

PalmScope™

PS-102 User Guide

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Introduction

This chapter gives a general introduction to the PalmScope, with descriptions of typical applications. It also gives a full technical specification.

About the PalmScope

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The PalmScope is a unique product that provides a convenient way of capturing still images or video clips to a removable CompactFlash card. It is compatible with both PAL and NTSC, S-Video or composite, and a built-in LCD display allows you to preview the video before saving it to the memory card.

Capture video and still images

Video clips are captured at full NTSC or PAL resolution, at 30 or 25 fps respectively, and stored in Apple QuickTime® format, allowing approximately 3 minutes of video to be stored on a 128MB CompactFlash card.

Still images are stored in a compressed JPEG format, and over 500 images can be stored on a 128MB CompactFlash card.

The storage capacity is limited only by the size of the CompactFlash card used, and a 2GB card will hold many thousands of images or up to 80 minutes of video.

Annotate images for later reference

Captured images and video clips are automatically named with the date and a sequence label; alternatively you can supply a name using the PalmScope keypad.

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Images can also be annotated with an overlay of up to 10 lines of text, using a standard PC keyboard connected to the PalmScope. This provides a convenient way of recording notes with each image, for example to comment on features in the image or provide information about the conditions under which the image was captured.

Organise images to aid retrieval

Images can be organised into named folders, and a range of cataloguing functions help in archiving and retrieving images, including the ability to rename images, delete images, and move or copy images between folders.

The PalmScope includes a convenient thumbnail gallery feature, which allows you to search through the library of captured images 12 at a time, and then select one for full-size viewing. Alternatively the images can be uploaded to a PC using the supplied card reader, where they can be displayed or processed by any suitable image editing software.

Simple operation

The PalmScope is simple to operate, using intuitive on-screen displays, and the keypad can be used even when wearing gloves or protective clothing. For convenience the PalmScope can also be switched for either left-handed or

right-handed use. Alternatively, the full range of functions is available via an optional infra-red remote control.

A range of user options allows you to specify how the image files are named, the display orientation, and video parameters.

Typical applications

The PalmScope is ideal for any application in which sequences of still images or video clips need to be captured and stored, either in a laboratory or on site. The PalmScope is an ideal replacement for a VCR or computer-based video capture system where still images or video clips need to be captured from a video source. Its rugged construction and the absence of moving parts make it extremely durable, and it is ideal for use in the field.

Typical applications include:

- ⊙ Medical diagnosis
- ⊙ Routine maintenance and quality control
- ⊙ Inspection and fault-finding
- ⊙ Forensic and security
- ⊙ Underground pipe inspection.

Technical specification

Display	
Type:	6.5" TFT LCD
Resolution:	640 x 480 pixels
Brightness:	300cd/m ²
Colour depth:	262,144 colours (18-bits)
Video	
System:	Autoselecting NTSC/PAL
Resolution:	NTSC – 640 x 480 30 fps PAL – 768 x 512 25 fps
Inputs:	Autoselecting Composite (CVBS)/ S-Video (Y/C)
Connectors:	S-Video input: 4-pin mini-DIN S-Video output: 4-pin mini DIN Keyboard: 6-pin mini-DIN For composite video input/output use the phono adapter provided.
Text overlay	10 lines x 25 characters
Media	
Flash memory:	CompactFlash™ Type I & II cards
Hard disk drive:	IBM MicroDrive™ Type II only

Capacity (max.):	CompactFlash™ 2GB IBM MicroDrive™ 1GB
File system	
Capacity:	Root directory – 16 folders Folders – 1296 files
Format:	FAT-16 8:3 filename convention
File formats	
Still image:	JPEG, high quality (256KB) NTSC – 640 x 480 PAL – 768 x 576
Video clip:	Motion-JPEG (MJPEG) NTSC – 320 x 240 30 fps PAL – 384 x 288 25 fps QuickTime CIF format
Power	
Internal battery:	NiMH 6-cell
Voltage:	7.2V (nominal)
Capacity:	4Ahr (typical operation 2 to 3 hrs with power-save disabled)
Charger:	Internal smart fast charger Charging indicators and auditory alarm

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External:	PSU 12V, 50W, mains operation 2.1mm DC connector
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Options

DC output:	12V, 9V, or 5V (3W)
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Remote capture switches	For JPEGs and movies
-------------------------	----------------------

RS-232:	Bi-directional, 3-wire
---------	------------------------

Mounting

Mounting:	$\frac{1}{4}$ " UNC threaded insert (standard camera mount)
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Compliances



Approved CompactFlash cards

Type I:	Dane-elec, Lexar
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Type II:	IBM MicroDrive™
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Please contact Moritex Europe Ltd for details of currently approved CompactFlash card manufacturers.

Overview

This chapter provides a general overview of the PalmScope, with a summary of the front panel controls and connections to enable you to get started as quickly as possible.

Battery charger

Before using the PalmScope for the first time it should be connected to the mains unit to recharge the internal battery. The PalmScope can be operated while the battery is being recharged.

The PalmScope will operate for 2 to 3 hours on a fully charged battery, and this can be extended with the Power Save feature.

Switching on

☉ Switch on using the switch on top of the unit.

After a brief delay the **VIDEO AUTO-SELECTOR** screen will be displayed:



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- ⦿ Connect an S-Video signal, or a composite video signal using the supplied adapter.

You can use a PAL or NTSC standard signal, and the video auto-selector will automatically detect the format of the video signal and indicate this on the menu. It will then show the live video signal on the display.

Front panel controls

The diagram below shows the function of each of the PalmScope controls and connections.

Note that the **MENU/OSD** button provides two functions, depending on which end of the button you press.



Using the menus

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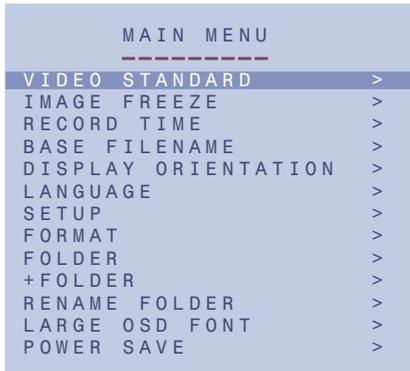
The PalmScope is operated using the keys to the left of the display in conjunction with a series of on-screen menus.

For example, a typical menu is the **MAIN MENU**.

To display the MAIN MENU

- ⊙ Press **MENU**.

The **MAIN MENU** is displayed as an overlay on the current video image:



To move between options

- ⊙ Press ▲ or ▼.

To select an option

- ⊙ Press ► or **OK**.

To exit from the current menu

- ⊙ Press **MENU**.

Pressing **MENU** at any stage generally exits from the current function and takes you back to the previous function.

Inserting or removing the CompactFlash Card

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The CompactFlash card can be removed or plugged in even while the PalmScope is switched on.

After plugging in a CompactFlash card the screen will blink for a few seconds while the PalmScope reads the data on the card; you can then proceed as normal.

Note: Before you can use a new CompactFlash card it must be formatted; see *To format a CompactFlash card*, page 26.

Capturing images and video

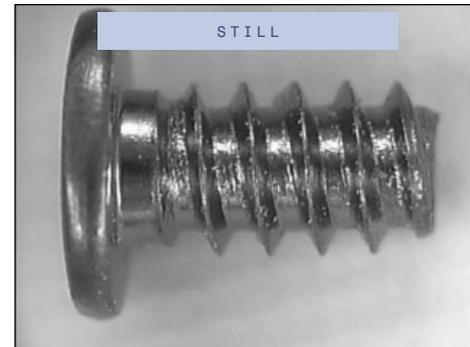
This chapter describes the procedures for capturing and saving still images and video clips, including information about specifying the filenames used to store images and clips.

Capturing a still image

To freeze the image

⊙ Press **||**.

When the image is frozen the display shows **STILL**:

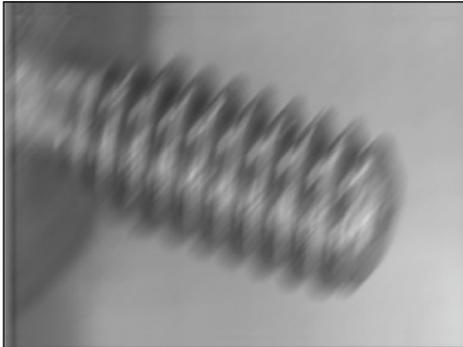


⊙ Press **||** again to unfreeze the image.

Note: With a PAL video signal the PalmScope display shows a slightly cropped version of the image. However, the captured image is full size.

To select double-field mode

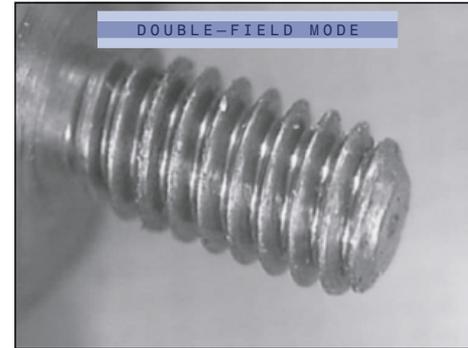
If the frozen image appears to jitter, due to movement between the two fields of the full frame image, the PalmScope allows you to double-up a single field to remove the jitter:



⊙ Press **▶** or **OK** while the image is frozen.

One of the two sequential fields is then doubled up to create a flicker-free image at half the resolution.

The display shows **DOUBLE-FIELD MODE** to show that only one field will be saved:



You can configure the PalmScope to save all images in double-field mode; see *To specify the image freeze mode*, page 22.

To save the image

⊙ While the image is frozen press **●**.

The **FILENAME EDITOR** is briefly displayed to show the filename assigned to the image, and the space remaining:

```
FILENAME EDITOR
STORE AS :
-0128030V-
FILESPACE LEFT: 0126
```

If the image is in double-field mode a **D** is displayed in the top right-hand corner of the **FILENAME EDITOR**.

The first six characters of the filename will be the current date in US format (NTSC video) or UK format (PAL video); for example 250604. Alternatively you can supply a six-character prefix using the **BASE FILENAME** option on the **MAIN MENU**; see *To specify the base filename*, page 23.

The last two characters of the filename are automatically incremented through the sequence of characters 0-9 and A-Z to ensure that every file is saved with a unique name. For example, the first few filenames will end in **00, 01, 02 ... 09, 0A, 0B ... 0Z, 10, 11 ...** etc.

Not formatted error

Note that if the CompactFlash card has not been formatted, the following warning will be displayed when you try to save an image or video clip:



- ⦿ Format the card, as described in *To format a CompactFlash card*, page 26.

Capturing a video clip

To capture a video clip

- ⦿ Press ●.

The display shows the maximum length of video clip you can capture, depending on the amount of space remaining on the CompactFlash card:

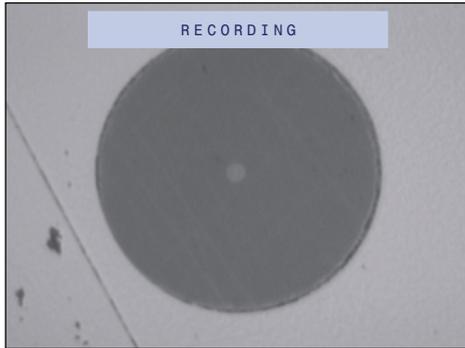


- ⦿ Press **OK** to select **OK** and start recording.

Alternatively, to cancel video capture press ▼ to highlight **CANCEL** and press ► or **OK** to select it, or press **MENU**.

While video is being captured the display shows

RECORDING:



To pause recording

⦿ Press **||**.

The **RECORDING** overlay flashes to indicate that the recording is paused.

⦿ Press **||** to resume recording.

To stop recording

⦿ Press **●**.

Storage capacity

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The PalmScope is provided with a preformatted blank 128MB CompactFlash card. To use other CompactFlash or IBM MicroDrive cards with the PalmScope they should first be formatted as described in *To format a CompactFlash card*, page 26.

Displaying captured images and video

This chapter describes how to review the still images and video clips you have captured, using the PalmScope image gallery.

Using the image gallery

The image gallery allows you to review the still images and video clips you have captured, and provides commands to help you to organise the images.

When replaying still images and video clips the PalmScope automatically switches between NTSC and PAL mode, depending on the format used to capture them.

If you have a live video signal connected you will need to unplug it to display images in the other format.

To display the image gallery

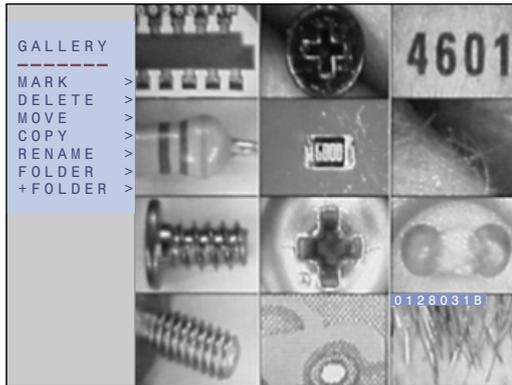
⊙ Press **INDEX**.

The display briefly shows:



IMAGE GALLERY
GALLERY LOADING:

It will then show thumbnail previews of the 12 most recent images you have captured in the current folder:



A flashing filename indicator highlights the most recently captured image. For video clips the thumbnail shows the first frame, and a play icon is displayed in the lower left corner.

To highlight a thumbnail

- ⦿ Move the filename indicator with ▲ or ▼.
- ⦿ Hold down either key to move quickly between the images.

You can step through the 12 thumbnails in the gallery, and as you highlight each thumbnail the filename indicator

changes to show the full filename of that image or video clip.

To display the previous page of thumbnails

- ⦿ Move the filename indicator to the first thumbnail in the top left corner of the image gallery, and press ▲.

After a **GALLERY LOADING** message the next page of 12 thumbnails will be displayed. If there are no more images in the current folder the filename indicator will wrap to the last image in the lower right corner of the image gallery.

To display the next page of thumbnails

- ⦿ Move the filename indicator to the last thumbnail in the lower right corner of the image gallery, and press ▼.

After a **GALLERY LOADING** message the next page of 12 thumbnails will be displayed. If you are already displaying the most recent files in the current folder the filename indicator will wrap to the first image in the top left corner of the image gallery.

To display an image at full size, or replay a video clip

- ⊙ Highlight the thumbnail of the file you want to display.
- ⊙ Press ► or **OK**.

The image or video clip will be displayed at full size.

While a full size image is being displayed, or after a video clip has finished playing, you can use the following keys:

Key	Function
▼	Steps to the next image.
▲	Steps to the previous image.
MENU	Displays the RETRIEVAL menu to allow you to delete or rename the image.
INDEX	Returns to the image gallery.

While a video clip is playing or paused you can use the following keys to control playback, and an indicator in the top right-hand corner of the display indicates the current playback mode:

Key	Function
	Pauses (indicator flashes) or continues playing. Hold down to single-step.
►	Plays forwards at normal (>) or double speed (>>).
◄	Plays backwards at normal (<) or double speed (<<).
INDEX	Returns to the image gallery.

Note: Images captured in PAL format are slightly cropped when displayed on the PalmScope display. However, the stored images are full size.

To exit from the image gallery

- ⊙ Press ||.

Using the GALLERY menu

You can manipulate the images displayed in the gallery using the options on the **GALLERY** menu. The following tables summarises the options:

Option	Description
MARK	Allows you to mark several thumbnails and then apply a function to all the marked files.
MOVE	Moves the selected file or marked files to another folder.
COPY	Copies the selected file or marked files to another folder.
RENAME	Renames the selected file.
FOLDER	Changes the current folder.
+FOLDER	Creates a new empty folder.

To select the GALLERY menu

- ⊙ Press **MENU**.

The first option on the **GALLERY** menu will be highlighted.

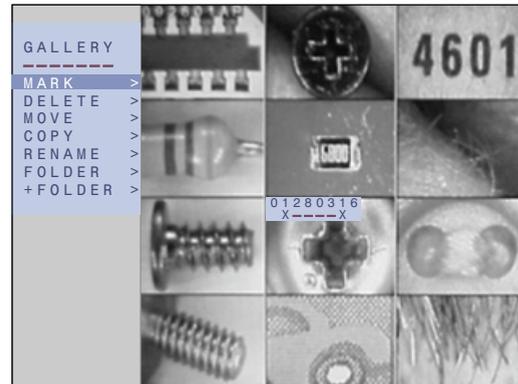
To mark files in the gallery

- ⊙ Highlight **MARK** on the **GALLERY** menu and press **▶** or **OK** to select it.

The **MARK** option will flash to indicate that you are in marking mode.

- ⊙ Used the **▲** or **▼** keys to highlight the first thumbnail you want to mark, and press **▶** or **OK** to mark it.

The filename indicator will change to show that the file is marked:



- If necessary you can unmark a marked file by pressing **▶** or **OK** again.

- ⦿ Mark other files in the gallery in a similar way.

When you have marked all the files you want to work with:

- ⦿ Press **MENU** to exit from marking mode.

The **MARK** option will stop flashing.

- ⦿ Highlight the option you want to apply to the marked files: **DELETE**, **MOVE**, or **COPY**, and press ► or **OK** to select it.
- ⦿ Proceed as described in the appropriate section below to perform the operation on the marked files.

To delete one or more files

- ⦿ Highlight **DELETE** on the **GALLERY** menu and press ► or **OK** to select it.

A **DELETE** menu will be displayed to allow you to confirm that you want to delete the selected file or marked files.

- ⦿ Press ▼ to highlight **OK** and press ► or **OK** to select it.

Alternatively to cancel the operation press ► or **OK** to select **CANCEL**.

To move or copy one or more files

- ⦿ Highlight **MOVE** or **COPY** in the **GALLERY** menu and press ► or **OK** to select it.

A menu will allow you to confirm that you want to proceed.

- ⦿ Press ▼ to highlight **FOLDER** and press ► or **OK** to select it.

Alternatively to cancel the operation press ► or **OK** to select **CANCEL**.

A **SELECT FOLDER** menu will be displayed, showing a list of the names of each folder on the CompactFlash card.

- ⦿ Highlight the folder you want to use and press ► or **OK** to select it.

The files will be moved or copied to the folder you specified.

To rename a file

- ⦿ Highlight **RENAME** in the **GALLERY** menu and press ► or **OK** to select it.

A **RENAME** menu will allow you to confirm that you want to proceed.

- ⦿ Press ▼ to highlight **CHANGE** and press ► or **OK** to select it.

Alternatively to cancel the operation press ► or **OK** to select **CANCEL**.

The **CHANGE FILENAME EDITOR** will be displayed:



Edit the first six characters of the filename as follows:

- ⊙ Press ▲ or ▼ to step between the characters A-Z and 0-9.
- ⊙ Press ► or ◀ to step between the six character positions.
- ⊙ Press **OK** to return to the **GALLERY** menu.

You cannot change the two-character suffix.

To change the current folder

- ⊙ Highlight **FOLDER** in the **GALLERY** menu and press ► or **OK** to select it.

A **SELECT FOLDER** menu will show a list of the names of the folders on the CompactFlash card.

- ⊙ Highlight the folder you want to use and press ► or **OK** to select it.

The image gallery will be updated to show the 12 most recent files in the folder you specified.

To create a new folder

- ⊙ Highlight **+FOLDER** in the **GALLERY** menu and press ► or **OK** to select it.

The **+FOLDER** menu will be displayed.

- ⊙ Press ► or **OK** to select **DEFAULT** and create a folder with the default name **FOLDER** followed by a two-character suffix which is automatically incremented through the sequence **AA, AB...AZ, BA...** etc.

Alternatively, press V to highlight **USER** and press ► or **OK** to select it to provide a custom folder name, in exactly the same way as renaming a file; see *To rename a file*, page 16.

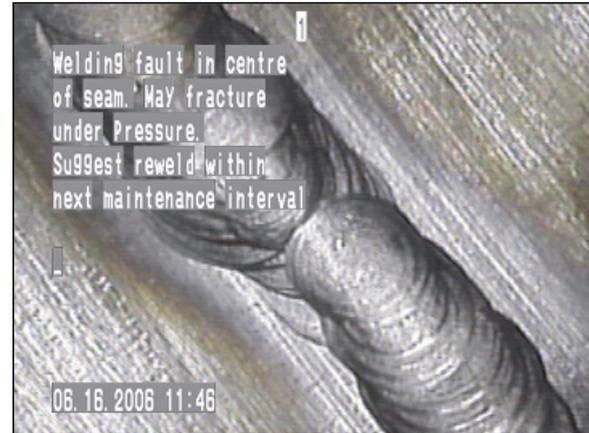
Annotating captured images and video

This chapter describes how to use the built-in OSD text editor to add notes to still images or video clips as they are captured.

Using the OSD text editor

To use the text editor you need to connect a standard PC-AT keyboard with a PS/2 6-pin mini-DIN connector to the keyboard input; see *Front panel controls*, page 6. Some USB keyboards with a PS/2 adapter can also be used. The PalmScope is compatible with either full-sized keyboards with 12 function keys or compact keyboards with 10 function keys.

The text editor allows you to enter up to 10 lines of 25 characters per line. In addition you can optionally display the current date and time on the bottom line of the screen:



To display the on-screen display

- ⦿ While a live image is being displayed, press **OSD**.

The on-screen display initially shows the text editor cursor on the second line of the display, and the date and time on the bottom line of the display.

- ⦿ Enter the annotation text at the keyboard.
- ⦿ Press **III** or **●** to save the image or video clip in the usual way.

The OSD will be saved as an overlay on the image.

Note that the OSD is not visible in the gallery thumbnails.

To hide or display the date and time

- ⦿ Press **◀** or **▶**.

Note that the date display automatically switches between US MM/DD/YY format and European DD/MM/YY format depending on whether the video signal is NTSC or PAL respectively.

To edit the on-screen display

Use the following keys on the keyboard to edit the display:

Key	Description
↑ , ↓ , ← , →	Positions the cursor.
Del	Deletes the character to the right.
←	Deletes the character to the left of the cursor.
Home	Positions the cursor in the top left-hand corner of the screen.
Enter	Moves the cursor to the start of the next line.
Esc	Clears the on-screen display.
Shift or CapsLock	Allow you to enter upper-case letters.

Note that the following characters cannot be entered:

|, \, ~, £, ¬, `

Storing standard annotations

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The text editor allows you to store up to 10 frequently used annotations to save having to enter these at the keyboard each time you need them. The saved on-screen displays can also be edited before saving them with an image.

To create a standard annotation

- ⦿ Press a function key, **F1** to **F10**, corresponding to the number you want to assign to the annotation.

Initially each page contains **TEXT PAGE n**, where **n** is the page number.

The page number will be displayed in the centre of the top line of the display.

- ⦿ Enter the annotation you want to save.
- ⦿ Press **Shift End** (or **Shift F12**) to save the contents of the page.

To load a saved page

- ⦿ Press the function key **F1** to **F10** corresponding to the number of the saved page.

Warning: Any text already in the text editor will be lost.

To enter scratch text

- ⦿ Press **Shift Esc**.

You are then presented with a blank text editor, allowing you to enter a temporary annotation which will not be saved.

Configuring the PalmScope

This chapter describes the option settings available from the MAIN MENU to allow you to configure the PalmScope to suit the requirements of your application.

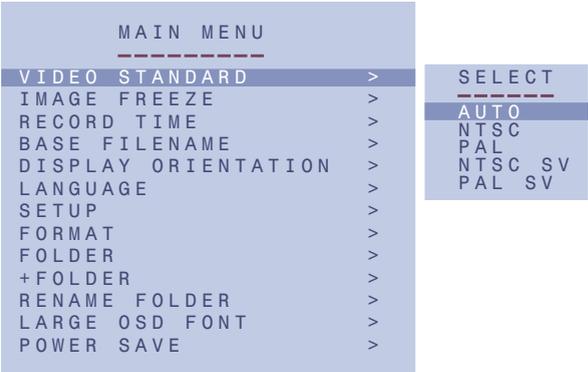
Using the MAIN MENU

To display the MAIN MENU

- ⊙ Press **MENU**.

Video settings

To specify the video standard for replaying images



- ⊙ Choose **AUTO** for auto-detection of the video standard from the current video input, **NTSC** for NTSC composite, **PAL** for PAL composite, **NTSC SV** for NTSC S-Video, or **PAL SV** for PAL S-Video.

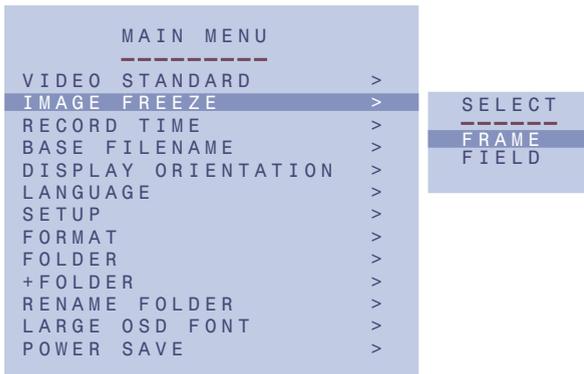
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This setting is retained when the PalmScope is switched off.

Normally **AUTO** is the recommended setting; with this option the PalmScope automatically sets the standard based on the current video source, and retains the settings even when the video source is disconnected. However, you can only replay images saved with the current video standard.

If you want to replay images on the PalmScope of either standard, without a video input connected, set the **VIDEO STANDARD** option to **NTSC** or **PAL** as appropriate.

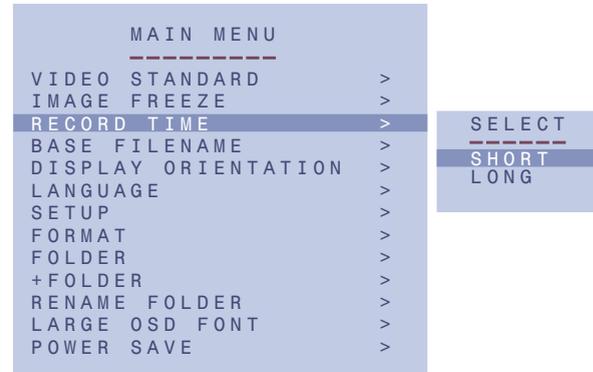
To specify the image freeze mode



By default the **IMAGE FREEZE** option is set to **FRAME**, which captures both frames of the video image. You can override this on an individual image basis; see *To select double-field mode*, page 9.

The **FIELD** option sets double-field mode for all images by default. This is useful if most images you capture are of moving objects.

To specify the record time



Allows you to select the frame rate of video clips.

SHORT gives 30 fps (NTSC) or 25 fps (PAL).

LONG gives 15 fps (NTSC) or 12.5 fps (PAL).

The corresponding recording times are displayed when you press ●.

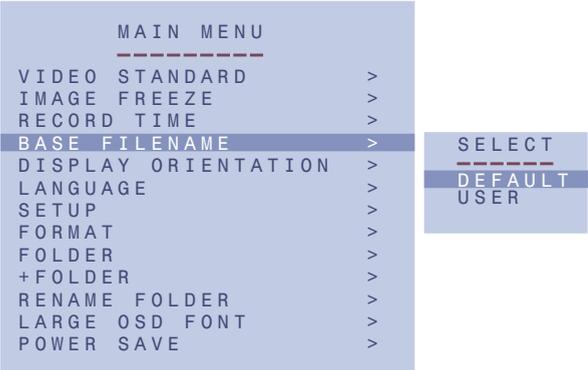
File and folder options

You can specify a six-character filename prefix instead of the default date prefix.

You can also create folders, and select a current folder, to organise the images and video clips.

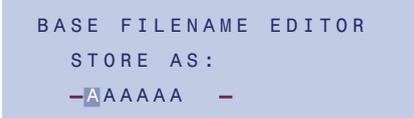
The base filename and current folder are retained when the PalmScope is switched off.

To specify the base filename



- ⊙ Select **DEFAULT** to save each file with a six-character prefix, consisting of the current date in the appropriate format.
- ⊙ Select **USER** to specify a six-character prefix.

The following dialog box allows you to enter the prefix using the ▲, ▼, and ► or **OK** keys:



To select the current folder

- ⊙ Select **FOLDER** on the **MAIN MENU**.

The **SELECT FOLDER** sub-menu shows a list of the names of the folders on the CompactFlash card.

- ⊙ Use the ▲ or ▼ keys to highlight the folder you want to use and press ► or **OK** to select it.

To create a new folder

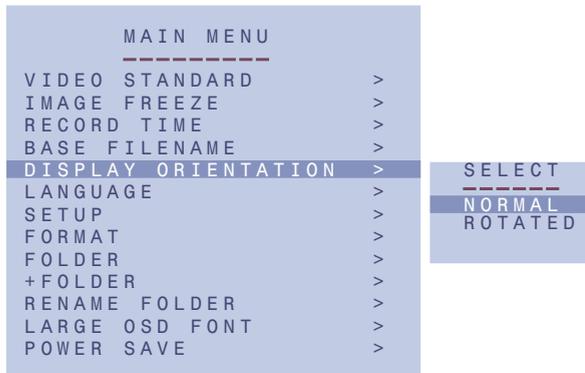
- ⊙ Select **+FOLDER** on the **MAIN MENU**, then proceed as described in *To create a new folder*, page 17.

To rename a folder

- ① Select **RENAME FOLDER** on the **MAIN MENU**, then proceed as for renaming a file; see *To rename a file*, page 16.

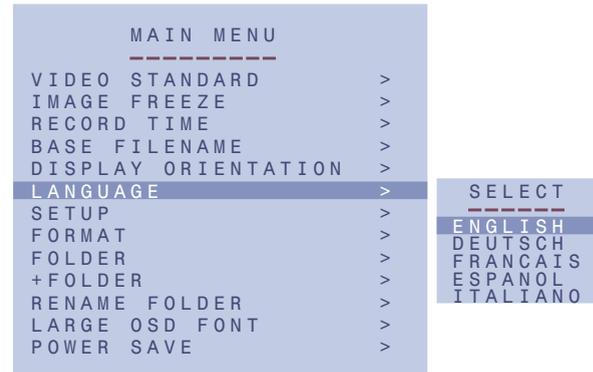
Display options

To rotate the display



Inverts the display so the PalmScope can be operated with the keypad to the right. The operation of the ▲ and ▼ keys is also reversed, for consistency with the menus.

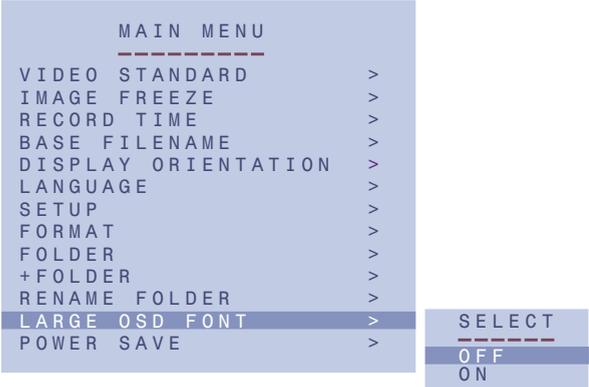
To select the language



Allows you to select the on-screen menu language.

This setting is retained when the PalmScope is switched off.

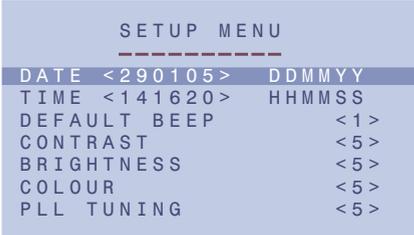
To select a large OSD font



Allows you to select a larger OSD font, for annotation overlays.

System setup

The **SETUP MENU** allows you to set the date and time, and adjust the video display setting and picture lock:



To set the date and time

- ⦿ Press ▲ or ▼ to highlight the current date or time, and press ► or **OK**.

The first digit of the date is highlighted with a flashing cursor.

- ⦿ Use ▲ or ▼ to change the current digit.
- ⦿ Press ► or ◀ to move between digits.

When you have set the correct date or time:

- ⦿ Press **OK** to exit from editing mode.

To turn on or off the keypress beep

- ⊙ Press ▲ or ▼ to highlight **DEFAULT BEEP** and press ► or **OK** to select it.
- ⊙ Press ▲ or ▼ to toggle between 0 (no beep) or 1 (beep).

To change the video parameters

The video settings **CONTRAST**, **BRIGHTNESS**, and **COLOUR** allow you to adjust the image you are saving to compensate for deficiencies in the video source.

- ⊙ Press ▲ or ▼ to highlight the parameter you want to change, and press ► or **OK** to select it.

The current value is indicated by a flashing cursor.

- ⊙ Press ▲ or ▼ to change the setting.

You can edit each setting between 0 and 9, where 5 is the default value.

- ⊙ Press ► or **OK** to exit from editing mode.

Note that the settings revert to their defaults next time you switch the PalmScope on.

To adjust the picture lock

Allows you to lock the PalmScope to an external monitor.

- ⊙ Press ▲ or ▼ to highlight **PLL TUNING** and press ► or **OK** to select it.
- ⊙ Press ▲ or ▼ to adjust the picture lock between 0 and 9, where 5 is the default value.

Generally, higher values will improve the lock.

Other options

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To format a CompactFlash card

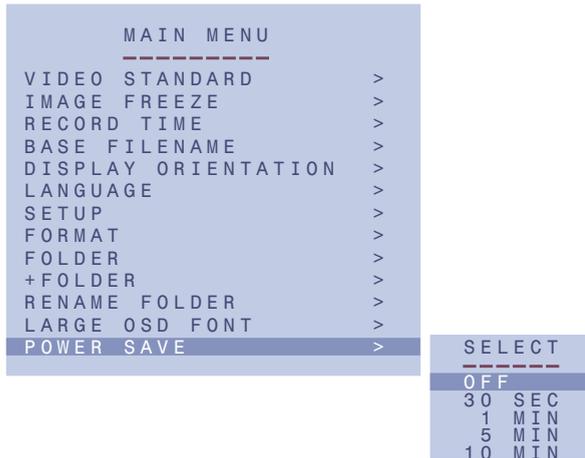
- ⊙ Select **FORMAT** on the **MAIN MENU**, and select **OK** on the sub-menu.

Warning: This will erase any images already on the CompactFlash card.

After formatting a card there will be one folder named **FOLDERAA**.

Note: If you have provided splashscreen files on the CompactFlash card you will need to recopy these from a PC after formatting the card.

To use Power Save



Automatically powers down the PalmScope if no key has been pressed for a specified time, to extend the battery life.

- ⦿ Press any key to wake up the PalmScope.

Transferring captured images and video to a PC

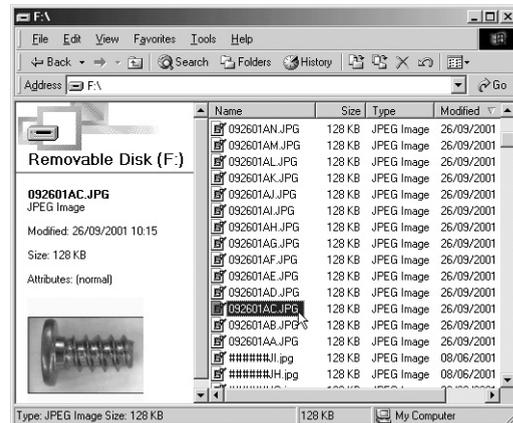
This chapter describes how to install the card reader software supplied with the PalmScope, and use it to copy images and video clips between a CompactFlash card and PC, or format new CompactFlash cards.

Installing the card reader

The card reader is designed for use with USB 2.0 ports, and is compatible with USB 1.0

PCs running Windows 2000ME or later should recognise the card reader automatically and install the appropriate driver when you plug it into the port, in which case you do not need to perform any installation.

If the card reader is working correctly Windows will allocate a drive letter, such as D: or E:, to the reader. You can then use it just like another disk drive:



Copying files to the PC

To copy images or video clips from a CompactFlash card to the PC simply drag them from the drive allocated to the CompactFlash card and copy them to a suitable disk on your PC.

The images are stored in standard JPEG (.JPG) format and can be edited or printed from any suitable application, such as Paint Shop Pro.

The video clips are stored in QuickTime (.MOV) format and can be replayed using **QuickTime Player**, available for free download at:

<http://www.apple.com/quicktime/download/>

Copying files to the CompactFlash card

Images created by the PalmScope and edited on the PC can be copied back to the CompactFlash card for subsequent display on the PalmScope.

You can also create JPEG images on the PC and copy them to the PalmScope for display. In this case the JPEG image must be the correct size and aspect ratio for the PAL

or NTSC display. In addition it must comply with the JPEG baseline image specification, and be encoded in 4:2:2 format for correct colour rendition.

To provide a splashscreen

The PalmScope allows you to provide an image on the CompactFlash card, which will be displayed when the unit is switched on. For example, this can provide a company logo, contact details, or a serial number.

- Create two versions of the image with a resolution of 640 x 480 and a .MWN extension (for NTSC mode), and a resolution of 768 x 576 and a .MWP extension (for PAL mode).
- Copy them to the root directory of the CompactFlash card.

Troubleshooting

This chapter provides answers to typical questions and problems that may arise when using the PalmScope.

Why can't I display images or video clips from the gallery?

When displaying still images from the gallery the PalmScope automatically switches between NTSC and PAL mode, but if you have a live video signal connected you need to unplug it to display images captured in the other format.

When displaying video clips in a different format from the live video signal you need to unplug the live video and select the format from the **VIDEO STANDARD** menu; see *To specify the video standard for replaying images*, page 21.

After copying images from a PC why are they not displayed chronologically?

If image files are copied back onto a CompactFlash card from a PC, the order of the files will be determined by the PC directory listing order, which is not the same as the order in which they were captured. Unfortunately there is no way to modify this.

What do the battery charging indicators mean?

The battery is a 7.2V, 4Ah NiMH six cell rechargeable pack which also contains a thermistor to monitor the temperature and a self-resetting polyswitch to prevent

excessive current. It is connected to the motherboard via a 4-pin connector, which can be unplugged. Under normal conditions, however, it is not necessary to remove or change the battery pack as it is recharged in situ.

The battery is recharged automatically whenever the external 12V desktop PSU is connected and switched on. Charging will continue irrespective of whether the PalmScope itself is on/off. The condition of the battery and/or the charging process is indicated by a beeper and the two status indicators on the front panel as shown below:

Indicators	Beeper	What it means
		No battery
	Short beep	New battery/temp. test
		Softstart charge
		Main charge
		Topping charge
	Long beep	Maintenance
	Short beep	Temperature error
	Short beep	Error

Key:  =off,  =slow flash,  =fast flash,  =on

The PalmScope incorporates a smart fast charger which requires no user intervention during charging because the

battery voltage and temperature are continuously monitored during the charging process. When the charger detects that the battery is fully charged it enters a maintenance charge mode which can continue indefinitely. Therefore no harm is done to the battery if the external PSU is left connected permanently, irrespective of whether the PalmScope is switched on/off.

Why don't the charging indicators flash when I connect the power supply?

If the battery is completely discharged, it can take up to 1 hour before the indicators show that the PalmScope is charging. Leave the external power connected until the indicators start flashing.

Why is the PalmScope beeping when I connect the power supply?

This indicates an over-temperature condition. The battery pack incorporates a temperature sensor, which detects an over-temperature condition (see previous table). Because the PalmScope does not include a cooling fan it is possible that with a heavily discharged battery and a prolonged period of charging (particularly with the unit switched on) the internal temperature will rise sufficiently to trigger the battery pack's thermistor sensor and shut down the charging process.

This will cause no harm to the battery pack or the PalmScope, but the condition can only be reset by disconnecting the PSU and allowing the system to cool down for a period of time. When the PSU is reconnected, charging should resume as normal. This condition will normally only happen when the battery pack is already near the end of its charging cycle, so little further charging will be required.

Updating the PalmScope firmware

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Moritex Europe Ltd may make updates to the PalmScope firmware available, to improve performance, add new features, or resolve problems. Please check the Moritex Europe Ltd Web site at www.moritex.com for details.

Updates can be installed automatically on the PalmScope by copying the update file to a CompactFlash card and then inserting the card into the PalmScope using the procedure described in the following section.

To install a firmware update

- ⦿ Download the firmware loader file from the Moritex Web site.

The file will have a name such as SV130B9A.LDR, where this corresponds to revision 1.30B9A of the software, as displayed on the PalmScope after power up.

- ⦿ Format a CompactFlash card, selecting FAT-16 (not FAT-32) directory format.
- ⦿ Copy the loader file to the root directory of the empty CompactFlash card.
- ⦿ Connect the PalmScope to an external mains power supply as supply problems caused by low battery voltage can cause programing errors.
- ⦿ Switch off Power Save; see *To use Power Save*, page 27.
- ⦿ Insert the CompactFlash card and switch on the PalmScope.

An **UPDATE PROGRAM** menu will be displayed.

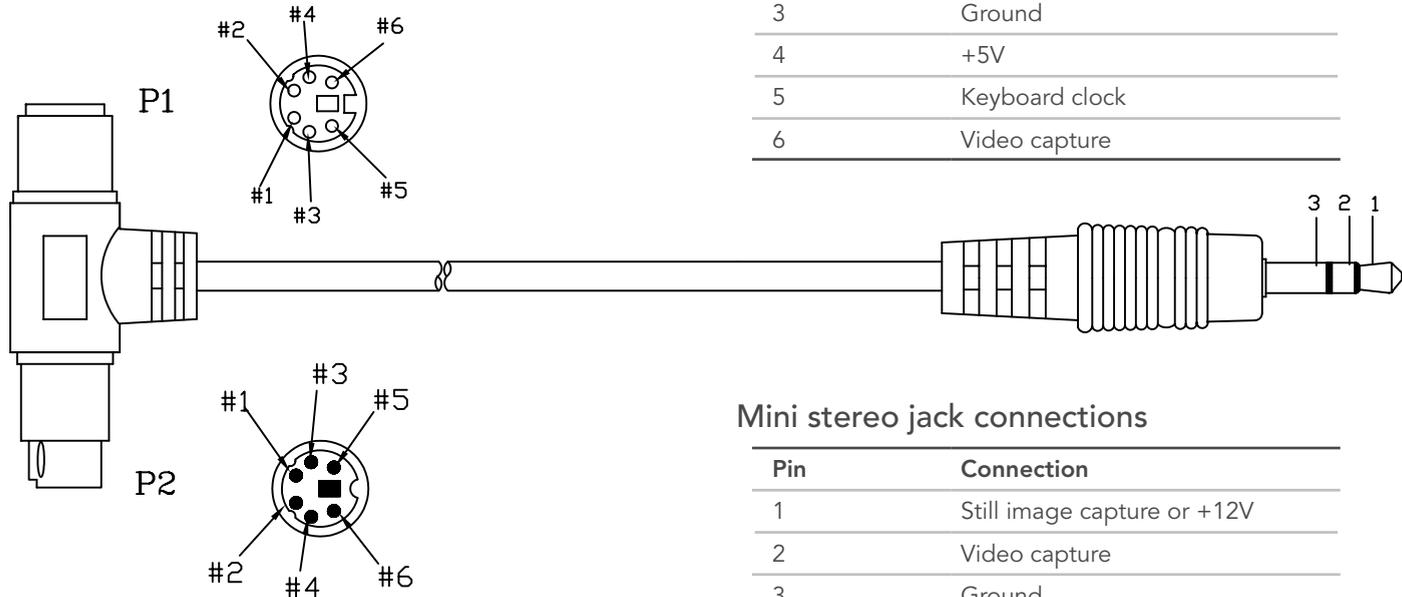
- ⦿ Select **OK** and press ► or **OK** to proceed.

After the loader file has been verified there will be a series of eight beeps as each block of code is programmed into the flash memory.

The PalmScope will then restart using the new code, and you can confirm that the new revision number is shown on the opening screen.

Cable connections

Mini-DIN adapter cable with switch connector



Mini-DIN pin connections

Pin	Connection
1	Keyboard data
2	Still image capture or +12V
3	Ground
4	+5V
5	Keyboard clock
6	Video capture

Mini stereo jack connections

Pin	Connection
1	Still image capture or +12V
2	Video capture
3	Ground

To trigger still image capture or video capture the appropriate trigger pin should be connected to Ground.

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Warranty Statement

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Limited Warranty

Moritex Europe Ltd. warrants your product to be free from malfunctions and defects in both materials and workmanship for one year from the date of purchase.

Limited Warranty Coverage

This warranty will be honoured within the geographical location that the product was purchased.

If this equipment does not function properly during the warranty period due to defects in material or workmanship, Moritex Europe will, at its option, either repair or replace the equipment without charge, subject to the conditions and limitations stated herein. Such repair service will include all labour as well as any necessary adjustments and/or replacement parts.

If replacement parts are used in making repairs, these parts may be remanufactured, or may contain remanufactured materials. If it is necessary to replace the entire system, it may be replaced with a remanufactured system.

Limitations

Warranty service will not be provided without dated proof of purchase.

This warranty does not cover

Damage caused by attempted repair or modification by anyone other than a certified Moritex technician, damage due to alteration by the end user, faulty installation, damage to parts and/or products due to abuse, misuse, improper maintenance, mishandling or use in violation of user instructions as furnished by Moritex, damage as a result of accident, water, impact, improper packaging in shipment or any natural forces.

Moritex Europe is not responsible for any customer images or other electronic information, returned. Customers should ensure any information supplied is correctly backed up.

Where the complete system is supplied

Tampering or opening the equipment, unless authorised by Moritex, will void this warranty in its entirety.

Where part systems or individual assemblies for OEM use, are supplied

Work under warranty will only be considered if the item is returned in the same (unmodified) condition as it was originally supplied.

How to Get Warranty Service

Before returning any item a Returns Authorisation number must be obtained. Please contact our support department to obtain this number before returning any item.

If your Moritex product requires to be returned, you must ship them with freight, duties and insurance prepaid.

You must include:

- ⊙ A copy of the invoice or other dated, proof of purchase.
- ⊙ A written description of the problem.
- ⊙ A your name, address and telephone number.

Failure to comply with any of these requirements will result in a £50 (GBP) charge being made.

Repair or replacement without charge is Moritex Europe's only obligation under this warranty.

MORITEX EUROPE WILL NOT BE RESPONSIBLE FOR ANY CONSEQUENTIAL OR INCIDENTAL DAMAGES RESULTING FROM THE PURCHASE, USE, OR IMPROPER FUNCTIONING OF THIS EQUIPMENT REGARDLESS OF THE CAUSE. SUCH DAMAGES FOR WHICH MORITEX EUROPE WILL NOT BE RESPONSIBLE INCLUDE, BUT ARE NOT LIMITED TO, LOSS OF REVENUE OR PROFIT, DOWNTIME COSTS, LOSS OF USE OF YOUR MORITEX EQUIPMENT, COST OF ANY SUBSTITUTE EQUIPMENT, FACILITIES, OR SERVICES, OR CLAIMS OF YOUR CUSTOMERS FOR SUCH DAMAGES.

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