

# BARCO

BARCO Projection Systems

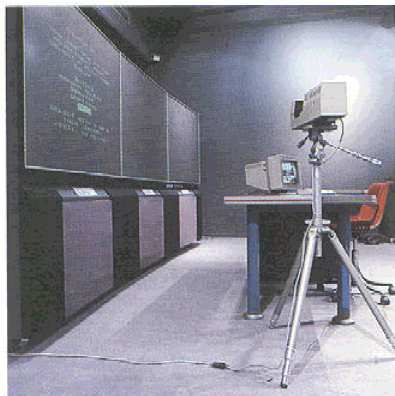
**BARCO** IRIS  
800

98 27695

OWNER'S MANUAL

Date :  
12/01/93

ART. NR. :  
59 75205



The special mechanical fixing system of the IRIS 800 makes it possible to use it as a stand-alone unit in conjunction with a tripod, for BARCO's RETRO projectors and rear-screen installations.



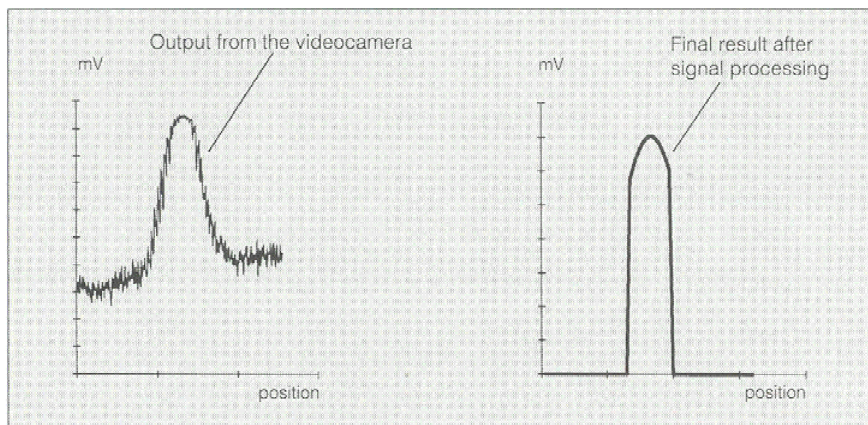
## IRIS 800: EASY-TO-USE, HIGH-PRECISION AUTOMATIC CONVERGENCE SYSTEM

BARCO has developed the IRIS 800 (Intelligent Registration Interface System), a fully automatic convergence system for BARCO's CRT-based projection systems. Using the IRIS 800's user-friendly on-screen displays, the unit effortlessly aligns the projected image on the screen faster and more accurately than ever before possible through the conventional 'manual' convergence process.

Using the infrared remote control of the projector, the IRIS 800 automatic convergence process may be initiated by selecting the appropriate option displayed by the on-screen menu. The IRIS 800 then scans all convergence zones displayed on the screen, and aligns the red, green and blue projected images in a matter of only a few minutes.

The IRIS 800 is an optional unit with a light-weight, rugged enclosure, and can be easily installed to the front of the projector. The IRIS 800 is compatible with all BARCO's digitally controlled projectors, based on the three-tube, three-lens concept.

The flexible design of the IRIS 800 allows it to operate either in a table or ceiling mount installation, in front or rear-screen configuration. As the ideal solution for demanding large screen projection applications, the IRIS 800 adds a new dimension of performance and flexibility which relinquishes compromises in image quality to a thing of the past.



◀ The videosignal from the camera is digitally processed into an enhanced signal. This results in a quick and highly accurate convergence alignment.

## SUPERIOR SYSTEM PERFORMANCE - THROUGH UNIQUE SOFTWARE/HARDWARE CONCEPT

BARCO's IRIS 800 incorporates a unique hardware/software system, which ensures both a quick and highly accurate alignment of the three projected images on the screen, even under heavy ambient lighting conditions. The IRIS 800 utilizes a high resolution CCD camera in conjunction with an ultra-light, high quality front-surface mirror assembly which is mounted to a precision X-Y stepper motor. This stepper motor has a wide range of horizontal and vertical movement and uses a 'micro-stepping' technique which allows the camera to precisely scan all convergence zones on the screen.

Once the IRIS 800 is installed, the lens of the CCD camera can be easily focussed using an on-screen bar scale display. Selecting the 'learn the screen' menu option allows the IRIS 800 to detect the borders of the screen. After that, the automatic convergence routines may be selected for either the currently displayed source, or for all sources in the

ning the exact location of the green image within a given zone. The locations of the red and blue images are then sampled and compared to green. If a deviation in the positions of red and blue relative to green is detected, the IRIS 800 will instruct the projector to change its convergence settings. This process is repeated until all convergence errors are eliminated.

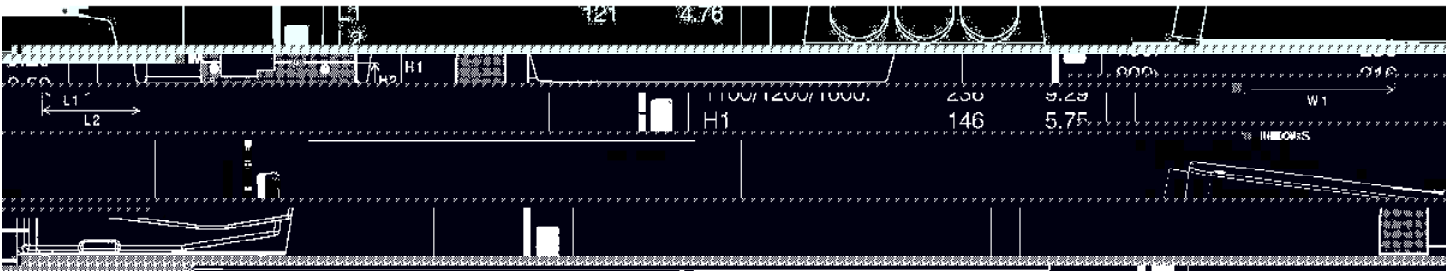
In order to guarantee consistent performance in high ambient light environments, the IRIS 800 utilizes intricate digital image enhancement software which subtracts the screen's ambient light levels from all measurements which the unit performs. Additional software algorithms employed by the IRIS 800 calculate correct convergence positions by correlating only the necessary elements of the detected red, green and blue light picked up by the CCD camera to calculated values which are predicted by the IRIS 800 itself. These iterative correlation algorithms together with



▲ The IRIS 800's automatic convergence process is easily initiated by selecting the appropriate option from the projector's on-screen menu, using the infrared remote control.

memory buffers. digital image enhanc software result in a highly accurate convergence





# TECHNICAL SPECIFICATIONS

High-quality magnification. CCD. Optimal for use of the CCD. 512x512 pixels. On-screen bar scale read-out. Done for one particular source or for all sources stored in the. Diameter: 52 mm (2.05"). The flexible design of the IRIS. Eight-sided, light-weight surface. Light, front- view system allows it to be used in either a table or ceiling mount.



## INSTALLATION GUIDELINES

### INSTALLATION GUIDELINES

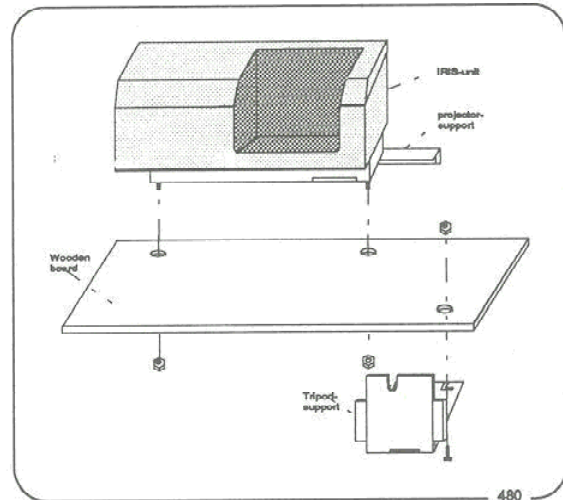
UNPACKING THE IRIS-800	p2
Unpacking the IRIS-800-unit	
Removing the projector-support from the IRIS-800-unit	
Removing the IRIS-800 cover	
Part listing mounting kit IRIS-800	
INSTALLATION OF THE IRIS-800-UNIT ON A BARCO PROJECTOR	p4
Mounting the projector-support on a projector	
a. Mounting the projector-support on the Barco 700 series projectors	
b. Mounting the projector-support on the Barco 800 or 1000 series projectors	
Mounting the IRIS-800 on the projector-support, fixed to the projector	
STAND-ALONE INSTALLATION OF THE IRIS-800-UNIT	p7
Installation remarks	
Rule of thumb for stand-alone installation	
Mounting the tripod-support on the IRIS-800-unit	
Stand-alone installation	
a. Mounting the IRIS-800 on a Tripod	
b. Mounting the IRIS-800 to the ceiling	
IRIS-800 - PROJECTOR INTERCONNECTION	p11
UNLOCKING THE MIRROR	p12

## UNPACKING THE IRIS-800

The IRIS-800 automatic convergence unit can be used to adjust the convergence of all Barco's digital controlled CRT projector series. The IRIS-800 is designed for mounting on a projector or for stand-alone installation.

### Unpacking the IRIS-800-unit

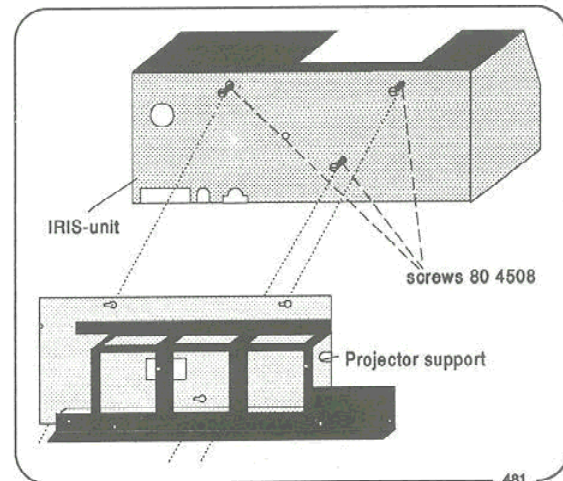
- Open the box.
- Remove the wrapping.
- Remove the tripod-support and the IRIS-800-unit (with its support) from the wooden board.



### Removing the projector-support from the IRIS-800-unit

As well for stand-alone mounting as for projector attachment the projector-support has to be removed.

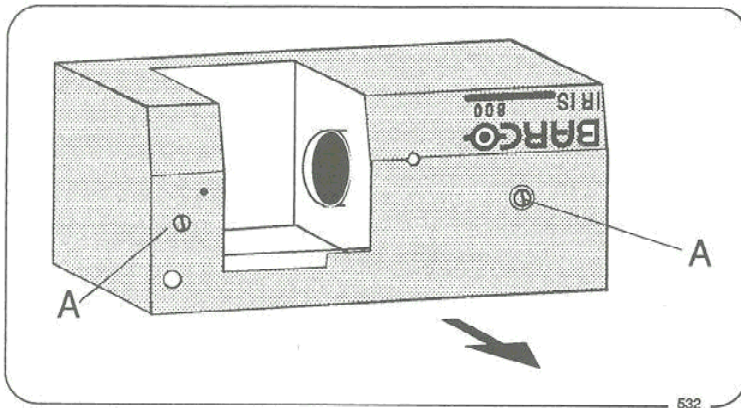
- Loosen (do not remove) the three M5 screws (art.nr. 80 4508) holding the projector-support to the IRIS-800-unit.
- Slide the projector-support to the left to remove.



### Removing the cover from the IRIS-800 unit

- The cover of the IRIS-800 unit has to be removed for
  - remounting the projector-support to the IRIS-800 unit
  - loosing the mirror locking
  - focusing the lens
- The cover should be placed back after focusing the lens.

## INSTALLATION GUIDELINES



- Loosen the 2 screws (A) a quarter turn.
- Pull the cover to the front to remove.

### Part listing mounting kit IRIS-800

<u>Art.nr.</u>	<u>Description</u>	<u>700</u>	<u>800</u>	<u>1000</u>	<u>stand-alone</u>
36 2124	Screw DIN7985 M3x12 MP+	.	2	2	.
36 23328	Screw DIN933 M5x10 I	.	.	.	1
36 23335	Screw DIN933 M5x16 FTB	2	2	2	.
36 7582	Washer DIN7349 5.2 FB	2	2	2	.
80 4503	Frame I800 projector-support	1	1	1	.
80 4505	I800 spacer 800 40 mm	.	2	.	.
80 4506	I800 spacer 1200 60 mm	2	.	2	.
80 4507	I800 spacer 700 101mm	1	.	.	.
80 4511	Frame I800 tripod-support	.	.	.	1



## INSTALLATION OF THE IRIS-800-UNIT ON A BARCO PROJECTOR







### CAUTION

*Before proceeding with the installation of the IRIS-800 system, switch OFF the projector and unplug the power plug from the wall outlet.*

### Mounting the projector-support on a projector

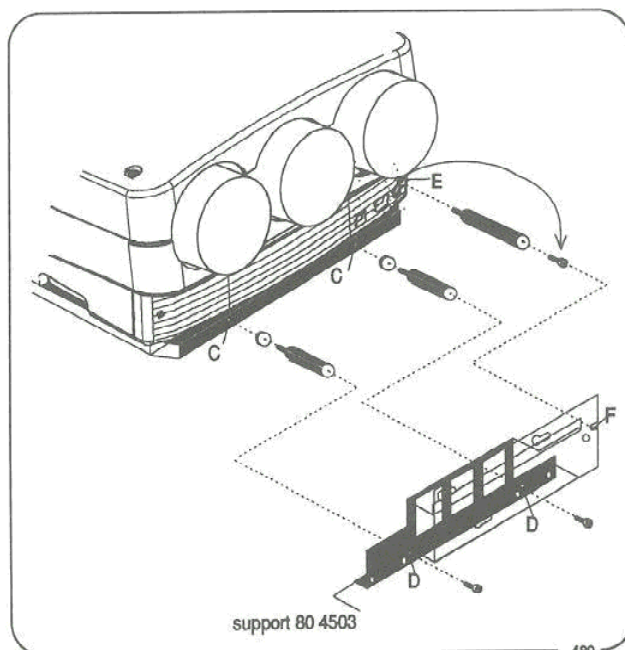
#### a. Mounting the projector-support on the Barco 700 series projectors

**ATTENTION :** To be able to mount the IRIS-800 to a 700 projector, you should dispose of a ceiling adaptor (Article Number : 98 27850). See the Installation Manual of the ceiling adaptor for mounting.

Figure	Art.nr.	Description	Position
	36 21545	Screw DIN7985 M4x16 FB	E/F
	36 23335	Screw DIN933 M5x16 FTB	D
	36 7582	Washer DIN7349 5.2 FB	C
	80 4506	1800 spacer 1200 60 mm	C
	80 4507	1800 spacer 700 101mm	E
	80 4503	Frame 1800 projector-support	

513

- Turn the 2 short spacers with the washers into C (hole in the Ceiling Adapter).
- Remove the screw in E.
- Turn the longest spacer into E.
- Insert the removed screw into the spacer.
- Place the projector-support to the spacers and slide the support until the gap (F) locks over the screw.
- Hold the projector-support on its place and secure this position by turning the 2 other screws into the short spacers.



489

## INSTALLATION GUIDELINES

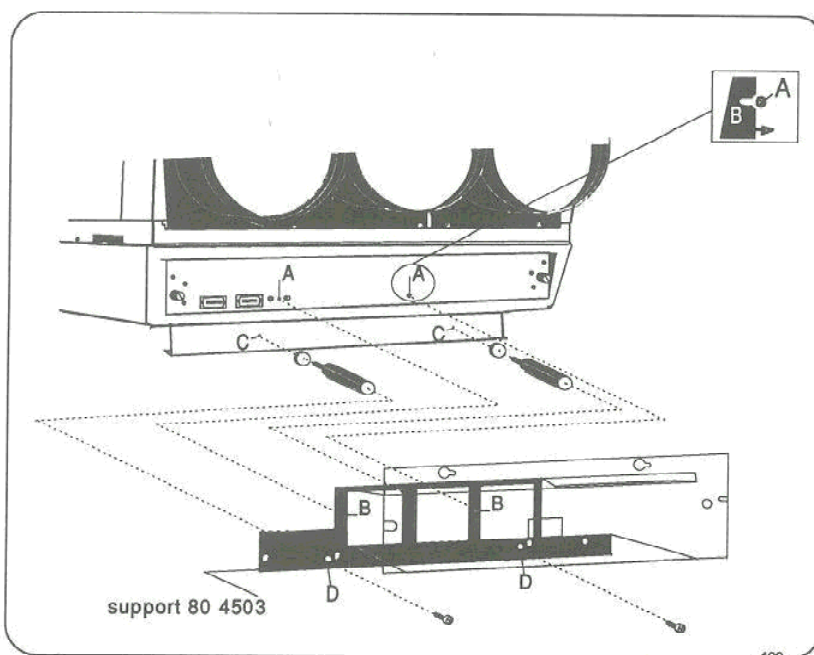
### b. Mounting the projector-support on the Barco 800 or 1000 series projectors

Remark : The 1000 series includes the 1100, 1200 and 1600 series.

Figure	Art.nr.	Description	800	1000	Position
	36 2123	Screw DIN7985 M3x10 MP+	2	2	A
	36 2124	Screw DIN7985 M3x12 MP+	2	2	A/B
	36 23335	Screw DIN933 M5x16 FTB	2	2	D
	36 7582	Washer DIN7349 5.2 FB	2	2	C
	80 4505	I800 spacer 800 40 mm	2	.	C
	80 4506	I800 spacer 1200 60 mm	.	2	C
	80 4503	Frame I800 projector-support	1	1	.

513a

Mounting on the Barco 800 series projectors

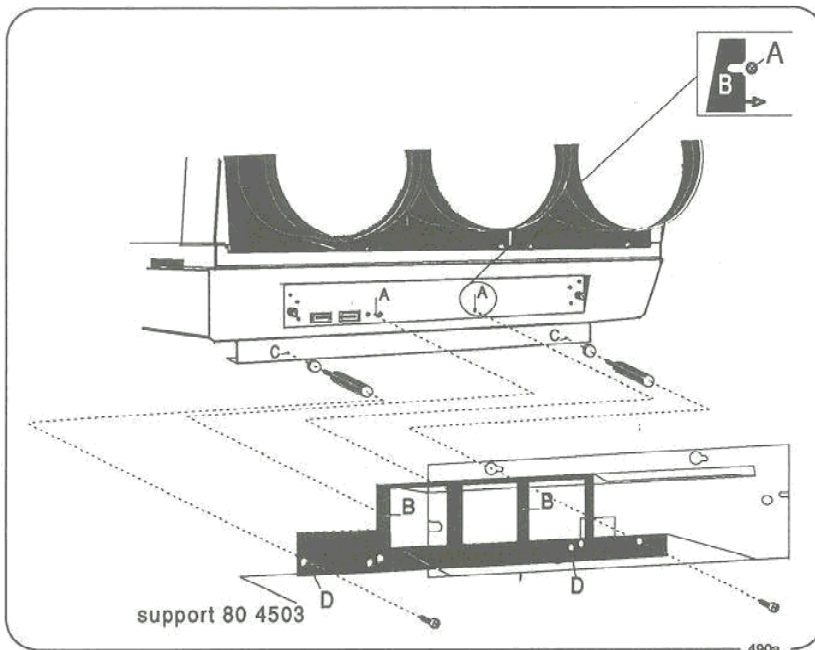


490

- Turn the spacers with the washer into position c.
- Remove the 2 screws on position A.
- Insert the 2 screws (36 2124) into A. Do not turn them totally in.
- Place the projector-support on the projector and so that the gaps match the 2 screws (A).
- Slide the support to the right and lock this position by fastening the screws.
- Fix the projector-support to the spacers with the 2 screws.

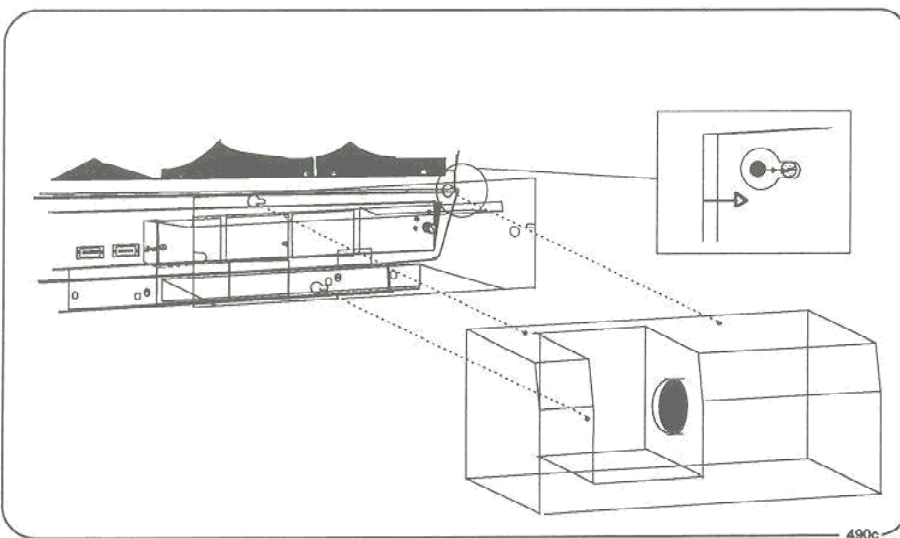
## INSTALLATION GUIDELINES

### Mounting on the Barco 1000 series projectors



- Turn the spacers with the washer into position c.
- Remove the 2 screws on position A.
- Insert the 2 screws (36 2124) into A. Do not turn them totally in.
- Place the projector-support on the projector so that the gaps match the 2 screws (A)..
- Slide the support to the right and lock this position by fastening the screws.
- Fix the projector-support to the spacers with the 2 screws.

### Mounting the IRIS-800 on the projector-support, fixed to the projector



- Place the IRIS-800-unit on the projector-support and slide the unit until it locks with the three screws.
- Secure this position by fastening the screws on the inside.

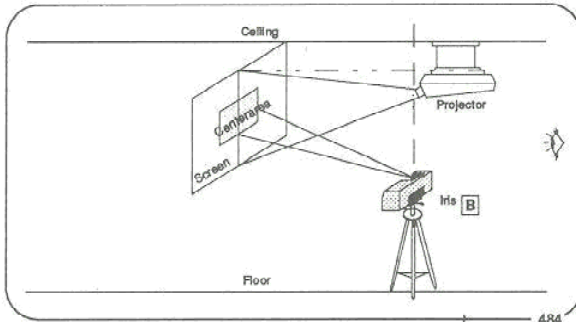


# INSTALLATION GUIDELINES

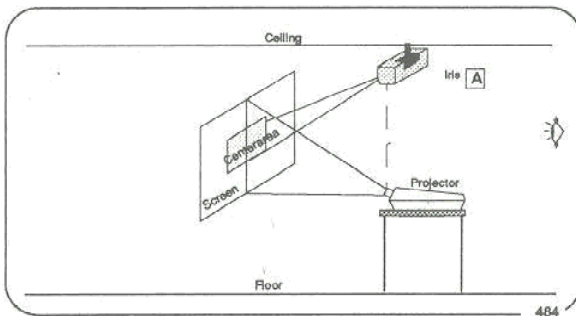
## STAND-ALONE INSTALLATION OF THE IRIS-800-UNIT

### Installation remarks

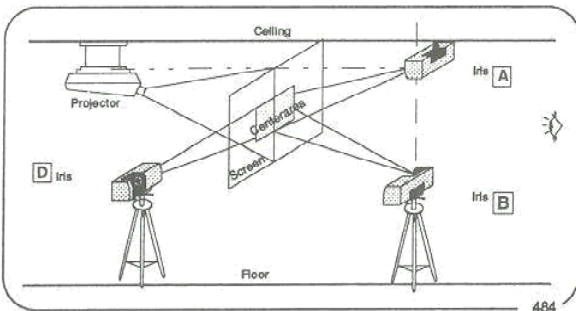
An IRIS-800 must be placed on a virtual projector position to display the same image. Following stand-alone combinations are possible. For the IRIS-800-projector interconnection : see next section.



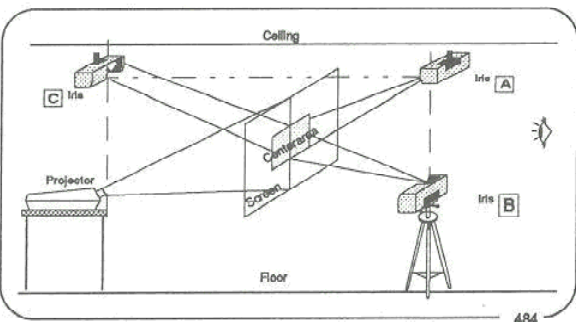
front/ceiling



front/table



rear/ceiling



rear/table

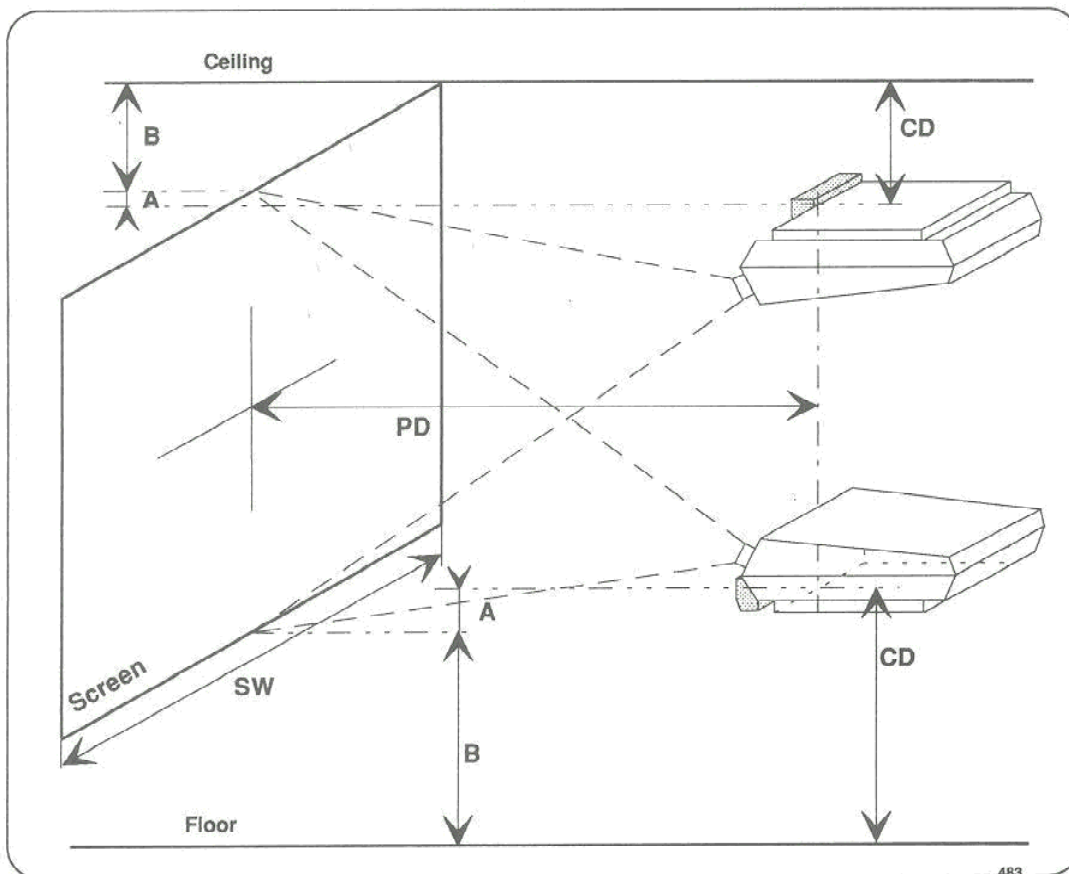
## INSTALLATION GUIDELINES

In case of a rear projection configuration, the best results for the IRIS-800-unit will be obtained when it is placed in front of the screen (position A & B). The system should work well with a uniform ambient light of less than 50 lux on a white painted screen.

The mounting place for the IRIS-800-unit should be as close to the normal projector position as possible. If it is impossible to mount it on this normal place, some deviations are allowed. But when starting up, the camera must always watch the center area of the screen. If it does not watch the center area, the autoconvergence will not work.



### Rule of thumb for the stand-alone installation

To install the IRIS-800-unit as stand-alone use the same installation diagrams as for a front projector (IRIS-800-unit installed on top). See the installation manual of your projector.



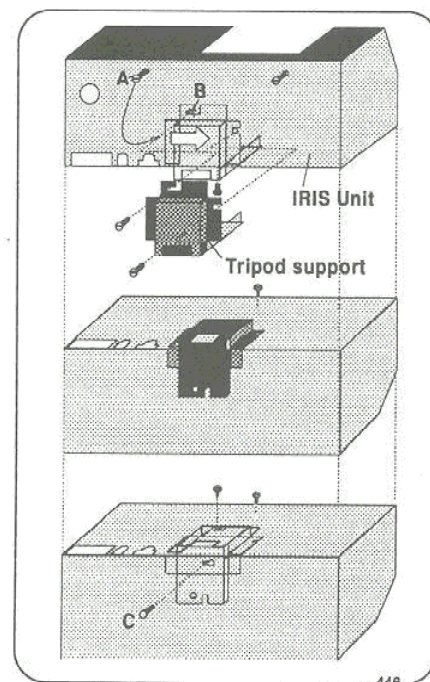
## INSTALLATION GUIDELINES

### Mounting the tripod-support on the IRIS-800-unit

Figure	Art.nr.	Description	Position
	36 23328	Screw DIN933 M5x10 I	A/B
	80 4508	I800 screw tripod M5	C
	80 4511	Frame I800 tripod-support	

513b

- Move screw (A) from A to B.
- Insert the hexagonal screw (C) on the bottom of the IRIS-800-unit.
- Place the tripod-support on the unit (see illustration) and slide the unit to the right until it locks with the three screws.
- Secure the position by fastening the screws.

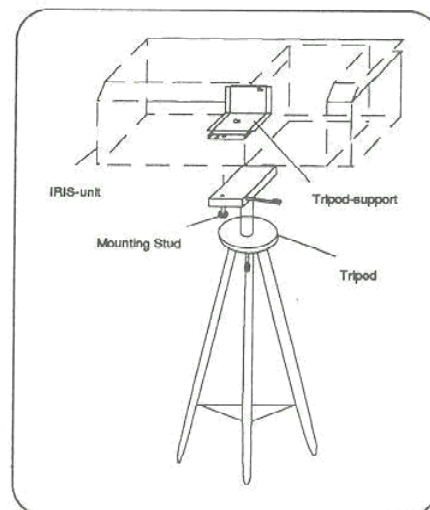


446

### Stand-alone installation

#### a. Mounting the IRIS-800 on a Tripod

- Place the assembly on a solid tripod carefully lining up the treated hole in the tripod support with the hole for the mounting stud in the base of the tripod.
- Secure the position with the mounting stud.



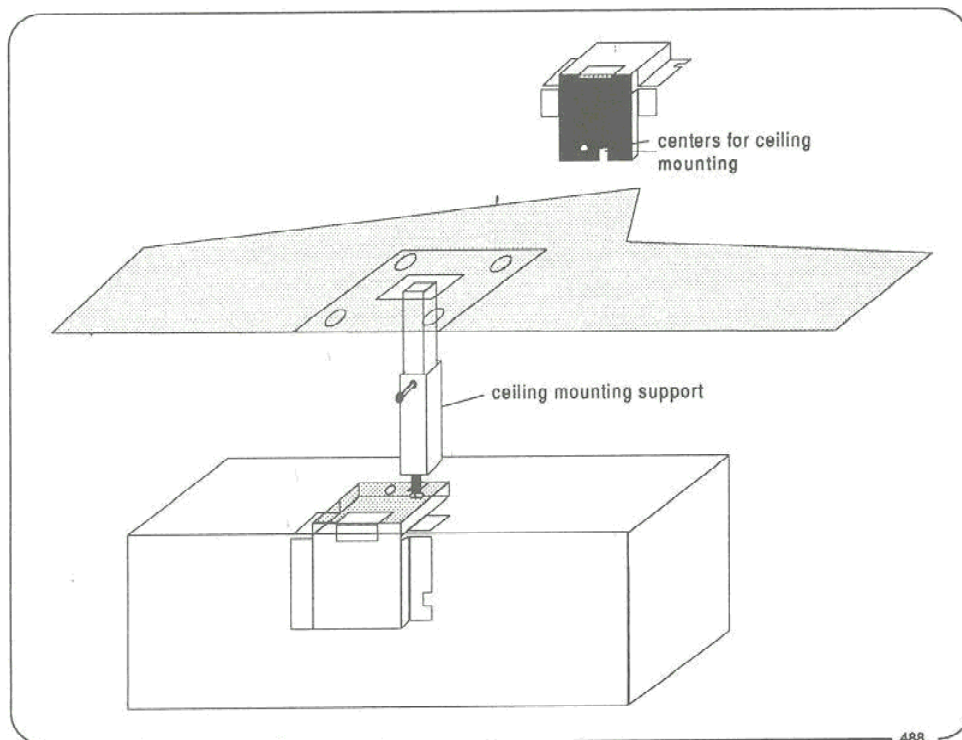
482



### b. Mounting the IRIS-800 to the ceiling

#### WARNING

*The ceiling should be capable of supporting a weight of at least 25 kg (55.1 lbs). If it cannot, the ceiling must be reinforced. Improper installation may result in serious personal injury.*



- The ceiling mount support has to be developed by the customer. The distance between ceiling and IRIS-800-unit can be determined using the installation diagrams of the projector.
- Provide onto the lower end of the ceiling-support a mounting system for the tripod-support.
- The IRIS-800-unit has to be mounted by the tripod-support interface.

## INSTALLATION GUIDELINES

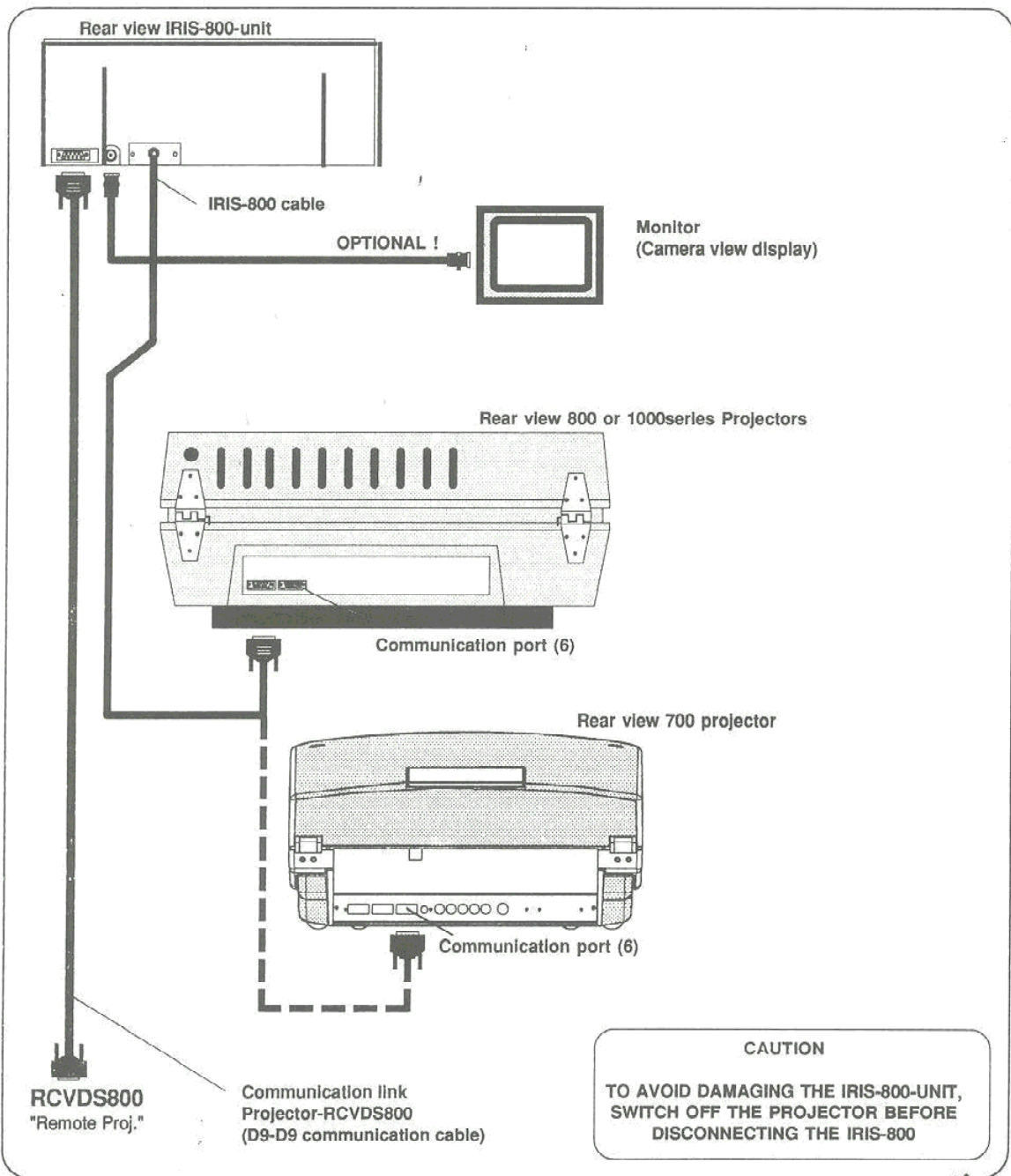
### IRIS-800 - PROJECTOR INTERCONNECTION

- Make sure the projector is switched OFF.
- Plug the D-9 connector of the IRIS-800 cable into the COMMUNICATION port (6) of the projector.
- Plug the D-9 connector of the RCVDS remote cable into the D-9 socket on the IRIS-800, if in use.

To make the interconnection with a stand-alone placed IRIS-800, you can order a shielded D9-D9 communication wire :

cable length  
30 m.

order number  
98 27870



**UNLOCKING THE MIRROR**

**CAUTION**

The mirror in the IRIS-800 unit is locked to prevent breaking when moving the unit. Unlock the mirror first, before starting the automatic convergence adjustments. Be sure the mirror lock is fully backwards !

**MIRROR LOCKED**

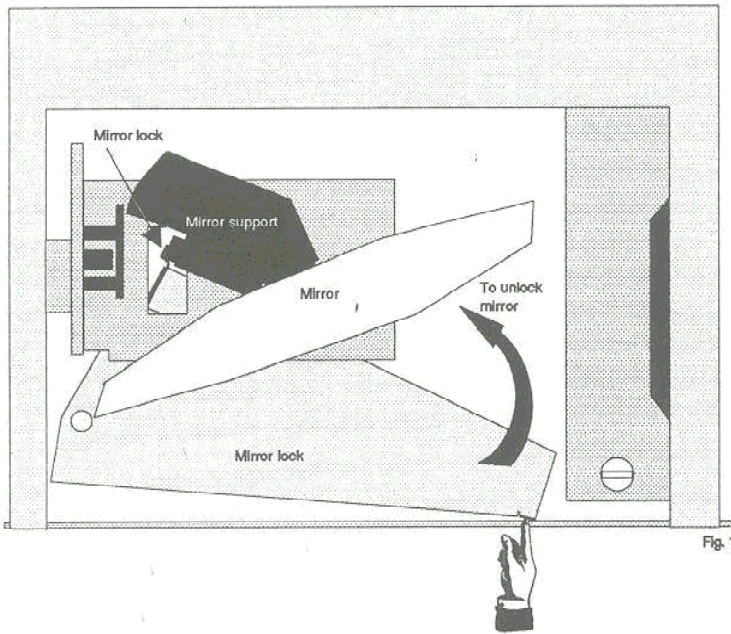


Fig. 1

Push to unlock mirror (move the mirror lock fully backwards, see fig. 2)

**MIRROR UNLOCKED**

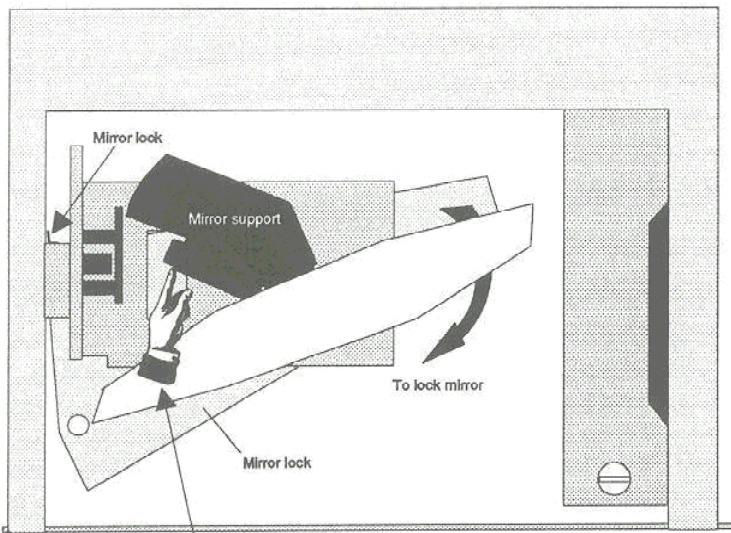


Fig. 2

Push mirror support fully backwards and pull the mirror lock towards you until the mirror is locked, see fig. 1)

Proceed to starting the automatic convergence adjustments now.



## OPERATION INSTRUCTIONS FOR "Automatic Convergence"

### OPERATION INSTRUCTIONS FOR "Automatic Convergence"

#### STARTING THE AUTOMATIC CONVERGENCE ADJUSTMENTS

p14

##### Path 1

1. Entering the password
2. Selecting IRIS
3. IRIS-800 starts up

##### Path 2

1. Pressing ENTER
2. IRIS-800 starts up

##### Path 3

1. Entering the password
2. Selecting IRIS
3. IRIS-800 starts up

##### Path 4

1. Selecting IRIS
2. IRIS-800 starts up

#### THE IRIS-800 MENU

p22

##### SET-UP of the IRIS-800 system

1. Focusing the camera lens
2. Learning the screen

##### Autoconvergence

1. Adjusting the selected source
2. Adjusting all stored blocks

#### ERROR CONDITIONS

p27

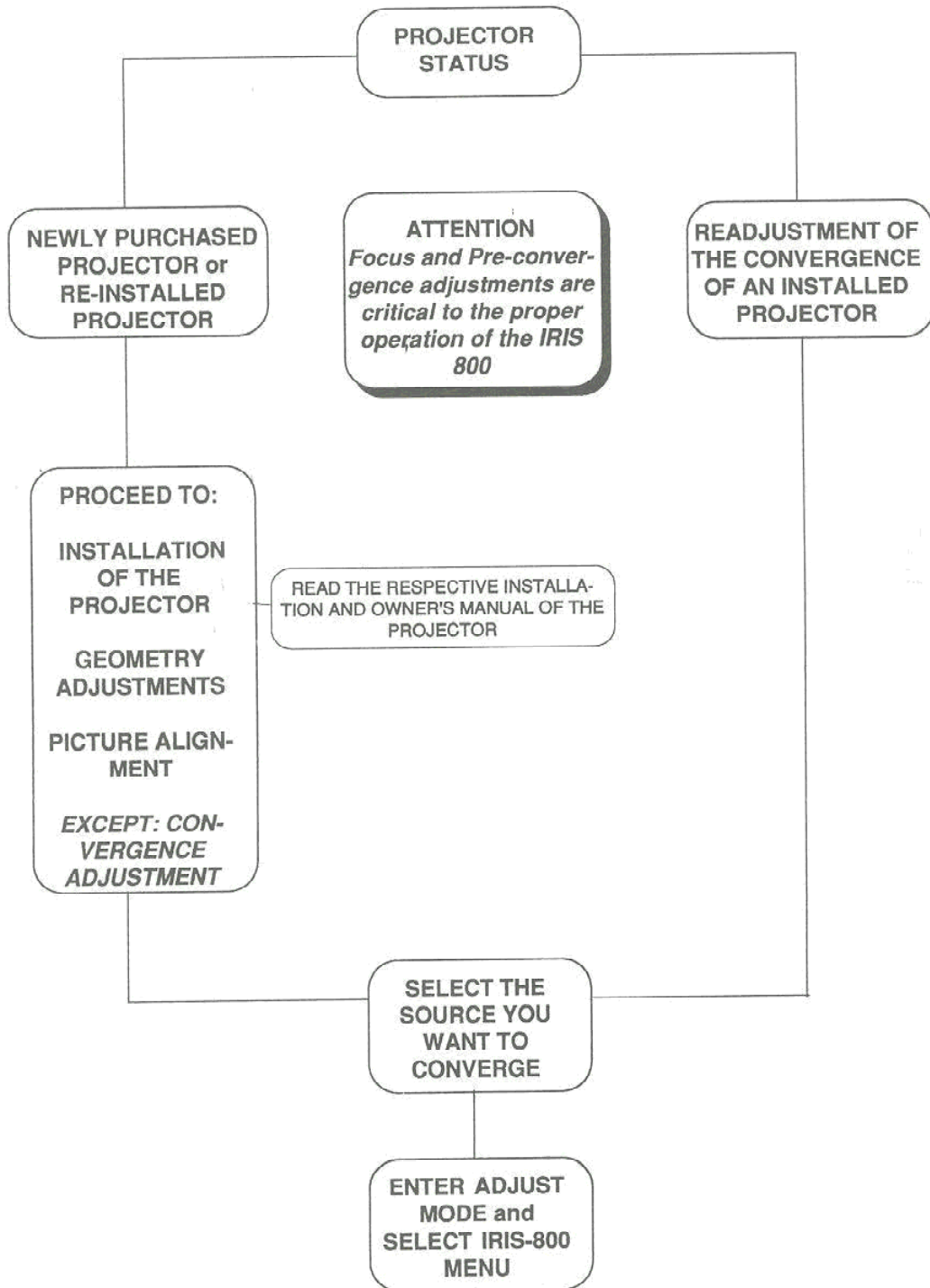
##### Before entering the IRIS-800 menu

##### While in the IRIS-800 menu

##### Error messages

# OPERATING INSTRUCTIONS FOR "Automatic Convergence"

## STARTING THE AUTOMATIC CONVERGENCE ADJUSTMENTS

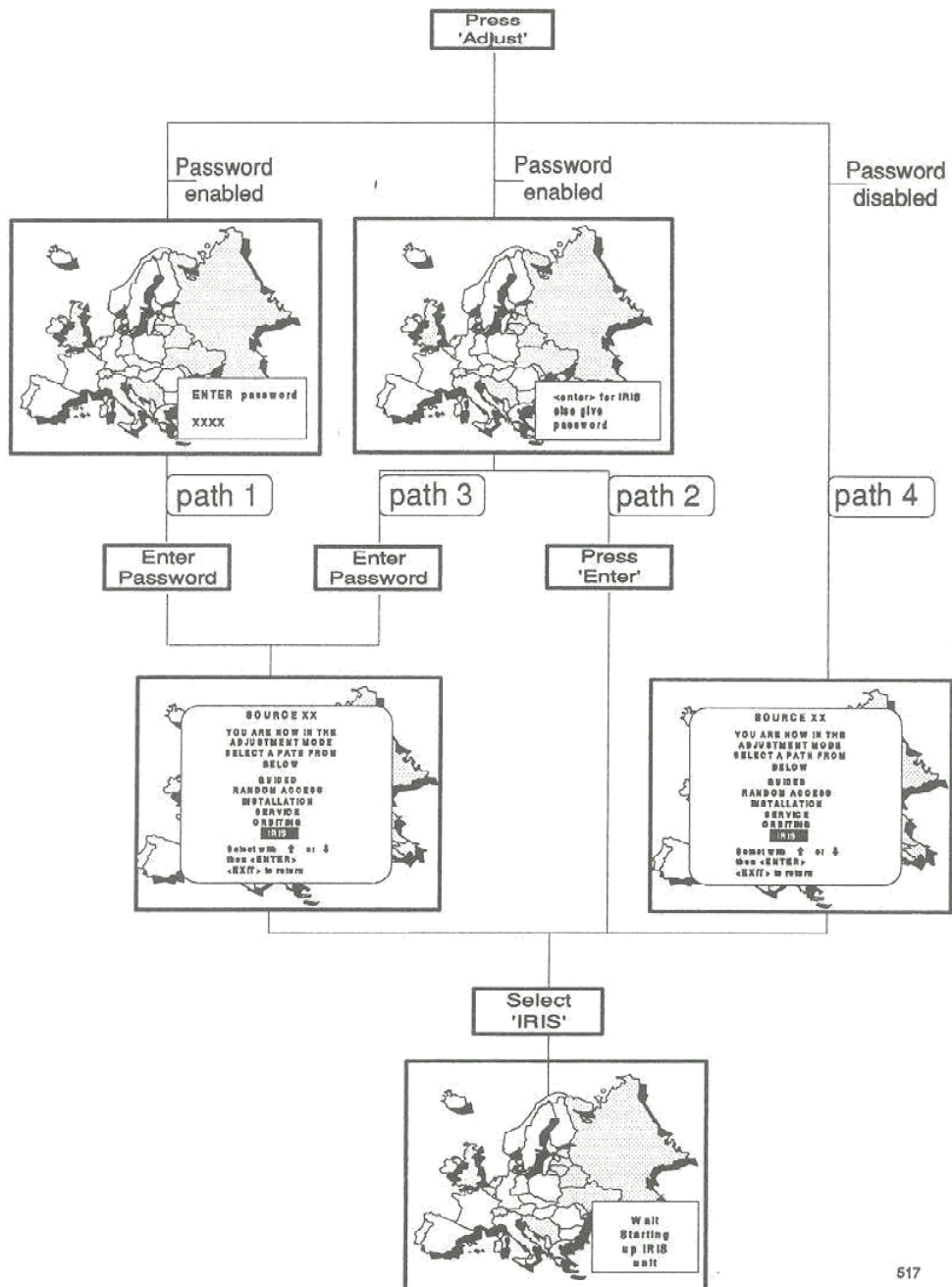
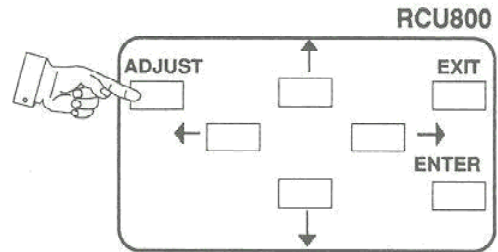


# OPERATION INSTRUCTIONS FOR "Automatic Convergence"

The operation is the same for projector mounted IRIS-800-unit as for standing alone unit.

For IRIS-800-operation the adjustment mode has to be selected.

To enter the Adjustment Mode, press the **ADJUST** key on the RCU800. Depending on the projector software version and when the password function is active, follow the next instructions.



OPERATION INSTRUCTIONS FOR "Automatic Convergence"



# OPERATING INSTRUCTIONS FOR "Automatic Convergence"

## REMARK :

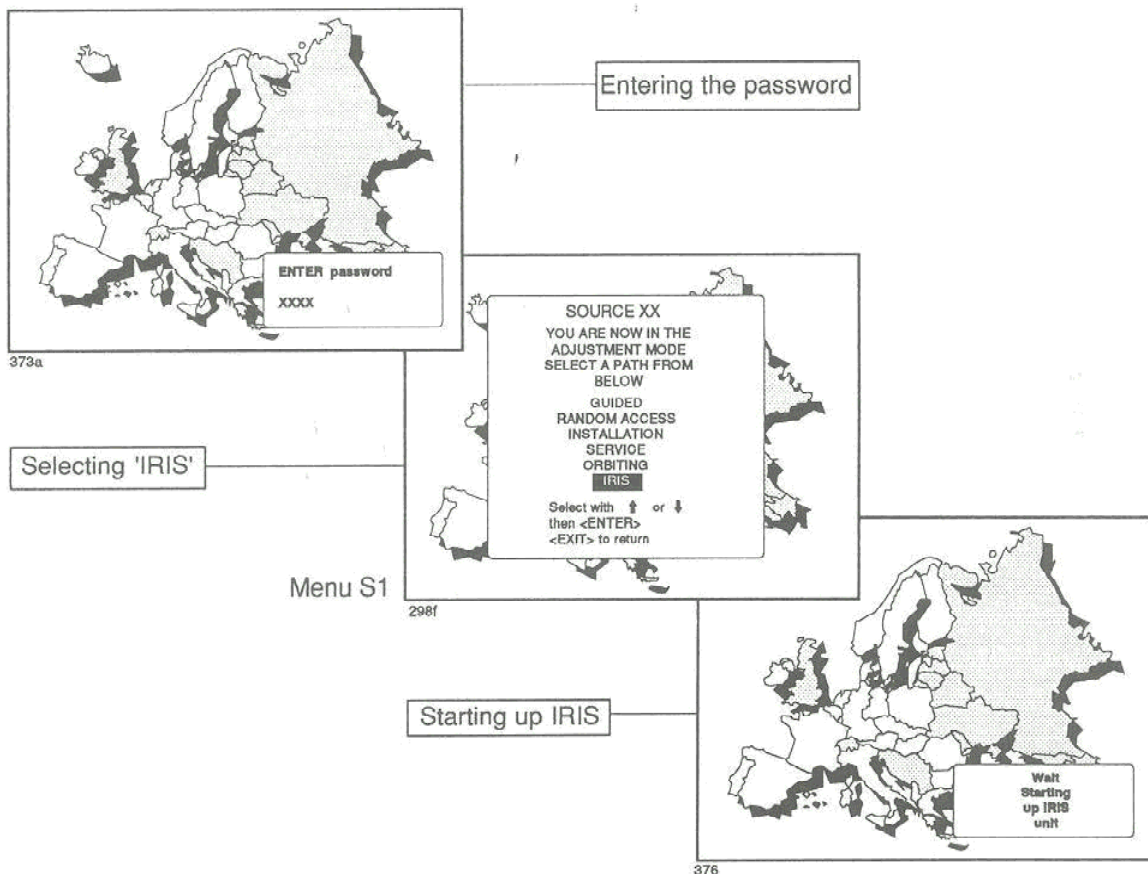
When IRIS is not visible on the path selection menu, then check

- the interconnections
- the projector software

The 'BARCO STARTUP' screen gives the version of the projector software. For more information see your projector owner or service manual. For the Barco 800 series projectors is an upgrade kit available which allows the IRIS-800 operation and a software upgrading 3.00 or higher. The ordernr :

BARCODATA 800	ordernr 76 1891
BARCOGRAPHICS 800	ordernr 76 1892

## PATH 1



### 1. Entering the password

Your password contains 4 digits. Enter the digits with the numeric keys on the RCU800.

Example : 2319

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

When your password is correct, you get access to the 'Adjust mode'. The path selection menu 'S1' is displayed on the screen.

Factory programmed password

1 9 9 0

## OPERATION INSTRUCTIONS FOR "Automatic Convergence"

### 2. Select IRIS-800

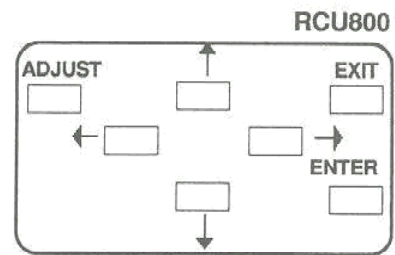
The projector is now in the 'Adjust mode'.

On the RCU800 :

The arrow keys ↓ ↑ are used to make menu selections.

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

The **ADJUST** key can be used to terminate the adjustment mode while a path selection menu (head menu) is displayed.



### Entering and leaving the IRIS-800 menu

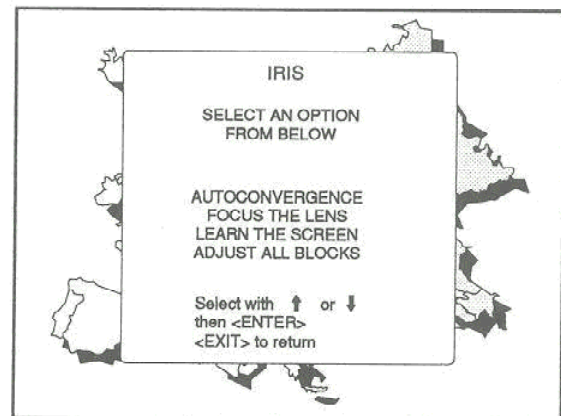
When the IRIS-800 system is properly connected to an adapted projector for IRIS-800 operation, this menu shows the extra IRIS-800 option.

Press the arrow keys ↓ ↑ to highlight the IRIS option on 'menu S1' and then press **ENTER** to confirm.

**ENTER** confirms your entry and continues to IRIS mode (menu IR1)  
**EXIT** returns to operational mode.

### 3. IRIS-800 starts up

The IRIS-800 system starts up. Besides initializing internal status, the main function here is to apply power to the stepper motors and to bring them to their home position. At the end of a successful start-up the projector displays the IRIS-800 menu 'menu IR1'.

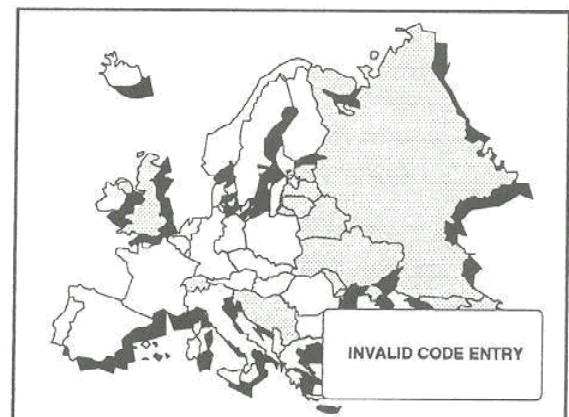


523e

### **Attention :**

When the entered password is wrong, the following message will be displayed : 'invalid code entry'. The projector stays in the operational mode.

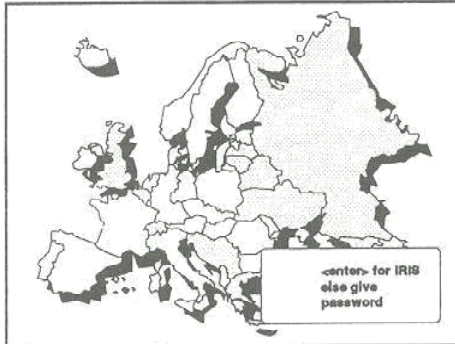
Remark : when no password is entered within a minute, the projector automatically returns to the operational mode.



377

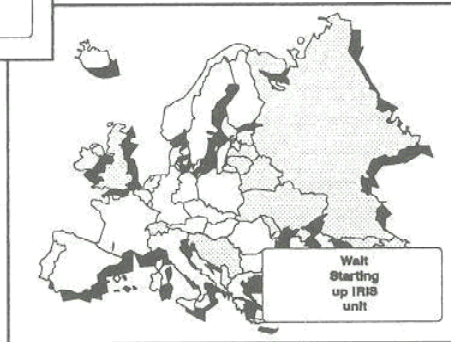
# OPERATING INSTRUCTIONS FOR "Automatic Convergence"

## PATH 2



373

Pressing 'ENTER'



376

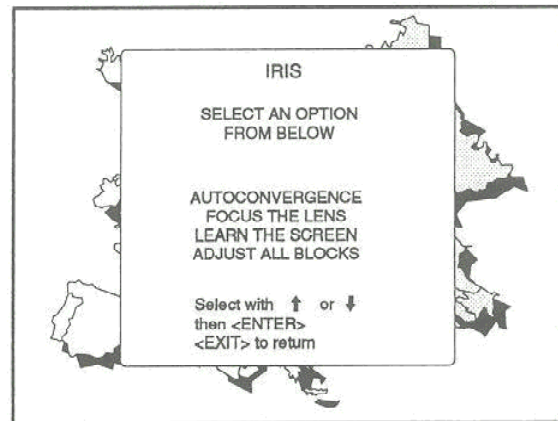
Starting up IRIS

### 1. Pressing ENTER

When you press **ENTER**, the IRIS-800 starts up immediately.

### 2. IRIS-800 starts up

The IRIS-800 system starts up. Besides initializing internal status, the main function here is to apply power to the stepper motors and to bring them to their home position. At the end of a successful start-up the projector displays the IRIS-800 menu 'menu IR1'.

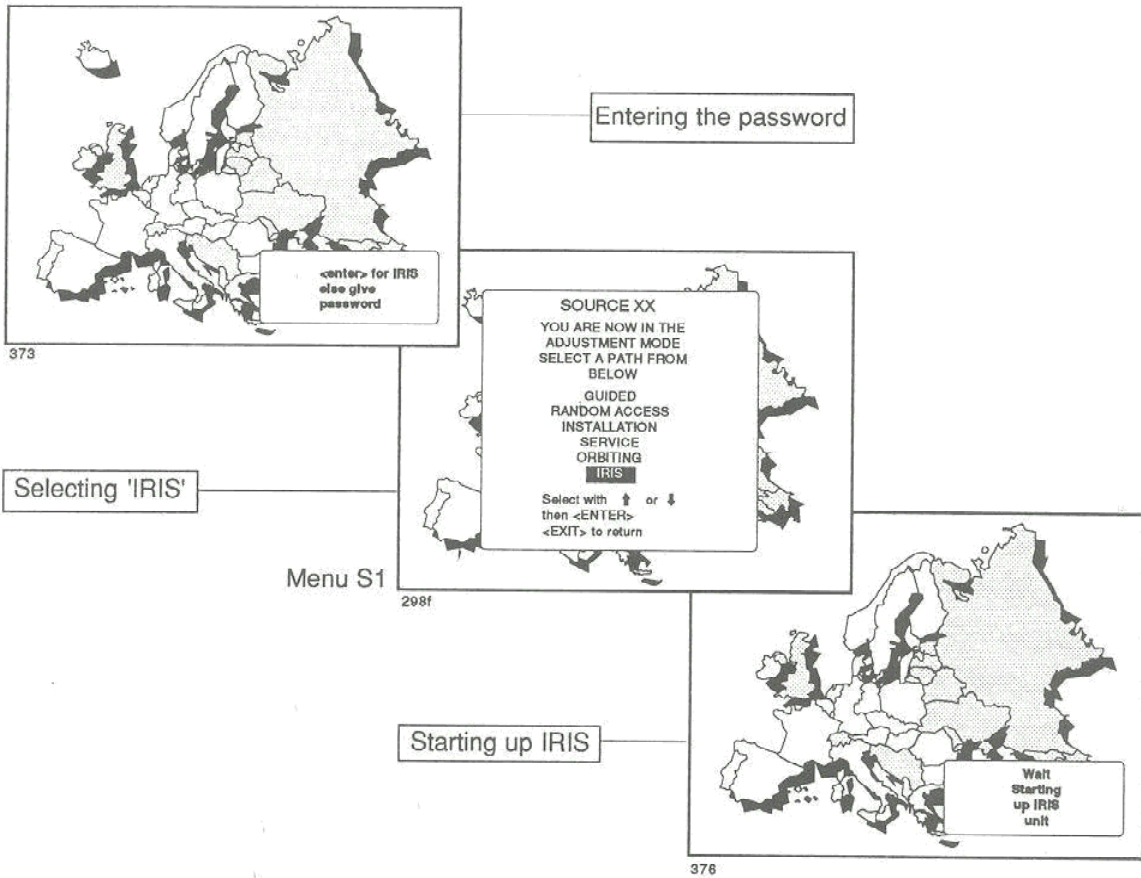


523e



# OPERATION INSTRUCTIONS FOR "Automatic Convergence"

## PATH 3



### 1. Entering the password

Your password contains 4 digits. Enter the digits with the numeric keys on the RCU800.

Example : 2319

For each digit entered, an "X" appears on the screen under the displayed text 'enter password'. When your password is correct, you get access to the 'Adjust mode'. 'menu S1' is displayed on the screen.

Factory programmed password

1 9 9 0

### 2. Select IRIS

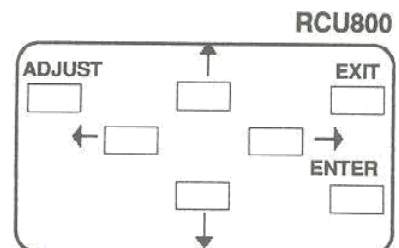
The projector is now in the 'Adjust mode'.

On the RCU800 :

The arrow keys ↓ ↑ are used to make menu selections.

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

The ADJUST key can be used to terminate the adjustment mode while a path selection menu (head menu) is displayed.



## OPERATING INSTRUCTIONS FOR "Automatic Convergence"

### Entering and leaving the IRIS-800 menu

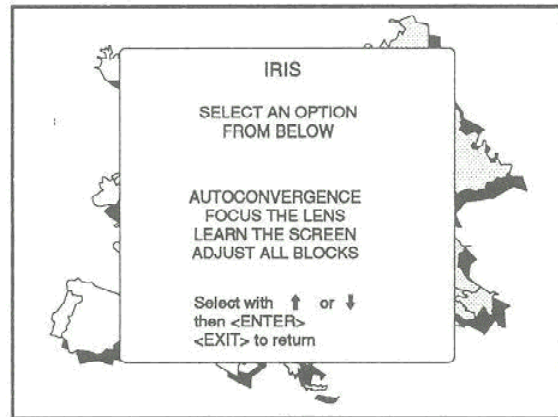
When the IRIS-800 system is properly connected to an adapted projector for IRIS-800 operation, this menu shows the extra IRIS-800 option.

Press the arrow keys ↓ ↑ to highlight the IRIS option on 'menu S1' and then press ENTER to confirm.

**ENTER** confirms your entry and continues to IRIS mode (menu IR1)  
**EXIT** returns to operational mode.

### 3. IRIS-800 starts up

The IRIS-800 system now starts up. Besides initializing internal status, the main function here is to apply power to the stepper motors and to bring them to their home position. At the end of a successful start-up the projector displays the IRIS-800 menu 'menu IR1'.

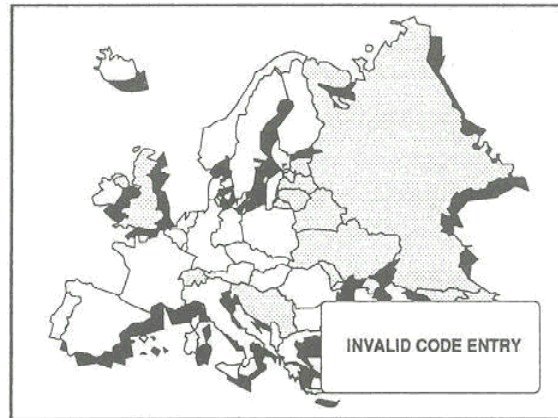


529a

### Attention :

When the entered password is wrong, the following message will be displayed : '*invalid code entry*'. The projector stays in the operational mode.

Remark : when no password is entered within a minute, the projector automatically returns to the operational mode.

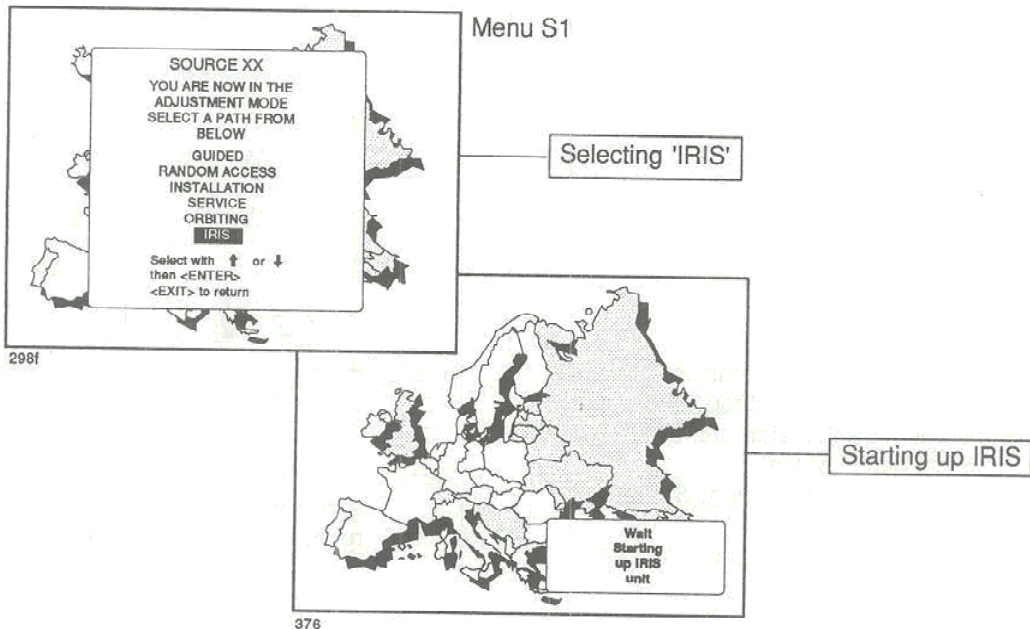


377



# OPERATION INSTRUCTIONS FOR "Automatic Convergence"

## PATH 4



### 1. Select IRIS

The projector is now in the 'Adjust mode'.

On the RCU800 :  
The arrow keys ↓ ↑ are used to make menu selections.  
The ENTER and EXIT keys are used to move forward and backward through the menu structure.  
The ADJUST key can be used to terminate the adjustment mode while a path selection menu (head menu) is displayed.

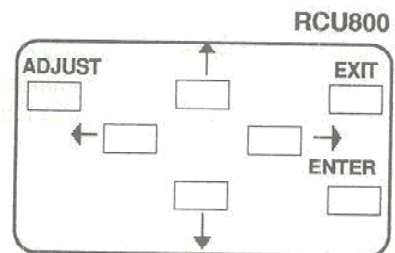
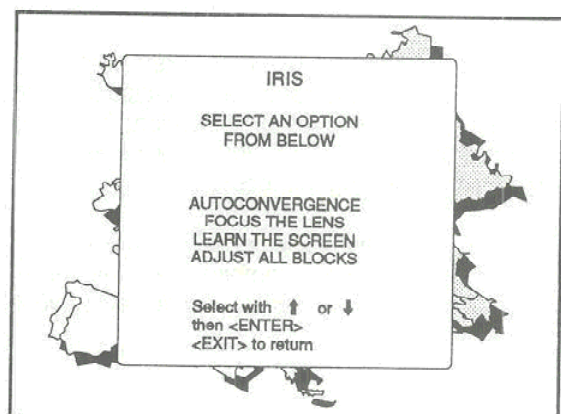
#### Entering and leaving the IRIS-800 menu

When the IRIS-800 system is properly connected to an adapted projector for IRIS-800 operation, this menu shows the extra IRIS-800 option.

Press the arrow keys ↓ ↑ to highlight the IRIS option on 'menu S1' and then press ENTER to confirm.

### 3. IRIS-800 starts up

The IRIS-800 system now starts up. Besides initializing internal status, the main function here is to apply power to the stepper motors and to bring them to their home position. At the end of a successful start-up the projector displays the IRIS-800 menu 'menu IR1'.



**ENTER** confirms your entry and continues to IRIS mode (menu IR1)  
**EXIT** returns to operational mode.



# OPERATING INSTRUCTIONS FOR "Automatic Convergence"

## THE IRIS-800 MENU

Remark :

When leaving the IRIS menu by pressing EXIT, the stepper motors remain powered for 2 more minutes. This ensures a quick restart of the IRIS-800 system within this period of time.

To return to the start up screen, 'menu S1' (leaving the IRIS-800 menu), press EXIT.

To return to the operation mode, press ADJUST.

### 1. SET-UP of the IRIS-800 system

#### 1. *Focusing the camera lens*

The lens in front of the camera must be focused on the projection screen, every time the position of the IRIS-800 system with respect to the projection screen has changed.

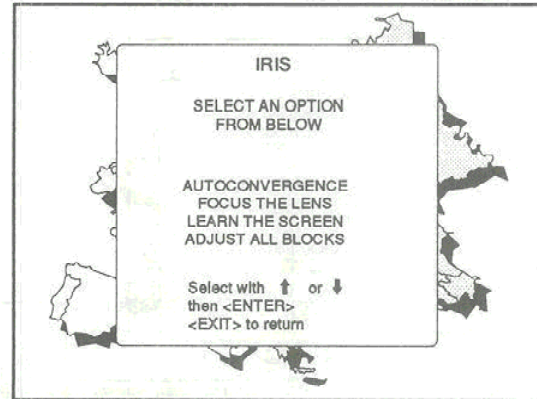
Remark :

***Make sure the projector is focused well***

Press the arrow keys  $\downarrow$   $\uparrow$  to highlight the option 'FOCUS THE LENS' and press ENTER to confirm.

The projector will display a horizontal line pattern and a text box with the bar scale indication 'CAMERA FOCUSING' and the number indication. This line pattern is used by the IRIS-800 software as a test pattern for optimizing the focus.

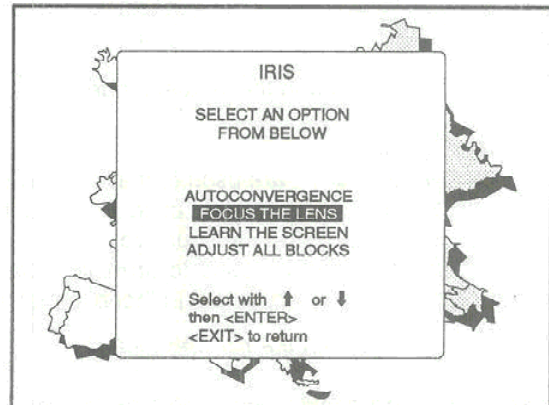
The number and the bar scale displays the result of this measurement. It is a combination of the measured line width and the measured video amplitude.



The IRIS-800 menu IR1

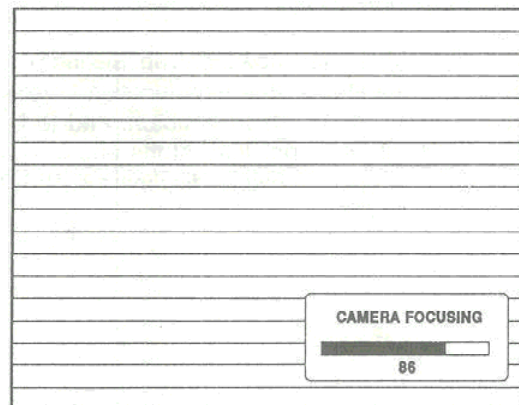
523a

**ENTER** confirms your entry  
**EXIT** returns to path selection menu S1  
**ADJUST** returns to operation mode



523a

**ENTER** continues to FOCUS THE LENS  
**EXIT** returns to IRIS-800 menu IR1

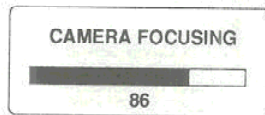


524

# OPERATION INSTRUCTIONS FOR "Automatic Convergence"

## Lens focusing:

- Loosen the camera lens locking screw (which is accessible through the hole on the front of the IRIS-800 unit if you did not remove the cover).
- Adjust the lens for a maximum bar scale read-out. Make sure not to cover part of the optical path from the lens to the screen.



- Secure the lens position by tightening the lens locking screw.

When a monitor is connected to the IRIS-800 unit the view of the camera can be followed.

Press **EXIT** to return to IRIS-800 menu IR1 (Leaving the focusing option)

- Replace the removed cover on the unit and turn the 2 screws to fasten the cover.

## 2. Learning the screen

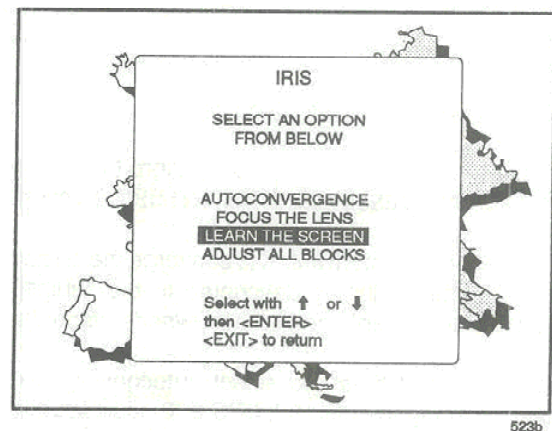
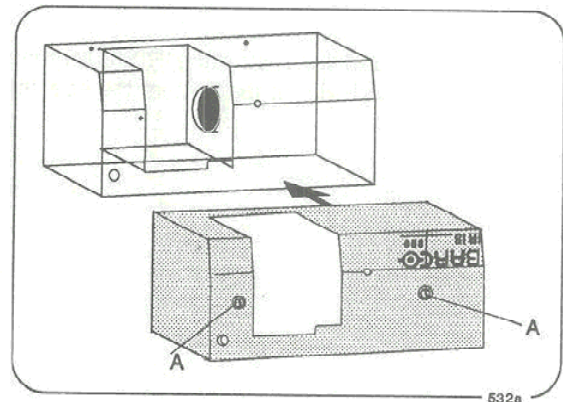
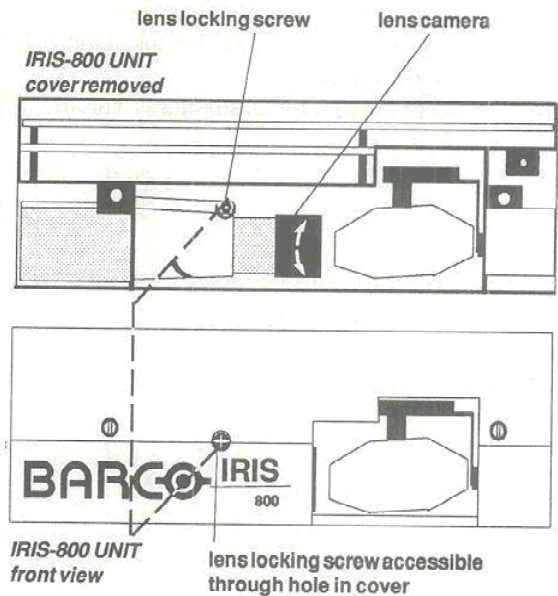
The physical setup of the projection screen must be learned by IRIS-800, **every time** the position of the IRIS-800 system with respect to the projection screen has changed or the dimensions of the screen have changed.

### **Important :**

*For this option 'learning the screen', the projector has to display a source that fills the screen completely, both in the horizontal and vertical direction.*

*Make sure the horizontal and vertical size adjustments are set to slightly underscan the screen borders (the screen borders are not illuminated).*

Press the arrow keys  $\downarrow \uparrow$  to highlight the option 'LEARN THE SCREEN' and press **ENTER** to confirm.



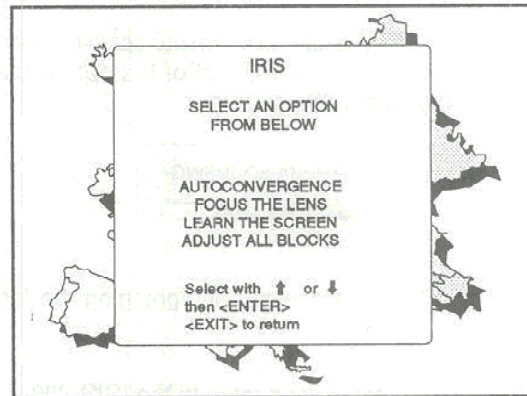


## OPERATING INSTRUCTIONS FOR "Automatic Convergence"

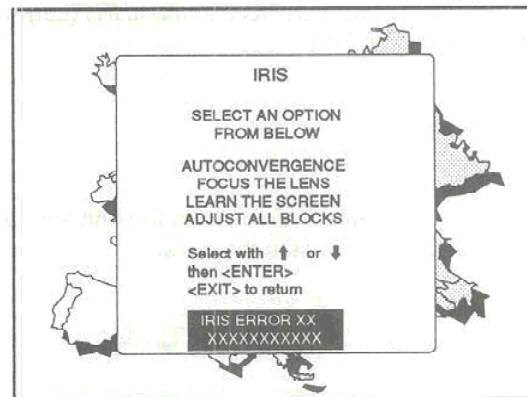
The IRIS-800 system determines the scan directions of the projector and finds the left, right, top and bottom edge of the screen by using test lines with the same width, height and blanking settings as those of the selected source.

The results of these measurements are stored in a non-volatile memory.

At the end of the LEARN procedure the IRIS-800 menu *IR1* is displayed again.



When an error condition occurs, the IRIS-800 menu *IR1* is redisplayed with at the bottom the specific error message.



Note: you can interrupt the learn procedure with EXIT; however, the previous settings will be retained.

**ENTER** continues to LEARN THE SCREEN.  
**EXIT** returns to IRIS-800 menu *IR1*

### 2. Autoconvergence

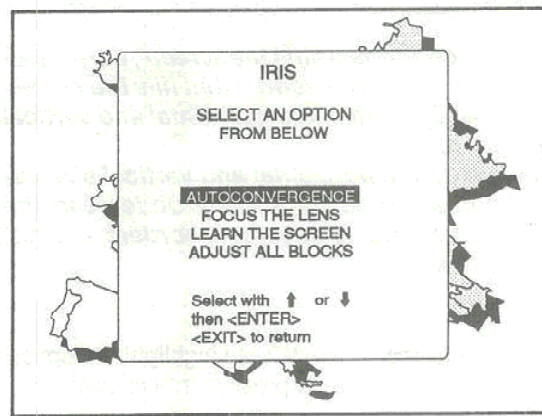
#### 1. Adjusting the selected source

Press the arrow keys ↓ ↑ to highlight the option 'AUTOCONVERGENCE' and press **ENTER** to confirm.

The IRIS-800 system starts to converge the screen in the same order as described in the "GUIDED ADJUSTMENT" (Explained in the Owner's manual).

If it is the first time you select autoconvergence after 'learning the screen', IRIS-800 searches the motor positions for the different adjustment areas, using information from the learn procedure.

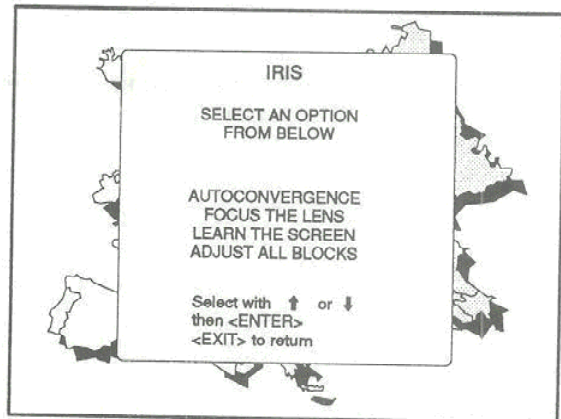
These areas are stored in a non-volatile memory for further use during new runs.





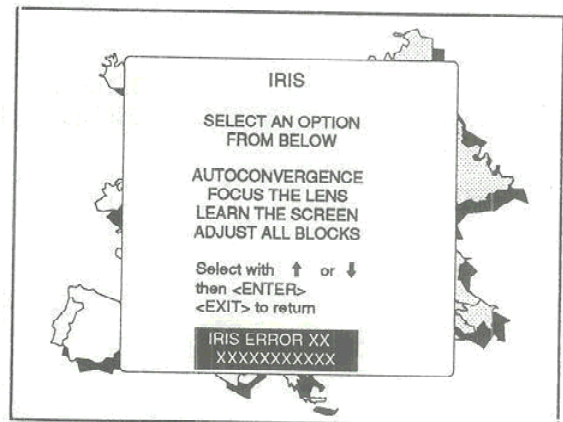
# OPERATION INSTRUCTIONS FOR "Automatic Convergence"

After all sources have been aligned the IRIS-800 menu *IR1* is displayed again.



523e

When an error condition occurs, the IRIS-800 menu *IR1* is redisplayed with at the bottom the specific error message.



523d

Note: you can interrupt this procedure with EXIT; however, in this case the current source will not be correctly aligned.

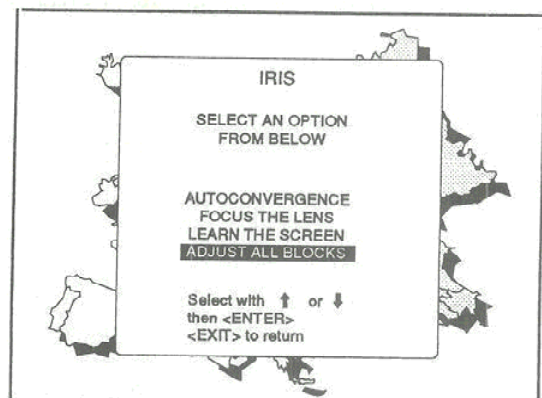
**ENTER** continues to AUTOCONVERGENCE  
**EXIT** returns to IRIS-800 menu *IR1*

## 2. Adjusting all stored blocks

This option is useful if the projector is free for a longer period of time and you want to **reconverge all sources** that exist in the projector's non-volatile memory.

Press the arrow keys ↓ ↑ to highlight the option 'ADJUST ALL BLOCKS' and press ENTER to confirm.

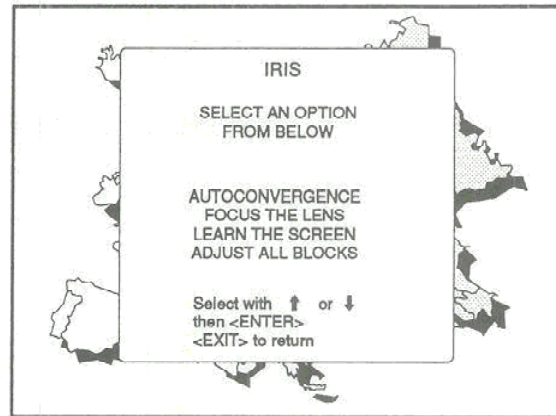
The projector software schedules the autoconvergence option of the IRIS-800 system for every valid block stored in the projector's non-volatile memory.



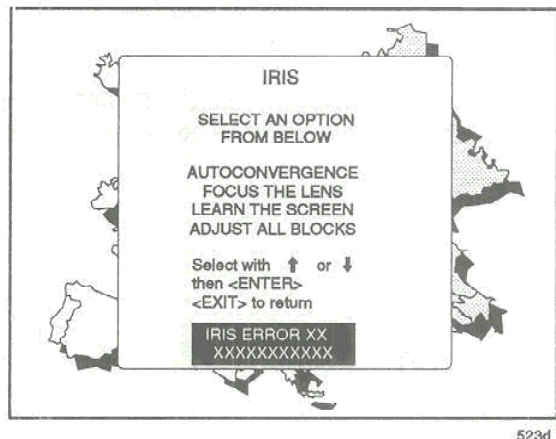
523c

## OPERATING INSTRUCTIONS FOR "Automatic Convergence"

After all sources have been aligned the IRIS-800 menu *IR1* is displayed again.



When an error condition occurs, the IRIS menu *IR1* is redisplayed with the specific error message at the bottom.



Note: you can interrupt this procedure with **EXIT**; however, in this case the source that is currently being adjusted, will not be aligned correctly.

**ENTER** continues to **ADJUST ALL BLOCKS**  
**EXIT** returns to IRIS-800 menu *IR1*

Remark : when you keep getting error messages while adjusting all blocks, check your blocks. It is recommendable to delete the superfluous blocks (Described in the 'DELETE A BLOCK', explained in the Owner's manual).

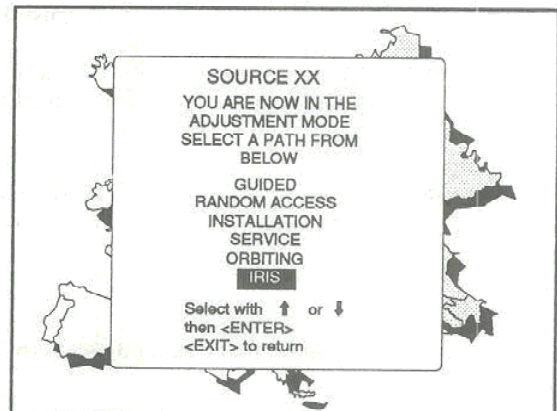
# OPERATION INSTRUCTIONS FOR "Automatic Convergence"

## ERROR CONDITIONS

### 1. Before entering the IRIS-800 menu

If the IRIS-800 system cannot communicate with the projector just after the projector has started, the **IRIS-800 option is not displayed** in the projector path selection menu *S1*.

If the IRIS-800 system cannot initialize successfully in response to selecting the IRIS-800 option in the path selection menu *S1*, the projector returns to its path selection menu *S1*.

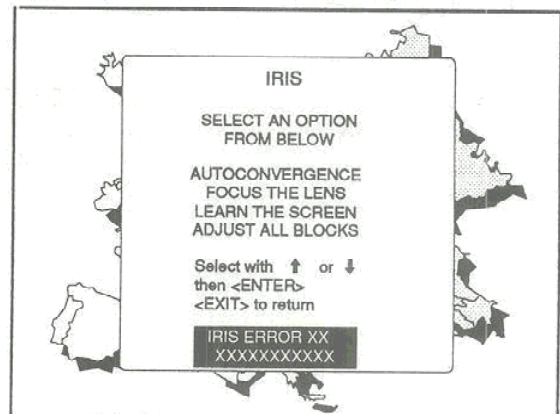


Menu S1

298f

### 2. While in the IRIS-800 menu

The IRIS-800 system can stop executing a menu option and issue an error message. This error message will be displayed in the IRIS-800 menu.



Menu IR1

523d

### 3. Error messages

#### **IRIS ERROR 01 IRIS HW ERROR**

The IRIS system detects an internal hardware malfunction

#### **IRIS ERROR 02 MOTOR LIMIT LEFT**

While approaching the left side of the screen, the stepper motors reached the end of their range; the positioning of the IRIS-800 unit with respect to the screen is incorrect

#### **IRIS ERROR 03 MOTOR LIMIT RIGHT**

While approaching the right side of the screen, the stepper motors reached the end of their range; the positioning of the IRIS-800 unit with respect to the screen is incorrect

#### **IRIS ERROR 04 MOTOR LIMIT TOP**

While approaching the topside of the screen, the stepper motors reached the end of their range; the positioning of the IRIS-800 unit with respect to the screen is incorrect



## OPERATING INSTRUCTIONS FOR "Automatic Convergence"

**IRIS ERROR 05  
MOTOR LIMIT BOTTOM**

While approaching the bottom side of the screen, the stepper motors reached the end of their range; the positioning of the IRIS-800 unit with respect to the screen is incorrect

**IRIS ERROR 06  
PATTERN NOT FOUND**

The IRIS-800 system could not find an expected test pattern; check pattern visibility

**IRIS ERROR 07  
CONVERGENCE LIMIT**

The convergence settings reached their limit; the convergence cannot be aligned in these circumstances.

In addition, the projector can display a message when an IRIS-800 activity is stopped in an unusual way.

**IRIS ERROR 08  
QUIT DUE TO EXIT**

IRIS-800 activity stopped because of "EXIT" key; function not executed completely.

**IRIS ERROR 09  
QUIT AT BLOCK xx**

ADJUST ALL BLOCKS STOPPED because of the reported error condition, while converging block xx. (Source at block XX will not be properly converged)

**LENS CLEANING PROCEDURE**

**LENS CLEANING PROCEDURE**

## LENS CLEANING PROCEDURE

To minimize the possibility of damaging the optical coating or scratching exposed lens surfaces, we have developed recommendations for cleaning the camera lens or the mirror.

**First, we recommend you try to remove any material from the lens by blowing it off with deionized air or lightly brushing it with a soft, camel's hair brush.**

1. DO NOT spray any type of fluid directly on the lens surface.
2. DO NOT use any dry material to clean the surface (dry rag, tissue, etc.)
3. Use a commercial liquid window cleaner (such as Windex, Sparkle, or Glass Plus). DO NOT use an aerosol. Other cleaning agents, such as laboratory grade acetone or a 70-30 mixture of ethyl ether and ethyl alcohol may also be used.
4. Use a soft cotton cloth (cotton diapers laundered several times to remove sizing) or any soft facial tissue (Charmin, Softweve, etc.).
5. When using window cleaner, moisten the cloth or tissue and lightly wipe the surface. Then lightly dry with a new tissue.
6. When using acetone or ethyl ether mixture, proceed as follows :

Fold the cloth or tissue several times to form a pad. Soak the folded end of the pad in the acetone. Starting at the diameter opposite you, immediately wipe the coated lens or mirror, with very little pressure, toward you in a straight line and off the lens. Do not stop with the tissue on the lens. Wipe at a speed that is equal to the evaporation rate. This is very important to prevent streaking and spotting. Start your wiping at one side of the lens or mirror and, with successive wipes, move to the other side. Turn the pad over for each wipe, then inside out. DO NOT make more than one wipe per clean area of pad. Be careful of the painted edge, since acetone will soften it.



