

Projectors in a multichannel setup may have different Lamp Runtimes, this will result in a difference in light output between the projectors.

Within this menu it is possible to track and maintain the brightness levels of the projectors, the projectors will deliver a Constant Light Output = CLO.

In a multichannel setup (max 12.) it is possible to link the CLO–values of all projectors, this is done by means of a master–slave projector setup. One projector will act as master, all slave–projectors will track and maintain the CLO setting of this master–projector.

> **All projectors must have a different projector address between 1 and 12.**
>
> **All projectors must have the same Baudrate.**
>
> **The CLO setting of one projector must be in the master position, all others must be in the slave position.**

How to Connect the Master–Slave Projectors?

1. Connect a RS232 Terminator (Order number **Z3498823**) to the 'RS232 In' Input of the first projector in the chain.

2. Connect the RS232 Output of the first projector in the chain to the RS232 Input of the next projector.

3. Continue this daisy chain connection to connect all projectors in the set up.

How to Change the Constant Light Output Setting?

1. Push the cursor key ↑ or ↓ to highlight *Constant Light Output.* (menu 8-15)

2. Press **ENTER** to toggle between the different CLO settings.

   Following CLO Settings are available:

[MASTER]	Master projector to control the CLO in a chain of projectors
[SLAVE]	Follows the master projector to adjust the CLO
[OFF]	Fixed power, no power adaptation

Table 8-2
CLO Settings

```
              LAMP

     CONSTANT LIGHT OUTPUT [MASTER]
             MODE [NORMAL]

       Serial number :  003706
     Article number :  R9840740
       Run time :  140 hours
     Remaining run time :  1360
               hours
     Number of strikes :  160
         Z-axis :  100 units


        Select with ↑ or ↓
          <ENTER> to toggle
          <EXIT> to return
```
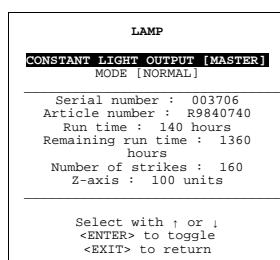
Menu 8-15

> To adjust the light output in case of a single, stand alone, projector setup set the CLO setting to [SLAVE].

8.8.3 Lamp Mode

The Lamp Mode Setting

The Lamp of the Barco TRACE is always running in Economic Mode.

```
                LAMP

   CONSTANT LIGHT OUTPUT [MASTER]
       MODE [ECONOMIC]

      Serial number :  003706
      Article number :  R9840740
        Run time :  140 hours
   Remaining run time :  1360
                  hours
    Number of strikes :  160
       Z-axis :  100 units


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

Menu 8-16

8.9 BARCO Logo

8.9.1 Starting Up BARCO Logo

What can be done?

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

How to Start Up the BARCO Logo?

1. Push the cursor key ↑ or ↓ to highlight *More.* (menu 8-17)

2. Press **ENTER** to select.

   The other items in the *Service* menu will be displayed.

3. Push the cursor key ↑ or ↓ to highlight *Barco Logo.* (menu 8-18)

4. Press **ENTER** to select.

   The *Barco Logo* menu will be displayed. (menu 8-19)

```
          SERVICE

       IDENTIFICATION
      CHANGE PASSWORD
   CHANGE PROJ. ADDRESS
    CHANGE BAUDRATE PC
          LAMP

         MORE ...


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

Menu 8-17

```
          SERVICE

        BARCO LOGO
    PRESET INPUT BALANCE 1
    PRESET INPUT BALANCE 2
   ELECTRONIC CONVERGENCE
         DIAGNOSIS
         DYNACOLOR


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

Menu 8-18

```
         BARCO LOGO

        STATUS [OFF]
     BACKGROUND [OFF]
           SHIFT
       HOT KEY [OFF]




      Select with ↑ or ↓
   <ENTER> to toggle/select
       <EXIT> to return
```

Menu 8-19

8.9.2   BARCO Logo Status

How the Change the BARCO Logo Status Setting?

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

2. Press **ENTER** to toggle Status [ON] or [OFF].

[ON]	BARCO Logo will be displayed on the screen
[OFF]	BARCO Logo will NOT be displayed on the screen

```
          BARCO LOGO

        STATUS [OFF]
     BACKGROUND [OFF]
           SHIFT
     HOT KEY [OFF]




     Select with ↑ or ↓
   <ENTER> to toggle/select
      <EXIT> to return
```

Menu 8-20

8.9.3   BARCO Logo Background

How the Change the BARCO Logo Background Setting?

1. Push the cursor key ↑ or ↓ to highlight *Background.* (menu 8-21)

2. Press **ENTER** to toggle Background [ON] or [OFF].

[ON]	BARCO logo will be displayed on a black background
[OFF]	BARCO logo will be displayed without any background

```
          BARCO LOGO

        STATUS [OFF]
     BACKGROUND [OFF]
           SHIFT
     HOT KEY [OFF]




     Select with ↑ or ↓
   <ENTER> to toggle/select
      <EXIT> to return
```
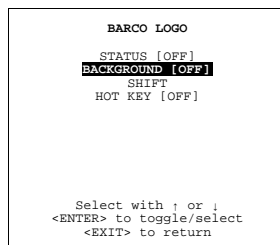
Menu 8-21

8.9.4   Shift BARCO Logo

How the Adjust the BARCO Logo Position?

1. Push the cursor key ↑ or ↓ to highlight *Shift.* (menu 8-22)

2. Press **ENTER** to select.

    The Shift Adjustment menu will be displayed. (menu 8-23)

3. Use the cursor keys to shift the BARCO Logo to the desired position on the screen.

4. Press **EXIT** to return to the *Barco Logo* menu.

```
        BARCO LOGO

      STATUS [OFF]
   BACKGROUND [OFF]
       SHIFT
    HOT KEY [OFF]




    Select with ↑ or ↓
  <ENTER> to toggle/select
     <EXIT> to return
```
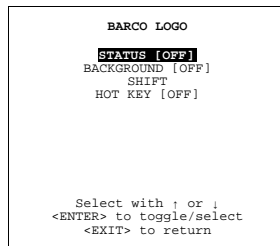
Menu 8-22

```
          SHIFT

   Shift logo with ↑,↓,←,→







       <EXIT> to return
```

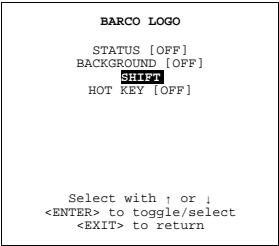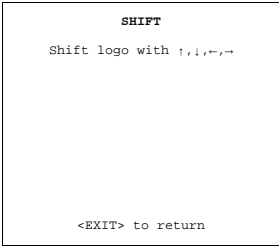Menu 8-23

8.9.5   Hot Key

How to Change the Hot Key Setting?

1. Push the cursor key ↑ or ↓ to highlight *Hot Key.* (menu 8-24)

2. Press **ENTER** to toggle the Hot Key Setting [ON] or [OFF].

[ON]	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)
[OFF]	No key on the RCU is used to display the BARCO Logo

3. Press **EXIT** to return to the *Service* menu.

```
        BARCO LOGO

      STATUS [OFF]
   BACKGROUND [OFF]
       SHIFT
    HOT KEY [OFF]




    Select with ↑ or ↓
  <ENTER> to toggle/select
     <EXIT> to return
```
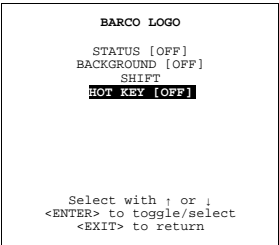
Menu 8-24

8.10 Preset Input Balance 1

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

How to Start Up Preset Input Balance?

1. Push the cursor key ↑ or ↓ to highlight *Preset Input Balance* 1. (menu 8-25)

2. Press **ENTER** to select.

   The following warning will be displayed: (menu 8-26)

   Preset input balance is reserved to qualified service personnel. If you are not qualified, press **EXIT** to return to the *Service* menu.

```
         SERVICE
       BARCO LOGO
 PRESET INPUT BALANCE 1
 PRESET INPUT BALANCE 2
 ELECTRONIC CONVERGENCE
        DIAGNOSIS
        DYNACOLOR




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

```
         WARNING



    PRESET INPUT BALANCE
       is reserved to
         qualified
      service personnel




     <ENTER> to continue
      <EXIT> to cancel
```

Menu 8-25   Menu 8-26

8.11 Preset Input Balance 2

⚠ **Changing these settings may seriously affect the performance of the projector.**
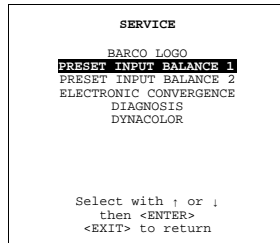
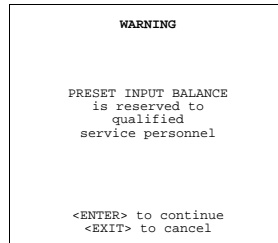### How to Start Up Preset Input Balance 2?

1. Push the cursor key ↑ or ↓ to highlight *Preset Input Balance 2*. (menu 8-27)

2. Press **ENTER** to select.

   The following warning will be displayed: (menu 8-28)

   Preset input balance is reserved to qualified service personnel. If you are not qualified, press **EXIT** to return to the *Service* menu.

```
         SERVICE
       BARCO LOGO
 PRESET INPUT BALANCE 1
 PRESET INPUT BALANCE 2
 ELECTRONIC CONVERGENCE
        DIAGNOSIS
        DYNACOLOR




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

```
         WARNING



    PRESET INPUT BALANCE
       is reserved to
         qualified
      service personnel




     <ENTER> to continue
      <EXIT> to cancel
```
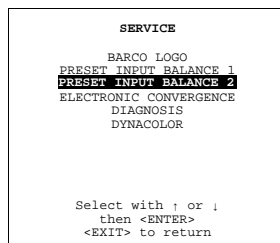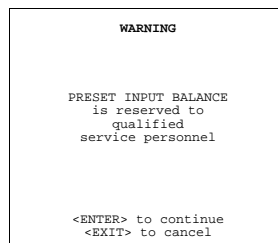
Menu 8-27   Menu 8-28

8.12 Electronic Convergence

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

⚠ **This adjustment is best done by a qualified service technician.**

What can be done?

The convergence of the projected image can be adjusted in this menu.

Following Convergence Adjustment Patterns are available:

- Green
- Blue On Green
- Red On Green
- Blue On Red
- Hatch

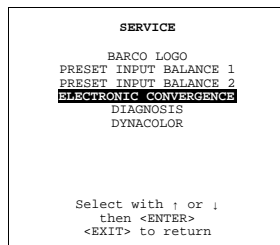### How to adjust the Electronic Convergence?

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

2. Press **ENTER** to select.

   The *Convergence* menu will be displayed.

3. Push the cursor key ↑ or ↓ to select the desired Convergence Adjustment Patterns, e.g. Blue on Green. (menu 8-30)

   The selected Convergence Adjustment Patterns and Convergence Barscale will be displayed.

4. Use the cursor keys to adjust the Convergence of the projected image.

5. Press **EXIT** to return to the *Convergence* menu.

6. Press **EXIT** to return to *Service* menu.

```
            SERVICE

         BARCO LOGO
   PRESET INPUT BALANCE 1
   PRESET INPUT BALANCE 2
   ELECTRONIC CONVERGENCE
         DIAGNOSIS
         DYNACOLOR




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

Menu 8-29

```
          CONVERGENCE

            GREEN
        BLUE ON GREEN
        RED ON GREEN
        BLUE ON GREEN
            HATCH




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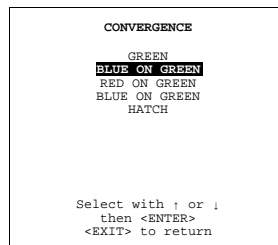
Menu 8-30

8.13 Diagnosis

Overview

- Starting Up Diagnosis
- I^{2}C Diagnosis
- Formatter Diagnosis
- SMPS Diagnosis

8.13.1 Starting Up Diagnosis

What can be done?

Following items can be checked using the Diagnosis menu:

- I^{2}C Bus
- Formatter Board
- Switch Mode Power Supply (SMPS) Board

How to Start Up Diagnosis?

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

2. Press **ENTER** to select.

   The *Diagnosis* menu will be displayed. (menu 8-32)

```
          SERVICE                              DIAGNOSIS

        BARCO LOGO                                I2C
  PRESET INPUT BALANCE 1                       FORMATTER
  PRESET INPUT BALANCE 2                          SMPS
  ELECTRONIC CONVERGENCE
      DIAGNOSIS
        DYNACOLOR



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

Menu 8-31   Menu 8-32

8.13.2 I²C Diagnosis

What can be done?

This info screen will give an overview of the Data, Command and Address status of the I²C controlled IC's (Green box = OK, Red Box = Error, the Box in the printed menu is shown as #).

Following IC's are shown in the I²C info screen.

• Motor Driver
• Light Sensor
• Lamp Driver
• Power Supply
• Formatter
• LCD Driver
• Lamp Module

How to display the I²C Diagnosis screen?

1. Push the cursor key ↑ or ↓ to highlight *I2C*. (menu 8-33)

2. Press **ENTER** to select.

   The *I2C* Diagnosis screen will be displayed. (menu 8-34)

3. Press **EXIT** to return to the *Service Mode* menu.

```
          DIAGNOSIS                         I2C DIAGNOSIS

            I2C                                        D C A
          FORMATTER
            SMPS                    MOTOR DRIVER    1AH # # #
                                    LIGHT SENSOR    1CH # # #
                                    LAMP DRIVER     20H # # #
                                    POWER SUPPLY    30H # # #
                                    FORMATTER       34H # # #
                                    LCD DRIVER      88H # # #
                                    LAMP MODULE     A0H # # #


    Select with ↑ or ↓                             # # #
       then <ENTER>
     <EXIT> to return                   Scroll with ↑ or ↓
                                          <EXIT> to return
```
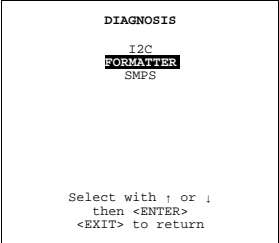
Menu 8-33

Menu 8-34

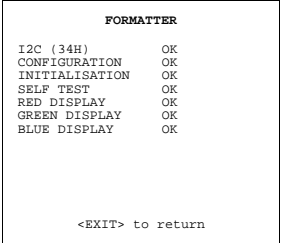## 8.13.3 Formatter Diagnosis

What can be done?

This info screen will give an overview of the status of the Formatter board.

How to display the Formatter Diagnosis screen?

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

2. Press **ENTER** to select.

   The *Formatter* Diagnosis screen will be displayed. (menu 8-36)

3. Press **EXIT** to return to the *Service Mode* menu.

```
           DIAGNOSIS

             I2C
          FORMATTER
             SMPS




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

Menu 8-35

```
                FORMATTER

   I2C (34H)          OK
   CONFIGURATION      OK
   INITIALISATION     OK
   SELF TEST          OK
   RED DISPLAY        OK
   GREEN DISPLAY      OK
   BLUE DISPLAY       OK




            <EXIT> to return
```
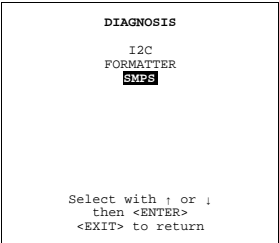
Menu 8-36

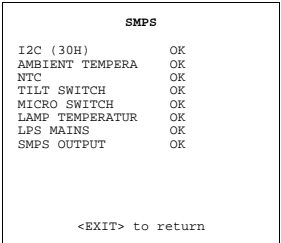### 8.13.4 SMPS Diagnosis

What can be done?

This info screen will give an overview of the status of the Switch Mode Power Supply (SMPS) board.

How to display the SMPS Diagnosis screen?

1. Push the cursor key ↑ or ↓ to highlight *SMPS*. (menu 8-37)

2. Press **ENTER** to select.

   The *SMPS* Diagnosis screen will be displayed. (menu 8-38)

3. Press **EXIT** to return to the *Service Mode* menu.

```
           DIAGNOSIS

             I2C
          FORMATTER
             SMPS




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

Menu 8-37

```
                  SMPS

   I2C (30H)            OK
   AMBIENT TEMPERA      OK
   NTC                 OK
   TILT SWITCH          OK
   MICRO SWITCH         OK
   LAMP TEMPERATUR      OK
   LPS MAINS            OK
   SMPS OUTPUT          OK




            <EXIT> to return
```

Menu 8-38

8.14 DynaColor™

> **This menu item is only used when working with a multichannel setup.**

What can be done?

DynaColor™ will eliminate channel-to-channel color variations.

How to define color?

The CIE chromaticity diagram is one way to plot the colors the human eye can see.
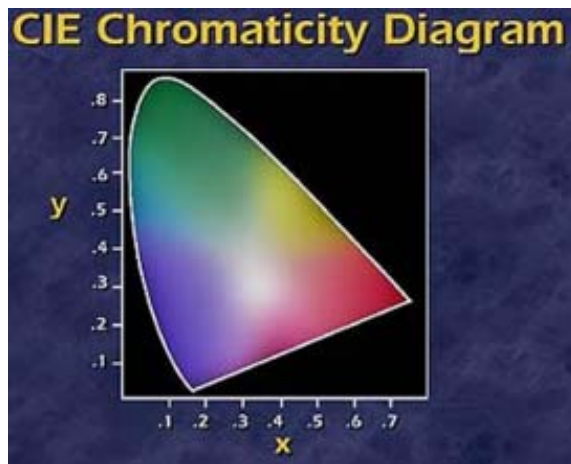
Image 8-1

A projector can only reproduce a certain color gamut within this diagram. This color gamut is defined by the triangle formed by the x, y coordinates of Red Green and Blue. These parameters are used by the DynaColor™ adjustment in the Barco TRACE.
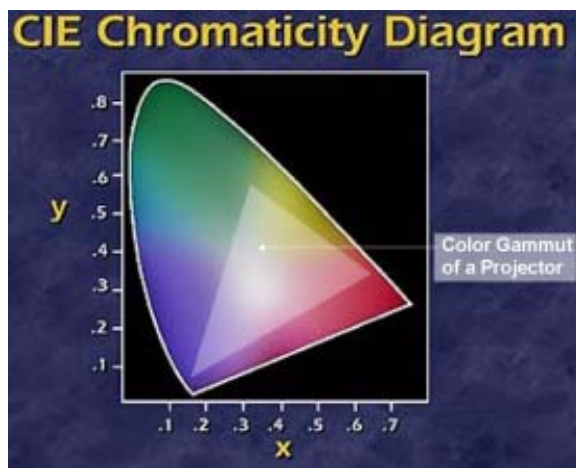

Image 8-2

Due to the tolerance on optical components the x, y values of this color gamut of each projector will differ.
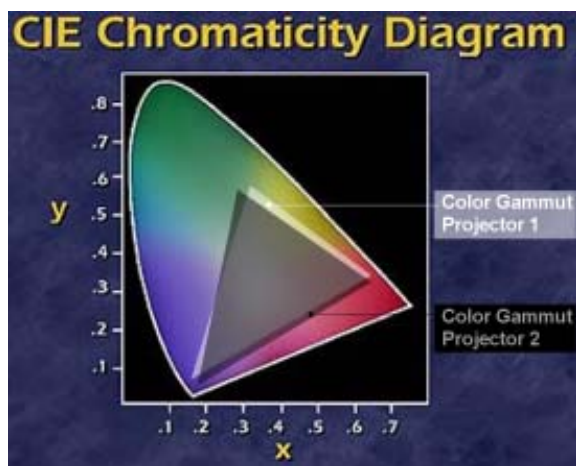

Image 8-3

When working with a multichannel setup, these color differences between different projectors can be smooth out by matching the color gamuts of the different projectors to a Common Color Gamut.
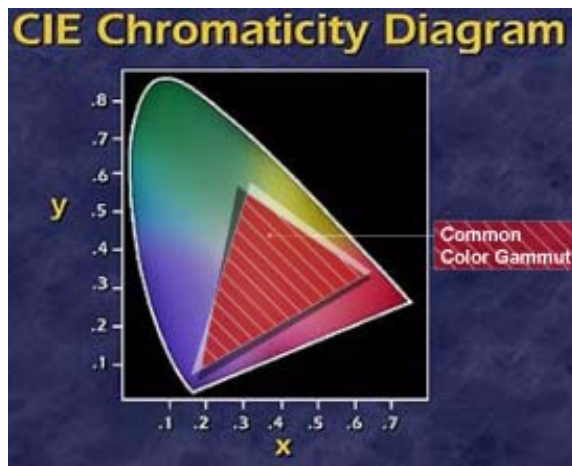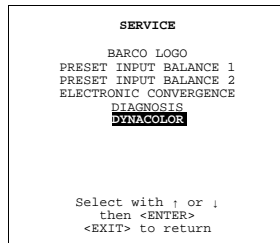
Image 8-4

How to Start Up DynaColor™?

1. Push the cursor key ↑ or ↓ to highlight *Diagnosis*. (menu 8-39)

2. Press **ENTER** to select.

   The *DynaColor* menu will be displayed. (menu 8-40)

```
            SERVICE

          BARCO LOGO
    PRESET INPUT BALANCE 1
    PRESET INPUT BALANCE 2
    ELECTRONIC CONVERGENCE
          DIAGNOSIS
          DYNACOLOR




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

Menu 8-39

```
           DYNACOLOR

       COLOR COORDINATES
    EXEC. LINKED DYNACOLOR






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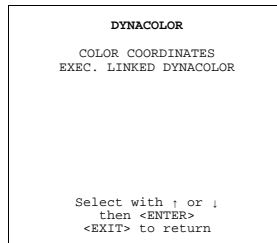
Menu 8-40

The Common Color Gamut

When we assume a setup with 2 projectors the perimeter of the Common Color Gamut is described by the 6 points of intersection of the 2 separate color gamuts.

Image 8-5
The Common Color Gamut

R1 Red projector 1
R2 Red projector 2
G1 Green Projector 1
G2 Green Projector 2
B1 Blue Projector 1
B2 Blue Projector 2
W1 White Projector 1
W2 White Projector 2
Rc Red Common Color Gamut
Gc Green Common Color Gamut
Bc Blue Common Color Gamut
Wc White Common Color Gamut

The following parameters can be adjusted within DynaColor™:

• the x, y coordinates and g(ain) of the 6 Common Color Gamut perimeter points.
• the x, y coordinates and g(ain) of the White point of the Common Color Gamut.
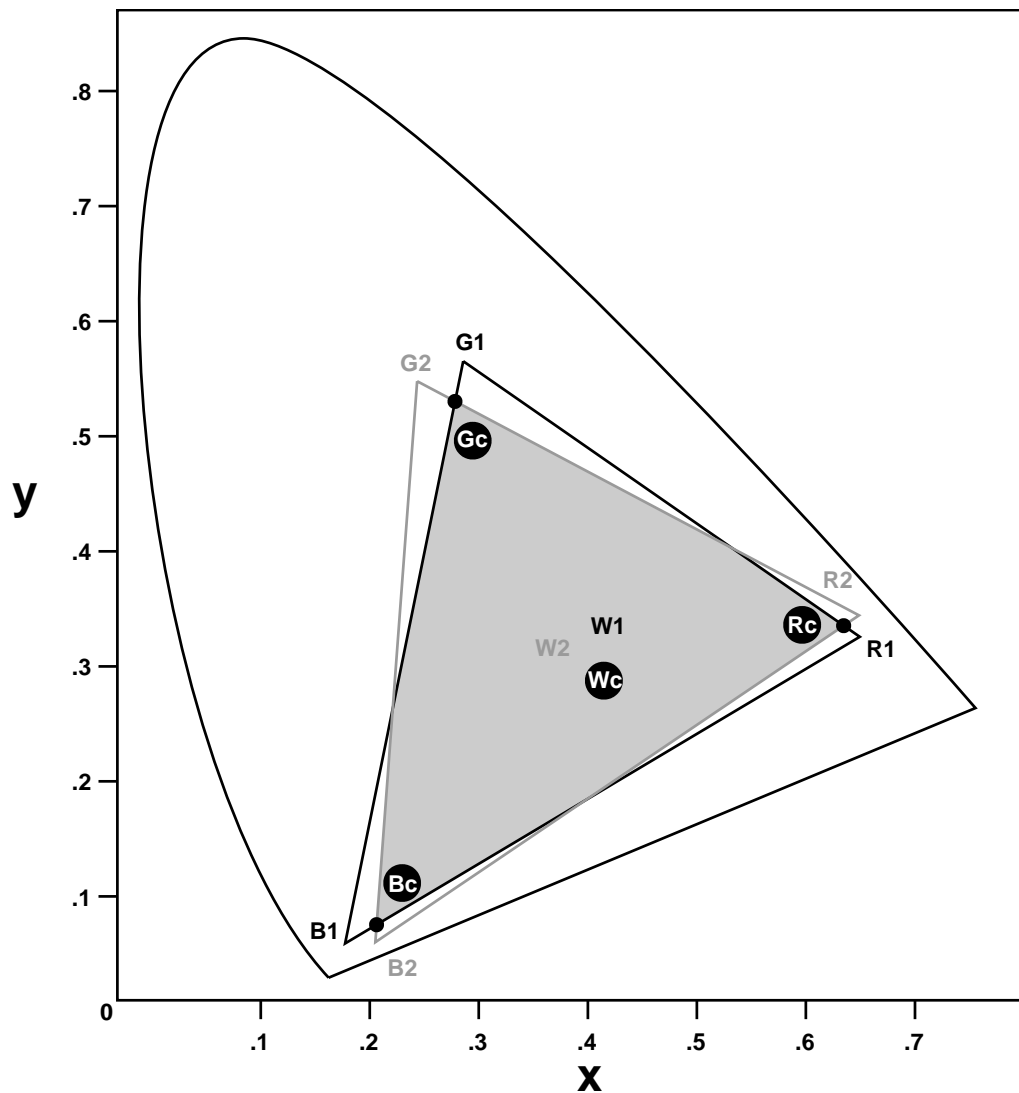
How to Adjust DynaColor™?

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

2. Press **ENTER** to select.

   The Numerical DynaColor™ menu will be displayed. (menu 8-42)

3. Use the cursor keys to highlight the desired selection e.g. the x value for the Red color.

4. Press **ENTER** to select.

5. Use the cursor keys to match the color gamuts of all projectors to the Common Color Gamut.

6. Press **ENTER** to confirm.

```
         DYNACOLOR

     COLOR COORDINATES
     EXEC. LINKED DYNACOLOR




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

Menu 8-41

```
              DYNACOLOR

      MEASURED
           x     y     Y
      R: 0.650 0.338 0.110
      G: 0.315 0.550 0.380
      B: 0.144 0.070 0.040
      W: 0.316 0.332 1

      DESIRED
           x     y
      R: 0.650 0.338
      G: 0.315 0.550
      B: 0.144 0.070
      W: 0.316 0.332

      STATUS [NOT ACTIVE]

         <ENTER> to edit/confirm
                   or
            <EXIT> to return

       press <*> for factory preset
```

Menu 8-42

☞ **Press the * key to reset the DynaColor™ to the factory preset.**

How to Execute the Linked DynaColor™ command?

1. Push the cursor key ↑ or ↓ to highlight Exec. Linked DynaColor™. (menu 8-43)

2. Press **ENTER** to execute.

   This will execute the Linked Dynacolor™ command, all projectors in the linked setup will be set to their Common Color Gamut.

```
         DYNACOLOR

     COLOR COORDINATES
     EXEC. LINKED DYNACOLOR




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

Menu 8-43

A. STANDARD SOURCE FILES

A.1 Table overview

Table overview

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

Name[3]	Resolu-tion[4]	Fvert Hz[5]	FHor kHz[6]	Fpix MHz[7]	Ptot[8]	Pact[9]	Ltot[10]	Lact[11]
1600_60v	1600x1200	60,000	75,000	162,000	2160	1600	1250	1200
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
svga_60v	800x600	60,317	37,879	40,000	1056	800	628	600
vga_gr	640x480	59,941	31,469	25,175	800	640	525	480
xga_60	1024x768	60,000	48,360	64,996	1344	1024	806	768
sgi_108v	1280x1024	108,000	112,676	164.145	1460	1280	1041	1024
sgi_110v	1280x1024	110,000	114,286	167.160	1464	1280	1038	1024
hp_100v	1280x1024	100,000	108,108	187.488	1728	1280	1085	1024
sxga_96s	1280x1024	96,000	104,000	167,885	1600	1280	1093	1024
sxga_114s	1280x1024	114,000	124,600	199,363	1600	1280	1093	1024
xga_96s	1024x768	96,000	77,500	99,164	1280	1024	807	768
xga_120s	1024x768	120,000	96,700	123,955	1280	1024	807	768

Table A-1

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

Revision Sheet

To:

▶ **Barco nv Simulation Products**
Noordlaan 5, B-8520 Kuurne
Phone: +32 56.36.82.11, Fax: +32 56.36.84.86
E-mail: info@barco.com, Web: www.barco.com

From: _____

Date: _____

Please correct the following points in this documentation (**R5976661/00**):

page	wrong	correct