M-Vision LED+IR series

High Brightness Digital Video Projector
16:10 widescreen display
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About this Guide..........................................................................................Inst_1
  Symbols used in this guide.........................................................................Inst_1
  Warnings ..................................................................................................Inst_1
  Notes ........................................................................................................Inst_1
  Product revision ......................................................................................Inst_1

What’s in the Box? .....................................................................................Inst_2

Getting to Know the Projector ...................................................................Inst_3
  Front and rear views ..................................................................................Inst_3
  Remote control ..........................................................................................Inst_3
  Control panel and indicators ......................................................................Inst_4
  Error codes ...............................................................................................Inst_4

Positioning the Screen and Projector .........................................................Inst_5

Operating the Projector .............................................................................Inst_6
  Switching the Projector On ........................................................................Inst_6
  Selecting an Input Signal or Test Pattern ..................................................Inst_6
    Input signal .............................................................................................Inst_6
    Test pattern .............................................................................................Inst_6
  Adjusting the Lens ....................................................................................Inst_7
    Zoom .......................................................................................................Inst_7
    Focus ......................................................................................................Inst_7
    Shift .........................................................................................................Inst_7
  Adjusting the Image ...................................................................................Inst_8
    Orientation ..............................................................................................Inst_8
    Aspect Ratio ...........................................................................................Inst_8
    Picture ....................................................................................................Inst_8
  Switching the Projector Off ........................................................................Inst_8
About this Guide

Please read this guide carefully before using the projector, and keep it handy for future reference.

A serial number is located on the side of the projector. Record it here:


Symbols used in this guide

Warnings

⚠️ ELECTRICAL WARNING: this symbol indicates that there is a danger of electrical shock unless the instructions are closely followed.

⚠️ WARNING: this symbol indicates that there is a danger of physical injury to yourself and/or damage to the equipment unless the instructions are closely followed.

Notes

🔗 NOTE: this symbol indicates that there is some important information that you should read.

Product revision

Because we at Digital Projection continually strive to improve our products, we may change specifications and designs, and add new features without prior notice. Projectors built prior to this revision of the Operating Guide may therefore not include all the features described.
**What’s in the Box?**

- **Remote control** (109-685)
- **2x AAA batteries**
- **User Manual on disc** (115-759)
- **Important Information** (110-287)
- **5mm Allen wrench**
- **Power cable 10A, United Kingdom** (102-180)
- **Power cable 10A, Europe** (102-163)
- **Power cable 13A, North America** (102-165)

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**Notes**

- Make sure your box contains everything listed. If any pieces are missing, contact your dealer.
- You should save the original box and packing materials, in case you ever need to ship your Projector.
- Only one power cable - dependent on the destination territory - will be supplied with the projector.
The projector uses the standard MVision series infra-red remote control. Some of the controls are duplicated on the projector control panel, as shown on the next page.

For full details of how to use the controls and the menu system, see the Operating Guide.
Control panel and indicators
Some of the controls from the remote control are duplicated on the projector control panel, as shown here.

The yellow Standby indicator will light when the projector is in standby. The blue Power indicator will flash when the projector is cooling down or warming up. It will be steady when the projector is in normal running mode, as shown in the chart below.

Error codes
If the projector detects an error, the red Issue indicator will flash, as shown in the chart below.

For example, if the fan fails, the red indicator will flash twice followed by a pause, then the sequence will repeat until the error condition is corrected.
Positioning the Screen and Projector

- Install the screen, ensuring that it is in the best position for viewing by your audience.
- Mount the projector, ensuring that it is at a suitable distance from the screen for the image to fill the screen. Set the adjustable feet so that the projector is level, and perpendicular to the screen.
- The dimension drawing below shows the positions of the feet for table mounting, and the fixing holes for ceiling mounting.

**Notes**

- Always allow the lamp to cool for 5 minutes before:
  - disconnecting the power
  - moving the projector
- Ensure that there is at least 30cm (12in) of space between the ventilation outlets and any wall, and 10cm (4in) on all other sides.
- Do not stack more than 3 projectors.
Operating the Projector

Switching the Projector On

• Connect the power cable between the mains supply and the projector. Switch on at the switch next to the power connector.

• Wait until the self-test has completed and the Standby indicator on the projector control panel shows amber. The lamp will be off and the projector will be in STANDBY mode.

• Press POWER on the control panel or I on the remote control, and hold for 3 seconds.

   The Power indicator on the control panel will flash blue for a few seconds whilst the lamp comes up to full brightness. When the projector is ready for use, the Power indicator will show steady blue.

Selecting an Input Signal or Test Pattern

Input signal

• Connect an image source to the projector. The signal should be automatically detected by the projector, and should be displayed within a two or three seconds.

• If more than one signal is connected, then select the image you want to display:

   Select from five of the inputs using 1 to 5 on the remote control, or press SOURCE on the control panel to cycle through all the inputs.
   or use Source Select in the General menu.

Test pattern

If you have no image source connected to the projector, then you can display a test pattern instead:

   Select a Test Pattern from the General menu.

Notes

Always allow the lamp to cool for 5 minutes before:
- disconnecting the power
- moving the projector

For full details of how to connect an image source to the projector, see the Connection Guide.

For full details of how to use the controls and the menu system, see the Operating Guide.
Adjusting the Lens

**Zoom**

- Turn the smooth ring on the lens, closest to the case, to adjust the zoom so that the image fills the screen.

**Focus**

- Turn the knurled ring at the outer end of the lens, to adjust the focus until the image is sharp.

**Shift**

- Use the 5mm allen wrench to adjust the horizontal and vertical position of the image.

If the projector is fitted with the fixed 0.73:1 lens then there are no lens shift controls.
Adjusting the Image

Orientation
• Use the Rear Projection and Ceiling Mode settings, in the Setup Menu.

Aspect Ratio
• Press the button on the remote control to cycle through all the available settings.
  or use the Aspect Ratio setting in the Image Menu.

Picture
• Press or on the remote control to set the Brightness and Contrast, using or to adjust the sliders.
  or use the Brightness or Contrast settings in the Image Menu.

Switching the Projector Off
• Press POWER on the control panel or on the remote control, then press the button a second time to confirm your intention to switch off.
  The lamp will go off, the Standby indicator on the control panel will show amber and the projector will be in Standby mode.
• Switch off at the switch next to the power connector. Disconnect the power cable from the projector.

Notes
- For full details of how to use the controls and the menu system, see the Operating Guide.
- Always allow the lamp to cool for 5 minutes before:
  - disconnecting the power
  - moving the projector
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High Brightness Digital Video Projector
16:10 widescreen display
## About this Guide
- Symbols used in this guide
- Warnings
- Notes
- Product revision

## Signal Inputs and Outputs
- HDMI 1 and 2
- RGB
- S-Video
- Composite Video
- Component 1 and 2
- SCART

## Supported Signal Input Modes

## Control Connections
- Wired Remote Control
- LAN
- RS232

## Wiring Details

### Signal inputs
- HDMI
- RGB
- S-Video
- Composite Video
- Component 1
- Component 2
- SCART

### Control connections
- Wired Remote control connection
- Serial control input and output
- LAN connection
- Setting the LAN IP configuration
About this Guide

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Product revision

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Signal Inputs and Outputs

HDMI 1 and 2
- Connect to either of the 4-pin HDMI connectors.

RGB
- Set Color Space in the Advanced menu to Auto, or RGB PC if necessary.

S-Video
- Connect to the 4-pin mini-DIN connector.

Composite Video
- Connect to the single Video phono connector.

Component 1 and 2
YPbPr/YCbCr
- Connect to Component 1 or Component 2.
- Set Color Space in the Advanced menu to Auto, or REC709 or REC601 if necessary.

RGsB
- Connect to Component 1 or Component 2.
- Set Color Space in the Advanced menu to Auto, or RGB Video if necessary.

RGBS
- Connect the RGB cables to Component 1, and the Sync cable to Video.
- Select SCART in the Source Select menu.

SCART
- Using a SCART to RGBS adaptor, connect the RGB cables to Component 1, and the Sync cable to Video.
- Select SCART in the Source Select menu.

Notes
- For a complete listing of pin configurations for all signal and control connectors, see Wiring Details later in this Guide.

When the SCART input is enabled, the Video and Component 1 inputs will be disabled.
## Supported Signal Input Modes

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<td>23.98</td>
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</tr>
<tr>
<td></td>
<td>1080p</td>
<td>29.97</td>
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<tr>
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<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Wired Remote Control**

- If infrared signals from the remote control cannot reach the projector due to excessive distance or obstructions such as walls or cabinet doors, you can connect an external IR repeater to the Remote control input, and position its IR sensor within range of the operator.

  Note that plugging in the remote control cable will disable the infra-red.

**LAN**

- All of the projector’s features can be controlled via a LAN connection, using the text strings described in the Remote Communications Guide.

- The default LAN IP address is 192.168.0.100. For information about how to change this, see Setting the LAN IP configuration, later in this guide.

  Each projector can be given a unique System ID, and this can be used to control them individually or simultaneously. For more information about this, see the Remote Communications Guide.

**RS232**

- All of the projector’s features can be controlled via a serial connection, using the control strings described in the Remote Communications Guide.

- Projectors can be connected in a daisy chain, connecting the RS232 OUT of one projector to the RS232 IN of the next. Each projector can be given a unique System ID, and this can be used to control them individually or simultaneously. For more information about this, see the Remote Communications Guide.

---

**Notes**

- For a complete listing of pin configurations for all signal and control connectors, see Wiring Details later in this Guide.

- Only one remote connection should be used at any one time.
Wiring Details

Signal inputs

HDMI
19 way type A connector

1  TMDS Data 2+
2  TMDS Data 2 Shield
3  TMDS Data 2-
4  TMDS Data 1+
5  TMDS Data 1 Shield
6  TMDS Data 1-
7  TMDS Data 0+
8  TMDS Data 0 Shield
9  TMDS Data 0-
10 TMDS Clock+
11 TMDS Clock Shield
12 TMDS Clock-
13 CEC
14 not connected
15 SCL (DDC Clock)
16 SCA (DDC Data)
17 DDC/CEC Ground
18 +5 V Power
19 Hot Plug Detect

pin view of panel connector

Notes

For full details of all input settings, see the Advanced menu in the Operating Guide.
**Digital Projection M-Vision LED+IR series**

**WIRING DETAILS**

**RGB**

15 way D-type connector

1. R
2. G
3. B
4. unused
5. Digital Ground (H Sync)
6. R Ground
7. B Ground
8. G Ground
9. +5v
10. Digital Ground (V Sync/DDC)
11. unused
12. SDA
13. H Sync
14. V Sync
15. SCL

**S-Video**

4 pin mini-DIN

1. Y Ground
2. C Ground
3. Luminance (Y)
4. Chrominance (C)

**Composite Video**

RCA Phono

---

**Notes**

For full details of all input settings, see the Advanced menu in the Operating Guide.
**Component 1**
3 x RCA Phono connector

**Component 2**
3 x 75 ohm BNC

<table>
<thead>
<tr>
<th>RGsB</th>
<th>YCbCr</th>
<th>YPbPr</th>
</tr>
</thead>
<tbody>
<tr>
<td>R</td>
<td>Cr</td>
<td>Pr</td>
</tr>
<tr>
<td>G + Sync</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>B</td>
<td>Cb</td>
<td>Pb</td>
</tr>
</tbody>
</table>

**RGsB**
connect **Sync** to **Video** input

**SCART**
Using a SCART to RGBS adaptor, connect the RGB cables to **Component 1**, and the Sync cable to **Composite Video**.

<table>
<thead>
<tr>
<th>Pin</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>Blue ground</td>
</tr>
<tr>
<td>7</td>
<td>Blue</td>
</tr>
<tr>
<td>9</td>
<td>Green ground</td>
</tr>
<tr>
<td>11</td>
<td>Green</td>
</tr>
<tr>
<td>13</td>
<td>Red ground</td>
</tr>
<tr>
<td>15</td>
<td>Red</td>
</tr>
<tr>
<td>17</td>
<td>Sync ground</td>
</tr>
<tr>
<td>20</td>
<td>Sync</td>
</tr>
<tr>
<td>21</td>
<td>Chassis ground</td>
</tr>
</tbody>
</table>

**Notes**
For full details of all input settings, see the **Advanced menu** in the **Operating Guide**.
**Control connections**

**Wired Remote control connection**

3.5mm mini jack

- **Tip**: Signal
- **Ring**: Not connected
- **Sleeve**: Ground

**Serial control input and output**

1. unused
2. Received Data (RX)
3. Transmitted Data (TX)
4. unused
5. Signal Ground
6. unused
7. unused
8. unused
9. unused

**Null-modem cable**

(used to connect the projector to a computer)

RX 2 --- 3 TX
TX 3 --- 2 RX
GND 5 --- 5 GND

**Serial port settings**

- **Baud rate**: 38,400 bps
- **Data length**: 8 bits
- **Stop bits**: one
- **Parity**: none
- **Flow control**: none

**Notes**

- Note that plugging in the remote control cable will disable the infra-red.
- Only one remote connection should be used at any one time.
- The projector is a DTE, so use:
  - a straight cable to connect to a modem, or
  - a null-modem cable as shown here to connect to another DTE such as a computer.
**LAN connection**

TCP Port number

5450

**10BaseT Unshielded Twisted Pair cable**

The standard wire colours as follows:

1. White / Orange stripe
2. Orange
3. White / Green stripe
4. Blue
5. White / Blue stripe
6. Green
7. White / Brown stripe
8. Brown

**Crossed cable**

(used to connect directly to a computer with no hub or network.)

(Not that only the green and orange pairs are crossed)

```
1  White / Orange stripe  White / Green stripe
2  Orange               Green
3  White / Green stripe White / Orange stripe
4  Blue                 Blue
5  White / Blue stripe  White / Blue stripe
6  Green                Orange
7  White / Brown stripe White / Brown stripe
8  Brown                Brown
```

**Notes**

- Only one remote connection should be used at any one time.
- For information about how to set the LAN IP configuration, see the next page.

- Use:
  - a straight cable to connect to a hub or network, or
  - a crossed cable as shown here to connect ONLY to a computer directly.
## Setting the LAN IP configuration

- Point your browser at the projector by typing its **LAN IP Address** into the address bar, then press the **Enter** key.
- The embedded IP Configuration webpage should appear.

### IP Configuration

<table>
<thead>
<tr>
<th>Manual Address</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>IP Address:</td>
<td>192</td>
<td>168</td>
<td>0</td>
</tr>
<tr>
<td>Subnet Mask:</td>
<td>255</td>
<td>255</td>
<td>255</td>
</tr>
<tr>
<td>Default Gateway:</td>
<td>192</td>
<td>168</td>
<td>0</td>
</tr>
</tbody>
</table>

- **DHCP Client**: [Enable] [Disable]
- **Firmware Version**: V3JD04

- Edit the settings as required, then click on **Save**.

### Notes

- The default LAN IP address is 192.168.0.100
- **DO NOT** change this unless it is absolutely necessary.
- Make sure you make a note of the new address when you have done so.
M-Vision LED+IR series

High Brightness Digital Video Projector
16:10 widescreen display
A Tour of the Menus

General Menu
- Source Select
- Menu Position
- Memory
- Blank Screen
- Logo Display
- Auto-Source
- Test Patterns
- Blue Only

Image Menu
- Aspect Ratio
- Brightness, Contrast, Color Saturation, Color Tint
- Sharpness
- Noise Reduction
- Overscan

About this Guide
Symbols used in this guide
Warnings
Notes
Product revision

Using the Menus
Navigating the menus
Submenus
Sliders
Selecting parameters
Commands

Advanced Menu
Hue/Saturation/Gain
Resync
Horizontal and Vertical Shift
Color Space
Video Standard and DLP Frame Rate
Gamma, Color Temperature and Color Gamut
Brilliant Color® and Adaptive Contrast
RGB Adjust
Fine Sync

Setup Menu
Lighting Mode
Anti-Blur
Auto Power Off
Auto Power On
Rear Projection
Ceiling Mode
Source Enable
Altitude

Info Menu
Information
LED Hour Reset
Factory Reset

Menu Map
GENERAL
IMAGE
ADVANCED
SETUP
INFORMATION
About this Guide

Please read this guide carefully before using the projector, and keep it handy for future reference.

A serial number is located on the side of the projector. Record it here:

Symbols used in this guide

Warnings

⚠️ ELECTRICAL WARNING: this symbol indicates that there is a danger of electrical shock unless the instructions are closely followed.

⚠️ WARNING: this symbol indicates that there is a danger of physical injury to yourself and/or damage to the equipment unless the instructions are closely followed.

Notes

🔗 NOTE: this symbol indicates that there is some important information that you should read.

Product revision

Because we at Digital Projection continually strive to improve our products, we may change specifications and designs, and add new features without prior notice. Projectors built prior to this revision of the Operating Guide may therefore not include all the features described.
Using the Menus

Use the buttons on the projector control panel or on the remote control, to access the menu system.

- To open or close the on-screen display (OSD), press **MENU**.
  (When closing the OSD, you may need to press **MENU** more than once if any sub-menus are open.)

Navigating the menus

- Select a menu using **<** and **>**.
- then open the menu by pressing **ENTER/SELECT**.
  The first item in the menu is highlighted.

- Select an item in the menu using **△** and **▽**.

- To open another menu, first close the current menu by pressing **MENU**.

Notes

Some menu options and controls may not be available due to settings in other menus. These will be shaded green on the actual menu.
**Submenus**
- Select a submenu using ▲ and ▼.
- Then press **ENTER/SELECT**.
- The submenu opens, with the first item highlighted.
- To close the submenu, press **MENU**.

**Sliders**
- Activate the slider by pressing ◄ or ►.
- Use ◄ or ► to adjust the value.
- Press **MENU** or **ENTER/SELECT** to accept the value.

---

**Notes**
Some menu options and controls may not be available due to settings in other menus. These will be shaded green on the actual menu.
Selecting parameters
Most parameters are changed by selecting from a list:

- Select from the list using ▼ and ▲.
- The change will be made immediately.

Some parameters are changed by selecting from a submenu:

- Press ENTER/SELECT to open the submenu.
- The item that is currently selected is highlighted with a cross ■.
- Select from the list using ▼ and ▲.
- The change will be made when you press ENTER/SELECT to confirm the selection.

Notes
Some menu options and controls may not be available due to settings in other menus. These will be shaded green on the actual menu.
**Commands**

- To use a command, press **ENTER/SELECT**.

<table>
<thead>
<tr>
<th>Sub Menu</th>
<th>Enter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Selection</td>
<td>Item 1</td>
</tr>
<tr>
<td>Slider</td>
<td>100</td>
</tr>
</tbody>
</table>

**Command**

<table>
<thead>
<tr>
<th>Selection</th>
<th>Enter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slider</td>
<td>100</td>
</tr>
<tr>
<td>Command</td>
<td>Enter</td>
</tr>
</tbody>
</table>

- In this example, use **<** or **>** to select **YES** or **NO**, then press **ENTER/SELECT** to confirm your selection.

![Reset Everything](image)

- **Notes**

Some menu options and controls may not be available due to settings in other menus. These will be shaded green on the actual menu.
A Tour of the Menus

General Menu

Source Select
- Select which input source to display.

Menu Position
- Set this to determine the position of the menus on the screen.

Memory
- The current image settings can be saved to one of two Presets. Either of the two Presets or the Default settings, can be recalled later.
- The following settings are saved:
  From the Image menu:
  - Aspect Ratio
  - Sharpness
  - Brightness
  - Noise Reduction
  - Contrast
  - Overscan
  - Saturation
  - HSG
  - Tint
  From the Advanced menu:
  - Color Space
  - Color Gamut
  - Video Standard
  - Brilliant Color
  - Gamma
  - Adaptive Contrast
  - Colour Temperature
  - RGB Offsets
  - DLP Frame Rate
  - RGB Gains

Notes
- See also Using the Menus, earlier in this guide and Menu Map, later in this guide.

- The input source that is currently selected is highlighted with a cross.
- To use the SCART input, you will need an adaptor. See the Connection Guide for more information.

- User-1 and User-2 can also be recalled using the USER MEMORY A and B keys on the remote control.

- When Save Presets is selected, the image settings for ONLY the selected input are saved.

User-1 and User-2 can also be recalled using the USER MEMORY A and B keys on the remote control.

Note: Buttons C and D on the remote control are not used.
Blank Screen
• Set this to determine what appears on screen when the projector is searching for a valid input source.

Logo Display
• Set this to determine whether the Digital Projection logo appears when the projector is switching from Stanby to On.

Auto-Source
• When this is set to **On**, the projector will search for an alternative input source when the current input source is disconnected
• When this is set to **Off**, the projector will show a ‘blank’ screen when the current input source is disconnected.

Test Patterns
• Select from a range of test patterns.
• Press **MENU** to return to the menu, or **ENTER/SELECT** to return to the currently selected input signal.

Blue Only
• Set this to **On** to display only the blue component of the input signal, for calibration or test purposes.
Image Menu

<table>
<thead>
<tr>
<th>GENERAL</th>
<th>IMAGE</th>
<th>ADVANCED</th>
<th>SETUP</th>
<th>INFO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aspect Ratio</td>
<td>16:10</td>
<td>Brightness</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Contrast</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Color Saturation</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Color Tint</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sharpness</td>
<td>Enter</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Noise Reduction</td>
<td>Enter</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Overscan</td>
<td>Off</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>H Shift</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>V Shift</td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>

Menu = Exit  Adjust ▶▼  Scroll ▲▼

Aspect Ratio

- Select from 16:10, 16:9, Letterbox, 4:3, 4:3 Narrow, Square and Native.

Examples

16:10 image using **Native** setting

16:9 image using **Native** setting

16:10 image using **16:10** setting

16:9 image using **16:9** setting

Notes

- See also Using the Menus, earlier in this guide and Menu Map, later in this guide.

- The Native image examples shown here have far fewer pixels than the 1920 x 1200 of the DMD. Your image may be different.

- When displaying a 16:10 or 16:9 image, DO NOT use an anamorphic lens.
The Native image examples shown here have far fewer pixels than the 1920 x 1200 of the DMD. Your image may be different.

An anamorphic lens is used with the Letterbox setting, to ensure that for a 2.35:1 image, the maximum area of the DMD is used, giving maximum image brightness.

When displaying a 16:10 or 16:9 image, DO NOT use an anamorphic lens.

The 4:3 Narrow setting is used to compensate for the distortion that an anamorphic lens would cause to a 4:3 image.

Use the Square setting when projecting onto a square screen, and ONLY in applications where the aspect ratio is not critical.
Brightness, Contrast, Color Saturation, Color Tint

• Adjust the sliders for these settings.

Sharpness

• Press ENTER/SELECT to open the Sharpness sub-menu.

<table>
<thead>
<tr>
<th>GENERAL</th>
<th>IMAGE</th>
<th>ADVANCED</th>
<th>SETUP</th>
<th>INFO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sharpness Mode</td>
<td>Advanced</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Horizontal Sharpness</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vertical Sharpness</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diagonal Sharpness</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sharpness Overshoot</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Horizontal Texture</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vertical Texture</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diagonal Texture</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Texture Overshoot</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Noise Threshold</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

• In Simple mode, adjust the single Sharpness slider at the top of the menu, as required.

• If the simple mode adjustment is not effective then select Advanced mode, and adjust the advanced sliders as required:
  • The Horizontal, Vertical and Diagonal Sharpness controls can be used to enhance image detail along edges.
  • The Sharpness Overshoot control can be used to minimize or eliminate rings or shadows on dominant edges.
  • The Horizontal, Vertical and Diagonal Texture, and Texture Overshoot controls can be used to remove artifacts from textured areas.
  • The Noise Threshold control can be used to adjust the noise threshold frequency. Frequencies above the threshold are considered to be ‘noise’, and will not be sharpened.
Image Menu continued

Noise Reduction
- Press ENTER/SELECT to open the Noise Reduction sub-menu.

### Noise Reduction Sub-menu

<table>
<thead>
<tr>
<th>Mode</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Noise Reduction</td>
<td>100</td>
</tr>
<tr>
<td>Block Artifact Reduction</td>
<td>100</td>
</tr>
<tr>
<td>Mosquito Noise Reduction</td>
<td>100</td>
</tr>
</tbody>
</table>

### Noise Reduction

- **Press** ENTER/SELECT **to open the Noise Reduction sub-menu.**
- **In Simple mode**, adjust the single **Noise Reduction** slider at the top of the menu, as required.
- If the simple mode adjustment is not effective then select **Advanced mode**, and adjust the advanced sliders as required:
  - **General Noise Reduction** can be used to detect differences from frame to frame, reducing those differences that are not determined to be motion.
  - **Block Artifact Reduction** can be used to reduce or eliminate distortion within horizontal and vertical block boundaries, particularly in MPEG-compressed video signals.
  - **Mosquito Noise Reduction** can be used to reduce or eliminate distortion around the edges of moving objects, moving artifacts around edges and/or blotchy noise patterns superimposed over the objects, particularly in MPEG-compressed video signals.

### Overscan

- **Select from** Off, Crop or Zoom.

**Notes**

See also Using the Menus, earlier in this guide and Menu Map, later in this guide.

**Overscan** is used to compensate for noisy or badly defined image edges, by either:
- cropping the edges from the image or
- increasing the size of the image, to force the edges off-screen.
**Image Menu continued**

### Hue/Saturation/Gain
- Press **ENTER/SELECT** to open the Hue/Saturation/Gain sub-menu.

<table>
<thead>
<tr>
<th><strong>HSG Select</strong></th>
<th><strong>Hue</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Red</td>
<td>100</td>
</tr>
<tr>
<td>Green</td>
<td>100</td>
</tr>
<tr>
<td>Blue</td>
<td>100</td>
</tr>
<tr>
<td>Cyan</td>
<td>100</td>
</tr>
<tr>
<td>Magenta</td>
<td>100</td>
</tr>
<tr>
<td>Yellow</td>
<td>100</td>
</tr>
</tbody>
</table>

Use the **HSG Select** control to select from **Hue**, **Saturation** and **Gain**.

Use the sliders to adjust the hue, saturation or gain of each colour as required.

### Resync
- Press **ENTER/SELECT** to force the projector to re-synchronise with the current input signal.

### Horizontal and Vertical Shift
- Use the sliders to adjust the image position as required.
**Advanced Menu**

<table>
<thead>
<tr>
<th>GENERAL</th>
<th>IMAGE</th>
<th>ADVANCED</th>
<th>SETUP</th>
<th>INFO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colour Space</td>
<td>Auto</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Video Standard</td>
<td>Auto</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gamma</td>
<td>Graphics</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Colour Temperature</td>
<td>Custom</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DLP Frame Rate</td>
<td>Auto</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Color Gamut</td>
<td>Auto</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BrilliantColor</td>
<td>Off</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adaptive Contrast</td>
<td>Off</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RGB Adjust</td>
<td>Enter</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fine Sync</td>
<td>Enter</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Color Space**
- Set this to **Auto**, except when the projector has problems selecting between REC709, REC601, REC601, RGB-PC and RGB-Video.

**Video Standard and DLP Frame Rate**
- Set this to **Auto**, except when the projector has problems recognising the video parameters.

**Gamma, Color Temperature and Color Gamut**
- Set this to suit the specification of the input source, or to improve the appearance of the projected image.

**Brilliant Color® and Adaptive Contrast**
- Set these to suit your brightness and contrast requirements.

---

**Notes**

- See also *Using the Menus*, earlier in this guide and *Menu Map*, later in this guide.

- **Brilliant Color®** allows for increased projector brightness and improved color saturation by enabling the yellow segments on the colour wheel.

- **Adaptive Contrast** expands the light and dark portions of the contrast curve of the image, depending on the mean luminance of the image.

  Setting either of these two parameters to **On** will affect any image quality settings made in other menus.
**Advanced Menu** continued

**RGB Adjust**

- Adjust the RGB offset and gain settings to improve the colour balance of the projected image.

<table>
<thead>
<tr>
<th>GENERAL</th>
<th>IMAGE</th>
<th>ADVANCED</th>
<th>SETUP</th>
<th>INFO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red Offset</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Green Offset</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blue Offset</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Red Gain</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blue Gain</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Green Gain</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Menu = Exit  Adjust  | Scroll  |

**Fine Sync**

- Adjust these settings to suit the configuration of the input signal.

<table>
<thead>
<tr>
<th>GENERAL</th>
<th>IMAGE</th>
<th>ADVANCED</th>
<th>SETUP</th>
<th>INFO</th>
</tr>
</thead>
<tbody>
<tr>
<td>V Position</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>H Position</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phase</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tracking</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sync Level</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Menu = Exit  Adjust  | Scroll  |
## Setup Menu

<table>
<thead>
<tr>
<th>GENERAL</th>
<th>IMAGE</th>
<th>ADVANCED</th>
<th>SETUP</th>
<th>INFO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lighting Mode</td>
<td>Daylight</td>
<td>RGB Dimming</td>
<td>100</td>
<td>Custom</td>
</tr>
<tr>
<td></td>
<td>Night</td>
<td>IR Dimming</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Anti-Blur</td>
<td>Off</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Remote Control</td>
<td>On</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Auto Power Off</td>
<td>Off</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Auto Power On</td>
<td>Off</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rear Projection</td>
<td>Off</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ceiling Mode</td>
<td>Off</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Source Enable</td>
<td>Enter</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Attitude</td>
<td>Auto</td>
<td></td>
</tr>
</tbody>
</table>

#### Lighting Mode
- Set this to **Daylight** to set the projected output to **RGB** only.
- Set this to **Night** to set the projected output to **Infra-Red** only.
- Set this to **Custom** to enable the **RGB Dimming** and **IR Dimming controls**, for a combination of the two outputs.

#### Anti-Blur
- Select from **Off**, **10mS** and **8mS**.

#### Auto Power Off
- Set this to **On**, if you want the projector to go into **Standby mode** when no input source is detected for 20 minutes.

#### Auto Power On
- Set this to **On**, if you want the projector to start up immediately when the mains is connected.
- Set this to **Off**, if you want the projector to go into **Standby mode** when the mains is connected. In this case, the projector will not start up until the **POWER** button is pressed on the control panel or the remote control.

---

**Notes**
- See also *Using the Menus*, earlier in this guide and *Menu Map*, later in this guide.
- **Lighting Mode** will not change until the menu has been turned off.
- **Anti-Blur** will increase the black time between frames, to reduce any blurring effect from fast moving images.
- **Note**: This will decrease the perceived brightness of the image.
**Rear Projection**

- Set this to **On** to reverse the image from left to right, for use in Rear Projection Mode.

**Ceiling Mode**

- Set this to **On** to reverse the image from top to bottom, for use in Ceiling Mode.

**Source Enable**

- Press **ENTER/SELECT** to open the Source Enable sub-menu.
  
  Use this to enable or disable any of the source inputs.

**Altitude**

- When this is set to **Auto**, the internal fan will operate at **Low** speed, and rise to **High** speed automatically if the internal temperature rises.

- When this is set to **High**, the fan will operate at **High** speed continuously, for use at high altitude locations.

---

**Notes**

- See also **Using the Menus**, earlier in this guide and **Menu Map**, later in this guide.

- When the **SCART** input is enabled, the **Video** and **Component 1** inputs will be disabled.

- To use the **SCART** input, you will need an adaptor. See the **Connection Guide** for more information.
Info Menu

<table>
<thead>
<tr>
<th>GENERAL</th>
<th>IMAGE</th>
<th>ADVANCED</th>
<th>SETUP</th>
<th>INFO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model Name</td>
<td>M-Vision WUXGA LED + IR</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Serial Number</td>
<td>W129XNCY00016</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Software Version</td>
<td>MD02-GD02-4020</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Active Source</td>
<td>HDMI1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pixel Clock</td>
<td>148.35 MHz</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Signal Format</td>
<td>1080p 60Hz</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>H/V Refresh Rate</td>
<td>H: 67.43 KHz  V: 60Hz</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LED Hours</td>
<td>6 HRS</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

LED Hour Reset

- Press \textbf{ENTER/SELECT} to reset the LED hour counter to zero.

Factory Reset

- Press \textbf{ENTER/SELECT} to restore all settings to their factory defaults.
- When the warning message appears, use \textbf{\textless} or \textbf{\textgreater} to select \textbf{YES} or \textbf{NO}, then press \textbf{ENTER/SELECT} to confirm your selection.

Notes

- See also \textbf{Using the Menus}, earlier in this guide and \textbf{Menu Map}, later in this guide.

To set the System ID:
- connect one projector at a time and set each to a different number using the \textbf{op sysid} command.

For more information about this, see the \textbf{Connections Guide} and the \textbf{Remote Communications Guide}.

- Do NOT do this unless you are sure that you want to set the LED hour counter to zero, eg if a new LED module has been installed.

- Do NOT do this unless you are sure that you want to restore ALL the current settings to their factory defaults.
## Menu Map

### GENERAL

**Source Select**  HDMI1, HDMI2, RGB, Component 1, Component 2, Video, S-Video, SCART

**Menu Position**  Top Left, Top Right, Bottom Left, Bottom Right, Centre

**Memory**  
- Recall  User 1, User 2, Default
- Save  User 1, User 2

**Blank Screen**  Logo, Black, Blue, White

**Logo Display**  On, Off

**Auto Source**  On, Off

**Test Patterns**  Off, White, Black, Red, Green, Blue, Cyan, Magenta, Yellow, Checkerboard, Vertical Burst, Horizontal Burst

**Blue Only**  Off, On

### IMAGE

**Aspect Ratio**  16:10, 16:9, Letterbox, 4:3, 4:3 Narrow, Square, Native

**Brightness**

**Contrast**

**Color Saturation**

**Colour Tint**

**Sharpness**  Simple, Advanced
- Advanced  Horizontal, Vertical Diagonal Sharpness, Sharpness Overshoot, Horizontal, Vertical Diagonal Texture, Texture Overshoot, Noise Threshold

**Noise Reduction**  Simple, Advanced
- Advanced  General, Block Artifact, Mosquito

**Overscan**  Off, Crop, Zoom

**HSG**  
- Hue, Saturation, Gain:  Red, Green, Blue, Cyan, Magenta, Yellow

**Resync**  Projector will re-synchronise with the current input signal

**Horizontal Shift**

**Vertical Shift**
ADVANCED

Color Space  Auto, REC709, REC601, RGB PC, RGB Video
Video Standard  Auto, NTSC, PAL, SECAM
Gamma  Film, Cinema, Bright, Graphics, CRT
Color Temperature  Custom, 6500K
DLP Frame Rate  Auto, 48Hz, 50Hz, 60Hz
Color Gamut (not available)
BrilliantColor  On, Off
Adaptive Contrast  On, Off
RGB Adjust  RGB Offset and Gain
Fine Sync  V Position, H Position, Phase, Tracking, Sync Level

SETUP

Lighting Mode  Daylight, Night, Custom
               Custom  RGB Dimming, IR Dimming
Anti-Blur  Off, 10mS, 8mS
Remote Control  On, Off
Auto Power Off  On, Off
Auto Power On  On, Off
Rear Projection  Off, On
Ceiling Mode  Off, On
Source Enable  all available inputs
Altitude  Auto, High Altitude

INFORMATION

Information  Model Name, Serial Number, Software Version, Active Source, Pixel Clock, Signal Format,
HV Refresh Rate, LED Hours
LED Hours reset  Projector will ask for confirmation before the LED hour counter to zero
Factory Reset  Projector will ask for confirmation before restoring all settings to factory defaults
Information  System ID

Notes

Some of the information in this menu map is summarised. See the actual menu on the projector for full detail.

Some menu options and controls may not be available due to settings in other menus. These will be shaded green on the actual menu.

Where it would be helpful, some menu options are described in more detail earlier in this operating guide.
M-Vision LED+IR series

High Brightness Digital Video Projector
16:10 widescreen display
CONTENTS

About this Guide ................................................................. Rem_1
  Symbols used in this guide ............................................... Rem_1
    Warnings ..................................................................... Rem_1
    Notes ......................................................................... Rem_1
  Product revision ............................................................. Rem_1

Introduction ....................................................................... Rem_2
  Command format ............................................................ Rem_2
    Prefix code ................................................................... Rem_2
    Examples ...................................................................... Rem_2

The Key Commands .......................................................... Rem_3
  Examples ........................................................................ Rem_3

The Operation Commands .................................................. Rem_5
  Examples ........................................................................ Rem_5

  General menu .................................................................... Rem_6
  Image menu ....................................................................... Rem_6
  Advanced menu .............................................................. Rem_7
  Setup menu ....................................................................... Rem_8
  Information menu ........................................................... Rem_8
  Miscellaneous commands ................................................ Rem_9
About this Guide

Please read this guide carefully before using the projector, and keep it handy for future reference.

A serial number is located on the side of the projector. Record it here:

Symbols used in this guide

Warnings

⚠️ ELECTRICAL WARNING: this symbol indicates that there is a danger of electrical shock unless the instructions are closely followed.

⚠️ WARNING: this symbol indicates that there is a danger of physical injury to yourself and/or damage to the equipment unless the instructions are closely followed.

Notes

🔗 NOTE: this symbol indicates that there is some important information that you should read.

Product revision

Because we at Digital Projection continually strive to improve our products, we may change specifications and designs, and add new features without prior notice. Projectors built prior to this revision of the Operating Guide may therefore not include all the features described.
**Introduction**

The projector can be controlled by using an external control system or a computer via a LAN or an RS232 serial interface, using a terminal-emulation program, such as HyperTerminal.

Projectors can be connected in a daisy chain, connecting the **RS232 OUT** of one projector to the **RS232 IN** of the next. Each projector can be given a unique **System ID**, and they can be controlled individually or simultaneously via a single computer.

**Command format**

There are 2 types of command, **Key commands** and **Operation commands**. The individual commands are described later in this guide. All commands consist of ascii text strings ending with an ascii carriage return character. If a number of projectors are connected in a daisy chain, then each command should be preceded by a prefix code. For a single projector, a prefix code should NOT be used.

- **Key commands**: `<prefix code> ky <keyname> [CR]`
- **Operation commands**: `<prefix code> op <operation> <command> [CR]`

**Prefix code**

The prefix code, if used, comprises the first four bytes of the command, and is made up of the following bytes (in hex):

<table>
<thead>
<tr>
<th>byte</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>DE (an unprintable character)</td>
</tr>
<tr>
<td>1</td>
<td>C0 (an unprintable character)</td>
</tr>
<tr>
<td>2</td>
<td>ID1 (ASCII character representing the first half of the projector’s <strong>System ID</strong> in hex)</td>
</tr>
<tr>
<td>3</td>
<td>ID2 (ASCII character representing the second half of the projector’s <strong>System ID</strong> in hex)</td>
</tr>
</tbody>
</table>

**Examples**

<table>
<thead>
<tr>
<th>System ID</th>
<th>Prefix code</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 (0A in hex)</td>
<td>DE C0 30 41</td>
</tr>
<tr>
<td>28 (1C in hex)</td>
<td>DE C0 31 43</td>
</tr>
</tbody>
</table>

**Using the System ID ** will send the command to ALL projectors.

<table>
<thead>
<tr>
<th>System ID</th>
<th>Prefix code</th>
</tr>
</thead>
<tbody>
<tr>
<td>**</td>
<td>DE C0 2A 2A</td>
</tr>
</tbody>
</table>

**Notes**

- Details of how to connect to the projector, using the LAN or RS232 input, can be found in the **Connections Guide**.
- The prefix code should NOT be used unless a number of projectors are connected in a daisy chain.
- To set the System ID:
  - connect one projector at a time and set each to a different number using the **op sysid** command.
- The System ID ** will work ONLY on projectors that are running. Therefore:
  - use the **pow.on** command with no prefix code to turn on ALL the projectors.
  - then use the **pow.off** command with the appropriate prefix code to turn off all or individual projectors.
The Key Commands

- Key commands are used to simulate remote control key presses, and consist of ascii text strings starting with a prefix code, then the letters ‘ky’, and ending with a carriage return character:
  
  \(<prefix\text{ code}>\ ky <keyname> \[CR]\)

Examples

- \(<prefix\text{ code}>\ ky \text{ menu} [CR]\) simulates the MENU key being pressed.
- \(<prefix\text{ code}>\ ky \text{ enter} [CR]\) simulates the ENTER key being pressed.

<table>
<thead>
<tr>
<th>IR Hex Code</th>
<th>&lt;keyname&gt;</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>pow.on</td>
<td>Turn power on.</td>
</tr>
<tr>
<td>09</td>
<td>pow.off</td>
<td>Turn power off.</td>
</tr>
<tr>
<td>15</td>
<td>menu</td>
<td>Bring up or cancel menu display.</td>
</tr>
<tr>
<td>17</td>
<td>enter</td>
<td>Keypad enter.</td>
</tr>
<tr>
<td>18</td>
<td>cur.down</td>
<td>Keypad down arrow.</td>
</tr>
<tr>
<td>1A</td>
<td>cur.up</td>
<td>Keypad up arrow.</td>
</tr>
<tr>
<td>1D</td>
<td>cur.left</td>
<td>Keypad left arrow.</td>
</tr>
<tr>
<td>1F</td>
<td>cur.right</td>
<td>Keypad right arrow.</td>
</tr>
<tr>
<td>80</td>
<td>bright</td>
<td>Bring up or cancel brightness slider.</td>
</tr>
<tr>
<td>81</td>
<td>contrast</td>
<td>Bring up or cancel contrast slider.</td>
</tr>
<tr>
<td>82</td>
<td>sharp</td>
<td>Bring up or cancel sharpness slider.</td>
</tr>
</tbody>
</table>

continued on next page...
<table>
<thead>
<tr>
<th>IR Hex Code</th>
<th>&lt;keyname&gt;</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>83</td>
<td>nr</td>
<td>Bring up or cancel noise reduction slider.</td>
</tr>
<tr>
<td>85</td>
<td>gam.sw</td>
<td>Switch to the next gamma.</td>
</tr>
<tr>
<td>8B</td>
<td>src.1</td>
<td>Switch the active source to source 1.</td>
</tr>
<tr>
<td>8C</td>
<td>src.2</td>
<td>Switch the active source to source 2.</td>
</tr>
<tr>
<td>8D</td>
<td>src.3</td>
<td>Switch the active source to source 3.</td>
</tr>
<tr>
<td>8E</td>
<td>src.4</td>
<td>Switch the active source to source 4.</td>
</tr>
<tr>
<td>8F</td>
<td>src.5</td>
<td>Switch the active source to source 5.</td>
</tr>
<tr>
<td>93</td>
<td>osc.sw</td>
<td>Switch to the next Overscan mode.</td>
</tr>
<tr>
<td>98</td>
<td>mem.1</td>
<td>Recall user memory associated with the M1 key.</td>
</tr>
<tr>
<td>99</td>
<td>mem.2</td>
<td>Recall user memory associated with the M2 key.</td>
</tr>
<tr>
<td>9D</td>
<td>asp.sw</td>
<td>Switch to the next aspect ratio.</td>
</tr>
</tbody>
</table>
The Operation Commands

- Operation commands are used to simulate menu operations and determine the settings of the projector, and consist of ascii text strings starting with a prefix code, then the letters ‘op’, and ending with a carriage return character:
  
  `<prefix code> op <operation> <command> [CR]`

- The `<operation>` string depends on the operation, and these are listed on the following pages.

- The `<command>` string can take one of the following formats:

<table>
<thead>
<tr>
<th><code>&lt;command&gt;</code></th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Set</td>
<td>= &lt;value&gt;</td>
</tr>
<tr>
<td>Get</td>
<td>?</td>
</tr>
<tr>
<td>Increment</td>
<td>+</td>
</tr>
<tr>
<td>Decrement</td>
<td>–</td>
</tr>
<tr>
<td>Execute</td>
<td>(none)</td>
</tr>
</tbody>
</table>

Examples

- `<prefix code> op aspect = 1 [CR]` sets the aspect ratio to 16:9
- `<prefix code> op aspect ? [CR]` asks what is the current aspect ratio
- `<prefix code> op brightness + [CR]` increments the brightness setting
- `<prefix code> op contrast – [CR]` decrements the contrast setting
- `<prefix code> op resync [CR]` commands the projector to attempt to re-synchronise to the current input source

Notes

- Details of how to connect to the projector, using the LAN or RS232 input, can be found in the Connections Guide.

- For information about the prefix code, see earlier in this guide. The prefix code should NOT be used unless a number of projectors are connected in a daisy chain.

- Get ? commands do not work when projectors are connected in a daisy chain.

- Note: spaces in the commands are necessary. eg op aspect = 1 NOT opaspect=1

  In hex:
  6F 70 20 61 73 70 65 63 74 20 3D 20 31 0D
  o   p   a   s   p   e   c   t   =   1   CR
### General menu

<table>
<thead>
<tr>
<th>&lt;operation&gt;</th>
<th>&lt;command&gt;</th>
<th>&lt;values&gt;</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>source.sel</td>
<td>= ?</td>
<td>0 = HDMI 1</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 = HDMI 2</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 = RGB</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 = Component 1</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>4 = Component 2</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>5 = S-Video</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>6 = Video</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>7 = SCART</td>
<td></td>
</tr>
<tr>
<td>auto.source</td>
<td>= ?</td>
<td>0 = Off</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 = On</td>
<td></td>
</tr>
<tr>
<td>pattern</td>
<td>=</td>
<td>0 = White</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 = Black</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 = Red</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 = Green</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>4 = Blue</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>5 = Cyan</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>6 = Magenta</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>7 = Yellow</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>8 = ANSI Checkerboard</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>9 = Vertical Burst</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>10 = Horizontal Burst</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>11 = Off</td>
<td></td>
</tr>
</tbody>
</table>

### Image menu

<table>
<thead>
<tr>
<th>&lt;operation&gt;</th>
<th>&lt;command&gt;</th>
<th>&lt;values&gt;</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>aspect</td>
<td>= ?</td>
<td>0 = 16:10</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 = 16:9</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 = Letterbox</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 = 4:3</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>4 = 4:3 Narrow</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>5 = Square</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>6 = Native</td>
<td></td>
</tr>
<tr>
<td>bright</td>
<td>= ? + -</td>
<td>0 - 200</td>
<td></td>
</tr>
<tr>
<td>contrast</td>
<td>= ? + -</td>
<td>0 - 200</td>
<td></td>
</tr>
<tr>
<td>saturat</td>
<td>= ? + -</td>
<td>0 - 200</td>
<td></td>
</tr>
<tr>
<td>tint</td>
<td>= ? + -</td>
<td>0 - 200</td>
<td></td>
</tr>
</tbody>
</table>
### THE OPERATION COMMANDS

#### Remote Communications Guide

<table>
<thead>
<tr>
<th>&lt;operation&gt;</th>
<th>&lt;command&gt;</th>
<th>&lt;values&gt;</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>overscan</td>
<td>= ?</td>
<td>0 = Off</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 = Crop</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 = Zoom</td>
<td></td>
</tr>
<tr>
<td>resync</td>
<td>(execute)</td>
<td></td>
<td>Re-synchronise with the current input signal</td>
</tr>
</tbody>
</table>

**Advanced menu**

| color.space | = ?       | 0 = Auto  |       |
|            |          | 1 = REC709|       |
|            |          | 2 = REC601|       |
|            |          | 3 = RGB-PC|       |
|            |          | 4 = RGB-Video|     |
| video.stand| = ?       | 0 = Auto  |       |
|            |          | 1 = NTSC  |       |
|            |          | 2 = PAL   |       |
|            |          | 3 = SECAM |       |
| gamma      | = ?       | 0 = CRT   |       |
|            |          | 1 = Film  |       |
|            |          | 2 = Video |       |
|            |          | 3 = Bright|       |
|            |          | 4 = Graphics|      |
| color.temp | = ?       | 0 = 6500K |       |
|            |          | 1 = custom|       |
| dlp.frame  | = ?       | 0 = Auto  |       |
|            |          | 2 = 48 Hz |       |
|            |          | 3 = 50 Hz |       |
|            |          | 4 = 60 Hz |       |
| red.off    | = ? + -   | 0-200     |       |
| green.off  | = ? + -   | 0-200     |       |
| blue.off   | = ? + -   | 0-200     |       |
| red.gain   | = ? + -   | 0-200     |       |
| green.gain | = ? + -   | 0-200     |       |
| blue.gain  | = ? + -   | 0-200     |       |
| phase      | = ? + -   | 0-200     |       |
| tracking   | = ? + -   | 0-200     |       |
| sync.level | = ? + -   | 0-200     |       |

*continued on next page...*
<table>
<thead>
<tr>
<th>&lt;operation&gt;</th>
<th>&lt;command&gt;</th>
<th>&lt;values&gt;</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Setup menu</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>lighting.mode</td>
<td></td>
<td>0 = Daylight (RGB on, IR off) 1 = Night (RGB off, IR on) 2 = Custom</td>
<td></td>
</tr>
<tr>
<td>ir.dimming</td>
<td>= ?</td>
<td>0-255</td>
<td>Only possible when lighting.mode = 2</td>
</tr>
<tr>
<td>rgb.dimming</td>
<td>= ?</td>
<td>0-255</td>
<td>Only possible when lighting.mode = 2</td>
</tr>
<tr>
<td>rc</td>
<td>= ?</td>
<td>0 = Disable 1 = Enable</td>
<td>Enable/disable remote control.</td>
</tr>
<tr>
<td>rear.proj</td>
<td>= ?</td>
<td>0 = Off 1 = On</td>
<td></td>
</tr>
<tr>
<td>ceil.mode</td>
<td>= ?</td>
<td>0 = Off 1 = On</td>
<td></td>
</tr>
<tr>
<td><strong>Information menu</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>model.name</td>
<td></td>
<td>&lt;string&gt;</td>
<td></td>
</tr>
<tr>
<td>ser.number</td>
<td></td>
<td>&lt;string&gt;</td>
<td></td>
</tr>
<tr>
<td>soft.version</td>
<td></td>
<td>&lt;string&gt;</td>
<td></td>
</tr>
<tr>
<td>act.source</td>
<td></td>
<td>0 = HDMI 1 1 = HDMI 2 2 = RGB 3 = Component 1 4 = Component 2 5 = S-Video 6 = Video 7 = SCART</td>
<td>Active Source</td>
</tr>
<tr>
<td>pixel.clock</td>
<td></td>
<td>&lt;number&gt;</td>
<td>MHz</td>
</tr>
<tr>
<td>signal</td>
<td></td>
<td>&lt;string&gt;</td>
<td></td>
</tr>
<tr>
<td>h.refresh</td>
<td></td>
<td>&lt;number&gt;</td>
<td>KHz</td>
</tr>
<tr>
<td>v.refresh</td>
<td></td>
<td>&lt;number&gt;</td>
<td>Hz</td>
</tr>
<tr>
<td>lamp.hours</td>
<td></td>
<td>&lt;number&gt;</td>
<td></td>
</tr>
<tr>
<td>fact.reset</td>
<td>(execute)</td>
<td></td>
<td>Reset to factory defaults</td>
</tr>
<tr>
<td>sysid</td>
<td>= ?</td>
<td>0-255</td>
<td></td>
</tr>
</tbody>
</table>

To set the System ID:
- Connect one projector at a time and set each to a different number using the `op sysid` command.

continued from previous page...
### Miscellaneous commands

<table>
<thead>
<tr>
<th>&lt;operation&gt;</th>
<th>&lt;command&gt;</th>
<th>&lt;values&gt;</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>status.check</td>
<td>?</td>
<td>0 = standby</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 = warm up</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 = imaging</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 = cooling</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>4 = error</td>
<td></td>
</tr>
<tr>
<td>osd</td>
<td>= ?</td>
<td>0 = Disable</td>
<td>Enable/disable all on-screen menus and messages, except for Factory Reset warning and Shipment/Power Off confirmation message.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 = Enable</td>
<td></td>
</tr>
<tr>
<td>environment</td>
<td>?</td>
<td>&lt;string&gt;</td>
<td>Temperatures</td>
</tr>
</tbody>
</table>