

SIM2 *Grand Cinema* HT

*User and installation manual
Home theater projector*

C3X-LINK



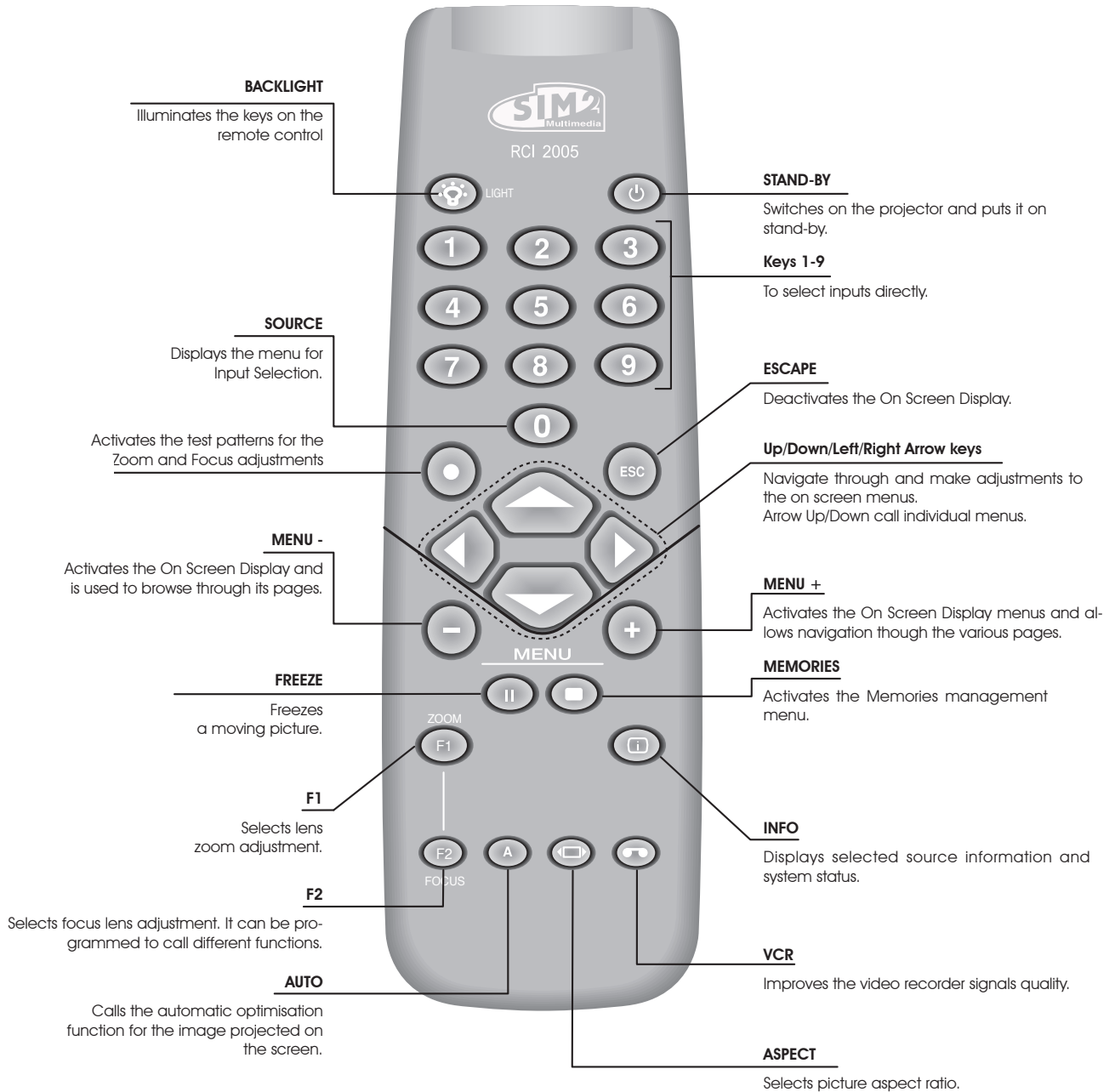
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INDEX

REMOTE CONTROL	3	13 ADDITIONAL INFORMATION	32
1 INTRODUCTION	4	- Projection distance	32
2 IMPORTANT SAFETY INSTRUCTIONS	5	- Projector	32
3 UNPACKING	9	- Optic	32
4 INSTALLATION	11	- Electronics	33
- Positioning the two units	11	- General projector	33
- Positioning the Digiopic Image Processor	11	- Digiopic Image Processor	33
- Positioning the projector	11	- Electronics	33
- Connecting the two units	11	- General Digimage Image Processor	34
- Connecting the video sources	13	- Link cable	34
- Video	13	- Dimensions	34
- S-Video	13	- Projectors	34
- Componenti / RGB	13	- Digiopic Image Processor	34
- Graphics RGB	14	- On screen menu layout	35
- Dvi-D	14		
- HDMI	14		
- Control (RS232)	14		
5 CONNECTIONS PANEL	15		
6 KEYPAD	16		
7 REMOTE CONTROL	16		
8 SWITCHING ON AND OFF	17		
9 ON SCREEN MENU	19		
- Inputs	19		
- Main menu	20		
- Picture	20		
- Image	22		
- Setup	24		
- Menù	26		
- Memories	28		
- Quick menu	29		
- Messages	29		
10 CLEANING AND MAINTENANCE	30		
11 TROUBLESHOOTING GUIDE	30		
12 OPTIONAL ACCESSORIES	31		





1 INTRODUCTION

The C3X-LINK system combines the signal processing capabilities of the DigiOptic™ Image Processor with the high fidelity reproduction of the DLP™ technology Projector by linking the two units via a fibre optic cable.

The DigiOptic™ Image Processor, which should be ideally located close to the signal sources, supports and processes a wide range of video signals, transmitting them to the Projector by means of a fibre optic link cable.

Transmission occurs without interference or attenuation over distances of up to 500 metres. Moreover, the flexibility and small size of the cable allow easily installing the system in your home.

The large number of inputs available (2 Composite Video inputs, 2 S-Video inputs, up to 4 Component or RGB inputs, 2 graphic RGB inputs, 1 DVI-D input and 1 HDMI™ - HDCP input) ensures the system supports a wide variety of analog and digital sources: DVD players, VCRs, satellite and terrestrial receivers, computers, game consoles, video cameras, etc.

The signal processing capabilities of the Image Processor ensure optimum reproduction of a broad range of input signals, from interlaced video to high definition and graphics.

Conversion of interlaced video signals to progressive signals by means of DCDi™ technology produces fluid, natural, images free of flicker and stairstepping artefacts.

Faithful reproduction of signals at higher resolutions (such as high definition video and graphics) occurs without loss of information or reduction of image sharpness thanks to the processor's high pixel rate signal acquisition capabilities.

Adaptation of the input signal resolution to the Projector reso-

lution occurs without alterations of image quality, in accordance with an ample choice of aspect ratios, including several definable by the user.

All image adjustments can be performed with the remote control with the aid of the *On Screen Display*; alternatively, the unit can be controlled by from a home automation system through the serial port.

Thanks to the new optical system based on three DMD™ chips (each with a resolution of 1280x720 pixels), the C3X-LINK enables making full use of the Texas Instruments DLP™ technology. Each of the three DMD™ is dedicated to modulating one of the primary colours from an optical prism.

The light reflected by the three DMD devices is recombined by a second prism before being projected outside by an appropriate set of lenses.

Using three DMD™ devices makes it possible to obtain images without the rainbow effect or any artefacts, making it possible to use natural colours and images that are more realistic than ever.

The appliance has been subjected to exhaustive operating tests by SIM2 to ensure maximum quality. The lifetime of the lamp can therefore initially be approximately 30-60 hours.

Besides the usual checks, the Quality Control department also runs additional statistical tests before despatch.

In this instance the packaging may show signs of having been opened, and the hours operation of the lamp may be higher than the value required under customary procedures.



DLP and DMD are registered trademarks of Texas Instruments. DigiOptic is a registered trademark of SIM2. HDMI, the HDMI logo and the expression High-Definition Multimedia Interface are trade marks or registered marks of HDMI licensing LLC. HD Ready is a registered trademark of EICTA.

2 IMPORTANT SAFETY INSTRUCTIONS



This symbol indicates the possible electric shock hazard associated with uninsulated live components in the interior of the unit.



This symbol indicates the presence of important instructions regarding use and maintenance of the product.

WARNING

To reduce the risk of electric shock, disconnect the power supply cable on the rear panel before removing the top cover of the projector. For technical assistance refer to trained personnel authorised by the manufacturer.

LAMP WARNING

If the lamp should suddenly burst with a loud bang, air the room thoroughly before using it. Do not change the lamp: seek qualified technical assistance from your nearest Dealer.

WARNING HOT SURFACES

To reduce the risk of getting burnt due to the heat generated by the lamp, it is recommended to wait a suitable length of time for cooling before handling the external parts of the projector. The same warning is given on a removable adhesive affixed on the projector.

ENVIRONMENTAL INFORMATION

The product you have purchased contains materials obtained from natural resources used in the process of construction. This product could contain substances considered to be hazardous for the environment and health. In order to prevent harmful substances from getting into the environment and to increase the use of natural substances, SIM2 Multimedia provides the following information on the disposal and recycling of the materials when the product is being decommissioned. The waste of electric and electronic devices (WEE) must never be put into ordinary dustbins for urban waste (residential waste collection). The label affixed on the product, shown here alongside, with the symbol of a barred wastebin is a reminder to deal with the product appropriately at the end of its useful life.

Substances such as glass, plastic and some chemical compounds can largely be recovered, recycled and reused. You can make your contribution to the environment by following these simple rules:

1. When your electric or electronic device is no longer useful for you, take it to your local waste disposal centre so the product can be recycled.
2. Your product can be returned to your dealer free of charge when you purchase an equivalent appliance or one that performs the same functions. Call SIM2 Multimedia to locate your nearest dealer.
3. If you need any further assistance as regards recycling, reusing or changing the product, you can contact our customer service on the phone number given in the user manual and we will be glad to help you.

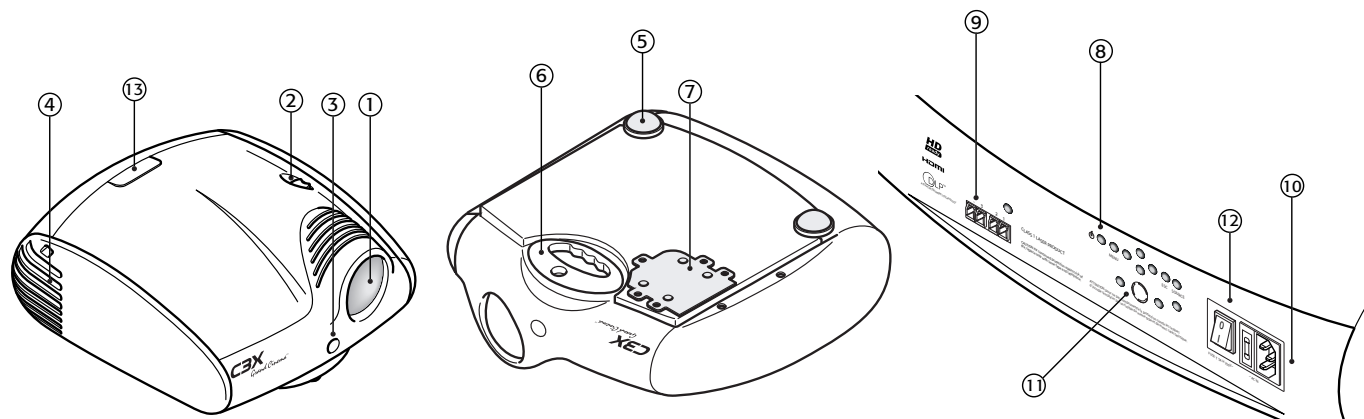
Lastly, we would like to suggest some more precautions to protect the environment such as recycling the internal and external packing (including the packing used for shipment) with which this product was delivered. With your help we can reduce the quantity of environmental resources required to construct the electric and electronic devices, reduce the use of landfills for used products and, in general, improve the quality of life making sure that potentially dangerous substances do not get dumped in the environment but are correctly disposed of.

Incorrect product management at the end of its life and disposal not in conformity with the above makes the user liable to prosecution under the relevant national law and regulations.



Read all chapters of this manual carefully before switching on the projector. This manual provides basic instructions for using the C3X system. Installation, preliminary adjustments and procedures that necessitate opening the units and touching electrical components must be carried out by authorised, trained technicians. To ensure safe and long term reliability use exclusively the power cables supplied by the manufacturer. Observe all warnings and cautions.

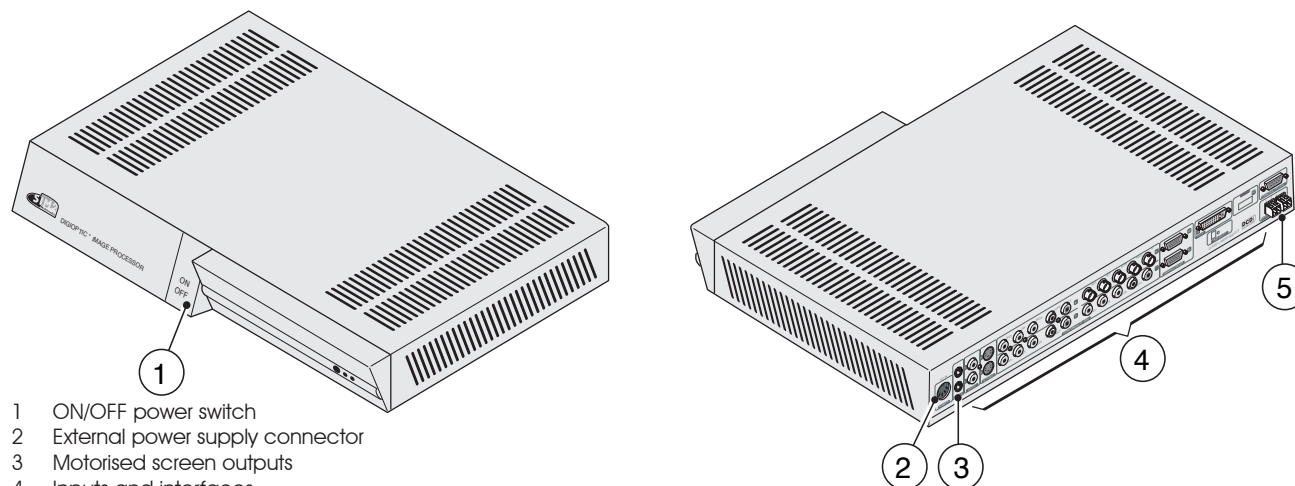
PROJECTOR



- 1 Projection lens.
- 2 Cooling air inlet vents.
- 3 Remote control infrared sensor at the front.
- 4 Cooling air inlet vents.
- 5 Adjustable levelling feet.
- 6 Carry handle.

- 7 Lamp compartment.
- 8 Control keypad.
- 9 Fibre optic cable connectors.
- 10 Fused power socket.
- 11 Rear check LEDs.
- 12 Main power switch.
- 13 Backlit control logo.

DIGIOPTIC™ IMAGE PROCESSOR



- 1 ON/OFF power switch
- 2 External power supply connector
- 3 Motorised screen outputs
- 4 Inputs and interfaces
- 5 Fibre optic cable connectors

- **Read this manual and keep it safe**

This manual contains important information on how to install and use this equipment correctly. Before using the equipment, read the safety prescriptions and instructions carefully. Keep the manual for future consultation.

- **Do not touch internal parts of the units.**

The units contain electrical parts carrying high voltages and operating at high temperatures. Do not remove the cover from the units, refer to qualified service personnel for all repair and maintenance requirements. The warranty will be automatically invalidated if the cover is removed from the units.

- **Disconnecting the appliance from the power supply.**

The device for disconnecting the units from the mains power supply is constituted by the power cable plug. Ensure that the power cable plugs and the electrical mains socket outlets are easily accessible during installation operations. To disconnect the units from the electric power supply, pull the plug to remove it from the socket outlet. Do not pull the power cable.

- **Connect the appliance only to the type of power supply indicated**

Connect the units to a mains electrical supply with rated voltage of between 100-240 VAC, 50/60 Hz and equipped with a protective earth connection. If you are unsure of the type of mains power supply in your home, consult a qualified electrician. Ensure that the power draw of the units is commensurate with the rating of the electrical socket outlets and any extension cables that are used. For the DigiOptic™ Image Processor use exclusively the power supply unit provided or an alternative power supply unit expressly approved by SIM2.

- **Connection of the units to the mains power supply.**

Make the connection as shown in Fig. 1.

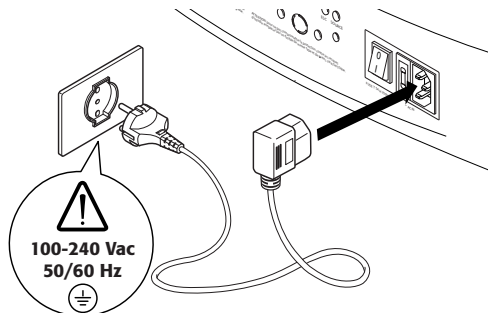


Fig. 1

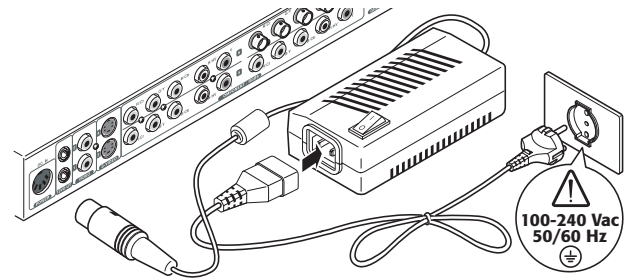


Fig. 2

- **Changing the fuses.**

Before changing the fuse disconnect the unit from the mains power supply.

The fuse compartment is near to the mains power connector (Fig. 3). Remove fuse carrier (2) with the aid of a flat blade screwdriver, then change fuse (3). Insert a new spare fuse (4). Use only T 5A H fuses.

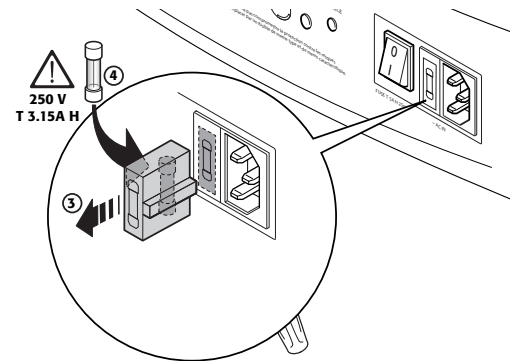


Fig. 3

- **Be careful with cables.**

Arrange cables in such a way that they will not cause any obstruction.

Keep cables out of the reach of small children.

Install the units as close as possible to the wall electrical socket outlet. Do not tread on the power cables, make sure that they are not tangled or pulled; do not expose the power cables to heat sources; make sure that the power cables do not become knotted or kinked. If the power cables become damaged, stop using the system and request the assistance of an authorised technician.

- **Disconnect the unit from the mains power supply in the event of electrical storms and when not in use.**
To avoid damage that could be caused by lightning striking in the vicinity of your home, disconnect the units in the event of electrical storms or when the system will remain unused for prolonged periods.
- **Avoid contact with liquids and exposure to damp.**
Do not use the units near water (sinks, tanks, etc.); do not place objects containing liquids on top of or near the units and do not expose them to rain, humidity, dripping water or spray; do not use water or liquid detergents to clean the units.
- **Prevent the units from overheating.**
In order to permit adequate cooling, leave a gap of at least 40 cm at the back of the Projector.
Do not obstruct ventilation openings.
Do not place the units near heat sources such as heaters, radiators or other devices that generate heat (including amplifiers).
Do not position the units in confined places (bookcase, shelves, etc.) and, in general, avoid putting the devices in poorly ventilated places where there would be insufficient cooling.
- **Never look directly at the projection lamp.**
Never look directly at the lens when the projector is on since the bright light could damage your sight. In this connection, pay special attention to children.
- **Be careful with the movements of the lens.**
Do not put anything into the side slots in the lens and make sure there are no obstructions to the horizontal and vertical movements of the lens.
- **Position the unit on a stable surface.**
The projector must be positioned on a stable, suitable platform or be installed using a bracket for fixed ceiling or wall installation. Do not rest the projector on the side panels or on the rear panel when in operation.
- **Do not insert objects through the openings in the unit.**
Make sure that no objects are inserted inside the units. If this should occur, disconnect the unit from the power supply immediately and call an authorised technician.
- **Energy saving**
It is recommended to cut off the power supply to the Projector and DigiOptic™ Image Processor units when they are not used. In this way, besides obtaining considerable energy savings, the internal electrical parts are protected against wear.

3 UNPACKING

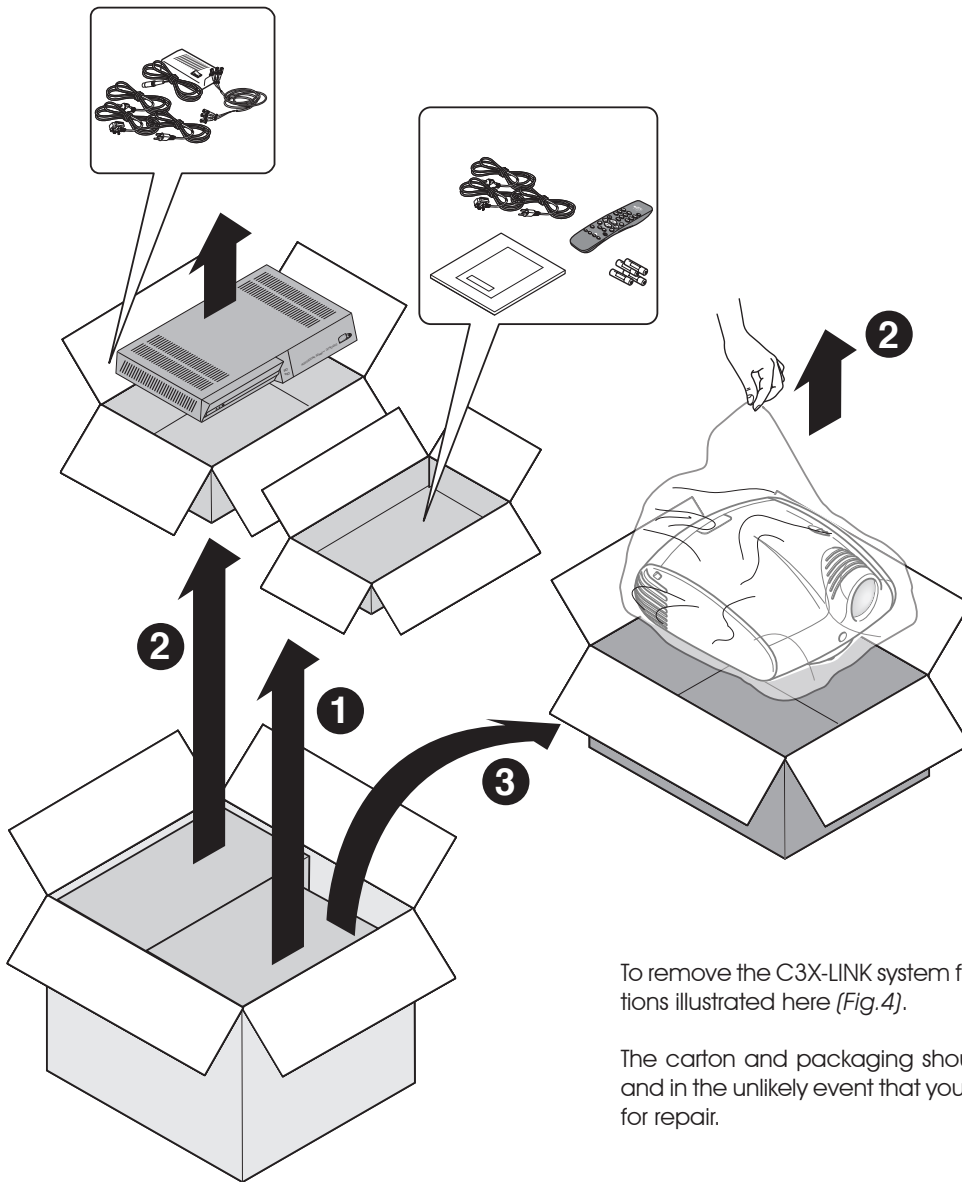


Fig.4

To remove the C3X-LINK system from its carton follow the directions illustrated here (Fig.4).

The carton and packaging should be retained for future use and in the unlikely event that your system needs to be returned for repair.

PACK CONTENTS

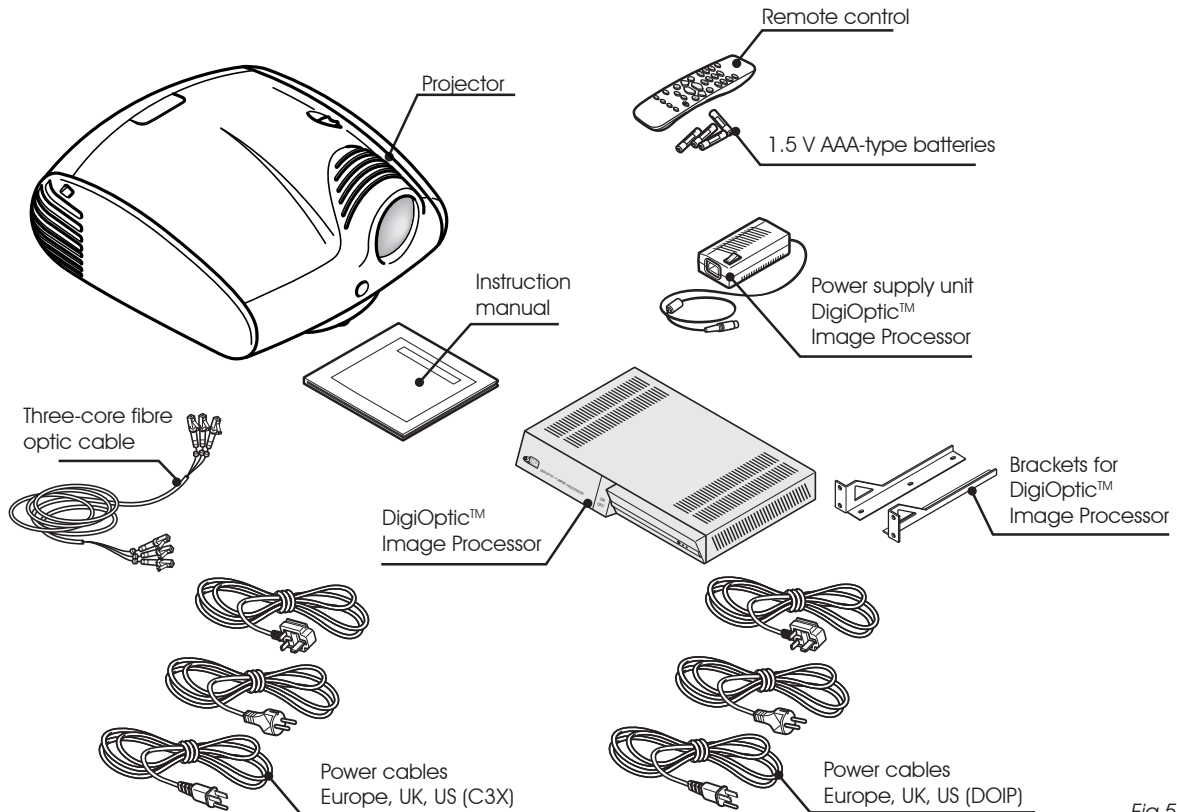


Fig.5

The carton should contain the following:

- the projector
- DigiOptic™ Image Processor
- the remote control
- four 1.5V AAA batteries (for remote control)
- DigiOptic™ Image Processor power supply unit
- three power cables for the projector (EU, UK, USA)
- three power cables (EU, UK, USA) for the DigiOptic™ Image Processor
- cable with three fibre optic cores
- two brackets for fixing the DigiOptic™ Image Processor to the rack
- user manual.

If any accessories are missing, contact your Dealer as soon as possible.

4 INSTALLATION

POSITIONING THE TWO UNITS

The C3X-LINK system consists of two separate units (the DigiOptic™ Image Processor and the Projector), each of which is equipped with a power cable; the two units are interconnected by a 20 m fibre optic cable.

POSITIONING THE DIGIOPTIC™ IMAGE PROCESSOR

The ideal location for the DigiOptic™ Image Processor is on a cabinet shelf or on a rack (dimensions are compatible with a standard 19" rack). Make sure that the support surface is stable and that the unit has sufficient space around it for ventilation purposes (at least 3 cm).

The unit is connected to the mains via an external power supply unit with an output of +7 Vdc; the unit's main power switch is on the power supply unit.

Connect the power supply unit output cable to the POWER socket located on the rear panel (Fig. 2).

Use exclusively the power supply unit provided with the system or an alternative power supply unit expressly approved by SIM2. For rack mounting of the DigiOptic™ Image Processor use the screws and LH / RH supports supplied with the product.

Undo the screws fixing the cover to the base of the DigiOptic™, position the LH and RH supports and secure them to the unit with the screws supplied. Use the supplied screws to secure the unit to the rack (Fig.6).

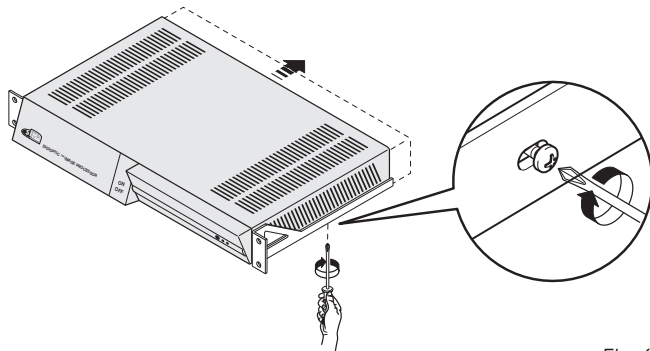


Fig.6

POSITIONING THE PROJECTOR

Position the projector on a stable, suitable platform or utilise the optional bracket for a fixed ceiling installation.

CAUTION: In the case of ceiling mounting using a suspension bracket, follow the instructions carefully and comply with the safety standards you will find in the box together with the bracket. If you use a bracket different to the one supplied by SIM2, you must make sure that the projector is at least 65 mm (2-9/16 inch) from the ceiling and that the bracket is not obstructing the air vents on the sides of the Projector.

Position the projector the desired distance from the screen: the size of the projected image is determined by the distance from the lens of the projector to the screen and the optical zoom setting. See the *ADDITIONAL INFORMATION* section for more details.

CONNECTING THE TWO UNITS

The system can be fully controlled using the supplied IR (infrared) remote control handset. There is a single remote control for both the DigiOptic™ Image Processor and the Projector; the remote control can be directed towards either unit since they are both equipped with an IR sensor at the front and one on the back of the projector.

The connection between the two units is made with a single cable containing three fibre optic cables each terminating in an LC connector. The standard cable length of 20 m will be sufficient for most installation requirements.

During installation of the fibre optic cable:

- The individual optical cables are delicate: always handle the main cable without touching the individual optical cables (Fig.7). Never pull the individual optical cables or connectors; if necessary, you may pull the main three-core cable.
- Only remove the cap protecting the connector ferrule immediately before inserting the connector; if the ferrule is allowed to come into contact with foreign material it may be damaged, making the connector unusable.
- Take particular care when inserting fibre optic connectors in their respective sockets on the rear panel of the DigiOptic™ Image Processor and on the back of the Projector.

- Make sure that the single optical cables are not switched: the numbers on the cables must match the numbers on the connectors.
- Check that the connectors are correctly inserted.
- Make sure that the cable does not constitute an obstacle for persons moving around the room.
- Take care not to create knots in the cable; the minimum radius of bends in the cable is 2 cm.
- Prevent the cable from pulling and mechanical stress; this could cause the connectors to be pulled out and damaged.

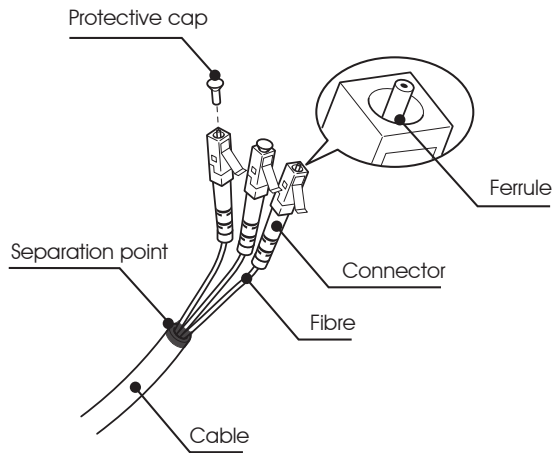


Fig.7

After removing the protective caps from the fibre optic cable connectors and the panel connectors, insert the fibre optic connectors carefully, matching the numbers shown on each element (Fig.8-9). Be very carefully when handling fibre optics and connectors.

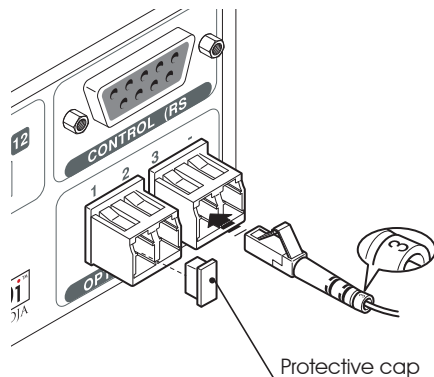


Fig.8

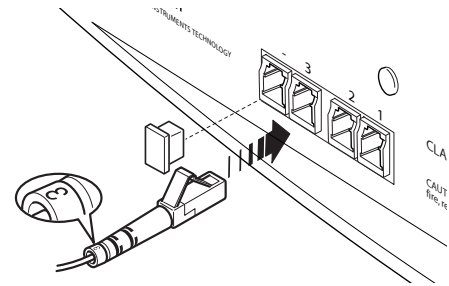


Fig.9

To activate an electric motorised screen a 12 Volt output is provided at the rear of the DigiOptic™ Image Processor (Fig.10).

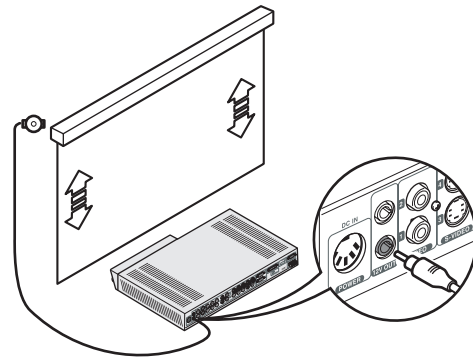


Fig.10

The output is activated (Voltage: 12 Vdc) when the projector is switched on and is de-activated (no Voltage output) when the projector is in stand-by mode.

In addition it is possible to install black motorised screen masking systems for the screen when changing the aspect of the projected image from 16:9 to 4:3 (Fig.11). The control can be obtained from the output at the top on the back of the DigiOptic™ Image Processor.

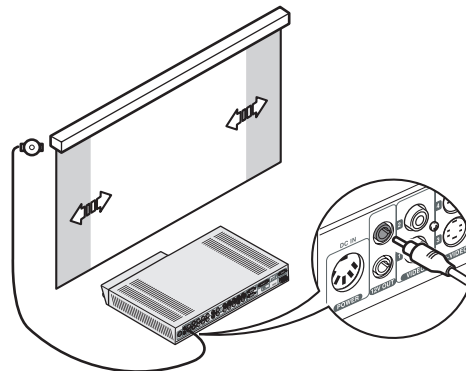


Fig.11

For rear projection the screen must be translucent.

For front projection, we recommend the use of screens with low gain specifications.

Preferably use "unitary gain" screens; directive screens with a high gain can be effectively used only for small groups of spectators central to the screen.

Avoid light shining directly on the screen during projection as this will reduce contrast and black level detail on the projected image.

Furniture and other objects with reflecting surfaces, as well as light coloured walls should be avoided, as they are likely to interfere with the screen's characteristics.

CONNECTING THE VIDEO SOURCES

Connect the cables from the video sources, the serial cable from an external control unit and the fibre optic cables for hooking up with the Projector to the rear panel of the DigiOptic™ Image Processor.

To obtain the best performance from the C3X-LINK system, connect the various signal sources using good quality cables designed for video applications.

Ensure that:

- the cables are routed in such a way that they do not present an obstruction to people moving around the room;
- the connectors are inserted carefully to avoid damaging the pins;
- the cables are not twisted or crushed;
- when disconnecting the cables the connectors are not violently pulled out of the connectors on the various units.

Video sources (television receivers, VCRs, DVD players, etc.) often feature several outputs. To obtain the best performance from your system, carefully choose which output to use. Generally, the type of signal offering the best picture quality is HDMI™, followed by DVI-D, RGB, Components, S-Video and Composite Video, in that order.

However, the C3X-LINK system is equipped with an excellent Video Decoder and Deinterlacer and therefore even inferior quality signals will produce high quality results.

Table 1 shows the types of signals usually available for the most common types of video sources and the corresponding input connectors to use on the DigiOptic™ Image Processor.

Table 1

DigiOptic™ Image Processor Connector	Video signal source connector		
	Y (green)	Y	Y
Cr (red)	P _R	R-Y	V
Cb (blue)	P _B	B-Y	U

VIDEO 1 2

These inputs should be connected to a Composite Video signal (CVBS) by means of a cable with an RCA connector.

The source connector is usually yellow and is frequently labelled VIDEO.

Although other types of signals are preferable (since they allow better picture quality), this is still the most common type of output, and nearly all television receivers, video-recorders, DVD players, video cameras, etc., are equipped with CVBS outputs.

S-VIDEO 3 4

These inputs should be connected to an S-Video signal by means of a cable with a mini-DIN type connector.

The corresponding output on the source can be identified by the wording S-VIDEO or Y/C.

Almost as widespread as Composite Video, S-VIDEO is preferable because it offers a clearer and sharper picture.

COMPONENT / RGBS 5 6 7 8

These inputs are composed of three sets of 5 RCA connectors RCA (5,6,7) and one set of 5 BNC connectors (8).

Each set of connectors is suitable for RGB and Component signals.

RGB signals can have the following synchronisations: composite sync on the green signal (RGsB), H+V Composite Sync, or separate H/V Sync.

Connect the R, G, B outputs of the source to the respective R, G, B inputs of the DigiOptic™ Image Processor (taking care not to invert the positions) and any synchronisation signals to the HV input or the H and V inputs. When connecting the three sets of RCA connectors use the colours as a guide: connector R is red, G is green, B is blue, H/HV is white and V is black.

By using a suitable SCART to RCA (or BNC) connector adapter cable, an RGB video signal from a source equipped with an SCART connector can be connected to this input.

Component signals are connected to inputs Y, Cr and Cb, taking care to observe the correspondence with the outputs on the source.

Since the latter can be labelled in various ways, refer to *Table 1* to establish the correspondence between the various signals. The connector colours can also be of help, as shown in the table.

Input 5 can receive RGB and YCrCb signals not higher than 32 kHz. In effect, to provide high picture quality even with relatively inaccurate sources, the input signal is processed by specific circuits in the DigiOptic™ Image Processor.

The video signals that can be connected to inputs 6-7-8 can have horizontal scanning frequencies of 15 kHz (standard video resolution), 32 kHz, or higher (progressive scanning video, high definition video).

Some sources provide the facility to choose between a progressive signal or an interlaced signal. Although in general a progressive signal is higher quality than an interlaced signal, it is often preferable to perform the deinterlacing operation on the C3X-LINK system rather than on the source. Progressive signals usually provide better quality than interlaced signals, but if the source features both progressive and deinterlaced signal outputs it is good practice to compare the quality of the pictures reproduced by the C3X LINK system in the two cases: deinterlacing performed by the C3X LINK system is often more effective than that performed at the source (typically a DVD player).

RGB GRAPHICS **9 10**

This input should be connected to an RGB-type video or graphic signal using a cable with a DB15HD type connector.

The signal source device (typically a personal computer or game console) must be able to provide separate H/V synchronisation or composite H+V synchronisation.

The video or graphic signals that can be connected to this input can have horizontal scan frequencies (H-sync) of between 32 and 80 kHz and a vertical frequency (V-sync) of between 48 and 100 Hz. Image resolution can vary between 640x480 and 1600x1200 pixels (VGA, SVGA, XGA, SXGA, UXGA).

DVI-D **11**

This input provides the facility to exploit the quality of the digital image to its best advantage. If the source is equipped with a DVI-D output (with a YCrCb or RGB signal), connect it to this input to get the most out of your C3X-LINK system.

HDMI **12**

This input provides the facility to integrate the excellent quality of a digital image with a multichannel audio signal.

In fact the High Definition Multimedia Interface (HDMI™) combines the uncompressed high definition video signal with a multichannel audio signal.

In addition, the interface enables control data to be exchanged between the video source and the *Home Theatre* system in order to optimise the projected picture.

The HDMI™ input makes it possible to connect to video sources that use the High-Bandwidth Digital Content Protection protocol (HDCP) to protect their contents. This is possible because the HDCP protocol forms part of the definition of HDMI™ technology.

Once the video source has been connected to the HDMI™ input, the internal processing performed by the DigiOptic™ Image Processor separates the video and audio information. The audio information is made available on a digital output with a female Toslink connector in compliance with the S/PDIF standard.

CONTROL (RS232)

The system can be controlled via a personal computer or home automation systems by means of the serial port: simply connect this input via a serial cable from an RS232 serial port. On request, SIM2 will send you a document containing the serial port settings and the list of main commands.

5 CONNECTION PANEL

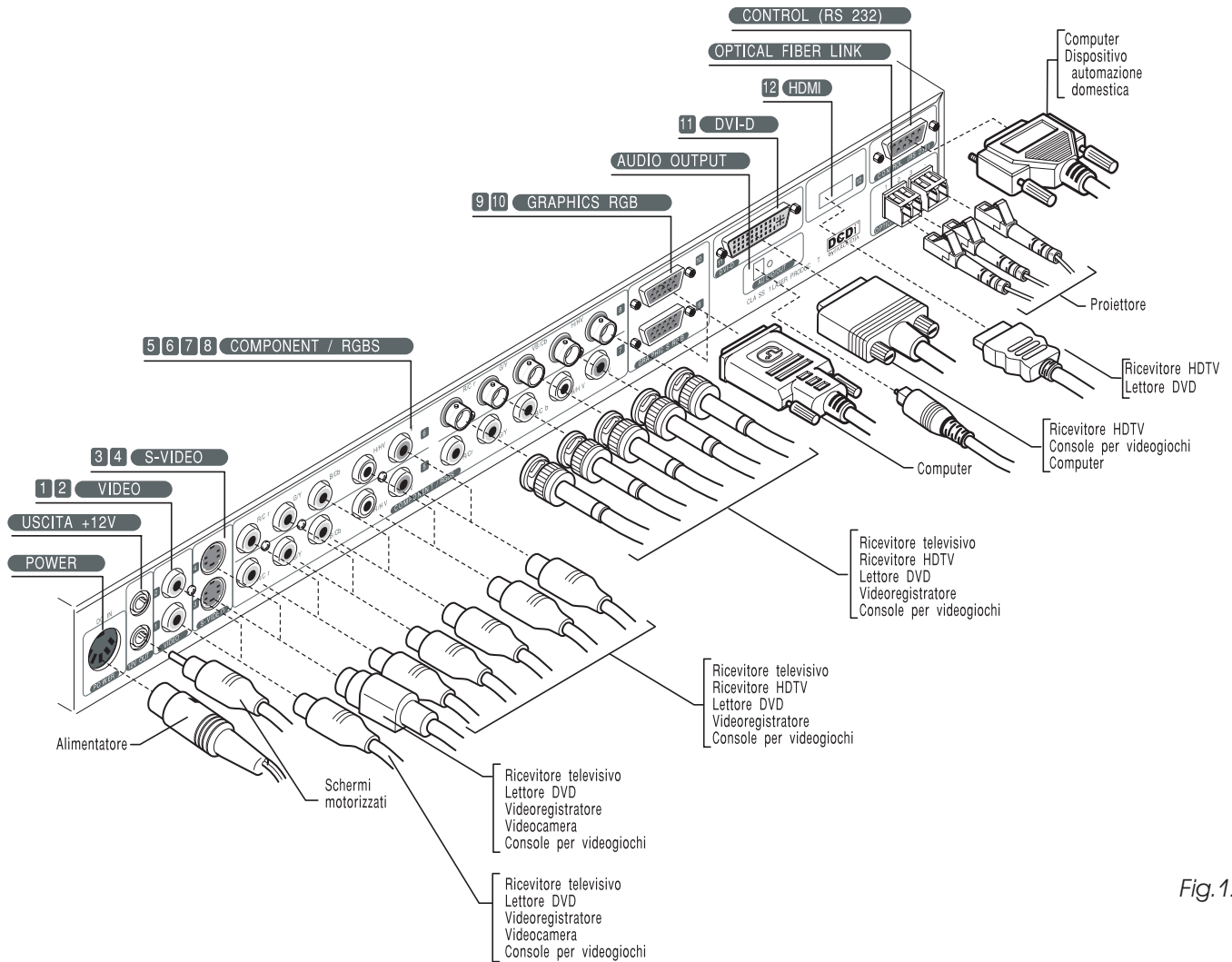
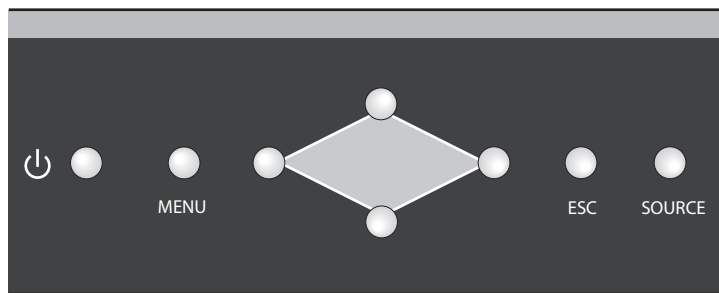



Fig.12

6 KEYPAD



Eight push-buttons, at the rear of the projector, will allow complete operation without the use of the remote control.

-  Set the projector onto stand-by.
- Menu** Activates the *On Screen Display* and Navigates menu pages.
- Source** Calls the input selection menu
- Arrow** ▲/▼/◀/▶

1. IF THE OSD IS TURNED ON:

Navigate through and make *adjustments to the* on screen menus.

2. IF THE OSD IS TURNED OFF:

- ▲/▼ **Zoom / Focus**
- ▶ **Info** (information on the selected input)
- ◀ **Auto** (automatic image optimization function)

7 REMOTE CONTROL

The remote control transmits commands to the system by infrared signals.

The system is equipped with two infrared sensors, at the front and rear of the Projector and on the front panel of the DigiOptic™ Image Processor.

Avoid placing obstructions between the remote control and the infrared sensors; this would impair remote control performance.

It is possible to control the projector by pointing the remote control at the screen; the sensor at the front of the projector will pick up the reflected infrared commands (Fig. 16).

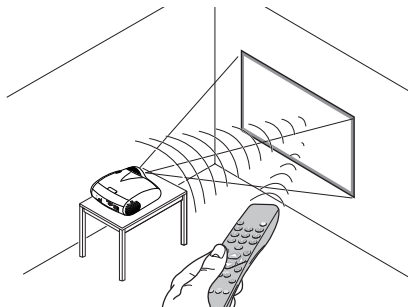


Fig. 16

The remote control handset requires four 1.5V AAA alkaline batteries.

Insert the batteries, taking care to match the polarity, as indicated in the battery compartment in the handset (Fig. 17). Change the remote control batteries if you experience difficulty in transmitting commands to the system. Remove batteries from the remote control if it is to remain unused for a long period of time to avoid the risk of potentially harmful chemical leaks.

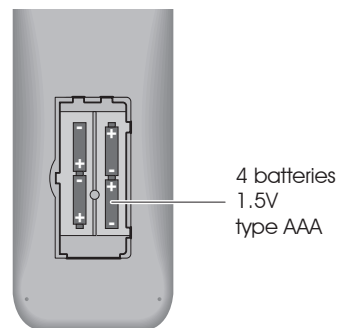


Fig. 17

8 SWITCHING ON AND OFF

The C3X-LINK system consists of two units (DigiOptic™ Image Processor and Projector) of which the former is also the system control centre.

The system can be controlled from either the remote control (via the infrared sensors on the DigiOptic™ Image Processor and on the Projector) or the keypad located on the back of the Projector.

However, the power supply to the two units is separate. After interconnecting the units via the fibre optic cable, connect them to the electrical mains supply:

1) Set the Projector power switch on the rear panel onto "I" (ON) (Fig.13 phase A).

2) Set the DigiOptic™ Image Processor switch on the external power supply unit to "I" (ON) (Fig. 13 phase B). In this phase make sure the DigiOptic Image Processor (Fig. 13 phase C) is in the OFF position: in this condition the indicator LEDs on the front panel of the DigiOptic Image Processor should not be lit.

The power-up sequence described at points 1 and 2 must be observed in full; otherwise the system will not initialise properly and the power-up sequence must be repeated in accordance with the proper procedure.

3) Press the central button on the front of the DigiOptic™ Image Processor onto ON (Fig.13 phase C).

After a few seconds (system initialisation interval), the DigiOptic™ Image Processor and the Projector assume stand-by mode.

System status information is provided by two LEDs (green and blue) on the front panel of the DigiOptic™ Image Processor and on the rear of the Projector.

Significant status signals are given in Table 3.

If the "No optical link" or "Error" signals are active the system cannot be operated; if the "Warning" signal is active the system will operate but it may be unable to read certain input signals correctly.

4) Switching on the system (Fig.14):

- with the remote control (⏻ keys)
- with the Projector keypad (⏻ key)

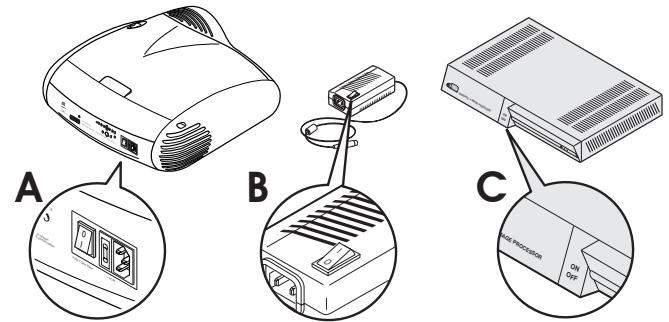


Fig.13

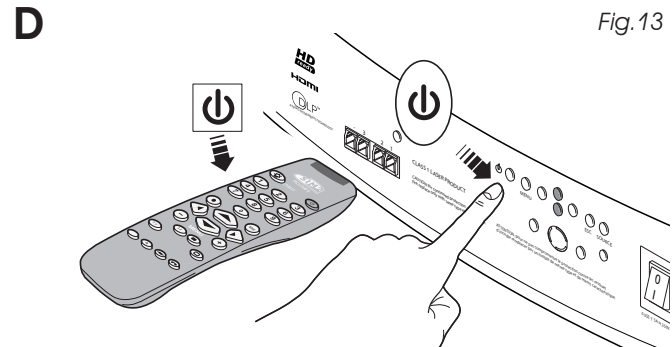


Fig.14

Table 3

Status	DigiOptic™ Image Processor		Projector		
	Led green	Led blue	Led blue	Led red	SIM2
Off	○	○	○	○	RED
Initialisation	●	●	○	○	BLUE
Standby	○	●	○	●	RED
On	●	○	●	○	BLUE-OFF
Cooling	☀	☀	○	●	BLUE
Link error	●	☀	-	-	-
Controller error	○	☀	○	●	RED-BLINK
Fan failure	○	☀	○	☀	RED
Overtemperature	○	☀	○	●	RED
Init error (Warning)	○	☀	○	☀	BLU

○ · Off ● · On ☀ · Blinking

SWITCH ON FROM STAND-BY

Switching on the system (*Fig. 14*):

- with the remote control (⏻)
- with the Projector keypad

Typically, the picture will appear after 15-20 seconds.

If the system is switched on very soon after it was last switched off, the lamp may fail to come on because it is too hot. In this case just wait a few minutes to allow the lamp to cool.

Switching off the system (*Fig. 15*):

- with the remote control (⏻ key)
- with the Projector keypad (⏻ key).

If you wish to power off the system completely, wait at least three minutes in stand-by before setting the mains power switches on the units to the "O" position or disconnecting the power supply cables. This is to allow the fans in the Projector unit sufficient time to cool the lamp.

If power is disconnected from the Projector unit (e.g. setting the mains power switch to the "O" position or inadvertently unplugging the power cable), to restart the C3X-LINK system also power-off the DigiOptic™ Image Processor unit and repeat the power-up sequence described at points 1, 2, 3 and 4.

If the fibre optic link between the two units is interrupted (e.g. by removing one or more cables) to restore normal system operation switch off the two units by means of the mains power switches, restore the fibre optic connections, and then repeat power-up mode steps 1, 2, 3 and 4.

9 ON-SCREEN MENU

All system functions can be activated from the keypad or remote control with the aid of a practical and comprehensive system of on screen menus.

INPUTS

The input selection menu (Inputs) is called by pressing 0 on the remote control and SOURCE on the keypad. To select an input, scroll the list with the ▲ and ▼ keys until the desired input is highlighted, then press ►.

Display of the input selection menu is terminated by pressing the ESC key or when the On-Screen Menu display timeout interval (set in the Menu Setup) has elapsed.

Input 5 can receive RGB and YCrCb signals no higher than 32 kHz.

Inputs 6-7-8 can receive RGB and YCrCb signals, at 15 kHz, 32 kHz or higher. The association between the input and the type of signal (RGB or YCrCb) is made from the pull-down menu that appears on the right of the < symbol after pressing the ◀ key (Fig. 18b).

In the pull-down menu it is also possible to select the horizontal frequency manually or use the AutoSync option; in this case the system automatically recognises the input signal horizontal frequency (15kHz, 32kHz or higher).

Input 11 can receive YPrPb or RGB signals from DVI-D sources. The selection must be made on the pull-down menu following the previously illustrated system.

After selecting the source signal (by means of the ▲ and ▼ keys), press MENU+ /MENU - to confirm and close the pull-down menu; the value you have just set will be displayed on the right of the < symbol.

As with the other inputs, you can now select the input just set by pressing the ► key.

During the short time it takes to find the signal, a box appears showing the signal requested. As soon as the signal is shown in the box additional information is displayed concerning the video standard (for video signals) or resolution (for graphic signals), and aspect.

In the SETUP menu you can select whether or not to display this information; for further details refer to the SOURCE INFO item in the MENU area in the ADDITIONAL INFORMATION section.

Inputs			
1	VIDEO 1	1	>
2	VIDEO 2	2	>
3	S-VIDEO 3	3	>
4	S-VIDEO 4	4	>
5	COMP/RGB 5	5 < YPrPb 32kHz >	
6	COMP/RGB 6	6 < RGBS 15kHz >	
7	COMP/RGB 7	7 < YPrPb >	
8	COMP/RGB 8	8 < YPrPb 15kHz >	
9	GRAPH RGB 9	9	>
10	GRAPH RGB 10	10	>
11	DVI-D 11	11 YPrPb	>
12	HDMI 12	12	>

Fig.18a

Inputs			
1	VIDEO 1	1	>
2	VIDEO 2	2	>
3	S-VIDEO 3	3	>
4	S-VIDEO 4	4	>
5	COMP/RGB 5	5 < YPrPb 32kHz >	
6	COMP/RGB 6	6 < YPrPb AutoSync >	
7	COMP/RGB 7	7 < YPrPb 15kHz >	
8	COMP/RGB 8	8 < YPrPb >	
9	GRAPH RGB 9	9 < RGB Auto Sync >	
10	GRAPH RGB 10	10 < RGB 15khz >	
11	DVI-D 11	11 < RGB >	
12	HDMI 12	12	>

Fig.18b

MAIN MENU

To access the main menu of the *On Screen Display* press the MENU key on the keypad or the MENU+ or MENU- key on the remote control.

The main menu is divided into four windows, PICTURE, IMAGE, SETUP and MENU, in which the various adjustments are grouped according to the frequency of use. Use the ▲ and ▼ keys to select the line corresponding to the adjustment you wish to make (Fig. 19).

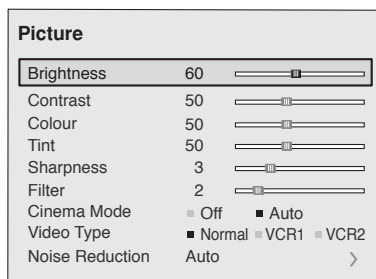


Fig. 19

The various menus only offer the relevant adjustments in accordance with the type of input signal displayed (e.g. certain typical adjustments for video signals, not necessary for graphic signals, do not appear on the menus, and vice versa).

Some adjustments (e.g. BRIGHTNESS and CONTRAST) are associated with a numerical value that can be varied within the set limits using the ◀/▶ keys.

For others (e.g. VIDEO TYPE) you can choose between three options presented on the same line (and selectable using the ◀/▶ keys).

Other adjustments (identified by the symbol <) are associated with submenus, which appear as a superimposed window in which the selection is made with the ▲/▼ keys (Fig. 20).

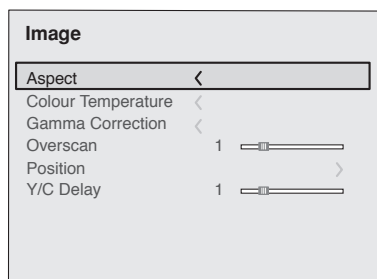


Fig. 20a

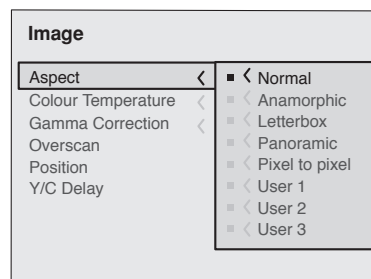


Fig. 20b

These submenus are accessed by pressing the < key, while exit and return to the upper level occurs by pressing MENU+/- . Press ESC on the remote control or keypad to interrupt the menu display or wait for it to disappear automatically after the number of seconds set on the SET-UP page.

PICTURE

This menu features the adjustments related to picture quality. Adjustments that are not available for a given input do not appear on the menu. Table 4 summarises the adjustments available for each input. For a complete overview of the on-screen menus, consult ON SCREEN MENU LAYOUT in the ADDITIONAL INFORMATION section.

BRIGHTNESS

Use this control to adjust the image's black level without affecting white areas. Increasing the value will give more detail in darker parts of the picture. For correct adjustment it may prove useful to display the signal relative to the grey scale within which the black level and the level immediately above it must be separately identifiable. Alternatively use a scene composed of black objects alongside other dark coloured objects.

CONTRAST

Use this control to adjust the image's black level without affecting white areas.

To ensure correct adjustment, it may prove useful to display the signal relative to the grey scale, within which the white level and the level immediately below it must be separately identifiable. Alternatively use a scene composed of well-lit white objects surrounded by light coloured objects with lower level lighting.

COLOUR

This control (also called Saturation) increases or decreases the picture colour intensity. When set to zero, colour images will be shown in black and white. Increasing the value, try to find the point at which the colours look natural: suitable references include skin tones and grass in landscape shots.

TINT

Controls the purity of the colours. Basically determines the red-green ratio of the picture.

Reducing the value will boost the red contents of the picture, increasing the value will boost the green tones. For this adjustment use skin tones or a test card image with colour bars as a reference.

SHARPNESS

Use this adjustment to increase and decrease the level of picture detail.

When the sharpness value is reduced the image details appear less pronounced, while increasing the value raises image definition, making the outline of objects sharper.

Note that an excessively high value may result in a "noisy" picture and the edges of objects may be unnaturally defined.

SHARPNESS MODE

This allows you to select the type of processing associated with sharpness adjustment. In the case of a progressive or interlaced video signal VIDEO mode is advisable; with PC graphic signals use GRAPHIC mode.

FILTER


This allows you to select the mode in which the input signal is processed. Selecting the most appropriate value for a given input signal ensures the best horizontal and vertical definition and makes the picture sharper.

CINEMA MODE

In AUTO the deinterlacer recognises if the video signal source is a movie film (obtained from a Telecine device with 3:2 or 2:2 pull-down) and applies a deinterlace algorithm optimised for this type of signal.

If the video signal source is not identified as a film, or if you select NO the deinterlacer applies a *Motion compensated* algorithm optimised for video camera signals.

VIDEO TYPE

Inserts a filter that improves stability of images from videorecorders or DVD players. To toggle between NORMAL and VCR mode, press the  key on the remote control or select the value on the *On Screen Display*.

NOISE REDUCTION

This adjustment serves to select the noise reduction filter value.

When the option is selected in the menu the picture is divided into two. On the left hand side the picture is not affected by the filter while the filter is active on the right hand side; this makes it possible to compare the changes resulting from noise filtration with a clean unfiltered image. It is possible to deactivate the filter (NOT ACTIVE) using the automatic (AUTO) setting or manually (MANUAL) selecting the most suitable value for the picture with the VALUE adjustment.

In this latter case it is sufficient to position the cursor under the values and make the required setting with the ◀/▶ keys on the remote control. A specific function (SKIN TONES ADJUSTMENT) can be used in conjunction with NOISE REDUCTION in order to make skin tones appear more natural. In fact, it is frequently the case that the reduction of noise is accompanied by a slight degradation of the picture in skin tone areas, while using this function makes it possible to obtain optimum quality of the entire picture.

Table 4

Adjustments	Inputs					
	Video S-Video	RGBS 15kHz Y/Cb 15kHz	RGBS	Y/Cb	RGB Grafico	DVI-D HDMI™
Brightness	●	●	●	●	●	●
Contrast	●	●	●	●	●	●
Colour	●	●	-	●	-	-
Tint	○	●	-	●	-	-
Sharpness	●	●	●	●	●	●
Sharpness Mode	-	-	●	●	●	●
Filter	●	●	-	-	-	-
Cinema Mode	●	●	-	-	-	-
Video Type	●	●	-	-	-	-
Noise reduction	●	●	-	-	-	-
Flesh tone correction	●	●	-	-	-	-

○ Present only if the Video Standard is NTSC

IMAGE

This menu features adjustments relating to picture position, aspect ratio, magnification etc.

ASPECT

This adjustment allows you to change the dimensions and aspect ratio (relationship between width and height) of the displayed image. There are five preset aspects available and three personalised aspects (with user-settable parameters). You can select a different aspect for each source: the selected aspect ratio will be automatically called the next time the relative source is called.

You can also select the required aspect ratio by repeatedly pressing the **◀▶** key, or by pressing **◀▶** and a numerical key (1...8).

The following aspects are available:

NORMAL: projects the image occupying the full height of the screen while maintaining the aspect ratio of the input signal. When the input signal aspect ratio is 4:3 black vertical bands are displayed on the right and left of the picture.

ANAMORPHIC: allows a 16:9 picture to be displayed correctly.

LETTERBOX: serves to display a 4:3 letterbox image (with source signal having black bands above and below the picture) so that it fills the 16:9 screen and maintains the correct aspect ratio.

PANORAMIC: stretches the 4:3 image, slightly cropping the upper and lower parts. Panoramic is ideal for displaying a 4:3 image on the 16:9 screen of the Display.

PIXEL TO PIXEL: displays the image as it is input without adapting it to the screen. The image is projected in the centre of the screen and if its horizontal and/or vertical dimensions are smaller than the display, it is bounded by vertical and/or horizontal black bands.

USER 1, 2, 3: when none of the preset formulas are suitable. The User formulas are available, with the facility for continuous horizontal and vertical adjustment of picture size.

SCREEN Control. If an appropriate screen-masking interface is connected to the 12V output socket it is possible to re-frame the screen to a variety of aspect ratios and screen sizes (please refer to the screen manufacturer's manual).

COLOR TEMPERATURE

Changes the colour balance of the image.

The colour temperature is adjusted by positioning the white dot in the CIE chromaticity diagram. The system makes it possible to position the white dot in a grid with 36 dots in the neutral colour zone (Fig. 21).

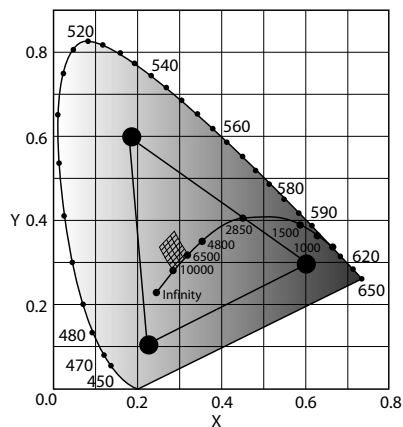


Fig. 21

Moving along the horizontal lines changes the correlated colour temperature, with low temperatures on the right (where the red component is increased) and high temperature on the left of the graph (where the blue component is increased).

The dots in correspondence with the lower horizontal line (Fig. 22) represent the colours taken on the curve of the black body.

The colour temperature is constant along the vertical lines, but deviates to a greater or lesser extent from the line of the black body. This means that by selecting the dots at the top of the graph there will be an increase in the green component. On the contrary, by selecting elements at the bottom of the graph there will be an increase in the purple component.

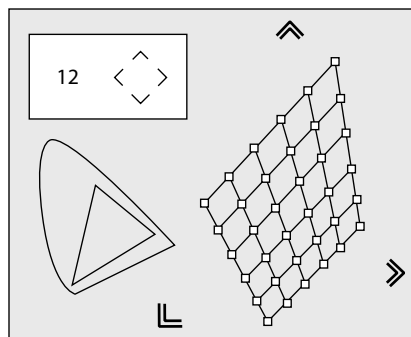


Fig.22

GAMMA CORRECTION

Determines the system's response to the grey scale, emphasising or attenuating the different levels of brightness (blacks, dark, medium, light greys, whites) forming the projected image. The projector has several gamma functions to display any image in the best way for the type of video source applied, the conditions of environmental brightness and the subjective preferences of the observer.

There are 4 groups of gamma curves: Standard (ST), Enhanced SIM2 (EN) and Graphics (GR), User. The Standard curve has been defined for general use for various images from sources such as video cameras, digital cameras, and for displaying films or photographs from a personal computer. The Enhanced group is suited to display cinema material. The Graphics group is suited to display graphics (desktop PC, CAD, PC presentations,...). Selecting the User setting defines the curve according to parameters. The user can then select the coefficient determining the curve. Coefficients of between 1.5 and 2.2 emphasise the detail in dark images but reduce the global perception of the contrast. Values higher than 2.2 increase the global perception of the contrast but attenuate the perception of detail in the dark areas of the image. With the most common video sources, overscan values can be between 0 (no overscanning) and 32 (maximum overscanning). The resulting image always maintains the selected aspect irrespective of the selected overscan value.

POSITION

Use this adjustment to position the image vertically and horizontally. Determines the aspect ratio of the projected image. These parameters do not normally require adjustment because the system checks the input signal and automatically sets the most suitable values. However, if the image is not perfectly centralised it may prove useful to request the system to repeat the input signal analysis and image positioning, calling the automatic control procedure with the A key on the remote control or the AUTO key on the keypad. When this procedure is called it is helpful to have a white or light coloured background on the screen in the current picture. If the image positioning obtained in this way is not satisfactory, it is then wise to use the position control.

FREQUENCY/PHASE

These adjustments, available for progressive signals and for signals from a PC, ensure correspondence between the number of pixels making up the signal and the number of pixels that make up the projected image.

These parameters do not normally require adjustment because the system checks the input signal and automatically sets the most suitable values. However, if the image appears disturbed

Table 5 - setting gamma correction

Gamma Functions Standard	ST1	For general use.
Gamma Functions Enhanced SIM2	EN1	Suited to display images from a video camera, digital camera or television studio in conditions of high environmental lighting.
	EN2	Suited to display images from a video camera, digital camera or television studio in conditions of poor environmental lighting.
	EN3	Suited to display cinema material in conditions of very high environmental lighting from the surroundings.
	EN4	Suited to display cinema material in conditions of medium environmental lighting from the surroundings.
	EN5	Suited to display cinema material in conditions of controlled environmental lighting.
Gamma Graphics Functions	G1	Suited to display graphic images (e.g., Windows Desktop) in conditions of medium environmental lighting.
	G2	Suited to display graphic images in conditions of controlled environmental lighting.

(loss of position within the equidistant vertical bands or instability and lack of sharpness on the narrow vertical lines) it may help to prompt the system to repeat the input signal analysis and determination of the best parameters by calling the automatic adjustment procedure with the A key on the remote control or the AUTO key on the keypad.

If the automatic procedure fails to have the required effect, enter the frequency and phase values manually and approach the screen sufficiently to observe the effects of the adjustments.

Table 5

Adjustments	Inputs					
	Video S-Video	RGBS 15kHz Y/Cb 15kHz	RGBS	Y/Cb	RGB Grafico	DVI-D HDMI™
Position	•	•	•	•	•	-
Aspect	•	•	•	•	•	•
Frequency	-	-	•	•	•	-
Phase	-	-	•	•	•	-
Colour Temperature	•	•	•	•	•	•
Gamma Correction	•	•	•	•	•	•
Overscan	•	•	•	•	•	•
Y/C Delay	•	•	-	-	-	-

OVERSCAN

Eliminates irregularities around the outer borders of the image.

Certain relatively inaccurate sources can produce an image with more or less pronounced irregularities around the outer edges; thanks to the overscan function these imperfections can be moved to outside the projected area. Overscan values can be between 0 (no overscanning) and 32 (maximum overscanning). The resulting image always maintains the selected aspect irrespective of the selected overscan value.

Y/C DELAY

In the case of Video and S-Video signals, it may be necessary to correct horizontal colour misalignment within the projected image. For a given video standard (e.g. PAL or NTSC) the stored value does not normally require further fine-tuning, unless the source or connection cable has changed.

SETUP

The setup menu contains less frequently used adjustments that may be required during installation (such as the display of Test Patterns).

ORIENTATION

Select the option that best describes the installation i.e. desktop front, ceiling front, desktop rear and ceiling rear.

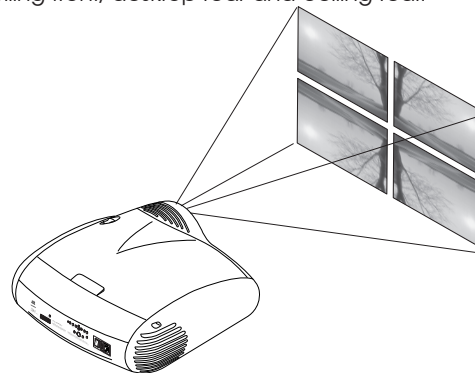


Fig.23

HORIZONTAL / VERTICAL KEYSTONE

To obtain maximum quality of the projected image, we recommend the installation of the projector on a level platform parallel and central to the screen. Adjust the feet underneath the projector to obtain a level position, lining up the base of the projected image to the base of the projection screen (Fig.24).

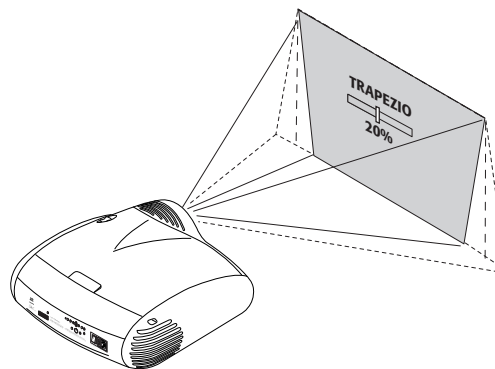


Fig.24

PROJECTION LENS

The ZOOM adjustment acts on the motorised zoom of the lens, making it possible to widen or narrow the size of the projected image. The FOCUS adjustment acts on the motorised lens focus to achieve maximum clarity. With optimum focus you should be able to clearly see each single pixel when within close proximity to the screen.

Associated with the ZOOM and FOCUS controls, the C3X-LINK system provides two test images to use if you do not have a suitable signal to optimise these parameters. After selecting the ZOOM or FOCUS menu, the ◀ key retrieves the test image suited to the current adjustment, after focusing or choosing the required zoom (with the ◀ and ▶ keys), pressing the ▶ key once more removes the test screen. In the initial phase of installation, the configurable remote control keys (F1, F2) perform the functions of optical zoom and optical focus (Fig.26). Afterwards the function of these keys can be changed (see F1/F2 KEYS in the MENU section).

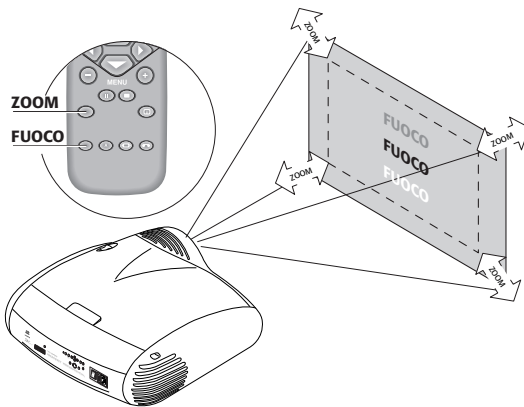


Fig.26

LAMP POWER

To obtain the greatest picture quality, the LAMP POWER parameter setting is used to vary the power with which the lamp is supplied. In this way, besides adjusting the brightness of the images to your projection conditions (size and type of screen, environmental brightness), the lamp will have a longer life.

POWER ON

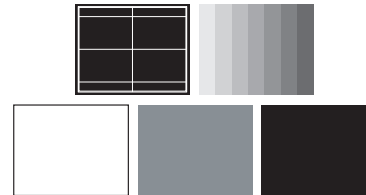
If set on AUTO, this option allows the system to be switched on directly from the mains power supply once the initialisation phase is terminated.

If set on STAND BY, at the end of the initialisation phase the

system assumes Standby status and awaits the power-up command from the remote control or keypad.

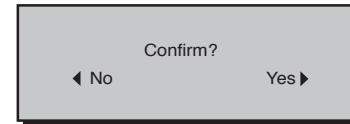
TEST PATTERNS

Displays a series of five test patterns, useful for the installation of the projector. Use the ▲ and ▼ keys to browse through the test patterns.



INITIAL SETTINGS

Restores original factory settings except for Position, Orientation, Y/C Delay, Zoom and Focus.



MENU

LANGUAGE

Lists the languages available for the *On Screen Display menu*.

INPUTS LIST

In order to make the C3X-LINK system increasingly flexible, the functions described below make it possible to modify the inputs selection menu and adapt it so that it matches the requirements of the user more closely. The main page displays all the inputs physically present on the DigiOptic™ Image Processor.

It is possible to delete inputs that are not used from the list. For this purpose, after selecting the input in the pull-down menu that appears on pressing the ◀ key, it is possible to select or unselect the source (Fig.27).

The deactivation or activation of the source results in automatic renumbering of the remaining active inputs.

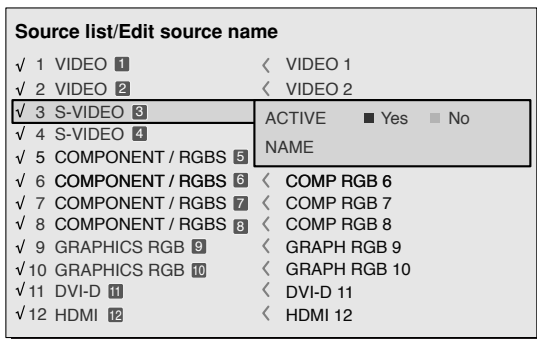


Fig.27

Active video signal sources (shown in the inputs selection menu) are distinguished by tick symbols.

You can also identify the input with a more significant name for the user (e.g. with the name of the connected device).

After deciding to make an input visible, in the pull-down menu you can rename the current source by selecting the NAME option. This will make it easier to remember the source connected to a particular input. To assign a name to a source you can use up to twelve alphanumeric characters (for more details refer to the *TEXT INSERT* section).

Text insert

The Text Insert menu shown in (Fig.28) permits entering characters easily and quickly.

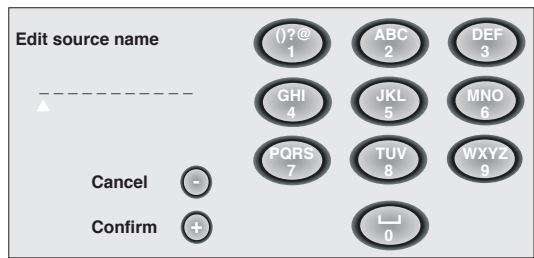


Fig.28

Text input mode is the same whether you are editing an existing name or entering a name for the first time. Characters can

be inserted in any of the available positions (represented by horizontal lines). Use the ◀ and ▶ keys to move the cursor left or right respectively.

- Select the position for entering the character with the arrow keys ◀ and ▶ (available positions are shown with “_”).
- Enter the character by pressing the numerical key corresponding to the required character. Press once for the first character, twice for the second one and so on. The available characters and their assignment to the numerical keys are shown on the OSD.

Press the numerical key corresponding to the character (Fig.28); the first press selects the first character, the second press selects the second character, and so forth. The available characters are shown in the text insert menu that appears in this configuration mode. Use the ▲ key to switch from upper case to lower case characters and vice versa. To delete any errors move the cursor to the incorrect character and press the ▼ key. Once you have terminated the text input procedure confirm your text and save it by pressing the MENU+ key. If you want to cancel the changes you have made press the MENU- key on the remote control.

F1-F2 KEYS

To assign various functions to the keys on the remote control, called F1 and F2.

The screen comprises six items, one for each line and two columns indicating the F1-F2 keys. The choice between F1 and F2 is made with the ◀ and ▶ keys on the remote control; the function assigned to F1 or F2 is chosen with the ▲ and ▼ keys.

The function performed by the key is confirmed by the appearance of a dot on the corresponding column-row intersection.

The six menu items are described below.

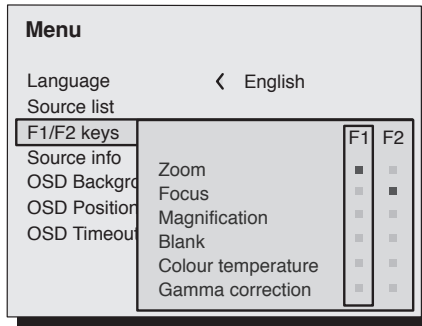


Fig.29

Zoom

To enter the optical ottico area where the ◀ and ▶ keys are used to decrease or increase the surface area of the projected image.

Focus

Once selected, the ◀ and ▶ keys are used to focus the image.

Magnification

Activates the electronic zoom, the ◀ and ▶ keys control image magnification. If the key is pressed a second time you will activate PAN mode in which the ◀, ▶, ▲ and ▼ keys enable you to pan over the magnified image.

Blank

Switches off the video signal and displays a black page. As soon as the key is pressed an OSD indication lasting a few seconds confirms that the function has been activated. Pressing any further keys on the remote control restores the previous conditions.

Color Temperature

Successive pressing of the key in question (F1 or F2) makes it possible to select from among the different grid values. Use the ▲ and ▶ keys to move along the vertical lines (Fig.22), thereby keeping the colour temperature constant but moving away from the curve of the black body. The ◀ and ▶ keys, on the other hand, are used to select the various colour temperatures (movement along the horizontal lines of the grid).

Gamma Correction

Successive pressing of the key in question (F1 or F2) makes it possible to select from among the available gamma curves.

Browse through the different values also by using the ◀ and ▶ keys.

StandBy

Used to assign the F1 or F2 key (or both) with the standby function, i.e. switching off. This is useful if you want to use a home automation device based on IR signals requiring separate commands for switching on and off.

SOURCE INFORMATION

When active (YES) each time the source is changed information is displayed relative to the signal type. When disabled (NO) no information is displayed relative to the selected source.

OSD BACKGROUND

Determines the type of background for the *On Screen Display*.

OSD TIMEOUT

Use this adjustment to set the display time after which the *On Screen Display* will disappear. The ◀ (decrease) and ▶ (increase) keys set the timing (within a 5-60 second timeframe).

OSD POSITION

Allows the *On Screen Display* to be positioned in a particular area of the projected image. The OSD can be positioned using the arrow keys for fine adjustments or keys 1...9 on the remote control to select one of 9 preset positions.

MEMORIES

The main picture parameters can be saved in discrete sets of values called MEMORIES so that they can be subsequently applied as a group using a single command.

3 separate Memories (Memory 1, Memory 2, Memory 3) are available for each of the 25 types of signals:

1 VIDEO	5 COMP/RGB(YPrPb 15kHz)	5 COMP/RGB(RGB 15kHz)
2 VIDEO	5 COMP/RGB(YPrPb 32kHz)	5 COMP/RGB(RGB 32kHz)
3 S-VIDEO	6 COMP/RGB(YPrPb 15kHz)	6 COMP/RGB(RGB 15kHz)
4 S-VIDEO	6 COMP/RGB(YPrPb)	6 COMP/RGB(RGB)
	7 COMP/RGB(YPrPb 15kHz)	7 COMP/RGB(RGB 15kHz)
	7 COMP/RGB(YPrPb)	7 COMP/RGB(RGB)
	8 COMP/RGB(YPrPb 15kHz)	8 COMP/RGB(RGB 15kHz)
	8 COMP/RGB(YPrPb)	8 COMP/RGB(RGB)
	9 GRAPHICS RGB	
	10 GRAPHICS RGB	
	11 DVI-D (RGB)	
	11 DVI-D (YPrPb)	
	12 HDMI	

for a total of 75 memories.

The image parameters that can be stored/retrieved by the Memories management system are as follows:

Image

BRIGHTNESS
CONTRAST
COLOUR
TINT
SHARPNESS
FILTER
SHARPNESS MODE
VIDEO TYPE
NOISE REDUCTION

Picture

ASPECT
COLOUR TEMPERATURE
OVERSCAN
GAMMA

Some of these parameters may not be available for certain inputs or certain input signals, in accordance with the definitions in *Tables 4* and *5*.

Pressing the **■** key on the remote control or the **◀** key on the keypad (*Fig.30*) serves to activate the Memories management menu page.

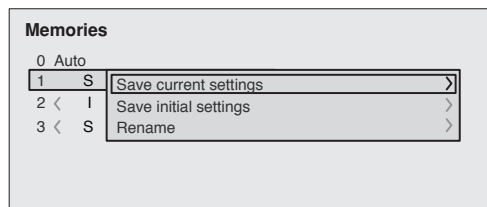


Fig.30

The available operations for each selected memory are described below.

Saving a memory

To save the image parameter current values in memory 1, move the cursor to line '1' with the **▲** and **▼** keys and open the pull-down menu by pressing the **◀** key (*Fig.31*). Select the line *Save current setting*. To confirm the operation, the message *Current settings saved in Memory 1* is displayed at the bottom of the screen and the letter **S** appears to the left of the memory name. Memories 2 and 3 are saved using the same procedure.

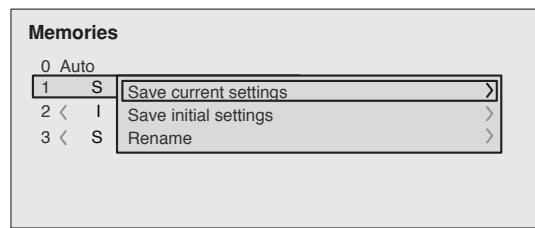


Fig.31

Recall memories

To retrieve memories select the required line and press the **▶** key. The parameters stored in the selected memory will be applied to the displayed image, while a confirmation message will be displayed to confirm the operation *Memory 1 recalled*. The retrieved memory is associated with the specific source and signal type and called automatically whenever that specific combination of source and signal type is selected.

Restore memories

To restore the original values of a previously modified Memory, select the line relative to the Memory in question and open the corresponding drop-down menu (◀ key). Select the line *Save initial settings*.

To confirm the operation, the message *Initial settings saved in Memory 1* is shown at the bottom of the display and the letter "I" appears to the left of the memory name.

Rename memories

All Memories can be named. To enter a name (maximum length of 12 alphanumeric characters) select the option *Rename* in the relative drop-down menu. The text is input in accordance with the method described under the heading *TEXT INSERT* in the MENU section.


Restore current values

When you open the MEMORIES menu a copy of the current settings is saved in a temporary memory (designated by 0 - AUTO). After having retrieved one or more memories you can restore the settings existing at the time you opened Memories menu by selecting Memory '0' (0 - AUTO). Note that this operation must be executed before the MEMORIES menu page disappears (30 seconds after the final operation with the remote control or keypad). The next time it appears, in fact, the temporary memory will contain new information that takes account of any Memories that were selected in the penultimate access to the MEMORIES page.

Memory 0 can be used even when you do not wish to enable Memories management for the signal in use. In effect, once it is selected, when a source is chosen the system will automatically reload the settings that were active the last time the memory was retrieved.

INFO

Displays the current status of the projector and information concerning the projected video/graphic signal.

This function is displayed on pressing the  key on the remote control (or, in the absence of the *On Screen Display*, the ▶ key on the keypad).

QUICK MENU

The quick menus provide access to the main adjustments that affect image quality, without calling the main On Screen menus. BRIGHTNESS, CONTRAST, COLOR, TINT, SHARPNESS and FILTER adjustments appear at the bottom of the screen, one after another, on pressing the ▲ and ▼ keys.

MESSAGES

The following messages could appear on your screen:

No Signal

The system does not recognise any signal applied to the selected input. In this case:

- Make sure the selected input is connected to a video or graphic signal and that the relevant source is functioning correctly.
- Check the condition of the cables used to connect the system to the various sources.
- Make sure the video or graphic signals supplied by the source are compatible with the system's technical specifications and, in particular, with those of the selected input.

Out of range

This message appears when either the resolution or the vertical/horizontal frequency of the input signal exceeds system specifications (e.g. a QXGA graphic signal) or when an input is supplied with an incompatible signal (after setting the components input to YCrCb 15kHz a progressive signal is connected).

10 CLEANING AND MAINTENANCE

The DigiOptic™ Image Processor do not require internal adjustments and do not contain any user-serviceable parts.

To change the lamp, or for any repairs, always contact your nearest technical service centre that will resolve all your problems in a courteous and efficient manner.

To clean the outer cover of the projector use a soft cloth and moisten slightly if necessary with water and a small amount of

neutral soap. Do not rub hard on the printed captions on the rear panel.

The lens may be cleaned with a very soft, non-abrasive small brush, in order to remove dust particles. Alternatively, use a soft dry cleaning cloth (of the type used for camera lens cleaning) to remove fingerprints and grease marks.

11 TROUBLESHOOTING GUIDE

No power (LEDs always OFF)

- Check that the units' power switches are set to I.
- Check that the power cables are correctly connected to the units' power sockets.
- Check the condition of the fuse located on the power socket on the rear of the Projector.
- Replace the fuse located on the Projector power socket with an identical type (T 5A H).
- If the fuse blows repeatedly, seek technical assistance from your nearest Dealer.

Lamp fails to switch on

- Allow a few minutes between switching off and switching on again. This will allow the lamp to cool down sufficiently.
- If the lamp fails to illuminate - even though the unit has had time to cool down - seek technical assistance from your nearest Dealer.
- Check the state of the connection by interpreting the code displayed by the system LEDs in accordance with *Table 3*.

No image

- Make sure the selected input is connected to a video or graphic signal and that the relevant source is functioning correctly.
- Make sure the video or graphic signals supplied by the source are compatible with the C3X-LINK system's technical specifications and, in particular, with those of the selected input.

- Check the condition of the cables used to connect the DigiOptical™ Image Processor to the various sources.
- Check the state of the connection between the DigiOptical™ Image Processor and the Projector.
- Check the state of the connection by interpreting the code displayed by the system LEDs in accordance with *Table 3*.
- Make sure the cooling air vents on the units are not blocked and that the ambient temperature is below 35°C.
- Make sure you have followed the power-up procedure properly.

Image is disturbed, unstable or noisy

- Check compatibility of the video or graphic signals with the technical specifications of the system, and specifically, with the specifications of the selected input.
- Check the condition of the cables used to connect the DigiOptical™ Image Processor to the various sources.
- If the problem occurs on a terrestrial broadcast source signal, check that the receiver has been correctly tuned in and that the aerial system is in good working order.
- If the problem occurs in a video signal from a videorecorder, ensure that the videotape is an original "first generation" copy and that VCR mode is active in the PICTURE menu.
- Adjust the Sharpness parameter in the PICTURE menu to optimise the projected image.

Incomplete image along borders (vertical and horizontal)

- Check compatibility of the video or graphic signals with the technical specifications of the system, and specifically, with the specifications of the selected input.
- Recall the automatic image adjustment function by pressing the A key on the remote control or the AUTO key on the Projector's keypad.
- Adjust the horizontal or vertical position of the projected image using the IMAGE / POSITION menu.
- Adjust the width and height of the image, selecting Aspect in the IMAGE / ASPECT menu.
- Adjust the overscan value used for the projected image on the IMAGE / OVERSCAN menu.

Image too dark, too pale or unnaturally coloured

- Check compatibility of the video or graphic signals with the technical specifications of the system, and specifically, with the specifications of the selected input.
- Adjust the CONTRAST, BRIGHTNESS, COLOUR and TINT parameters in the PICTURE menu.
- If necessary, adjust COLOUR TEMPERATURE and GAMMA CORRECTION (IMAGE MENU).

Graphic image with poor quality vertical detail

- Check compatibility of the video or graphic signals with the technical specifications of the system, and specifically, with the specifications of the selected input.
- Press A on your remote or AUTO on the Projector keypad to make automatic adjustments.

- Adjust FREQUENCY and PHASE parameters in the IMAGE menu to optimise vertical detail of the projected image.

Video Image showing colour misalignment on vertical details

- Check compatibility of the video or graphic signals with the technical specifications of the system, and specifically, with the specifications of the selected input.
- Adjust Y/C DELAY settings in the IMAGE menu to reduce colour misalignment.

Remote control does not work

- Check remote control battery power and correct polarity.
- Ensure the area between the infrared sensors (on the front panel of the DigiOptic™ Image Processor and on the front of the Projector) is free from obstructions.
- Make sure the infrared sensors on the front panel of the DigiOptic™ Image Processor and at the front of the Projector are not exposed to intense light sources.

12 OPTIONAL ACCESSORIES

You can purchase the following optional accessories at your Dealer:

- Kit for ceiling fitting
- Lens type (T1, T2)

Refer to the *Additional Information* section for more detail on the projection distances and dimensions of the projected image. Always contact your service centre in order to change the lens. Use only original, or **SIM2 Multimedia** approved, accessories.

CAUTION: for ceiling installation, by means of suspension bracket, carefully follow the instructions and safety instructions recommended by the Manufacturer in the bracket's literature.

13 ADDITIONAL INFORMATION

PROJECTION DISTANCE

Type Lens	T1	T2
Throw Ratio	1,5 — 2	2 — 3

Prpjection distance									
Type Lens	T1					T2			
Image width	Min		Max		Min		Max		
203 cm (80")	305 cm	10,0 ft	406 cm	13,3 ft	406 cm	13,3 ft	610 cm	20,0 ft	
254 cm (100")	381 cm	12,5 ft	508 cm	16,7 ft	508 cm	16,7 ft	762 cm	25,0 ft	
305 cm (120")	457 cm	15,0 ft	610 cm	20,0 ft	610 cm	20,0 ft	914 cm	30,0 ft	
381 cm (150")	573 cm	18,9 ft	762 cm	25,0 ft	762 cm	25,0 ft	1143 cm	37,5 ft	
457 cm (180")	686 cm	22,5 ft	914 cm	30,0 ft	914 cm	30,0 ft	1372 cm	45,0 ft	
508 cm (200")	762 cm	25,0 ft	1016 cm	33,3 ft	1016 cm	33,3 ft	1524 cm	50,0 ft	
635 cm (260")	953 cm	31,3 ft	1270 cm	41,7 ft	1270 cm	41,7 ft	1905 cm	62,5 ft	
762 cm (300")	1143 cm	37,5 ft	1524 cm	50,0 ft	1524 cm	50,0 ft	2286 cm	75,0 ft	

PROJECTOR

OPTICAL

Optical system: triple panel DMD™ HD2+ FTP DarkChip3™(1280x720 pixels)

Lamp: 250W

ELECTRONICS

Input/Output: 3-channel fibre optic link

GENERAL PROJECTOR

Power supply cable: (EU, UK and US); length 2 m
 Supply: from 100 to 240 Vac, +/- 10% tolerance
 frequency 48 to 62 Hz
 Consumption: 340 W max
 Fuse: T 5 A H, 5 x 20 mm
 Dimensions of projector: 435 x 190 x 430 mm (WxHxD)
 Weight (approx.): 11 kg
 Operating Temperature: 10 to 35 °C
 Transportation temperature: -15 to 55 °C
 Storage temperature: -15 to 55 °C
 Humidity: 20% to 95% non-condensing
 Safety: EN 60950
 Transportability: desktop equipment
 Electromagnetic compatibility: EN 55022 Class B
 EN 55024
 EN 61000-3-2
 EN 61000-3-3
 Transport: IEC 68-2-31, IEC 68-2-32

DIGIOPTIC™ IMAGE PROCESSOR**ELECTRONICS**

Input signals:

- 2 COMPOSITE VIDEO (CVBS)
 RCA type connectors, gold-plated
 1.0 V_{pp} / 75 Ω, negative sync
- 2 S-VIDEO (Y/C)
 4-pin mini-DIN connectors
 Y: 1.0 V_{pp} / 75 Ω, negative sync
 C: 0.286 V_{pp} / 75 Ω, [NTSC nominal burst level]
 0.3 V_{pp} / 75 Ω [PAL, SECAM nominal burst level]
- 4 COMPONENTS (Y/Cr/Cb/HV) - RGBHV
 3 sets of 5 RCA connectors, gold-plated

1 set of 5 BNC type connectors, gold-plated

- Components signal
 Y: 1.0 V_{pp} / 75 Ω, negative or 3-level sync [HDTV]
 Cr,Cb: 0.7 V_{pp} / 75 Ω
- RGB signal
 R,B: 0.7 V_{pp} / 75 Ω
 G: 0.7 V_{pp} / 75 Ω, separate H, V or HV sync
 1.0 V_{pp} / 75 Ω, negative or 3-level sync [HDTV]
 H,V: TTL positive or negative, 0.3-5 V_{pp} / 1 kΩ
- 2 RGBHV (analog RGB)
 female DB15HD connectors
 R,B: 0.7 V_{pp} / 75 Ω
 G: 0.7 V_{pp} / 75 Ω, separate H, V or HV sync
 1.0 V_{pp} / 75 Ω, negative or 3-level sync [HDTV]
 H,V: TTL positive or negative, 0.3-5 V_{pp} / 1 kΩ
- 1 DVI (digital RGB-YCrCb)
 DVI-D female connector
- 1 HDMI™ HDCP

Input/Output: 3-channel fibre optic link
 Control: Panel (keypad), remote control, via RS232 from PC or home automation devices
 Horizontal frequency: from 15 to 80 kHz (up to UXGA, 65 Hz)
 Vertical frequency: 48 -100 Hz
 Video standards: automatically selected (PAL B,G,H,I,M,N,60, SECAM, NTSC 3.58 and 4.43)
 High definition video: ATSC HDTV (480p, 720p, 1080i)
 Graphic standards: VGA, SVGA, XGA, SXGA, UXGA
 Colour temperature: from 6500 to 10000 K (36 possible values)
 Control: infrared remote control, RS232 serial (DB9 connector, female)
 USB 1.1
 Outputs: 2 12-V jack connector outputs (1 active with system powered on, 1 active with 16:9 aspect ratio selected)
 1 Optical Audio Output (TOSLINK connector)

GENERAL DIGIOPTIC™ IMAGE PROCESSOR

Power supply cable: (EU, UK and US); length 2 m
 Supply: from 100 to 240 Vac, +10% -9% tolerance, frequency 48 to 62 Hz
 Consumption: 30W max
 Dimensions: 440 x 57 x 289 mm (WxHxD); compatible with 19" rack
 Weight (approx.): 2.5 kg
 Operating Temperature: 10 to 35 °C
 Transportation temperature: -15 to 55 °C
 Storage temperature: -15 to 55 °C
 Humidity: 20% to 95% non-condensing
 Safety: EN 60950
 Transportability: desktop equipment

Electromagnetic compatibility: EN 55022 Class B
 EN 55024
 EN 61000-3-2
 EN 61000-3-3
 Transport: IEC 68-2-31, IEC 68-2-32

LINK CABLE

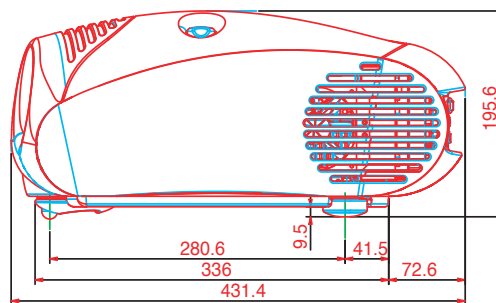
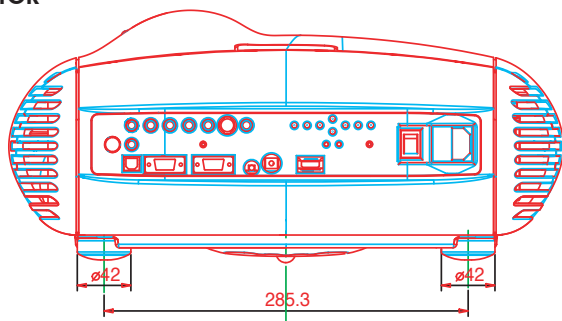
Composition: three 50/125 μm multimode optical fibre cables
 Connectors: LC type
 Length: 20.0±0.2m
 Diameter: 5 mm max
 Tensile strength: 1200N*
 Type Approval: UL OFNP

*traction applied on outer cable, not on fibre cores or connectors.

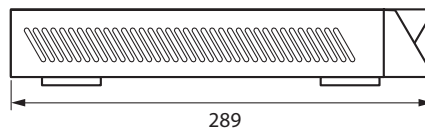
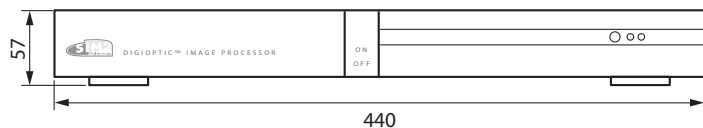
DIMENSIONS

Unit of measurement: mm

PROJECTOR

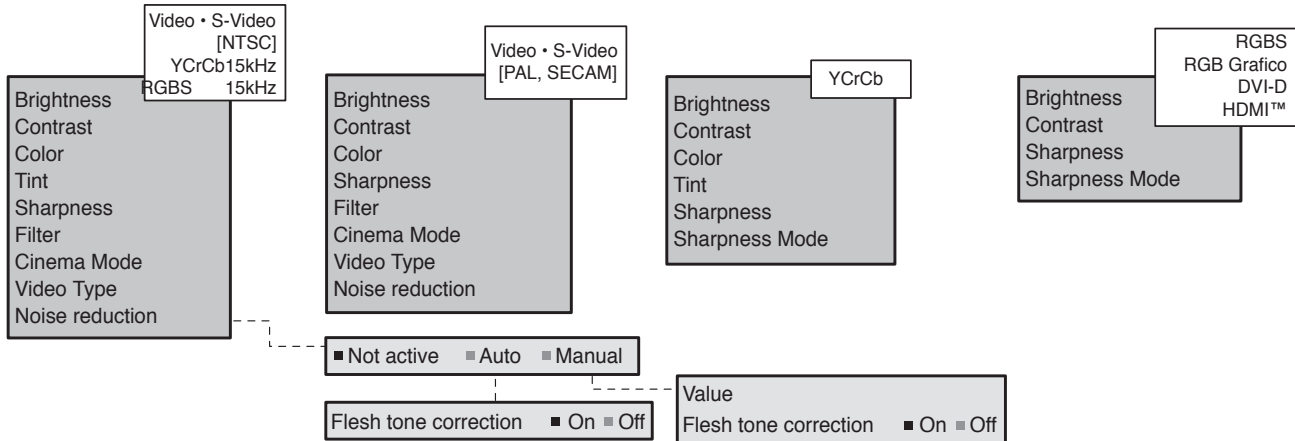


DIGIOPTIC™ IMAGE PROCESSOR

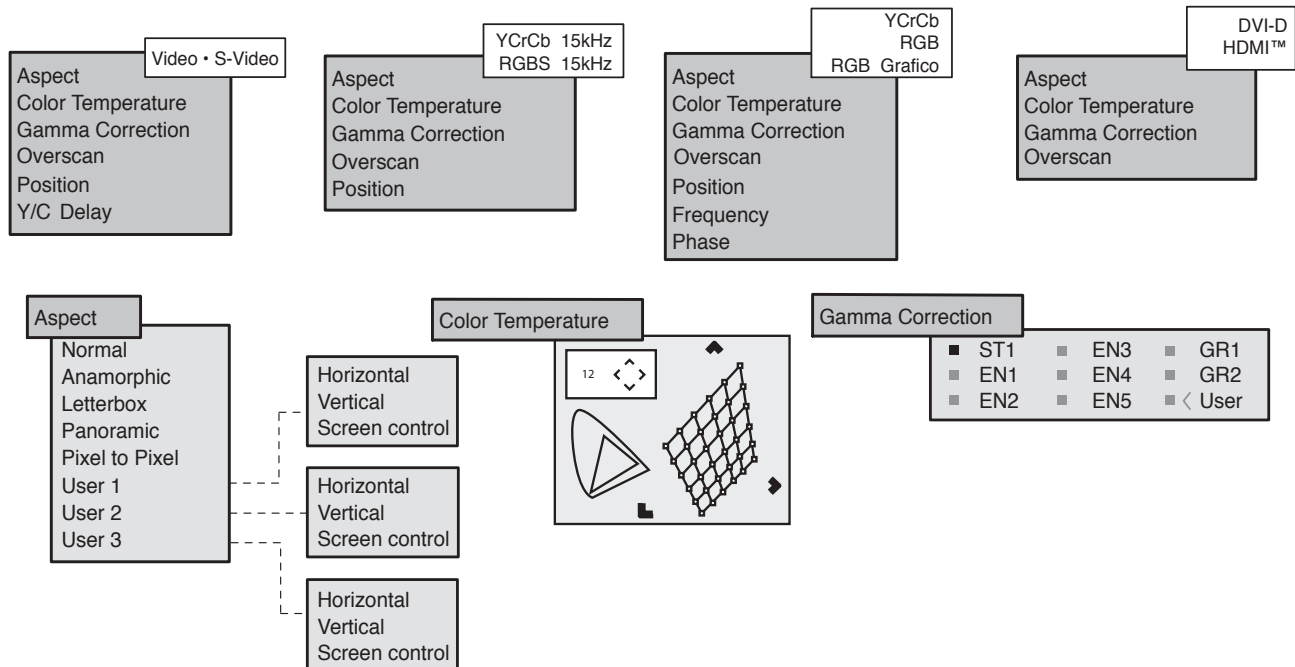


ON SCREEN MENU LAYOUT

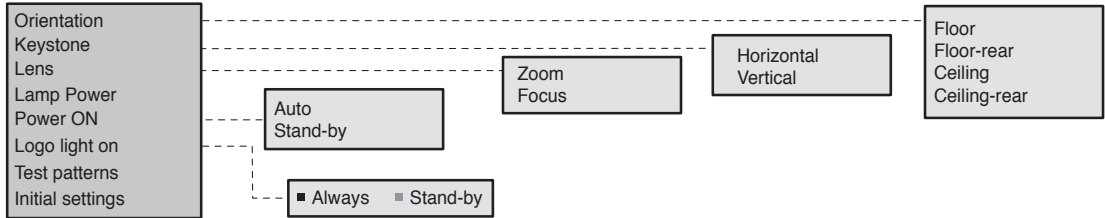
Picture



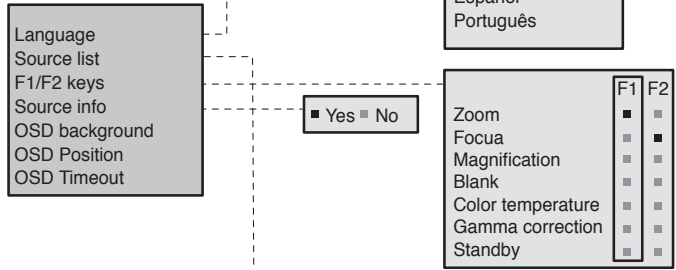
Image



Setup

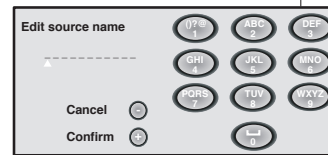


Menu



- √ 1 VIDEO 1 < VIDEO 1
- √ 2 VIDEO 2 < VIDEO 2
- √ 3 S-VIDEO 3 < S-VIDEO 3
- √ 4 S-VIDEO 4 < S-VIDEO 4
- √ 5 COMPONENT / RGBS 5 < COMP RGB 5
- √ 6 COMPONENT / RGBS 6 < COMP RGB 6
- √ 7 COMPONENT / RGBS 7 < COMP RGB 7
- √ 8 COMPONENT / RGBS 8 < COMP RGB 8
- √ 9 GRAPHICS RGB 9 < GRAPH RGB 9
- √ 10 GRAPHICS RGB 10 < GRAPH RGB 10
- √ 11 DVI-D 11 < DVI-D 11
- √ 12 HDMI 12 < HDMI 12

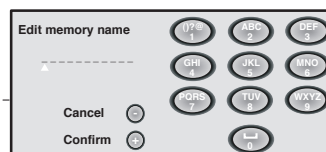
Active Yes No
Name >



Memories

- Memories**
- 0 Auto
 - 1 < S MEMORY 1 >
 - 2 < S MEMORY 2 >
 - 3 < S MEMORY 3 >

- Save current settings >
- Save initial settings >
- Rename >





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