BARCO

BARCO PROJECTION SYSTEMS

BARCO DATA 808

R9002030
R9002039

INSTALLATION MANUAL

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Revision:
01

Art. No.
R5975416

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

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Notice on Safety

Projectors are built in accordance with the requirements of the international safety standards EN60950, UL 1950 and CSA C22.2 No 950, which are the safety standards of information technology equipment including electrical business equipment.

These safety standards impose important requirements on the use of safety critical components, materials and isolation, in order to protect the user or operator against risk of electric shock and energy hazard, and having access to live parts. Safety standards also impose limits to the internal and external temperature conditions, radiation levels, mechanical stability and strength, enclosure construction and protection against the risk of fire.

Simulated single fault condition testing ensures the safety of the equipment to the user even when the equipment's normal operation fails.

INSTALLATION INSTRUCTIONS

Before operating your projector please read this manual thoroughly, and retain it for future reference.

Installation and preliminary adjustments should be performed by qualified BARCO personnel or by authorized BARCO service dealers.

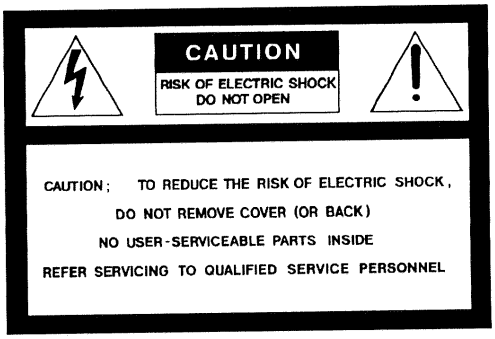
OWNER'S RECORD

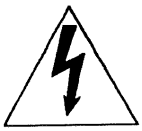
The model number and serial number are located at the left side of the projector. Record these numbers in the spaces provided below. Refer to them whenever you call upon your BARCO dealer regarding this product.

MODEL NUMBER:

SERIAL NUMBER:

DEALER:





The lightning flash with an arrowhead within a triangle is intended to tell the user that parts inside this product may cause a risk of electrical shock to persons.

The exclamation point within a triangle is intended to tell the user that important operating and/or servicing instructions are included in the technical documentation for this equipment.

WARNING
TO PREVENT FIRE OR ELECTRICAL SHOCK HAZARD, DO NOT EXPOSE THIS PROJECTOR TO RAIN OR MOISTURE

FEDERAL COMMUNICATION COMMISSION (FCC STATEMENT)

This equipment has been tested and found to comply with the limits of a class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help.

* All the safety and operating instructions should be read before using this unit.

* The safety and operating instructions manual should be retained for future reference.

* All warnings on the projector and in the documentation manuals should be adhered to.

* All instructions for operating and use of this equipment must be followed precisely.

On Safety

1. This product should be operated from an AC power source

Operating AC power voltage of the projector when leaving the factory:

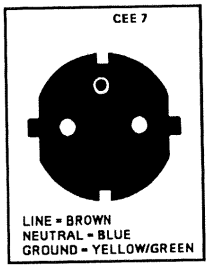
BARCODATA 808
Art.No. R9002030 (*230V AC*) Art. No. R9002039 (*120VAC*)

Consult the appropriate section of this manual to switch over from 230 Vac to 120 Vac or from 120 Vac to 230 Vac.
If you are not sure of the type of AC power available, consult your dealer or local power company.

2. This product is equipped with a 3-wire grounding plug, a plug having a third (grounding) pin. This plug will only fit into a grounding-type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the purpose of the grounding-type plug.

WARNING FOR THE CUSTOMERS: THIS APPARATUS MUST BE GROUNDED (EARTHED) via the supplied 3 conductor AC power cable.
(If the supplied power cable is not the correct one, consult your dealer.)

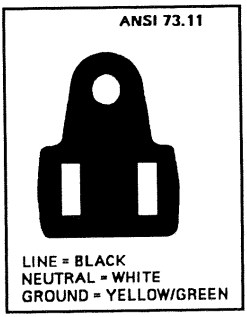
A. Mains lead (AC Power cord) with CEE 7 plug:



The colors of the mains lead are colored in accordance with the following code:

Yellow + Green:	Earth (safety earth)
Blue:	Neutral
Brown:	Line (Live)

B. Power cord with ANSI 73.11 plug:



The wires of the power cord are colored in accordance with the following code.

Yellow + Green:	ground
White:	neutral
Black:	line (live)

3. Do not allow anything to rest on the power cord. Do not locate this product where persons will walk on the cord.

To disconnect the cord, pull it out by the plug. Never pull the cord itself.

4. If an extension cord is used with this product, make sure that the total of the ampere ratings on the products plugged into the extension cord does not exceed the extension cord ampere rating. Also make sure that the total of all products plugged into the wall outlet does not exceed 15 amperes.

5. Never push objects of any kind into this product through cabinet slots as they may touch dangerous voltage points or short out parts that could result in a risk of fire or electrical shock.

Never spill liquid of any kind on the product. Should any liquid or solid object fall into the cabinet, unplug the set and have it checked by qualified service personnel before resuming operations.

6. Lightning - For added protection for this video product during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet. This will prevent damage to the projector due to lightning and AC power-line surges.

On Installation

1. Do not place this projector on an unstable cart, stand, or table. The projector may fall, causing serious damage to it.

2. Do not use this projector near water.

3. Slots and openings in the cabinet and the back or bottom are provided for ventilation; to ensure reliable operation of the projector and to protect it from overheating, these openings must not be blocked or covered. The openings should never be blocked by placing the product on a bed, sofa, rug, or other similar surface.

This product should never be placed near or over a radiator or heat register. This projector should not be placed in a built-in installation or enclosure unless proper ventillation is provided.

On Servicing

Do not attempt to service this projector yourself, as opening or removing covers may expose you to dangerous voltage potentials and risk of electric shock!
Refer all sevicing to qualified service personnel.

Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:

a. When the power cord or plug is damaged or frayed.

b. If liquid has been spilled into the projector.

c. If the product has been exposed to rain or water.

d. If the product does not operate normally when the operating instructions are followed. Note : Adjust only those controls that are covered by the operating instructions since improper adjustment of the other controls may result in damage and will often require extensive work by a qualified technician to restore the product to normal operation.

e. If the product has been dropped or the cabinet has been damaged.

f. If the product exibits a distinct change in performance, indicating a need for service.

Replacement Parts - When replacement parts are required, be sure the service technician has used original BARCO replacement parts or authorized replacement parts which have the same characteristics as the BARCO original part. Use of unauthorized substitution parts may result in degraded performance and reliability, fire, electric shock or other hazards. Unauthorized substitutions may void warranty.

Safety Check - Upon completion of any service or repairs to this projector, ask the service technician to perform safety checks to determine that the projector is in proper operating condition.

On Cleaning

Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.

- To keep the cabinet looking brand-new, periodically clean it with a soft cloth. Stubborn stains may be removed with a cloth lightly dampened with mild detergent solution. Never use strong solvents, such as thinner or benzine, or abrasive cleaners, since these will damage the cabinet.

- To ensure the highest optical performance and resolution, the projection lenses are specially treated with an anti-reflective coating, therefore, avoid touching the lens. To remove dust on the lens, use a soft dry cloth. Do not use a damp cloth, detergent solution, or thinner.

On Repacking

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

On Illumination

In order to obtain the best quality for the projected image, it is essential that the ambient light which is allowed to fall on the screen be kept to an absolute minimum.

When installing the projector and screen, care must be taken to avoid exposure to ambient light directly on the screen. Avoid adverse illumination on the screen from direct sunlight or florescent lighting fixtures.

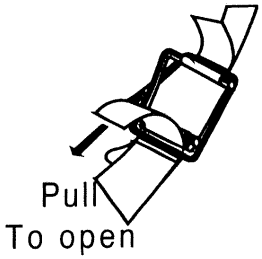
The use of controlled ambient lighting, such as incandescent spot light or a dimmer, is recommended for proper room illumination. Where possible, care should also be taken to ensure that the floors and walls of the room in which the projector is to be installed are non-reflecting, dark surfaces. Brighter surfaces will tend to reflect and diffuse the ambient light and hence reduce the contrast of the projected image on the screen.

UNPACKING

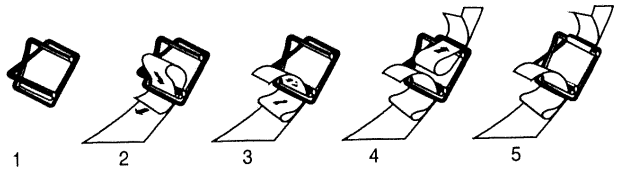
DIMENSIONS

Unpacking

To open the banding, pull on the clip as shown in the first drawing.



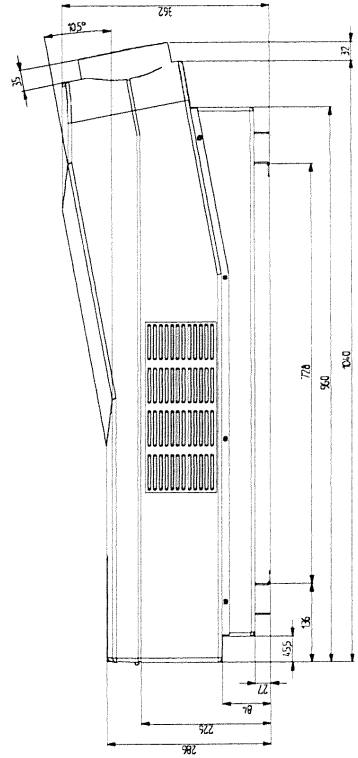
Take the projector out of its shipping carton and place it on a table.
Save the original shipping carton and packing material, they will come in handy if you ever have to ship your projector. For maximum protection, repack your projector as it was originally packed at the factory.

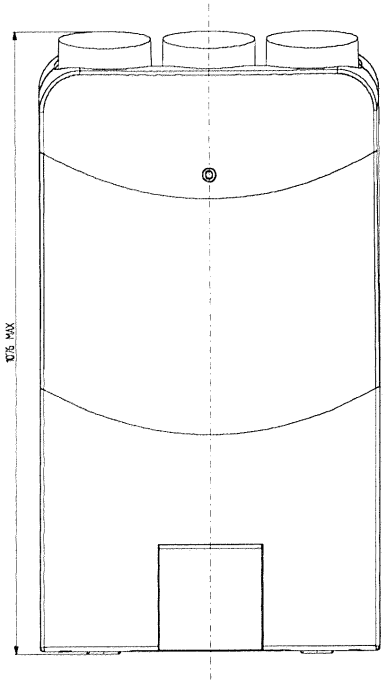


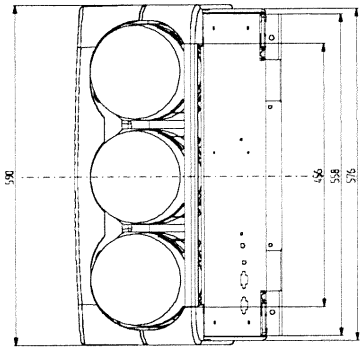
Contents of the shipped box :

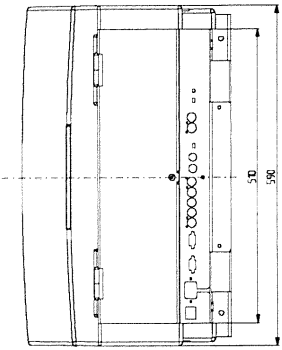
- 1 BARCODATA 808 projector.
- 1 remote control + 9 V battery
- 1 power cable with outlet plug type CEE7 or ANSI 73.11.
- 1 Owner's Manual.
- 1 Installation Manual.

Projector dimensions (in mm)









INSTALLATION GUIDELINES

Environment

What about ambient light?

Which screen type?

What image size? How big should the image be?

Where to install the projector?

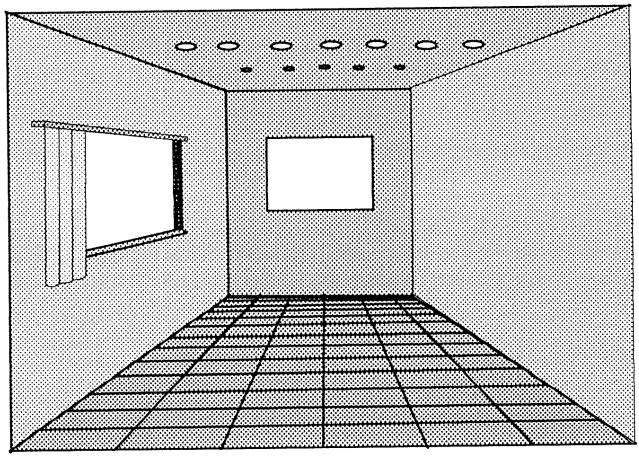
How to install the projector?

Installation guidelines

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

* 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 the temperature near the installation site is not excessive.



* What about ambient light ?

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

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

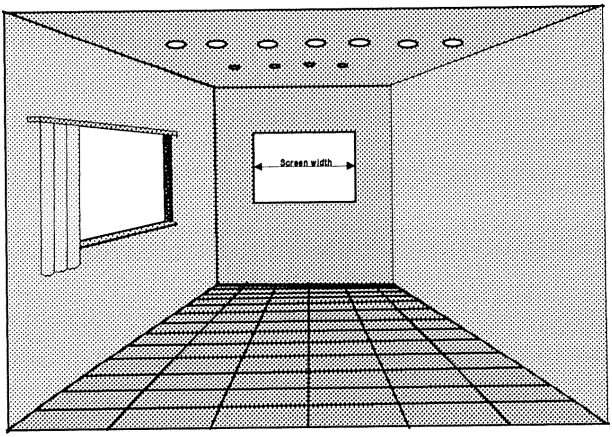
* Which screen type?

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

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

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

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



* What image size? How big should the image be?

The BARCODATA 808 is designed for projecting an image width from 1.4m (4.6') to 6m (20') with an aspect ratio of 4 to 3. It leaves the BARCO factory, adjusted as a ceiling/front projector for a screen width of 2.4m. Changing the image size from the factory preset size requires a realignment of the projector.

* Where to install the projector?

To indicate a correct installation position it is necessary to know the distance :
- from projector to ceiling
- from projector to screen

To find this correct position for the BARCODATA 808, equipped with HD8 lenses, 2 possible ways are indicated in the next paragraphs.

- a table which immediately gives the correct position PD and the Correction Value A for different screen widths.

- a formula which directly gives the correct position PD and the Correction Value A.

Abbreviations used on drawing and diagrams on next pages:

B = Distance between ceiling and top of the screen.

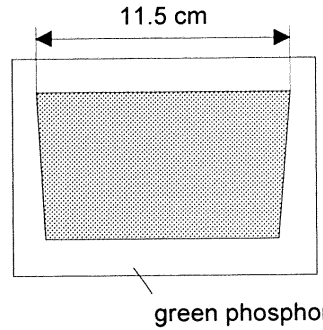
A = Correction Value, extra value to be added to B to obtain the correct installation position. (In some cases the A value can be negative.)

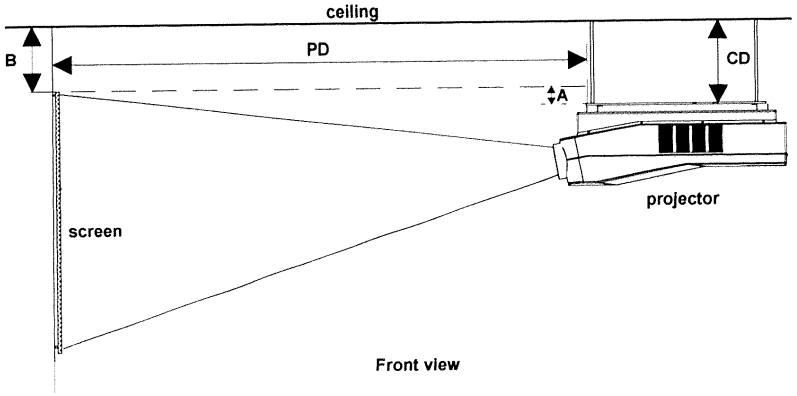
CD = Total distance between projector and ceiling.
CD = A + B (When the result is negative, enlarge the distance between ceiling and top of the screen, mount screen lower, until CD becomes zero or positive)

SW = Screen width.

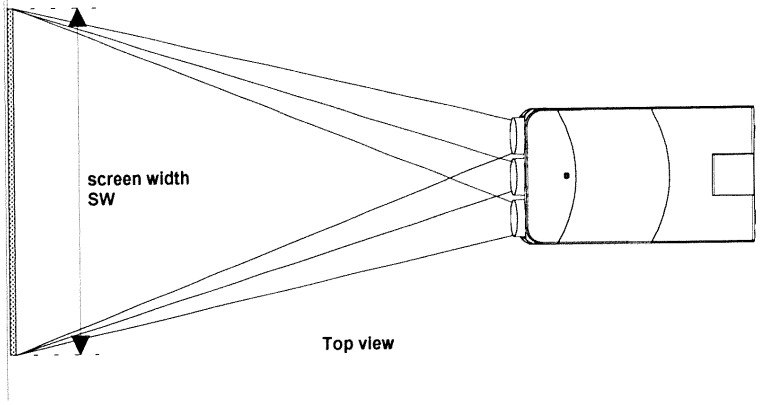
PD = Perpendicular distance between screen and projector.

Used phosphor width on the CRT faceplate (e.g. green CRT) :





Front view



Top view

- Install the projector water levelled in both directions.
- Install the projector perpendicular with the screen.

Table and formulas for Projector to screen distance and correction value A with regard to the screen width for *HD8 lenses* (metric).
(Calculated values)

SW [m]	PD [m]	A [cm]
1.4	2.12	-11.4
1.5	2.25	-10.2
1.6	2.37	-9.0
1.7	2.50	-7.8
1.8	2.63	-6.6
1.9	2.76	-5.4
2.0	2.88	-4.2
2.1	3.01	-3.0
2.2	3.14	-1.8
2.3	3.26	-0.6
2.4	3.39	0.6
2.5	3.52	1.8
2.6	3.64	3.0
2.7	3.77	4.2
2.8	3.90	5.4
2.9	4.02	6.6
3.0	4.15	7.8
3.1	4.28	9.0
3.2	4.40	10.2
3.3	4.53	11.4
3.4	4.66	12.6
3.5	4.79	13.8
3.6	4.91	15.0
3.7	5.04	16.2

SW [m]	PD [m]	A [cm]
3.8	5.17	17.4
3.9	5.29	18.6
4.0	5.42	19.8
4.1	5.55	21.0
4.2	5.67	22.2
4.3	5.80	23.4
4.4	5.93	24.6
4.5	6.05	25.8
4.6	6.18	27.0
4.7	6.31	28.2
4.8	6.44	29.4
4.9	6.56	30.6
5.0	6.69	31.8
5.1	6.82	33.0
5.2	6.94	34.2
5.3	7.07	35.4
5.4	7.20	36.6
5.5	7.32	37.8
5.6	7.45	39.0
5.7	7.58	40.2
5.8	7.70	41.4
5.9	7.83	42.6
6.0	7.96	43.8

Formulas :

PD[m] = 1.269 x SW[m] + 0.344

A[cm] = 12 x SW[m] - 28.2

Table and formulas for Projector to screen distance and correction value A with regard to the screen width for *HD8 lenses* (inch).
(Calculated values)

SW [inch]	PD [inch]	A [inch]
55	83.34	-4.5
60	89.68	-3.9
65	96.03	-3.3
70	102.37	-2.7
75	108.72	-2.1
80	115.06	-1.5
85	121.41	-0.9
90	127.75	-0.3
95	134.10	0.3
100	140.44	0.9
105	146.79	1.5
110	153.13	2.1
115	159.48	2.7
120	165.82	3.3
125	172.17	3.9
130	178.51	4.5
135	184.86	5.1
140	191.20	5.7
145	197.55	6.3

SW [inch]	PD [inch]	A [inch]
150	203.89	6.9
155	210.24	7.5
160	216.58	8.1
165	222.93	8.7
170	229.27	9.3
175	235.62	9.9
180	241.96	10.5
185	248.31	11.1
190	254.65	11.7
195	261.00	12.3
200	267.34	12.9
205	273.69	13.5
210	280.03	14.1
215	286.38	14.7
220	292.72	15.3
225	299.07	15.9
230	305.41	16.5
235	311.76	17.1

Formulas :

PD[inch] = 1.269 x SW[inch] + 13.54

A[inch] = 0.12 x SW[inch] - 11.11

* Mounting Configuration

Ceiling Mount:

To install the BARCODATA 808 in the Ceiling configuration, use BARCO'S Ceiing Mount Kit (CM100) - Order Number R9827341. Installation instructions are included with this kit.

Table Mount:

BARCO offers a heavy-duty projection table with adjustable height which allows the projector to be correctly positioned perfectly to the installation requirements. Order Number - R9827740

INSTALLATION SET-UP

Access to Controls

Scan Adaptation

Access to Controls

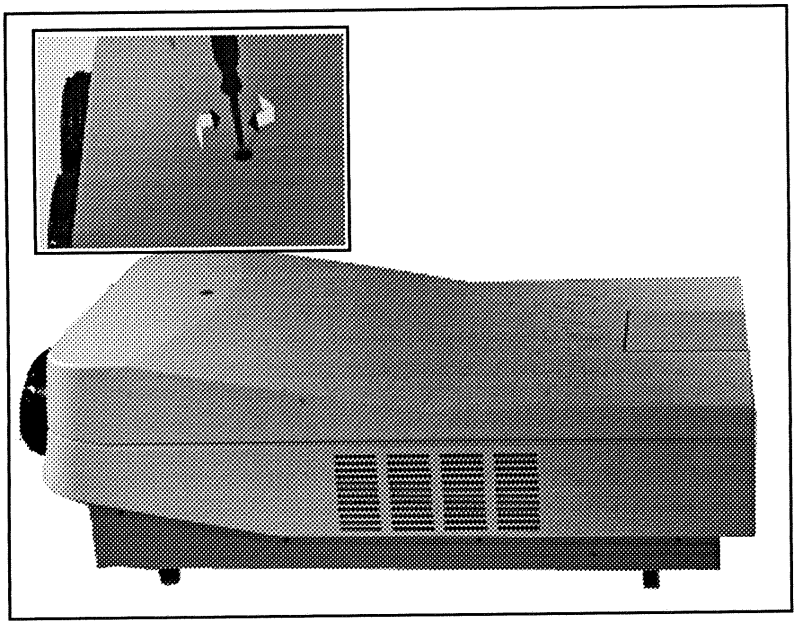
Opening procedure :

During the projector Set-Up and installation it is necessary to open the top cover.

To get access, procede as follow :

*Turn the lock screw with a screwdriver or a coin counter clockwise.

* Lift up and pivot the top cover.

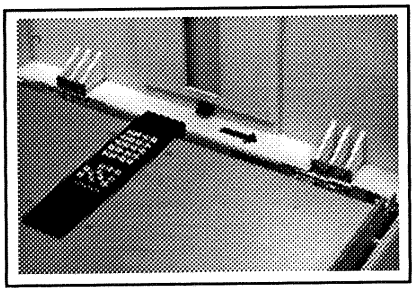


WARNING!

* Note: The projector's top cover is **not** supported with locking hinge. Open with care and support cover with your hand.

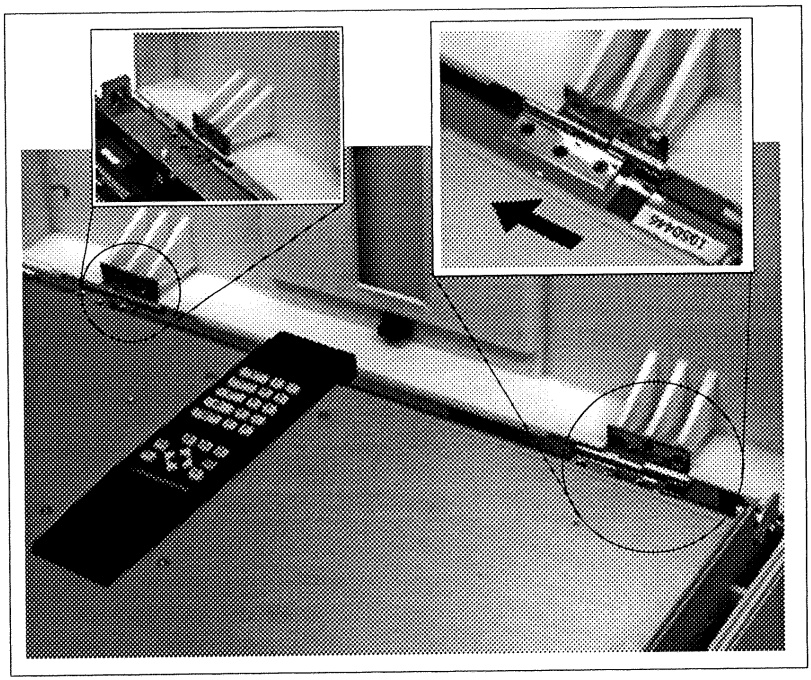
During some installations it will be convenient to remove the top cover totally.
Proceed as follows:

- pivote the top cover backwards 90° (fully extended)
- carefully push the top cover to the left side (seen from the back side of the projector) of the projector until it jumps out of its hings. This can be facilitated by pressing downwards on the spring tabs next to the hinges. Slide the top cover off the projector.



Re-install the cover :

Place the top cover in front of the hinges (as shown in the picture) and push in the direction of the black arrow until the cover locks into the hinges. Pivot the top to close. Secure the lock screw by turning clockwise with a screwdriver or coin.



Scan Adaptation

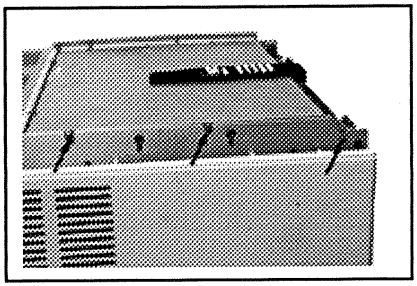
The scan switches must be placed in the correct position which corresponds to the desired scanning configuration.
To change the scanning, it is necessary to open the projector top cover and to remove the protection plate.
For opening the projector's top cover, see Getting Access to controls.

WARNING !

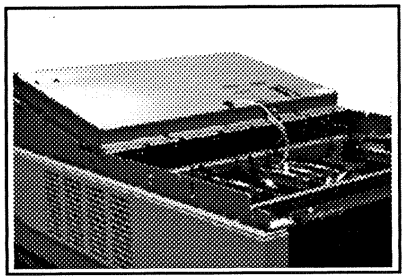
TURN OFF PROJECTOR AND UNPLUG THE POWER CORD BEFORE CHANGING THE SCAN DIRECTION.

Getting access to the scan switches :

- Open the top cover and remove it.
- Loosen the 3 retaining screws on each side of the projector.



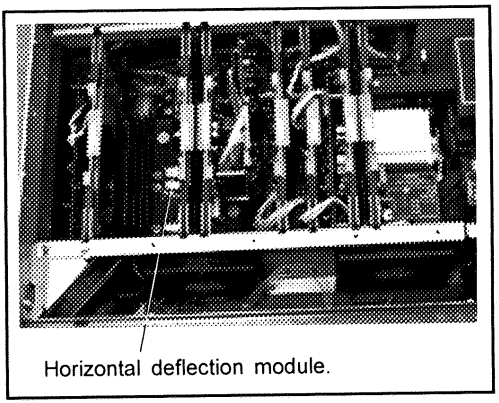
- Open cover and pivot it forward (toward lenses)



A : Horizontal Scan Switches

Three switches are used, one for each CRT. When changing the horizontal scan, insure that all three switches are set in the same position. See position of the switches (diagram on next page) for the corresponding projector configuration.

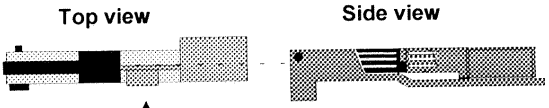
To reach the scan switches, first take out the horizontal deflection module (second module on the left side of the projector).
Toggle the position of the three horizontal scan inversion switches.



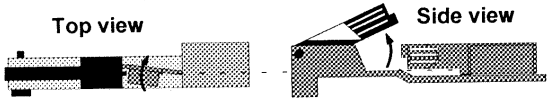
Horizontal deflection module.

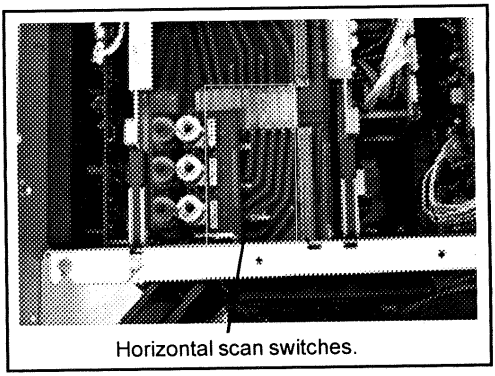
To take out the module :

Press the board lock and lift up the board handle



Repeat this action on both sides of the module and extract the module out of the main frame.



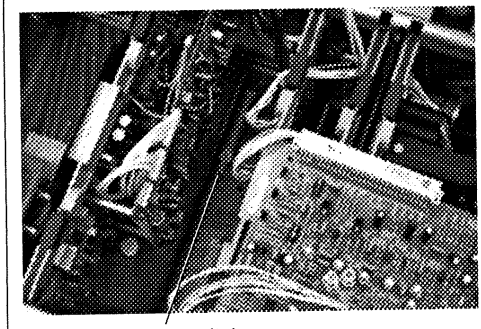


Horizontal scan switches.

B : Vertical Scan Switch

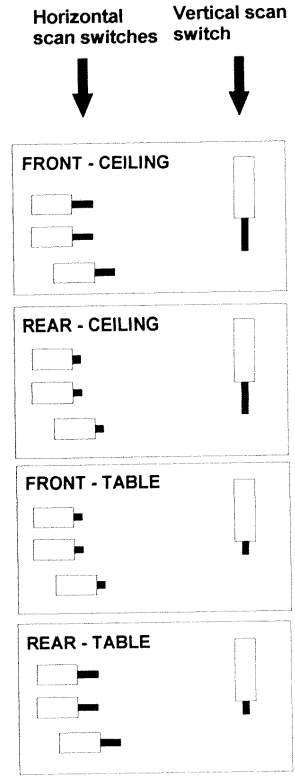
One switch for the three CRT's is used. See position of the switch (diagrams) for the corresponding projector position.

Toggle the position of the vertical scan inversion switch.



Vertical scan switch

Position of the scan switches for the different mounting configurations.



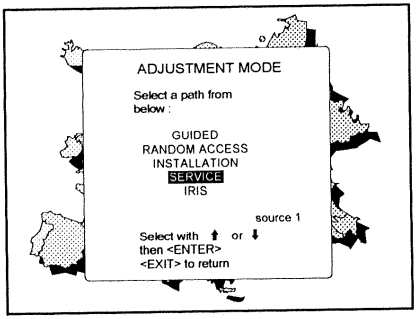
After setting the scan switches, re-install the horizontal deflection module,close the metal cover plate and secure with the retaining screws.
Close the top cover and reconnect the power cord to the wall outlet.

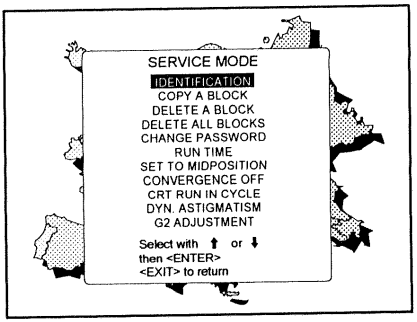
Note:
Switching over from Floor to Ceiling or vice versa requires a complete readjustment of picture geometry and convergence.

To check the current position of the scan switches, proceed as follows:

Note : this check procedure can only be done after power (mains) connection. So, first continue with the *projector Set-Up* and the *connections* and then return to this checking procedure.

Switch on the BARCODATA 808 and press **ADJUST** to start up the adjustment mode. Select by pushing the joy stick forward or backward 'Service' and press **ENTER**. The service menu will be displayed. Select 'IDENTIFICATION' and press **ENTER**. On this screen, information is given about the projectors configuration. All projectors leave the factory set for a ceiling/front configuration.
Follow next procedure to check the configuration :

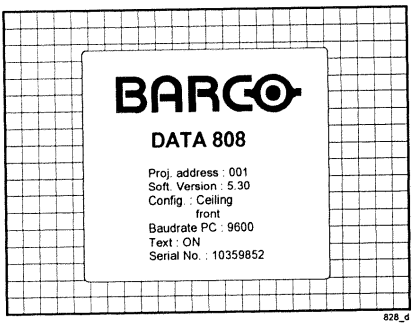




- switch on the projector.
- the projector starts up on the last selected source.
- press the **ADJUST** key.
- highlight 'SERVICE' by pushing the joy stick forward or backward and press **ENTER**.
  The *'SERVICE MODE MENU'* will be displayed
- select by pushing the joy stick forward or backward *'IDENTIFICATION'* and press **ENTER**.

The projector will display the IDENTIFICATION SCREEN

This screen gives the current information about the projector configuration in the line entitled '*config.*'.



PROJECTOR SET-UP

PROJECTOR ADDRESS

POWER-UP MODE

BAUD RATE FOR COMMUNICATION WITH A COMPUTER

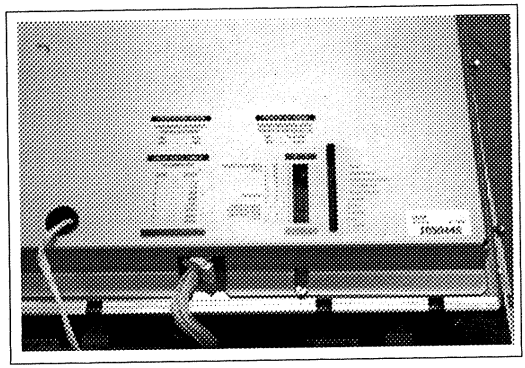
PASSWORD

Projector Set-Up.

The DIP switches on the controller unit allow a SET-UP of the projector.

- projector address (8 DIP switches)
- Power up (1 DIP switch)
- baud rate (3 DIP switches)
- password (1 DIP switch)

To gain access to the DIP switches, open the top cover (see top cover removal in the chapter on Installation Set-Up). Loosen the retaining screws of the module cover plate and pivot this plate to the lens side (see the chapter on Installation Set-Up).
The DIP switches are located on the back side of this cover plate.



PASSWORD MODE

PASSWORD REQUIRED
FOR ADJUSTMENT
ON —— YES
OFF —— NO

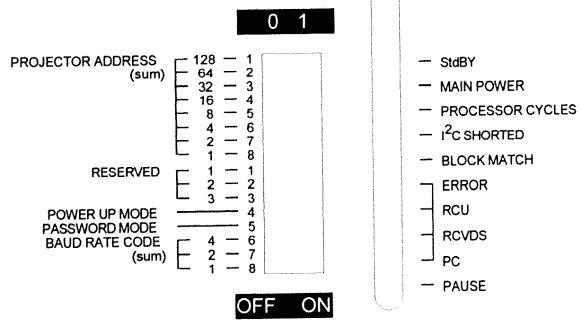
POWER UP MODE

OPERATING MODE WHEN
POWER IS SWITCHED ON
ON —PLAYING
OFF—— StdBY

BAUD RATE TABLE

TO COMPUTER

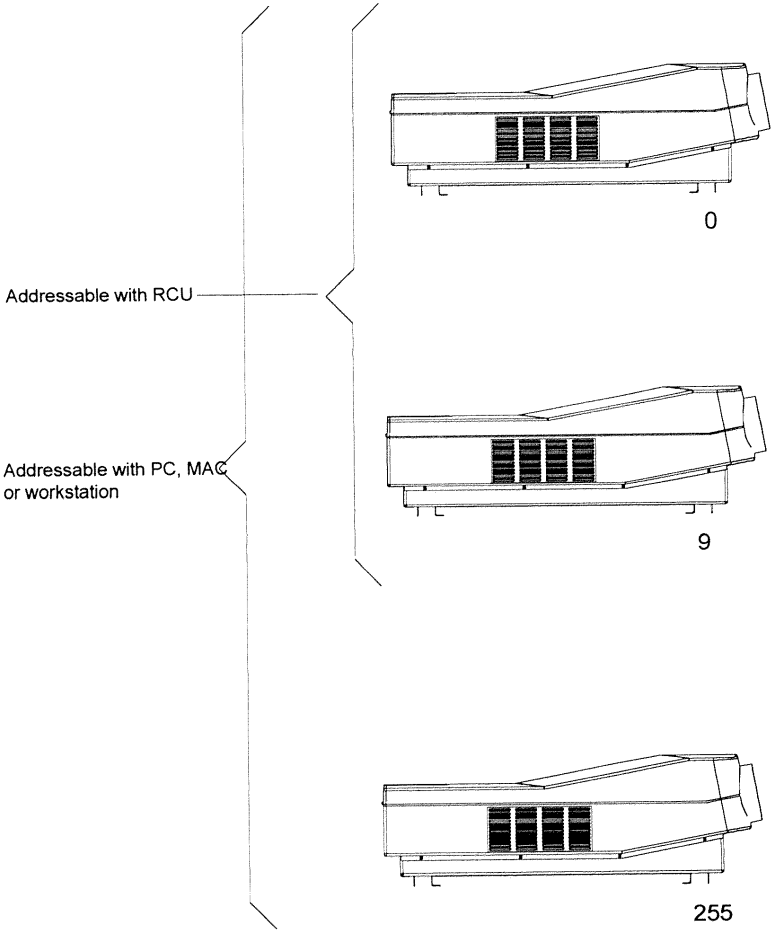
CODE		SPEED
0	—	110
1	—	150
2	—	300
3	—	600
4	—	1200
5	—	2400
6	—	4800
7	—	9600



Setting the projector address.

The projector's address may be set to any value between 0 and 255. When the address is set, the projector can be controlled now :

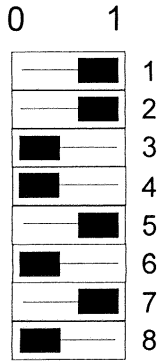
- RCU for addresses between 0 and 9.
- IBM PC (or compatible) or Apple MAC for addresses between 0 and 255.



Address setting is a hardware SET-UP of your projector which must be done during installation. Therefore 8 DIP switches are provided on the controller unit.

Each DIP switch has its own decimal value. The summary of the values associated to those DIP switches gives the address (see table 'address setting').

Switch	Value
1	128
2	64
3	32
4	16
5	8
6	4
7	2
8	1

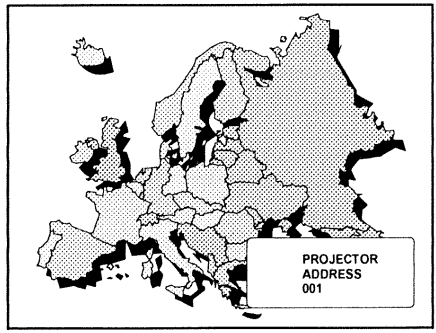


Example : address 202

DIP switch	1 2 3 4 5 6 7 8
seting	1 1 0 0 1 0 1 0

Summary : 1x128 + 1x64 + 0x32 + 0x16 + 1x8 + 0x4 + 1x2 + 0x1 = 202

Note : when the address button on the RCU is pressed, the projector will display its own address on the screen. Once the address button is pressed, to continue using your RCU, it is necessary to enter an address, even when the displayed address is correct. Use the numeric keys to enter the address.

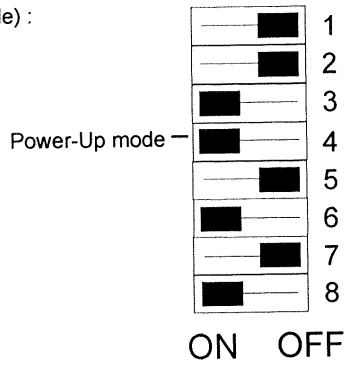


Power-Up mode.

The projector can start up in two different modes. The start up mode is determined by the position of DIP switch 4 of the second 8 DIP switches on the controller unit.

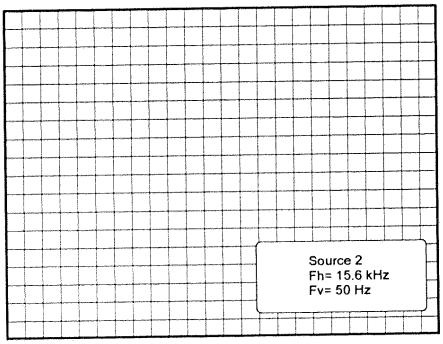
Position of the DIP switch 4 (power up mode) :

ON : operational mode
OFF : stand by mode



1. Operational mode :

When the power switch on the rear of the projector is pressed, the projector displays the last selected source if available, otherwise it remains on that source number until the source becomes available.
The on screen indication is only available when "text" is "on".



2. Stand-By mode :

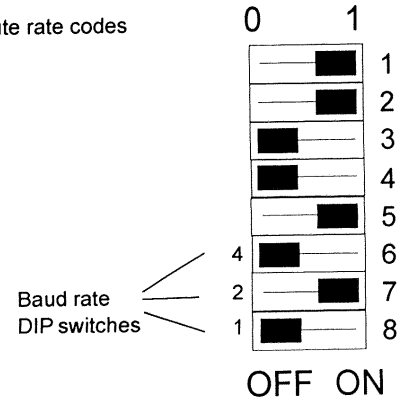
When the power switch on the rear of the projector is pressed, the projector goes into stand-by mode. The stand-by key on the RCU is used to turn the projector ON and OFF.

Baud Rate for communication with a computer.

The communication speed between projector and computer has 8 possible settings. With DIP switches 6, 7 and 8 on the controller unit, labelled 'Baud rate code (sum)', it is possible to select the baud rate (communication speed). Each DIP switch has its own decimal value. The summary of the values associated to those DIP switches gives the baud rate code. With each baute rate code corresponds an communication speed.

Position of DIP switches and baute rate codes

baud rate code	speed
0	110
1	150
2	300
3	600
4	1200
5	2400
6	4800
7	9600



More information about computer communication with the BARCODATA 808 is available in the Projector Control Software manual.

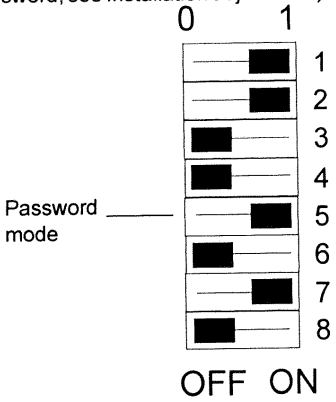
Password mode

With DIP switch 5 on the controller unit, the projector adjustments can be protected with a password. When the password feature is enabled, the customer has to enter a password before he can enter the adjustment mode(for more information about password setting and reprogramming the password, see Installation adjustment).

When the password menus are disabled (adjust mode is unprotected), the adjust mode can be selected by pressing on the **ADJUST** key. This position of the DIP switch is useful for qualified service technicians because they do not need a password to enter the adjust mode.

Position of DIP switch 5 :

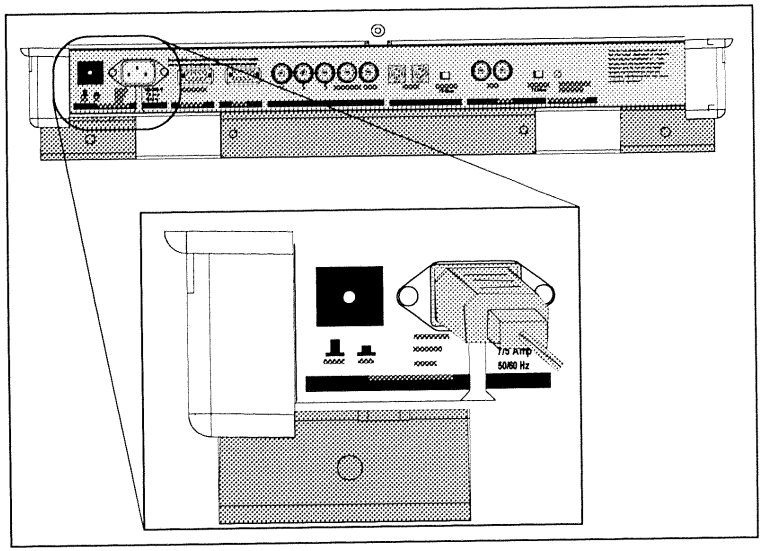
ON : password mode enabled
OFF : password mode disabled



AC POWER (MAINS) CONNECTION

AC Power (mains) cord connection

Use the supplied cord to connect your projector to the wall outlet. Plug the female power connector into the male connector at the back of the projector.
This projector may be connected to an IT-power system.



Preparing your power cord

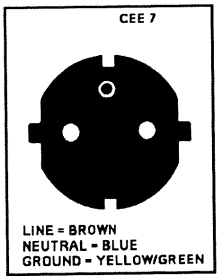
A. Mains lead (power cord) with CEE7 plug.

As the colors of the wires in the mains lead of this apparatus may not correspond with the colored markings identifying the terminals in your plug, proceed as follows:

- The yellow/green wire is ground and must be connected to the terminal in the plug wihich is marked by the letter E or by the safety earth symbol ⏚ or colored yellow and green.

- The blue wire is neutral and must be connected to the terminal marked with the letter N or colored black.

- The brown wire is the line and must be connected to the terminal marked with the letter L or colored red.

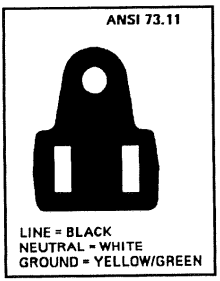


The wires of the delivered mains lead (power cord) are colored in accordance with the following code :
Yellow and Green : ground
Blue : neutral
Brown : live

B. Power cord with an ANSI 73.11 plug

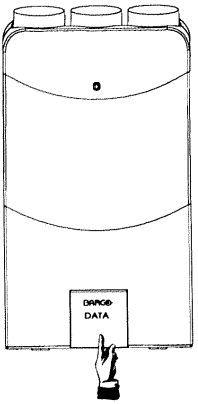
The wires of the delivered mains lead (power cord) are colored in accordance with the following code :

Yellow and Green : ground (earth)
White : neutral
Black : live



AC Power check

Check the power voltage on the label on the inside of the local keypath cover door. To open this door, press on the indicated place.
If the indication is different from that of the wall outlet, call a qualified technician for power adaptation of the projector.



AC Input power (mains) voltage adaptation.

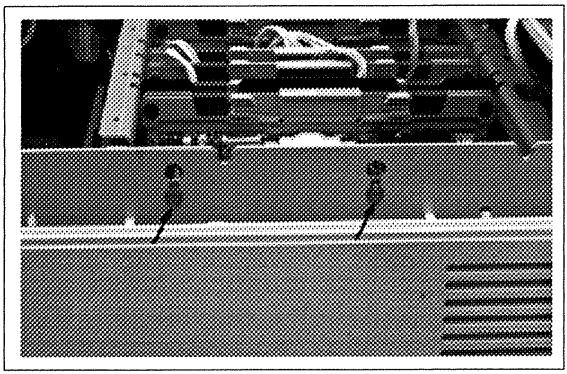
Attention !

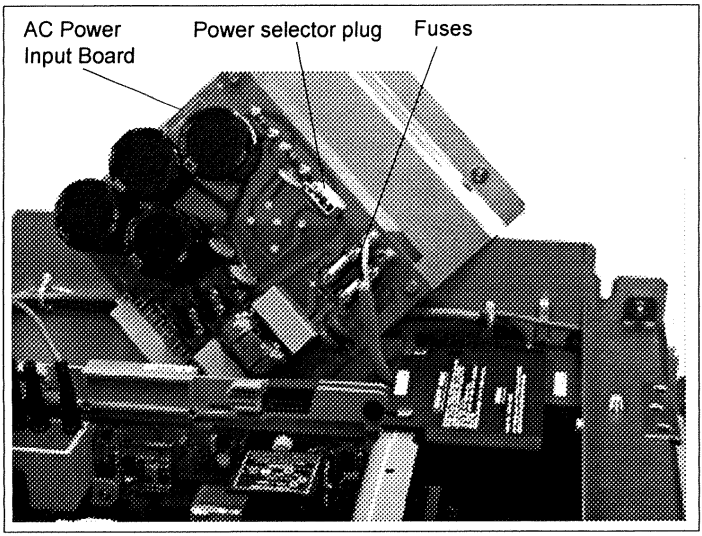
The BARCODATA 808 - R9002030 leaves the factory to operate on a mains (power) input of 230 Vac.
The BARCODATA 808 - R9002039 leaves the factory to operate on a mains (power) input of 120 Vac.

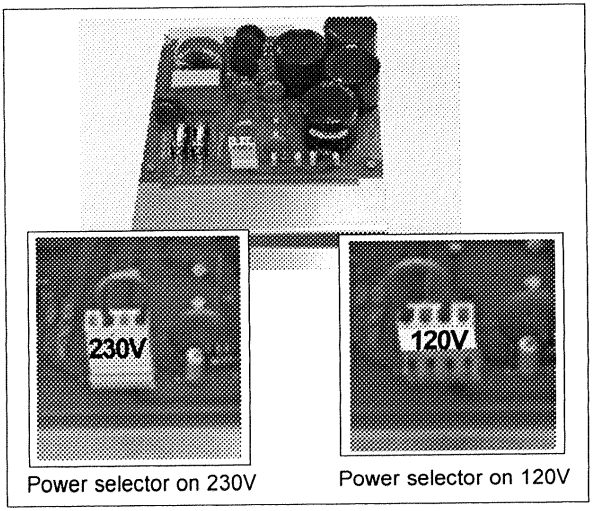
Adaptation of the power input of the projector between 230 Vac and 120Vac or vice versa is possible. Follow the procedure as described below.

Procedure :

1. WARNING: Turn off unit and be sure AC Power Cord is unplugged before starting the procedure !
2. Open the top cover (see Access to the controls)
3. Unscrew the retaining screw of the AC power input board and pull out this board.
4. Pull out the 'power selector plug' and re-insert it as illustrated in the drawing on next page, depending on the wall outlet in the room.
5. Pull out the fuses and place the correct fuses in their sockets. See table on next page for the correct fuses.
6. Re-insert the power input board and secure it with the retaining screw.







Power selector on 230V

Power selector on 120V

Fuses

Warning !
For continued protection against fire hazard :

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

F1, F2	BARCO Part Number
For 230 Vac(2x) T6.3A/250V	R314145
For 120 Vac(2x) T10A/250V	R314154

Switching On

The projector is switched ON and OFF using the power (mains) switch ON/OFF.

Pressed : ON
Not pressed : OFF

The projector can start now in the 'operational mode' (image displayed) or in the 'stand by mode', depending on the position of the 'power up' dip switch on the controller unit. This DIP switch is set during installation by a qualified technician. If you want to change this start up mode, call a qualified technician.

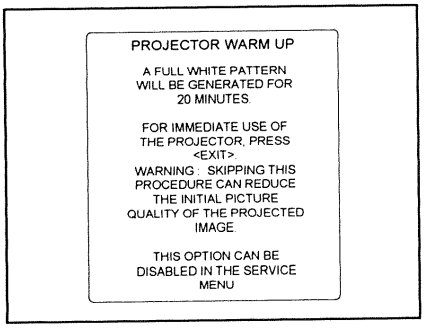
Power indication lamp :

OFF : no power
Green : projector in operational mode
Red : projector in stand by mode

When starting up the projector, with the power switch or via the stand-by key, the projector can start up in two ways if the "CRT run in" cycle option is switched OFF.
- full white image (projector warm up) or
- immediately image display.

The way of starting up can be set in the service mode.

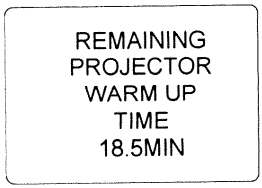
Start up with full white image.
The next menu will be displayed for 30 seconds.



a. Start up with warm up period.

If no action is taken, a white image will be displayed for 20 minutes. This white image will be shifted on the faceplate of the CRT to avoid a CRT burn in.
During this warm up period, it is possible to interrupt this white image projection by pressing the EXIT key. The previous menu will be repeated for another 30 seconds but the remaining time will be indicated.
If EXIT is pressed, the remaining warm up period will be shipped.

During the warm up period, every 30 seconds a text box with the remaining time will be displayed on the screen for 2 seconds. This text box will be displayed every time on another place.



If another key, different from EXIT, is pressed, a text box with following text will be displayed :
Please use <EXIT> to leave this procedure.

b. Start up without warm up period.

If the **EXIT** key is pressed, the warm up period will be skipped and the projector is immediately ready for use.
Warning : skipping this warm up procedure can reduce the initial picture quality of the projected image.

SOURCE CONNECTIONS

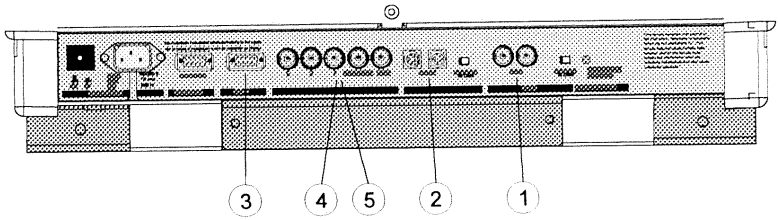
- connecting a Video source
- connecting a S-Video source
- connecting a RGsB or RGBS analog source
- connecting a RG3sB or RGB3S analog source

PERIPHERAL EQUIPMENT CONNECTION

- connecting a RCVDS 800 or RCVDS 05
- connecting a VS O5
- connecting an IR Remote Receiver

Signal input connection to the projector :

- Composite Video
- S-Video
- RGBS or RGsB
- RGB3S or RG3sB (option)



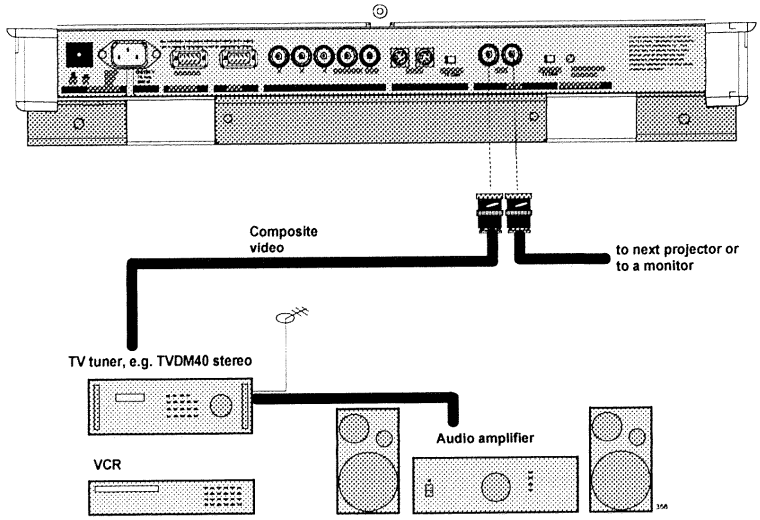
Source No	Projector input	Press digit button
1	Comp. Video	1
2	S-Video*	2
3	Analog	3
4	RGsB**	4
5	RGBS***	5
4	RG3sB****	6
5	RGB3S*****	7

Only available when the optional Tri-level sync module is installed.

* Input signal Y/C (luma/chroma)
** Input signal : R, G and B with composite sync on Green
*** Input signal : R, G and B with separate composite or with separate Hor. and Vert. sync.
**** Input signal : R, G and B with Tri level sync on Green
***** Input signal : R, G and B with separate composite Tri level sync or with separate Hor and Vert. Tri-level sync.

Connecting a Composite Video source to Port 1.

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



Video Input Selection :

with the RCU or the build in RCU : press digit button 1

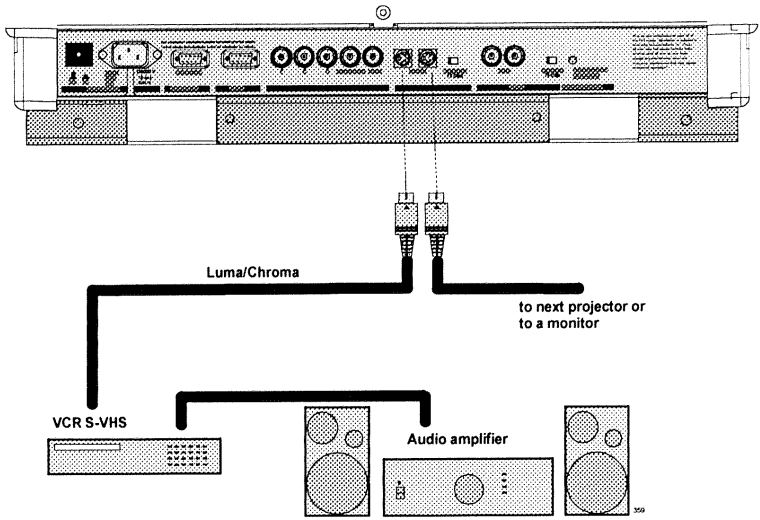
75 ohm Termination Switch

Terminate the video input of the projector using the 75 ohm switch next to the video input panel when the projector operates alone or when it is the last projector on the video line when the projectors are connected in a loop-through configuration.

ON : signal terminated
OFF : signal not terminated

Connecting a S-Video source to Port 2.

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



S-Video Input Selection

with the RCU or the build in RCU : press digit button 2

75 ohm Termination Switch

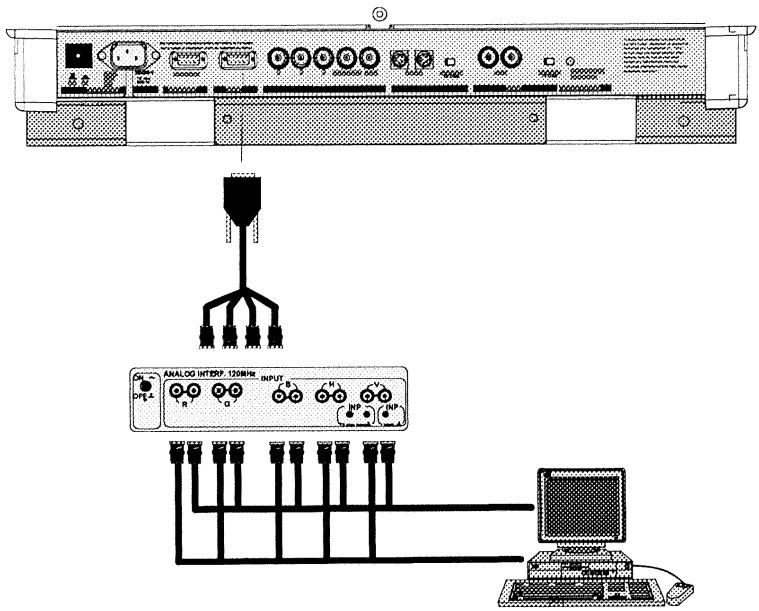
Terminate the S-Video input of the projector using the 75 ohm switch next to the S-Video input panel when the projector operates alone or when it is the last projector on the video line when the projectors are connected in a loop-through configuration.

ON : signal terminated
OFF : signal not terminated

Connecting a RGB Analog source to Port 3.

Connect an RGB Analog source via an interface to Port 3. (e.g. RGB 120MHz interface, part number 98 26570).

RGB analog input with automatic sync detection. (Separate H and V sync inputs, with composite sync input or with sync signals on green)



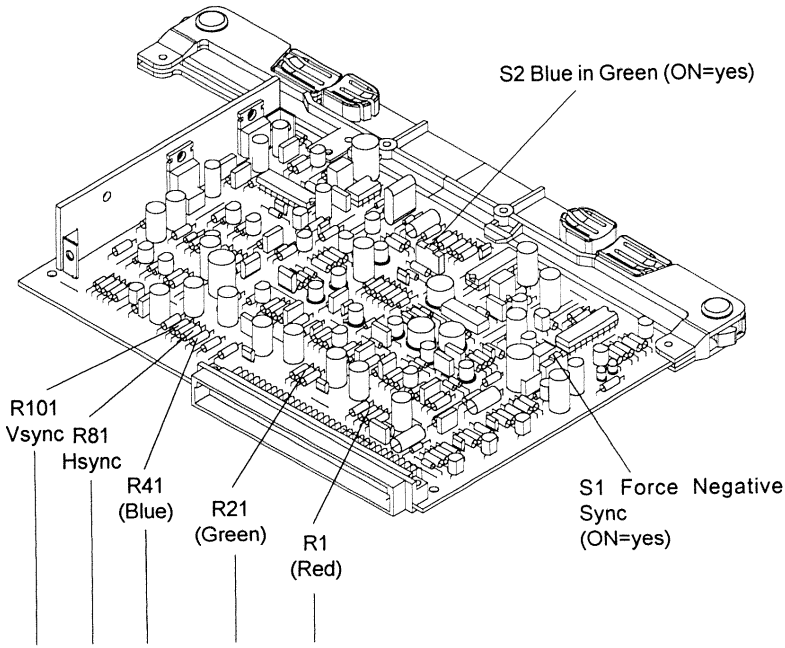
Pin configuration D9 connector of the Analog input.

1 not connected
2 ground RGBS
3 RED
4 GREEN
5 BLUE
6 ground RGBS
7 ground RGBS
8 Hor/comp. sync
9 Vert. sync

RGB Analog Input Selection :
with the RCU or build in RCU, press digit button 3.

Termination Resistors and Switch Locations.

When changing a switch position or removing a resistor, turn off the projector and unplug the power cord from the wall outlet.



Line termination 75 Ω resistors

75 Ω Termination resistors.

In case of chaining (loop-through) the projectors, the 75 ohm line termination resistors must be on board when the projector is the last unit in the chain.
In case of stand alone projector, do not remove the resistors.

Resistors on board : 75 Ω terminated
Resistors removed : not terminated

Procedure to remove the line termination resistors:

- power down the projector and unplug the projector power cord.
- open the top cover.
- pull out the RGB Input Auto Sync Tracking Module from the mother board.
- unsolder and remove the resistors.

Blue in Green Switch.

Blue characters are difficult to read, therefore the blue text will be displayed as cyan so that the readability becomes better.

Switch in the ON position : blue in green active.
Switch in the OFF position : blue in green disabled.

WARNING :Leaving the switch in the ON position will result in abnormal color balance of the projected image.

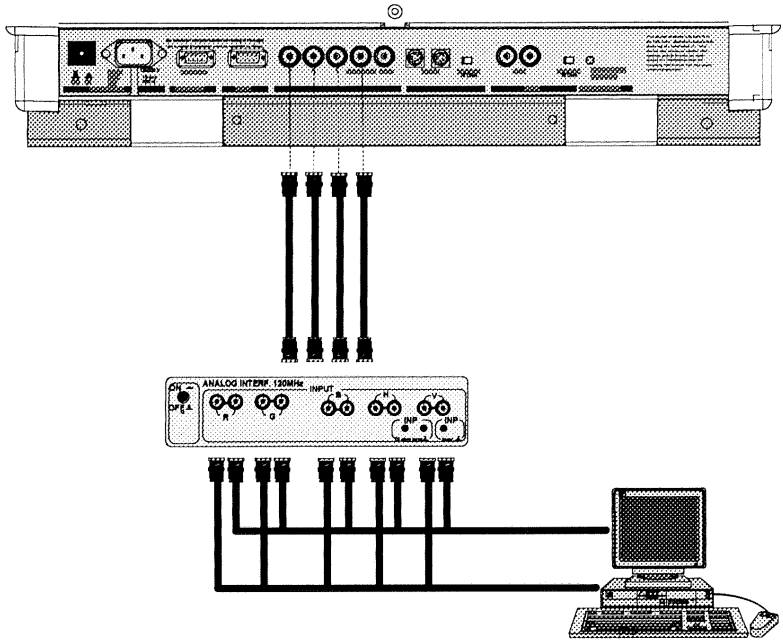
Force Negative Sync

Switch in the ON position : the sync pulses must be negative.
Switch in the OFF position : the sync polarity will be automatically detected.

Connecting a RGB Analog source to Port 4/5.

RGB analog input terminals with separate H and V sync inputs, with composite sync input or with sync signals on green.
It is suggested to use an interface when a computer and local monitor have to be connected to the projector. For example :

- Universal Analog Interface. Order number : R9826100.
- RGB 120 MHz Analog Interface. Order number : R9826570.



RGsB input selection :
(RGsB : R, G, B signals with sync on green)

with the RCU or the build in RCU : press digit button 4

RGBS input selection :
(RGBS : R, G, B and separate sync; H- and V- sync or comp. sync)

with the RCU or the build in RCU : press digit button 5

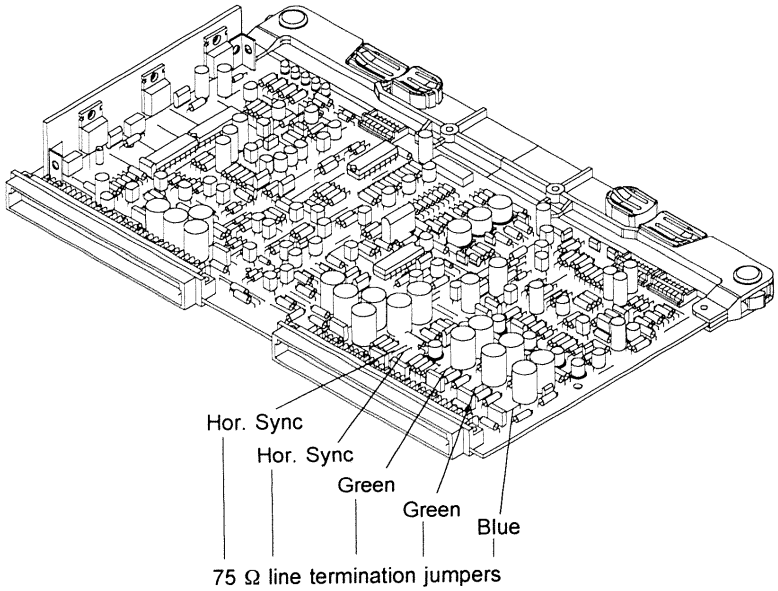
Line termination : the RGB analog inputs are factory line terminated.

Stand alone projector : inputs must be line terminated.
Last projector in a loop through configuration : inputs must be line terminated.
In case of chaining the projectors with T-BNC connectors (BARCO order number : 31 3668) remove the line termination jumpers on the RGB analog input module.

Warning !
When removing the jumpers, turn off the projector and unplug the power cord from the wall outlet.

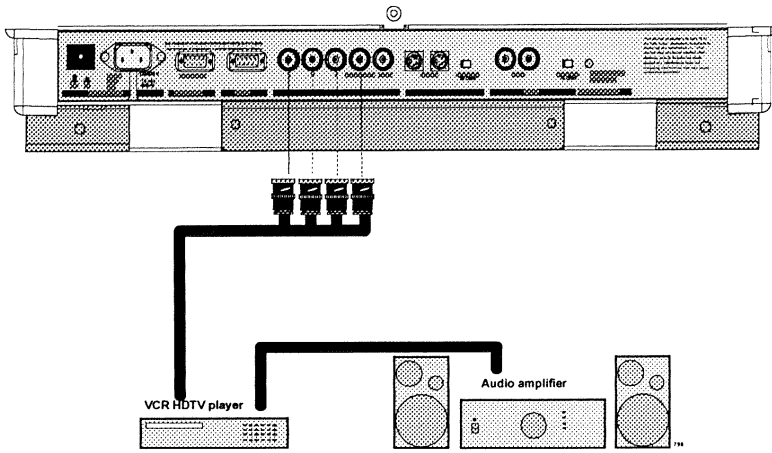
Procedure :
- power down the projector and unplug the projector power cord.
- open the top cover.
- Pull out the RGB analog input module from the mother board.
- Unsolder and remove the jumpers.
  Jumpers on the module : 75 ohm terminated
  Jumpers removed : not terminated

Location of jumpers on the module.



Connecting a RGB Analog source with Tri-level sync to Port 4/5. (option)

RGB analog input terminals with Tri level sync input or with Tri-level sync on green. The projector detects automatically where the sync signal is located. This feature requires an Optional Tri-Level sync module. Order Number R9828040



RGsB input selection :
(RG3sB : R, G, B signals with Tri-level sync on green)

with the RCU or the build in RCU : press digit button 6

RGBS input selection :
(RGB3S : R, G, B and Tri-level separate sync; H- and V- sync or comp. sync)

with the RCU or the build in RCU : press digit button 7

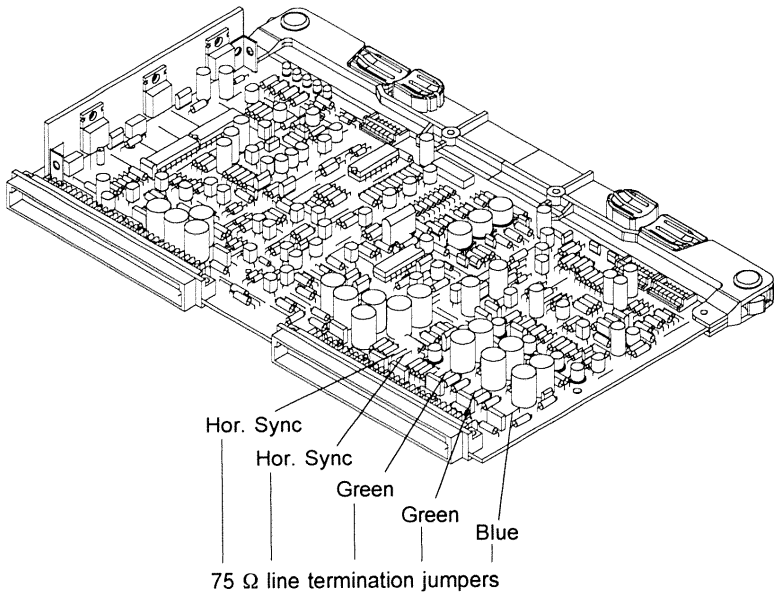
Line termination : the RGB analog inputs are factory line terminated.

Stand alone projector : inputs must be line terminated.
Last projector in a loop through configuration : inputs must be line terminated.
In case of chaining the projectors with T-BNC connectors (BARCO order number : 31 3668) remove the line termination jumpers on the RGB analog input module.

Warning !
When removing the jumpers, turn off the projector and unplug the power cord from the wall outlet.

Procedure :
- power down the projector and unplug the projector power cord.
- open the top cover.
- Pull out the RGB analog input module from the mother board.
- Unsolder and remove the jumpers.
  Jumpers on the module : 75 ohm terminated
  Jumpers removed : not terminated

Location of jumpers on the module.



PERIPHERAL EQUIPMENT

Connecting a RCVDS 800 / RCVDS 05 Switcher to the BARCODATA 808

- Up to 10 inputs with one RCVDS 800 or 20 inputs with the RCVDS05 and up to 90 inputs can be accomodated when multiple RCVDS Switchers are linked via a Expansion Module.
- Serial communication with the projector.
- Remote control buttons on the RCVDS to control the BARCODATA 808 (source selection and analog settings)
- The selected source number will be displayed on a 2 digit display and the selected input modules will be indicated with a LED on the rear.

For more information about the use of :
the RCVDS 800, consult the RCVDS 800 owner's manual,order number: R5975004.
the RCVDS05, consult the RCVDS05 owner's manual,order number : R5975765.

Connecting a VS05 Switcher to the BARCODATA 808.

The VS05 can switch up to 5 Composite Video sources, 3 S-Video Sources and 1 RGB analog or component Video source to the BARCODATA 808. In addition, the audio signal associated with the source, can be switched to an audio amplifier.
Order number : R9827890.

For more information about the use of the VS05, consult the VS05 Owner's Manual, BARCO order number : R5975245.

Connecting an IR Remote Receiver 800 to the BARCODATA 808.

This infra-red receiver unit makes it possible to control the BARCODATA 808 from another room. There is a communication line cable between the IR receiver and the projector or the RCVDS 800. The control information from the RCU can now be sent to the IR Remote Receiver 800. The IR Remote Receiver 800 displays the selected source on a 7-segment display.
Order number : R9827515.

INSTALLATION ADJUSTMENT MODE

Before starting any adjustment.

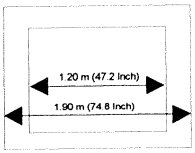
The BARCODATA 808 is factory optimized for a screen with range 1.9m (74.8 inch) to 3.2m (126.0 inch)

You wish an optimal focused image
for a screen width between 1.2m to 1.9m
or between 3.2m and 6m?
then,
carry out the following mechanical adaptation :

Mechanical adaptation procedure (adding washers between lens and picture tube support)
The screen width adjustment for the installed lens is divided into 3 ranges. Within these ranges, the focus can be optimal adjusted.

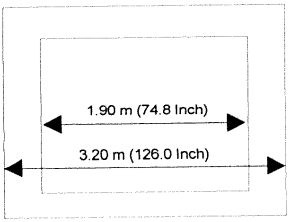
range 1

min. SW : 1.20 m (47.2 inch)
max. SW : 1.90 m (74.8 inch)



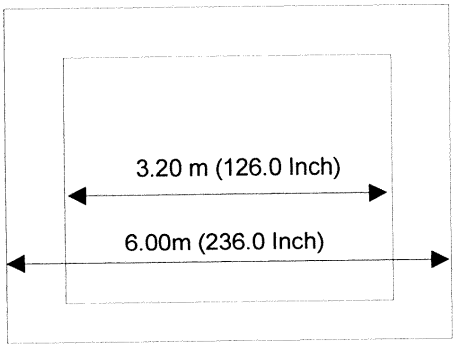
range 2

min. SW : 1.90 m (74.8 inch)
max. SW : 3.20 m (126.0 inch)



range 3

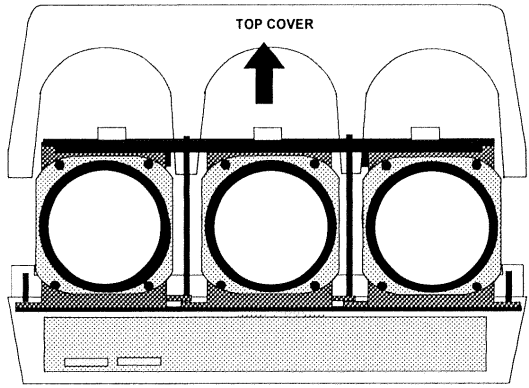
min. SW : 3.20 m (126.0 inch)
max. SW : 6.00 m (236.0 inch)

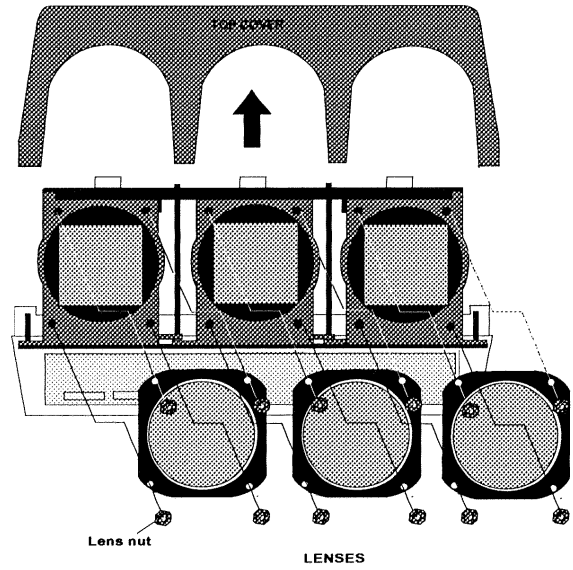


Adaptation procedure :

1. Open and remove the top cover

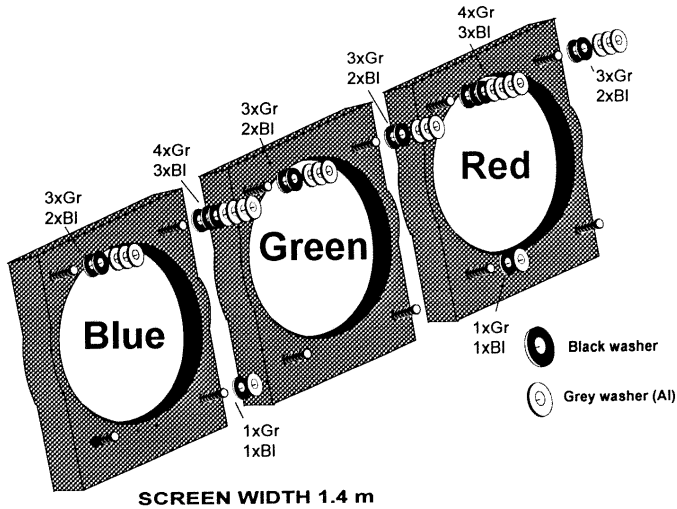
2. Remove the lenses by :
   - remove for each lens the 4 nuts, holding lens to picture tube support (nutdriver 8 mm).
   - remove the lens from the bolts





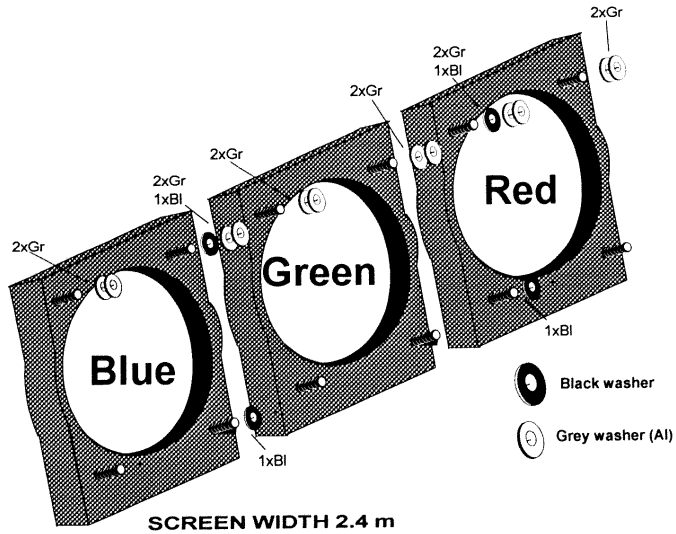
3. Placing the required washers :

a) optimal focus in the screen width range 1.20 m - 1.90 m



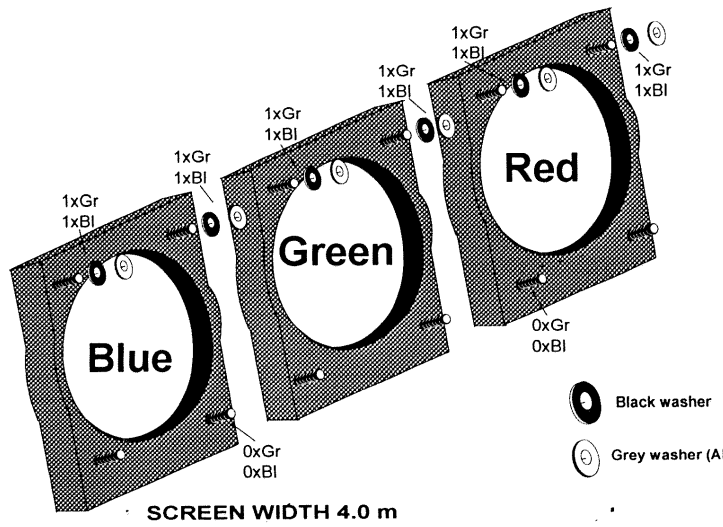
SCREEN WIDTH 1.4 m

b) optimal focus in the screen width range 1.90 m - 3.20 m

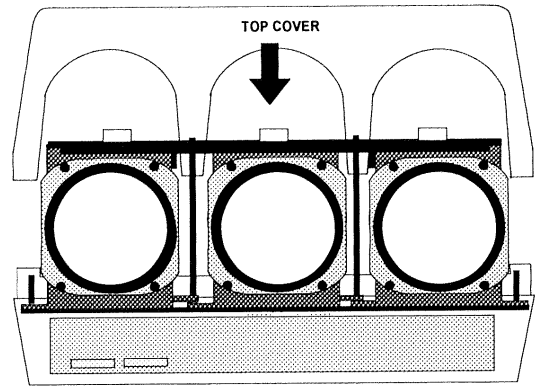


SCREEN WIDTH 2.4 m

c) optimal focus in the screen width range 3.20 m - 6.00 m



4. Reinstall the lenses and secure the lenses with the available nuts.



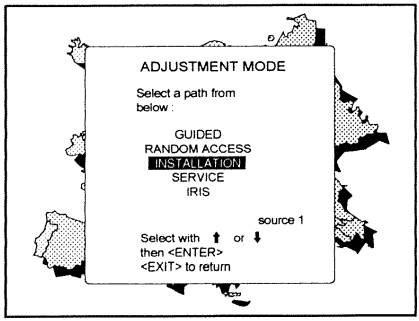
5. Reinstall top cover.

6. Proceed to image focus adjustment

Installation Adjustment Mode.

It will be necessary to perform several mechanical adjustments while in the Installation Adjustment Mode. Open and remove the projector's top cover in order to gain access to the adjustment points.

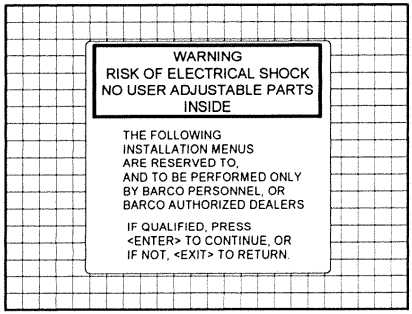
Push the joy stick forward or backward to highlight *INSTALLATION* on the screen menu and then press **ENTER**.



ENTER continues to Optical Focusing.
EXIT returns to Operational mode.
ADJUST returns to Operational mode.

A warning will be displayed on the screen.
If you are qualified and authorized service person, press **ENTER** to start up the installation mode.

When entering the installation mode, the projector will automatically switch to the internal pattern on 15 kHz/50 Hz.



ENTER asks for your password.
EXIT returns to the path selection menu.

When the password mode is active, your password will be asked.

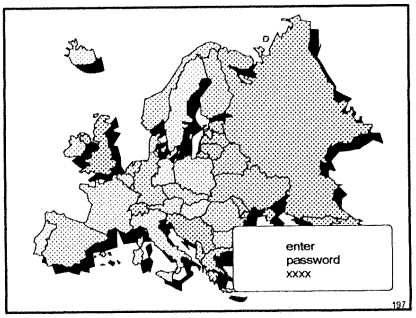
Your password contains 4 digits.

Enter the digits with the numeric keys on the RCU (remote control or local RCU).

Example : 2 3 1 9

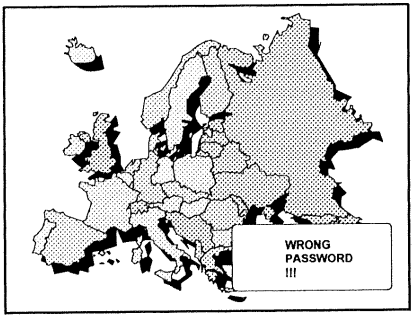
For each digit entered, a 'X' appears on the screen under the displayed text 'enter password'.

When your password is correct, you get access to the 'Installation mode'.
When the entered password is wrong, The message *'Wrong password !!!'* will be displayed. The projector stays on the previous selected item.

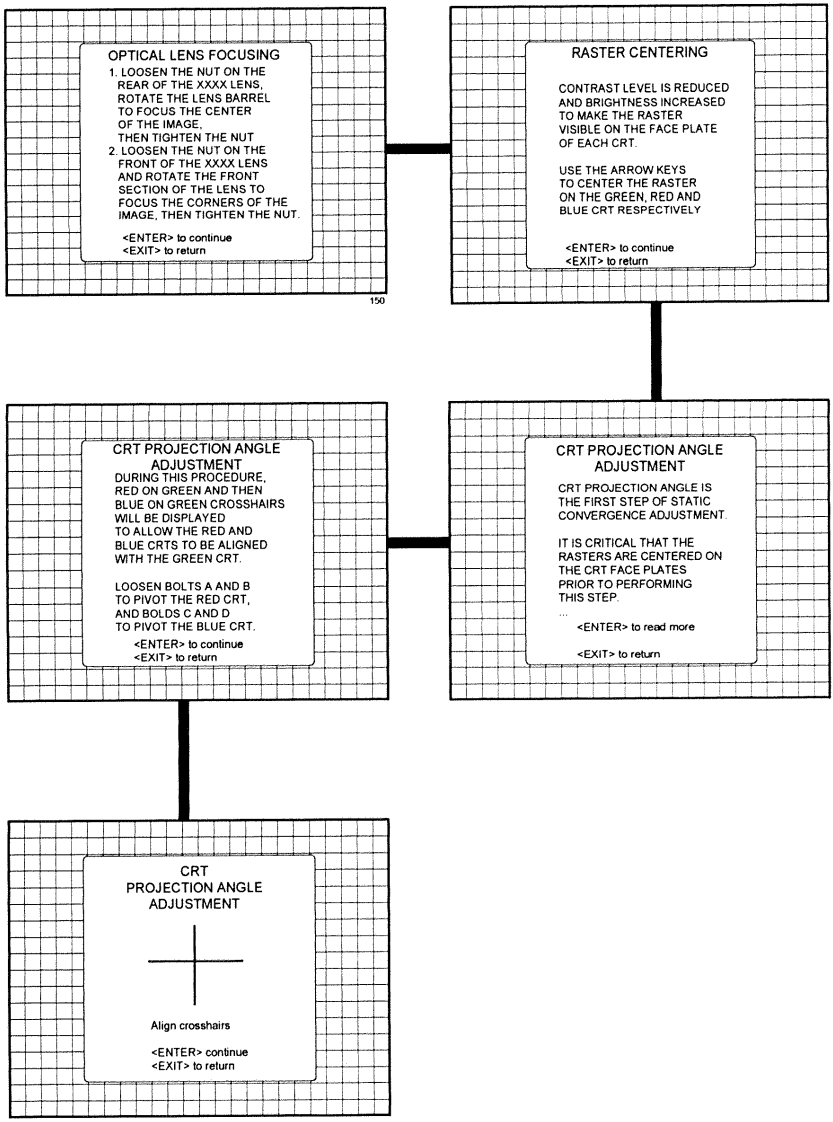


Factory programmed password :

1992



Overview Flowchart Installation Adjustment Mode.



xxxx = red, green or blue
xx = 00 to 05

Access to Optical Adjustments

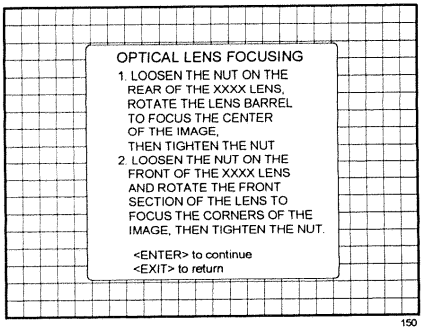
The top cover of the BARCODATA 808 could be opened in order to gain access to the optical adjustments.

Opening procedure :
See gaining access to the DIP switches.

Optical Lens Focusing.

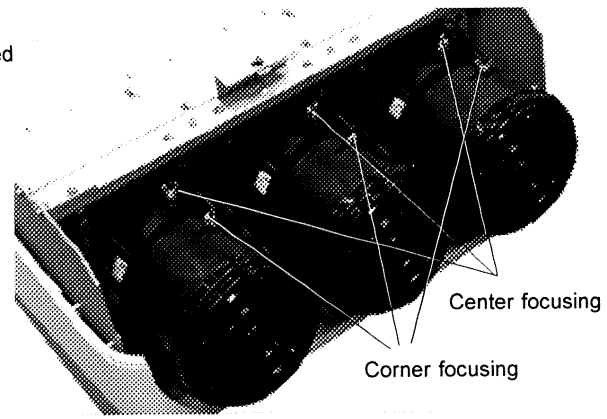
The optical focusing procedure is performed separately for each lens. The appropriate CRT will be switched on as the user proceeds through the optical focusing adjustment sequence.

Each lens has two focus adjustment points, one at the rear of the lens and one at the front. The center of the projected image is focused by loosening the wing nut at the rear end of the lens and rotating the lens barrel until the center of the image is clearly focused. The corners of the projected image are focused by loosening the wing nut at the front end of the lens and rotating the lens barrel until the corners of the image are clearly focused. Repetition of these adjustments may be necessary to optimize optical focusing .
Press **ENTER** key to continue.



ENTER continues to Raster centering
EXIT returns to operational mode.
ADJUST returns to operational mode.

With xxxx = red



Raster Centering

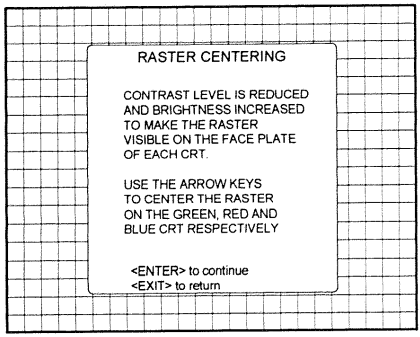
The raster must be centered on the CRT screen surface of each tube, therefore, it is necessary to look into the lenses.

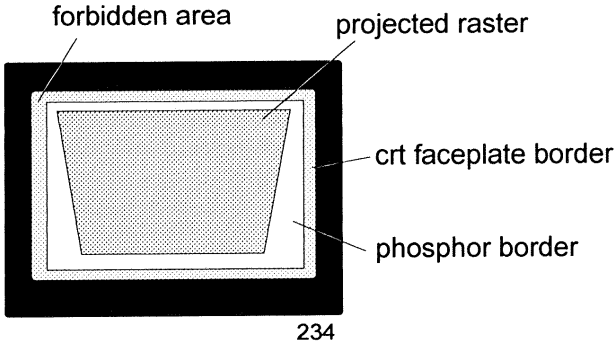
Caution : To avoid eye discomfort while performing these adjustments, reduce the contrast and gradually increase the brightness level until the raster becomes visible behind the image.

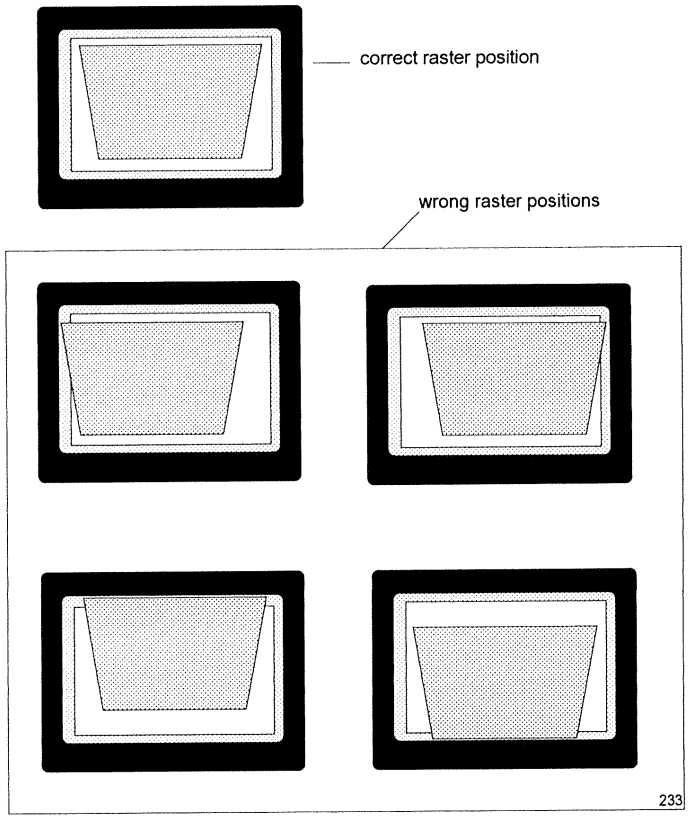
Warning : In order to ensure maximum CRT longevity and to avoid CRT damage, do not shift the raster outside the phosphor area of the CRT.

Press **ENTER** to display the raster on the green CRT.

Look into the green lens and shift the raster with the joy stick until it is centered in the middle of the CRT faceplate.







Press **ENTER** to activate the raster on the Red CRT faceplate.
Shift the Red raster with the joy stick until the raster is centered on the CRT faceplate.

Press **ENTER** to activate the raster on the Blue CRT faceplate.
Shift the Blue raster with the joy stick until the raster is centered on the CRT faceplate.

Press **ENTER** to continue with the CRT projection angle adjustment

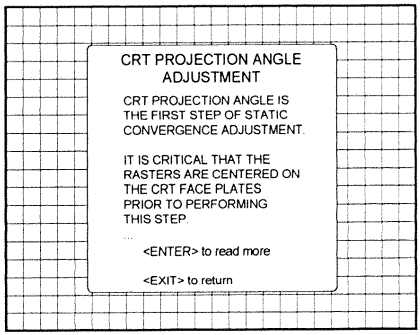
ENTER continues to CRT Projection angle Adjustment.
EXIT returns to Optical focusing.
ADJUST returns to operational mode.

CRT projection angle adjustment

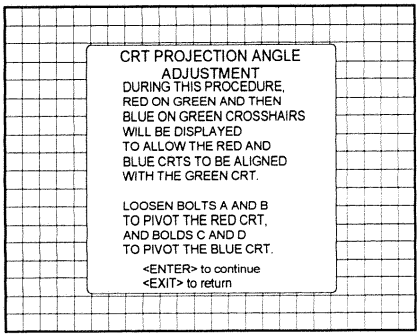
The projection angle of the red and blue CRT's is dependent on the desired size of the projected image. If the centers of green, blue and red do not coincide, the CRT projection angle must be adjusted. *NOTE : never try to correct this misalignment with the shift correction or the static convergence controls.* These controls may only be applied to correct small errors which cannot be corrected by the CRT angle adjustment. Note: the Horizontal Shift and Vertical Shift for Red and Blue should be set near 50%.

Be sure that the rasters are centered on the CRT face.

Press **ENTER** to start the CRT angle adjustment procedure. A crosshairs (green and red) will be displayed on the screen.

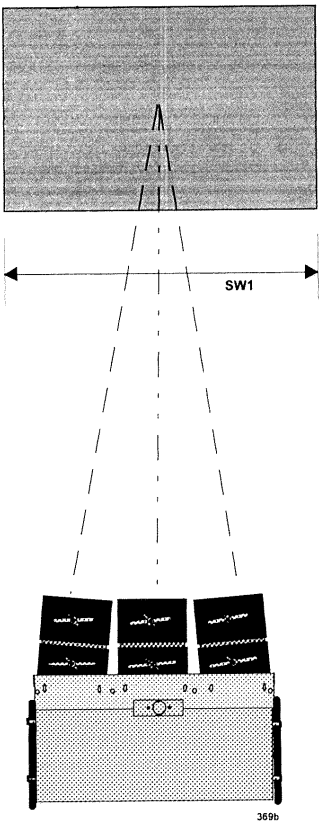


ENTER continues with the second part of the CRT projection angle adjustment.
EXIT returns to Raster shift adjustment.

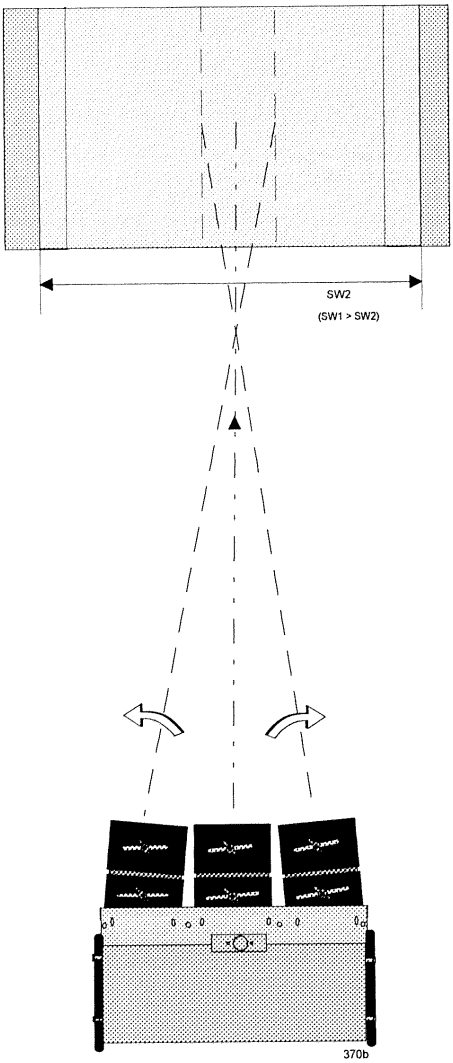


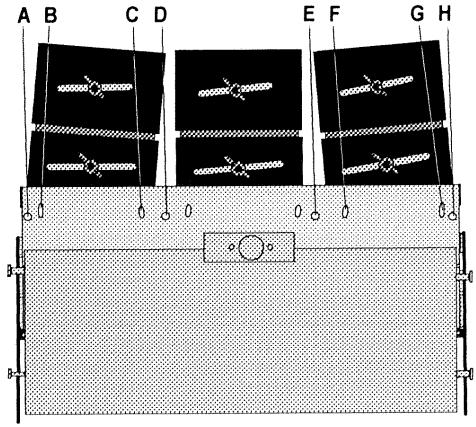
ENTER continues to the crosshairs alignment.
EXIT returns to the previous menu.
ADJUST returns to operational mode.

Projection angle correctly aligned for screen width SW1.

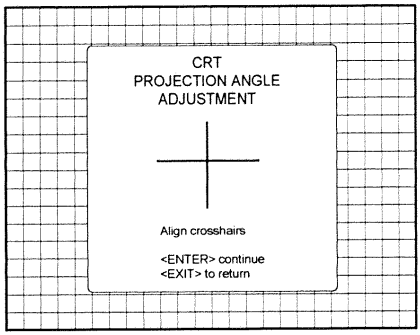


The same projection angle is mis-aligned for new screen width SW2. Re-alignment is necessary. Each screen width change requires readjustment of the projection angle.

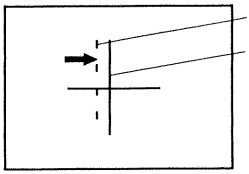




Loosen bolts A, B, C and D to pivot the red CRT until the center of the Red image and the center of the Green image coincide. When the angle of the red CRT is corrected, tighten the four bolts.

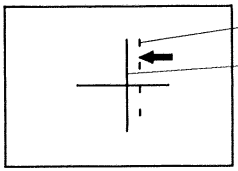


ENTER continues to blue and green crosshairs.
EXIT will return to CRT projection angle adjustment menu.



red crosshair
green crosshair

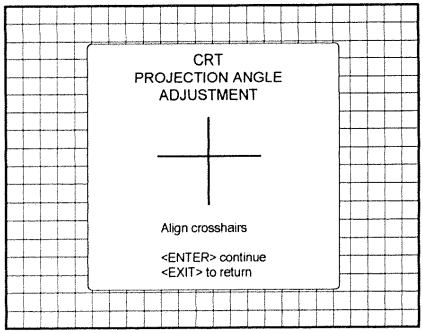
move the red CRT towards the green CRT



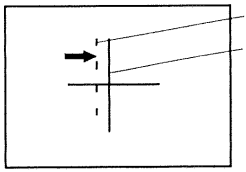
red crosshair
green crosshair

move the red CRT to the outside, away from the green CRT

Loosen bolts E, F, G and H to pivot the blue CRT until the center of the Blue image and the center of the Green image coincide. When the angle of the blue CRT is corrected, tighten the four bolts.



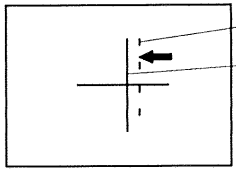
ENTER continues to the diagonal focusing menu.
EXIT returns to the CRT projection angle adjustment.



blue crosshair

green crosshair

move the blue CRT to the outside, away from the green CRT

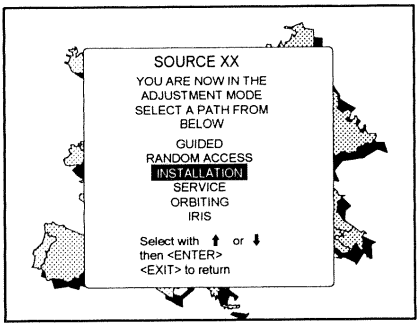


blue crosshair

green crosshair

move the blue CRT towards the green CRT

After finishing the Installation Adjustments Procedure, the Path Selection menu returns on the screen. You are now able to start the alignment procedure for the projector. You have the choice between :
Guided adjustment procedure
Random Access Adjustment procedure.



ENTER continues to the chosen path.
EXIT returns to Operational mode.
ADJUST returns to Operational mode.

Alignment of the Projector.

Overview of the corrections.
For detailed information about these corrections and procedures to be followed, please refer to the Owner's Manual.

Shift corrections for the Red, Green and Blue image.

Left-Right Adjustments:
- Vertical center line bow and skew
- Side keystone adjustment
- Side bow adjustment
- Horizontal size adjustment

Top-bottom Adjustments:
- Horizontal centerline bow and skew
- Top keystone adjustment
- Top bow adjustment
- Bottom keystone adjustment
- Bottom bow adjustment

Size-linearity Adjustments:
- Horizontal size adjustment
- Vertical linearity adjustment
- Vertical size adjustment
- Horizontal phase adjustment

Convergence Adjustments:
- Green only
- Red on Green
- Blue on Green

Blanking Adjustment:
- Top-Bottom, Left-Right

Color Balance:
-White Balance
-Black Balance

MESSAGES, WARNINGS AND FAILURE CODES

SOURCE 01 **Fh= 15.6 kHz** **Fv= 050 Hz**	When selecting a new source, information about this source will be displayed on the screen. Source number, horizontal and vertical frequencies of the displayed source.
SOURCE 01	Announcement of the selected source.
enter password x x x x	Message to enter your password. Password contains 4 digits.
text on	These messages will be displayed on the screen when pushing the TEXT key. Text ON : the *'bar scale indication'* will be enabled during the change of an analog control in the *'operational mode'* + all warnings and failures will be displayed.
text off	Text OFF : the *'bar scale indication'* will be disabled during the change of an analog control in the *'operational mode'* + all warnings and failures will not be displayed.
PROJECTOR ADDRESS : 003	Indication of the projector address when activating the *'ADDRESS'* button on the RCU with a pencil or other small object.
WARNING : **input not available**	When using the projector with the RCVDS, this warning will be displayed when selecting an input slot of an RCVDS where the input board is missing.

WARNING : **source not available**	The input is a valid input but the source is not connected to the input terminals or the input source is switched off.
WARNING : **invalid key entry**	When a wrong key is pressed on the RCU.
WARNING : **invalid code entry**	Message when the entered password is wrong.
WARNING : **end of adjust range**	End of adjustment range.
WARNING : **input no longer available**	Message will be displayed when the input source is no longer available. The following message then appears: *'check input signal or select new source'.*
check input signal or select new source	Message will be displayed after the message *'input no longer available'.* It asks to check the connections between the source and the projector or to check if the source is switched on.
WARNING : **input selector not available**	It warns you to check the power connection or the power status of the RCVDS. Next message will appear immediatly on the screen : *'go to stand-by'.*

WARNING : **go to stand by**	Projector will switch to *'stand-by'* when the RCVDS is no longer available.
WARNING : invalid frequency input	The entered frequency or applied frequency of the source is out of the projector's range.
WARNING : default settings loaded in the E2PROM	Adjustment settings are lost. Re-load using Projector Control Software via PC or MAC (if this option is available), or readjust image.
table is deleted	Message to inform that selected table is deleted. This message will be followed by *'confirm message'*, on which the user has to answer.
FAILURE invalid RWI soft version	Wrong software version in your projector. Call for technical support.
FAILURE **I2C error addr. : 7FH3**	Hardware failure. Call a qualified service technician for repair.
FAILURE short circuit on I2C bus	Hardware failure. Call a qualified service technician for repair.
FAILURE RCVDS communication error	Serial communication error between RCVDS800 and projector.

FAILURE RWI communication error	Hardware failure. Call a qualified service technician.
FAILURE IRIS communication error	Communication error between IRIS 800 and the projector. Call a qualified service technician.
WAIT starting up IRIS	Message during the start up of the IRIS 800. Message will disappear when the IRIS 800 is ready to accept commands.

BARCO Ceiling Mount Support (CM100)

This appendix gives only an overview of the contents of the installation guidelines and some overview drawings.
The installation guidelines for the BARCO ceiling mounting support can be ordered from BARCO using order number: R5975693.

I. Contents of the installation guidelines.

1. Mounting instructions for the upper support to the ceiling.

   a. Position of the upper support on the ceiling.
   b. Mounting of the 4 screwed rods on the upper support.

2. Projector placement on lower support.

   a. Projector placement on support.
   b. Location of controls for projector-position correction.

3. Mounting instructions of the cord to lift up the projector.

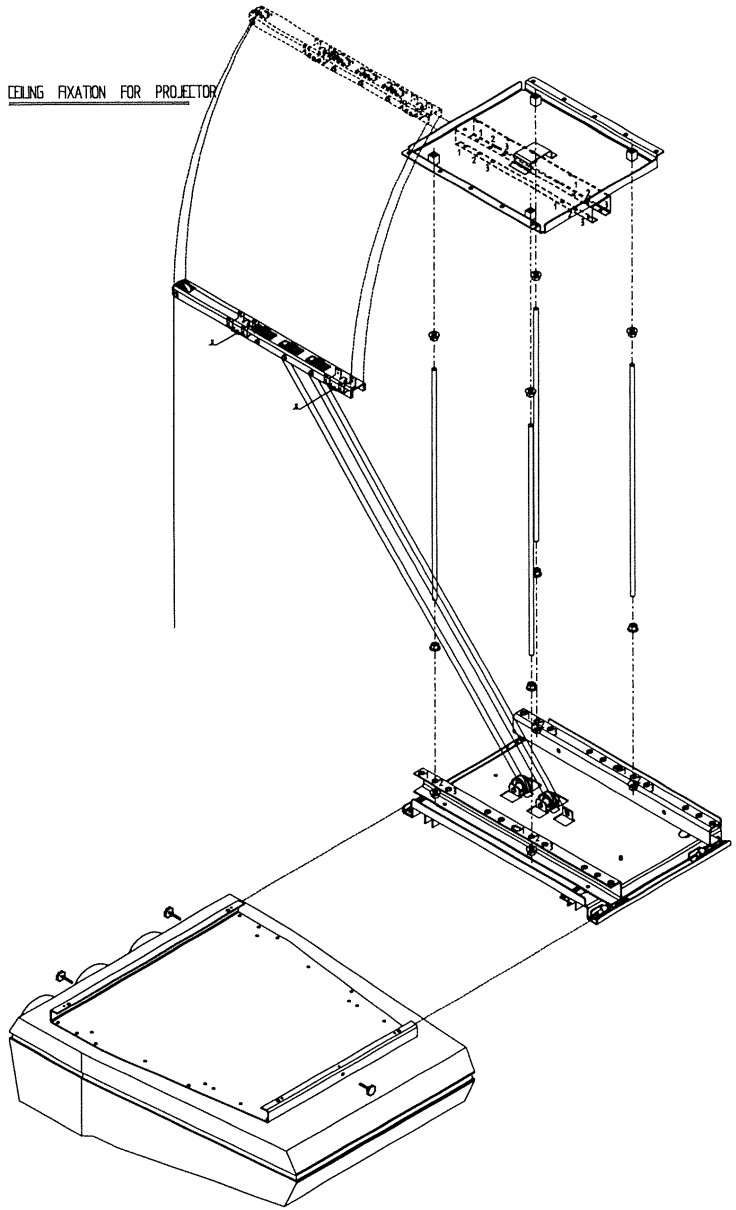
   a. Mounting the cord support on the upper support.
   b. Cord insertion between the upper and lower support.
   c. Cord fixation

4. Lifting up and fixing the lower support (with projector) on the screwed rods.

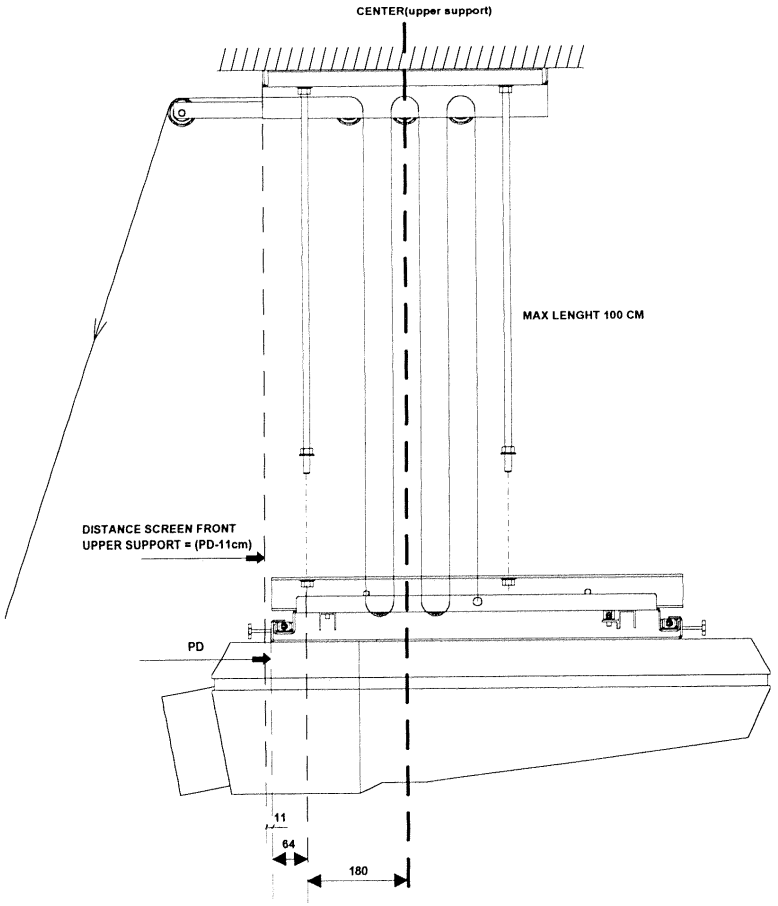
5. Alignment of the projector-support assembly

   a. Projector water-level adjustment.
   b. Adjustment "projector axis perpendicular" on the screen surface.
   c. Projector movement for- or backward.

II Exploded view of BARCO ceiling mount support.

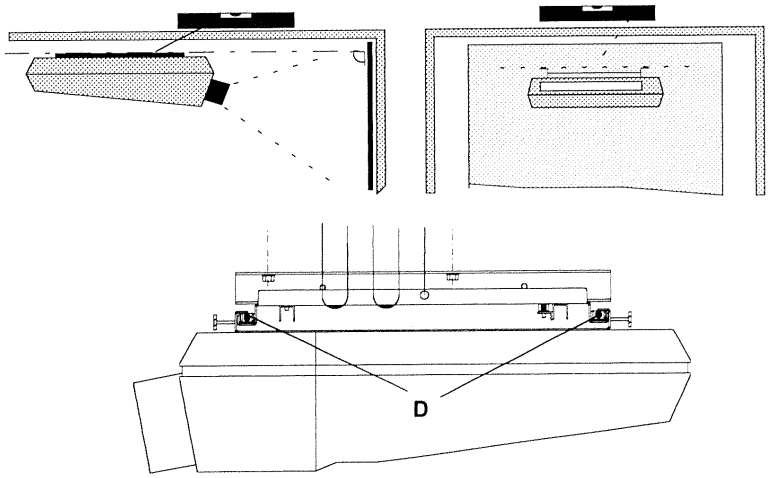


III. Overview drawing of the total system.

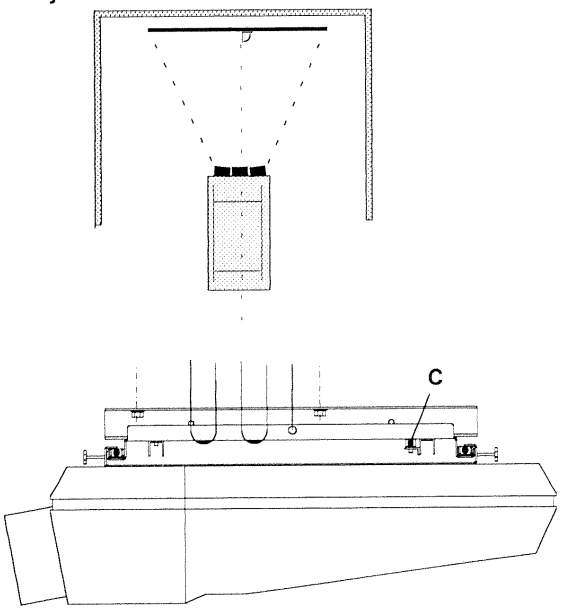


IV. Projector-position corrections

Water-level adjustment

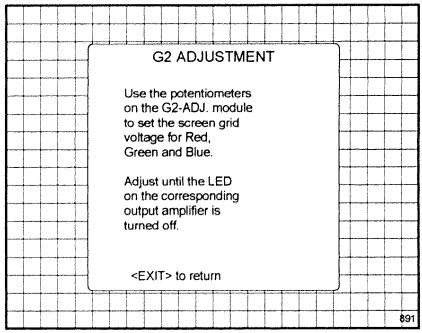


Projector axis adjustment

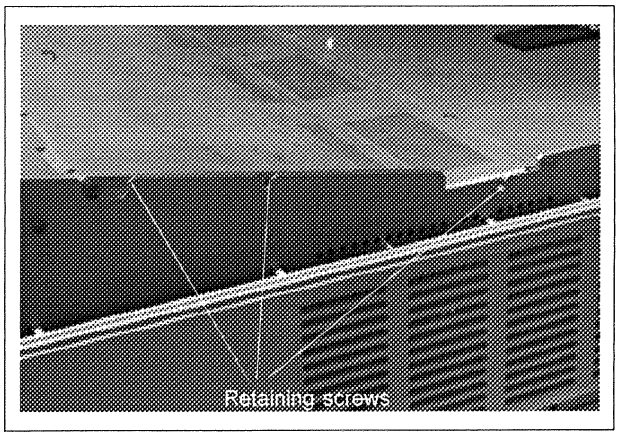


G2 Adjustment

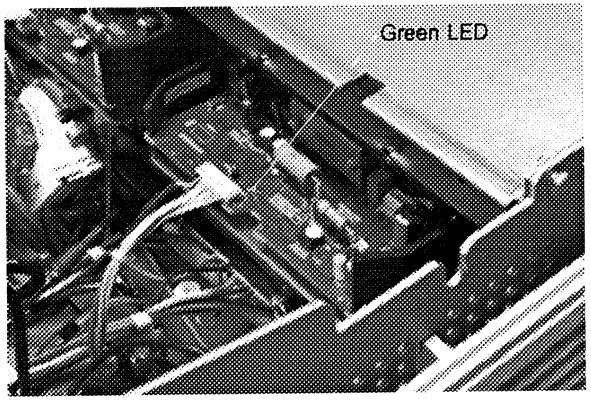
Open the front metal protection cover by turning out the 3 retaining screws on both sides.



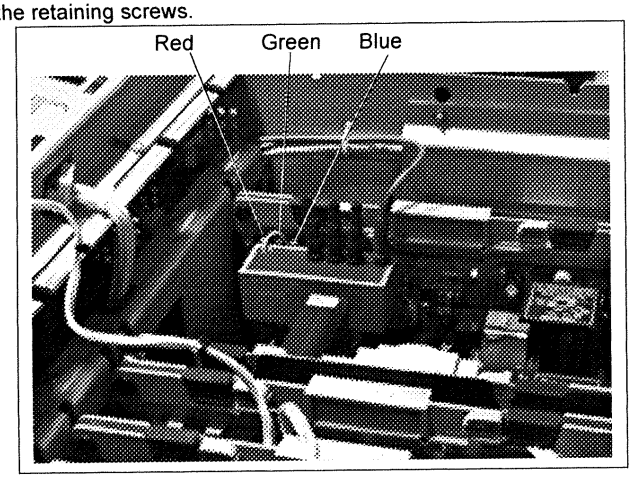
ENTER continues to the path selection menu.
EXIT returns to diagonal image focusing
ADJUST returns to operational mode.



A green LED is mounted on these amplifiers.
When selecting the G2 adjust menu, these green LEDs have to be out. If not, follow the next procedure to adjust the G2.



Open the second metal cover by turning out the retaining screws on both sides and pivot the cover to the front side of the projector (see page 30).
Adjust the G2 potentiometers very slowly with a screwdriver until the LED of the corresponding amplifier just stops illuminating. Repeat the adjustment procedure for the other colors.
Once the 3 G2 potentiometers have been correctly adjusted, close both metal covers and secure with the retaining screws.



BARCO nv/Projection Systems
Noordlaan 5
B-8520 Kuurne
Belgium

Printed in Belgium