



Pipe Pal 2

Operating Instructions.

Overview

Pipe Pal 2 is a control unit intended for use with SeeSnake camera reels. It consists of three main sections.

1/ A camera power supply with controls for light level and Sonde activation, with a 10 inch LCD monitor for viewing camera pictures. It is powered either from internal batteries or mains cord.

2/ A text writer that allows 8 lines of text to be written over the picture. Ten pages of text can be saved in memory. Typing and editing are done on a waterproof computer keyboard.

3/ A digital video recorder and player. High quality MPEG video clips are stored on inexpensive USB flash drives. A built in microphone allows narration to be added whilst recording.

Recording to USB flash drives was chosen as it provides a rugged and reliable recording technology with great versatility and economy. The resultant video clips can be easily and quickly transferred to a PC for editing, archiving and/or burning customer DVDs. Alternatively, flash drives can be presented to customers directly, for replay at their leisure.

Pipe Pal 2 is housed in a sturdy case that provides protection, easy portability and shade for monitor viewing. It can be connected to SeeSnake, Mini SeeSnake and Compact SeeSnake camera reels with either PAL or NTSC camera heads.

Software for creating DVDs is included with the unit.

Pipe Pal 2 is designed and manufactured in New Zealand by Video Engineering 1996 Ltd

Turning on the system and viewing camera pictures.

Open the cabinet and set the unit in one of its three orientations.



Connect a camera reel to the socket at the bottom of the main control panel. Plug in a USB flash drive if you will be recording the camera images. If you wish to use mains power, then plug a standard IEC power lead into the connector at the left side of the unit and set the switch next to the connector to ON. This will also charge the batteries (at a reduced rate) whilst the system is in use. Turn on the power switch at the top of the main control panel, then press the power button at the right side of the LCD monitor. Wait for approximately 15 seconds whilst the system starts up. The camera pictures should be displayed on the LCD monitor, along with the time/date/distance information if it is enabled on the camera reel.

The LIGHTS knob on the main control panel can be turned to set the camera lights for best picture quality.

Pressing the SONDE button on the main control panel will activate Sonde mode for use with a locator. When the Sonde transmitter is activated, most other controls are disabled, camera lights are at maximum brightness and a red indicator to the side of the SONDE button will flash. Only use Sonde mode whilst performing a locate. In addition to disabling most other control functions, Sonde mode causes visible picture interference. To return to normal camera mode press the SONDE button again. The indicator will stop flashing and control of camera light level is again possible from the front panel control.

Picture zoom. F12 will zoom in on the image. Repeated presses will cycle through x2, x3, x4 and x8 zoom and then return to standard, x1 zoom. Navigate around a zoomed in image with the F3, F4, F6, F7 keys. Remember to restore zoom to x1 after use.

After using the camera system, simply turn off the power switch at the top of the main control panel.

Text Writer Operation.

The text writer can be used when camera pictures are displayed on the LCD monitor, except when the Sonde transmitter is activated. Text writer output is not visible when playing back video clips, or when the digital video recorder menus are on screen.

After turning on the system (detailed above) the text writer will be ready for use. Typing on the keyboard should write text on the top line of the screen's text window.

The cursor appears as a blinking “_” in normal typing, and as a blinking “|” when in Caps Lock mode.

The text writer allows display of up to 8 lines of 32 characters each. The text is positioned so as not to interfere with the standard display of date, time and distance counter on the screen.

Pipe Pal 2 can store up to ten pages of text. It is designed to allow “header pages” to be stored, which contain the standard information for a particular job type; for example

ABC Pipe & Drain. Ph 021 234 567

Client Name:

Address:

Operator:

Job Ref #:

Manhole:

Description:

Notes:

When the operator loads this page, the cursor will blink at the end of text on the top line. Each time the **Enter** key is pressed, the cursor will move to the end of text on the next line down, allowing information to be entered as if filling out a form. The cursor may also be positioned with the **arrow** keys (↑, ↓, ←, →).

Home (Ins key) moves the cursor to the start of the current line.

End (Pause key) moves the cursor to the end of text on the current line.

BackSpace deletes the character to the left of the cursor.

Del deletes the character the cursor is on.

Ctrl + Del deletes from the cursor to the end of the line.

Ctrl + Enter creates a blank line above the line the cursor is on.

When typing, the cursor stops at the end of the line, to prevent the format of the page being disrupted.

Control Functions

LOAD PAGE. Press Alt + a number (0 → 9) to load a page from memory. All data on the screen will be lost unless you save the current page first.

SAVE PAGE. Press Ctrl + Alt + a number (0 → 9) to save the page currently on the screen to memory. A page already stored in that memory location will be overwritten without warning. The page will remain stored even after power is turned off.

TEXT APPEARANCE. There are seven display styles with different text colour, border and backgrounds. Press Ctrl + a number (1 → 7) to change the appearance. At power on, the appearance will default to Ctrl + 1, white text with a black border on a shaded background.

HIDE CURSOR and TEXT. Press Esc to hide the cursor, (useful when recording) and press Esc again to hide the text. Pressing SpaceBar will reveal the text and cursor again.

HELP SCREEN. Press F1 to display the help screen and Esc to exit the help screen. Text that was on the screen before the help screen is restored when help is exited.

Recorder/Player Operation

The recorder stores MPEG2 encoded video clips in a folder named “MY RECORDINGS” on a standard USB flash drive.

The recorder is controlled with the F2 to F12 keys. The function of each key is described on the legend adjacent to the keyboard.

RECORDING.

To make a recording the camera pictures should be visible on the LCD monitor and the Sonde should be turned off.

Ensure a USB flash drive with adequate free space is plugged into the FLASH DRIVE socket on the main control panel.

To start recording, either press F9 (Record) on the keyboard, or the REC button on the main control panel. After a short delay, the indicator light above the REC button should illuminate.

To stop recording, either press F10 (Stop) on the keyboard, or the STOP button on the main control panel. The indicator light above the REC button should extinguish. Do not remove the USB flash drive for a few seconds after completing recording.

To record audio, set the AUDIO MODE switch on the main control panel to RECORD. The switch should illuminate red, and the indicator to the right of the switch should illuminate in the presence of audio.

The microphone is located at the bottom right of the main control panel. Speak in a clear and even voice for best audio recording. **Pipe Pal 2**'s microphone features audio compression, volume limiting and noise gating to enable the most legible narration of your recordings.

Hint for recording.

If the recording will be later transferred to a DVD, then points of interest during the survey can be marked by stopping and restarting the recording. The DVD recording software that is supplied with Pipe Pal 2 can start a new chapter on the DVD at each point of interest.

Playback.

With camera pictures visible on the LCD monitor, press F8 (Browse) on the keyboard.

ALL should be highlighted at the top of the screen (select it with F4/F6 if necessary)

USB should be highlighted from the selections at the left of the screen (select it with F3/F7 if necessary)

Press F5 (Enter). Select FAT32 and press F5(Enter). Select My Recordings and press F5 (Enter).

All the recordings on the currently attached flash drive should now appear in a list at the left side of the screen, with a preview window visible at the right side of the LCD monitor screen.

If the unit is in its typical configuration, then the above process should only involve pressing F8, then pressing F5 three times.

Ensure the AUDIO MODE switch on the main control panel is set to REPLAY and the volume control on the monitor is turned up if you wish to hear the recorded audio.

The highlighted recording will automatically start playing in the preview window.

Select the desired file with the F3, F7 keys.

To view a recording in full screen mode, press F11 (Play) or F5 (Enter).

Replay can be paused and restarted with further presses of the F11 (Play) key.

Whilst playing or paused, F12 will zoom in on the image. Repeated presses will cycle through x2, x3, x4 and x8 zoom and then return to standard, x1 replay. F2 (Return) will restore normal zoom (x1) at any time. Navigate around a zoomed in image with the F3, F4, F6, F7 keys.

To stop replay of a recording, press F10 (Stop) or F2 (Return).

To return to camera operation press F2 (return) repeatedly until the main recorder menu appears, select the Video In option and press F5 (Enter).

Recorder time and date setting.

Press F2 to display the recorder menu. Select **setup** and press F5. Select **system**, then select **time** from the drop-down list and press **enter**. Press **enter** again to start manual setting of time and date. Use F3 and F7 to set the correct value in each field, and F5 to move to the next field. Press F5 when finished and F5 to confirm the OK prompt. Press F2 to return to the main recorder menu. Select Video In with the F4 or F6 button and press F5 to return to camera pictures.

Recorder SETUP Menu.

With camera pictures visible on the LCD monitor, press F2 (Return) on the keyboard.
Select SETUP and press F5 (Enter)
You are advised against changing any settings in the setup menu.
The following are the default settings for each menu.

Audio.

Night Mode, Off
Digital Output, HDMI LPCM

Video.

Aspect Ratio, Pan Scan 4:3
Brightness, 22
Contrast, 22
TV System, PAL (if used with a PAL camera), NTSC (if used with an NTSC camera)

REC.

Quality, HQ
Permanent Timeshift, Off
REC device, USB#2

Network.

Wireless Setup, OFF

System.

Menu Language, English
Text encoding, Unicode (UTF8)

Photo.

Slide Show Timing, Off
Transition Effect, Off
Background Music, Folder

Battery operation.

Pipe Pal 2 is fitted with two SLA (sealed lead acid) batteries. These will provide power for approximately 6 hours of operation when new. They can be fully recharged by connecting the unit to mains power overnight (8 hours). Ensure the switch adjacent to the power connector is turned ON, and the power switch at the top of the main control panel is set to OFF. The battery indicator LEDs to the right of the on/off switch will illuminate during charging, but do not give an accurate indication of the state of battery charge.

The battery charger in **Pipe Pal 2** is current limited and temperature compensated for correct charging voltage.

When running on mains power with charged batteries, the four indicator lights next to the power switch at the top of the main control panel will all be illuminated. When running on battery power, three lights indicates between about half and full battery charge. Two lights indicates between about quarter and half battery charge and one light indicates that the batteries are nearly fully discharged. **Pipe Pal 2** will continue to operate for a while after the last light extinguishes, then the low voltage cut-out will turn the unit off. The main switch should then be turned off and the batteries charged before further use on battery power.

To get the best life from the batteries, always recharge them to top them up after any use on battery power. Using the **Pipe Pal 2** on mains power also recharges the batteries (at a reduced rate). Do not leave the batteries in a discharged state as it will shorten their life. It is not necessary to fully discharge the batteries before charging: in fact, deep cycling the batteries will shorten their life. Overcharging by leaving the **Pipe Pal 2** continuously plugged in to mains power when not in use may also shorten battery life.

SLA batteries were chosen for **Pipe Pal 2** because they offer excellent cost performance over their life and are recyclable at the end of their life. They are widely available and are commonly used in applications such as security systems. Two 12 volt, 7AH Yuasa brand batteries are fitted to **Pipe Pal 2**.

End of battery life is indicated by unacceptably short battery operation time.

Care, Maintenance and Repair.

Proper care of your Pipe Pal 2 involves keeping it clean and dry. It may be cleaned with a damp cloth and mild detergent.

Do not allow any wiring to become trapped between the lid and the case when it is closed. Do not store anything inside the case that may touch the LCD monitor at any time.

Refer all repairs to suitably qualified, registered and certified personnel. Pipe Pal equipment may be returned to Video Engineering for any repairs. Please visit www.videoengineering.co.nz for all contact details.