Reality Center™
RC-3300W

INSTALLATION MANUAL

Date :
11102000

Art. No. :
R5976177

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1 SAFETY INSTRUCTIONS

Safety Instructions

Notice on Safety

This equipment is 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 rises, 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 this equipment please read this manual thoroughly, and retain it for future reference.

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

OWNER'S RECORD

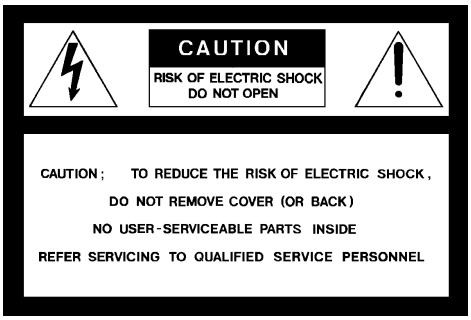
The part number and serial number are located at the back side of the projector. Record these numbers in the spaces provided below. Refer to them whenever you call upon your dealer regarding this product.

PART NUMBER :

SER. NUMBER :

DEALER :

Safety indication on the product



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.

Safety Warning

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

FEDERAL COMMUNICATION COMMISSION (FCC STATEMENT)

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

Note :
The use of shielded cables is required to comply within the limits of Part 15 of FCC rules and EN55022.

* 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 equipment 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.

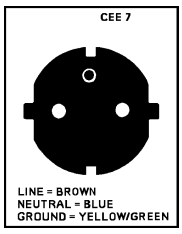
Operating AC power voltage of the projector:

Art. No. R9044000/010 (*230V AC*)
Art. No. R9044009/019 (*120V AC*)

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

2. All equipment in the system 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.

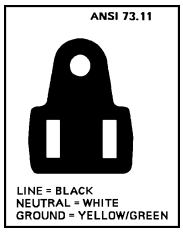
WARNING FOR THE CUSTOMERS: THIS APPARATUS MUST BE GROUNDED (EARTHED) via the supplied 3 conductor AC power cable. (If the supplied power cable is not the correct one, consult your dealer.)



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

The wires of the mains lead are colored in accordance with the following code.

Green and yellow:	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.

Green/yellow:	ground
White:	neutral
Black:	line (live)

3. Power ratings :
2-channel system : 14 A/120V, 10A/230V
3-channel system : 21 A/120V, 15A/230V

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.

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.

Caution on Fire Hazard

Do not place flammable or combustible materials near projector !

These large screen projection products (systems) are designed and manufactured to meet the most stringent safety regulations. The inside projector radiates heat on its external surfaces and from ventilation ducts during normal operation, which is both normal and safe.
Explosing flammable or combustible materials into close proximity of this system could result in the spontaneous ignition of that material, resulting in a fire. For this reason, it is absolutely necessary to leave an "exclusion zone" around all external surfaces of the system whereby no flammable or combustible materials are present. The exclusion zone must be not less that 10 cm (4") for this system. Do not cover the system with any material while the projector is in operation.
Keep flammable and combustible materials away from the projector at all times. Install the system in a well ventilated area away from sources of ignition and out of direct sun light. Never expose the system to rain or excessive moisture. In the event of fire, use sand, CO_2, or dry powder fire extinguishers; never use water on anelectrical fire.
Always have service performed on this projector by authorized service personnel. Always insist on genuine BARCO/SGI replacement parts. Never use non-BARCO/SGI replacement parts as they may degrade the safety of this projector.

On installation

For a safe installation, refer to setup-requirements doc/installation doc.

On servicing

Do not attempt to service this product yourself, as opening or removing covers may expose you to dangerous voltage potentials and risk of electric shock!

Refer all servicing 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 equipment.
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 exhibits 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/SGI replacement parts or authorized replacement parts which have the same characteristics as the original part. Unauthorized substitutions 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 product 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. Use the cleaning set to clean the outside system.

- 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.

Screen care and cleaning :
Before starting with the hole screen, test first on small part somewhere in the corner.

1. Brushing softly and lightly with a clean, soft bristled brush will remove any loose dirt or dust. Do not vacuum or use sharp instruments.

2. More subborn soil may be removed with a mild solution of clear detergent, such as Joy, and lukewarm water. Rub lightly with a cellulose sponge, working from the bottom of the screen up in sections. Rinse with clear water and blot with a clean, damp sponge to remove excess water. Cleaning should be done in the shade.

3. Never attempt to use solvents, commercial cleaners, chemicals or any abrasive type cleaners on the screen.

4. Spotting areas in the screen is not recommended, the areas around the spot could show up badly. Rather, if the screen has dust and dirt on it wash the entire screen as described in number 2 above and dry it like a beautiful black automobile finish. A large damp cellulose sponge or chamois, softly applied, will absorb rinse water and prevent water spotting or streaking.

5. When painting in the vicinity be sure to protect the screen as paint is impossible to remove.

6. Keep your screen clean and avoid getting any foreign materials on it. Cleaning or removing scratches, paint, ink, nicotine stains, etc., may prove to be difficult if not possible.

7. With reasonable care, you may expect many years of trouble-free use of your screen.

On repacking

If repacking is necessary, call SGI for more information.

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 system, care must be taken to avoid exposure to ambient light directly on the screen. Avoid adverse illumination on the screen from direct sunlight or fluorescent 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.

Flightcases

The following flightcases are available to transport the Reality Center.

Flightcase type	Dimensions (mm)	weight flightcase	Order no.
Projector unit	1380 x 920 x 1250	81 kg	B593511
Mirror unit 2 channel	1830 x 1290 x 1260	164 kg	B593512
Mirror unit 3 channel	1830 x 1290 x 1510	188 kg	B593513
Screen unit 2 channel	2955 x 810 x 1580	192 kg	B593514
Screen unit 3 channel	4140 x 810 x 1580	252 kg	B593515
RACK unit	1430 x 720 x 1060	64 kg	B593510

3 BRINGING INTO THE ROOM

Requirements

Door Requirements

A normal doorway of minimal 75-78 cm is required when in unpacked state.

How to pass the Mirror unit through the Door

The bring the mirror assembly through the door (image 1):

1. Lift up the mirror assembly under an angle.
2. Hook in the mirror corner to pass through the doorway.

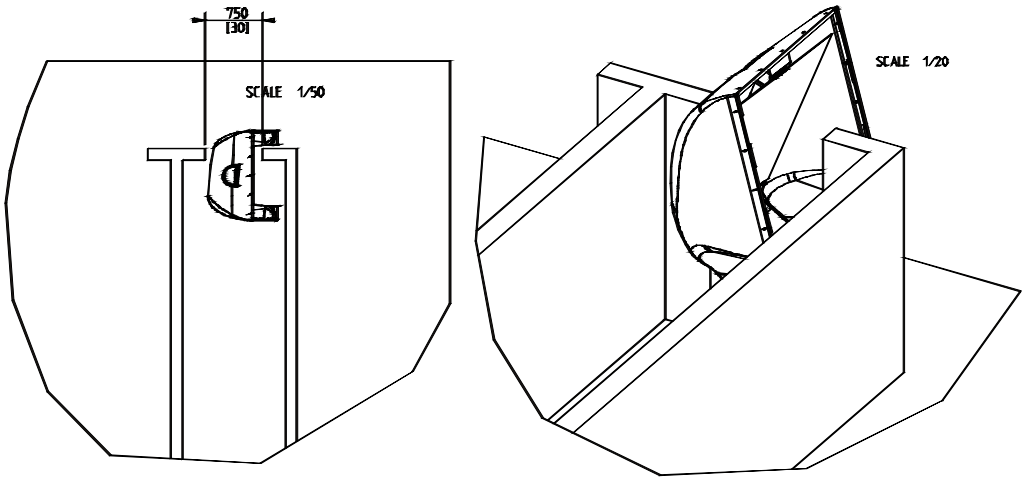
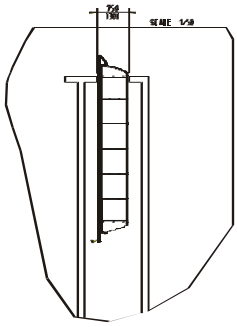


image 1

How to take an angle in a Hallway with the Screen Cabinet

The screen cabinet can pass through a normal doorway of 75-78 cm (image 1).



Taking a corner with a 2 channel screen.

The minimum width of the hall should be :
at one side : 0.9 m
at the other side : 2.4 m
see image 1.

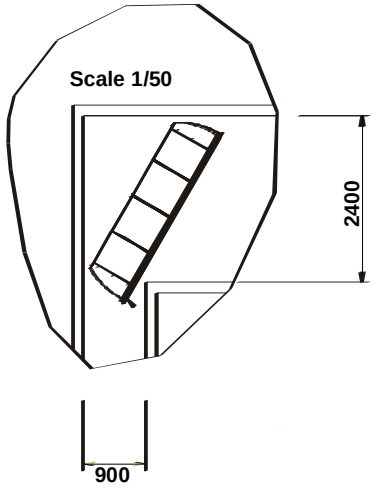


image 1

Taking a corner with a 3 channel screen.

The minimum width of the hall should be :
at one side : 1.350 m
at the other side : 2.4 m
see image 1.

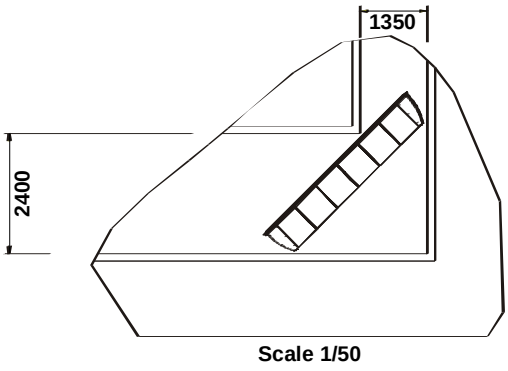


image 1

4 ROOM REQUIREMENTS

Room Requirement

Dimensions

xxx

Airco Requirements

The following specifications for temperature and humidity have to be followed :
Temperature : 17 - 27 °C (62 - 80 F)
Humidity : 40 - 60 % RH
Dust class : 100000 particles per cubic feet

Power Requirements

Minimum power requirements in the room :

2-channel system :
120 V : 14A
230 V : 10A

3-channel system :
120 V : 21A
230 V : 15A

Note : when using a power strip, be aware for the maximum current of the power strip. Use a power strip that can support the above indicated current.

Additional power requirement
3D option : standard power strip and wall outlet.
switching options : standard wall outlet

Lightning

The light system of the room is best to be optimized to avoid reflections in onto the screen in order to assure an optimal image quality.

Wall build in

Between the backside of the projector and the wall there should be at least 400 mm (16").
If the product is built-in (surrounded by 3 walls), 800 mm (32") is needed on one side to set up the system (image 1).

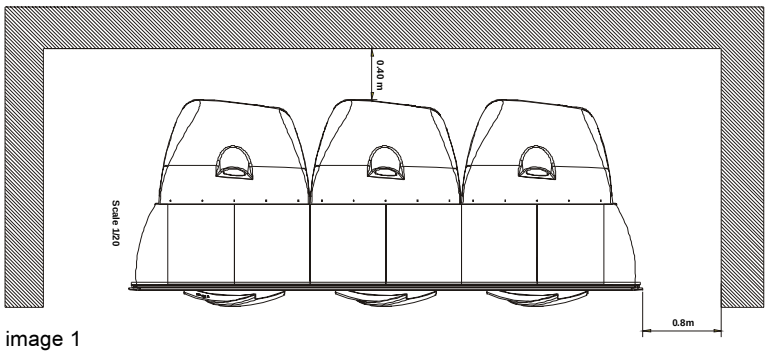


image 1

5 MECHANICAL SET UP

Bottom Cabinet

Removing the Panels

Both side panels and the front panel should be removed before assembling the system.
Handle as follow :

1. Loosen both fixing screws A a quarter of a turn by turning counter clockwise (image 1).
2. Slide off the front cover by pushing first a little bit downwards.
3. Push a flat screwdriver on the indicated place (black arrow on image 1).
4. Pull to the outside until the upper side of panel becones free from the projector chassis (click system).
5. Pull the panel backwards to free the panel completely from the chassis (two pins on the bottom side of the panel are inserted into the chassis).
6. Repeat step 4 & 5 for the other side.

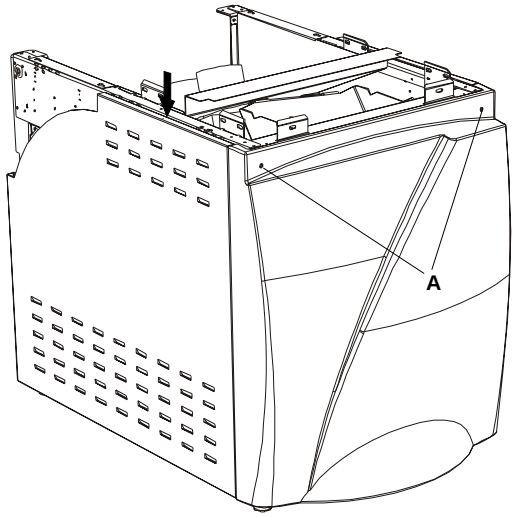


image 1

Removing the Lens Cover Plate

To remove the lens cover plate, handle as follow :

1. Push both side panels of the part a little bit to the inside.
2. Pivot at the same time the lens cover plate to the front.
3. Lift up the plate to remove.

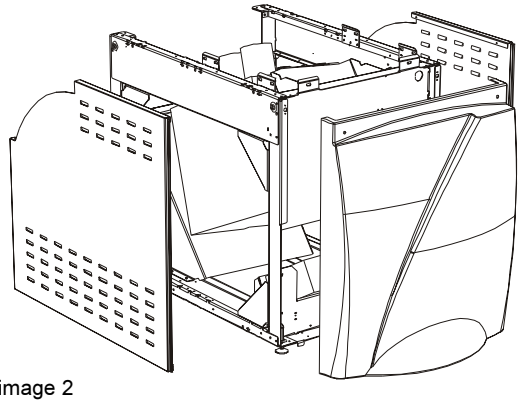


image 2

Lining up the Bottom Cabinets

To line up the bottom cabinets :

1. Place the cabinet with the front side on a straight line.
2. The distance between two cabinets should be 430 mm (image 1, top view).
3. Waterlevel the projector cabinet in both directions by turning the feet in or out (image 2).
4. Check if the top of all projector cabinets are on the same height.

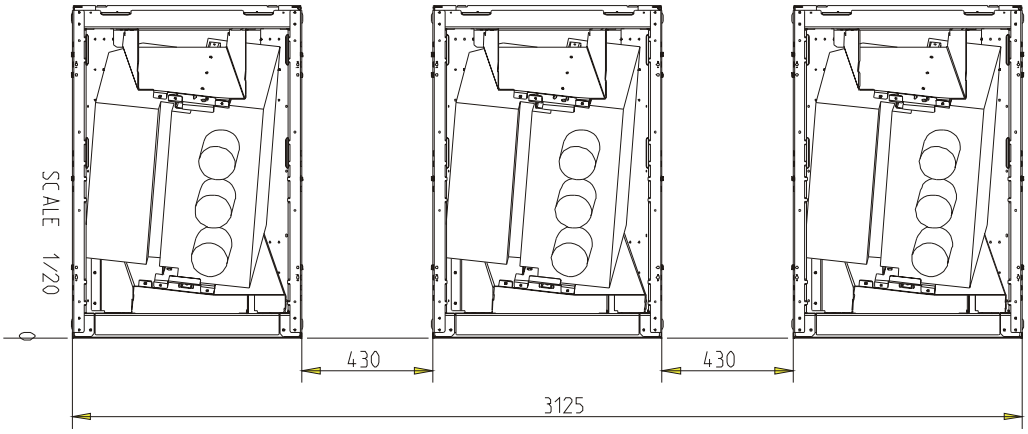


image 1

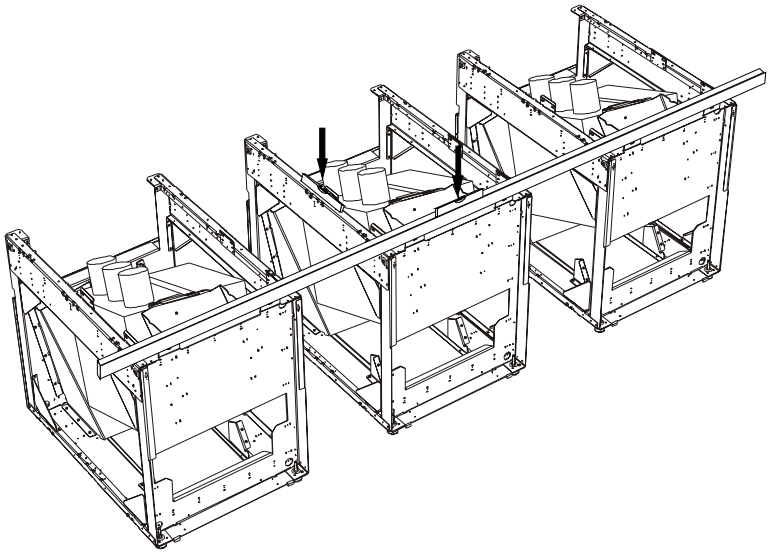


image 2

Screen Cabinet

Installing the Screen Cabinet

To install the screen cabinet onto the projector cabinet, handle as follow :

1. Put the front bar of the cabinet against the inside front brackets on the projector cabinet (see image 1 for correct position).
2. Insure that the vertical bars are against the outside of the brackets on the sides of the projector cabinet (image 2).
3. Insert in each hole of the brackets a hammer bolt and push it in the groove of the screen cabinet frame.
4. Turn the hammer bolts a quarter turn and tighten the nuts. The screen cabinet is fixed onto the projector cabinet.

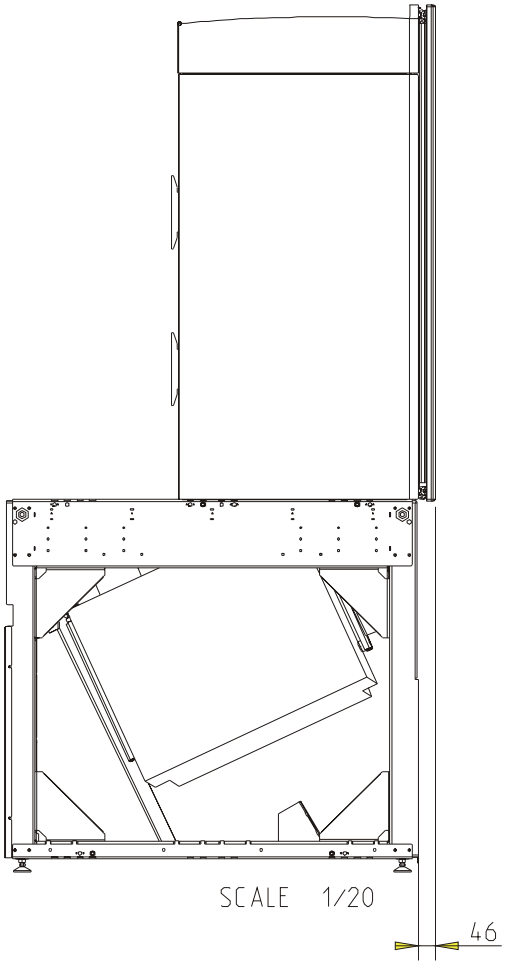


image 1

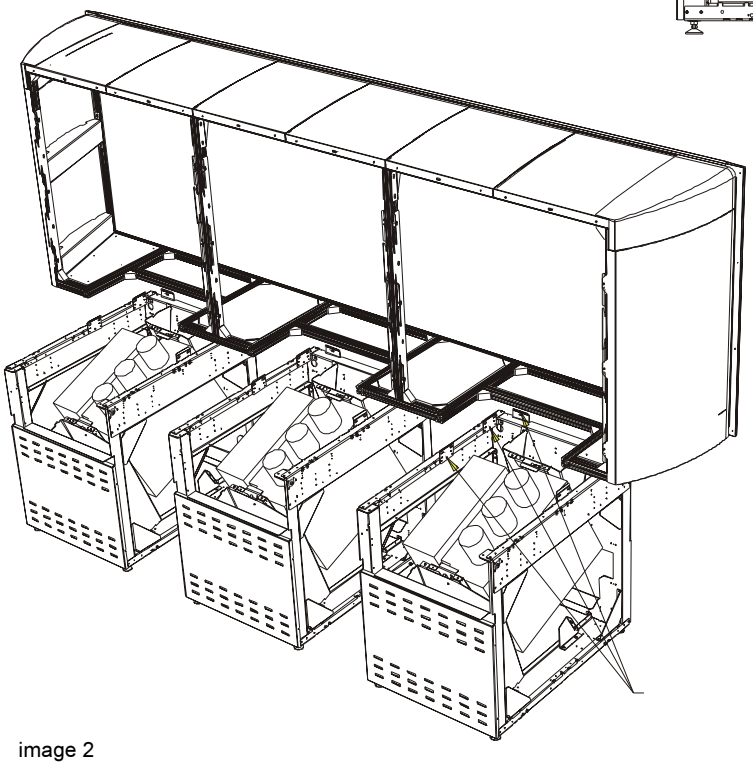


image 2

Mirror Cabinet

Attention

All screws and fixation plates are mounted on the mirror cabinet.

Fixation Plate Mirror

Before mounting the mirror fixation plate, remove first the both screws and fixing part. Handle as follow (image 1) :

1. Turn out both screws.
2. Take away the fixing plate.
3. Position the mirror fixation plate.
4. Reinsert both fixing screws with the fixing plate between the screws and the cabinet.

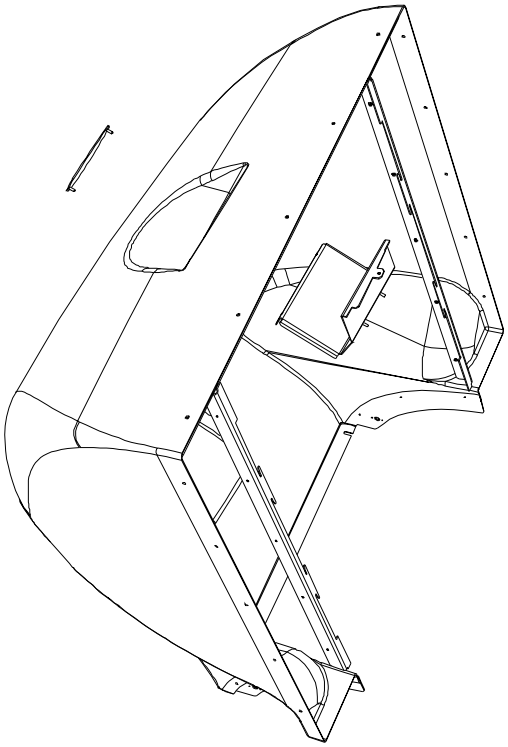


image 1

Fixing the Hook profiles

To mount the hook profiles, handle as follow :

1. Place the hook profile to the left side of the mirror cabinet.
2. Secure with 5 screws.

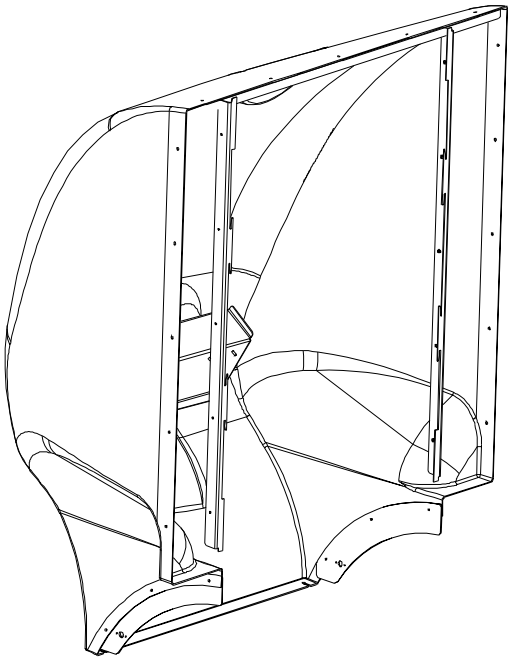


image 1

Mounting the Mirror

To mount the mirror, handle as follow (image 1) :

1. Turn out first the screws of the fixing plates (3 places).
2. Put the mirror on its place.
3. Mount the fixing plates by turning in the screws.

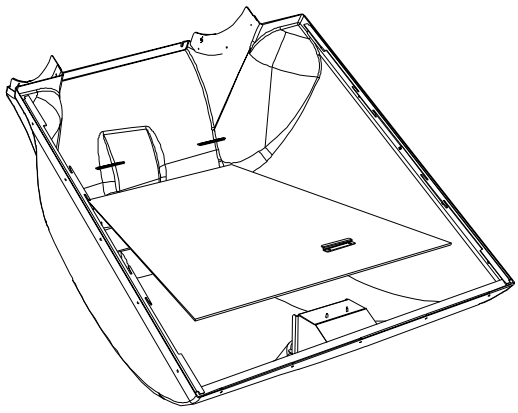


image 1

Mounting the Mirror Cabinet onto the Screen Cabinet.

To mount the mirror cabinet onto the screen cabinet, handle as follow :

1. Bring the mirror cabinet and the screen cabinet together with the mirror cabinet higher than the screen cabinet.
2. Slide the mirror cabinet downwards until the hooks of the mirror cabinet matches the hook profile (A) of the screen cabinet (image 1).

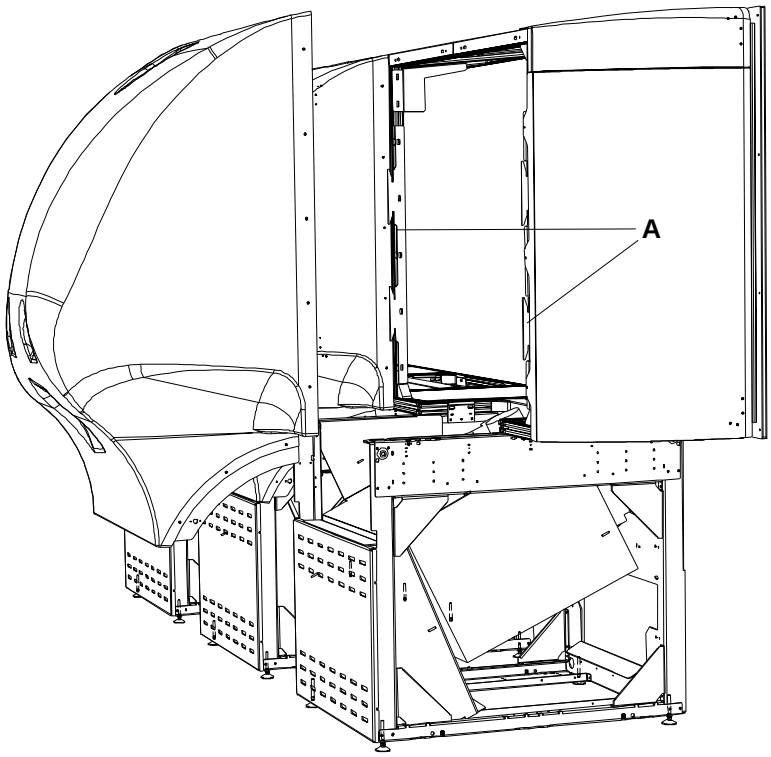


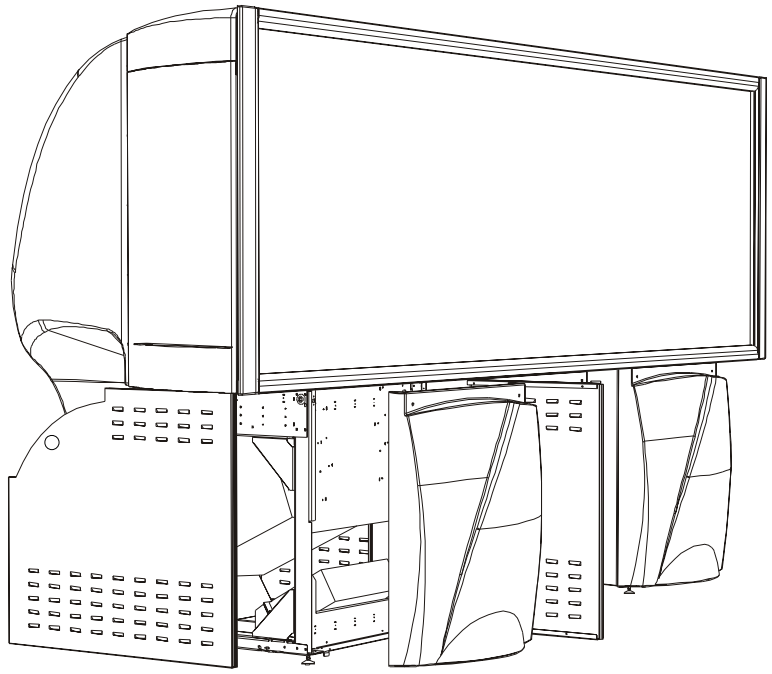
image 1

Finalizing the Set Up

Mounting the Service Panels

To mount the service panels (side panels), handle as follow (image 1) :

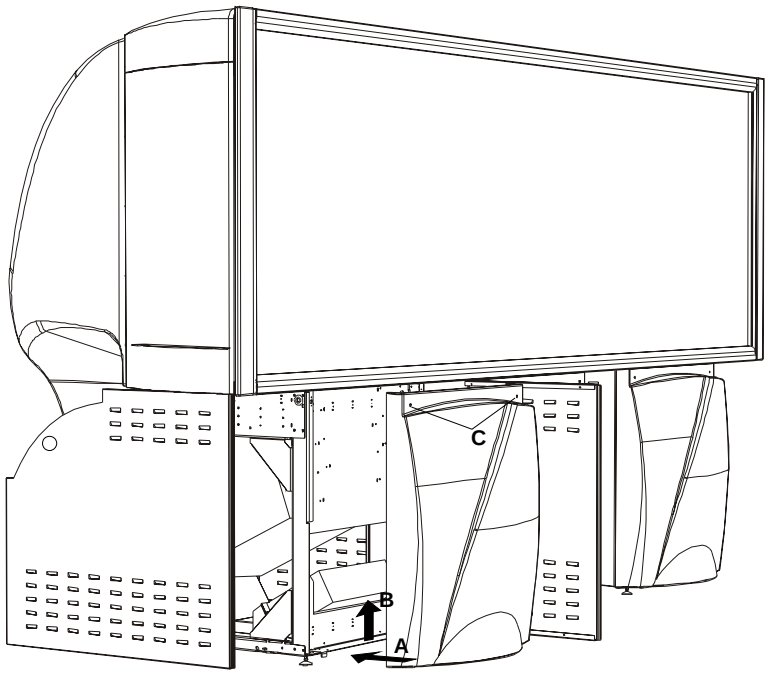
1. Match both bottom pins of the side panel with the holes in the chassis.
2. Push the upper side of the panel until it clicks into the chassis.
3. Secure the spring lock by turning a quarter clockwise.



Mounting the Font Panel

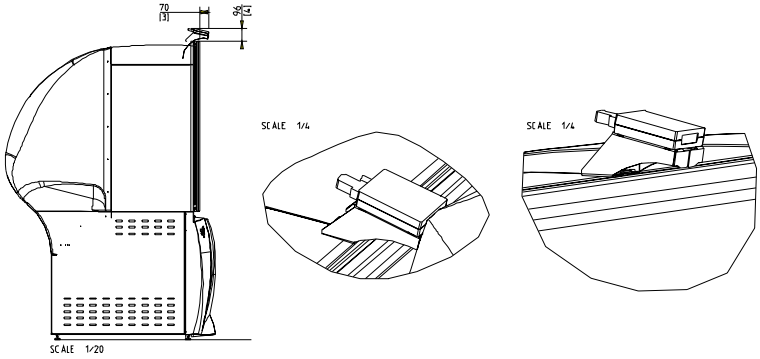
To mount the front panel, handle as follow (image 1) :

1. Slide the front panel over the floor until it is just below the projector cabinet (A).
2. Slide upwards until the panel fit into the cabinet (B).
3. Push the top side towards the cabinet.
4. Secure with both spring locks by turning them a quarter clockwise (C).

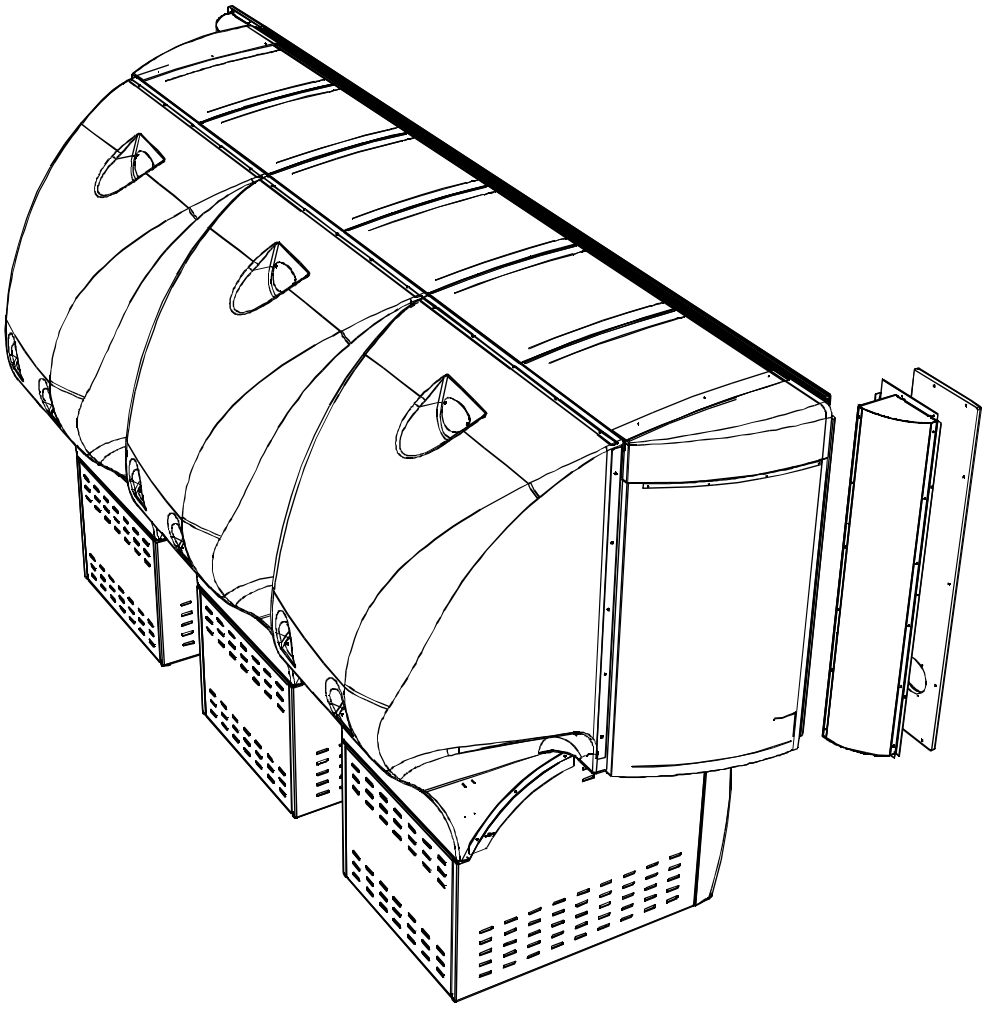


Mounting the Stereo Option

The stereo option should be mounted on top of the system above each channel.
On top of each mirror cabinet a dual lock fastener strip is mounted as socket for the stereo option.
Mount the stereo option as shown in the drawing below. Peel off the paper of the dual lock fastener strip and push the stereo option on the strip on the mirror cabinet.
Mount the cables as shown in chapter 'Configuration Proposals'.



Mounting the audio option



6 PROJECTOR SET UP

Access to the DIP Switches

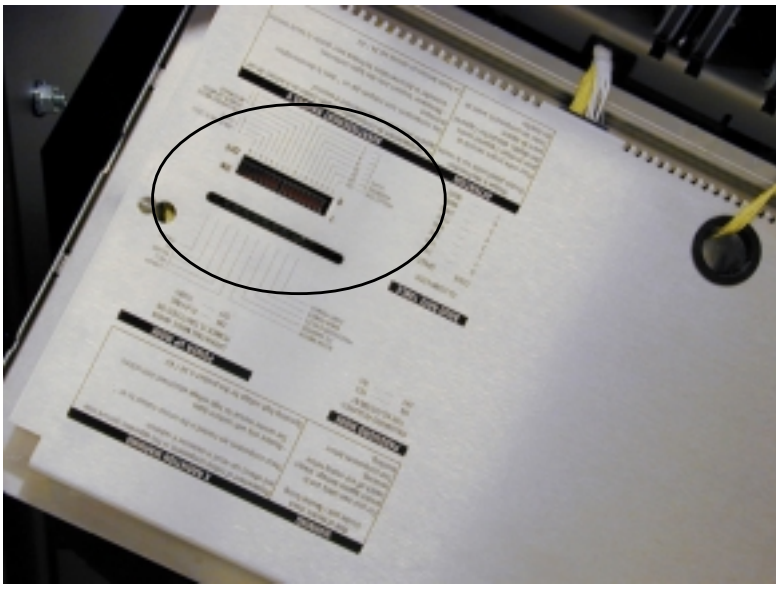
Removing the Service Panels

If the service panels are already mounted, handle as follow :

1. Turn the quick locking screw a quarter counter clockwise to open.
2. Pull a screwdriver between the chassis and the plate and push to the outside until the upper side becomes free from the projector chassis (click system).
3. Pull the panel backwards to free the panel complely from the chassis (two pins on the bottom side of the panel are inserted into the chassis).

Opening the Projector Covers

1. Loosen on both sides of the metal cover both screw.
2. Pivot the cover downwards
3. The DIP switches are located on the left side.



Projector Address

Projector Address Setting

The projector's address may be set to any value between 0 and 255. Each projector needs a separate address.

When the address is set, the projector can be controlled now by :
- RCU for addresses between 0 and 9.
- a computer for addresses between 0 and 255.

Address Set Up

The set up of an address is a hardware SETUP of the projector which must be done during installation.
Use the 8 DIP switches provided on the controller board labelled 'Projector Address'.

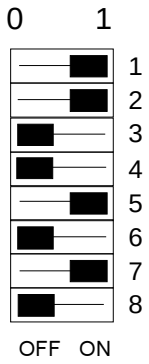
Each DIP switch has its own decimal value. The sum of the values associated to those DIP switches gives the address.
See table below for the equivalent value. If Switch No. 1 is set to ON, it represents a decimal value of 128, Switch No.2 for 64, Switch No.3 for 32, and so forth.

In the given example, the projector address is set to *202 :*
DIP switch No. : 1 2 3 4 5 6 7 8
Position ON/OFF : 1 1 0 0 1 0 1 0

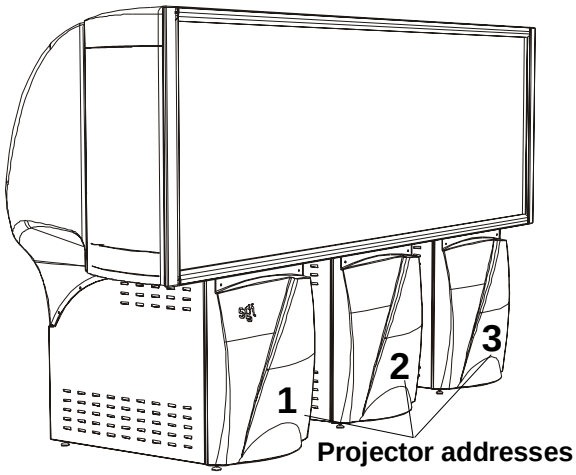
Sum : 1x128 + 1x64 + 0x32 + 0x16 + 1x8 + 0x4 + 1x2 + 0x1 = 202

Table :

Switch No	Value
1	128
2	64
3	32
4	16
5	8
6	4
7	2
8	1



Standard set up for a RC-3300W system.



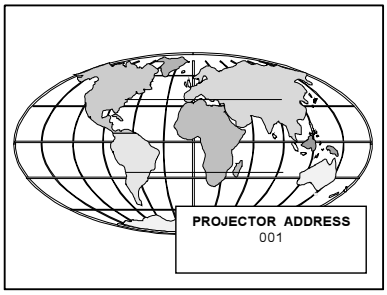
Left projector : address 1
Middle projector : address 2
Right projector : address 3

If a second system is installed in the same room, these projector addresses should be higher than 3, e.g. 4, 5 and 6.

Address Check

To check the address of a projector, handle as follow :

1. Press the address button on the RCU with pencil.
   The projector will display its own address (menu 1).
2. For continue using your RCU, enter the address with the digit keys within 5 seconds after the address key is pressed.
   If the displayed address is '003', enter only '3' with the digit keys on the RCU.

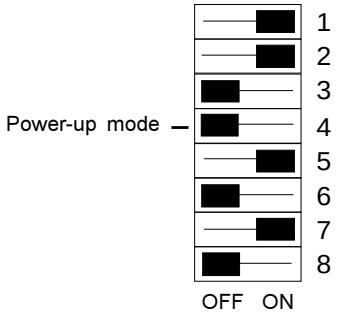


Power Up mode

Set Up

The projector can start up in two different modes, operational mode and stand by mode.
The start-up mode is determined by the position of DIP Switch No. 4 on the second set of 8 DIP switches on the controller board (the first set of 8 switches are used for projector address setting).

Position of the DIP Switch No. 4 (powerup mode) :
ON : operational mode.
OFF: standby mode (Factory preset).



Start up in 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 the "Text" function is set to "ON".

Start up in Stand-By Mode

When the power switch on the rear of the projector is pressed, the projector starts up in the standby mode. The standby key on the RCU is used to turn the projector ON and OFF.

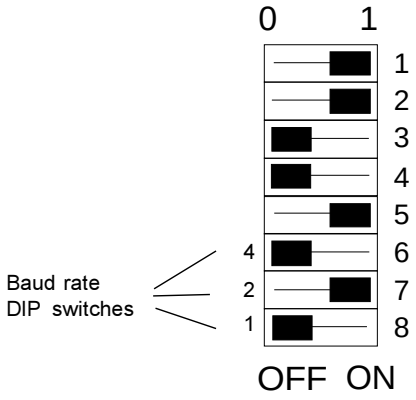
Baud rate Set Up

Set Up

The communication speed between the projector and the computer has 8 possible settings.
With DIP Switch No. 6, No.7 and No.8 of the 8 DIP switches on the controller board, labelled as ‘Baud rate code (sum)’, it is possible to select the baud rate (communication speed). Each DIP switch has its own decimal value. The sum of the values associated to those DIP switches gives the baud rate code. Each baud rate code corresponds an communication speed.

Position of DIP switches and baud rate codes :

Binary	Baud rate code	Speed
000	0	110
001	1	150
010	2	300
011	3	600
100	4	1200
101	5	2400
110	6	4800
111	7	9600



Factory preset baud rate : 9600

Password Mode

Set Up

With DIP Switch No.5 of the second set of 8 DIP switches on the controller board, the projector adjustments can be protected with a password. When the password feature is enabled, the user has to enter a password before he can enter some items in the adjustment mode.

Position of DIP Switch No.5 :

ON : password mode enabled.
OFF: password mode disabled.

Factory preset password mode : OFF.

7 CONNECTIONS

Cables

Where to enter the Cables ?

All cables should be entered on the bottom side of the projector cabinet.

Power Connection

Power cord

AC Power (Mains) Cord Connection

Each projector should be connected separately with a power cord to the mains outlet.

Use the supplied cord to connect your projector to the wall outlet. Plug the female power connector into the male connector of the projector.

Preparing your Power Cord

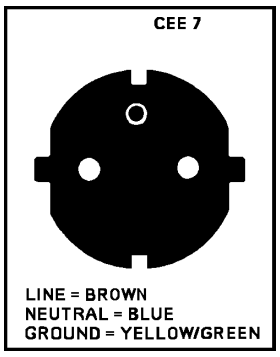
Mains lead (power cord) with CEE7 plug

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 which 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 :

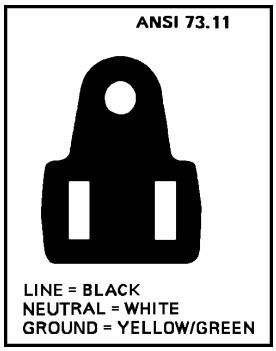
Yellow and Green	:	Ground (Earth).
Blue	:	Neutral.
Brown	:	Live.



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 which is determined by the ART. NR. (Article number) included in the label pasted on the rear side of the system.

Projectors with the ART. NR. R9044000 or R9044010 must be connected to a 230 VAC power source.
Projectors with the ART. NR. R9044009 or R9044019 must be connected to a 120 VAC power source.

If the indicated voltage is different from that of the wall outlet, call a qualified technician for power adaptation of the projector.

Voltage Adaptation

AC Input Power Voltage Adaptation

Adaptation of the power input of the projector between 230 Vac and 120Vac or vice versa is possible.

Follow the procedure as described below to adapt the voltage :

1. ***WARNING: turn off the projector and be sure the AC Power Cord is unplugged before starting the procedure !***
2. Remove the service panels (see chapter Projector Set Up).
3. Open the projector covers.
4. Unscrew the retaining screws of the AC power input board and remove this board.
5. Pull out the 'Power selector plug' and reinsert it as illustrated in image 1, depending on the AC power of the wall outlet in the room.
6. Pull out the fuses and place the correct fuses in their sockets. See 'Fuses' below for the correct type of fuses.
7. Reinsert the power input board and secure it with the retaining screws.

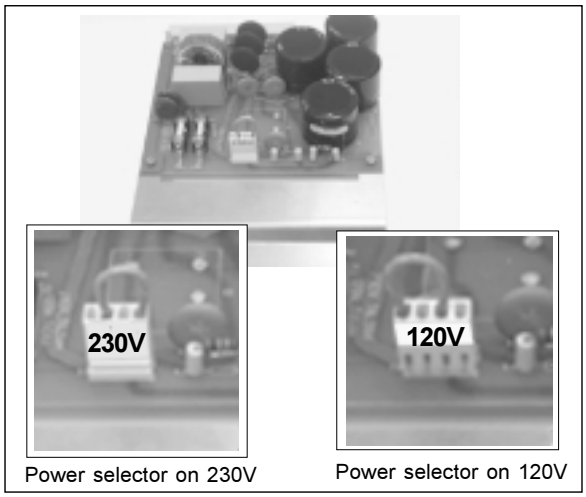


image 1

Fuses

Warning ! For continued protection against fire hazard :
1. Replace with the same type of fuse.
2. Refer replacement to qualified service personnel.

AC power	Fuses	Order Number
230 Vac	T6.3A/250V (2x)	R314145
120 Vac	T10A/250V (2x)	R314154

Switching on the Projector

Hardware Switch on.

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

Pressed : ON state
Not pressed : OFF state

The projector can start now in :
- Operational mode (picture displayed)
- Stand by mode

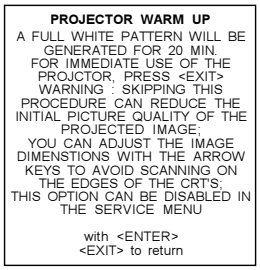
See 'Power Up switch' in chapter Projector Set Up.

Note

For the user, the power switch is always be pressed and the system wll be in stand by.
The user can switch the projector to stand by using the stand by key on the RCU.
To completely switch off the system, unplug from the power connector from the wall outlet or switch off the power breaker when using a power strip.

Start Up in Operational Mode from Stand By

The projector can start up with the selected source or the projector can start up with a warm up cycle message (menu 1).



menu 1

When this warm up cycle message appears on the screen, the menu offers the possiblity to start with this 20 minutes taking warm up periode (press ENTER) or to skip this cycle (press EXIT).

Note : This warm up periode is built in so that the projector can reach its maximum specifications and minimize all distortions.

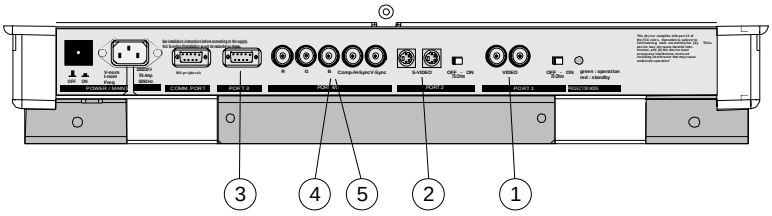
When starting this warm up period, a full white image is shifted on the CRT faceplate to avoid a burn in. Every 30 seconds a text box will be displayed on another place on the screen with the remaining time to go.
To interrupt the warm up period, handle as follow :
1. Press EXIT, the warm up menu will be redisplayed with the remaining time indication.
2. Press EXIT again to quit the warm up cycle and to display the source.

Source Connections

Input locations

Input facilities

The RC-3300W™ system is connect to ONYX via 5 cables per channel. The cables start by the RBGS BNC inputs (port 4/5) of each projector. In case the switching option is installed, the same 5 cables per channel are connected to the switching option of that channel.



RGB Analog source with composite sync to port 4/5.

Which signal to port 4/5

RGB analog input terminals with separate H and V sync inputs, composite sync input or with sync on green (BNC terminals). The projector detects automatically where the sync signal is located.

RGBS and RGsB input selection

With the RCU, press digit button 4 or 5.
4 when sync on green.
5 when separate sync

RS232 Connection

RS232 input and RS232 output of the projector.

The projectors inside the system are equipped with a RS232 ports that allows them to communicate with a computer.

Applications

a) remote control:
- easy adjustment of the projector via a computer.
- allow storage of multiple projector configurations and set ups.
- wide range of control possibilities.
- address range from 0 to 255.

b) data communications:
- sending data to the projector or copying the data from the projector to a hard memory device.

Set up of the Baud Rate for Communication with a Computer.

See 'Baud rate Set Up' in chapter 'Projector Set Up'

Important Note.

Use the delivered RS232 cables to connect the projectors in loop through.
When connection a computer with a standard RS232 to the system, first disconnect pin 4.

Communication port for communication with peripherals

Connecting a RCVDS 05 switcher to the projector.

- Up to 10 inputs (20 inputs when video and S-video) with the RCVDS 05 switcher and up to 90 inputs when 10 RCVDS switchers are linked via the 5-cable output modules.
- Serial communication with the projector.
- Remote control buttons on the RCVDS to control the projector (source selection and analog settings)
- The selected source number will be displayed on a 2 digit display and the selected input modules will be indicated with a LED on the rear.

8 CONFIGURATION PROPOSALS

Configuration

Base Configurations

- 3-channel mono (see page 8.3)
- 2-channel mono (see page 8.5)
- 3-channel stereo (see page 8.6)
- 2-channel stereo (see page 8.8)

Electrical Options

On 3-channel (mono or stereo)

- switching option (mono,see page 8.10; stereo, see page 8.12)
- long cable option (see page 32)
- switching + long cable option (see page 8.32)
- audio option (mono, see page 8.14; stereo, see page 8.15)

On 2-channel (mono or stereo)

- switching option (mono, see page 8.17; stereo, see page 8.19)
- long cable option (see page 8.32)
- switching + long cable option (see page 8.32)
- audio option (mono, see page 8.21; stereo, see page 8.22)

Combination options

A combination of the electrical options is also possible, which gives the following possibilities :

On 3-channel (mono or stereo)

- switching + audio option (mono, see page 8.24; stereo, see page 8.26)
- long cable + audio option (see page 8.32)
- switching + long cable + audio option (see page 8.32)

On 2-channel (mono or stereo)

- switching + audio option (mono, see page 8.28; stereo, see page 8.30)
- long cable + audio option (see page 8.32)
- switching + long cable + audio option (see page 8.32)

Other Options

- Color of the screen frame (see page 8.32)
- Rugged

These options can be added to any combination.

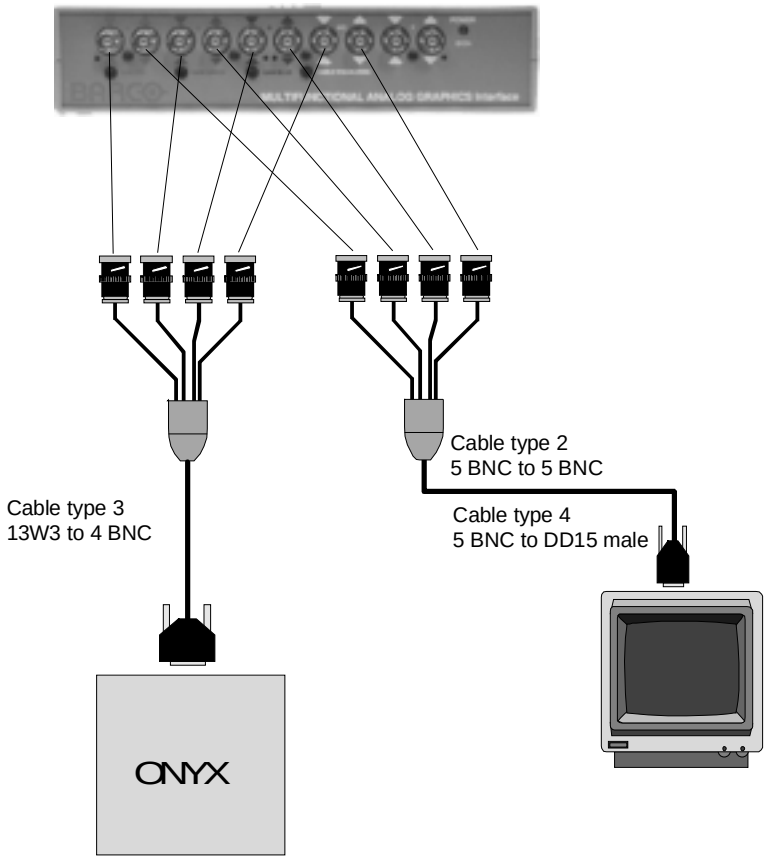
Important note :

When using a communication cable between the peripheral equipment and the projector, pin 4 may not be used.

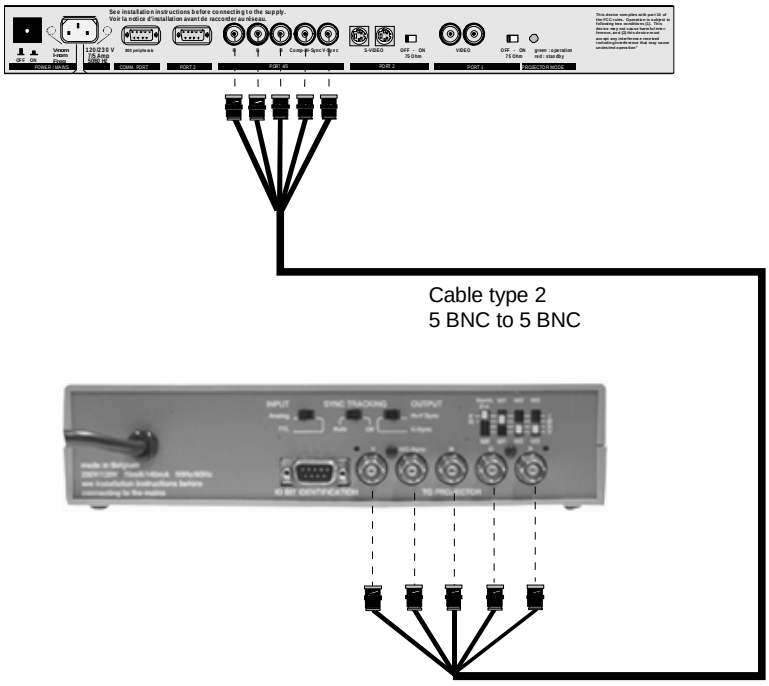
Detailed connection Magic Interface

Each channel has to be interfaced by a Magic Interface. A monitor is only connected to one channel via the Magic interface of that specific channel.

Connection Onyx - Magic interface - Monitor.

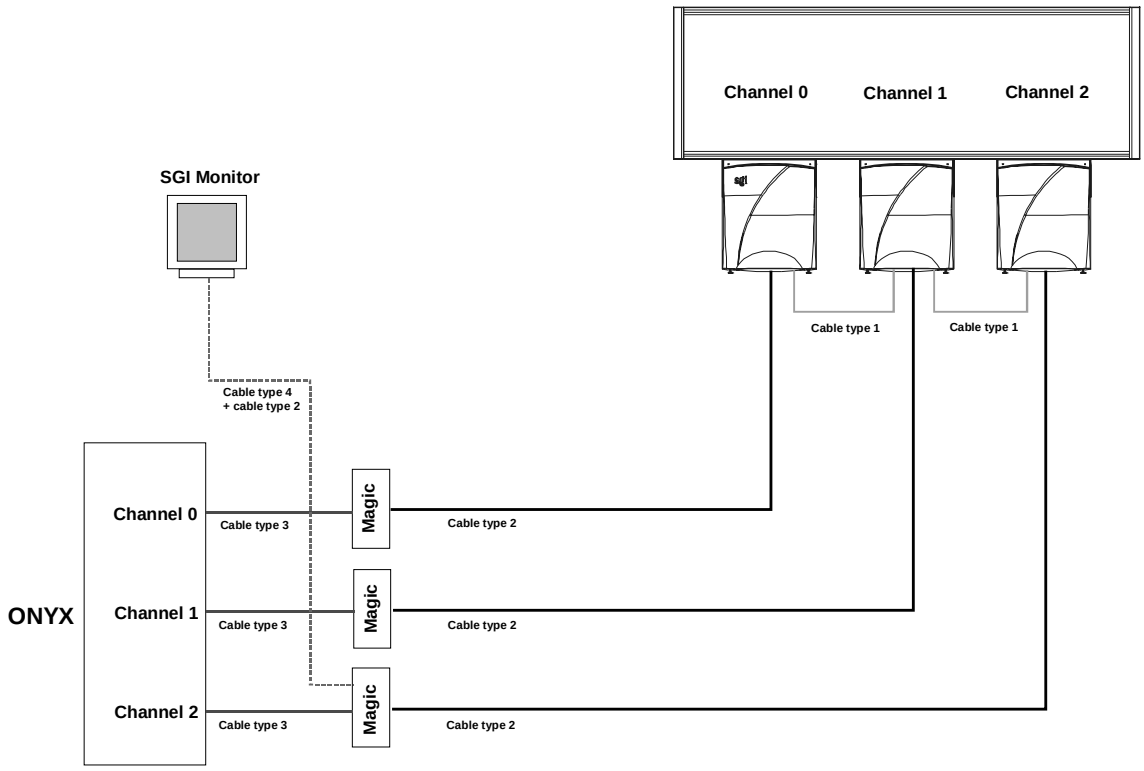


Connection Magic Interface - Projector.



Base configuration for 3-channel mono

Principle drawing



All source connections to the projector are done to port 4/5 (see RGB analog connection in chapter Connections or to 'Connection Magic interface - Projector' on page 8.2).
The connections between the ONYX and the Magic interface and the Magic interface and the projector are explained in 'Detailed Connection Magic Interface' below in this chapter.
Cable type 2 and 4 have to be connected in series using BNC-BNC coupling pieces as the distance between the Magic and the monitor is too large.
Cable type 1, RS232 connection between the projectors (RS232 out to RS232 in next projector) has to be installed even when there is no RS232 connection with other equipment.

Remark

One channel output from the ONYX split can be displayed on a monitor.
To display another channel, the user must manually plug the monitor cable into the corresponding MAGIC of that channel.

Necessary Equipment and Cables

The following cables are included to set up this configuration :

	Description	Quantity	Barco Order number
Cable type 1	RS232 communication cable 6.5ft	2	Z348755
Cable type 2	5 BNC to 5 BNC coax cable 15m/50ft	4	Z348333
Cable type 3	13W3 to 4 BNC 4.6ft	3	Z348261
Cable type 4	5 BNC to DD15male 6.5ft	1	K344073
	BNC-BNC coupling pieces	4	R313667

The following extra interfaces are supplied to set up this configuration :

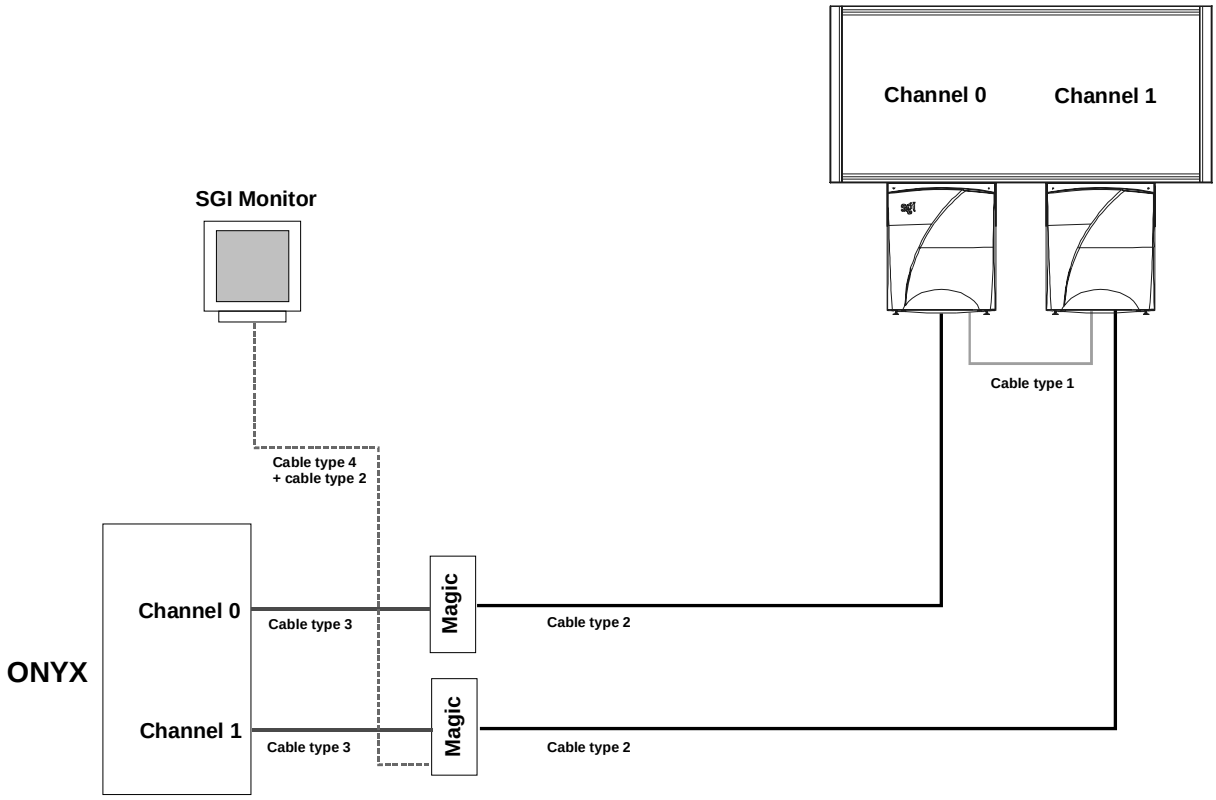
MAGIC interface 3x R9828121 (230V) or R9828128 (120V) according to the ordered destination kit.

Hint

As there is no power switch on the system, use socket strips with power breaker to connect the projectors and the Magic interfaces to the wall outlet.

Base configuration for 2-channel mono

Principle drawing



All source connections to the projector are done to port 4/5 (see RGB analog connection in chapter Connections or to 'Connection Magic interface - Projector' in this chapter).
The connections between the ONYX and the Magic interfaces and the Magic interfaces and the projector are explained in 'Detailed Connection Magic Interface' in this chapter under item 'Base configuration for 3-channel mono' .
Cable type 2 and 4 have to be connected in series using BNC-BNC coupling pieces as the distance between the Magic and the monitor is too large.
Cable type 1, RS232 connection between the projectors (RS232 out to RS232 in next projector) has to be installed even when there is no RS232 connection with other equipement.

Remark

One channel output from the ONYX split can be displayed on a monitor.
To display another channel, the user must manually plug the monitor cable into the corresponding MAGIC of that channel.

Necessary Equipement and Cables

The following cables are included to set up this configuration :

	Description	Quantity	Order number
Cable type 1	RS232 communication cable 6.5ft	1	Z348755
Cable type 2	5 BNC to 5 BNC coax cable 15m/50ft	3	Z348333
Cable type 3	13W3 to 4 BNC 4.6ft	2	Z348261
Cable type 4	5 BNC to DD15male 6.5ft	1	K344073
	BNC-BNC coupling pieces	4	R313667

The following interfaces are necessary to set up this configuration :

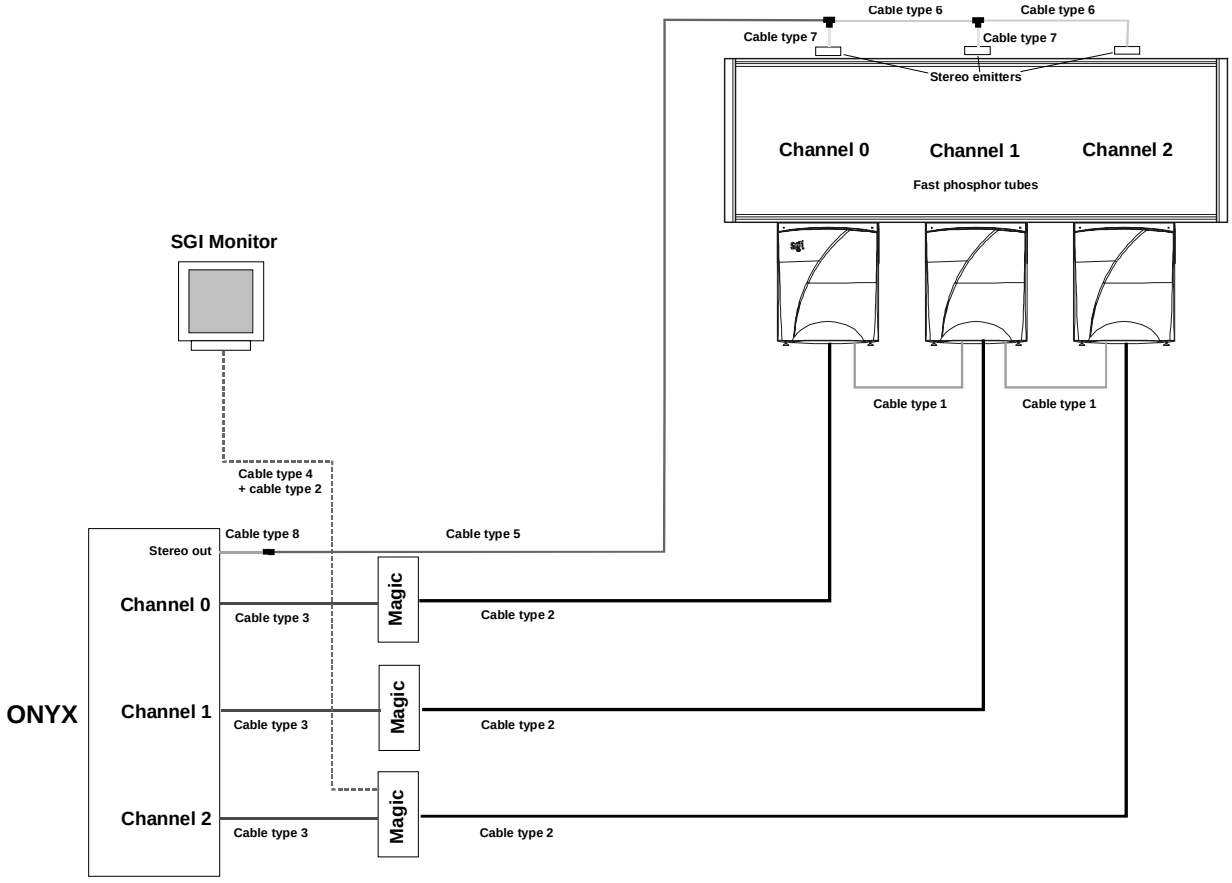
MAGIC interface	2x	R9828121 (230V) or R9828128 (120V) according to the ordered destination kit.

Hint

As there is no power switch on the system, use socket strips with power breaker to connect the projectors and the Magic interfaces to the wall outlet.

Base configuration for 3-channel stereo

Principle drawing



All source connections to the projector are done to port 4/5 (see RGB analog connection in chapter Connections or to 'Connection Magic interface - Projector' on page 8.2).
The connections between the ONYX and the Magic interfaces and the Magic interfaces and the projectors are explained in 'Detailed Connection Magic Interface' on page 8.2.
Cable type 2 and 4 have to be connected in series using BNC-BNC coupling pieces as the distance between the Magic and the monitor is too large.
Cable type 1, RS232 connection between the projectors (RS232 out to RS232 in next projector) has to be installed even when there is no RS232 connection with other equipement.
The stereo connection starts at the Onyx with cable type 8 in series with cable type 5. At the end of cable type 5 T-BNC piece split the signal to cable type 7 and cable type 6. Cable type 7 will be plugged in, in the first stereo emitter. At the end of cable type 6 a second T-BNC piece will split the signal again to a cable type 7 which will be connected to the second emmiter and to a cable type 6 which will be connected to third emitter.
5 stereo glasses are delivered with the stereo emitters.

Necessary Equipment and Cables

The following cables are included to set up this configuration :

	Description	Quantity	BARCO Order number
Cable type 1	RS232 communication cable 6.5ft	2	Z348755
Cable type 2	5 BNC to 5 BNC coax cable 15m/50ft	4	Z348333
Cable type 3	13W3 to 4 BNC 4.6ft	3	Z348261
Cable type 4	5 BNC to DD15male 6.5ft	1	K344073
Cable type 5 (*)	1 BNC to 1 BNC 20m 65ft	1	Z3483102
Cable type 6	1 BNC to 1 BNC 1.65m 5.4ft	2	Z3483353
Cable type 7	1 BNC to 1 BNC 0.5m 1.6ft	2	Z348310
Cable type 8	Connection piece D9 - BNC	1	Z
	BNC-BNC coupling pieces	4	R313667
	T-BNC coupling pieces	2	B332119

(*) extra cable 1 BNC to 1 BNC 45m 150ft is included with the stereo option in case this stereo option is used in combination with the long cable option.

The following extra equipment is supplied to set up this configuration :

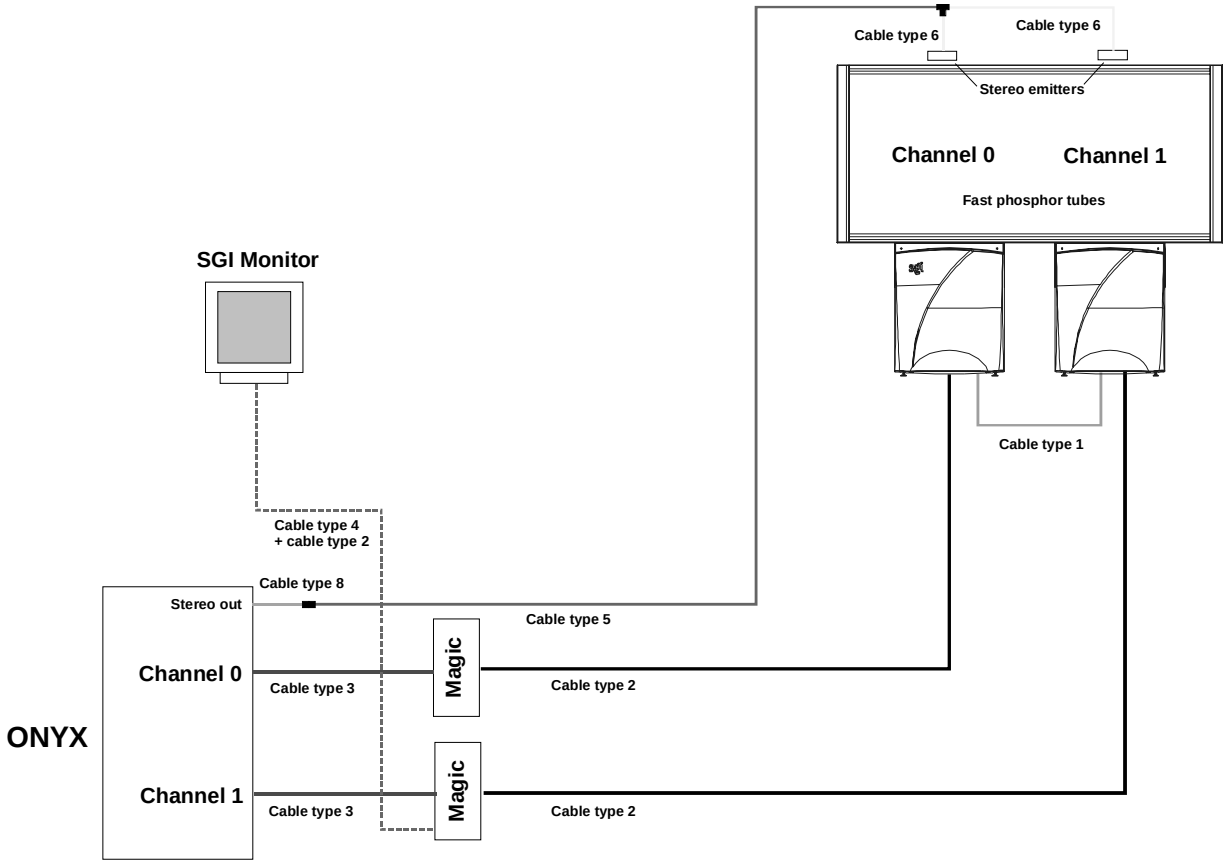
MAGIC interface	3x	R9828121 (230V) or R9828128 (120V) according to the ordered destination kit.
Stereo emitter	3x	R9828221 (230V) or R9828128 (120V) according to the ordered destination kit.
Stereo glasses	5x	R9828223

Hint

As there is no power switch on the system, use socket strips with power breaker to connect the projectors, the Magic interfaces and the emitters to the wall outlet.

Base configuration for 2-channel stereo

Principle drawing



All source connections to the projector are done to port 4/5 (see RGB analog connection in chapter Connections or to 'Connection Magic interface - Projector' on page 8.2).
The connections between the ONYX and the Magic interfaces and the Magic interfaces and the projectors are explained in 'Detailed Connection Magic Interface' on page 8.2.
Cable type 2 and 4 must be connected in series using BNC-BNC coupling pieces as the distance between the Magic and the monitor is too large.
Cable type 1, RS232 connection between the projectors (RS232 out to RS232 in next projector) has to be installed even when there is no RS232 connection with other equipement.
The stereo connection starts at the Onyx with cable type 8 in series with cable type 5. At the end of cable type 5, a T-BNC piece split the signal into two signals which are both connected via a cable type 6 to the emitters.
5 stereo glasses are delivered with the stereo emitters.

Necessary Equipment and Cables

The following cables are included to set up this configuration :

	Description	Quantity	BARCO Order number
Cable type 1	RS232 communication cable 6.5ft	2	Z348755
Cable type 2	5 BNC to 5 BNC coax cable 15m/50ft	3	Z348333
Cable type 3	13W3 to 4 BNC 4.6ft	2	Z348261
Cable type 4	5 BNC to DD15male 6.5ft	1	K344073
Cable type 5 (*)	1 BNC to 1 BNC 20m 65ft	1	Z3483102
Cable type 6	1 BNC to 1 BNC 1.65m 5.4ft	2	Z3483353
Cable type 8	Connection piece D9 - BNC	1	Z3487291
	BNC-BNC coupling pieces	4	R313667
	T-BNC coupling pieces	1	B332119

(*) extra cable 1 BNC to 1 BNC 45m 150ft is included with the stereo option in case this stereo option is used in combination with the long cable option (Z3483105).

The following extra equipment is supplied to set up this configuration :

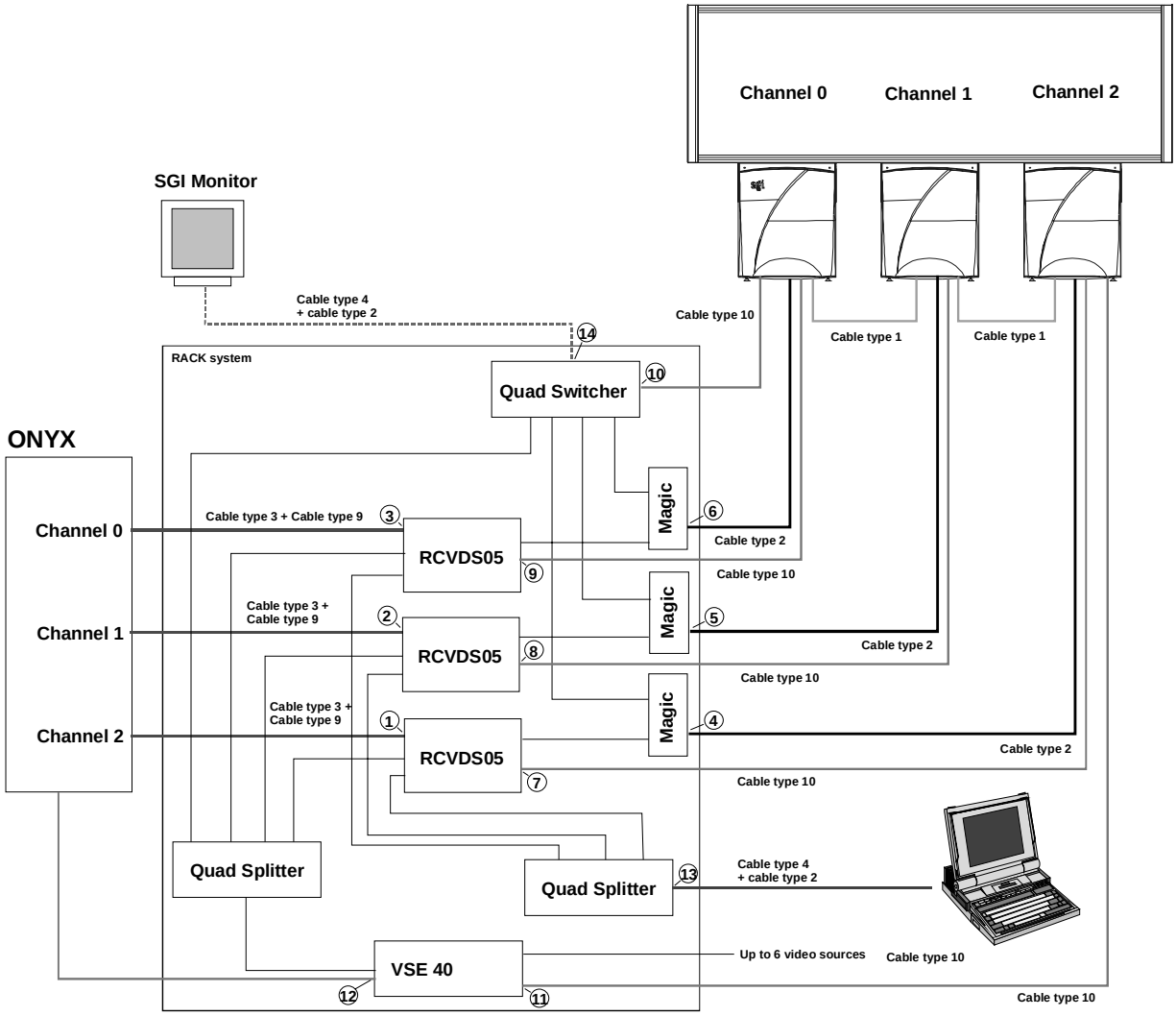
MAGIC interface	2x	R9828121 (230V) or R9828128 (120V) according to the ordered destination kit.
Stereo emitter	2x	R9828221 (230V) or R9828128 (120V) according to the ordered destination kit.
Stereo glasses	5x	R9828223

Hint

As there is no power switch on the system, use socket strips with power breaker to connect the projectors, the Magic interfaces and the stereo emitters to the wall outlet.

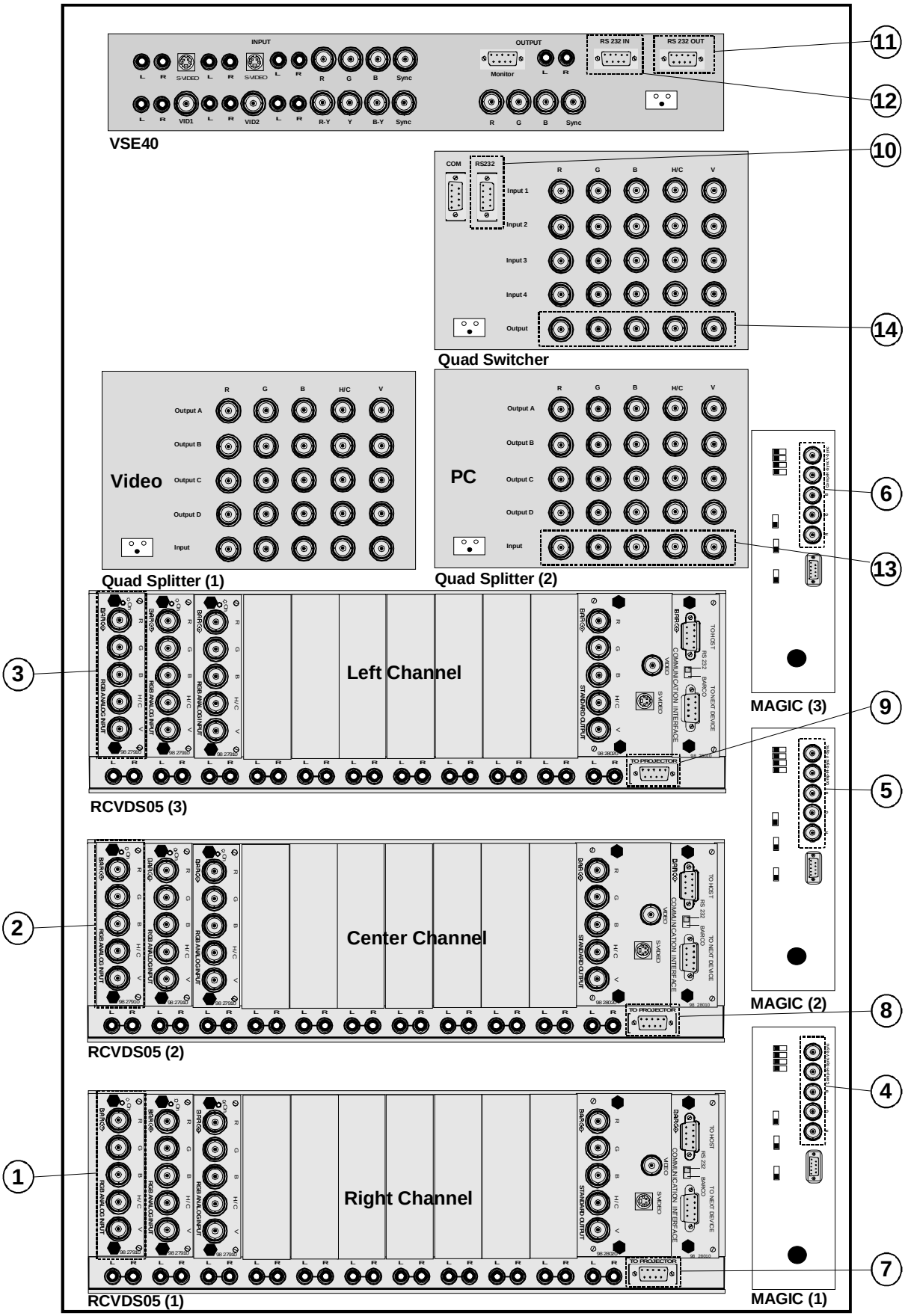
3-channel configuration mono with switching option

Principle drawing



Cabling diagram RACK system - Projectors - ONYX

All source connections to the projector are done to port 4/5 (see RGB analog connection in chapter Connections or to 'Connection Magic interface - Projector' on page 8.2).
See next page for a cable diagram and an overview table.
The connections between the ONYX and the RACK system has to be done for each channel with a series connection of cable type 3 and 9 to input 1 of each RCVDS (most left module).
The external monitor which can display any channel must be connected with a series connection of Cable type 2 and 4 using BNC-BNC coupling pieces to the Quad Switcher.
Cable type 1, RS232 connection between the projectors (RS232 out to RS232 in next projector) has to be installed even when there is no RS232 connection with other equipement.
With a Cable type 10, the output RS232 of channel 0 projector has to connected to the RS232 input of the Quad Switcher.
The output RS232 of the VSE40 has to be connected to the input RS232 of the channel 2 projector using a cable type 10.
The RS232 output of the ONYX has to be connected to the RS232 input of the VSE 20/40 using a cable type 10.


VSE40
Quad Switcher
Quad Splitter (1)
Quad Splitter (2)
Video
PC
RCVDS05 (3)
Left Channel
RCVDS05 (2)
Center Channel
RCVDS05 (1)
Right Channel
MAGIC (3)
MAGIC (2)
MAGIC (1)
1
2
3
4
5
6
7
8
9
10
11
12
13
14

Connection table RACK - external connections

Connection no.	Connection to	Cable type
1	Channel 2 ONYX	Cable type 3 + cable type 9
2	Channel 1 ONYX	Cable type 3 + cable type 9
3	Channel 0 ONYX	Cable type 3 + cable type 9
4	To projector channel 2	Cable type 2
5	To projector channel 1	Cable type 2
6	To projector channel 0	Cable type 2
7	To projector Comm port channel 2	Cable type 10
8	To projector Comm port channel 1	Cable type 10
9	To projector Comm port channel 0	Cable type 10
10	To projector RS232OUT channel 0	Cable type 10
11	To projector RS232IN channel 2	Cable type 10
12	To extra computer RS232 out	Cable type 10
13	To extra computer output	Cable type 4 + cable type 2
14	To extra monitor	Cable type 4 + cable type 2

Necessary Equipment and Cables

The following cables are included to set up this configuration :

	Description	Quantity	Order number
Cable type 1	RS232 communication cable 6.5ft	2	Z348755
Cable type 2	5 BNC to 5 BNC coax cable 15m/50ft	5	Z348333
Cable type 3	13W3 to 4 BNC 4.6ft	3	Z348261
Cable type 4	5 BNC to DD15male 6.5ft	2	K344073
Cable type 9	5 BNC to 5 BNC 5m 15ft	3	Z348332
Cable type 10	RS232 communication cable 15m/50ft	6	Z3482602
	BNC-BNC coupling pieces	8	R313667

The following extra equipment is necessary to set up this configuration :
All these peripherals are mounted in a RACK, and delivered as one unit. The order numbers and quantities are only given as information for after sales orders.

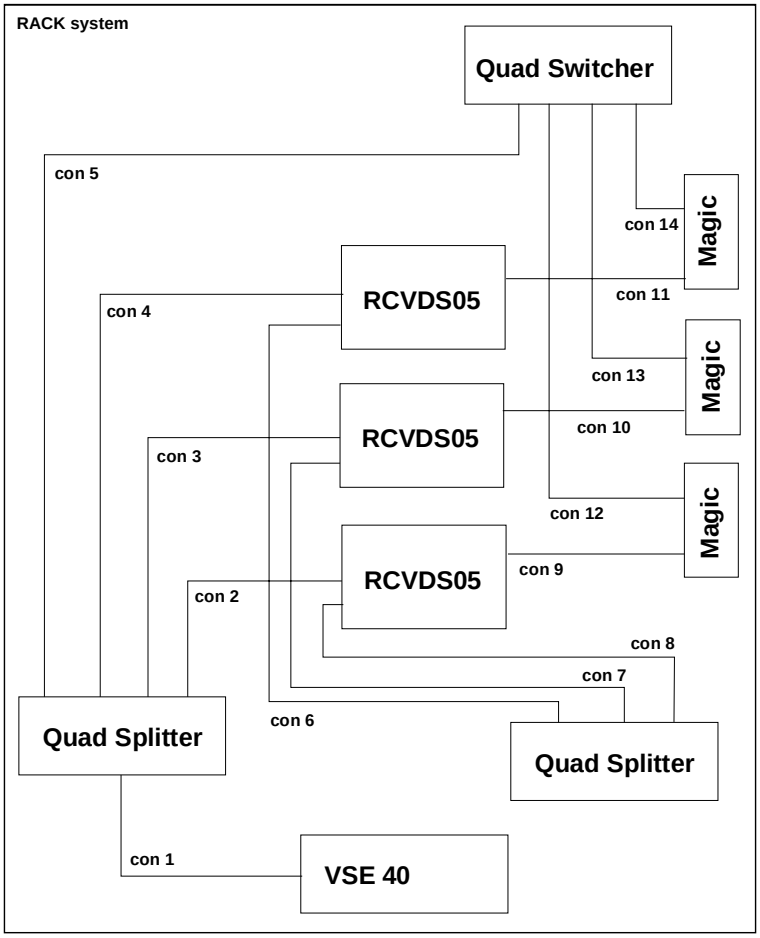
MAGIC interface	3x	R9828121 (230V) or R9828128 (120V) according to the ordered destination kit.
RCVDS05	3x	R9828700 (230V) or R9828709 (120V) according to the ordered destination kit.
Quad Splitter	2x	R9828300 (230V) or R9828309 (120V) according to the ordered destination kit.
Quad Switcher	1x	R9828311 (230V) or R9828319 (120V) according to the ordered destination kit.
VSE40	1x	R9828520 (230V) or R9828529 (120V) according to the ordered destination kit.

Hint

As there is no power switch on the system, use socket strips with power breaker to connect the projectors and the RACK to the wall outlet.

Internal Connections RACK system 3-channel system

All internal connections are indicated on the drawing with 'con' and a number. This indication can be found back in the connection table below.

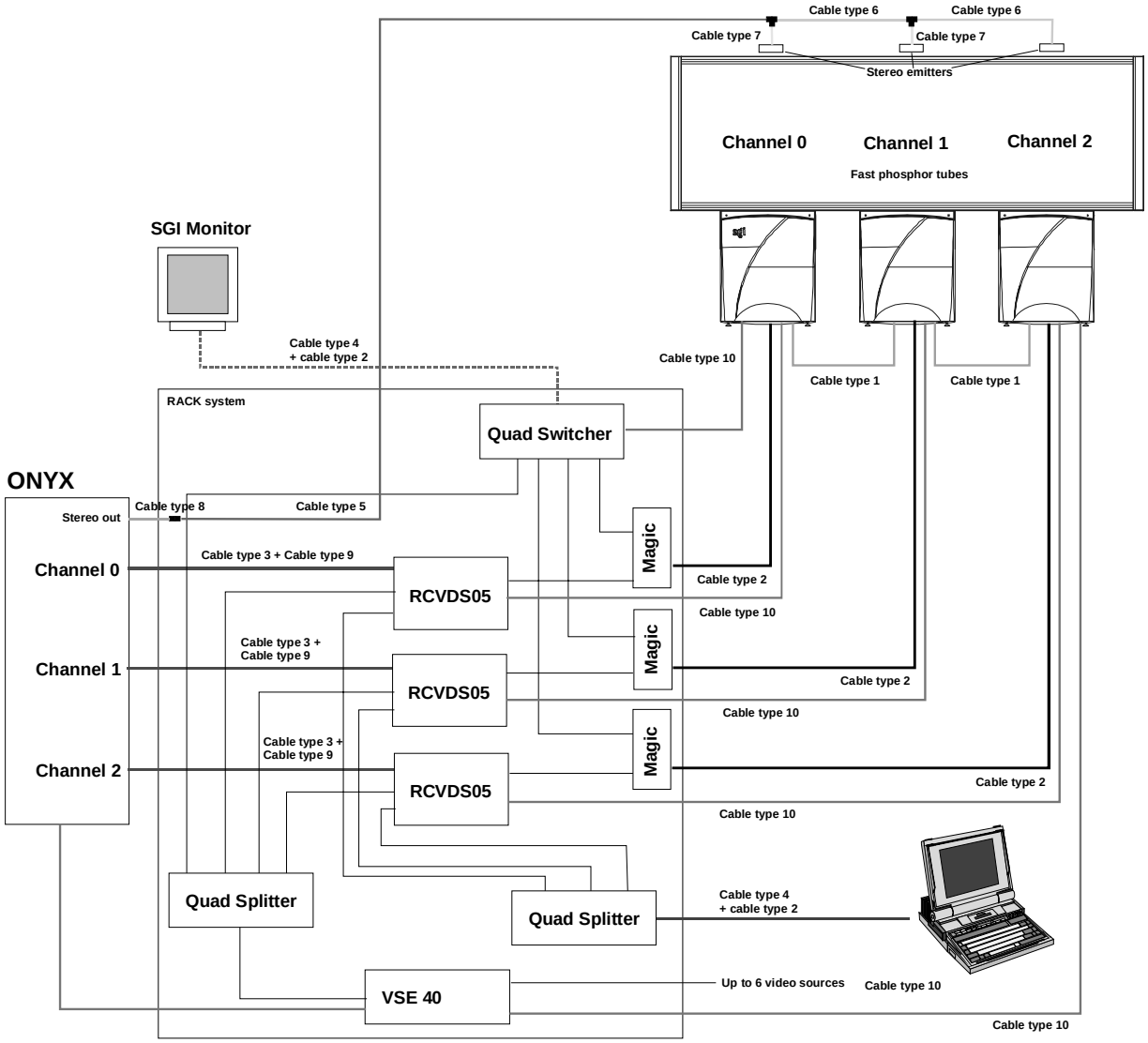


Connection table internal connections RACK system

Connection no.	From	To	Cable	Order no.
con1	Output BNC's VSE40	Input Quad Splitter 1	5 BNC to 5 BNC 0.6m 2 ft	Z348330
con2	Output A Quad Splitter 1	Input 2 RCVDS05 1	5 BNC to 5 BNC 5 ft	Z348331
con3	Output B Quad Splitter 1	Input 2 RCVDS05 2	5 BNC to 5 BNC 0.6m 2 ft	Z348330
con4	Output C Quad Splitter 1	Input 2 RCVDS05 3	5 BNC to 5 BNC 0.6m 2 ft	Z348330
con5	Output D Quad Splitter 1	Input 4 Quad Switcher	5 BNC to 5 BNC 0.6m 2 ft	Z348330
con6	Output C Quad Splitter 2	Input 3 RCVDS05 3	5 BNC to 5 BNC 0.6m 2 ft	Z348330
con7	Output B Quad Splitter 2	Input 3 RCVDS05 2	5 BNC to 5 BNC 0.6m 2 ft	Z348330
con8	Output A Quad Splitter 2	Input 3 RCVDS05 1	5 BNC to 5 BNC 5 ft	Z348331
con9	Output RCVDS05 1	Input Magic 1	5 BNC to 5 BNC 0.6m 2 ft	Z348330
con10	Output RCVDS05 2	Input Magic 2	5 BNC to 5 BNC 0.6m 2 ft	Z348330
con11	Output RCVDS05 3	Input Magic 3	5 BNC to 5 BNC 0.6m 2 ft	Z348330
con12	Monitor output Magic 1	Input 1 Quad Switcher	5 BNC to 5 BNC 5 ft	Z348331
con13	Monitor output Magic 2	Input 2 Quad Switcher	5 BNC to 5 BNC 0.6m 2 ft	Z348330
con14	Monitor output Magic 3	Input 3 Quad Switcher	5 BNC to 5 BNC 0.6m 2 ft	Z348330

3-channel configuration stereo with switching option

Principle drawing



Cabling diagram RACK system - Projectors - ONYX.

All source connections to the projector are done to port 4/5 (see RGB analog connection in chapter Connections or to 'Connection Magic interface - Projector' on page 8.2).
For the 'Cabling diagram RACK sytem - Projectors - ONYX' see '3-channel configuration mono with switching option'.
The connections between the ONYX and the RACK system has to be done for each channel with a series connection of cable type 3 and 9 to input 1 of each RCVDS (most left module).
The external monitor which can display any channel must be connected with a series connection of Cable type 2 and 4 using BNC-BNC coupling pieces to the Quad Switcher.
Cable type 1, RS232 connection between the projectors (RS232 out to RS232 in next projector) has to be installed even when there is no RS232 connection with other equipement.
With a Cable type 10, the output RS232 of channel 0 projector has to connected to the RS232 input of the Quad Switcher.
The output RS232 of the VSE40 has to be connected to the input RS232 of the channel 2 projector using a cable type 10.
The RS232 output of the ONYX has to be connected to the RS232 input of the VSE 20/40 using a cable type 10.
The stereo connection starts at the ONYX with cable type 8 in series with cable type 5. At the end of cable type 5 T-BNC piece split the signal to cable type 7 and cable type 6. Cable type 7 will be plugged in, in the first stereo emitter. At the end of cable type 6 a second T-BNC piece will split the signal again to a cable type 7 which will be connected to the second emmiter and to a cable type 6 which will be connected to third emitter.
5 stereo glasses are delivered with the stereo emitters.

Necessary Equipment and Cables

The following cables are included to set up this configuration :

	Description	Quantity	Order number
Cable type 1	RS232 communication cable 6.5ft	2	Z348755
Cable type 2	5 BNC to 5 BNC coax cable 15m/50ft	5	Z348333
Cable type 3	13W3 to 4 BNC 4.6ft	3	Z348261
Cable type 4	5 BNC to DD15male 6.5ft	2	K344073
Cable type 5 (*)	1 BNC to 1 BNC 20m 65ft	1	Z3483102
Cable type 6	1 BNC to 1 BNC 1.65m 5.4ft	2	Z3483353
Cable type 7	1 BNC to 1 BNC 0.5m 1.6ft	2	Z348310
Cable type 8	Connection piece D9 - BNC	1	Z3487291
Cable type 9	5 BNC to 5 BNC 5m 15ft	3	Z348332
Cable type 10	RS232 communication cable 15m 50ft	6	Z3482602
	BNC-BNC coupling pieces	8	R313667

(*) extra cable 1 BNC to 1 BNC 45m 150ft is included with the stereo option in case this stereo option is used in combination with the long cable option (Z3483105).

The following extra equipment is necessary to set up this configuration :
All these peripherals are mounted in a RACK, and delivered as one unit. The order numbers and quantities are only given as information for after sales orders.

MAGIC interface	3x	R9828121 (230V) or R9828128 (120V) according to the ordered destination kit.
RCVDS05	3x	R9828700 (230V) or R9828709 (120V) according to the ordered destination kit.
Quad Splitter	2x	R9828300 (230V) or R9828309 (120V) according to the ordered destination kit.
Quad Switcher	1x	R9828311 (230V) or R9828319 (120V) according to the ordered destination kit.
VSE40	1x	R9828520 (230V) or R9828529 (120V) according to the ordered destination kit.
Stereo emitter	3x	R9828221 (230V) or R9828128 (120V) according to the ordered destination kit.
Stereo glasses	5x	R9828223

Hint

As there is no power switch on the system, use socket strips with power breaker to connect the projectors, the RACK and the stereo emitters to the wall outlet.

Internal Connections RACK system 3-channel sytem

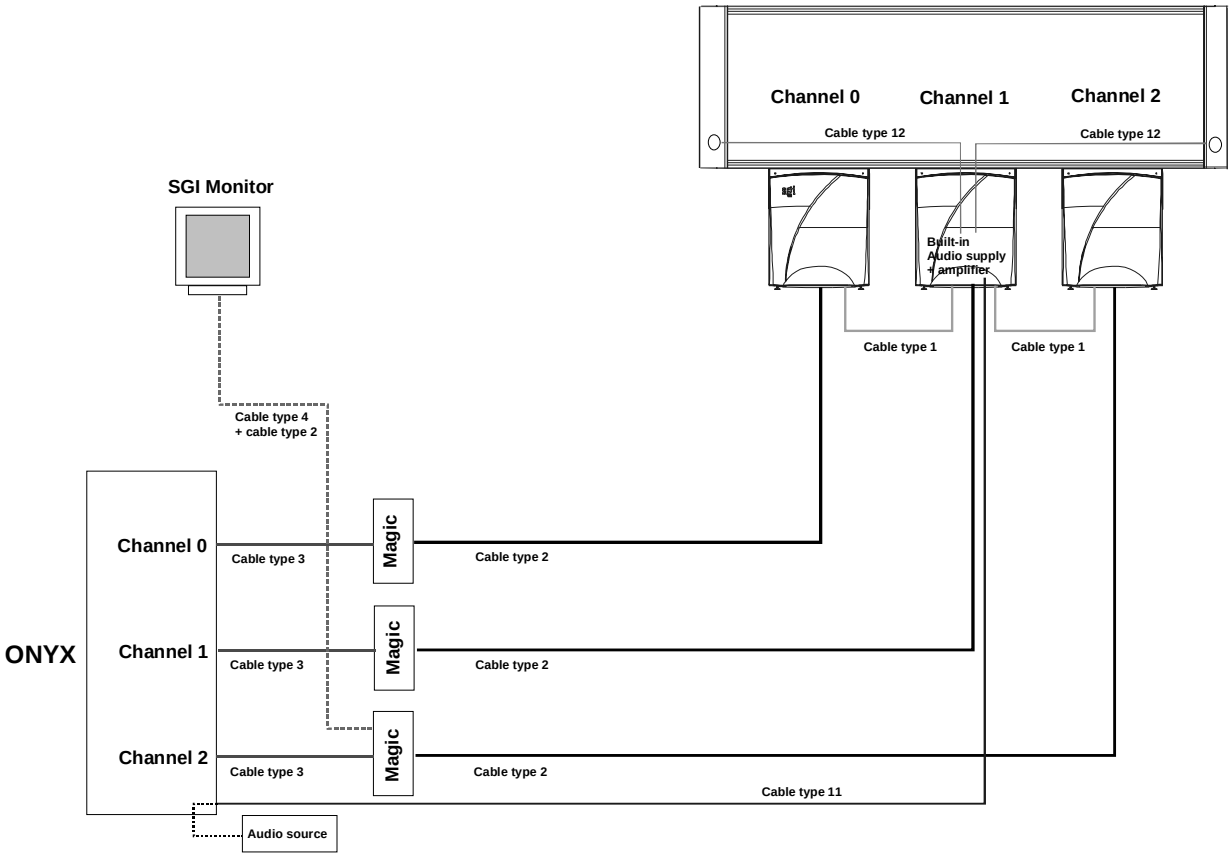
See 'Internal Connections RACK system 3-channel sytem' under paragraph '3-channel configuration mono with switching option'.

Connection table internal connections RACK system

See 'Connection table internal connections RACK system' under paragraph '3-channel configuration mono with switching option'.

3-channel configuration mono with audio option

Principle drawing



The source connections are the same as for 'Base configuration for 3-channel mono'.
Audio connection is done with an extra delivered cable type 11. This cable connects the audio source with the built-in audio amplifier in one of the projectors.
The speakers, mounted on the sides of the system should also be connected to the amplifier output with cable type 12.

Remark

One channel output from the ONYX split can be displayed on a monitor.
To display another channel, the user must manually plug the monitor cable into the corresponding MAGIC of that channel.

Necessary Equipement and Cables

The following cables are included to set up this configuration :

	Description	Quantity	Order number
Cable type 1	RS232 communication cable 6.5ft	2	Z348755
Cable type 2	5 BNC to 5 BNC coax cable 15m/50ft	4	Z348333
Cable type 3	13W3 to 4 BNC 4.6ft	3	Z348261
Cable type 4	5 BNC to DD15male 6.5ft	1	K344073
Cable type 11	Audio cable	1	
Cable type 12	Audio cable	2	
	BNC-BNC coupling pieces	4	R313667

The following interfaces are necessary to set up this configuration :

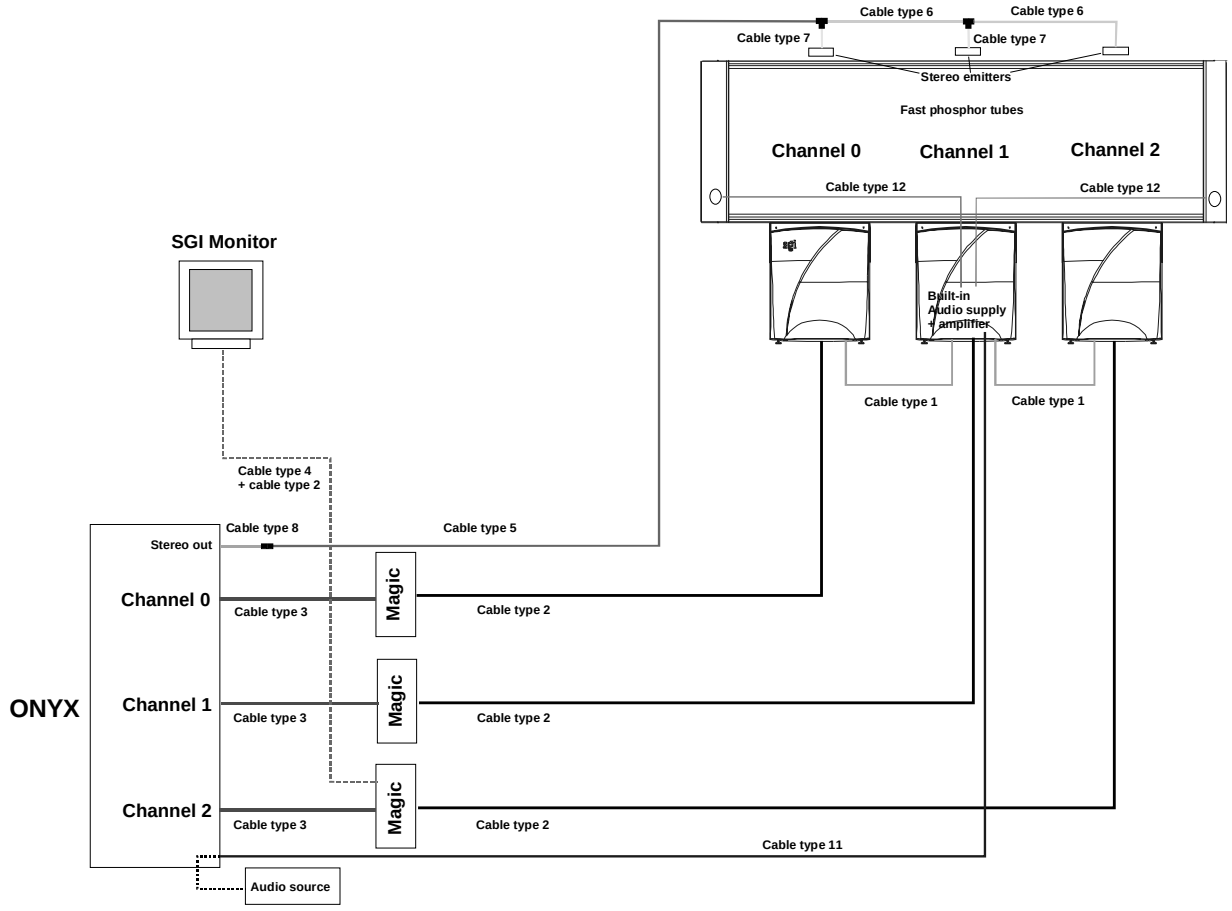
MAGIC interface 3x R9828121 (230V) or R9828128 (120V) according to the ordered destination kit.

Hint

As there is no power switch on the system, use socket strips with power breaker to connect the projectors, the audio option and the Magic interfaces to the wall outlet.

3-channel configuration stereo with audio option

Principle drawing



The source connections are the same as for 'Base configuration for 3-channel stereo'.
Audio connection is done with an extra delivered cable type 11. This cable connects the audio source with the built-in audio amplifier in one of the projectors.
The speakers, mounted on the sides of the system should also be connected to the amplifier output with cable type 12.

Remark

One channel output from the ONYX split can be displayed on a monitor.
To display another channel, the user must manually plug the monitor cable into the corresponding MAGIC of that channel.

Necessary Equipement and Cables

The following cables are included to set up this configuration :

	Description	Quantity	Order number
Cable type 1	RS232 communication cable 6.5ft	2	Z348755
Cable type 2	5 BNC to 5 BNC coax cable 15m/50ft	3	Z348333
Cable type 3	13W3 to 4 BNC 4.6ft	2	Z348261
Cable type 4	5 BNC to DD15male 6.5ft	1	K344073
Cable type 5 (*)	1 BNC to 1 BNC 20m 65ft	1	Z3483102
Cable type 6	1 BNC to 1 BNC 1.65m 5.4ft	2	Z3483353
Cable type 7	1 BNC to 1 BNC 0.5m 1.6ft	2	Z348310
Cable type 8	Connection piece D9 - BNC	1	Z3487291
Cable type 11	Audio cable	1	
Cable type 12	Audio cable	2	
	BNC-BNC coupling pieces	4	R313667
	T-BNC coupling pieces	1	B332119

(*) extra cable 1 BNC to 1 BNC 45m 150ft is included with the stereo option in case this stereo option is used in combination with the long cable option (Z3483105).

The following extra equipment is necessary to set up this configuration :

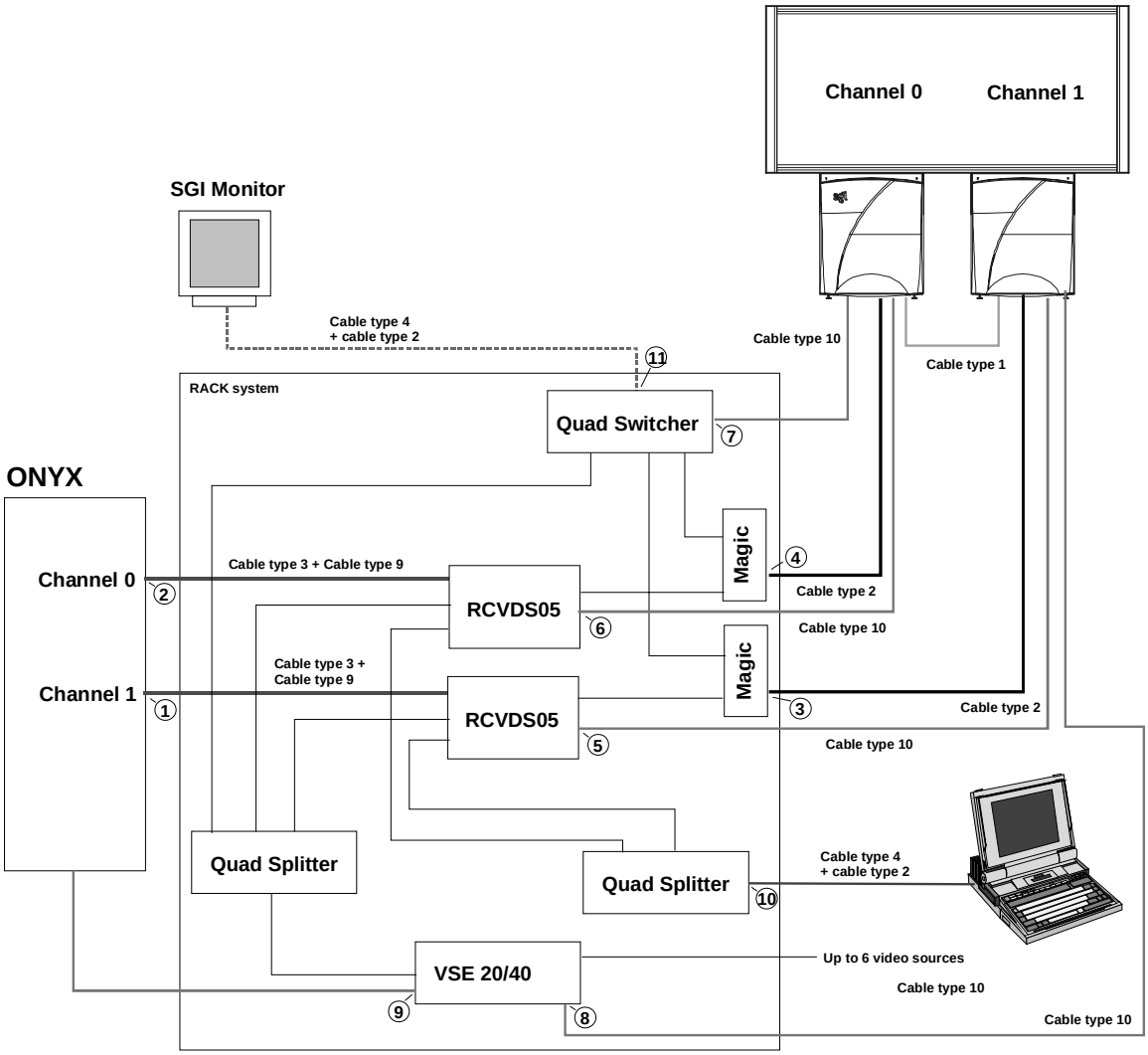
MAGIC interface	3x	R9828121 (230V) or R9828128 (120V) according to the ordered destination kit.
Stereo emitter	3x	R9828221 (230V) or R9828128 (120V) according to the ordered destination kit.
Stereo glasses	5x	R9828223

Hint

As there is no power switch on the system, use socket strips with power breaker to connect the projectors, audio amplifier, the stereo emitters and the Magic interfaces to the wall outlet.

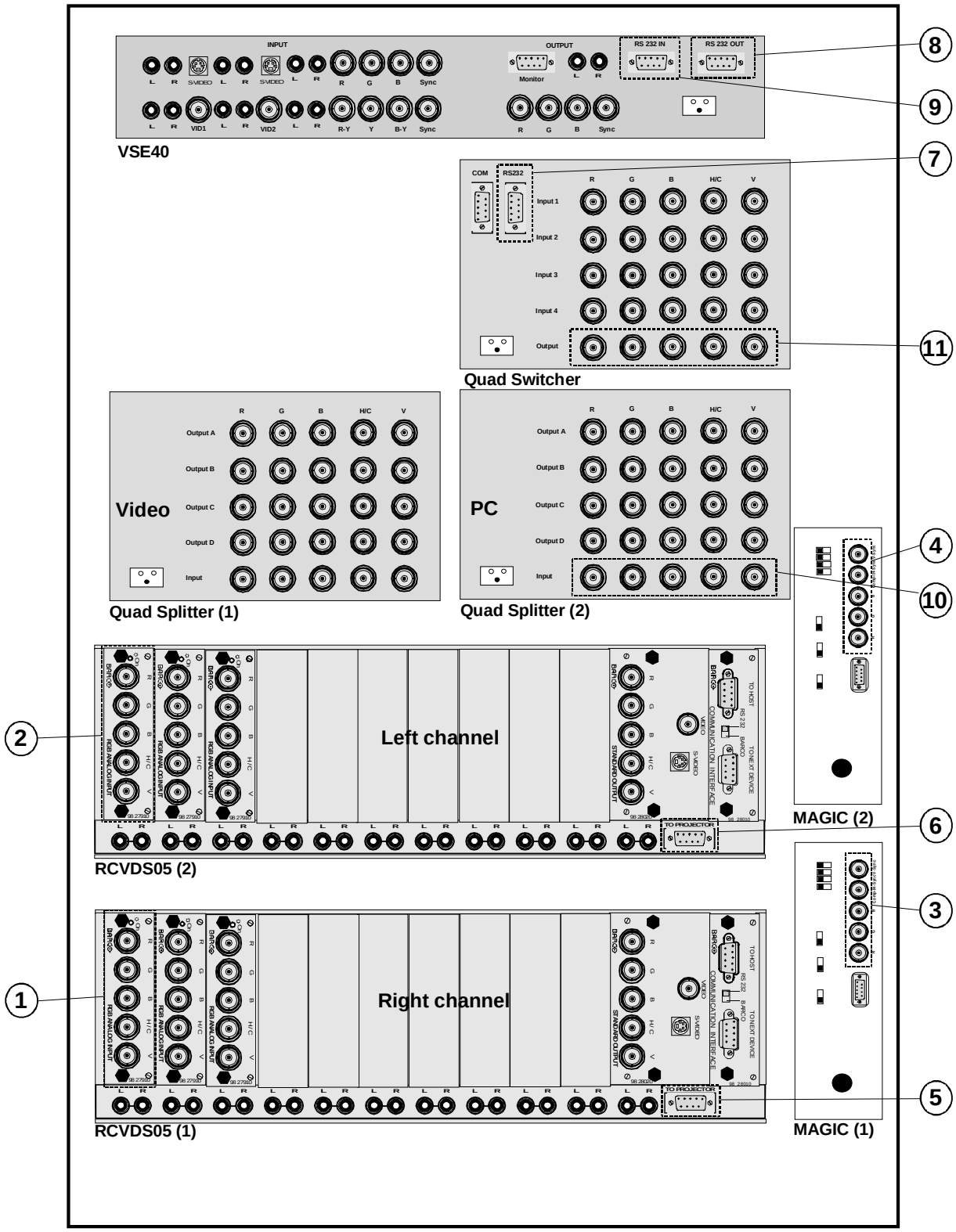
2-channel configuration mono with switching option

Principle drawing



Cabling diagram RACK system - Projectors - ONYX

All source connections to the projector are done to port 4/5 (see RGB analog connection in chapter Connections or to 'Connection Magic interface - Projector' page 8.2).
See next page for a cable diagram and an overview table.
The connections between the ONYX and the RACK system has to be done for each channel with a series connection of cable type 3 and 9 to input 1 of each RCVDS (most left module).
The external monitor which can display any channel must be connected with a series connection of Cable type 2 and 4 using BNC-BNC coupling pieces to the Quad Switcher.
Cable type 1, RS232 connection between the projectors (RS232 out to RS232 in next projector) has to be installed even when there is no RS232 connection with other equipement.
With a Cable type 10, the output RS232 of channel 0 projector has to connected to the RS232 input of the Quad Switcher.
The output RS232 of the VSE40 has to be connected to the input RS232 of the channel 2 projector using a cable type 10.
The RS232 output of the ONYX has to be connected to the RS232 input of the VSE 20/40 using a cable type 10.



Connection table RACK - external connections

Connection no.	Connection to	Cable type
1	Channel 1 ONYX	Cable type 3 + cable type 9
2	Channel 0 ONYX	Cable type 3 + cable type 9
3	To projector channel 1	Cable type 2
4	To projector channel 0	Cable type 2
5	To projector Comm port channel 1	Cable type 10
6	To projector Comm port channel 0	Cable type 10
7	To projector RS232OUT channel 0	Cable type 10
8	To projector RS232IN channel 2	Cable type 10
9	To extra computer RS232 out	Cable type 10

10	To extra computer output	Cable type 4 + cable type 2
11	To extra monitor	Cable type 4 + cable type 2

Necessary Equipment and Cables

The following cables are included to set up this configuration :

	Description	Quantity	Order number
Cable type 1	RS232 communication cable 6.5ft	1	Z348755
Cable type 2	5 BNC to 5 BNC coax cable 15m/50ft	4	Z348333
Cable type 3	13W3 to 4 BNC 4.6ft	2	Z348261
Cable type 4	5 BNC to DD15male 6.5ft	2	K344073
Cable type 9	5 BNC to 5 BNC 5m 15ft	2	Z348332
Cable type 10	RS232 communication cable 15m 50ft	5	Z3482602
	BNC-BNC coupling pieces	8	R313667

The following extra equipment is necessary to set up this configuration :
All these peripherals are mounted in a RACK, and delivered as one unit. The order numbers and quantities are only given as information for after sales orders.

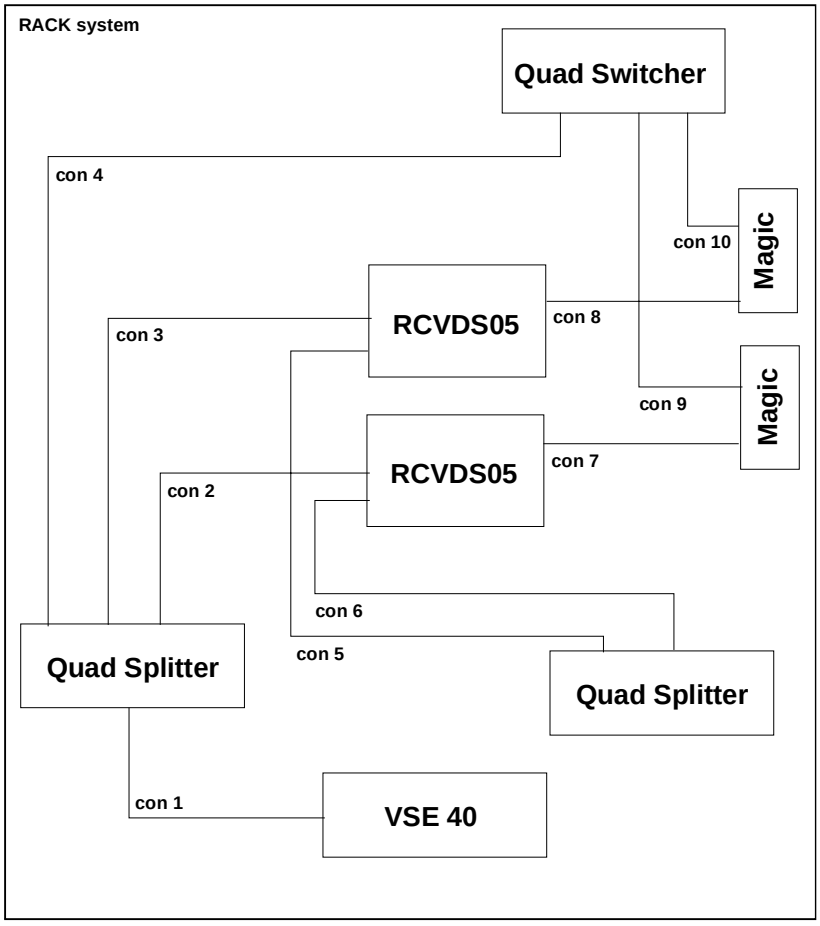
MAGIC interface	2x	R9828121 (230V) or R9828128 (120V) according to the ordered destination kit.
RCVDS05	2x	R9828700 (230V) or R9828709 (120V) according to the ordered destination kit.
Quad Splitter	2x	R9828300 (230V) or R9828309 (120V) according to the ordered destination kit.
Quad Switcher	1x	R9828311 (230V) or R9828319 (120V) according to the ordered destination kit.
VSE40	1x	R9828520 (230V) or R9828529 (120V) according to the ordered destination kit.

Hint

As there is no power switch on the system, use socket strips with power breaker to connect the projectors and the RACK to the wall outlet.

Internal Connections RACK system 2-channel system

All internal connections are indicated on the drawing with 'con' and a number. This indication can be found back in the connection table below.

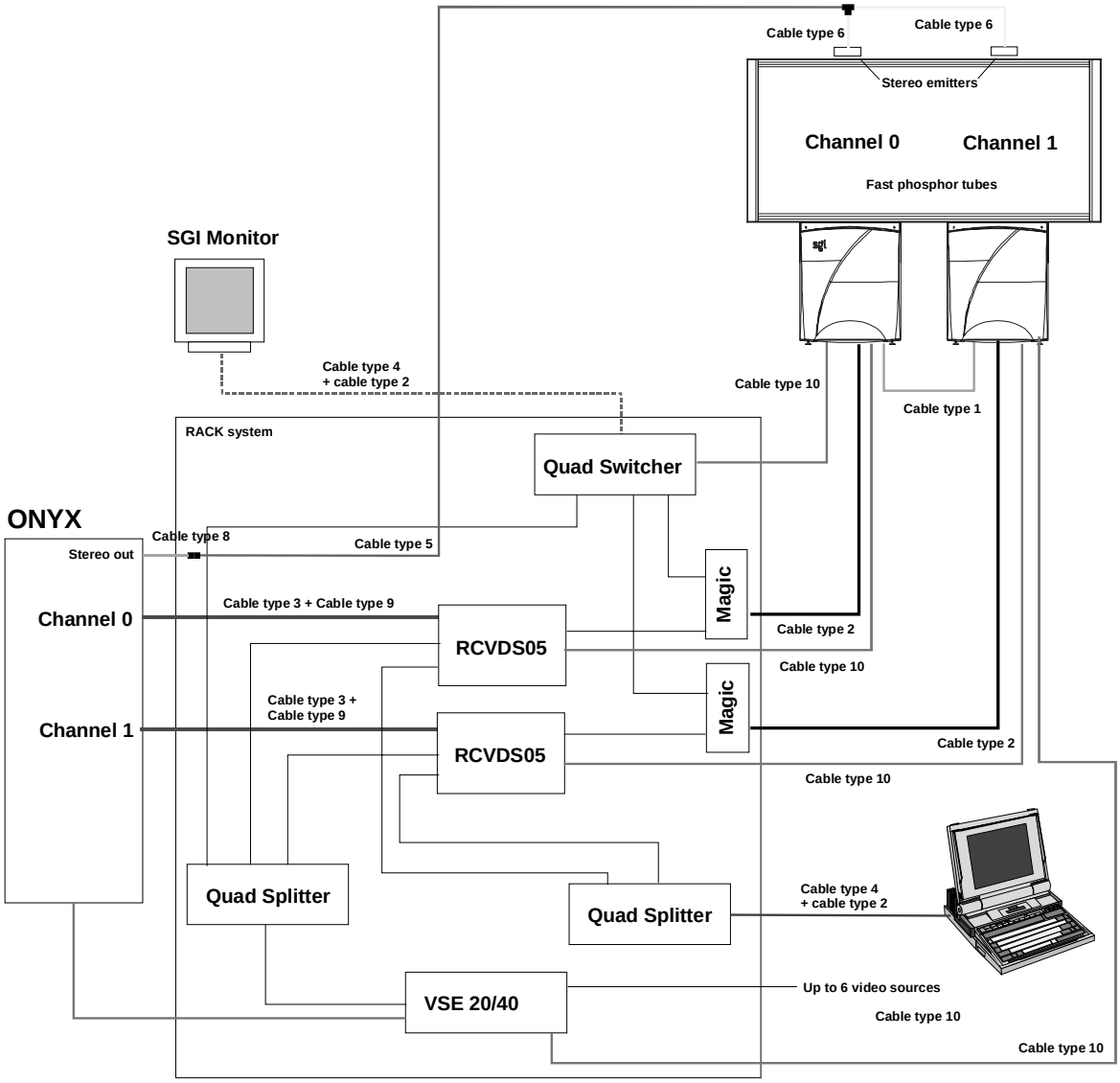


Connection table internal connections RACK system

Connection no.	From	To	Cable	Order no.
con1	Output BNC's VSE40	Input Quad Splitter 1	5 BNC to 5 BNC 0.6m 2 ft	Z348330
con2	Output A Quad Splitter 1	Input 2 RCVDS05 1	5 BNC to 5 BNC 0.6m 2 ft	Z348330
con3	Output B Quad Splitter 1	Input 2 RCVDS05 2	5 BNC to 5 BNC 0.6m 2 ft	Z348330
con4	Output C Quad Splitter 1	Input 3 Quad Switcher	5 BNC to 5 BNC 0.6m 2 ft	Z348330
con5	Output A Quad Splitter 2	Input 3 RCVDS05 1	5 BNC to 5 BNC 0.6m 2 ft	Z348330
con6	Output B Quad Splitter 2	Input 3 RCVDS05 2	5 BNC to 5 BNC 0.6m 2 ft	Z348330
con7	Output RCVDS05 1	Input Magic 1	5 BNC to 5 BNC 0.6m 2 ft	Z348330
con8	Output RCVDS05 2	Input Magic 2	5 BNC to 5 BNC 0.6m 2 ft	Z348330
con9	Monitor output Magic 1	Input 1 Quad Switcher	5 BNC to 5 BNC 0.6m 2 ft	Z348330
con10	Monitor output Magic 2	Input 2 Quad Switcher	5 BNC to 5 BNC 0.6m 2 ft	Z348330

2-channel configuration stereo with switching option

Principle drawing



Cabling diagram

All source connections to the projector are done to port 4/5 (see RGB analog connection in chapter Connections or to 'Connection Magic interface - Projector' see page 8.2).
For the 'Cabling diagram RACK sytem - Projectors - ONYX' see '2-channel configuration mono with switching option'.
The connections between the ONYX and the RACK system has to be done for each channel with a series connection of cable type 3 and 9 to input 1 of each RCVDS (most left module).
The external monitor which can display any channel must be connected with a series connection of Cable type 2 and 4 using BNC-BNC coupling pieces to the Quad Switcher.
Cable type 1, RS232 connection between the projectors (RS232 out to RS232 in next projector) has to be installed even when there is no RS232 connection with other equipement.
With a Cable type 10, the output RS232 of channel 0 projector has to connected to the RS232 input of the Quad Switcher.
The output RS232 of the VSE40 has to be connected to the input RS232 of the channel 2 projector using a cable type 10.
The RS232 output of the ONYX has to be connected to the RS232 input of the VSE 20/40 using a cable type 10.
The stereo connection starts at the ONYX with cable type 8 in series with cable type 5. At the end of cable type 5, a T-BNC piece split the signal into two signals which are both connected via a cable type 6 to the emitters.
5 stereo glasses are delivered with the stereo emitters.

Necessary Equipment and Cables

The following cables are included to set up this configuration :

	Description	Quantity	Order number
Cable type 1	RS232 communication cable 6.5ft	1	Z348755
Cable type 2	5 BNC to 5 BNC coax cable 15m/50ft	4	Z348333
Cable type 3	13W3 to 4 BNC 4.6ft	2	Z348261
Cable type 4	5 BNC to DD15male 6.5ft	2	K344073
Cable type 5 (*)	1 BNC to 1 BNC 20m 65ft	1	Z3483102
Cable type 6	1 BNC to 1 BNC 1.65m 5.4ft	2	Z3483353
Cable type 8	Connection piece D9 - BNC	1	Z3487291
Cable type 9	5 BNC to 5 BNC 5m 15ft	2	Z348332
Cable type 10	RS232 communication cable 15m 50ft	5	Z3482602
	BNC-BNC coupling pieces	8	R313667

(*) extra cable 1 BNC to 1 BNC 45m 150ft is included with the stereo option in case this stereo option is used in combination with the long cable option (Z3483105).

The following extra equipment is necessary to set up this configuration :
All these peripherals are mounted in a RACK, and delivered as one unit. The order numbers and quantities are only given as information for after sales orders.

MAGIC interface	2x	R9828121 (230V) or R9828128 (120V) according to the ordered destination kit.
RCVDS05	2x	R9828700 (230V) or R9828709 (120V) according to the ordered destination kit.
Quad Splitter	2x	R9828300 (230V) or R9828309 (120V) according to the ordered destination kit.
Quad Switcher	1x	R9828311 (230V) or R9828319 (120V) according to the ordered destination kit.
VSE40	1x	R9828520 (230V) or R9828529 (120V) according to the ordered destination kit.
Stereo emitter	2x	R9828221 (230V) or R9828128 (120V) according to the ordered destination kit.
Stereo glasses	5x	R9828223

Hint

As there is no power switch on the system, use socket strips with power breaker to connect the projectors, the RACK and the stereo emitters to the wall outlet.

Internal Connections RACK system 2-channel sytem

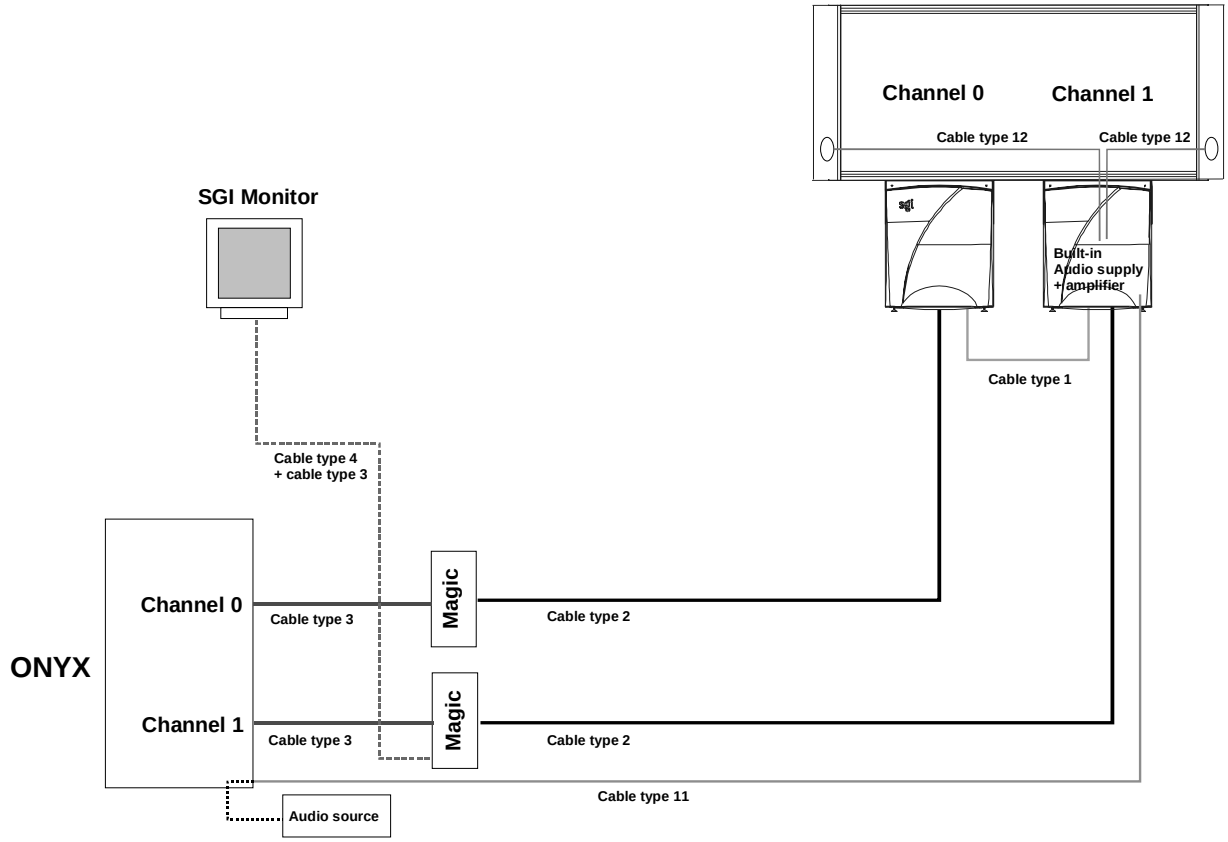
See 'Internal Connections RACK system 2-channel sytem' under paragraph '2-channel configuration mono with switching option'.

Connection table internal connections RACK system

See 'Connection table internal connections RACK system' under paragraph '2-channel configuration mono with switching option'.

2-channel configuration mono with audio option

Principle drawing



The source connections are the same as for 'Base configuration for 2-channel mono'.
Audio connection is done with an extra delivered cable type 11. This cable connects the audio source with the built-in audio amplifier in one of the projectors.
The speakers, mounted on the sides of the system should also be connected to the amplifier output with cable type 12.

Remark

One channel output from the ONYX split can be displayed on a monitor.
To display another channel, the user must manually plug the monitor cable into the corresponding MAGIC of that channel.

Necessary Equipement and Cables

The following cables are included to set up this configuration :

	Description	Quantity	Order number
Cable type 1	RS232 communication cable 6.5ft	1	Z348755
Cable type 2	5 BNC to 5 BNC coax cable 15m/50ft	3	Z348333
Cable type 3	13W3 to 4 BNC 4.6ft	2	Z348261
Cable type 4	5 BNC to DD15male 6.5ft	1	K344073
Cable type 11	Audio cable	1	
Cable type 12	Audio cable	2	
	BNC-BNC coupling pieces	4	R313667

The following interfaces are supplied to set up this configuration :

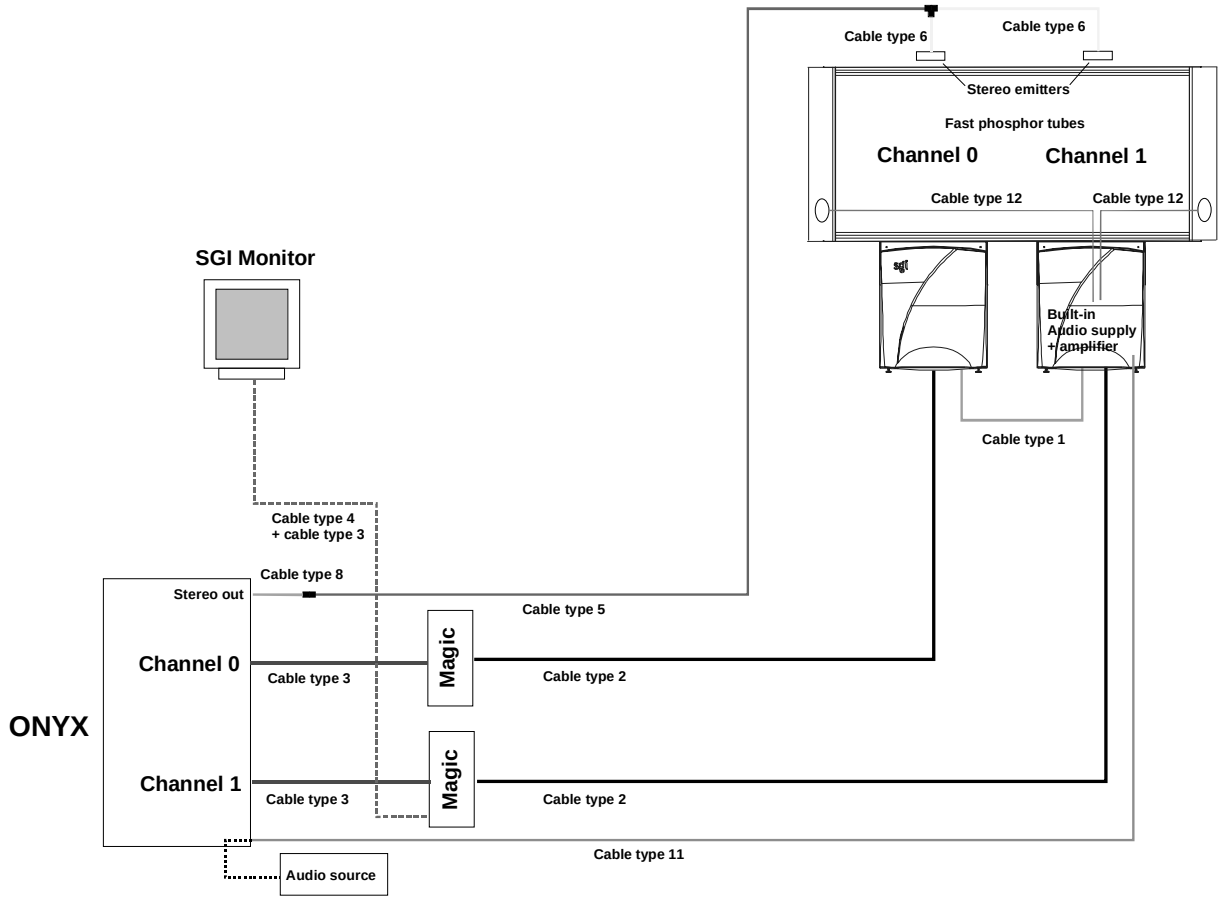
MAGIC interface	2x	R9828121 (230V) or R9828128 (120V) according to the ordered destination kit.

Hint

As there is no power switch on the system, use socket strips with power breaker to connect the projectors, the audio amplifier and the Magic interfaces to the wall outlet.

2-channel configuration stereo with audio option

Principle drawing



The source connections are the same as for 'Base configuration for 2-channel stereo'.
Audio connection is done with an extra delivered cable type 11. This cable connects the audio source with the built-in audio amplifier in one of the projectors.
The speakers, mounted on the sides of the system should also be connected to the amplifier output with cable type 12.

Remark

One channel output from the ONYX split can be displayed on a monitor.
To display another channel, the user must manually plug the monitor cable into the corresponding MAGIC of that channel.

Necessary Equipement and Cables

The following cables are included to set up this configuration :

	Description	Quantity	Order number
Cable type 1	RS232 communication cable 6.5ft	2	Z348755
Cable type 2	5 BNC to 5 BNC coax cable 15m/50ft	3	Z348333
Cable type 3	13W3 to 4 BNC 4.6ft	2	Z348261
Cable type 4	5 BNC to DD15male 6.5ft	1	K344073
Cable type 5 (*)	1 BNC to 1 BNC 20m 65ft	1	Z3483102
Cable type 6	1 BNC to 1 BNC 1.65m 5.4ft	2	Z3483353
Cable type 8	Connection piece D9 - BNC	1	Z3487291
Cable type 11	Audio cable	1	
Cable type 12	Audio cable	2	
	BNC-BNC coupling pieces	4	R313667
	T-BNC coupling pieces	1	B332119

(*) extra cable 1 BNC to 1 BNC 45m 150ft is included with the stereo option in case this stereo option is used in combination with the long cable option (Z3483105).

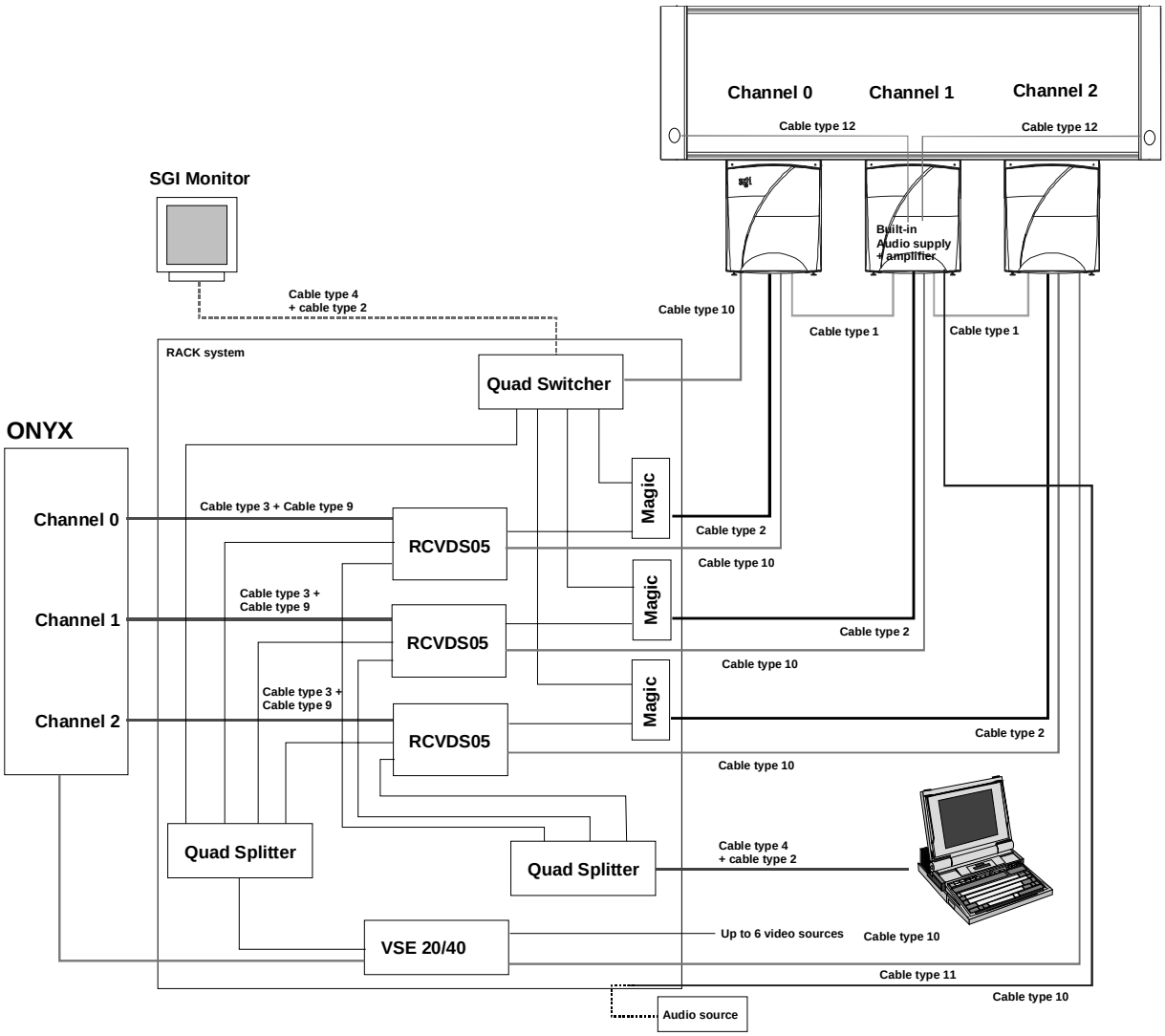
The following extra equipment is necessary to set up this configuration :

MAGIC interface	2x	R9828121 (230V) or R9828128 (120V) according to the ordered destination kit.
Stereo emitter	2x	R9828221 (230V) or R9828128 (120V) according to the ordered destination kit.
Stereo glasses	5x	R9828223

As there is no power switch on the system, use socket strips with power breaker to connect the projectors, audio amplifier, the stereo emitters and the Magic interfaces to the wall outlet.

3-channel configuration mono with switching option and audio option

Principle drawing



Cabling diagram

The source connections are the same as for '3-channel configuration mono with switching option'.
Audio connection is done with an extra delivered cable type 11. This cable connects the audio source with the built-in audio amplifier in one of the projectors.
The speakers, mounted on the sides of the system should also be connected to the amplifier output with cable type 12.

Necessary Equipment and Cables

The following cables are included to set up this configuration :

	Description	Quantity	Order number
Cable type 1	RS232 communication cable 6.5ft	2	Z348755
Cable type 2	5 BNC to 5 BNC coax cable 15m/50ft	5	Z348333
Cable type 3	13W3 to 4 BNC 4.6ft	3	Z348261
Cable type 4	5 BNC to DD15male 6.5ft	2	K344073
Cable type 9	5 BNC to 5 BNC 5m 15ft	3	Z348332
Cable type 10	RS232 communication cable 15m 15ft	6	Z3482602
Cable type 11	Audio cable	1	
Cable type 12	Audio cable	2	
	BNC-BNC coupling pieces	8	R313667

The following extra equipment is necessary to set up this configuration :
All these peripherals are mounted in a RACK, and delivered as one unit. The order numbers and quantities are only given as information for after sales orders.

MAGIC interface	3x	R9828121 (230V) or R9828128 (120V) according to the ordered destination kit.
RCVDS05	3x	R9828700 (230V) or R9828709 (120V) according to the ordered destination kit.
Quad Splitter	2x	R9828300 (230V) or R9828309 (120V) according to the ordered destination kit.
Quad Switcher	1x	R9828311 (230V) or R9828319 (120V) according to the ordered destination kit.
VSE40	1x	R9828520 (230V) or R9828529 (120V) according to the ordered destination kit.

Hint

As there is no power switch on the system, use socket strips with power breaker to connect the projectors, audio amplifier and the RACK to the wall outlet.

Internal Connections RACK system 3-channel sytem

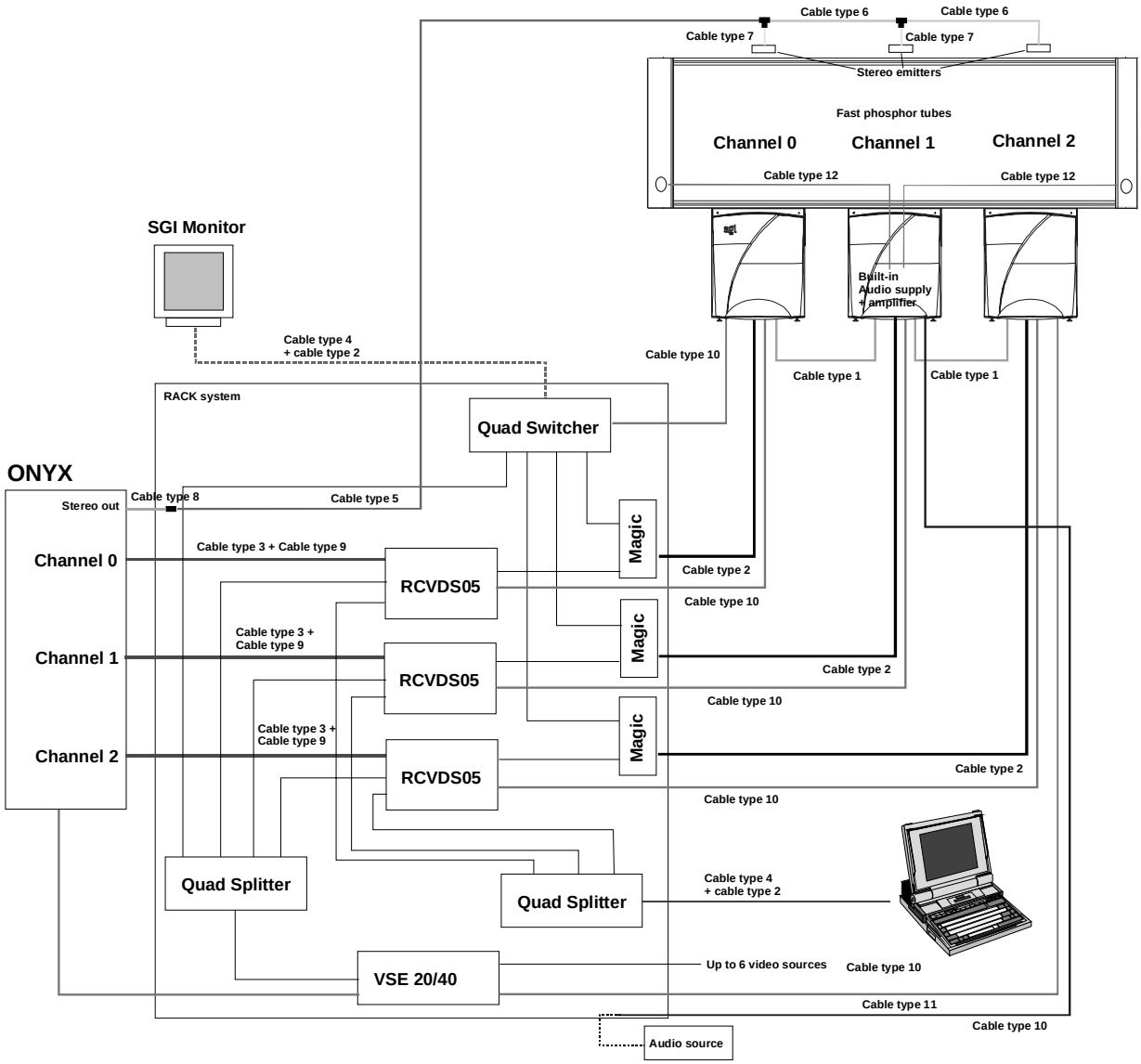
See 'Internal Connections RACK system 3-channel sytem' under paragraph '3-channel configuration mono with switching option'.

Connection table internal connections RACK system

See 'Connection table internal connections RACK system' under paragraph '3-channel configuration mono with switching option'.

3-channel configuration stereo with switching option and audio option

Principle drawing



Cabling diagram

The source connections are the same as for '3-channel configuration stereo with switching option'.
Audio connection is done with an extra delivered cable type 11. This cable connects the audio source with the built-in audio amplifier in one of the projectors.
The speakers, mounted on the sides of the system should also be connected to the amplifier output with cable type 12.

Necessary Equipment and Cables

The following cables are included to set up this configuration :

	Description	Quantity	Order number
Cable type 1	RS232 communication cable 6.5ft	2	Z348755
Cable type 2	5 BNC to 5 BNC coax cable 15m/50ft	5	Z348333
Cable type 3	13W3 to 4 BNC 4.6ft	3	Z348261
Cable type 4	5 BNC to DD15male 6.5ft	2	K344073
Cable type 5 (*)	1 BNC to 1 BNC 20m 65ft	1	Z3483102
Cable type 6	1 BNC to 1 BNC 1.65m 5.4ft	2	Z3483353
Cable type 7	1 BNC to 1 BNC 0.5m 1.6ft	2	Z348310
Cable type 8	Connection piece D9 - BNC	1	Z3487291
Cable type 9	5 BNC to 5 BNC 5m 15ft	3	Z348332
Cable type 10	RS232 communication cable 15m 15ft	6	Z3482602

Cable type 11	Audio cable	1	
Cable type 12	Audio cable	2	
	BNC-BNC coupling pieces	8	R313667
	T-BNC coupling pieces	1	B332119

(*) extra cable 1 BNC to 1 BNC 45m 150ft is included with the stereo option in case this stereo option is used in combination with the long cable option (Z3483105).

The following extra equipment is necessary to set up this configuration :
All these peripherals are mounted in a RACK, and delivered as one unit. The order numbers and quantities are only given as information for after sales orders.

MAGIC interface	3x	R9828121 (230V) or R9828128 (120V) according to the ordered destination kit.
RCVDS05	3x	R9828700 (230V) or R9828709 (120V) according to the ordered destination kit.
Quad Splitter	2x	R9828300 (230V) or R9828309 (120V) according to the ordered destination kit.
Quad Switcher	1x	R9828311 (230V) or R9828319 (120V) according to the ordered destination kit.
VSE40	1x	R9828520 (230V) or R9828529 (120V) according to the ordered destination kit.
Stereo emitter	3x	R9828221 (230V) or R9828128 (120V) according to the ordered destination kit.
Stereo glasses	5x	R9828223

Hint

As there is no power switch on the system, use socket strips with power breaker to connect the projectors, audio amplifier, stereo emitters and the RACK to the wall outlet.

Internal Connections RACK system 3-channel sytem

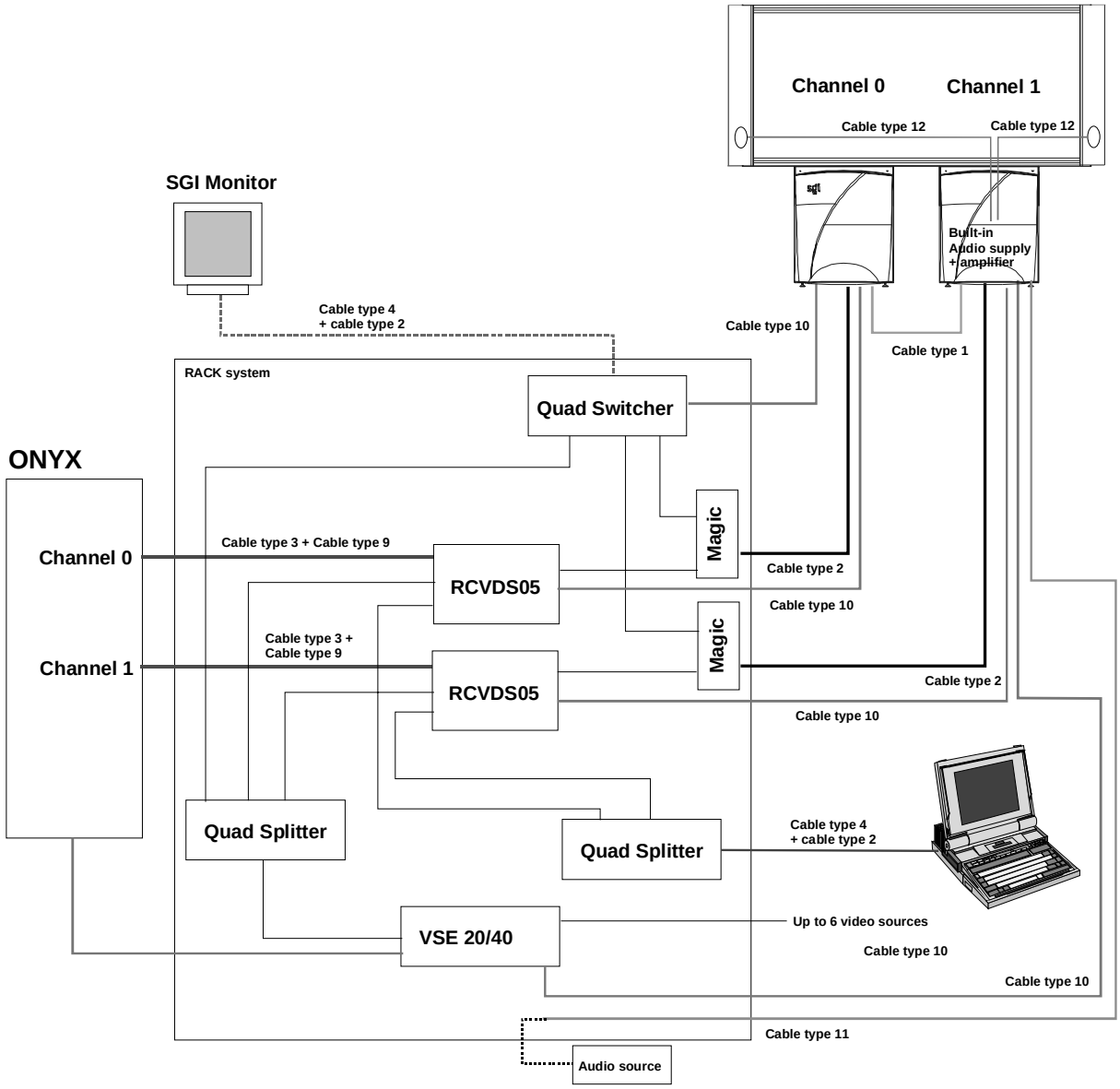
See 'Internal Connections RACK system 3-channel sytem' under paragraph '3-channel configuration mono with switching option'.

Connection table internal connections RACK system

See 'Connection table internal connections RACK system' under paragraph '3-channel configuration mono with switching option'.

2-channel configuration mono with switching option and audio option

Principle drawing



Cabling diagram

The source connections are the same as for '2-channel configuration mono with switching option'.
Audio connection is done with an extra delivered cable type 11. This cable connects the audio source with the built-in audio amplifier in one of the projectors.
The speakers, mounted on the sides of the system should also be connected to the amplifier output with cable type 12.

Necessary Equipment and Cables

The following cables are included to set up this configuration :

	Description	Quantity	Order number
Cable type 1	RS232 communication cable 6.5ft	1	Z348755
Cable type 2	5 BNC to 5 BNC coax cable 15m/50ft	4	Z348333
Cable type 3	13W3 to 4 BNC 4.6ft	2	Z348261
Cable type 4	5 BNC to DD15male 6.5ft	2	K344073
Cable type 9	5 BNC to 5 BNC 5m 15ft	2	Z348332
Cable type 10	RS232 communication cable 15m 15ft	5	Z3482602
Cable type 11	Audio cable	1	
Cable type 12	Audio cable	2	
	BNC-BNC coupling pieces	8	R313667

The following extra equipment is necessary to set up this configuration :
All these peripherals are mounted in a RACK, and delivered as one unit. The order numbers and quantities are only given as information for after sales orders.

MAGIC interface	2x	R9828121 (230V) or R9828128 (120V) according to the ordered destination kit.
RCVDS05	2x	R9828700 (230V) or R9828709 (120V) according to the ordered destination kit.
Quad Splitter	2x	R9828300 (230V) or R9828309 (120V) according to the ordered destination kit.
Quad Switcher	1x	R9828311 (230V) or R9828319 (120V) according to the ordered destination kit.
VSE40	1x	R9828520 (230V) or R9828529 (120V) according to the ordered destination kit.

Hint

As there is no power switch on the system, use socket strips with power breaker to connect the projectors, audio amplifier and the RACK to the wall outlet.

Internal Connections RACK system 2-channel sytem

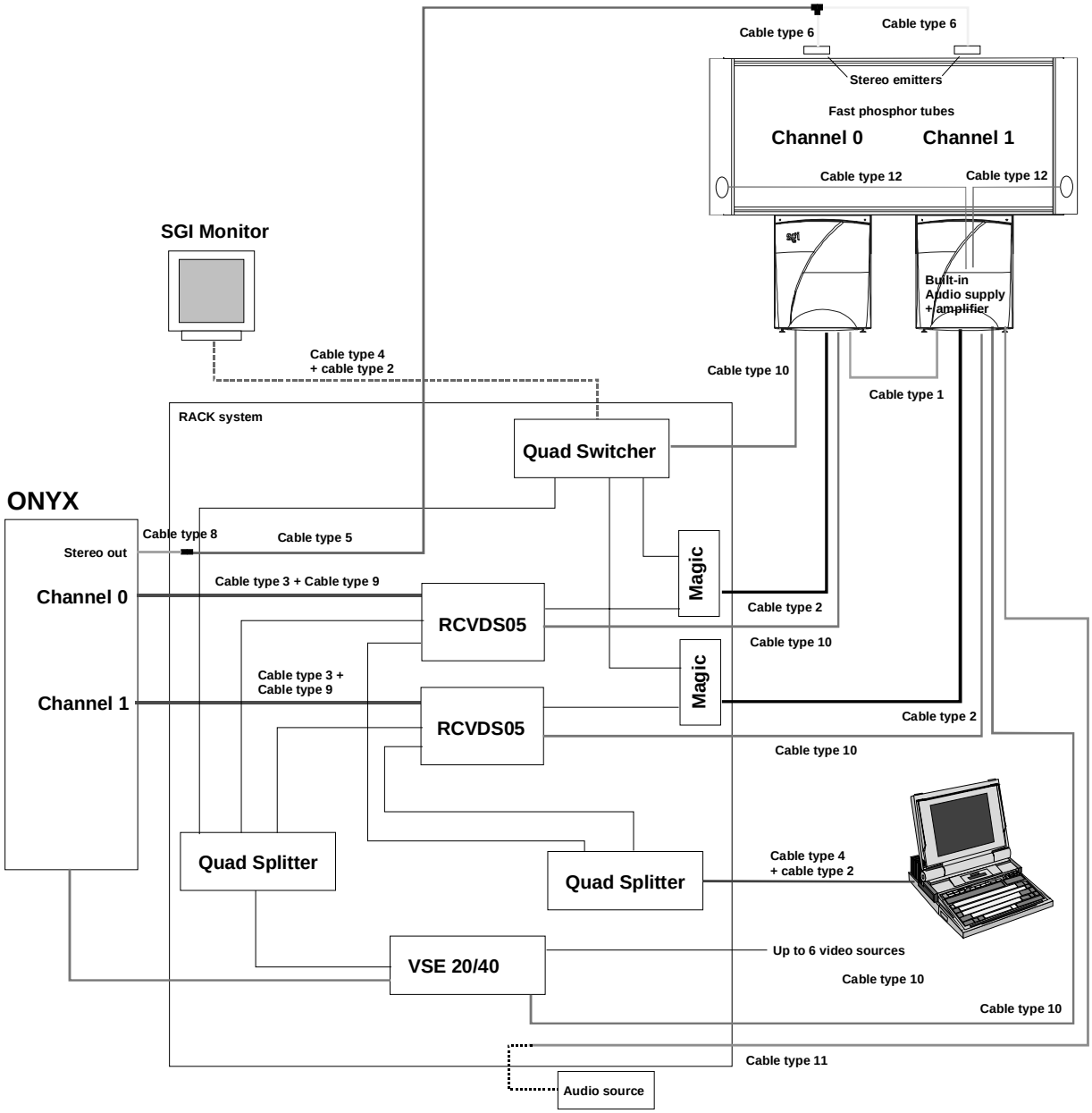
See 'Internal Connections RACK system 2-channel sytem' under paragraph '2-channel configuration mono with switching option'.

Connection table internal connections RACK system

See 'Connection table internal connections RACK system' under paragraph '2-channel configuration mono with switching option'.

2-channel configuration stereo with switching option and audio option

Principle drawing



Cabling diagram

The source connections are the same as for '2-channel configuration stereo with switching option'.
Audio connection is done with an extra delivered cable type 11. This cable connects the audio source with the built-in audio amplifier in one of the projectors.
The speakers, mounted on the sides of the system should also be connected to the amplifier output with cable type 12.

Necessary Equipment and Cables

The following cables are included to set up this configuration :

	Description	Quantity	Order number
Cable type 1	RS232 communication cable 6.5ft	1	Z348755
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Cable type 4	5 BNC to DD15male 6.5ft	2	K344073
Cable type 5 (*)	1 BNC to 1 BNC 20m 65ft	1	Z3483102
Cable type 6	1 BNC to 1 BNC 1.65m 5.4ft	2	Z3483353

Cable type 8	Connection piece D9 - BNC	1	Z3487291
Cable type 9	5 BNC to 5 BNC 5m 15ft	2	Z348332
Cable type 10	RS232 communication cable 15m 15ft	5	Z3482602
Cable type 11	Audio cable	1	
Cable type 12	Audio cable	2	
	BNC-BNC coupling pieces	8	R313667

(*) extra cable 1 BNC to 1 BNC 45m 150ft is included with the stereo option in case this stereo option is used in combination with the long cable option (Z3483105).

The following extra equipment is necessary to set up this configuration :
All these peripherals are mounted in a RACK, and delivered as one unit. The order numbers and quantities are only given as information for after sales orders.

MAGIC interface	2x	R9828121 (230V) or R9828128 (120V) according to the ordered destination kit.
RCVDS05	2x	R9828700 (230V) or R9828709 (120V) according to the ordered destination kit.
Quad Splitter	2x	R9828300 (230V) or R9828309 (120V) according to the ordered destination kit.
Quad Switcher	1x	R9828311 (230V) or R9828319 (120V) according to the ordered destination kit.
VSE40	1x	R9828520 (230V) or R9828529 (120V) according to the ordered destination kit.
Stereo emitter	2x	R9828221 (230V) or R9828128 (120V) according to the ordered destination kit.
Stereo glasses	5x	R9828223

Hint

As there is no power switch on the system, use socket strips with power breaker to connect the projectors, audio amplifier, stereo emitters and the RACK to the wall outlet.

Internal Connections RACK system 2-channel sytem

See 'Internal Connections RACK system 2-channel sytem' under paragraph '2-channel configuration mono with switching option'.

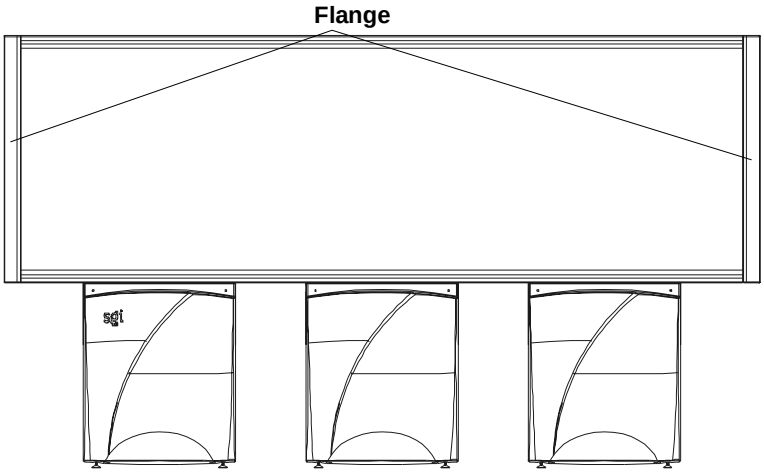
Connection table internal connections RACK system

See 'Connection table internal connections RACK system' under paragraph '2-channel configuration mono with switching option'.

Long Cable option

All the above configurations can be delivered with long cables.
Cable type 2 has to be replaced by 4x 1 BNC to 1BNC 45m 150ft.

Color Option



The flange of the screen is standard in silver color. It can be delivered also in black.
Also when the loudspeaker option is mounted, this option is normally in silver color but can be ordered in black too.

Rugged option

Reinforced chassis and rugged flight cases for frequent transport.

Flight case numbers for system :

	2-channel	3-channel
Bottom unit	B593511	B593511
Mirror unit	B593512	B593513
Screen unit	B593514	B593515

Fight case numbers for options :

Rack unit	B593510

9 ENTERING THE ADJUSTMENT MENUS

Adjustment menus

What is available in the Adjustment Menus ?

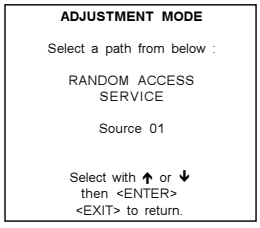
A complete set of adjustments divided in different modes are available to adjust the projector.
The different mode are :

Random Access : Should only be accessed if the user is highly qualified and knows the sequence of adjustments. Has to be used to adjust the image.

Service : Service should be selected if the user intends to change predefined settings.

How to enter the Adjustment Menus ?

1 Press the **ADJUST** key.
The projector displays the 'Adjustment mode' main menu (menu 1).



menu 1

Password Protection

Some items in the Adjustment mode are password protected. While selecting such an item, the projector asks to enter your password. (Password protection is only available when the password strap on the contoller module is ON. Contact a BARCO authorized technician when no password is requested during the adjustment procedure and password protection is desired.)

Entering the password

Your password contains 4 digits.

Enter the digits with the numeric keys on the RCU.

Example : 2 3 1 9

For each digit entered, a 'X' appears on the screen under the displayed text 'enter password'.
When the password is correct, you gain access to the selected item.
When the entered password is wrong, the error message 'wrong password !!!' will be displayed.

When the password is correct, you gain access to the selected item.
When the entered password is wrong, the error message 'wrong password !!!' will be displayed.

Remark :

When the password is correctly entered, all other password protected items are accessible without re-entering the password.
When re-entering the adjustment mode, it will be necessary to enter your password again when selecting a password protected item.

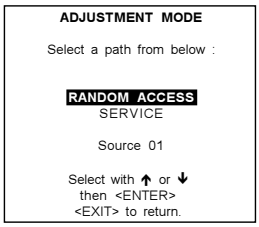
10 RANDOM ACCESS ADJUSTMENT MODE

Random access adjustment mode.

Starting Up

Push the cursor keys up or down to highlight *"RANDOM ACCESS"* and then press **ENTER**.

Some items in the Random access mode are password protected (when the password function is enabled). Enter your password to continue. All other password protected items are now also available if you stay in the adjustment mode.



Overview Flowchart

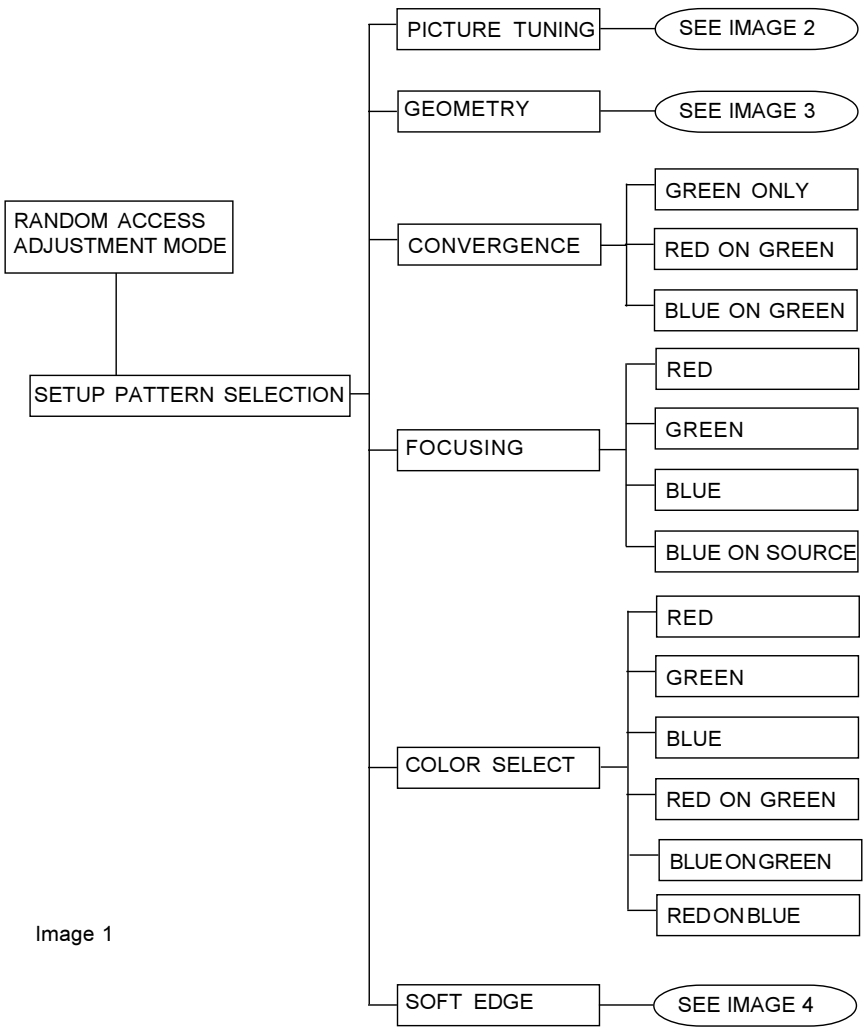


Image 1

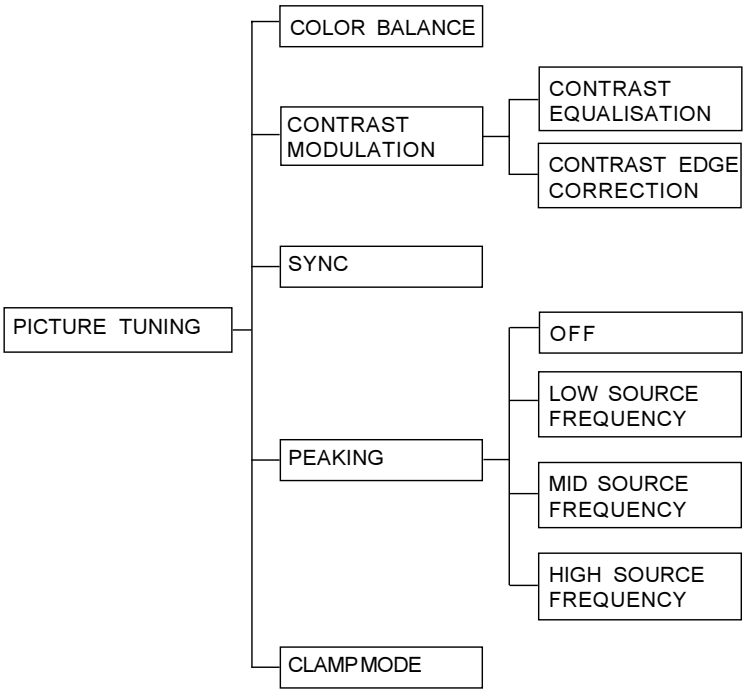


Image 2

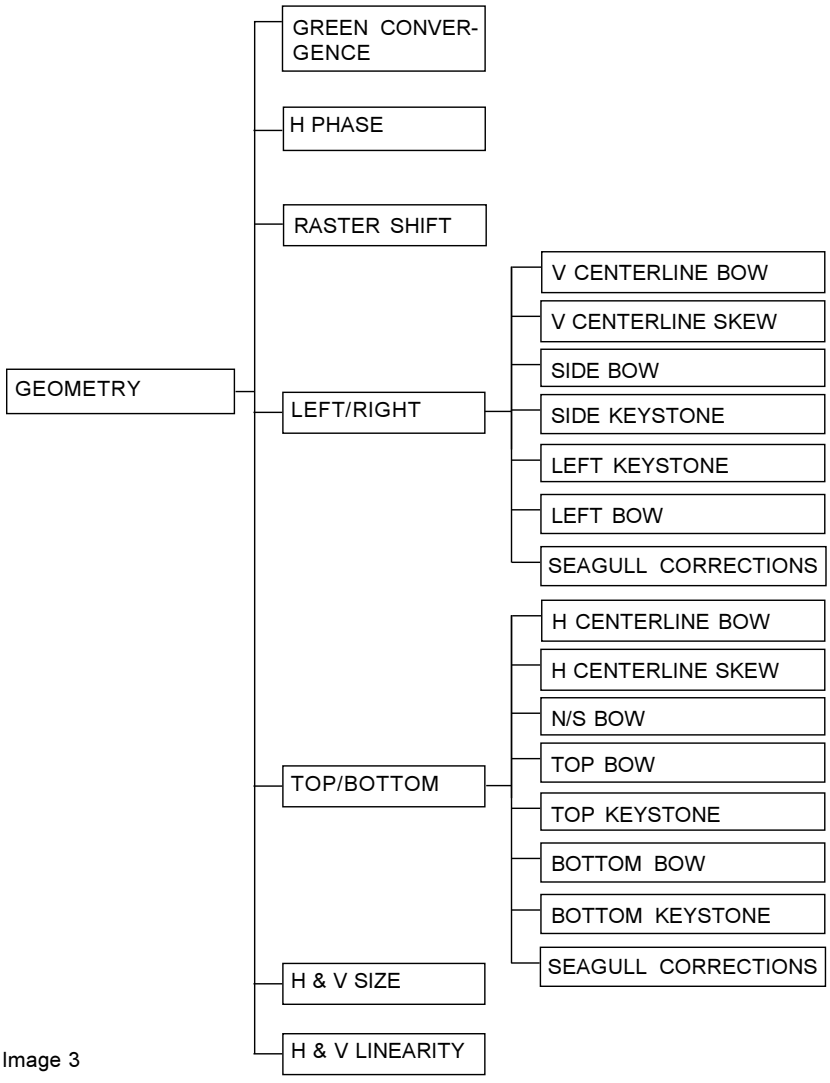


Image 3

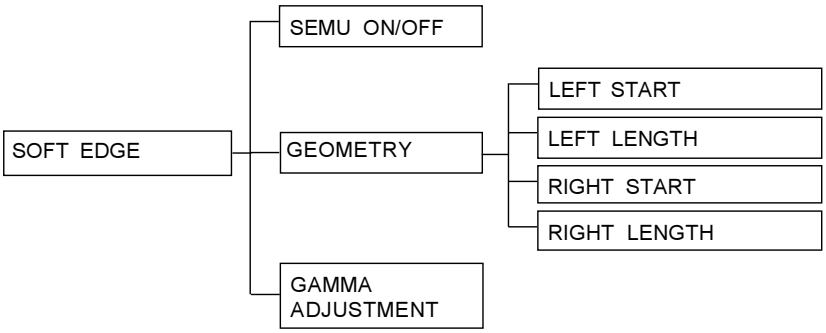
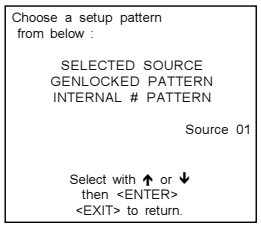


Image 4

Selecting Setup Pattern

Set up of the Selected Setup Pattern ?

If an external source is connected to the projector, menu 1 will be displayed.
To select the desired setup pattern, handle as follow :
1 Push the cursor keys ↑ or ↓ to highlight the desired setup pattern
2 Press **ENTER** to select.



menu 1

Genlocked pattern : internally generated cross hatch pattern, locked on the external source.

Internal # pattern : internally generated cross hatch pattern and locked on internal generated sync signals. (No external source necessary)

If no external source is connected to the projector, the internal cross hatch pattern menu will be displayed.

Note:

The menus in this manual are created for an external source, connected to one of the inputs, and the 'Genlocked Pattern' is selected.

Internal Cross Hatch Pattern

When using the Internal Cross Hatch Pattern ?

The Internal # pattern menu will be displayed if the internal cross hatch pattern has been selected or if no source is connected to the projector.

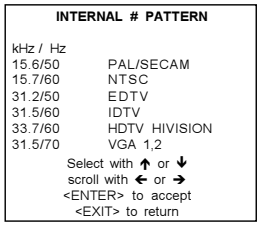
Factory Preset Frequencies

The table below lists the 16 fixed factory preset frequencies available. Another 8 blocks are custom programmable.

To select a desired cross hatch frequency, handle as follow :

1 Push the cursor keys ↑ or ↓ to highlight the desired cross hatch frequency (menu 1).
2 Push the cursor keys ← or → to scroll to another page.
3 Press **ENTER** if the desired block is selected.

kHz/Hz	
15.6/50	PAL/SECAM
15.7/60	NTSC
31.2/50	EDTV
31.5/60	IDTV
33.7/60	HDTV HIVISION
61.0/76	VGA 1,2
35.5/87	VGA 4
48.0/60	1024 x 768
44.2/70	Super VGA 2
61.0/76	Super VGA 3
63.9/60	1280 x 1024
72.1/67	Super VGA 4
75.0/60	1600 x 1200
77.5/96	1024 x 768
89.3/67	1600 x 1280
105.0/96	1280 x 1024



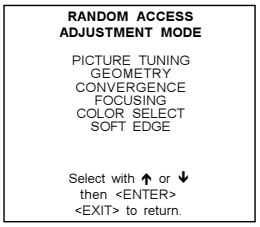
menu 1

Random access adjustment mode selection menu.

What is possible ?

This is the main menu for the Random Access adjustment mode.
Through this menu, the following adjustments and features are accessible :

- Picture Tuning
  - Sync slow/fast(only for RGB inputs)
  - Color Balance
  - Peaking
  - Clamp Tuning
  - Port 2 : Video/S-Video
  - Contrast Modulation
  - Line Multiplier
- Geometry
- Convergence
- Focussing
- Color select
- Orbiting
- Soft Edge



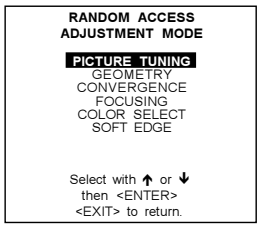
menu 1

Picture Tuning

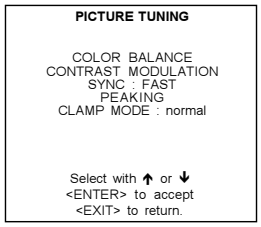
Start up the Picture Tuning

1 Push the cursor keys ↑ or ↓ to highlight *Picture tuning* (menu 1).
2 Press **ENTER**.
The Picture tuning menu will be displayed.
Depending on the input source, the 'Picture tuning' menu will display different items (menu 2).

- Color Balance
- Contrast Modulation
- Sync slow/fast
- Peaking
- Clamp Mode



menu 1



menu 2

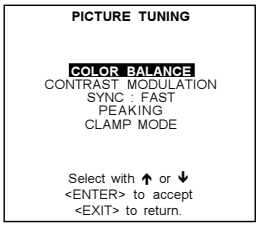
Color Balance

What can be done ?

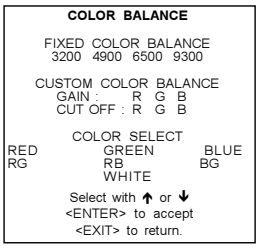
The Color Balance function is used to select or adjust the color temperature of a projected white image by the projector.
The Color Balance can be adjusted on two different ways :
- fixed color balance. You have the choice between 3200 K (reddish), 4900 K, 6500 K (white) or 9300 K (bluish).
- Custom white and black balance.

How to select the Color Balance ?

1 Push the cursor keys ↑ or ↓ to highlight 'Color Balance' (menu 1).
2 Press ENTER to select.
The color balance menu will be displayed (menu 2).



menu 1



menu 2

Fixed Color Balance

To select a fixed color balance, handle as follow :

1. Highlight *one of the 4 preprogrammed color temperatures* with the cursor keys and
2. press **ENTER** to display the image with the desired color balance.

Custom Color Balance.

The custom color balance adjustment can be divided in two parts, the 'gain' adjustment and the 'cut off' adjustment.

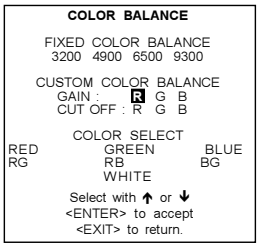
Gain adjustment

1. Push the cursor key ↑ or ↓ to select the color which has to be changed under 'Gain' (menu 1).
2. Press **ENTER** to activate the adjustment.
3. Push the cursor key ↑ or ↓ to adjust the blue gain.
A bar scale indicates the amount of adjustment.

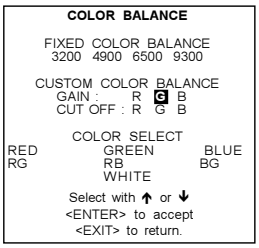
4. Press **ENTER** to return to the Color Balance menu.
5. Use cursor keys to select another color under 'Gain' (menu 2).
6. Repeat the above steps.

Cut Off adjustment

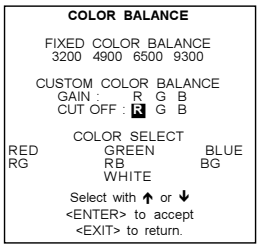
1. Push the cursor key ↑ or ↓ to select the color which has to be changed under 'Cut off' (menu 3).
2. Press **ENTER** to activate the adjustment.
3. Push the cursor key ↑ or ↓ to adjust the red cut-off
4. Press **ENTER** to return to the Color Balance menu.
5. Use cursor keys to select another color under 'Cut off' (menu 4).
6. Repeat the above steps.



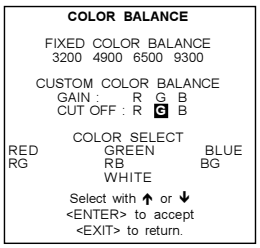
menu1



menu2



menu3



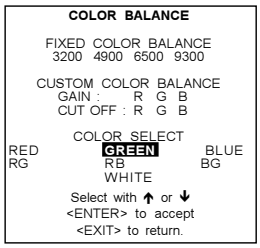
menu4

Color Select

These functions are only to display an image with the selected colors without any text inside the image.

1. Push the cursor key ↑ or ↓ to select a color or color combination under the item Color select (menu 1).
2. Press **ENTER** to display the selected color.
3. Press **EXIT** or **ENTER** to return to the Color Balance menu.

When the color balance is adjusted, press **EXIT** to return.



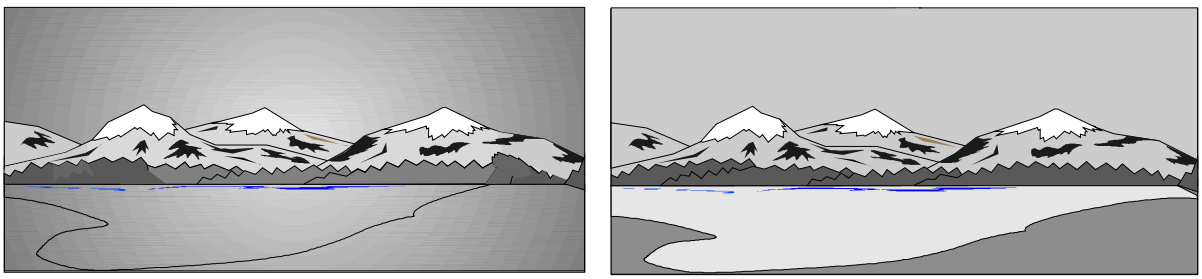
menu1

Contrast Modulation

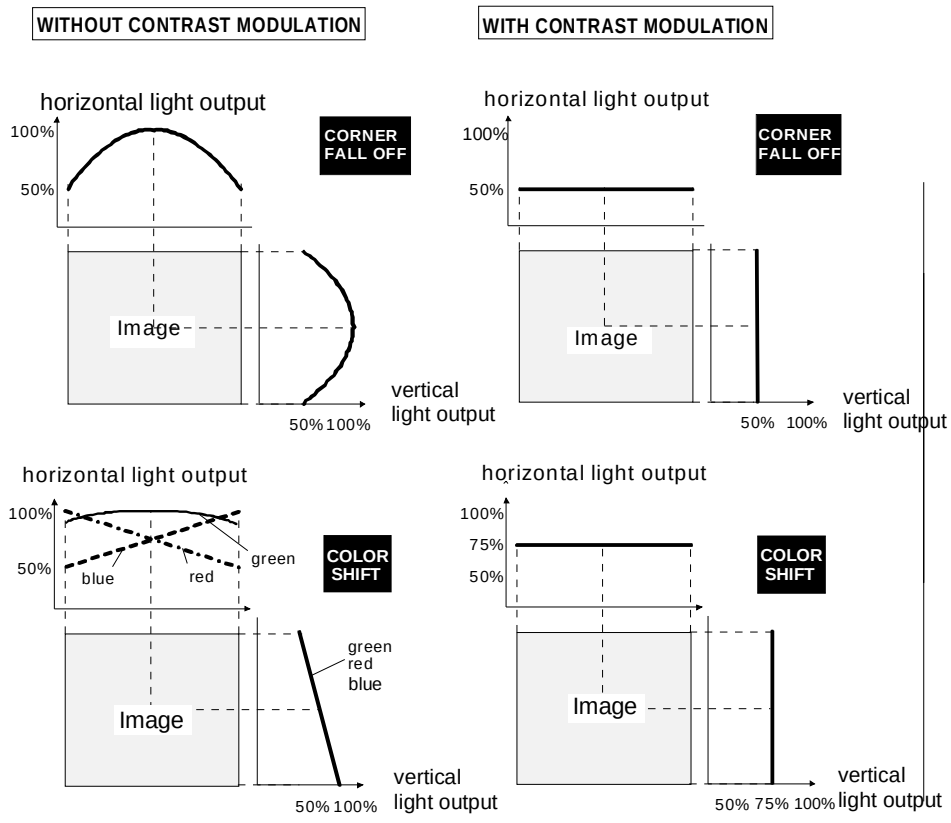
Why Contrast Modulation ?

In multi-screen installations, the goal is to obtain a continuous matched image, forming one homogeneous field-of-view with overall light output uniformity.

The laws of physics applied to projection CRT and optics dictates that the center of the projected image will be brighter than the corners, this phenomenon is normally referred to as 'corner fall off'. Secondly, due to the normal off-axis projection of the red and blue images, CRT projection displays a phenomenon referred to as 'color shift', whereby one side of the screen is "redish" an the other "blueish".



Basic Concept



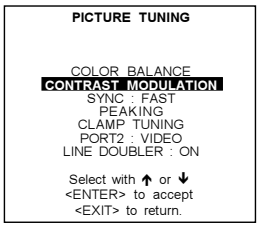
Important Note

- An external generated white image will be useful during the following adjustments.

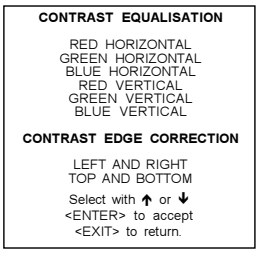
- Be sure the horizontal phase is correctly adjusted. The image must be centered on the raster with the horizontal phase adjustment, otherwise it is not possible to adjust the contrast modulation correctly.

How to select the Contrast Modulation

1 Push the cursor keys ↑ or ↓ to highlight 'Contrast Modulation' (menu 1).
2 Press **ENTER** to select.
The contrast modulation menu will be displayed (menu 2).



menu 1



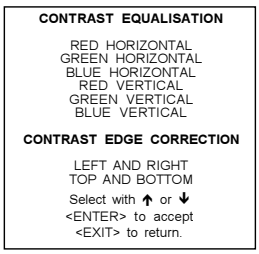
menu 2

Why Contrast Equalisation

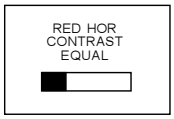
These adjustments are used for horizontal and vertical light equalisation for the three specific colors separately. This compensates the error due to the different position of the picture tubes. One side of the image is reddish and the other side is blueish. This phenomenon is called *Color shift*.

How to adjust the Contrast Equalisation

1 Push the cursor keys ↑ or ↓ to highlight a specific color and direction, e.g. 'Red horizontal' (menu 1).
2 Press **ENTER** to select.
Only a red image is displayed.
3 Adjust with the cursor keys to equalise the light output on the left and the right side of the image. The best result is obtained by looking on the left and the right side until both are equal, or by using a very sensitive light meter.
4 Repeat for the other colors and directions. It can be an interaction of several adjustments.
barscale = 50 : no correction



menu 1



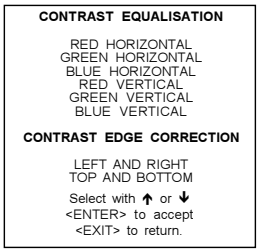
menu 2

Why Contrast Edge Correction

Left and right (horizontally) and top and bottom (vertically) adjustments improves the '*hot spot*' in the center of the screen.

How to adjust the Contrast Edge Correction (Hot Spot)

1 Push the cursor keys ↑ or ↓ to highlight 'Left and Right' (menu 1)
2 Press **ENTER** to select.
3 Adjust with the arrow keys for the same light output in the corners as in the center of the image.
This left-right adjustment must be done in combination with the top-bottom adjustment as both adjustments influence each other.
barscale = 01 : no correction



menu 1

Note

These adjustments will reduce the total light output, so do not over adjust. A bar scale of 10 - 15 for both adjustments gives a good result.

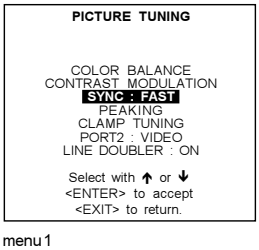
Sync Fast/Slow Adjustment

What can be done ?

The sync function is used to minimize horizontal jittering or tearing at the top to the displayed image.
The sync slow/fast function is only available for RGBS, RGsB and Component sources.

How to setup the sync function ?

To change the Sync setting, handle as follow :
1. Push the cursor keys ↑ or ↓ to select Sync (menu 1)
2. Press **ENTER** to toggle between *FAST* and *SLOW.*



menu 1

Note

SYNC is normally used in the SLOW position. The FAST position is used to compensate for unsteady sync pulses from older video playback equipment.

Peaking

What can be done with Peaking ?

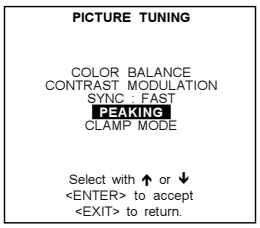
Peaking improves the contours in an projected image.

How to set up ?

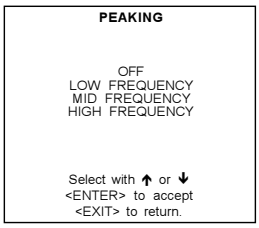
To change the peaking setting, handle as follow :
1. Push the cursor key ↑ or ↓ to select Peaking (menu 1).
2. Press **ENTER** to display the peaking menu (menu 2).
   During the creation of new settings for a RGB source the corresponding peaking is switched on as default.

The following frequency areas are available :
- 15 kHz - 45 kHz : Low frequency peaking.
- 45 kHz - 85 kHz : Mid frequency peaking.
- 85 kHz - 110 kHz : High frequency peaking.

If another peaking is desired or switch off, handle as follow :
1. Push the cursor key ↑ or ↓ to select to select the desired frequency area or off (menu 2).
2. Press **ENTER** to activate.



menu 1



menu 2

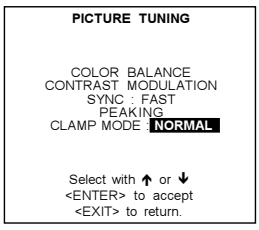
Clamp Mode

What can be done ?

The clamp mode can be switch between 'Normal' and 'Restoration'.
Normal : for all standard sources and all sources with a backporch > 0.8 µs or for sources with noise and spikes in the signal.
Restoration : for standard sources with a backporch between 0.4 µs and 0.8 µs or for sources with sync separate or sync on green.

How to set up ?

1. Push the cursor key ↑ or ↓ to select Clamp Mode (menu 1).
2. Press **ENTER** to toggle between 'Normal' and 'Restoration'.
3. Press **EXIT** to return to the picture tuning menu.



menu 1

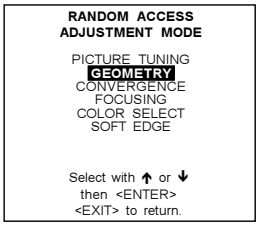
Geometry Adjustments

What can be done ?

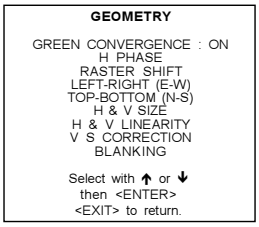
The geometry adjustments have to be done only on the green image. These adjustments are automatically implemented for the other color images. The following adjustments can be adjusted Left-right (EW) and Top-Bottom Corrections, Blanking, Horizontal Amplitude, Vertical Amplitude, Vertical Linearity and Horizontal Phase.

Start Up

To start up the geometry corrections, handle as follow :
1. Push the cursor key ↑ or ↓ to highlight 'Geometry' (menu 1).
2. Press **ENTER** to select.
   The Geometry menu will be displayed on the screen (menu 2).



menu 1



menu 2

Important

The convergence corrections are disabled during geometry corrections. The blanking corrections are only enabled during the blanking adjustments.

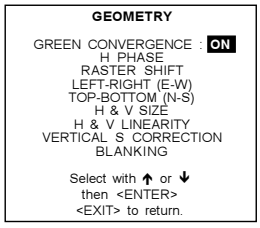
Green Convergence On/Off

Why switching your green convergence on or off ?

The adjustments for a good image should be done with the geometry corrections prior to the convergence corrections as the power consumption (head production inside the projector) will be lower. With a lower head production, the stability of the electronics will increase. So, start by switching off the convergence and adjust first all the geometry corrections. Switch on the convergence again and if a misalignment is still visible, correct that with the convergence corrections.

How to switch of the Green Convergence ?

1. Push the cursor key ↑ or ↓ to highlight 'Green Convergence' (menu 1).
2. Press **ENTER** to toggle between ON and OFF.



menu 1

Horizontal Phase Adjustment

Start Up

1. Push the cursor key ↑ or ↓ to highlight 'H Phase' (menu 1).
2. Press **ENTER** to activate.
   The external image with a text box in the middle will be projected.

Note

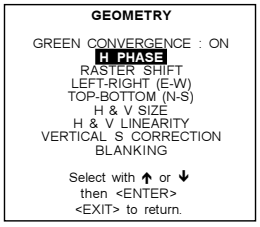
No horizontal phase adjustment is available on the internal # pattern.

How to adjust ?

If the raster shift is correctly adjusted, the H Phase text box is projected in the middle of the raster. At that moment, the "><" icon indicates the middle of the raster.
Adjust the H Phase control until the middle of the projected image is equal with the middle of >< icon.
Image 1 : Push the cursor key to the right to correct.
Image 2 : Push the cursor key to the left to correct.

Note : If the genlocked pattern was selected during the start up of the random access mode, the external source will be displayed.

A bar scale and a number indicator (between 0 and 100) on the screen give a visual indication of the horizontal phase adjustment.



menu 2

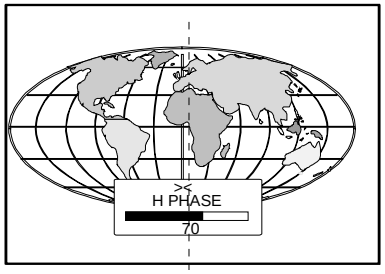


image 1

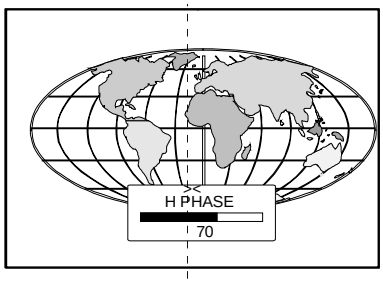


image 2

Raster Shift Adjustment

What has to be done ?

The green raster must be centered both horizontally and vertically on the center of the CRT surface. To center the green raster, look into the green lens and use the cursor keys to move the raster.

CAUTION

It is necessary to look into the lenses to perform these adjustments. To avoid eye discomfort while looking into the lenses, reduce the contrast and gradually increase the brightness level until the raster becomes visible on the face of the CRT.

Start up

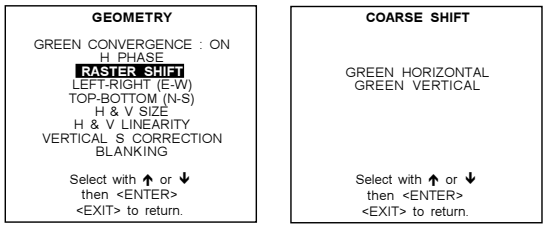
To start the adjustment (image 1) :
1. push the cursor key ↑ or ↓ to highlight Raster Shift (menu 1).
2. press **ENTER** to display the coarse shift menu (menu 2)
3. Select first green horizontal and adjust.
4. Continue with green vertical.

Note

Horizontal and Vertical shifts for Red and Blue should end up with a setting close to 50%. If these settings are significantly greater or lesser than 50%, contact a BARCO authorized service technician.

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.



menu 1

menu 2

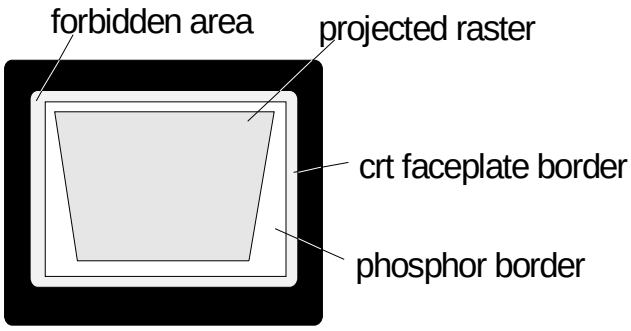


image 1

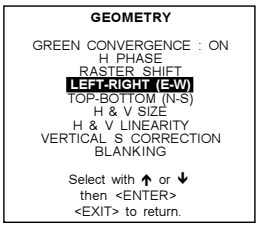
Left-Right (east-west) Adjustments

What can be adjusted ?

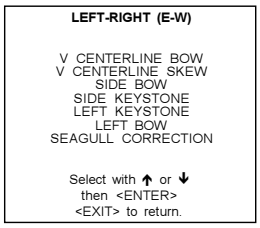
Left-right and center adjustments affect only the vertical lines of the projected image. The skew, the bow, the keystone and the seagull distorsion can be adjusted.

Start up

To start up the left-right and center adjustments, follow the next procedure :
1. Push the cursor key ↑ or ↓ to highlight *LEFT-RIGHT (E/W)* (image 1).
2. Press **ENTER** to select.
   The 'Left-Right' menu will be displayed (menu 2).



menu 1



menu 2

Note

Only the green image is displayed while making left-right adjustments. The red and blue images will automatically be corrected in the same manner. Convergence corrections are automatically disabled for the duration of these adjustments.

Which adjustment can be executed ?

The following adjustments can be executed

- vertical centerline bow
- vertical centerline skew
- side keystone (left - right)
- side bow (left - right)
- left keystone
- left bow
- seagull corrections

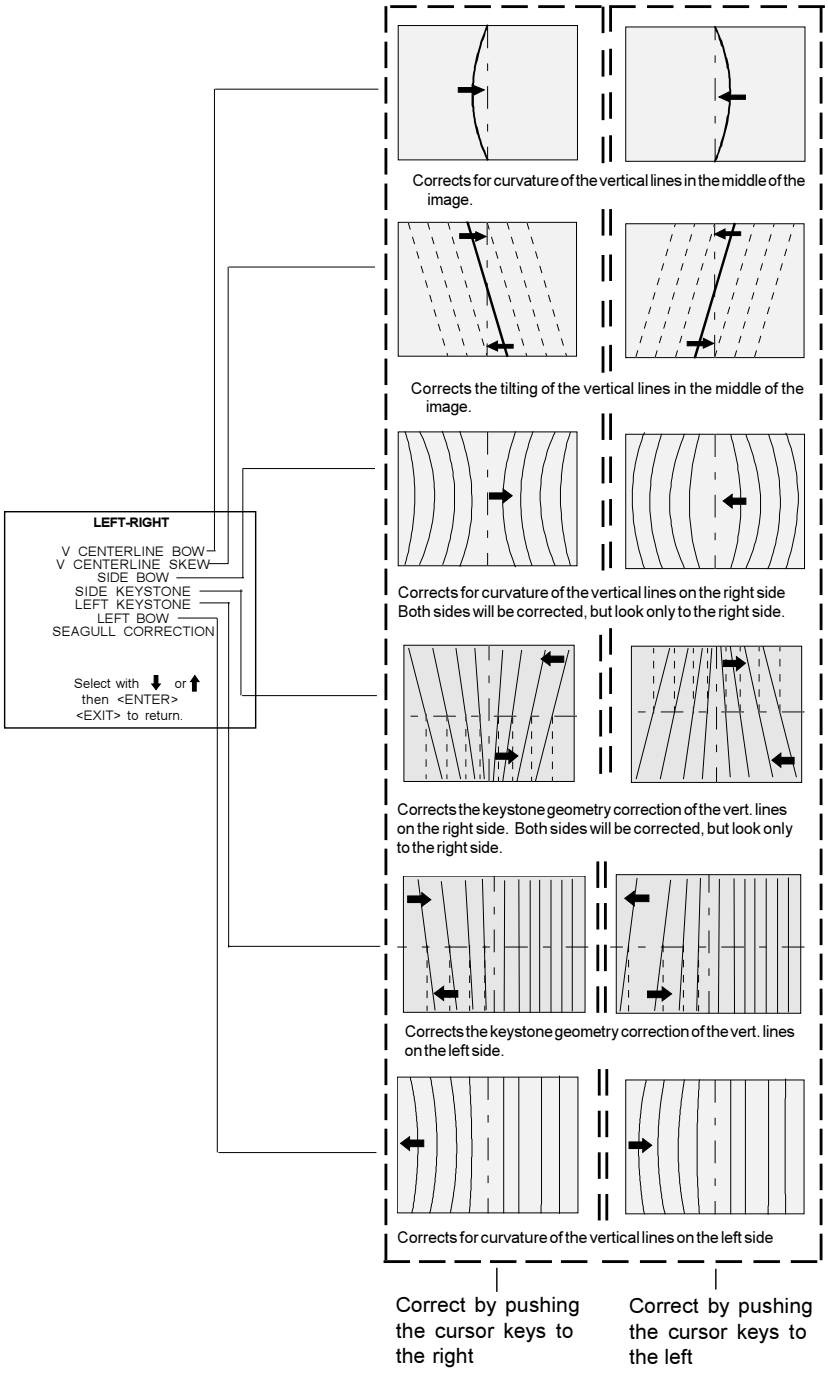
All adjustment are indicated on the screen with the function name, a bar scale and a number between 0 and 100.
Adjust the alignments until the vertical lines are straight.

How to enter an alignment ?

To enter an alignment :
1. Push the cursor key ↑ or ↓ to highlight a function
2. Press **ENTER** to activate this function.
3. Press **EXIT** to return.

Warning

Use the side keystone and side bow correction to adjust the right side of the image. Adjust afterwards the left side with left keystone and left bow.



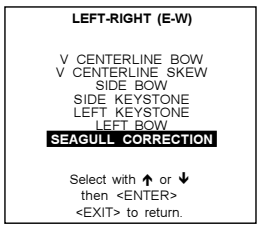
Seagull correction

What can be done ?

Use this correction only if, after adjusting the vertical lines with the side bow or side keystone, still a 'S' deformation is visible on the left and the right side of the image.
The default value on the bar scale for this correction is 50.

Start up

To correct the Seagull Correction :
1. Push the cursor key ↑ or ↓ to highlight *SEAGULL CORRECTION* (menu 1)
2. Press **ENTER** to activate.
   Eliminate the deformation by pushing the cursor key ← or → until a straight line is obtained (image 1).



menu 1

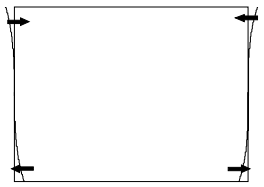


image 1

Top-Bottom (north-south) Adjustments

What can be adjusted ?

Top-Bottom and center adjustments affect only the horizontal lines of the projected image. The skew, the bow, the keystone, the N/S Bow and the seagull deviation can be adjusted.

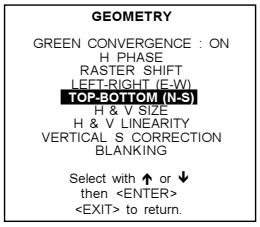
Start Up

To start up the Top-Bottom and center corrections, follow the next procedure :

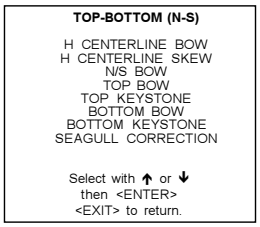
1. Push the cursor key ↑ or ↓ to highlight TOP-BOTTOM (N/S) (menu 1).
2. Press **ENTER** to select.
   The Top-Bottom menu will be selected (menu 2).

Note

Only the green image is displayed while making top-botton adjustments. The red and blue images will automatically be corrected in the same manner. Convergence corrections are automatically disabled for the duration of these adjustments.



menu 1



menu 2

Which adjustment can be executed ?

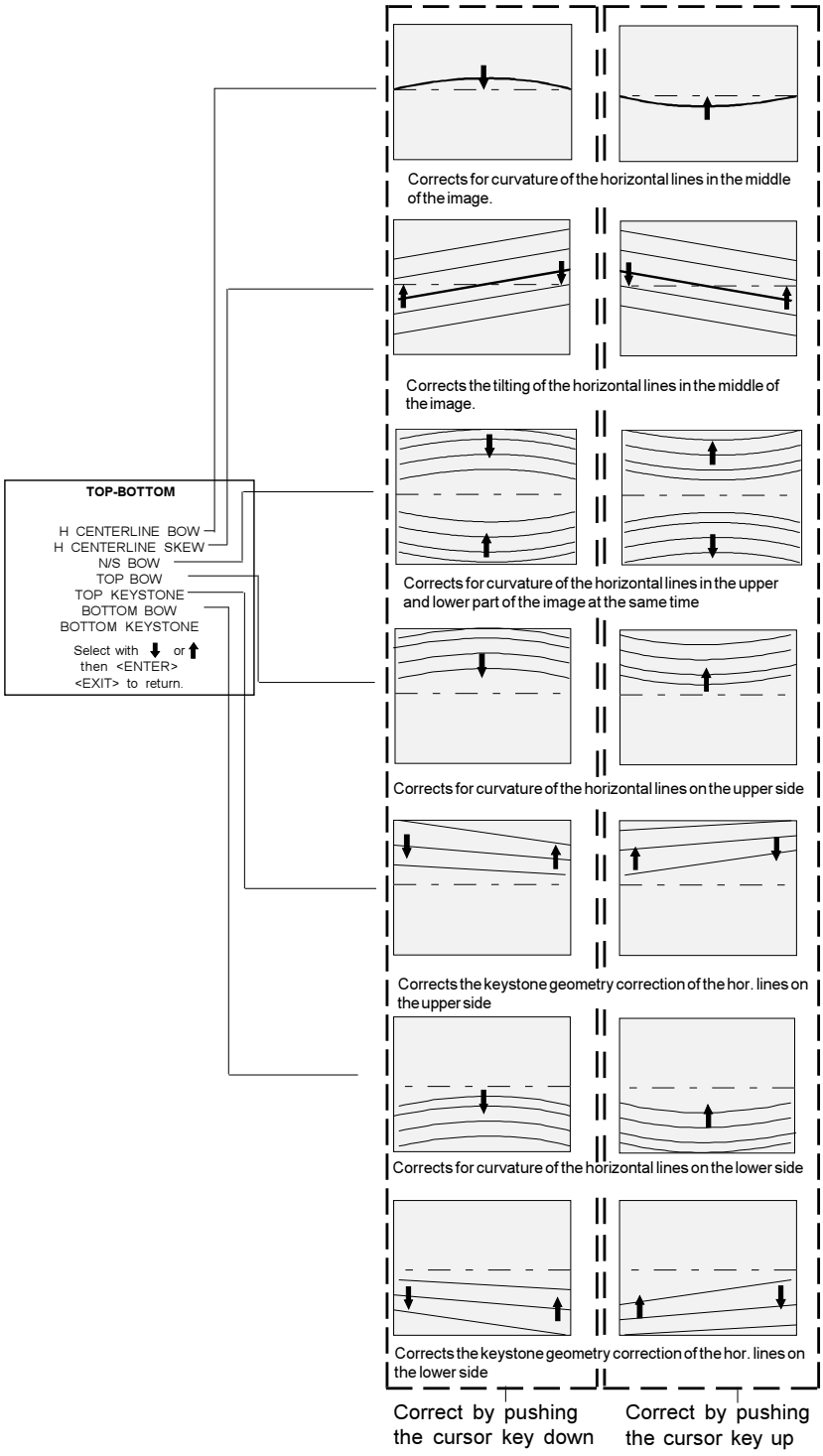
The following adjustments can be executed

- horizontal centerline bow
- horizontal centerline skew
- N/S bow
- Top bow
- Top keystone
- Bottom bow
- Bottom keystone

All adjustment are indicated on the screen with the function name, a bar scale and a number between 0 and 100.
Adjust the next alignments until the horizontal lines are straight.

How to enter an alignment ?

To enter an alignment :
1. Push the cursor key ↑ or ↓ to highlight a function
2. Press **ENTER** to activate this function.
3. Press **EXIT** to return.



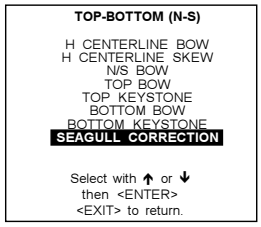
Seagull correction

What can be done ?

Use this correction after the image has been adjusted with top and bottom bow and keystone. If still a deformation (like a seagull) on top and bottom of the image is visible, proceed to the seagull correction. Due to interaction, it is possible that the top and bottom bow have to be readjusted after adjusting the seagull correction to obtain an improved image. The default value on the bar scale of this correction is 50.

Start up

To correct the Seagull Correction :
1. Push the cursor key ↑ or ↓ to highlight *SEAGULL CORRECTION* (menu 1)
2. Press **ENTER** to activate.
   Eliminate the deformation by pushing the cursor key ↑ or ↓ until a straight line is obtained (image 1).



menu 1

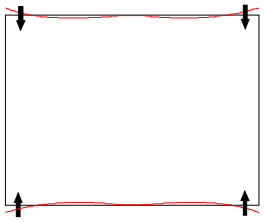


image 1

Horizontal & Vertical Size Adjustment

What can be done ?

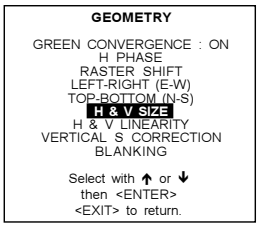
To adjust (correct) a little bit the horizontal and vertical picture size (when the projector is on its correct position) in regard with the installed screen

Start up

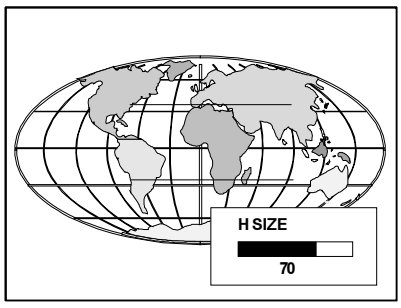
1. Push the cursor key ↑ or ↓ to highlight 'H & V Size' (menu 1).
2. Press **ENTER** to activate (menu 2).
3. Push the cursor key ← or → until the exact image width is obtained (horizontal size) (image 1) or the cursor key ↑ or ↓ until the exact image height is obtained (vertical size) (image 2).

Note :
- If the internal # pattern was selected, this pattern remains on the screen.
- If the genlocked pattern was selected, the external source will be displayed.

A bar scale and a numeric indicator help to gauge the size adjustment.



menu 1



menu 2

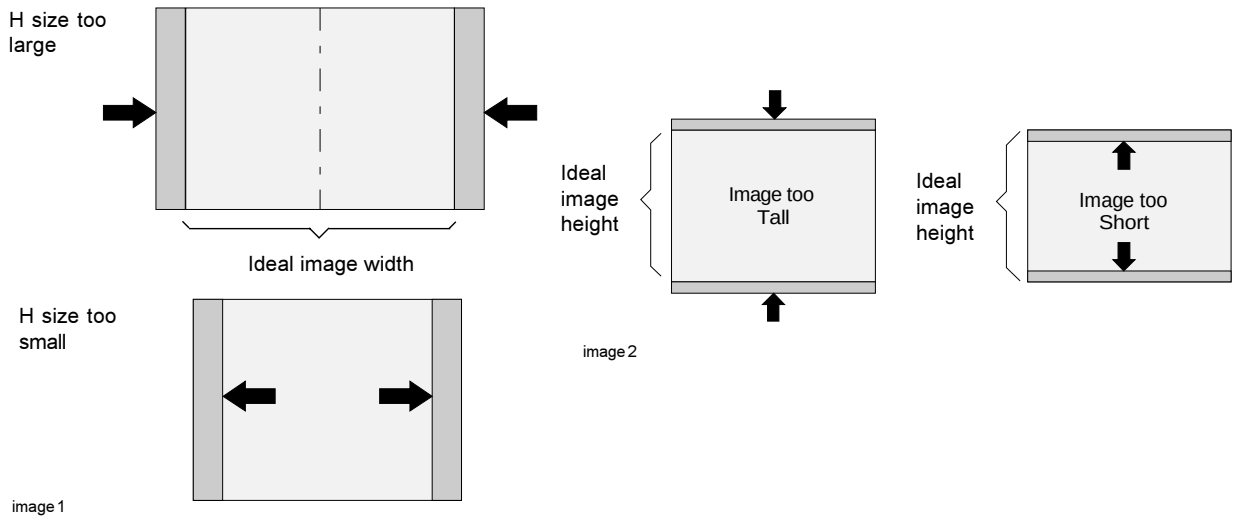


image 1

image 2

Hint

In order to avoid loss of resolution in the projected image and to ensure maximum CRT longevity, do not use an excessively small size setting.

Horizontal & Vertical Linearity Adjustment

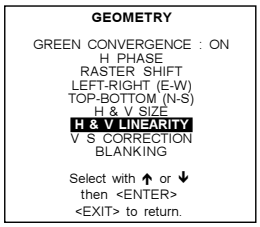
What can be done ?

The horizontal & vertical linearity adjustment functions correct for horizontal and vertical non-linearities which extend from the center of the imageto the left and right of the image or to the top and bottom of the image.

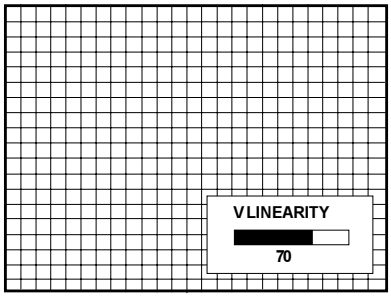
Start Up

To start up the vertical linearity adjustment :

1. push the cursor key ↑ or ↓ to highlight 'H & V Linearity' (menu 1).
2. press **ENTER** to activate (menu 2).
   Adjust the vertical linearity with the cursor key ↑ or ↓ until the distances between the horizontal lines of the set up pattern are equal from top to bottom and adjust the horizontal linearity with the cursor key ← or → until the distance between the vertical lines of the set up pattern are equal from left to right (image2).



menu 1



menu 2

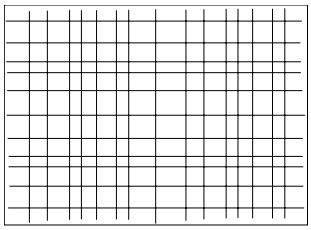


image 1

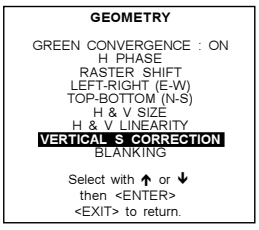
V S Correction

What can be done ?

The S distortion on top and bottom of the image can be adjusted with the vertical S correction.

Start Up

1. Push the cursor key ↑ or ↓ to highlight 'V S Correction' (menu 1).
2 Press **ENTER** to select.
   Adjust the distance between the horizontal lines in the upper part and lower part until the distances are equal. The mid line, top line and bottom line stay on its place. Use the cursor key ↑ or ↓ until the distance is correct. (image 1).



menu 1

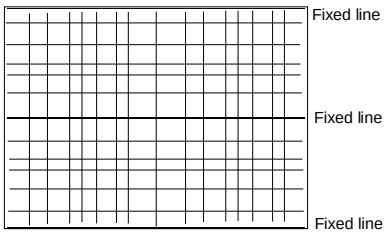


image 1

Blanking Adjustments

What can be done with Blanking ?

Blanking adjustments affect only the edges of the projected image and are used to frame the projected image on to the screen and to hide or black out unwanted information (or noise). A 0% on the bar scale indicates no blanking. The following blanking adjustment are available : Top, Bottom, left and right blanking.

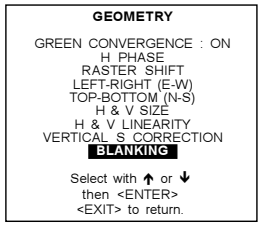
Start Up

To start up the Blanking adjustments, follow the next procedure :

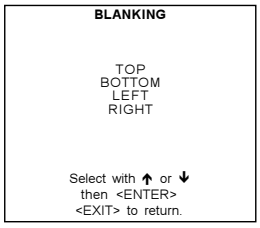
1. Push the cursor key ↑ or ↓ to highlight Blanking (menu 1).
2. Press **ENTER** to display the blanking menu (menu 2).

Therefore :

- If the internal # pattern was selected, this pattern remains on the screen.
- If the genlocked pattern was selected, the external source will be displayed.



menu 1



menu 2

How to adjust the Blanking ?

Adjust the next blanking alignments until the image is correctly framed or the unwanted information is blanked out (image 1).
To enter a blanking alignment :

1. Push the cursor key ↑ or ↓ to highlight the desired blanking position.
2. Press **ENTER** to select.
3. Press the cursor key ↑ or ↓ to adjust the blanking.
4. Press **ENTER** to continue.

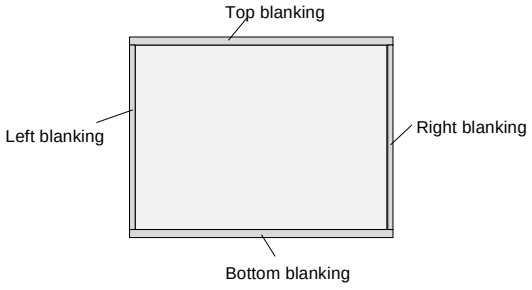
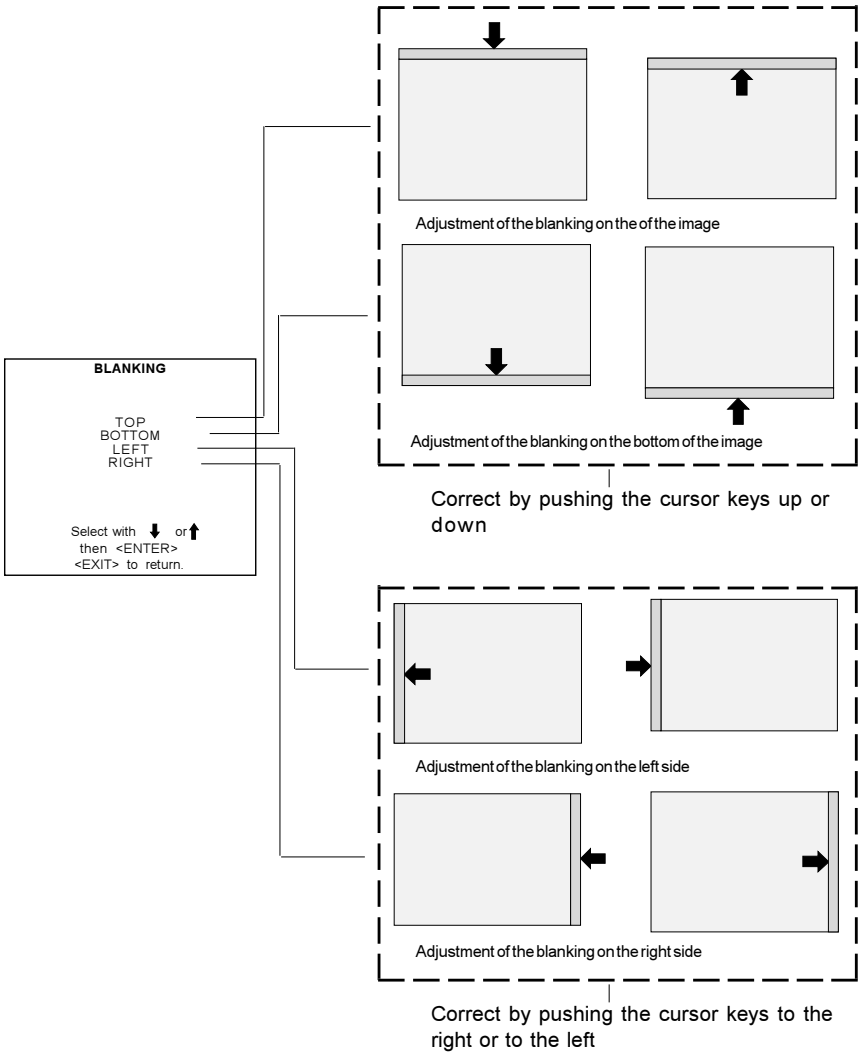


image 1


BLANKING
TOP
BOTTOM
LEFT
RIGHT
Select with ⬇ or ⬆
then <ENTER>
<EXIT> to return.
Adjustment of the blanking on the of the image
Adjustment of the blanking on the bottom of the image
Correct by pushing the cursor keys up or down
Adjustment of the blanking on the left side
Adjustment of the blanking on the right side
Correct by pushing the cursor keys to the right or to the left

Convergence Adjustment

What has to be done ?

Convergence adjustments affect both the horizontal and vertical lines of the setup pattern. These adjustments are performed on the green image first until these lines or straight and then on the red image while superimposed on the green image and on the blue image while superimposed on the green image. Adjust the red and blue until they exactly match the with the green lines. The screen is devided into 25 areas (image 1)

Adjustment order

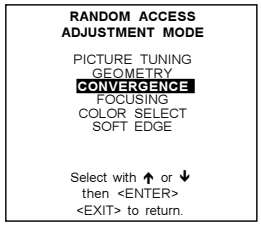
Adjust first the 'green only' and continue with red on green and blue on green.

Start up

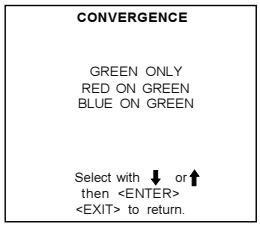
1. Push the cursor key ↑ or ↓ to select desired adjustment.
2. Press **ENTER** to activate.

How to adjust ?

1. Use the cursor keys to move the box to the desired zone.
2. Press **ENTER** to select this zone and to toggle the cursor keys to the adjustment mode.
   Start the convergence adjustment with zone one and continue as mentioned in the image 1.
3. Use the cursor keys to make horizontal or vertical convergence adjustments in the selected zone (image 2).
4. Press **ENTER** to finish convergence adjustment and to toggle the cursor keys to the selection mode.
5. Press **EXIT** to return to the convergence menu when the convergence for that item is finished.



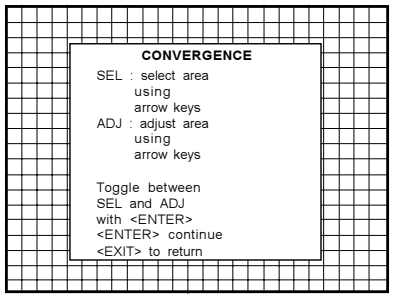
menu 1



menu 2

25	23	9	15	17
24	22	8	14	16
5	4	1	2	3
20	18	6	10	12
21	19	7	11	13

image 1



menu 3

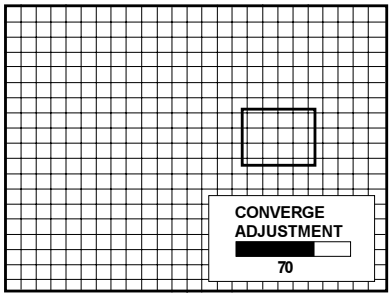


image 2

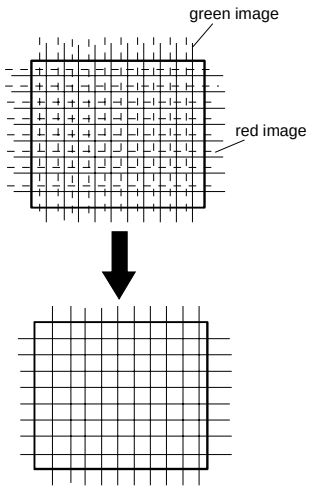


image 3

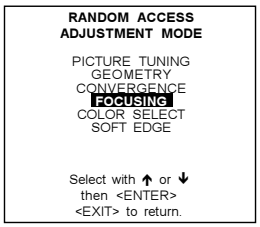
Focusing

What can be done ?

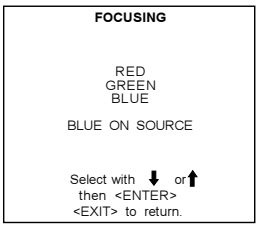
After the lenses are mechanically correct focused, the CRT's can be electromagnetic focused until the image is sharp on each point.

Start Up

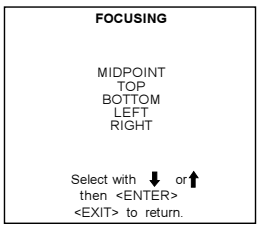
1. Push the cursor key ↑ or ↓ to highlight 'Focusing' (menu 1).
2. Press **ENTER** to display the focusing menu (menu 2).
   The focusing has to be done for the three colors separately.
   Start with Green and continue with Red and Blue.
   The following items can be adjusted per color (menu 3) :
   - Midpoint focusing
   - Top image focusing
   - Bottom image focusing
   - Left image focusing
   - Right image focusing



menu 1



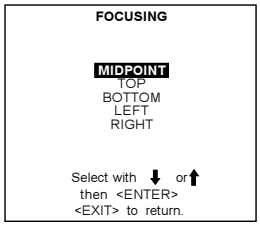
menu 2



menu 3

Midpoint Focusing

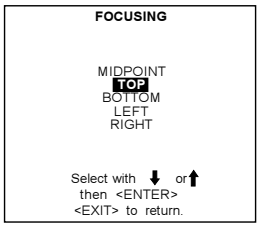
1. Push the cursor key ↑ or ↓ to highlight 'Midpoint' (menu 1).
2. Press ENTER to start up the midpoint focusing.
3. Push the cursor key ← or → until the center of the image is sharp.
4. Press ENTER to return to the focusing menu.



menu 1

Top Image Focusing

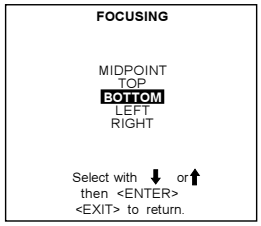
1. Push the cursor key ↑ or ↓ to highlight 'Top' (menu 1).
2. Press ENTER to start up the top image focusing.
3. Push the cursor key ← or → until the upper part of the image is sharp.
4. Press ENTER to return to the focusing menu.



menu 1

Bottom Image Focusing

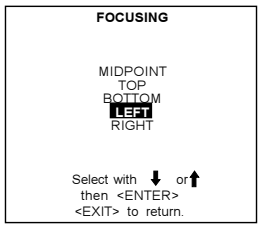
1. Push the cursor key ↑ or ↓ to highlight 'Bottom' (menu 1).
2. Press ENTER to start up the bottom image focusing.
3. Push the cursor key ← or → until the lower part of the image is sharp.
4. Press ENTER to return to the focusing menu.



menu 1

Left Image Focusing

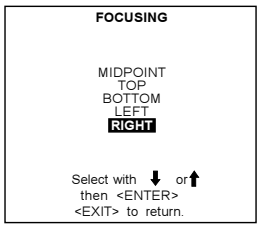
1. Push the cursor key ↑ or ↓ to highlight 'Left' (menu 1).
2. Press ENTER to start up the top image focusing.
3. Push the cursor key ← or → until the left part of the image is sharp.
4. Press ENTER to return to the focusing menu.



menu 1

Right Image Focusing

1. Push the cursor key ↑ or ↓ to highlight 'Right' (menu 1).
2. Press **ENTER** to start up the right image focusing.
3. Push the cursor key ← or → until the right part of the image is sharp.
4. Press **ENTER** to return to the focusing menu.



menu 1

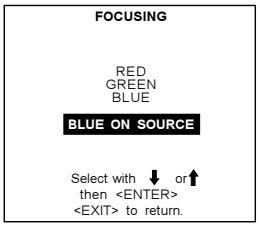
Blue on Source

What can be done ?

After focusing the three colors, and a discoloring on a normal image is still visible, select blue on source and repeat the steps Midpoint, Top, Bottom, Left and Right.

Start Up

1. Push the cursor key ↑ or ↓ to highlight 'Blue on Source' (menu 1).
2. Press **ENTER** to start up.
   Repeat the midpoint, top, bottom, left and right focusing.



menu 1

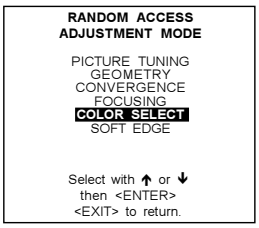
Color Select

What can be done ?

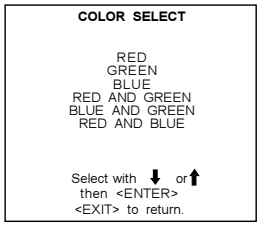
Only one color (CRT) or a combination of colors can be switched on to display the image.

Start Up

1. Push the cursor key ↑ or ↓ to highlight 'Color Select' (menu 1).
2. Press **ENTER** to display the color select menu (menu 2).
3. Select the desired color or color combination by pushing the cursor key ↑ or ↓ .
4. Press **ENTER** to select.
5. Exit returns to the color select menu.



menu 1



menu 2

Soft Edge Modulation

General information

Why soft edge modulation ?

Soft Edge is mandatory in all multi-channel projection displays where the highest image continuity and quality across different screens has to be ensured.

Soft Edge enables image edge blending that gives the appearance of a single view, thus achieving realistic immersion for the majority of simulation and virtual reality applications.

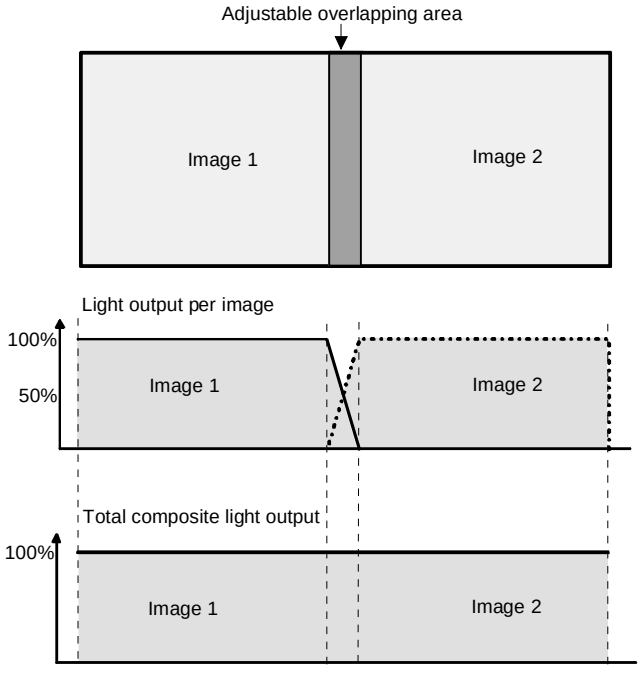
Picture with hard edge

Picture without soft edge modulation

Picture with BARCO's soft edge modulation

Basic Principle

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

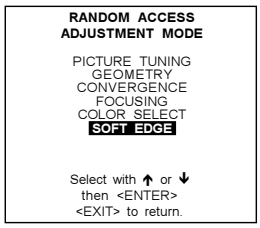


Recommendations

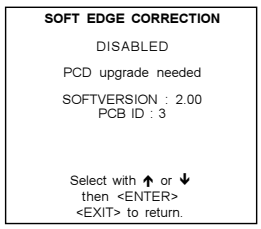
to ensure proper Soft Edge adjustment, be sure that the projector GEOMETRY is adjusted correctly. Also, adjust first the Contrast Modulation before proceeding to the Soft Edge.

Start Up

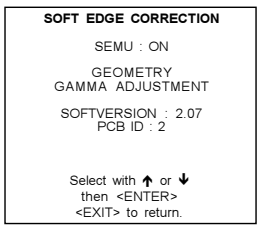
1. Push the cursor key ↑ or ↓ to highlight 'Soft Edge' (menu 1)
2. Press **ENTER** to select.
   The soft edge menu will be displayed (menu 2a or menu 2b).
   If the soft edge is disabled, menu 2a will be displayed, otherwise menu 2b will be displayed.
   If menu 2a is displayed, the line below 'DISABLED' explanes why the soft edge is disabled. Consult a BARCO service center to solve this problem.



menu 1



menu 2a



menu 2b

SEMU on/off

What can be done with SEMU on/off ?

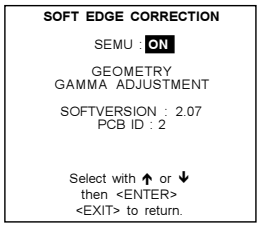
The soft edge modulation unit (SEMU) can be switched on or off. The SEMU on/off setting will be saved per source.

How to set the SEMU on/off for the actual source ?

1. Push the cursor key ↑ or ↓ to highlight 'SEMU : ON' (menu 1)
2. Press **ENTER** to toggle between ON (active) and OFF (non active).

Remark

When the SEMU is 'on', the text boxes will be displayed in the middle of the screen.
When toggling from off to on the system will recalculate the image.



menu 1

Soft Edge Geometry

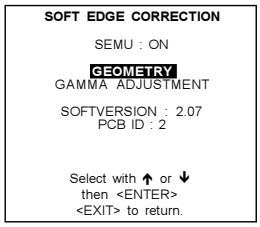
What can be set up ?

It is possible to set up the overlap area. The overlap area is determined by an adjustment pattern containing the start and stop position. Everything at the outside of the overlap area will be blanked out.

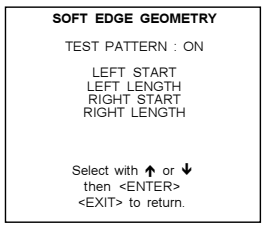
How to select the soft edge geometry

In case of 'SEMU:ON', handle as follow :

1. Push the cursor key ↑ or ↓ to highlight 'Geometry' (menu 1).
2. Press **ENTER** to select.
   The 'Soft Edge Geometry' menu will be displayed (menu 2).



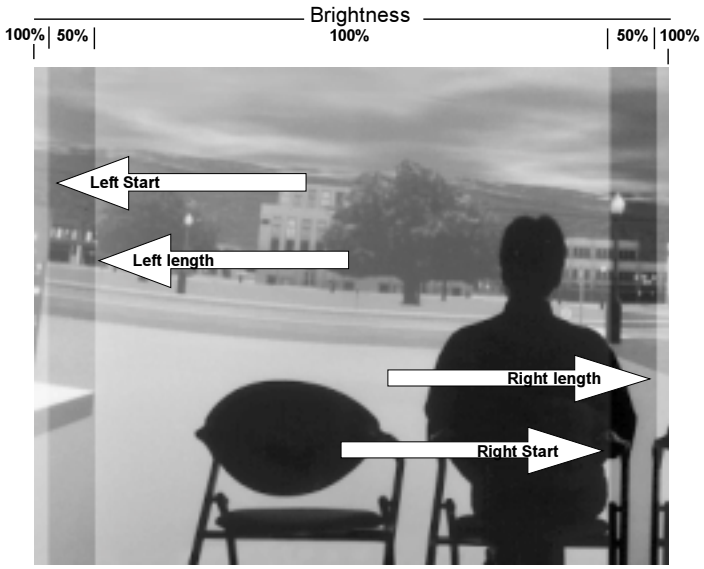
menu 1



menu 1

Test Pattern

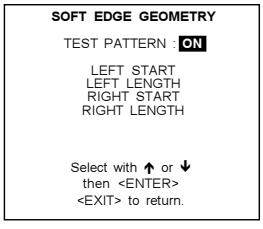
When the Test pattern is on, hard edges will be generated. The hard edges will be equal with the 50% light outline in the overlap area of the image (image 1).



Set up the test pattern

1 Push the cursor key ↑ or ↓ to highlight 'Test pattern' (menu 1)
2 Press **ENTER** to toggle between ON and OFF.

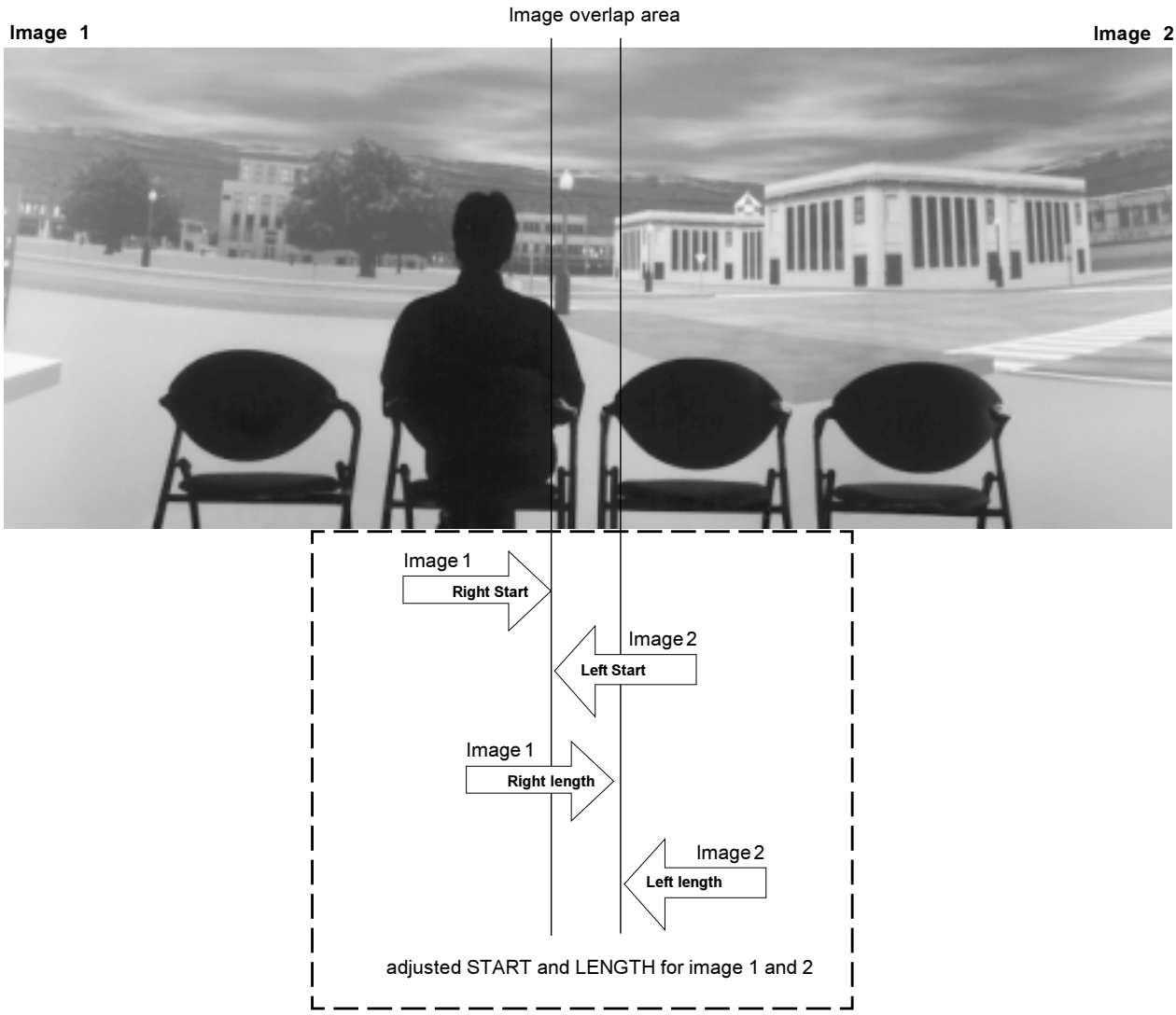
When the test pattern is 'on' and 'left start', left length', 'rigth start' or 'right length' adjustment is selected, the test pattern stays on. When leaving the soft edge geometry menu the test pattern will be switched 'off'.



menu 1

Set up of the overlap are.

Each overlap area (left and right) is determined by a START position and a LENGTH (area WIDTH) (image 1).



How to adjust the soft edge ?

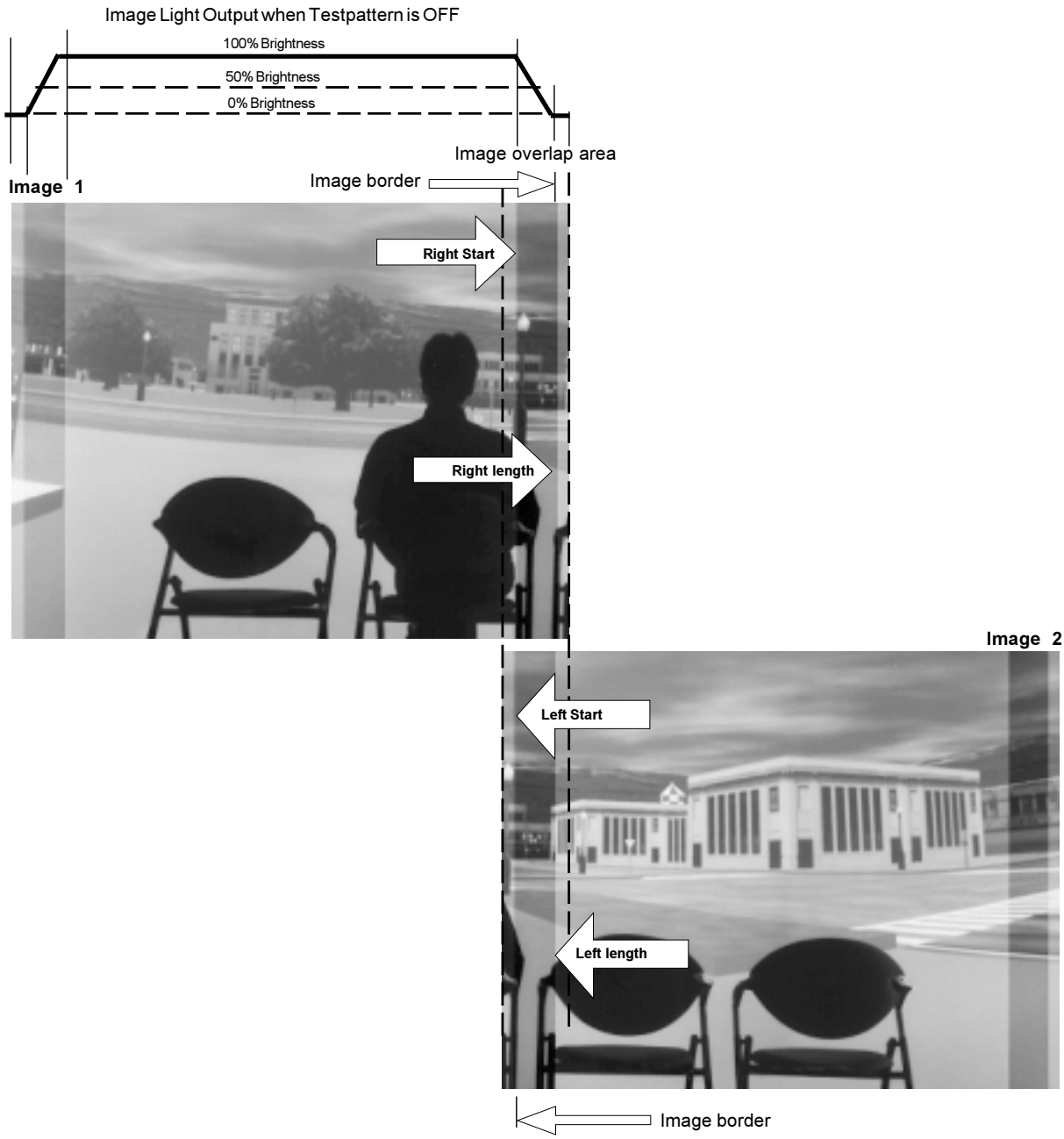
Start position: Image 2

1. Push the cursor key ↑ or ↓ to highlight 'Left Start'.
2. Press **ENTER** to select.
   Adjust the 'Left Start' position in Image 2 of the 50%Brightness stroke by pushing the cursor keys left or right to determine the image border. This image border is the Left start of the soft edge modulation area.

Note : when the Left start is not visible by the first image display, adjust with the cursor keys until the line becomes visible. Adjust then the Left start to the desired position with regard to image 1.

Width of the overlap area : image 2

1. Push the cursor key ↑ or ↓ to highlight 'Left Length'.
2. Press **ENTER** to select.
   Adjust the 'Left Length' , WIDTH of the 50%Brightness stroke, in Image 2 by pushing the cursor keys left or right. Adjust towards its desired position (=end of compiled overlap).



Start position: Image 1

1. Push the cursor key ↑ or ↓ to highlight 'Right Start'.
2. Press **ENTER** to select.
   Adjust the 'right Start' position in Image 1 of the 50%Brightness stroke by pushing the cursor keys left or right to the already adjusted Left Start of image 2.

Width of the overlap area : image 2

1. Push the cursor key ↑ or ↓ to highlight 'Right Length'.
2. Press **ENTER** to select.
   Adjust the 'Right Length' , WIDTH of the 50%Brightness stroke, in Image 1 by pushing the cursor keys left or right. Adjust until matches the 50% brightness stroke of image 2.

Note :

At the end of the Soft Edge adjustment, set TESTPATTERN again to OFF. The image overshoot, to left of the adjusted 50%Brightness stroke in image 2 and to the right of the adjusted 50%Brightness stroke in image 1 will be set to 0% Brightness.

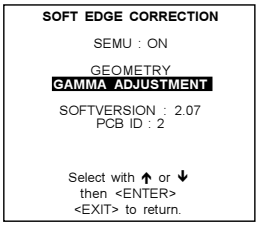
Gamma Correction

What can be done ?

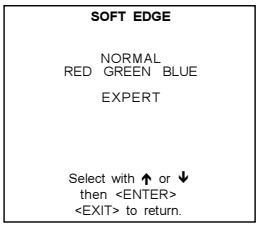
With the SEMU, one can optimize the gamma curves for night, dusk or day scenes.
The user can choose out of 7 Red, 7 Green and 7 Blue predefined gamma corrections curves and 1 Red, 1 Green and 1 Blue expert curve which can be adjusted by the user itself.

Gamma correction start up.

1 Push the cursor key ↑ or ↓ to highlight 'Gamma Adjustment' (menu 1).
2 Press **ENTER** to select.
The 'Soft Edge Gamma Adjustment' menu will be displayed (menu 2).



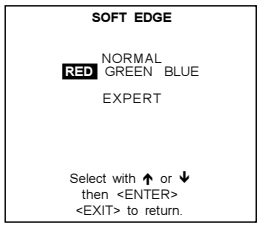
menu 1



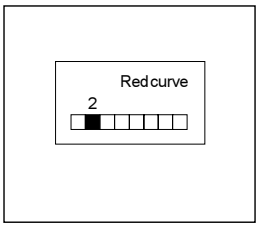
menu 2

Predefined Gamma Curves

To select a new curve for a color:
1 Use the cursor keys to highlight 'the respective color'(menu 1).
2 Press **ENTER** to select.
The curve selection box will be displayed (menu 2).
3 Select a new curve by pushing on the left or the right cursor key.
4 Press **ENTER** to select.
The system will recalculate the image. An hourglass will be displayed during the time the system is busy.



menu 1

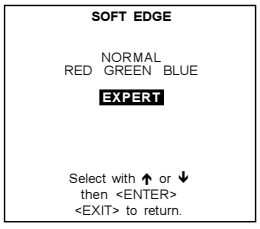


menu 2

Expert Gamma Curves

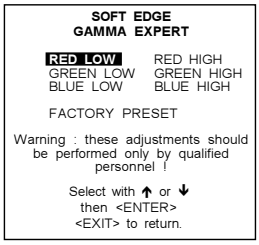
To select the expert gamma curve :

1 Push the cursor key ↑ or ↓ to highlight 'Expert' (menu 1).
2 Press **ENTER** to select.
The 'soft edge gamma expert' menu will be displayed (menu 2).
3 Select a new curve by pushing the left or the right cursor key.
Within this menu it is possible to adjust the low lights and the high lights for each color separately as well as returning the factory preset values.

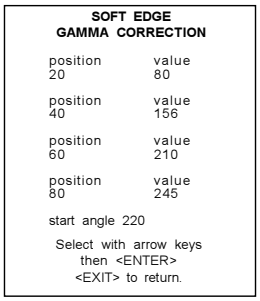


menu 1

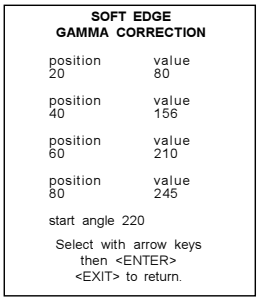
4 Select e.g. 'Red low' by pushing the control disc forward or backward (menu 3).
5 Press **ENTER** to select. The 'Soft Edge gamma Correction selection' menu will be displayed (menu 4).
6 Select a position on the gamma curve or a value or the start angle of the gamma curve (image 1).
7 Press **ENTER** to adjust (menu 5)
8 Change the position or the value by scrolling up or down with the control disc.
9 When set, press **ENTER** again to return to the selection menu and repeat the step 4 till 8.
10 When finished, press **EXIT** to return to the 'Soft Edge Gamma Expert' menu.
11 If necessary, repeat the above procedure for the other adjustments.



menu 3



menu 4



menu 5

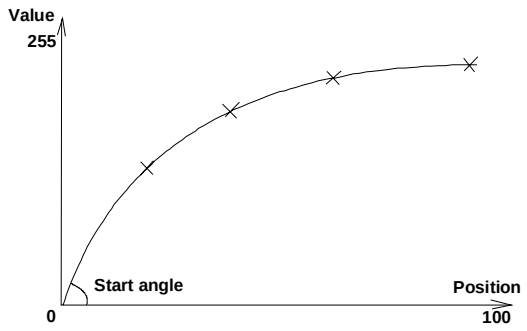


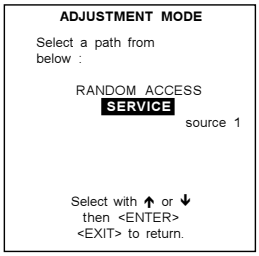
image 1

11 SERVICE MODE

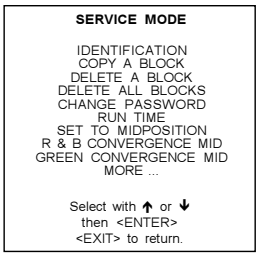
Service Adjustment mode.

Start Up

1. Push the cursor key ↑ or ↓ to select to SERVICE (menu 1).
2. Press **ENTER** to select.
   The service menu will be displayed (menu 2a or 2b).
   Some items in the Service mode are password protected (when the password function is active). Enter your password to continue.
   All other password protected items are now also available if you stay in the adjustment mode.



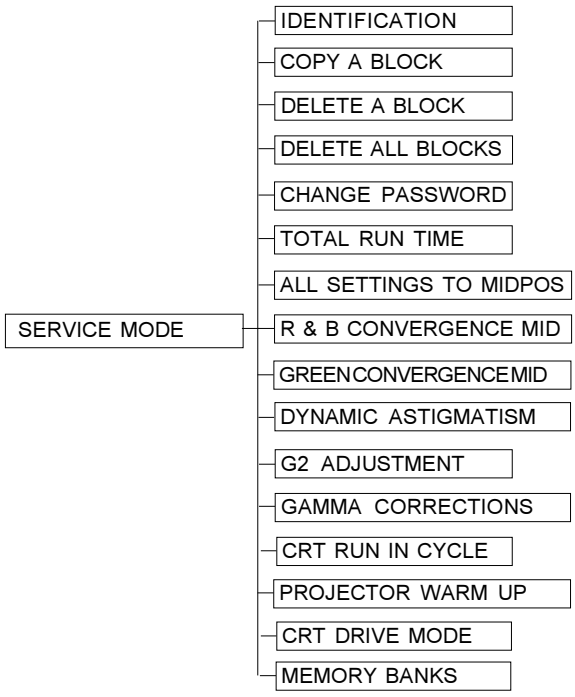
menu 1



menu 2a

menu 2b

Overview flowchart



Identification

What can be seen ?

The 'Identification' screen gives information concerning :

- Projector address. To change the address of your projector, contact a qualified service technician.

- Software version.

- Configuration.
  Possible installations :
  * Front-ceiling
  * Front-table
  * Rear-ceiling
  * Rear-table

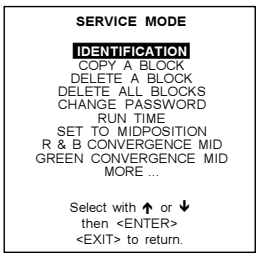
- Baud rate PC : transfer speed for communication with an IBM PC (or compatible) or MAC. The baud rate of the projector must be the same as the baud rate of the connected computer. When there is a difference, contact a qualified service technician to make the appropriate changes.

- Text ON/OFF
  Indicates in operational mode if the bar scale and number indicator will be displayed and if warnings and failures will be displayed.
  ON : displayed
  OFF : not displayed
  The status can be changed by pressing the 'TEXT' key once on the RCU.

- Serial no. : indicates the fabrication number of the projector. This number can be useful when calling for technical assistance.

How to start up ?

To select Identification :
1. Push the cursor key ↑ or ↓ to highlight Identification (menu 1).
2. Press **ENTER** to select.
   The identification screen will be displayed (menu 2).



menu 1

menu 2

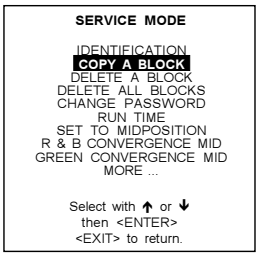
Copy a block

What can be done ?

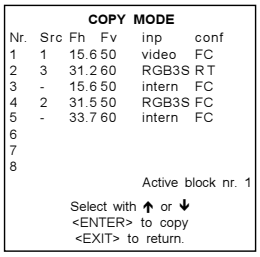
The copy a block function copies the settings of a selected block into the active block.

How to copy ?

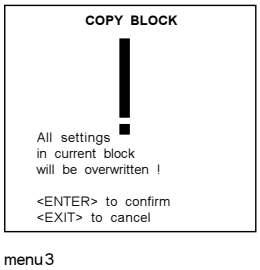
To copy a block :
1. Push the cursor key ↑ or ↓ to highlight 'Copy a Block' (menu 1).
2. Press **ENTER** to select.
   The copy menu will be displayed (menu 2).
   To copy the settings of a closed block to the block you are working on (active block),
3. Push the cursor key ↑ or ↓ to select a block.
4. Press **ENTER** to copy the selected block.
   All current settings will be overwritten with the settings of the block which is copied.
   A confirmation screen will be displayed (menu 3).
5. **ENTER** to confirm.
   EXIT cancels the copy procedure and returns without copying the block.



menu 1



menu 2



menu 3

Deletion of blocks

What can be done ?

The delete function is used to clear all data (settings) from an adjustment block.
A delete can be given :

- block by block

or

- for all blocks.

This item is password protected.

Deleting block by block

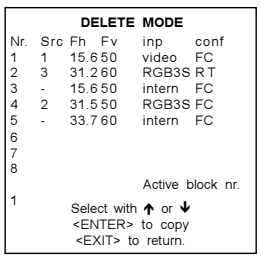
What can be done ?

The '*delete a block'* function deletes the settings of a selected block.

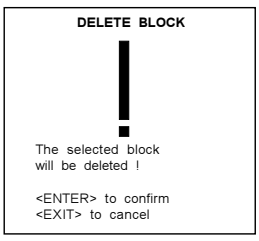
How to delete a Block ?

1. Push the cursor key ↑ or ↓ to highlight Delete a Block (menu 1).
2. Press **ENTER** to display the delete mode (menu 2).
3. Push the cursor key ↑ or ↓ to select the desired adjustment block.
4. Press **ENTER** to delete the selected adjustment block.
   A confirmation menu will be displayed (menu 3).
5. Press **ENTER** to confirm.
   Press **EXIT** to cancels the deletion procedure

menu 1



menu 2



menu 3

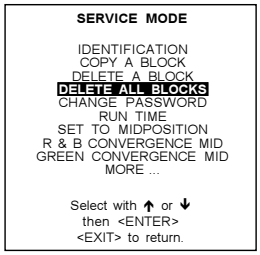
Deletion of all blocks

What can be done ?

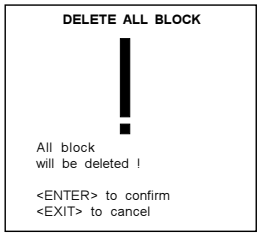
All block (all settings) can be delete at the same time.

How to delete all blocks ?

1. Push the cursor key ↑ or ↓ to highlight Delete all Blocks (menu 1).
2. Press **ENTER** to select.
   A confirmation screen will be displayed (menu 2).
3. Press **ENTER** to confirm
   Press **EXIT** to return without deleting any block.
   Once **ENTER** is pressed, all block headers and adjustment settings are permanently removed and cannot be restored.



menu 1



menu 2

Change password

What can be done ?

The password code (4 digits) can be changed to a new one.
This item is password protected. First the actual password should be entered before continuing.

Note

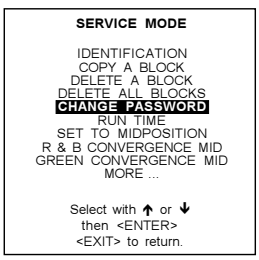
Password function is only active if the jumper on the controller is in the 'ON' position.

How to select ?

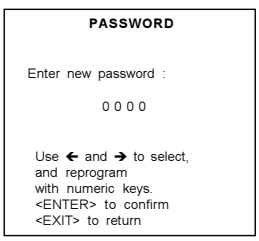
To select Change Password :
1. Push the cursor key ↑ or ↓ to highlight 'Change Password' (menu 1).
2. Press **ENTER** to display the password menu (menu 2).
   If it is the first time you enter a password protected item, enter your password and press **ENTER**.
   The current password is displayed. The new password must consist of 4 digits between 0 and 9.

How to enter a new password ?

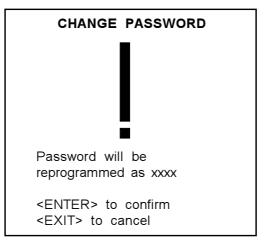
Handle as follow :
1. Push the cursor key ← or → to select the digits to be changed (menu 2).
2. Press a numeric keys to enter the new digit.
3. Repeat for the other digits.
4. Press **ENTER** to save the new password.
   Before saving the new password, a confirmation screen will be displayed (menu 3).
5. When the displayed password is correct, press **ENTER** to save.
6. If not correct, press **EXIT** to cancel the saving.



menu 1



menu 2



menu 3

Total Run Time

What can be displayed ?

The total run time since the first start up can be displayed.

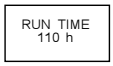
Note

All projectors leave the factory after a burn-in period of approximately 100 hours.

How to start up ?

To select Total Run Time :
1. Push the cursor key ↑ or ↓ to highlight Total Run Time (menu 1).
2. Press **ENTER** to activate.
   The amount of time the projector has played since its first start up at the factory will be displayed in a text box (men

menu 1



menu 2

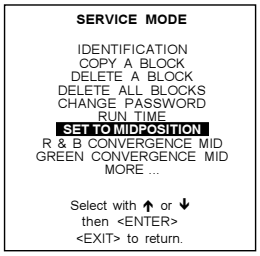
All settings to midposition

What can be done ?

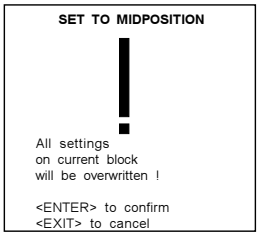
All adjustment settings (geometry and convergence) can be set to mid position.
Item is password protected.

How to set to midposition ?

1. Push the cursor key ↑ or ↓ to highlight All Settings to Midposition (menu 1).
2. Press **ENTER** to select.
   A confirmation menu will be displayed first (menu 2).
3. Press **ENTER** to confirm.
   Press **EXIT** to cancel the operation 'set all settings to their midposition'.



menu 1



menu 2

Undo all settings to midpos

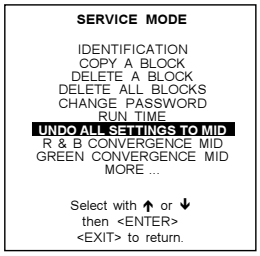
What can be done ?

'Undo all settings to Midposition' is displayed in the Memory management menu in stead off 'All settings to midposition' when this latter is pressed.

An undo is possible as long as the projector is running on the same source (= same adjustment block) even when some adjustments as geometry or convergence are already readjusted. When undo is presssed all settings are reset to the previous settings.

How to cancel 'Set to midposition' ?

When "All settings to midpos" is selected, all settings are set to their midposition. To cancel this action :
1. Push the cursor key ↑ or ↓ to highlight 'Undo all settings to midpos' (menu 1).
2. Press **ENTER** to cancel the set to midposition action.



menu 1

R & B Convergence mid

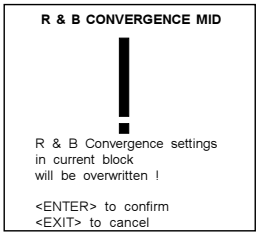
What can be done ?

All convergence settings for red and blue are set to midposition.
Item is password protected.

How to set convergence to midposition :

1. Push the cursor key ↑ or ↓ to highlight 'R & B Convergence Mid' (menu 1).
2. Press **ENTER** to select.
   A confirmation screen will be displayed first (menu 2).
3. Press **ENTER** to confirm.
   Press **EXIT** to cancel the procedure to set the R & B convergence settings to their midposition.

menu 1



menu 2

Undo R & B convergence mid

What can be done ?

When "R & B Convergence mid" is selected, all convergence settings are set to their midposition. With the undo, it is possible to return to the previous settings as long as the projector is playing on the same source (= same adjustment block).
'Undo R & B convergence mid' is displayed in the service menu in stead off 'R & B Convergence mid' when this latter is pressed.

How to Undo ?

1. Push the cursor key ↑ or ↓ to highlight 'Undo R & B convergence mid' (menu 1).
2. Press **ENTER** to execute the undo function.

menu1

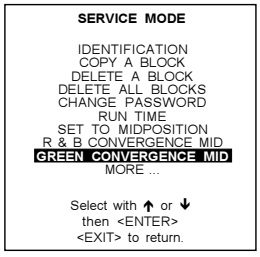
Green Convergence Mid

What can be done ?

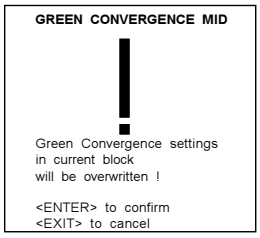
All convergence settings for green are set to midposition.
Item is password protected.

How to set green convergence to midposition :

1. Push the cursor key ↑ or ↓ to highlight 'Green Convergence Mid' (menu 1).
2. Press **ENTER** to select.
   A confirmation screen will be displayed first (menu 2).
3. Press **ENTER** to confirm.
   Press **EXIT** to cancel the procedure to set the Green convergence settings to their midposition.



menu1



menu2

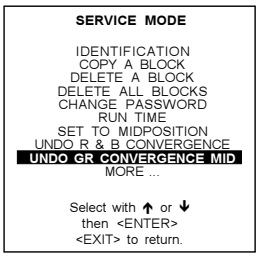
Undo Green Convergence Midposition

What can be done ?

When "Green Convergence mid" is selected, all convergence settings are set to their midposition. With the undo, it is possible to return to the previous settings as long as the projector is playing on the same source (= same adjustment block).
'Undo Green convergence mid' is displayed in the service menu in stead off 'Green Convergence mid' when this latter is pressed.

How to Undo ?

1. Push the cursor key ↑ or ↓ to highlight 'Undo Green convergence mid' (menu 1).
2. Press **ENTER** to execute the undo function.



menu1

Dynamic Astigmatism

What can be done ?

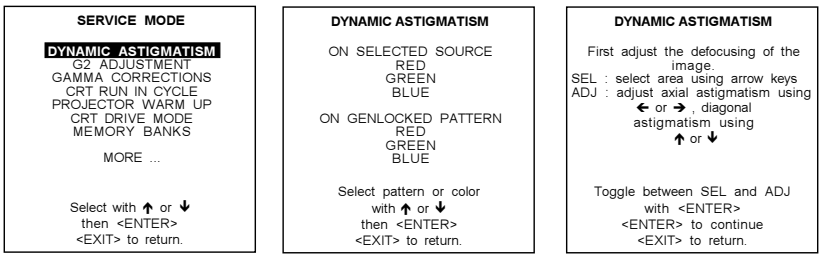
The spot shape can be adjusted in 8 different areas on the screen and that for the three colors separately. The spot shape can be adjusted according the axial axises and the diagnonal axis.

Note

Spot shape adjustment has to be done on a dot pattern (e.g. the internally generated pattern) with standard line frequency (15 kHz). The adjustment values are stored and remain the same for all other frequencies.

Start Up

1. Push the cursor key ↑ or ↓ to highlight 'Dynamic Astigmatism' (menu 1).
2. Press **ENTER** to select the dynamic astigmatism menu (menu 2).
3. Select the source type, selected source or genlock pattern by highlighting the color for which the spot shape has to be corrected.
4. Press **ENTER** to select the selected color, the area selection menu will be displayed (menu 3).
   SEL : select the adjustment area on the screen where the spot shape has to be corrected.
   ADJ : adjust the spot shape in the axial or diagonal direction.
5. Press **ENTER** to continue.
   Increase the contrast level using the Contrast Control to near maximum. Using that "+" sharpness key, defocus the image until the dots are large and easily visible.
6. Use the cursor keys to select one of the 8 adjustment areas (menu 4). Press **ENTER** to toggle to adjustment mode.
7. Use the cursor keys to adjust the shape (image 1).
   Use the ↑ or ↓ cursor keys to adjust the diagonal astigmatism and use the ← or → cursor key to adjust the axial astigmatism.
   Press **ENTER** to return to selection area mode.
8. Press **EXIT** to return to the service mode menu.



menu1 menu2 menu3

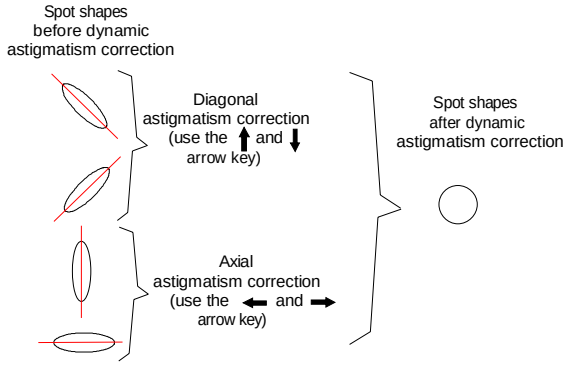


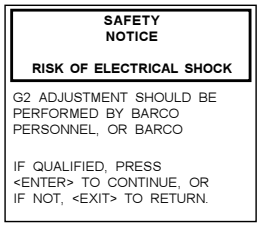
image 1

G2 Adjustment

G2 Warning

'G2 adjustment should be performed by BARCO personnel, or BARCO authorized dealers'.
If you are qualified, press ENTER to continue. If not qualified, press EXIT to return to the Common settings menu. Further description of the G2 adjustment is given in the Installation manual.
Item is password protected.
When selecting G2 adjustment (menu 1), a safety notice will be displayed on the screen (menu 2).

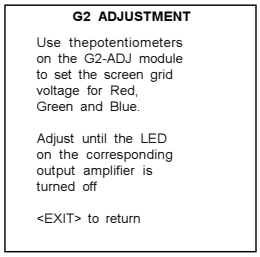
menu 1



menu 2

Starting up the G2 Adjustment mode.

When entering the G2 adjustment mode, menu 3 will be displayed.



menu 3

How to adjust the G2 ?

1. Open the left service panel (see Mechanical Set Up).
2. Open the metal protection cover by turning out the retaining screws on both sides.
   A green LED is mounted on each of CRT sockets.

When selecting the G2 adjustment menu, these green LEDs must be out. If not, follow the procedure below to adjust the G2:

3. Adjust the G2 potentiometers very slowly with a plastic tweaker until the LED of the corresponding amplifier just stops illuminating. Repeat the adjustment for the other colors;
4. After the three G2 potentiometers have been correctly adjusted, close the metal covers and secure with the retaining screws.

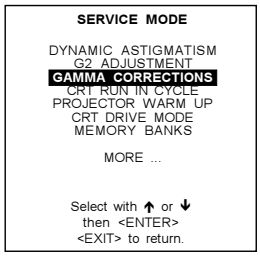
Gamma Corrections

Warning

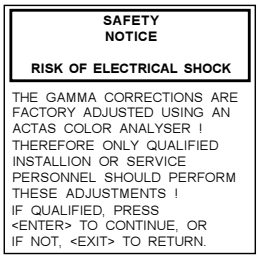
The Gamma Corrections are factory adjusted using an ACTAS colour analyser !
Therefore, only qualified installation or service personnel should perform these adjustments !

Start Up of the Gamma Corrections.

1. Push the cursor key ↑ or ↓ to highlight 'Gamma Corrections' (menu 1)
   A Safety Warning will be displayed (image 2).
   If you are qualified, press ENTER to continue. If not qualified, press EXIT to return to the service mode menu.
   Item is password protected.



menu 1



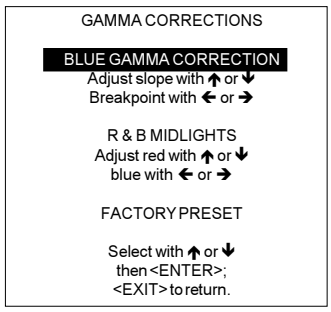
menu 2

How to adjust ?

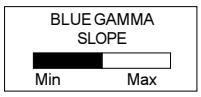
Three items can be selected inside the "Gamma Corrections" menu: the Blue Gamma Correction, the R & B midlights and the factory preset.

Blue Gamma Correction

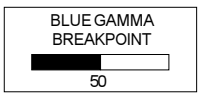
1 Push the cursor keys ↑ or ↓ to highlight the item *BLUE GAMMA CORRECTION* in the menu (menu 1).
2 Press **ENTER**.
If **EXIT** is pressed, the projector will return to the *Service* menu.
After **ENTER** is pressed, a text box with the message, "Adjust with arrow key", will be displayed on the screen.
3 Push the cursor keys ↑ or ↓ to adjust the slope, a text box with a bar scale (Min to Max) will be displayed to visualize the magnitude of the correction (menu 2).
4 Push the cursor keys → or ← to adjust the breakpoint, a text box with a numeric bar scale (0-99) will be displayed to visualize the magnitude of the correction (menu 3).
5 Press **ENTER** to return to the "Gamma Corrections" menu.



menu 1



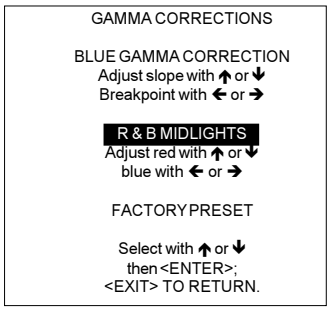
menu 2



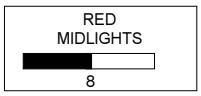
menu 3

Red and Blue Midlights Correction

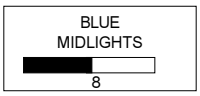
1 Push the cursor keys ↑ or ↓ to highlight the item *R & B MIDLIGHTS* in the menu (menu 1).
2 Press **ENTER**.
If **EXIT** is pressed, the projector will return to the *Service* menu.
After **ENTER** is pressed, a text box with the message "Adjust with arrow key", will be displayed on the screen.
3 Push the cursor keys ↑ or ↓ to adjust the Red Midlights, a text box with a bar scale (0-16) will be displayed to visualize the magnitude of the correction (menu 2).
4 Push the cursor keys → or ← to adjust the Blue Midlights, a text box with a bar scale (0-16) will be displayed to visualize the magnitude of the correction (menu 3).
5 Press ENTER to return to the "Gamma Corrections" menu.



menu 1



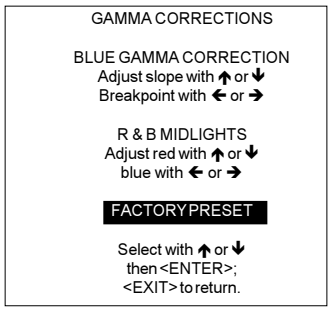
menu 2



menu 3

Back to the factory preset values

1 Push the cursor keys ↑ or ↓ to highlight the item *FACTORY PRESET* in the menu (menu 1)
2 Press **ENTER**.
3 Press **EXIT** to return to the *Service* menu.



menu 1

CRT run in cycle

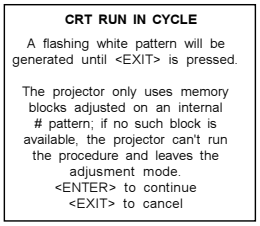
What can be done ?

Only necessary when a new picture tube is installed.
The CRT run in cycle option can only be activated when memory blocks on an internal # pattern are available. When one or more such blocks are available, a flashing white image (5sec on, 5 sec off) is generated and that for 5 min on the first internal block. In the next 5 min, a second internal block will be used to generate the flashing white image. The image will also be shifted in a vertical way to prevent a CRT burn in. To quit the CRT run in cycle option, press EXIT.

How to select CRT run in cycle ?

1. Push the cursor key ↑ or ↓ to highlight 'CRT run in Cycle' (menu 1).
2. Press **ENTER** to start up.
   If a memory block adjusted on an internal # pattern is available, the CRT run in cycle will start. If no such a block is available, the projector cannot run the CRT run in option and leaves the adjustment mode.
   If you still want to run CRT run in cycle, create first a memory block on an internal # pattern and restart the CRT run in option.

menu 1



menu 2

Projector warm up

What can be done ?

When in the ON position (and the CRT run in cycle is OFF), the projector can start up with a warm up periode of 20 minutes. During the start up a warm up menu will be displayed. This menu offers the possibility to skip the warm up periode anyway by pressing the **EXIT** key and offers the possibility to adjust the horizontal and vertical amplitude of this white image with the control disc. During this warm up period, a full white image is shifted on the CRT faceplate to avoid a burn in.
Every 30 seconds a text box will be displayed on another place on the screen with the remaining time to go.
When **EXIT** is pressed during this warm up periode, the warm up menu will be redisplayed with the remaining time indication. Press another time **EXIT** to interrupt the warm up cycle.
When the warm up option is OFF, when switching on the projector, it starts immediately with the projection of the selected source.

How to select ?

1. Push the cursor key ↑ or ↓ to highlight 'Projector Warm up' (menu 1).
2. Press **ENTER** to select.
   The projector warm up menu will be displayed (menu 1).
3. Press **ENTER** to toggle the ON/OFF option.

menu 1

menu 2

CRT Drive Mode

What can be done ?

The projector CRT's can be driven with the normal current (normal mode), a lower current (economic mode) or with a higher current (boost mode).

What is available ?

- normal
- economic : lower drive current to the CRT's, the lifetime of CRT's will enlarge but the ligth output will reduce.
- tempory boost : higher drive current to the CRT's, the lifetime of the CRT's will shorten but the light output will be higher. This situation is tempory. When restarting the projector, the drive mode is automatically set to normal.
- permanent boost : higher drive current to the CRT's, the lifetime of the CRT's will shorten but the light output will be higher. This setting will be saved. When restarting the projector, it will start up in boost mode.

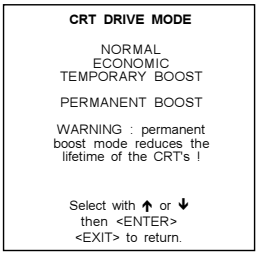
Warning

A 'permanent boost mode in use warning' will be displayed when starting up and also when text on everytime a new source is selected (menu 3).

How to change the drive mode ?

1. Push the cursor key ↑ or ↓ to highlight 'CRT drive mode' (menu 1).
2. Press **ENTER** to display the CRT drive mode menu (menu 2).
3. Push the cursor key ↑ or ↓ to highlight desired mode (menu 2).
4. Press ENTER to select.

menu 1



menu 2

menu 3

Memory banks

What can be done ?

The user has the possibility to create 8 different memory banks (formats) for each source. But, the maximum allowed quantity of menory banks for all sources together is 32.
The option to create different memory banks for the same source can be switched ON or OFF.

How to select Memory Banks ?

1. Push the cursor key ↑ or ↓ to highlight 'Memory Banks' (menu 1).
2. Press **ENTER** to toggle between ON and OFF.
   ON : different memory banks available.
   OFF : only one memory bank available.
   If different memory banks are available for a source and the memory bank option is toggled to OFF, only the first memory bank will be used to display the source.

How to create a new memory bank ?

1. Select your source. The projector selects the last used memory bank.
2. Press **ENTER**
3. Push the corresponding digit (between 1 and 8) of a non existing memory bank. (The memory banks can be created in random order, e.g. first creating bank 5 and later bank 2.)
4. Make the necessary adjustments. When leaving the source, the new created memory bank will be saved for later use.

Example : When source 1, video 15.6 kHz /60Hz is create on bank 4 and the vertical frequency changes to 50Hz, the projector will create a new block (due to the vertical frequency change) with the same bank number 4.

How to recall a specific memorybank for the actual source ?

When the memory bank option is ON and a source is selected, this source will be displayed with the last used memory bank settings. An on-screen menu will give a indication of the memory bank nummer used. To switch to another memory bank :
1. Press **ENTER** to select the next memory bank in increasing order.
or
2. Enter the number of the desired memory bank with the digit keys.

menu 1

menu 2