



# USER MANUAL

*Model 4802*

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A TEXAS INSTRUMENTS TECHNOLOGY

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# **“Limited Warranty”, “FCC Statement” and “Trademarks Copyright”**

## **1. Limited Warranty**

Except as otherwise stated herein, warrants to the first end-user who purchases a Projector from a dealer (“Customer”) that the Projector is free from defects in parts and labour under normal use during the warranty period. The warranty period means the twelve (12) month period from the date of the Customer’s purchase of the Projector from a dealer. During the warranty period, Distributor will, at its option and in its sole discretion, repair or replace defective parts, including replacement of the entire Projector unit, at no additional charge to the Customer. However, Customer is responsible for all shipping and insurance costs incurred in sending any Projector to any authorised personnel for repair or replacement, and Customer is also responsible for all shipping and insurance costs incurred in returning any such Projector to the Customer which does not require any repair or replacement work, as determined by Distributor in its sole discretion. This limited warranty does not extend to the Projector lamp, and does not extend to any Distributor product that has been damaged as a result of accident, misuse, or abuse; by the use of parts not manufactured or sold by Distributor; by unauthorised modification of the

Projector; or as a result of servicing by unauthorised personnel. This limited warranty extends only to the Customer, and is not transferable or applicable to any other third party or user, including any one who purchases a used Projector. Any person asserting a claim under this limited warranty must establish to Distributor’s satisfaction the date of purchase and that the Projector was purchased new.

## **2. OTHER WARRANTY AND LIABILITY LIMITATIONS**

ASIDE FROM THIS STANDARD PUBLISHED WARRANTY, DISTRIBUTOR MAKES NO WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION, THOSE OF MERCHANTABILITY AND OF FITNESS FOR A PARTICULAR PURPOSE. Without limiting the generality of the foregoing, any description of the Projector is for the sole purpose of identifying it, is not part of the basis of any bargain, and does not constitute a warranty that the item sold shall conform to that description. The use of any sample or model is for illustrative purposes only, is not part of the basis of any bargain, and is not to be construed as a warranty that the Projector will conform to the sample or model. No affirmation of fact or



promise made by Customer shall constitute a warranty that the Projector will conform to the affirmation or promise. Distributor makes no warranty that the goods are free from claims of infringement of patents, trademarks, or copyrights. THIS LIMITED WARRANTY SHALL BE THE EXCLUSIVE REMEDY. DISTRIBUTOR SHALL NOT BE LIABLE TO CUSTOMERS OR OTHERS FOR INCIDENTAL, CONSEQUENTIAL, OR SPECIAL DAMAGES, OR LOST PROFITS. UNDER NO CIRCUMSTANCE SHALL DISTRIBUTOR'S LIABILITY OR CUSTOMER'S REMEDY FOR DAMAGES AGAINST DISTRIBUTOR EXCEED ITS COST FOR THE PROJECTOR.

### **3. Procedure for Claims**

Any and all questions or claims concerning the Projector shall be made to Distributor authorised personnel. In no case shall the Projector be returned without first securing the authority of Distributor or its authorised personnel. Any damages to, defects in, loss of, nonconformities in, or any other claim concerning the Projector which could be discovered by inspection upon delivery must be reported to the distributor promptly and in no event later than thirty (30) days after delivery. In the case of any such claim, inspection shall be promptly arranged with Distributor or its authorised personnel, and where appropriate, representatives of

the carrier. Any other claim or action respecting the condition or conformity of the Projector or any other matter affecting the Projector must be submitted in writing to Distributor promptly upon discovery and in no event later than expiration of the Warranty Period. Any part of the Projector which is subject of any claim shall be set aside and protected, without further processing or use, until Distributor or its authorised personnel have an opportunity to inspect it and advise Customer of the disposition, if any, to be made thereof. FAILURE TO GIVE TIMELY WRITTEN NOTICE OF ANY CLAIM SHALL BAR ANY REMEDY.

### **4. Technical Advice**

Distributor, or its authorised personnel, may furnish technical advice with reference to the use of the Projector, but there is no obligation to furnish such advice, and if any advice or assistance is furnished, it shall be given and accepted at Customer's risk. Distributor shall not be responsible or liable for the advice or assistance given or the results thereof.

### **5. FCC Statement**

The Projector has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful inter-



ference when it is operated in a commercial environment. The Projector generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions manual, may cause harmful interference to radio communications. Operation of the Projector 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.

#### **Trademarks Copyright**

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## 1 Introduction

### Thank you for buying this Projector, and for choosing "the brighter way of presenting".

The Projector will display high brightness images with vivid colours, even under normal light conditions. As input for your presentation you can use CD-I, (ask your dealer for the CD-I player), CD ROM, Photo CDs, Laser Disks, normal VCRs or computers. You can connect a microphone and have multiple inputs connected simultaneously for high impact true multimedia presentation.

Thanks to the unique Graphical User interface, the Projector offer true plug and play operation from remote control, which by the way can also control your computer! For good measure we have even included the Slide Works presentation utility software with over 50 powerful presentation tools included.

Ask your dealer for information about other presentation products and accessories. For added security and convenience try our extended warranty program.

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## 2 Identifying the different parts of the Projector

### Before you start

Please take a few minutes to make sure that your system contains the necessary components for your particular application:

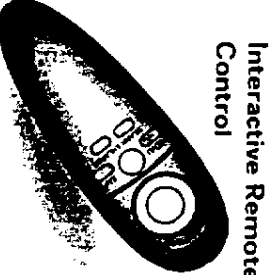
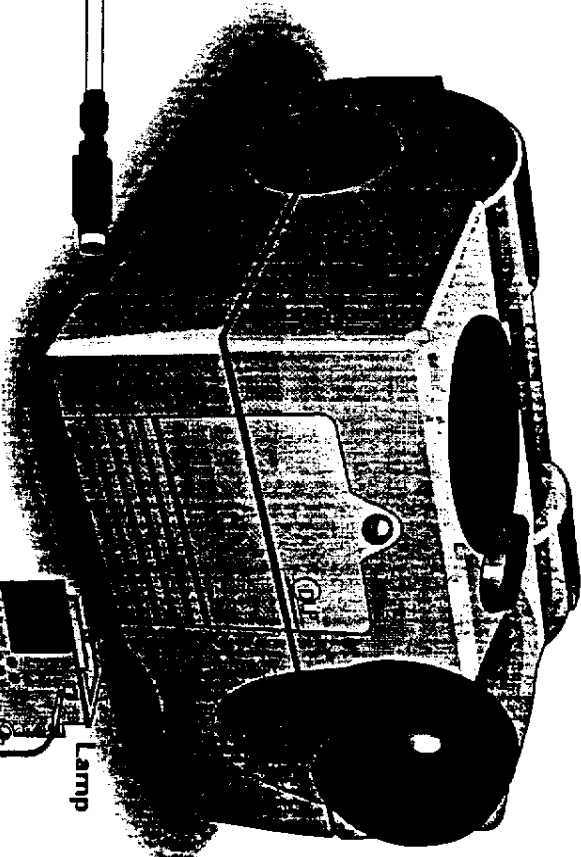
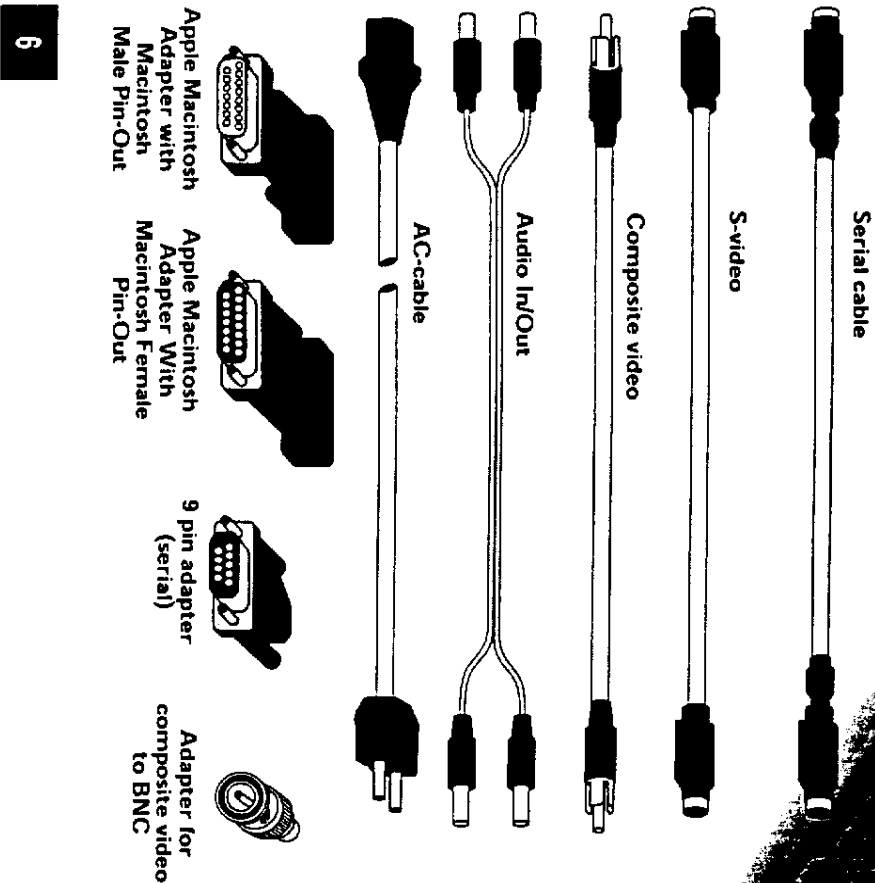
- ◆ Projector Hardcase
- ◆ Projector
- ◆ 5 meter (16 ft.) RGB buffer cable
- ◆ Interactive remote control
- ◆ Batteries for the remote control
- ◆ 2 Macintosh adapters
- ◆ Diskette with Macintosh driver software
- ◆ Diskette with the Slideworks presentation utility software
- ◆ Composite video cable
- ◆ Super video cable (4 pin)
- ◆ Cable for Audio (2RCAm - 2RCAm)
- ◆ Adapter BNC-Composite
- ◆ AC cable (4m)
- ◆ Serial cable (8 pin)
- ◆ 9 pin serial adapter

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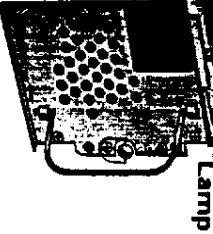




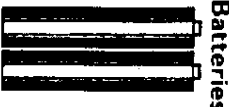
If you want to use the Projector to display video information, you will need the cables for S-video or composite video, all depending on the system you use.



Interactive Remote Control



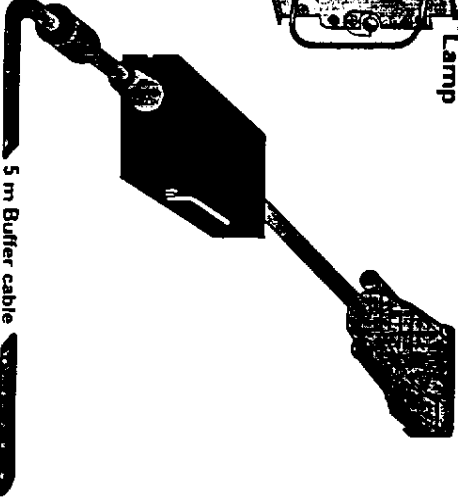
Lamp



Batteries



Diskettes



5 m Buffer cable



### 3 Important Information

- ◆ Please fill in the warranty card and return it to Customer.
- ◆ Always use the **Projector Hardcase** when you are transporting the Projector.

**NBI!** Even though the Projector is a rugged piece of presentation equipment, it is also a finely tuned optical equipment. The Projector is therefore susceptible to damage by vibration or shock. Please therefore use caution when transporting the unit.

The Projector lamp is installed on delivery. The lamp manufacturer specifies an average lifetime for the lamp. You should not use the lamp beyond this average lifetime. offers no warranty on the lamp. See the Quick Guide or part 7, Maintenance, Changing the lamp.

**WARNING!** Never work inside the Projector if it is connected to the mains! Always unplug it from the wall outlet when changing the lamp!

When the lamp has been replaced reset the lamp counter by selecting the icon with the lamp in the MAIN MENU. Select the Reset button, and then click OK.

- ◆ The height of the projected image on the screen can be adjusted by using the tilt screw underneath the back of the Projector.



## 4 Connecting the Projector to your computer

**This section describes how to connect the Projector to your PC, Macintosh, Powerbook or notebook in order to show computer graphics.**

1. Identify the parts needed to connect your computer with the Projector.
2. Identify the RGB Out connector on the back of your computer (the one that connects the monitor to the computer).
3. Make sure that the computer, monitor and the Projector are switched off.
4. Connect the power cable from the Projector to the wall outlet.
5. Locate the On/Off switch on the Projector. With all the connections done and the screws properly fastened, the Projector, and computer may be powered up. Switch on the units in the mentioned sequence.
6. The Projector will now automatically display the computer's image in parallel with the monitor. If not, see the section: Trouble shooting.
7. If you want to control your computer with the remote control, also connect the serial interface cable from the RGB buffer cable to the computer COM-port, see fig 10 or 11. Connecting the serial interface cable. Also see "Using the Interactive Remote Control to control your PC or Apple Macintosh computer".



# Connecting to a desktop computer

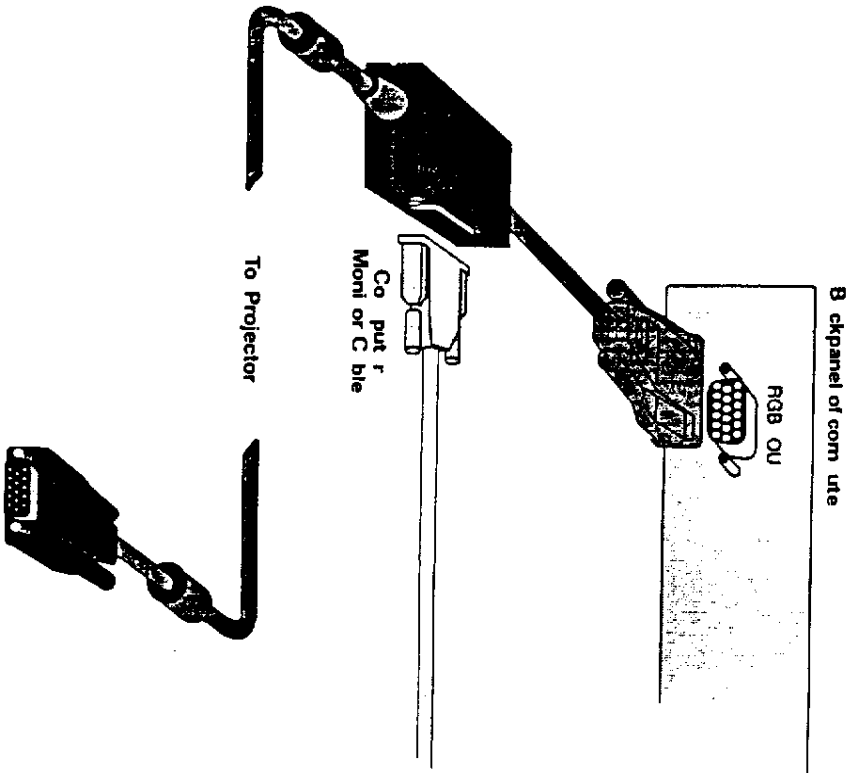


Fig. 3. Connecting to a desktop PC with standard RGB

# Connecting to an Apple Macintosh desktop computer

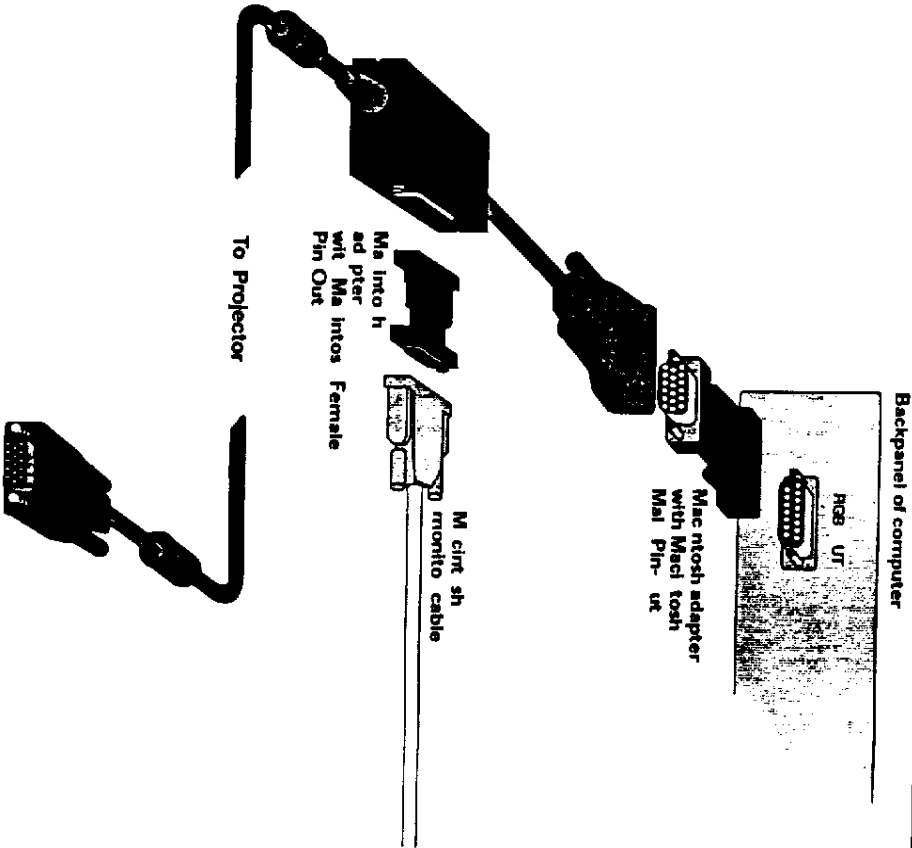


Fig. 3. Connecting to an Apple Macintosh desktop computer

## Connecting to a standard laptop, notebook

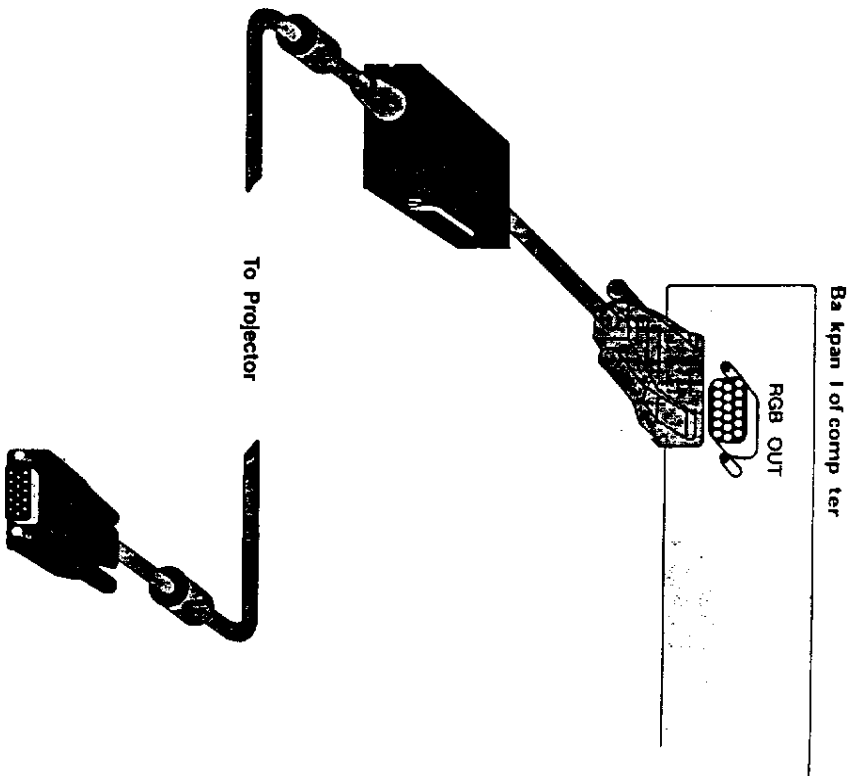


Fig. 4. Connecting to a laptop, notebook

## Connecting to an Apple Macintosh Powerbook

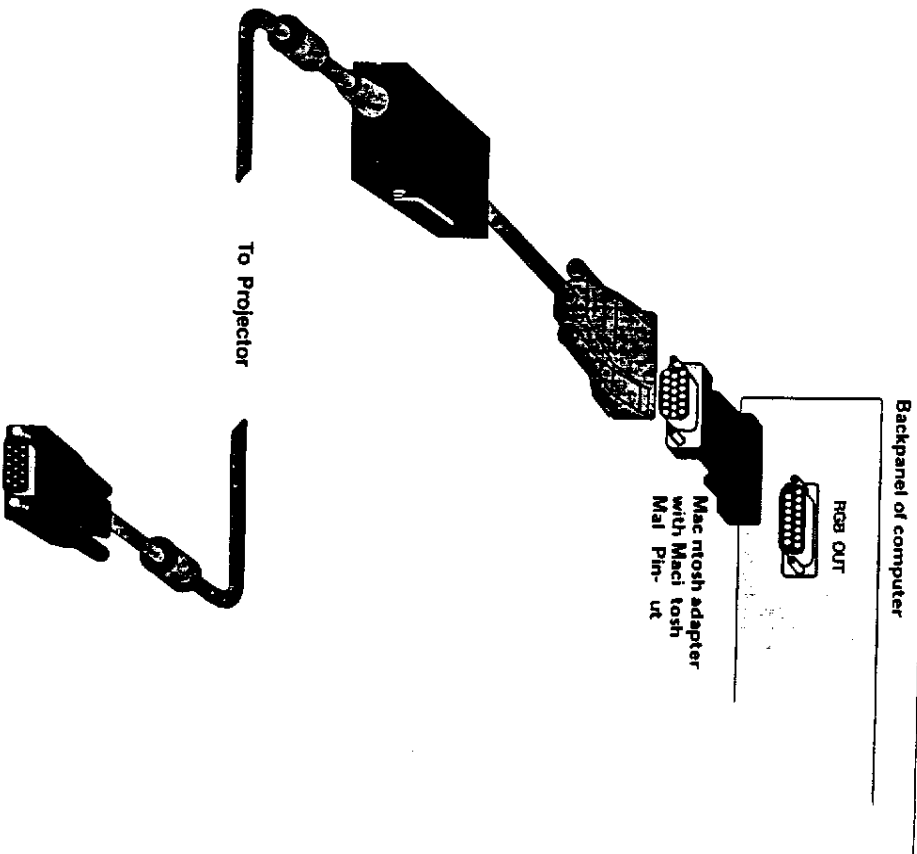


Fig. 5. Connecting to an Apple Macintosh Powerbook

## 5 Connecting the Projector to your video player

### Using composite video

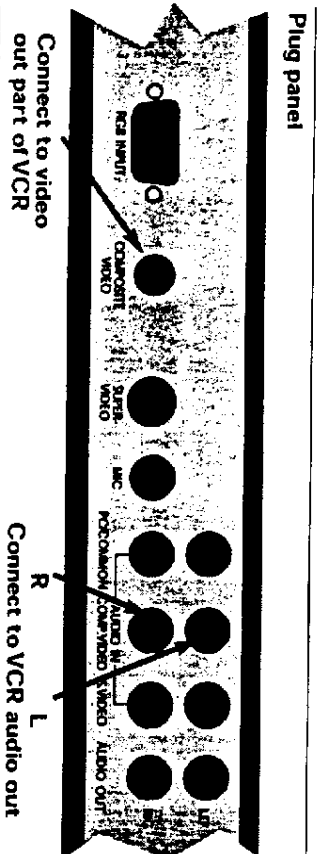


Fig. 6. Connecting to a composite video source

1. Find the Composite video cable, and the audio cable. See page 6, All cables and adapters are provided with the Projector.

2. Make sure that the video source and the Projector are switched off. Connect the Composite video cable (see page 6) from the Video out connector of the video source to the Composite video connector on the Projector plug panel, see fig. 6. Connect the audio cable from the Audio out connectors of the

video source to the Composite Audio in connectors on the Projector. Connect the red plug to the red connector, and the other plug to the white connector. Red is the right stereo channel.

3. Connect the power cable from the Projector to the wall outlet.
4. When all the connections are done and verified, switch on the video source, and then switch on the Projector.

5. The Projector will now automatically display the pictures from the video source. If not, see the section Trouble shooting.

You can connect external speakers to the Projector from the Audio out connectors on the plug panel.

## Using Scart video

The signals from the Scart connector are the same as from the Composite connector. If you have a Scart connector on your video, you will have to purchase a Scart to Composite interconnection. Connect the Scart end of the interconnection cable to your video, and then follow the procedure in the previous section, Using composite video.

## Using S-video

Plug panel

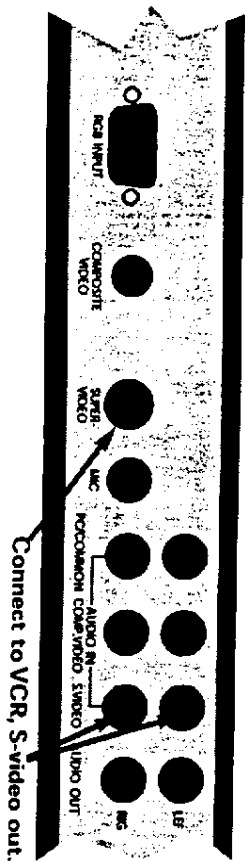


Fig. 7. Connecting to a SuperVideo source

1. Find the SuperVideo cable, see page 6.  
All cables and adapters are provided with the Projector .

2. Make sure that the video source and the Projector are switched off. Connect the SuperVideo cable from the S-Video out connector on the video source to the S-video connector on the Projector plug panel, see fig. 7.

Connect the audio cable from the audio out connectors on the video source to the S-video Audio in connectors on the Projector. Connect the red plug to the red connector, and the other plug to the white connector. Red is the right stereo channel.

3. Connect the power cable from the Projector to the wall outlet.
4. When all the connections are done and verified, switch on the video source, and then switch on the Projector.
5. The Projector will now automatically display the pictures from the video source. If not, see the section Trouble shooting.

You can connect external speakers to the Projector from the Audio out connectors on the plug panel.



## Using external speakers

You can connect external speakers to the Projector in two ways:

1. **Powered speakers** (Speakers with built in amplifier). These speakers can be connected directly to the audio out connectors on the Projector amplifier.
2. **Amplifier.** Connect the amplifier to the audio out on the Projector.

When external speakers are connected, These can be turned on or off from the Projector. To control the internal speakers, see section on Adjust audio settings, page 44.

## 6 Using the Projector

### Evaluating the environmental conditions

#### Light conditions

The Projector will display a high brightness image, even under normal light conditions and does not require any special considerations with respect to lighting. However, if you want to optimise the presentation environment, these are some of the aspects you may want to take into consideration:

Please take care to avoid direct and indirect light on the projection screen, as it will reduce the contrast of the image, and the quality of your presentation.

Further you should avoid light from the ceiling between the Projector and the projection screen. Behind the Projector, where the audience usually are, you could allow some more light, allowing the audience to see enough to for example take notes.





### **High Brightness Monochrome Mode**

If you want to present information in black and white you have the option of pulling the colour filter of the Projector out of the light path. By pulling the handle up you take away the colour filter, and the light goes unobstructed to the DMD (Digital Mirror Device) chip. This results in a projected image with much greater light output.

### **Projection screen**

The quality of the projection screen will also have a significant impact on the quality of the image presented. Different models offer varying degree of reflection. In general, screens with some form of reflective coating offer better image quality than do "regular screens".

### **Avoid overheating the Projector**

Cooling is very important for the Projector. Always place the Projector so that it has free space all around it, in order to enable air to circulate through the Projector.

Always make sure that the cooling fan is working. The DMD™ (Digital Mirror Device) inside the Projector is heat sensitive, and needs to be cooled. If the cooling fan is not working, turn off the Projector and consult your dealer.

**WARNING!** Never use the Projector if the cooling fan is not working. Using the Projector without cooling can seriously damage the projector.

## Using the Interactive Remote Control

The Interactive Remote Control has two purposes:

1. To access the MAIN MENU and control the various image adjustment and utility functions of the Projector.
2. To allow remote control of your computer.

Identify the Interactive Remote Control. The Interactive Remote Control is operated by pointing it towards the projection screen. An infra red beam bounces from the screen to an infra red receiver on the Projector.

### NOTE

Make sure that nothing is blocking the IR receiver located beneath the lens, or at the back of the projector, as this will prevent the communication between the Interactive Remote Control, and the Projector.

### NOTE

To ensure smooth operation, the combined distance from the remote control to the screen and back to the Projector should not exceed 10 meters (33 ft). If the distance via the screen is longer, you should point the remote control directly towards one of the IR receivers.

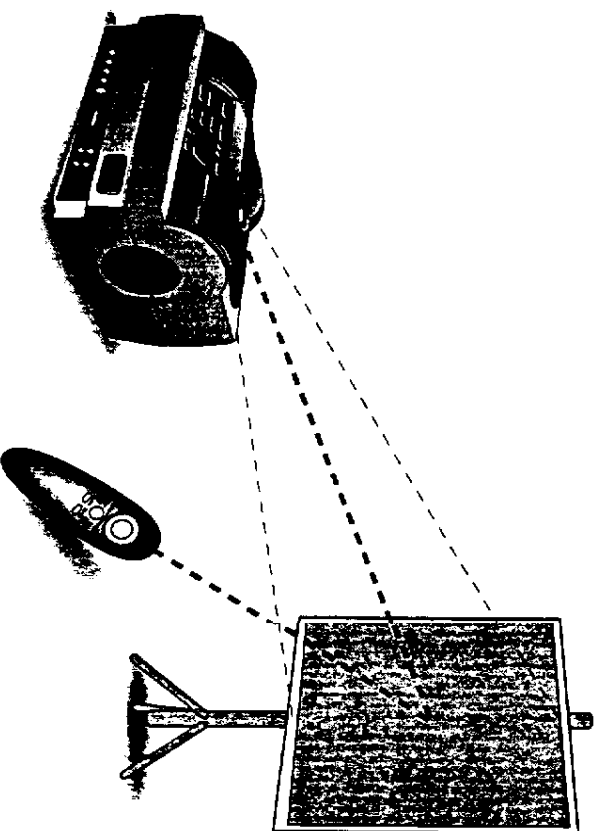


Fig. 8. The Interactive Remote Control communicates with the Projector.

This remote control works with Macintosh and with Microsoft Windows version 3.1 and higher, for interactive distance control of your computer. A unique pressure sensing pad on the remote control makes it very easy to control the computer, and to perform the exact same operations as you would with a normal mouse.

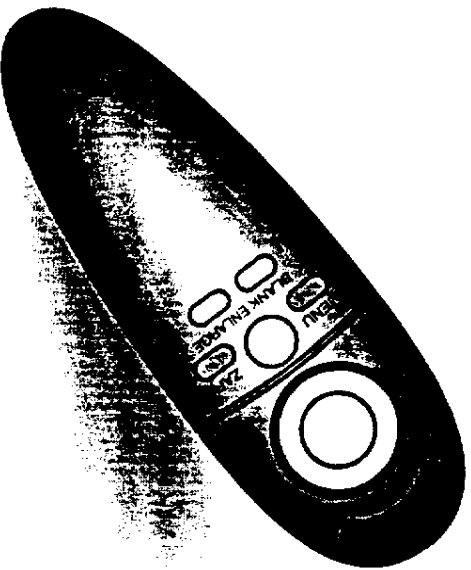


Fig. 9. The keys on the Interactive Remote Control

The serial interface cable and the PC serial adapter are supplied with the projector.

The Interactive Remote Control is very easy to operate. It has only six keys in addition to the pressure sensitive mouse pad.

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## The six keys are:

**Key underneath the Control** left mouse key.

**Small grey key:** interrupt/break an action  
(Right mouse key)

**Menu:** Press the Menu key to access the menu control functions. To move within the various menu functions, position the arrow cursor by pressing the sensitive mouse pad and doubleclick on the highlighted icon.

**Enlarge:** Press the Enlarge key to enlarge any part of the image. The image will automatically be enlarged four times. To move and enlarge any part of the image, press the sensitive mouse pad.

**Blank:** Press the Blank key to blank the image. To reveal parts of the image, press the sensitive mouse pad downwards. (curtain function).

**Zap:** Press the Zap key to perform the assigned function. To assign a function to the Zap key select the Zap icon from the menu. Choose between Freeze, Mute, Source, Pointer and On/off.

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## Hints for using the Interactive Remote Control

The Interactive Remote Control is unlike any other mouse device you have used before, and we therefore suggest that you take a few minutes to become accustomed to the new sensation of controlling the cursor by rocking your thumb.

Below we have included some suggestions to help you get started. With a little practice, you will quickly become a skilled user.

### Holding the Interactive Remote Control

The best way to hold the remote control is like a pistol grip, with your middle finger in the contoured channel on the underside, and your index-finger poised in front of the primary trigger button (button underneath; left mouse key). The thumb can be pulled back to activate any one of the other keys. You will also notice that the Interactive Remote Control works well for both left and right handed users.

### Using the pressure-sensing mouse pad

The Interactive Remote Control's pressure-sensing mouse pad converts the touch of your thumb into

smooth cursor movement. To move the cursor, place your thumb on the centre of the mouse pad and rock it in the direction you want the cursor to go. You can move the cursor in any direction - the Interactive Remote Control has a full 360° control. A light touch will produce slow, precise cursor movement. More pressure will increase the cursor speed - the harder you press, the faster the cursor moves. When you first try the Interactive Remote Control we suggest that you set the mouse speed (in the mouse control panel in Windows) to a minimum. This will facilitate the learning process. You can increase the sensitivity as you become more familiar with the Interactive Remote Control.

### To click an item

The button underneath and the small gray key on the Interactive Remote Control emulate those on a conventional mouse. The trigger button under the front of the Interactive Remote Control is equivalent to the left mouse button, and is used as the primary button. The small gray key on top of the Interactive Remote Control is equivalent to the right mouse button (the secondary button). Operation of these two buttons/keys are the same as on a regular mouse.



**To drag an item**

Simply press and hold the primary button (button underneath) while moving the cursor to the desired location. Release this button to complete the drag

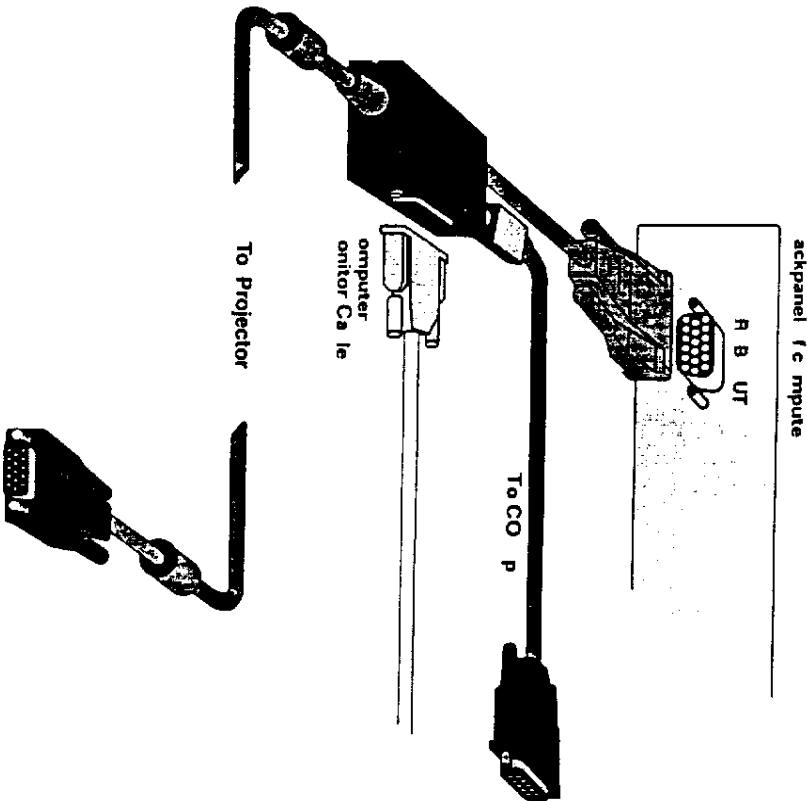


Fig. 10. Connecting the serial interface cable and adapter (PC)

operation. If your computer has Windows installed, you may wish to practice this function by playing the game of solitaire.

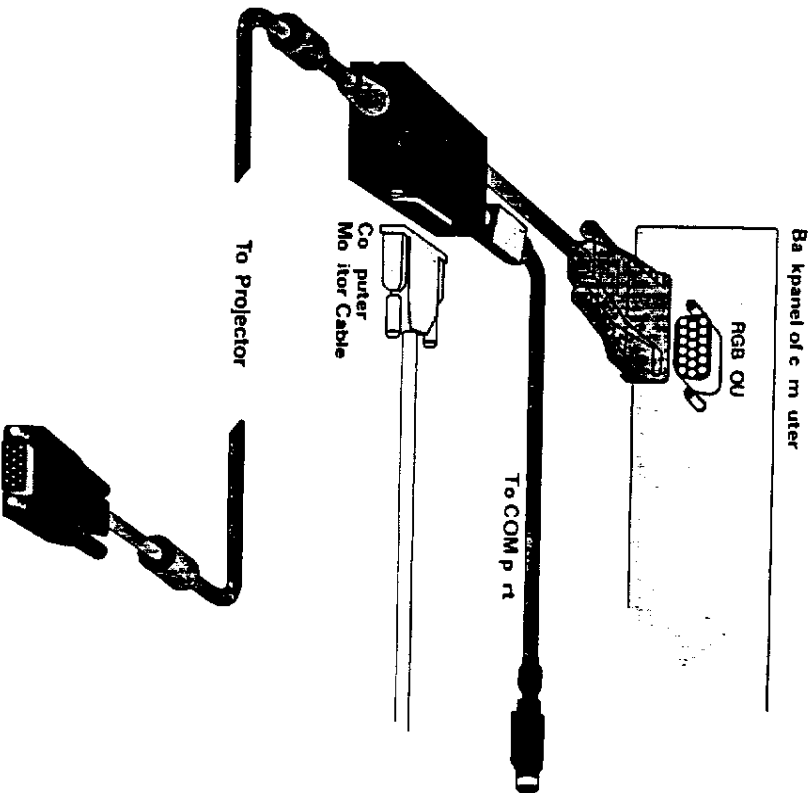


Fig. 11. Connecting the serial interface cable (Macintosh)

## "Using the Interactive Remote Control to control your PC or Apple Macintosh computer."

**Follow the easy steps below to set-up your computer to communicate with the products.**

### **If you have a PC**

The products will tell your computer that a serial mouse is connected, and this will make the Interactive Remote Control work just like your ordinary mouse. Remember that your mouse driver must be a Microsoft serial driver or compatible for the product to be able to communicate with your PC.

#### **Setup procedure**

- ◆ Turn all units off
- ◆ Follow the User Manual's guide for connecting the product to a PC.
- ◆ If you have a mouse connected to your PC this must be disconnected because the PC cannot find more than one mouse.
- ◆ Connect the serial data cable (8 pin) to the serial connector on the buffer box of your 5m buffer cable.
- ◆ Attach the other end to the serial adapter, and connect it to the serial port (9 pin) of your PC.
- ◆ Turn on the product
- ◆ Turn on your PC

When you enter Windows (or DOS, if your mouse driver is loaded here) you should now have full mouse control from your Interactive Remote Control.



## Projector: Special considerations

If the Interactive Remote Control does not work when you have followed the above steps please try the following

1. Make sure that your mouse driver in Windows Setup is "Microsoft, or IBM PS/2" in Windows 3.1 and 3.11 and "Microsoft serial mouse" or "standard serial mouse" in windows95 and WindowsNT. If another driver is installed please change it and restart Windows.

If changing the mouse driver does not help (this is something we have only experienced on portables) you must add/change information in your mouse.ini file (could also be named "mousedrive.ini").

2. Enter File Manager, and double click on the

appropriate mouse initiation file and make sure of the following. The important here is that "serial" is written as the first search point in the mouse type line of the INI-file.

Click on File and choose **Save**, and then exit the file. With the mouse.ini or mousedrive.ini marked click on File (in File Manager) and choose **Properties** cross out the "read only" box in the properties dialog box and then choose **OK**. This action will prevent Windows to overwrite the file later.

3. If this still does not help contact your dealer or call

technical support (see your warranty card or the infopage in the main menu for telephone number)



## If you have an Apple Macintosh computer

The products will tell your Macintosh that a serial communications device is connected. This means that the Interactive Remote Control together with the Apple Macintosh driver will work just like your ordinary mouse.

### Setup procedure

- ◆ Follow the User Manuals guide for connecting the product to a Macintosh.
- ◆ Connect the serial data cable (8 pin) to the serial connector on the buffer box of your 5m buffer cable.
- ◆ Attach the other end to either the MODEM or PRINTER port on your Macintosh.
- ◆ Turn on the product.
- ◆ Turn on your Macintosh.

### To install the Apple Macintosh driver software

- ◆ Insert the Apple Macintosh driver diskette
- ◆ Make sure the system folder is visible and closed.
- ◆ Drag the Remote Controller onto your system folder icon.
- ◆ The Macintosh will do the rest.
- ◆ If prompted about placing the Remote Controller in the control panel folder answer OK.
- ◆ It is not necessary to restart your Macintosh.

Refer to the section:  
Special consideration





**Special considerations:**

The communication with the hardware is handled via a serial communications connection to your Macintosh. As with all communication devices, extra care must be taken both in connecting the device and using it. Here are some points to remember:

1. The hardware serial connection must be connected to either the **MODEM** or **PRINTER** port of your Macintosh. If you connect to the printer port, you must check the **Use Printer Port option** in the control panel.
2. When using the remote control, you must be sure that all other installed devices / protocols (FaxModem software, AppleTalk, etc.) that use the port you have selected are either disabled (via the software supplied with the product) or switched to the other port.
3. After use you should re-enable all devices that were disabled in step 2 above.

**PowerBook:**

If you are using the Interactive Remote Control with a **PowerBook** portable with no printer port, please observe the following:

1. Be sure that AppleTalk is turned off before using the Interactive Remote Control. If AppleTalk was on, you may have to restart your PowerBook for the changes to take affect.
2. If you have a built in modem, select the **external modem option** in the **PowerBook** control panel
3. If you get an alert to the extent that you cannot turn off the internal modem because it is in use, follow these steps:
  - a) Go into the control panel of the control pane, and make sure the software is turned off (the LED on the main switch will be green)
  - b) Now you should be able to select the **external modem option** in the **PowerBook** control panel.
  - c) Afterwards, you can simply turn ON the driver via the control panel and you should not need to restart.

## AppleTalk:

To turn off AppleTalk do the following:

- 1) Select Chooser from the Apple menu
- 2) Select the Inactive radio button in the AppleTalk area (lower righthand side of the window)
- 3) You may have to restart your Macintosh

## Using the Remote Controller:

Make sure to complete the procedures above. To open the **Remote Controller** (control panel) double click on the icon in the control panel folder. Each time you open the control panel, it will check to see if the mouse driver is installed in the system. If it is not, the driver will be installed and activated automatically. You do not need to turn it on or restart.

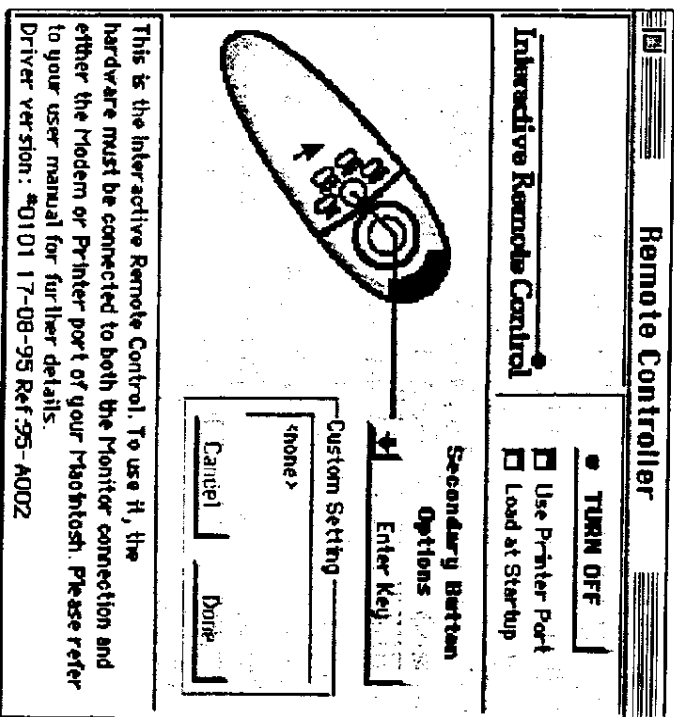


Figure 1 shows control panel.

## The window is divided into 4 main sections.

1. The logo (upper left)
2. The primary controls area (upper right)
3. The remote controller picture, **options** popup menu and **custom setting** input area (centre)
4. The **on-line** help area (bottom)

### The logo:

Clicking here will bring up the about box (also includes telephone numbers for technical support)

### The primary controls area:

In figure 1 (above) the on/off button indicates that the mouse driver is installed and activated (red LED indicates that things are turned on). To de-install and de-activate the driver, simply click on the button (the button text will change to TURN ON, and the LED will be green). It is always a good idea to turn off the driver when the unit is not connected, especially if you wish to attach another device to the modem or printer port of your Macintosh. Turning off the driver completely removes it from the system heap. This means, that when it is off, the remote driver uses NO SYSTEM RESOURCES AT ALL!

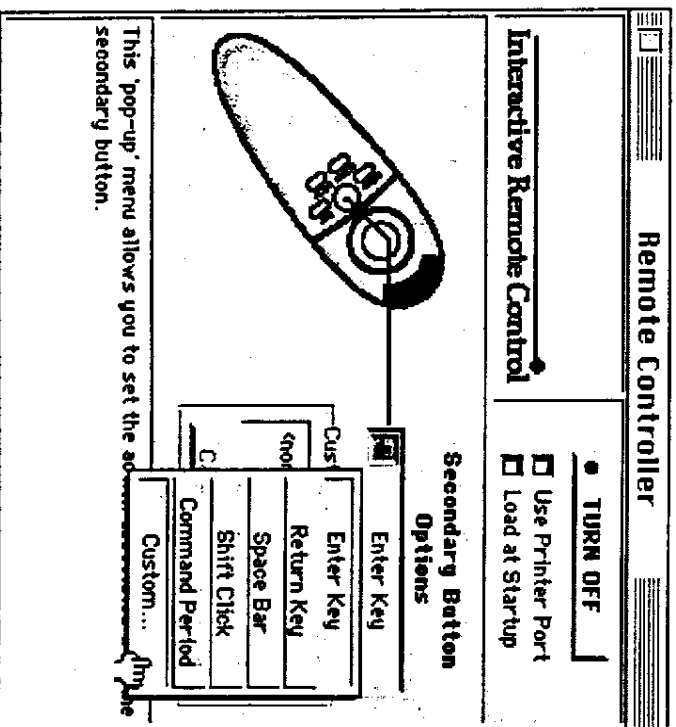
The two checkboxes allow you to control certain basic features.

1. Placing a checkmark in Use Printer Port will instruct the driver to expect remote data over the printer port on your Macintosh (the default connection is via the MODEM port). This setting will be remembered the next time you either turn on your Macintosh or open the control panel. As with activation / deactivation there is no need to restart your Macintosh.
2. Placing a checkmark in Load at Startup will enable the auto load function. Afterwards, every time you start your Macintosh, the remote driver will be loaded into the system and activated.



## The options popup menu:

Figure 2 shows control panel:  
The Options Menu



The options menu (figure 2) allows you to associate certain actions with pressing the secondary button (small grey key) on top of the Interactive Remote Control. There are 5 pre-defined selections as well as Custom (see below). As an example, say that you want the secondary button to emulate the Enter key. Simply choose the Enter key item in the popup menu and the

software will link your choice to the secondary button. Now, every time you press the secondary button the driver will pass that action, (in this example, enter key pressed) to the front application.

### The Custom Settings area:

Selecting Custom from the options popup menu will activate the Custom Settings area. As long as the title Custom Settings is blinking, the control panel will record any combination of key strokes and / or mouse clicks. Clicking cancel will stop recording and return you to the previously selected popup menu item. Clicking done will record your key strokes (clicks) and make that combination the current setting for the secondary button. Remember, while recording a sequence, do not inadvertently click on the done or cancel buttons.

### General and Special features:

The button underneath the Interactive Remote Control acts as the primary button or your standard Macintosh mouse button.

If you press the primary button and the secondary button (regardless of the action setting) you will activate the sticky button (button lock) feature. You can then release both buttons (first the secondary button) but leave the system in a mouse-down state. This can be



very useful when doing click-drags in either the Finder or word-processor. To release, press the secondary button again.

### The On-Line help area:

Moving the mouse over different items of the window will activate the on-line help for that item. In figure 1, the mouse is over the controller graphic, and the on-line help is giving you some information pertinent to it (notice that the on-line help for includes the driver version, this way you can easily check if you have the latest driver installed).

## Using the control panel on the Projector

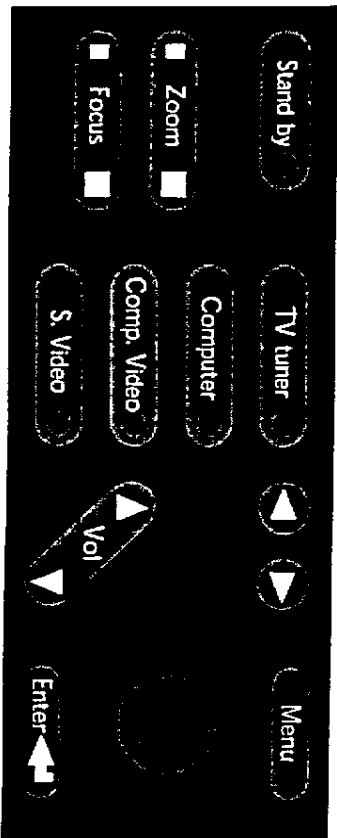


Fig. 12. The keys on the control panel on the Projector

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The control panel on the Projector provides you with direct access to the most important control functions. The control panel on the Projector is very handy to use when the Remote Control has low batteries, or you simply have forgotten to bring it with you. The key functions are as follows:

### SENSITIVE MOUSE PAD:

The sensitive mouse pad works just like the sensitive mouse pad on the Interactive Remote Control, and is used to move the cursor within the Projector menu system. It will also control your computer mouse.

### MENU

Press this key to access the menu and to project the MAIN MENU on the projection screen. Pressing the Menu key again will remove the menu and return the Projector to normal operation.

### ENTER

The ENTER key is used to select the menu option pointed to by the menu cursor. In a level two window the Enter key is used to execute the function pointed to by the menu cursor.

Contents



**VOLUME +**

The **VOLUME +** is used to control the sound when the Projector is used together with a video source or a computer with a sound card. Press the **VOLUME +** to increase the volume.

**VOLUME -**

The **VOLUME -** is used to control the sound when the Projector is used together with a video source or a computer with a sound card. Press the **VOLUME -** to reduce the volume.

**ZOOM**

Press this key to zoom the projected image to the desired size.

**FOCUS**

Press this key to focus the projected image.

**SOURCE**

The Projector has direct keys for all four sources.

**TV-TUNER:**

Press this key if you want to select TV as your source

**COMPUTER:**

Press this key if you want to select **COMPUTER** as your source

**COMP.VIDEO:**

Press this key if you want to select Composite Video as your source

**S.VIDEO:**

Press this key if you want to select S-Video as your source

**LEFT AND RIGHT ARROW KEYS**

These keys are used to change the TV channel when TV is selected as your source.

**STAND BY**

This key will put the Projector in to stand by mode. The lamp and fans will turn off. To return to normal mode press the Menu or Enter key.



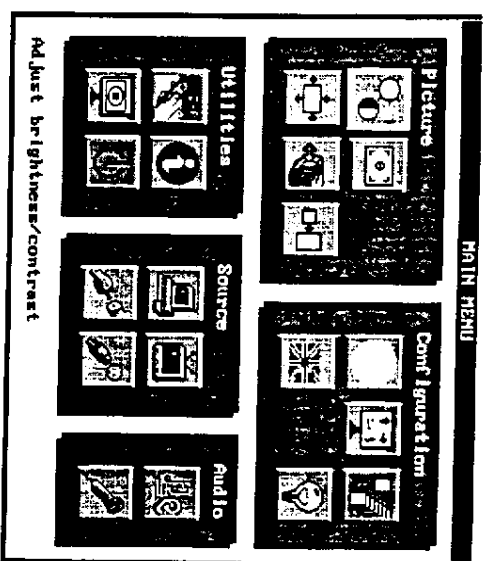
## Using the menus

### Enter the MAIN MENU

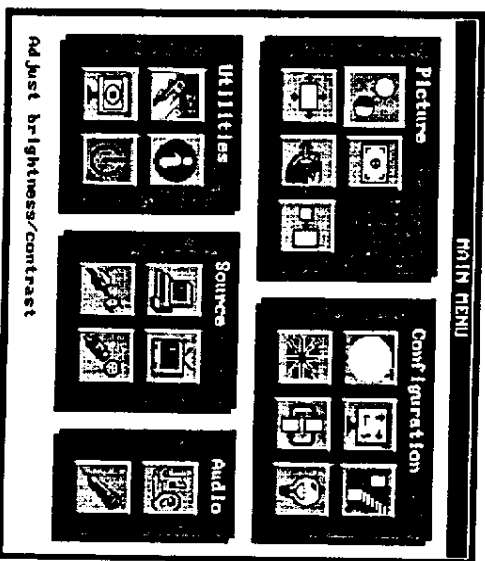
With the Interactive Remote Control or the Control Panel, press the MENU key to get the MAIN MENU. Then use the pressure sensing pad to move the mouse pointer to a menu icon and click the button (left mouse) underneath the Interactive Remote Control or the Enter key on the Control Panel. You click once to select the icon and once more to activate it. If the icon has a level 2 window, this will now appear on the screen. You may then change the settings in the level 2 window.

1. If you click OK you store the displayed settings and exit from the menus.
2. If you click Cancel you discard any changes you made to the settings in the current level 2 window and return to the MAIN MENU.

### A menu overview



### MAIN MENU (Projector VGA)



### MAIN MENU (Projector SVGA)

## Picture



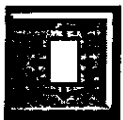
Adjust brightness/contrast



Adjust image settings



Adjust product/source synchronization



Adjust picture position



Adjust Zoom / Focus



Expand image



Compress image

## Configuration



Run automatic system setup



Change picture orientation



Advanced picture adjustments



Choose menu language



Change to alternative picture mode



Show accumulated lamp time

## Utilities



Dedicate function to the ZAP button



Info



Show test picture



Turn off projector

## Source



Select external computer as source



Select composite video as source



Select S-video as source



Adjust audio settings



Select microphone as audio source



Deselect microphone as audio source

## TV-Tuner



Select TV-Tuner as source



TV-program menu



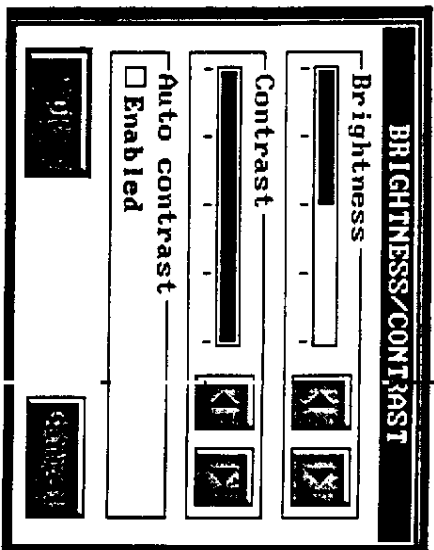
TV-Tuner settings

Located in the main menu picture group when TV is selected

## Icon overview



## How to change the settings



A typical level 2 window:

Above is a typical level 2 window. All these windows have a number of controls and at least two buttons, one OK-button and one Cancel-button. After having done the changes you wish to do, select the OK-button to save the new settings and exit the window. If you want to exit the window without saving the changes you made, select the Cancel-button. You select the buttons by moving the mouse pointer over them, and click the button underneath the Interactive Remote control, or by using the Enter key on the Control Panel.

The window above also has two slide controls and a check box. You change the slide controls by moving the mouse pointer over the arrow buttons and press the button underneath the Interactive Remote control, or the Enter key on the Control Panel. To change the state of the check box, move the mouse pointer over it, and press the button underneath the Interactive Remote control, or by pressing the Enter key on the Control Panel.

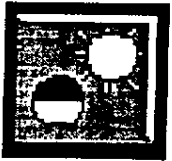
**NOTE** In order to make your changes effective, always remember to click OK.

### Removing the MAIN MENU

To remove the menu system press the MENU key on the Interactive Remote Control or on the control panel on the Projector. It will also disappear automatically after 20 sec.



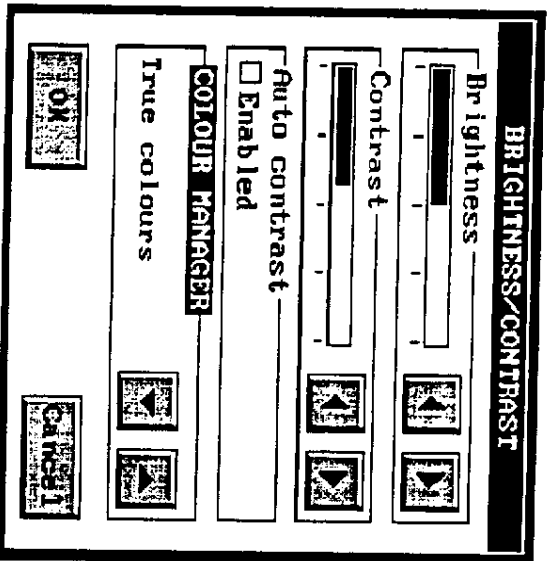
## The MAIN MENU functions



### Adjusting brightness and contrast

This icon will only appear when connected to a computer source.

Select the above icon from the MAIN MENU. You will get the window below.



Adjust brightness and contrast with the two slider controls. If you want the Projector always to use the optimal contrast, switch on the check box "Auto contrast". When the check box is on it is not possible to adjust the contrast with the slider.

**Colour Manager** which is a system where you can select how you want the Projector to treat colours. We have programmed the Projector for four different modes which are:

True colours, High brightness, Warm colours I and Warm colours II.

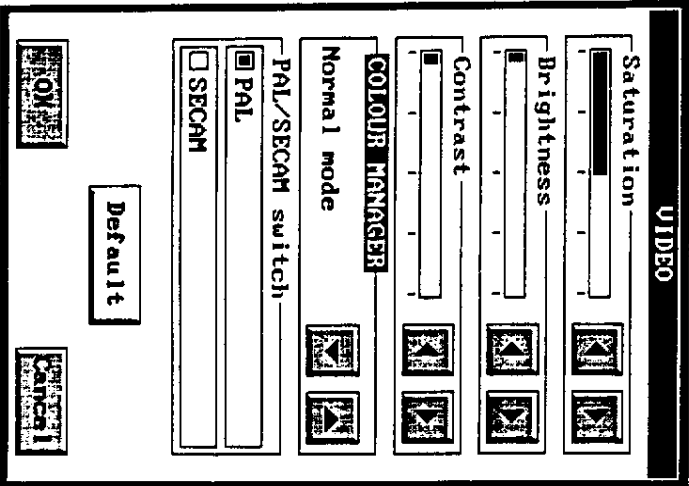
Select the Colour Manager mode you wish to use. Select OK to save your changes and exit, or select Cancel to exit without saving your changes.



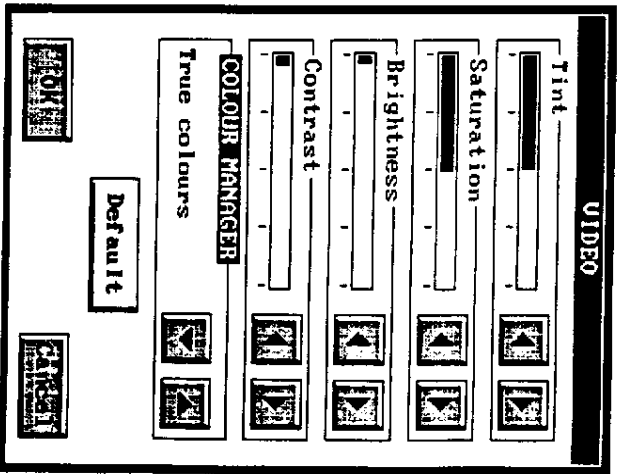
Adjust image settings

This icon will only appear when connected to a video source.

Select the above icon from the MAIN MENU.  
You will get one of the windows below depending on the video system connected.



Adjust image settings



Adjust image settings

The window above is the one you get if you have connected NTSC video standard as source, and the window to the left is the one you get if you have connected PAL or SECAM video standards as source. In these windows you can adjust four video parameters, tint (only in NTSC), saturation, brightness and contrast. Adjust the sliders until the screen image looks satisfying, or choose Default to get a predefined setting.

In the PAL/SECAM window you also have checkboxes for each system. The default setting is PAL, so if you



need to show SECAM video you must change this setting by clicking in the SECAM box.

Both windows have the Colour Manager which is a system where you can select how you want the Projector to treat colours. We have programmed the Projector for four different modes which are:

True colours, High brightness, Warm colours I and Warm colours II.

Select the Colour Manager mode you wish to use.

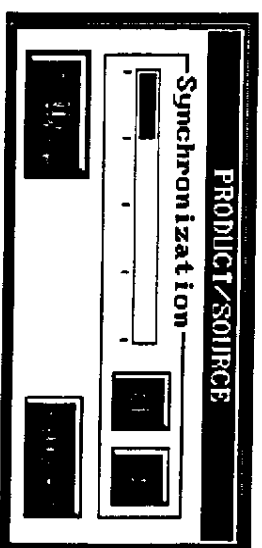
Select OK to save your changes and exit, or select Cancel to exit without saving your changes.



### **Adjust product/source synchronization**

This icon will only appear when connected to a computer source.

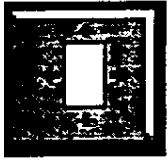
Select the above icon from the MAIN MENU. You will get the window below.



### **Adjust product/source synchronization**

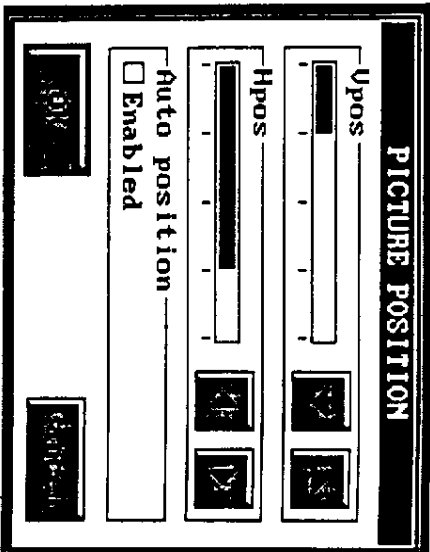
Use this function to synchronize the Projector with the source if you have flicker in the picture.





### Adjust picture position

Select the above icon from the MAIN MENU. You will get the window below.



Adjust picture position

Adjust vertical and horizontal position of the picture on the screen with the two sliders. If you want the Projector always to select the optimal position, switch on the check box "Auto position". When this check box is on it is still possible to adjust the position with the two sliders. This will result in the auto position function being disabled.

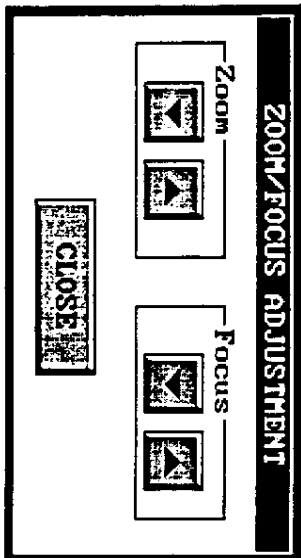
**NB! The auto position is only available with a computer as source.**

Select OK to save your changes and exit, or select Cancel to exit without saving your changes.



### Zoom / Focus Adjustments

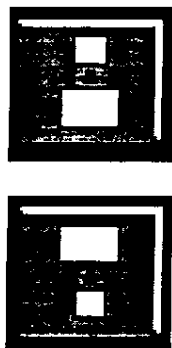
Select the above icon from the MAIN MENU. You will get the window below.



### Zoom / Focus Adjustments

In this window you can adjust the Zoom and Focus of the Projector by clicking on the up and down arrows in the menu. When you have adjusted the image to your satisfaction click on the CLOSE button to exit and save your new settings.

### Projector VGA:



**Expand / compress  
image vertically**

One of these icons will appear if resolution is higher or lower than 640x480.

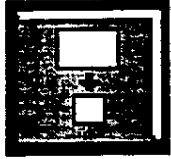
Select one of the above icons from the MAIN MENU. This function will expand or compress the screen image vertically. This is useful if you are displaying software that has lower resolution than 640x480 or PAL video with resolution higher than 640x480.

If you have expanded the image and want to compress it, select the compress icon.

If you have compressed the image and you want to expand it, select the expand icon.



## Projector SVGA:



**Expand / compress  
image vertically**

One of these icons will appear if resolution is lower than 800x600.

### Expand image

If you have a computer resolution of less than 800 x 600, or a NTSC Video image you can expand it to fill the screen by clicking on the expand icon.

If you have expanded the image and want to compress it, select the compress icon.

### Compress image

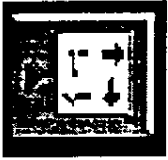
If you have a higher computer resolution than 800 x 600 the image will always be shown in compressed mode and none of the icons will appear.



**Run automatic system setup**

Select the icon above to run an automatic system setup. This optimizes the Projector settings to fit the selected source.

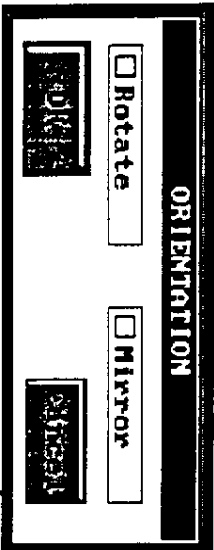




### Change picture orientation

The Projector is designed for rear projection and ceiling mounting upside down. These adjustments let you easily set up the correct image for your application.

Select the above icon from the MAIN MENU. You will get the window below.



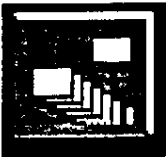
Change picture orientation

Switch on the leftmost check box to rotate the screen image 180° (front ceiling mounting). Switching on the rightmost check box will mirror the screen image (rear projection). Switch on both for rear ceiling mounting.

Select OK to save your changes and exit, or select Cancel to exit without saving your changes.



## Projector:



### Advanced picture adjustments

When you select this icon you get the window below.

**ADVANCED ADJUSTMENTS**

Chosen setup

SUGA 800x600

Hsync: 48.1 KHz    Hpol: -

Vsync: 72 Hz    Upol: +

Htot: 1056

Hsize: 600

Vsize: 800

Measured

Hsync: 48.1 KHz    Hpol: -

Vsync: 72 Hz    Upol: +

Default

Cancel

Advanced picture adjustments

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In this window you can tune the values for the parameters Htot, Hsize and Vsize.

The Projector has 15 different set-ups to choose, and will automatically configure the Projector to the correct mode.

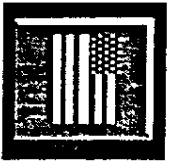
The purpose of these Advanced Adjustments is that you, as a user can manually override all parameters, and fine tune settings to make them fit your particular application exactly. This is very useful if you, eg. have a scaleable graphics board.

**NB!** If you find, that adjusting the parameters here reduces image quality, press **DEFAULT** to return to factory settings.

**NB!** Make sure both the Hsync and Vsync values are within the Projector specifications.

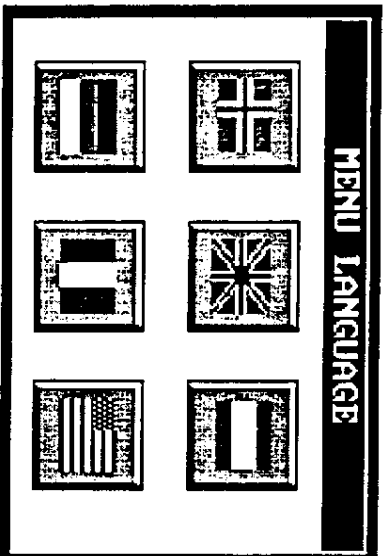
Contents





### Choose menu language

Select the above icon from the MAIN MENU. You will get the window below.



### Choose language

Click on the icon with the flag representing the language you want to use. The window will disappear, and the selected language will be used in the MAIN MENU and in all the level 2 windows.



### Change to alternative picture mode

This icon will only appear if alternative picture mode is available.

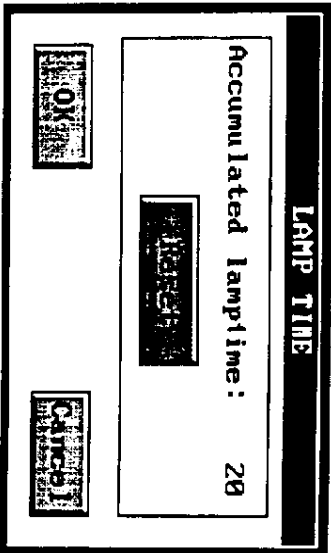
You will have the option of selecting an alternative picture mode, if the system recognizes a graphics mode which has the exact characteristics of a different mode, and where the system is not able to distinguish between the two. An example of 2 modes which have identical characteristics is VGA text (720x400 resolution) and VGA 320x200 graphics.

Select the above icon to change to an alternative picture mode.



### Show accumulated lamp time

Selecting the above icon gives you the window below.



### Show accumulated lamp time

In this window you can see the accumulated time that the lamp has been used. You also use this window to reset the accumulated lamp time when you have changed the lamp.

The lamp reset indicator and the whole lamp replacement mechanism of the Projector is designed with user convenience in mind, eliminating the need for costly service calls.

**WARNING! Do not reset the lamp indicator unless you have just installed a new lamp**  
**Resetting the lamp when it is not warranted may cause you to use the lamp longer than recommended, and may cause damage to the Projector**





**Dedicate function to the ZAP button**

Select the above icon from the MAIN MENU. You will get the window below.

ZAP

☐ Pointer

☒ Freeze

☐ Mute

☐ Source

☐ On/off

OK

Cancel

Dedicate function to the ZAP button

Activate the check box that represent the function you will dedicate to the ZAP button on the Interactive Remote Control.

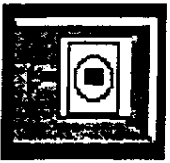
Select OK to save your changes and exit, or select Cancel to exit without saving your changes.



**Info**

By selecting this icon you will get information about, the Projector and Support service.

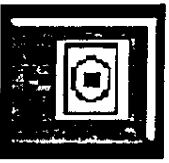
## Projector VGA:



### Show test picture

Select the above icon from the MAIN MENU to display a reference picture on the screen. The reference picture is meant to serve as a reference image to ensure that you have correct set-up, that the projected image displays full 640x480 and that product/source synchronization is correct.

## Projector SVGA:



### Show test picture

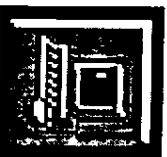
Select the above icon from the MAIN MENU to display a reference picture on the screen. The reference picture is meant to serve as a reference image to ensure that you have correct set-up, that the projected image displays full 800x600 and that product/source synchronization is correct.

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### Turn off Projectorin Stand By mode

Select the above icon from the MAIN MENU. This will set the Projectorin standby position. Press the MENU or ENTER key to return to normal screen image. This function may also be dedicated to the Zap button



### Select external computer as source

Select the above icon from the MAIN MENU to select an external computer as signal source.



### Select composite video as source

Select the above icon from the MAIN MENU to select composite video as signal source. This mode should also be selected if connected to a Scart video source.



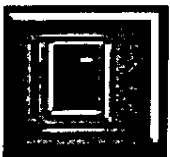
Contents





### Select S-video as source

Select the above icon from the MAIN MENU to select S-video as signal source.



### TV-Tuner Icon

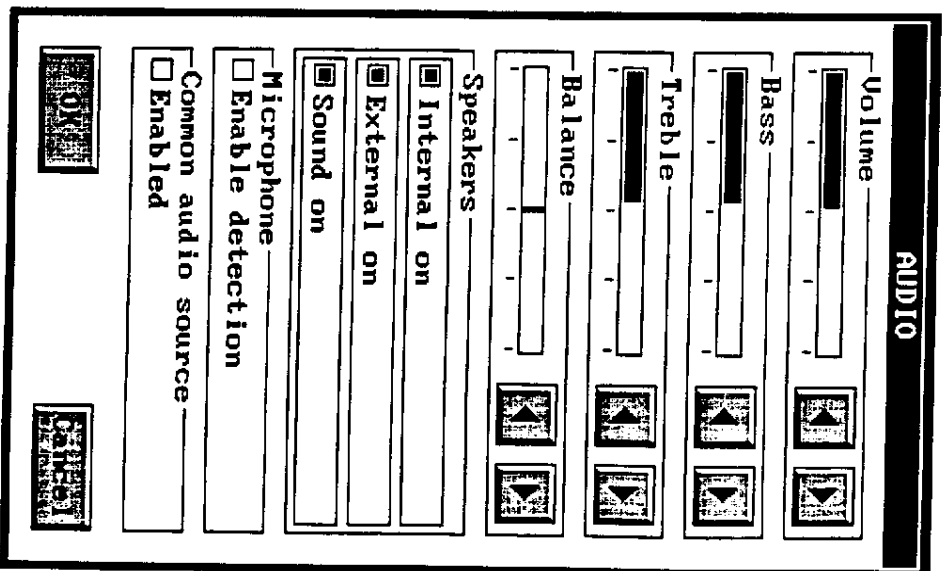
If a TV-Tuner is installed in your Projector, you can see the above icon in the source section of the MAIN MENU. If you activate this icon the Projector will tell you that you have selected the picture section.

TV-Tuner as source. To enter the TV-Tuner menu you simply press the MENU key again. You will now see the TV-Tuner addition to the MAIN MENU in the picture section.

## Adjust audio settings



Select the above icon from the MAIN MENU.  
You will get the window below.



Use this function when you have connected an audio signal to the "Audio in" connectors or the microphone connector on the Projector. Use the four sliders to



adjust Volume, Bass, Treble and Balance until you have a satisfying sound.

The Adjust Audio Settings menu also has five checkboxes. The first three control the speakers and the sound functions. You can turn Internal speakers, external speakers, and the Sound on or off. Deactivating the internal speakers does not have any influence on the External speakers. Turning the sound off will disable all audio functions of the Projector.

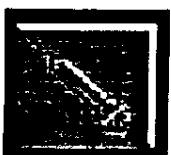
The Projector can use both internal and external speakers simultaneously (for connection of external speakers, see Using external speakers, page 12).

There is one box for the enabling of microphone detection, and to get optimal performance, we recommend that you use a dynamic microphone with 600 ohm and 6,3 mm plug.

The final box lets you select a common audio source for all your connected computer and video sources. This feature is especially handy if you want to run a presentation from multiple sources with background music or speech.

When common audio source is selected, only the PC/common audio in channel is activ.

Select OK to save your changes and exit, or select Cancel to exit without saving your changes.



**Select/deselect microphone  
as audio source**

Selecting this icon toggles between selecting and deselecting a microphone as audio source. The icon without a cross means that you are not using a microphone as audio source, but can select it to be so. The icon with a cross has the reverse function. If autodetection of microphone is on, this will not be shown.





## 7 Maintenance

### Changing batteries in the remote control

**Figure 13** shows the remote control with the battery lid removed. Slide off the battery lid, remove the batteries, and replace them with fresh batteries of the same type. Be sure to insert the new batteries with the + and - poles correct. Slide the battery lid back on again.

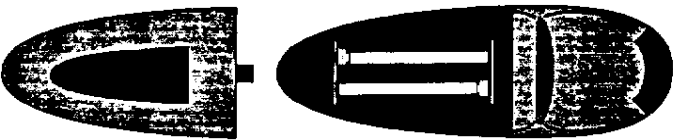


Fig. 13, Batteries and covers on the remote control.

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### Changing/installing the lamp

**Figure 14** illustrates how to remove the lamp module from the Projector.

**WARNING!** Never work inside the Projector if it is connected to the mains! Always unplug it from the wall outlet when changing the lamp!

The lamp producer specifies an average lifetime. You should not use the lamp beyond this average lifetime. offers no warranty on the lamp.

1. Switch off the Projector and unplug it from the wall outlet. The lamp assembly lid is locked as long as the Projector is switched on.

#### NOTE

Take care when removing the lamp, it may be very warm! Do not under any circumstance touch the lamp itself, the lamp holder or the lamp reflector. Use only the handle to remove the lamp module.

Contents



2. Open the lamp lid, using a coin or similar tool, by turning the lock 90° anti-clockwise.
3. Turn the screw of the lamp module anti-clockwise, and pull the lamp module out of the Projector using the small handle.
4. Take the new lamp module out of its package and slide it into the Projector.
5. Fasten the screw of the lamp module by pushing it in and turning it clockwise.
6. Close the lamp lid by turning the lock 90° clockwise. It is not possible to switch on the Projector without the lid closed.
7. When the lamp module has been replaced, reset the lamp counter by selecting the icon with the lamp in the MAIN MENU. Select the Reset button.

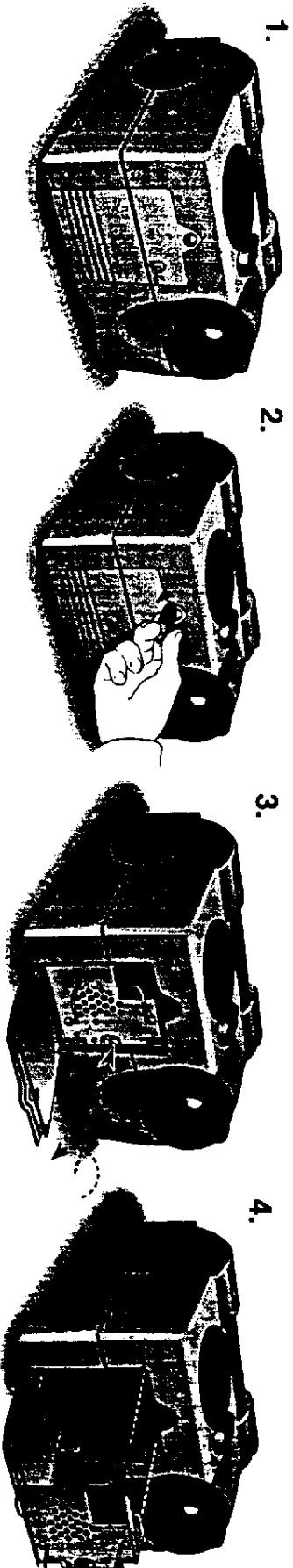


Fig. 14, Changing/installing the lamp

## Changing fuses

**WARNING! Never work inside the Projector if it is connected to the mains! Always unplug it from the wall outlet when changing fuses!**

The fuse is next to the On/Off switch at the back of the Projector.

1. Remove the thin plastic lid covering the voltage selector. Do not use excessive force, the lid can easily be damaged.
2. Pull out the fuse assembly and replace the fuse with a fresh one.
3. Insert the fuse assembly.
4. Mount the plastic lid.
5. Connect the Projector to the wall outlet, and switch it on.

## User spare parts

You should always have the following spare parts available:

- ◆ Lamp
- ◆ Batteries for the remote controls
- ◆ Fuses



## 8 Troubleshooting

### Symptom:

**No image on the Projectorscreen**

**Possible causes and remedies:**

1. The unit has not been switched on. Check the ON/OFF switch on the plug panel.
2. No mains connected. Check that the mains cable is connected to the plug panel and the wall outlet.
3. Unit left in Standby mode. Press Menu key on the interactive remote control, or ENTER key on the Control Panel
4. Unit left in BLANK mode. Press BLANK on the Interactive Remote Control.
5. Contrast has been turned too far. Adjust the contrast.
6. The Projector has not been set up for this particular application. Run the setup procedure.
7. The lamp does not function, see the Quick Guide or part 7, Maintenance, Changing the lamp.
8. The "open lid" detector prevents the Projector from being turned on. Lock the lamp lid properly.

### Symptom:

**Low brightness**

**Possible causes and remedies:**

1. Adjust brightness until a satisfactory image is achieved.

### Symptom:

**No source signal detected  
(Black screen with blue frame)**

**Possible causes and remedies:**

1. The signal source has not been switched on. Turn on signal source.
2. The cables are not properly connected. Check all the connections.  
**NB! Make sure the buffer cable is connected the correct way with the buffer box and short end cable at the computer.**
3. For notebooks: The external RGB port may need to be manually activated. Please consult the notebook operating manual on how to operate.



## Symptom:

**Overheating of the Projector.  
(projector turns itself off)**

**Let the Projector cool for 10 minutes, and then check the following:**

1. Check that the fan is running.
2. Check that nothing is blocking the air inlet or outlets.
3. Leave the Projector running.  
If the unit turns itself off again you should disconnect the Projector from the mains and contact your dealer.

## Symptom:

**Poor response from the Interactive Remote Control  
Possible causes and remedies:**

1. Check that nothing is blocking the IR receiver on the Projector front, or rear.
2. If the combined distance remote control - screen - Projector exceeds 10 m (33 ft), point the remote control directly towards the Projector.
3. Change the batteries in the remote control.



## 9 Projector: TV-Tuner

### Using the menus

The TV-Tuner can be purchased as an optional add-on to the Projector. You can easily install the TV-Tuner yourself. See fig. 15. This user manual will, in connection with the main user manual for the Projector, give you all the information necessary to operate the TV-Tuner.

### Enter the MAIN MENU

With the Interactive Remote Control, or the Control Panel, press the MENU key to get the MAIN MENU. Then use the pressure sensing pad to move the mouse pointer to a menu icon and click the button (left mouse) underneath the Interactive Remote Control or the Enter key of the Control Panel. You click once to select the icon, and once more to activate it. If the icon has a level 2 window, this will now appear on the screen. You may change the settings in the level 2 window.

1. If you click OK you store the displayed settings and exit from the menus.
2. If you click Cancel you discard any changes you made to the settings in the current level 2 window, and return to the MAIN MENU.

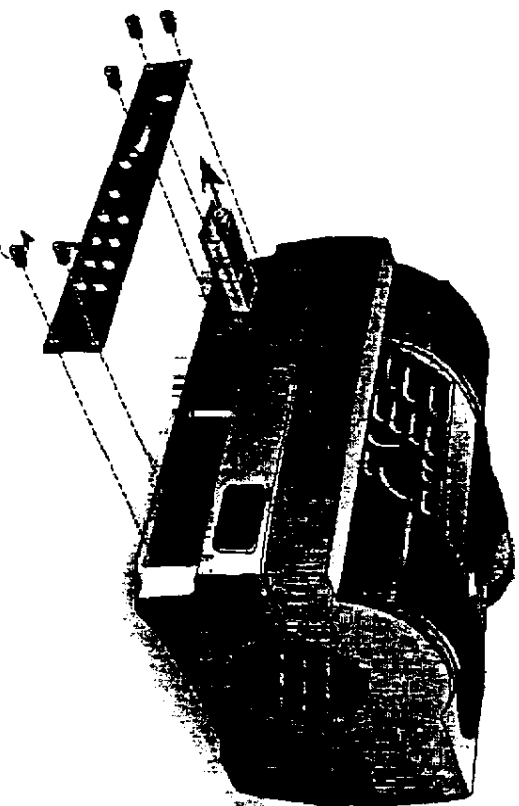


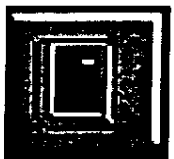
Fig. 15, Changing/installing the TV-Tuner card

## How to Change the settings

Read the section in the main user manual (page 30) on adjusting the settings in a level 2 window. In the chapter on the TV-Tuner Setup Menu we will explain in detail how to use this specific menu.

## Removing the MAIN MENU

To remove the MAIN MENU from the screen press the MENU key on the Interactive Remote Control, or on the Control Panel of the Projector. It will also automatically disappear after 20 seconds.

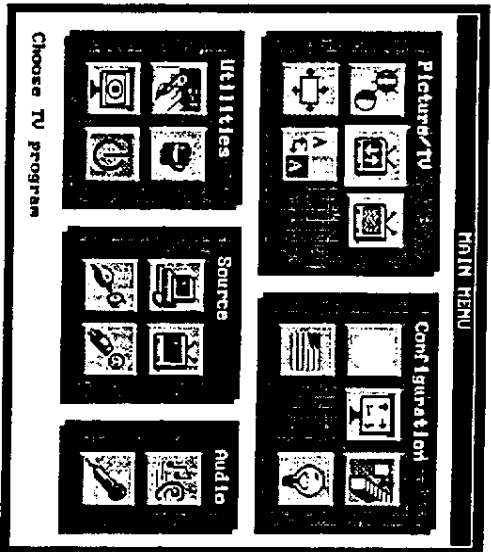


**TV-Tuner**

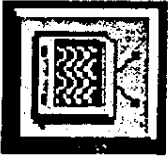
If a TV-Tuner is installed in your Projector, you can see the above icon in the Source section of the MAIN MENU. If you activate this icon the Projector will tell you that you have selected TV-Tuner as source. To enter the TV-Tuner menu you simply press the MENU key again. You will now see the TV-Tuner addition to the MAIN MENU.



## TV-Tuner MAIN MENU



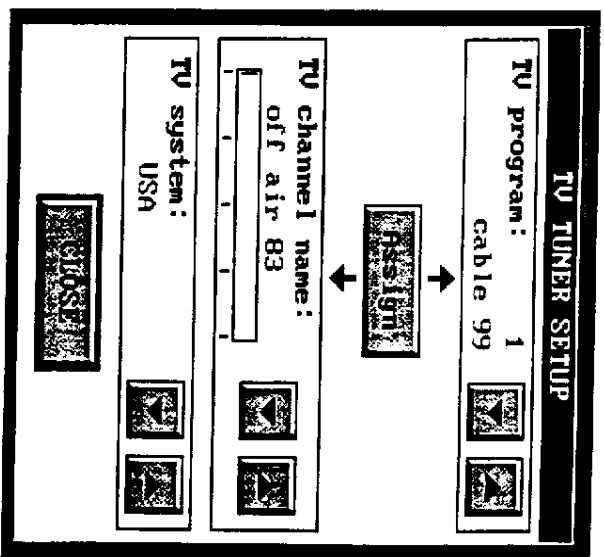
Above you see the MAIN MENU with the TV-Tuner icons present.



### TV-Tuner settings

Activating this icon will open the TV-Tuner Setup Menu where you can adjust the TV-Tuner settings.

Select the above icon from the MAIN MENU. You will get the window below.



The TV-Tuner Setup Menu has five main parts:

#### TV System:

First you should select the right TV System for your tuner. In the TV Systems section you can choose between the following two systems:

**West Europe**  
**USA**

Use the up or down arrows to scroll and select between the different systems.





**TV Program:**

Here you can program your TV channels. Using the up and down arrows you can select between programs 1 - 30. Each of these programs can be assigned to TV channels.

**Assign button:**

If this button is pushed the TV Channel shown will be assigned to the TV Program shown. The User will get feedback in the form of a TV Channel name change in the TV Program box (if there is a change), and that arrows above and under the assign button gives a short green blink.

**TV Channel Name:**

The channel frequencies will have different names depending on your TV System, and the names shown are the technical names for the channel frequencies. This means that you cannot find the publicly known name of TV channel you are looking for, but you should use the up and down arrows to scroll the channels.

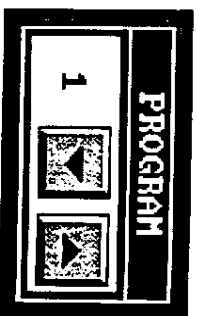
When you get to a channel that you would like to have easy access to you can assign it to the current TV Program (1 - 30) by pressing the assign button. Go through all of the channels and assign up to 30 programs for easy access.

**Close button:**

When you are finished adjusting the TV-Tuner settings you press this button to leave the menus. The channel programmed at the currently shown TV Program will be shown on your screen.

**TV-program menu**

Select the above icon from the MAIN MENU. You will get the window below.

**TV Program menu:**

When you have assigned TV Channels to your different TV Programs you can enter the TV Program menu by activating the TV Program icon in the MAIN MENU. This will bring up a small menu consisting only of a number and up and down arrows. You move through your assigned TV Programs by using the arrows. You can

also use the LEFT and RIGHT arrows in the Control Panel to move between channels. This menu will not disappear until closed by the user, so you can keep it on the screen for as long as you want. If you want to close the menu you just press Menu on the interactive remote control or the touch panel.

## Operational Tips

The Projector TV-Tuner will behave just like a normal TV. This means that you should consider the following when adjusting the TV-Tuner settings:

### Source of TV signals

There are basically three ways of taking in the TV signals to the Projector.

- ◆ Antenna
- ◆ Cable
- ◆ Satellite dish

These three work differently, and it is important to consider the options of each when adjusting the Projector TV-Tuner settings.

### Antenna:

When you adjust your TV to signals from an antenna you must store each channel in a different location meaning that you must switch channels on the TV itself. The same is true for the Projector TV-Tuner. When hooked up to an antenna you assign the different channels to the programs in the TV-Tuner Setup Menu. Then you use the Up and Down arrows in the menu to go from one channel to another.

### Cable:

When you are connected to a cable system you can have two options. If you have a cable decoder you set your TV to the channel for the cable, and then you use the remote control for the decoder to switch between channels. If you do not have a decoder you simply set your TV up just like you would with an antenna. This is also the same with the Projector. You must scroll the channel name in the TV-Tuner Setup Menu until you find the correct channel for your cable system. When this channel has been assigned to one of the program numbers you simply select this program and use your decoder's remote control to switch between channels.



**Satellite dish:**

This works like the cable decoder meaning that you easily select the channel that reads the signals from the satellite dish, and then you use the decoders remote control to switch between channels. Follow the explanation under cable to set up the correct channel, and then use your decoder for the satellite dish to switch between the different channels.

Follow the instructions in the TV-Tuner Setup Menu to assign channels to the different TV Programs.

**Programming Channels**

You are free to program the different TV Programs to the number you want from 1 - 30.

The chosen programming will stay in place even if you move the Projector, as long as the programs are locked to that channel. Channel locations might be different in different areas, and also whether you are receiving from antenna, cable or satellite dish.



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