Liquid Edition Installation
Liquid Edition PRO

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Safety

Safety Notes

This manual is an important component of Pinnacle Liquid.It should be permanently available in the vicinity of Pinnacle Liquid, and is to be read and applied by every person working with or managing the system.

Additional Instructions

The system operator shall add to the manual any additional operating instructions demanded by national regulations regarding prevention of accidents and environmental protection, including information on obligations to supervise and register with regard to special conditions, for example with reference to organization of work, work procedures and the persons engaged to perform the work.

Also to be observed, in addition to the regulations in the manual and the currently binding regulations on accident prevention in the country concerned and at the site of implementation, are the approved special technical regulations regarding safe and proper operation on and with the equipment concerned.

Safety Standards

The Pinnacle Liquid editing system and its components were developed, produced and tested to comply with applicable standards, state-of-the-art technology and recognized safety regulations.

For customers in Europe

Conformance to European guidelines and standards is confirmed by CE certification and the CE declaration of conformity.

For customers in the USA

The system was tested to comply with "FCC standards for home and office use".

For more information on CE and FCC Declarations, contact Pinnacle Systems GmbH.

Implementation in Accordance with Intended Use

Pinnacle Liquid is intended exclusively for video and audio editing.

Any other use shall not be deemed intended use. Any damages resulting shall be the sole responsibility of the user/system operator.

Symbols and Conventions

Symbols Identifying Special Texts

Caution
Calls the reader's attention to especially "dangerous" actions, i.e. actions that could lead to a loss of data.

Note
Calls the reader's attention to important information and practical tips or workarounds.

Optional Functions ^{OP}

Headings with the superscript OP mark identify features, which can be acquired as optional software or hardware additions to Pinnacle Liquid.

Symbols Mounted on the Hardware

It is imperative to follow symbols mounted directly on system components. They must not be removed and must be kept in a legible condition.

Danger

Indicates that under certain circumstances, there may be a danger to life or physical safety. Read the mounted warnings and follow existing safety regulations.

Attention

Indicates an electrostatically sensitive device (ESD). Improper handling can result in damage to the product. Take precautionary measures against electrostatic discharge.

Warning

Warns of an electromagnetic field. This is a Class A device that can under certain circumstances cause radio interference in residential areas. The device operator is required to take suitable countermeasures.

Safety Instructions for Initial Startup

Danger

To prevent fire or shock hazard, do not expose the unit to rain or moisture.

If a solid object or liquid gets into the inside of the system, disconnect the system from the power supply and inform Customer Service immediately.

Do not install the unit with the Pinnacle Liquid interface card near heat sources such as radiators or hot air ducts, or in a place subject to direct sunlight, excessive dust, mechanical vibration or shock.

Special Hazards

Danger

Risk of electric shock and destruction of Pinnacle Liquidsystem components.
All local grounding and lightning protection regulations are to be observed for the system.

Safety when Operating

Warning

This is a Class A device that can under certain circumstances cause radio interference in residential areas. The device operator is required to take suitable countermeasures!

In the case of radio interference, switch the computer system off immediately and disconnect the power supply cord. In doing so always pull on the connector and never on the cable. Troubleshoot immediately.

General

Pinnacle Liquid is an extremely flexible and powerful non-linear editing system for video editing. Its operating system is easy to use, allowing the user to focus on creating video.

This section provides general information on handling the device and the associated components.

- Transport, packing, environmental protection
- Cleaning
- Handling data media

Transport, Packing, Environmental Protection

Always transport the system in its original packing. Keep the cardboard box and packing material to ensure safe packing of the system for transport at a later date. Keep the packing free of moisture. Always pack the system as indicated on the cardboard box.

If, however, you do wish to dispose of the packing, please respect the valid legislation regarding environmental protection and waste disposal. The packing can be disposed of as standard household waste. It is recommended to sort out the paper/cardboard and plastic components for recycling.

If you wish to dispose of the system itself, please respect the valid legislation regarding the disposal of computer and electronic waste.

The housing can be recycled, the remainder is to be treated as electronic waste. This work is only to be done by appropriately skilled persons.

System Cleaning

For cleaning the system or components use a soft cloth and non-abrasive, mild cleaning agent. Do not use dissolvents such as diluents or petroleum spirit and scouring agents because they corrode the surface.

Ensure for environmentally correct disposal of the cleaning cloths and surplus cleaning agents in compliance with local environmental protection laws regarding waste disposal.

Danger!

Risk of short circuit and electric shock.

For safety reasons always pull out the power supply connector from the wall socket before starting to clean the system.

Do not let cleaning agents get inside the devices.

Handling CD-ROM Discs

If proper care is not exercised when handling the CD-ROM disc, the data may become unreadable or other errors may occur. Observe the following precautions when handling the CD-ROM:

 * Do not touch the disc surface directly with your hands. Hold the disc by the edge and do not touch the data surface.
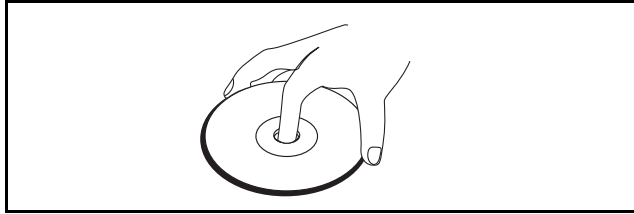
 * Do not attach paper notes or stickers to the disc surface. Label using a soft pencil; never use a ballpoint pen.

 * Be careful not to drop the disc. Protect it from the action of forces and from heat.

 * Always store the disc in its case to protect the valuable data it contains.

 * Do not store the disc in places which are damp, dusty, exposed to direct sunlight, or near heaters.

Cleaning CD-ROM discs

Dust and fingerprints on the disc surface can result in read errors. Clean the disc by wiping lightly from the center out with soft dry cloth.

To remove severe stains, soak a cloth in a neutral solvent, wring the cloth well to remove excess solvent, and wipe the disc lightly. After cleaning, wipe the disc dry with a soft, dry cloth.

Do not clean with benzene, record cleaner or anti-static spray. Doing so may damage the disc.
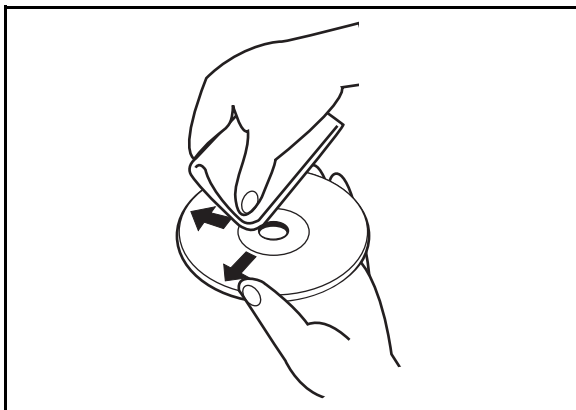
Handling Floppy Disks

Floppy disks are convenient and easy to handle, but certain precautions are required to protect the data on the disk.
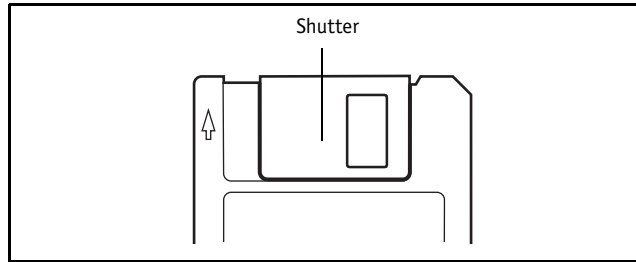
Shutter

- Do not open the shutter by hand or touch the surface of the disk media. Data errors can result from dirt or scratches on the disk surface.

- Keep floppy disks away from televisions, speakers, and other sources of magnetism. The contents of the disk can be erased by magnets.

- Do not leave floppy disks near heaters or in locations exposed to direct sunlight. Excessive heat can deform the disk and render it unusable.

- Do not leave floppy disks near ashtrays or cups filled with liquid. Data errors can result from dust or liquids that contact the disk surface.

- To protect the data on floppy disks, store them in a case or other safe place.

Setup

This section contains information on:

- system requirements
- hardware installation
- system setup in studio environment
- connections
- software setup to get your system up and running
- available options

Installation

This section contains the following information:

System Requirements

The system requirements described here are the minimum requirements.
No guarantee can be given for the proper operation of `Liquid Edition` if these minimum requirements are not met. (Some recommendations given in parenthesis.)

Also check the Pinnacle website (www. pinnaclesys.com) for up-to-date system requirements.

Note: With minimum requirements only limited realtime capabilities.

Contact your Pinnacle Systems dealer for more information on certified (tested) reference systems.

Operating System
Microsoft Windows XP Home or Professional (SP 1 or more recent)

USB 2.0 interface
Required to connect the breakout box (`Liquid Edition PRO Box`) to the computer; analog input and output only with box.

IEEE 1394 Interface (i.Link/Firewire)
Required for software-only version; DV input and output only; DV inter face on the box also.

CPU
Single or dual 1,8 GHz (Dual and > 3 GHz); HDV: 3 GHz (dual)

Main Memory
512 MB (1 GB or more) RAM; HDV: 1 GB (or more)

HDD for system and AV data
40 GB, minimum data transfer rate 4 MB/s for A/V
separate A/V disk(s) strongly recommended

Graphics card
DirectX-9 compatible (or higher)
min. resolution 1024 x 768 pixel @ 32 bit (recommended: 1280 x 1024 or more); card with 64 MB memory
(required for realtime effects: 128 MB or more); HDV 1080: 256 MB dual DVI

Sound card
DirectX-9 compatible (or higher); 2-channel-output
for 5.1 Surround sound and multichannel output: ASIO 2.0 compatibility required.

The Liquid Edition PRO Box Hardware Installation

Box Stand
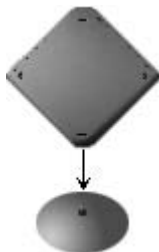
Optionally you can place the Liquid Edition PRO Box onto the stand.

Box Connections

This is a description of all connectors found on the Liquid Edition PRO Box:

Liquid Edition PRO Plus Box connections

S-Video and Composite Video In/Out

4-pin connector (Hosiden type) for S-video (Y/C), and RCA (cinch) connector for CVBS; input and output.

Component (YCbCr/RGB) In/Out

Three RCA (cinch) connectors for component video signals; input and output. Color codes:
Green: Y / G
Blue: CbPb / B-Y / B
Redt: CrPr / R-Y / R

Analog Audio Stereo In

Two RCA (cinch) connectors, left/right; on input.

Analog Audio 6 Channel Out

Six RCA (cinch) connectors; multi-channel or surround 5.1 output possible.

Digital Audio In/Out (SPDIF, Toslink, ADAT)

Two pairs of connectors, optical and coax, for input and output.

Headphones Out

For headphones or audio monitoring.

IEEE 1394

6-pin connector to to hook up a DV device; bidirectional input and output including audio and control.

USB 2.0

Use a USB cable to connect the Liquid Edition PRO Plus Box to a USB 2.0 interface on the computer.

Power Supply

Attach the power supply cord here.

Connect Player and Recorder

Attach all relevant cables to connect device and box. Check that all plugs are properly seated. All devices should be switched off while you connect the cables.

A special cable is needed when you plan to control devices via the RS 422 interface. You can get this cable from your Pinnacle Systems partner. See also *"Device Control via RS 422 Remote"* on page 3-13.
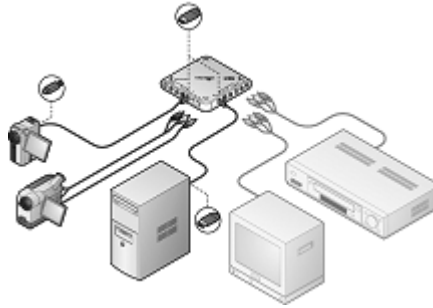
- ◆ Digital camcorder
  Connect to the `Liquid Edition PRO Box` using a 4-pin to 6-pin 1394/FireWire cable.

- ◆ Analog camcorder or VCR
  Connect to the `Liquid Edition PRO Box` using analog composite (RCA) or S-video and stereo audio connectors.

- ◆ Computer
  Connect to the `Liquid Edition PRO Box` using the USB 2.0 cable and interface.

- ◆ External monitor or television
  Use the appropriate cables and/or adapters to connect a TV set or video monitor.

- ◆ Loudspeakers/amplifiers for audio monitoring
  You may connect active speakers directly to the sound card outputs or the analog outputs of the box (if they are not occupied by a VCR).

Installing the Software and Setting up the System

Please also read *"Before you install Pinnacle Liquid: Tips on optimizing Windows"* on page 3-14.

1: Connecting the Box (Liquid Edition PRO)

Connect the box (power supply plugged in) to a USB 2.0 interface of the computer. Cancel the Windows hardware detection routine that comes up automatically and continue with the installation of the Pinnacle Liquid software as described in step 2 below.

2: Installing Pinnacle Liquid

You need to have Windows administrator rights on the installation computer.
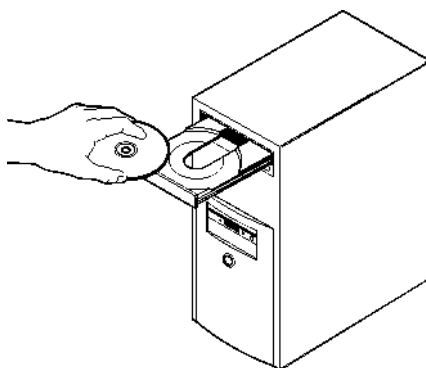
- ◆ Insert the installation CD and follow the instructions displayed on the screen. Please have the serial number of the product ready.
  If the installation does not start automatically, run the file *AutoRun.exe* on the CD.

- ◆ For placing the Liquid Edition PRO Box into operation no special installation is required. The box is recognized automatically during the installation procedure.

Don't forget to register your software when you're done so you can receive all the benefits of being a registered Pinnacle user!
As part of the installation process, the software copies a ReadMe file to the Liquid Edition folder in the Windows Start menu. Please read the contents of this file, as it contains important information that was not available when this manual was printed.

3: Starting and Setting up Pinnacle Liquid

1 Connect your DV device(s) to the computer or the DV connector of the box.

2 Launch Pinnacle Liquid.

3 Check whether the device was detected properly by the software:
Go via Menu bar > *Edit* > *Control Panel* > *Site* > *Player Settings* > *Inputs/Outputs* > *Video Inputs* and select *IEEE 1394.*

4 To the right of the entry *IEEE 1394,* the connected and operational device should be listed as *Selected Device,* e.g., *Sony Device (1).*
If more than one device is connected, select one of them (double-click the name and choose from the list). The system can control only one device at a time.

5 Only when several devices are connected: Select one for output (*Video Outputs* > *IEEE 1394* > ...).

Now Liquid Edition is ready for capture and playout of audio and video material.

DV Capture (Controlled DV Device)

To be able to capture via the DV interface, the following settings in Liquid Edition must be checked:

1 Open the dialog *Edit* > *Control Panel* > *Site* tab > *Player Settings* > *Connections* tab.

2 Click *i.Link DV.*

3 In all upper three list boxes there must be an entry associated with "*IEEE 1394*". If not, select it.

Also set the outputs to *IEEE 1394* (either at the breakout box, if attached, or at the computer: *Liquid: IEEE 1394*). Exit the dialogs.
Now the system is ready for *i.Link DV* controlled capture.
If you set *Communication Port* to *None*, it is possible to ingest live fed DV material. In that case you'd have to control the feeding device manually (if at all controllable).

The next steps

Go *File* > *Input Wizard* and select *Capture from video device*. Then, in the *Logging Tool*, select the *i.Link DV* player.

Read the chapters "Quickstart" in the User Guide or "Input" in the Reference Manual.

Analog Capture (Live Capture)

Live means that you cannot remote control the inputting device (e.g., because it is just a camera signal).

1   Connect the analog device to the appropriate analog inputs of the box.

2   Open the dialog *Edit* > *Control Panel* > *Site* tab > *Player Settings* > *Connections* tab.

3   Select *Live.*

4   Selct the desired video and audio input.
    You can alsu use the DV input for live input

The next steps

Go *File* > *Input Wizard* and select *Capture from video device*. Then, in the *Logging Tool*, select the *Live* player.

Please note that when you input analog signals you have to manually control the player source. One exception: remote control using the RS 422 interface; see *"Set up Player and Recorder (RS 422 controlled) in Pinnacle Liquid"* on page 3-11 und *"Device Control via RS 422 Remote"* on page 3-13.

4: Video Monitor (Selecting a Video Output)

The monitor symbol is situated on the taskbar at the bottom of the screen:

Monitor-Symbol auf der Taskleiste

Click it and select the output to which the *Timeline* video signal is to be routed.
CVBS, Component and *Y/C* are the analog outputs of the box (if connected);
IEEE 1394 directs the output to the currently connected DV device;
None displays the output only on the *Master Viewer* inlay of the software.

Realtime effects not yet rendered can be viewed only via the analog outputs (preview).

Set up Player and Recorder (RS 422 controlled) in Pinnacle Liquid

(If yours is a DV i.Link (1394) controlled device, please refer to *"3: Starting and Setting up Pinnacle Liquid"* on page 3-9).

1   Power on device and `Liquid Edition PRO Box`, start Pinnacle Liquid.

2   Go via *Edit > Control Panel > Site > Player Settings* to tab *Settings*.

3   Right-click anywhere in the left-hand field and select the *Betacam* remote control protocol.

4   A *Sony UVW 1800* is added by default. Click this name once to highlight it.

5   Now double-click in the right-hand field the entry named *Default parameters matching* and select from the list a device that matches your device exactly, or is compatible.

6   Switch to the *Connections* tab and select, according to your actual device setup, the proper connections.

Exit the dialog. The device is now available for capture in the *Logging Tool*.
The device can also be used as a recording device in the *Record to Tape* tool.

Connecting the control panel (Jog/Shuttle) (Optional)

`Liquid Control`(optional) is an control panel for remote control of the player/recorder connected and for navigating the material already digitized. The jog/shuttle control knob is for quick and easy viewing and processing of audio/video material in both linear and non-linear mode. `Liquid Control` has a number of freely assignable keys for configuring it to suit your personal needs.
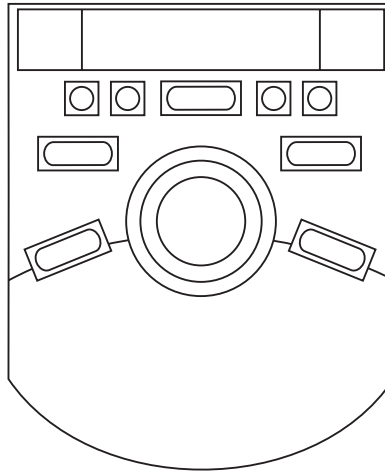
Control Panel for remote control

`Liquid Control` is connected via an USB adaptor. On first installation, the device is detected automatically.

If you decide to purchase and connect this device later (that is after the initial installation of Pinnacle Liquid), you need to run the program USBJS.setup.exe from the installation CD.

A detailed description on the keyboard layout and operation of `Liquid Control` can be found in the Pinnacle Liquid reference manual under "Customizing Pinnacle Liquid".

Device Control via RS 422 Remote

Pinnacle Liquid can remote control professional video tape recorders and other devices that employ an industry standard Sony Betacam RS 422 remote protocol. A special RS 232-422 cable, however, is needed and can be obtained from your Pinnacle Systems dealer.

The cable is connected to a free serial (COM) port on the computer and to the appropriate remote control port of the machine.

In the *Player Settings* (*Control Panel > Site > Player Settings > Connections*) you need to assign the correct COM port to the selected device.

RS 422 and DV Input

Please also check whether your device is registered with a DV output at the system. If not yet done, assign the device in *Player Settings*. Then open the *Functional Details* submenu and check whether the *IEEE (1394)* output is listed and enabled (value = *Yes*).

Please note that `Liquid Edition` does not supply a reference signal to synchronize video tape recorders. It also cannot be put a on an external sync lock signal. Therefore, with devices that have preroll problems - as indicated by the error message "preroll position not found" -, you should disable this alarm feature. In the setup menus, this feature is typically listed as "Missing reference warning", or similar, depending on manufacturer, but should be easy to locate.

Appendix

Before you install Pinnacle Liquid: Tips on optimizing Windows

◆ We strongly recommend that you use a fresh Windows installation that is as "clean" as possible as a basis for installing Pinnacle Liquid. Load the latest OS service packs, as well as drivers for the components used, particularly graphics card drivers.
If at all possible, keep different editing software on different OS partitions (dual boot system).

◆ In any case, defragment your hard disk(s) before installing Pinnacle Liquid and repeat the process periodically to ensure optimal performance (see Windows manual).

◆ If possible, choose separate hard disks for AV media data and Pinnacle Liquid software installation.

◆ Reduce the number of programs running in the background (e.g. virus scanner, screen saver) to the absolute minimum. Better still, get rid of them all.
Internet firewalls can cause problems with the render process.

◆ All Windows and computer (BIOS) functions that can put the system in standby or sleep mode should be disabled.

◆ We strongly recommend that you use only NTFS-partitioned hard disks for video recording (capture). The FAT32 file system may cause you to have problems with clips longer than 18 minutes. The file system is specified in the drive properties (also see Windows manual).

Site Settings

PINNACLE
Liquid

"Site" refers to the computer system on which Pinnacle Liquid is running and the video peripherals connected to it. Among others, the settings include the selection of connected players and recorders.

These settings, wich you can access under *Edit > Control Panel > Site* tab*,* apply to all system users and, therefore, are not saved for an individual user but are called each time the system is restarted.

The *Site* tab contains the following elements:

Player Settings

Parameters of connected players/recorders/other devices *page 4-3*

System Settings

Parameters and information on your computer's software and hardware equipment *page 4-17*

Media Management Settings

Here you can define the drives and directories that should be used for digitizing
For a detailed description of these parameters and options please refer to the Reference Manual, chapter "Administration", *page 8-116.*

Codec Presets

These topic is also covered in the Reference Manual, chapter "Administration", *page 8-104.*

FX Editors Settings

Settings for render and preview quality, etc. *page 4-20*

Plug-In Settings

Information on the storage location for third-party effects and Effect Editors *page 4-22*

Player Settings

Icon
Player Settings

Double-click the icon *Player Settings* (via Pinnacle Liquid´s *Start Menu > Control Panel > Site)* to specify players and recorders connected to the system and video, audio and control connections. The dialog box that appears offers two tabs: *Settings* and *Connections*.

Changing Parameters

How to change default values *page 4-4*

Settings tab

Device-specific settings such as drive ballistics, available inputs and outputs, etc. *page 4-5*

Connections tab

Here you can define the communication and signal interfaces used by your hardware *page 4-13*

Inputs/Outputs

Audio and video inputs and outputs available in the system *page 4-15*

How to Change Parameters

This dialog box is similar to Windows Explorer in terms of its organization. The categories that can be selected appear on the left; to display subcategories, click the plus sign in the box. Use the right-hand field to adjust the parameters for each category by double-clicking a value, entering one with the keyboard or selecting one from the appropriate drop-down menu.
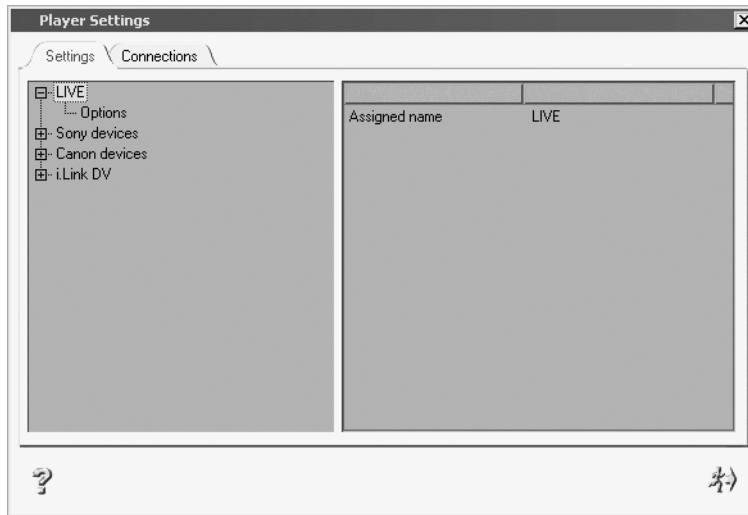
Settings Tab

This tab can be used for adjusting the technical parameters of the connected devices.

> With Windows XP OS it is possible to connect more than one DV device to your computer. All working DV devices are listed under *System Settings > Inputs/Outputs*. The device that is <u>selected there</u> can be <u>configured here</u>, in the *Player Settings* dialogs. If you want to switch to another device, turn to the *System Settings* dialog (*page 4-17*).

Live Input *page 4-5*

i.Link DV (IEEE 1394) *page 4-6*

→ Timing *page 4-8*

Timing (Control via RS 422) *page 4-9*

→ Functional description *page 4-10*

→ Options *page 4-11*

→ Tape protection *page 4-12*

Live Input (Virtual Live Player)

Use the *Live* Player if the video or audio signal is not from a controllable source (such as TV) or if you are controlling the player source using the controls on the device itself. You can assign a user-defined name for the *Live Player*. See also *"Assigned Name"* on page 4-6.

> A remark for users of Pinnacle Liquid in combination with analog input/outputs: Use the *Live Player* to capture analog signals. With IEEE 1394 (i.Link DV) remote control there is DV in/out <u>exclusively</u>. This restriction does not concern Pinnacle Liquid systems equipped with RS 422 interface. You can use analog inputs in combination with RS 422 control.

O p t i o n s

You can add TC data to the live input signal or use the supplied TC data of the signal.

1 Click the plus (+) symbol,

2 click *Options*,

3 and, in the right-hand section, double-click the current *Value*.

Choose one of three options:

- *Custom* - It defines that a TC value manually specified in the *Logging Tool* should be used for generating timecode data. The timecode starts with the value entered in the *Position* timecode field.
  Start/stop the TC counter by clicking *Play* (toggle button).
  See also *"Timecode Position Field (A)"* on page 6-8.

- *Time of day* - The system time is used for generating timecode data. "Time of day" is only guaranteed with a correctly set system clock.
  TC count starts immediately after initialisation of the *Logging Tool*.

- *Video* - TC data embedded in the DV input signal. (VITC cannot be used.)

i.Link DV Devices (IEEE 1394)

i.Link DV is a name for devices connected and remote controlled via a DV interface. Other, more or less synonomous names are Firewire or IEEE 1394 (the latter is the official standard name). This interface needs to be integrated in your computer.
With the exception timing parameters there are no further settings to define (*page 4-8*).

Assign and Configure Device

The following options allow you to

- select player and recording devices

- configure these devices.

(Options may differ depending on your product version.)

Devices listed here show up in the *Logging Tool* and *Record To Tape Tool* (recorders only). You can also add several more devices.

Assigned Name

Per default, all devices are listed with their manufacturer or model names (such as *Sony Device, DVW 500*) or indicated by their remote connection (such as *LIVE, i.Link DV or IEEE 1394*). That is initially the name selected in the *Default Parameters Matching* list (see below). You should first select a device and then assign an individual name.
You can assign an individual name (such as "Player 1") to each device. Double-click the default name, enter the individual name in the edit field, then press ENTER.

Default Parameter Matching / Select Device

Here you can configure your video devices.

First, click the device or connection name on the left of the dialog, then doubleclick the manufacturer name on the right-hand side. Select the manufacturer of the connected device from the list.
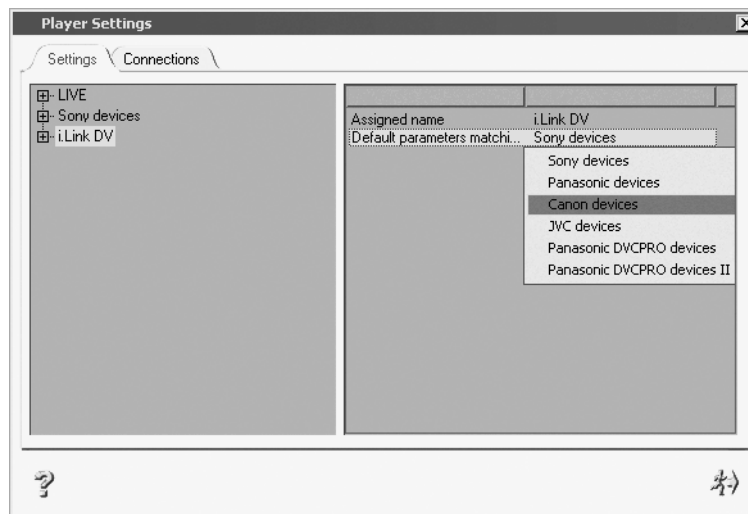
If necessary, you can enter the exact device name in the line above the manufacturer name. Double-click this line to edit it and press ENTER to finish editing.

Normally, no other device settings are needed. If you should have any problems controlling the device, however, see *"Timing (IEEE 1394, DV)"* on page 4-8.

Add Devices/Remove Devices

It is possible to add devices to the list.

1   Rightclick somewhere below the list of devices in the left-hand section of the dialog. In the shortcut menu, select *Add*.

2   In the submenu, select the matching remote control protocol or an additional *Live Player*.
    Available protocols are: IEEE 1394 (i.Link, Firewire) and Betacam (RS 422).

3   Select a precalibrated device from the list of devices as described above (*Default parameters...*)

4   If you like, assign an individual name for the new device (*Assign ed Name*).

To remove a device from the list, right-click that device and select *Remove*.

Timing (IEEE 1394, DV)

Double-click the *Value* you want to edit. Selection varies according to your product version.

Wait After Sending Record [ms]

This value defines the length of time from the moment the record command is sent to the recorder until the actual *Timeline p*lay. When it is set to 5000, you automatically receive a black image for 5 seconds before the film is recorded.

Wait Before Sending Record [ms]

This value defines the length of time from the moment the *Record* button in the *Record To Tape* dialog box is selected until the record command is actually sent to the recorder.

Almost all devices work perfectly with a value of 0. If your recorder does not record despite numerous attempts, we advise you to increase this value in steps of 1000 ms until the recorder records.

The reason for this problem is that some DV devices cannot be switched to record mode until an image is present and an immediate synchronization was not possible with a value of 0.

Max. Duration of Goto [s]

This entry determines the amount of time your DV device may require to go from one position on the tape to another position, such as a mark-in.

Preroll [frames]

This value determines the preroll time for *Batch Digitize* and *Record to Tape*.

The higher the value, the longer the preroll time. Some DV devices require a preroll time of at least 15 frames in order to guarantee a successful synchronization between Pinnacle Liquid and the DV device.

If a clip cannot be cleanly digitized with *Batch Digitize* (e.g. the error message "Preroll Position not found" is issued), Pinnacle Liquid automatically attempts to digitize this clip up to three times.

Send 2 Step commands [on/off]

Some players step field by field, some frame by frame. This means: Some transport the tape by one field, some by one frame, when a step command is received. This option forces the fieldsteppers among the players to move frame by frame, wenn you click the one frame forward tool button: 2 x field steps = 1 frame step.

Timing (Control via RS 422)

CAUTION: Change these parameters only when the connected device works inaccurately. With `Liquid Edition` with RS 422 interface, some of the following options do not apply. A special 232-422 cable is needed for RS 422 control. Please contact your Pinnacle Systems dealer.

Position Request

This default set value should not be changed.

Play TC Delay [Fields]

Adjust this setting until the video is frame-accurately captured by the *Logging Tool* at the mark-in point. Use burned-in timecode instead of the ordinary timecode overlay to ensure the results are not affected by the construction delay of the timecode overlay. To generate a tape with burned-in timecode simply record the Monitor (Superimposed) Out signal on a second VCR and use this tape as a reference.

Rec TC Delay [Fields]

Place two successive clips on the *Timeline* and record (Insert) them to tape. Adjust this parameter until the hard cut from Clip 1 to Clip 2 appears at the proper position on the tape (same position as on the *Timeline*).

Edit Delay [Fields]

After having adjusted Rec TC Delay, adjust the edit delay until the recording (Insert) starts at the first frame of Clip 1.

Note: To obtain reproducible results, clean the area around the insert point before each attempt by recording over it with a different clip.

Encoding delay [fields]

This setting affects tape decks that work with a compressed format (such as DV) but should receive uncompressed signals. In this case, the uncompressed signal must first be encoded inside the device before it can be recorded to tape. The result is a delay in the device's video path (encoding delay). To correct this delay, enter the correction value for the corresponding number of fields here, i.e. for a delay of two frames, enter a value of 4.

Step Emulation Delay [Fields]

As the protocol does not define a definite single-step command this behavior is emulated with a jog command at a speed of 1/10 for a certain period of time. With this parameter you can control how long the interface command (1 frame forward / backward) is to be maintained to emulate a one-frame step.

Functional Description (RS 422)

The technical options for the connected devices are described here. All entries in the functional description section simply specify the functional features of the device. They are not intrinsically used by the driver but serve to help the software identify which features should be available if a specific device is selected.

You may use these options to configure a taylor-made machine, one, for instance, featuring a YUV-SDI converter at its output, which therefore can be described as being equipped with a SDI output.

NOTE: With `Liquid Edition` (with RS 422 option), some of the following options do not apply.

Machine Type

The Machine Type property informs the front-end about the recording capabilities of the device. The following options are available:

* *Player* - the device does not possess any recording capabilities.
* *Recorder* - the device is capable of simple recording, i.e. striping and dumping, but no insert edit.
* *Assemble Recorder* - The device also has assemble mode but not insert mode.
* *Edit Recorder* - in addition to simple dumping, the device is also able to execute insert edits.

Digital Audio

If this parameter is activated, the recording device must be equipped with digital audio tracks which become visible in the *Record to Tape* tool's track settings dialog box.

Maximum Shuttle Speed

Defines maximum shuttle speed for a device. This parameter controls the mapping of shuttle values received from the `Liquid Control` (optional control panel) between the second grid point (assigned to speed x2) and the maximum shuttle position. If improperly specified (usually too high), the device usually enters the maximum shuttle speed once the control ring/knob is moved past the x2 lock position.

Video Outputs

Depending on the individual device you find the following outputs, either assigned by default (*Yes)* or not available *(No)*:

* *Composite* (CVBS, FBAS)
* *S-Video* (Y/C)
* *Component* (Y/R-Y/B-Y)
* *SDI*
* *SDTI*
* SDTI x (hyper-speed transfer 2x, 4x)

The *Yes/No* settings here describe the standard features of the device. You may add outputs according to your specific studio setup. This serves as cross-references in the *Settings > Player Settings > Connection* dialog and defines the inputs that can be assigned to the editing system.

Audio Outputs

Mimics the video logic for audio outputs.

- *Analog*
- *AES/EBU*
- *SDI*
- *SDTI*

The *Yes/No* settings here describe the standard features of the device. You may add outputs according to your specific studio setup. This serves as cross-references in the *Settings > Player Settings > Connection* dialog and defines the inputs that can be assigned to the editing system.

Options

Minimum Preroll PLAY [s]

Controls the minimum preroll time used by the driver before automatic preroll adjustment has started during the initial digitization process. If it becomes apparent during the calibration process that the device will never lock faster than with 3 seconds preroll, this parameter should be set to 3 seconds to avoid unnecessary retries during the digitization of the first clip. However, this setting will not negatively influence the behavior of the driver if the value initially specified is too low. If it is too high, the driver will take longer than necessary to log a clip.

Minimum Preroll REC [s]

Controls the minimum preroll time initially used by the driver before automatic preroll adjustment starts during the first recording. Do not force the driver to use values less than 5 seconds since, unlike with traditional linear editing suites, actual recording occurs rather infrequently and it is not worth performing unnecessary retries (which take several multiples of 5 seconds) by starting with a too low record preroll time.

ClipLink Safe Preroll

This setting affects the digitizing of DV tapes to which the ClipLink technique was applied during recording. If the camera was switched off between two takes, in some cases the cut between the first take and the second take may not be precisely flush, which can in turn result in timecode breaks in the preroll. To avoid problems when digitizing, you can configure a value for the *ClipLink safe preroll* here. The default value is three seconds. During these three seconds of preroll time, no data is digitized.

Record Color Frame Selection

Controls the Color Frame Select command sent to the device before any type of recording.

Timecode

Defines which type of timecode should be used for the device in timecode request. The setting can either be

- *VITC* (Vertical Interleave Timecode)

- *LTC* (Longitudinal Timecode)

- *CTL* (Control Track)

- *Auto* (VITC/LTC); recommended setting

Ignore Reference Warnings

Pinnacle Liquid displays an error message when the player or recording device signals an imminent problem with the sync or reference signal. Set this value *On* to ignore these warnings.
However, we recommend to pinpoint the cause of the problem, because it may impede the editing accuracy.

Tape Protection

Standby Off After (Active)

Controls the time in Still mode (Shuttle 0 or normal STOP) after which the device is switched to *Standby Off* when the device is being actively used (i.e. it is currently selected as the active device in the *Logging* or *Record-To Tape Tool* and at least one of these is visible on screen).

Standby Off After (Inactive)

Controls the time in Still mode (Shuttle 0 or normal STOP) after which the device is switched to *Standby Off* when the device is not being actively used (i.e. it is currently *not* selected as the active device in either the *Logging* or *Record Tool* = normal background operation).

Connections Tab

Use these functions to combine video and audio inputs and outputs of the editing system with the outputs and inputs of the connected players, recorders and live sources. Also select the remote control settings for connected devices.

Begin by specifying (click on device name) in the left field to which recorder, player or live source the subsequent settings are to apply.

Communication Port (IEEE or RS 422) *page 4-13*

Video and Audio Inputs *page 4-14*

Video and Audio Outputs *page 4-14*

Communication Port

⬥ If you have connected a controllable DV device (camera or recorder/player) via the IEEE 1394 interface (as opposed to a non-controllable live source), click the device name or *i.Link DV/1394* in the left-hand box and check that *IEEE 1394* appears as a *Communication Port*.

> This selection refers to the device that was selected in *System Settings > Inputs/Outputs > Video inputs* (in case that more than one device is connected).

⬥ With `Liquid Edition` RS 422: select the COM port (serial interface) to which the 232-422 cable is connected.

⬥ If you wish to use image and sound material via the *Live Player* (i.e. not controllable), make sure the following list options are selected. In the list *Video Input*: *1394;* in the list *Audio Input: DV embedded*, or, provided your product supports this, the appropriate analog inputs.
This restriction does not concern `Liquid Edition` systems equipped with RS 422 interface. You can use analog or digital inputs in combination with RS 422 control.

⬥ *None* - Choose this option if you want to control the player/recorder directly on the device itself and not via Pinnacle Liquid.

Video Inputs

- *1394* - Choose this option if you connected the selected player via an 1394 input (i.Link DV, Firewire).

Note for users of Pinnacle Liquid versions equipped with analog signal inputs and outputs: Use the *Live Player* to input analog signals.

With analog video inputs there is no remote control via IEEE 1394 possible.

CVBS refers to the cinch connector video input on the break-out box (usually marked yellow).

- *CVBS* (Composite) - Choose this option if you have connected the selected device via the composite input (*LIVE* player or RS 422).
- *Y/C (S-video)* - Choose this option if you connected the selected players via the S-video input (*LIVE* player or RS 422). S-video offers superior quality compared to CVBS.
- *None* - Choose this option to operate the selected device without a video interface.

If you have a `Liquid Edition PRO Box` connected to your system, the selection offers two componentin-puts, *YUV* and *RGB*. Select according to actual signal input.

Audio Inputs

- *DV Embedded* - Choose this option if you want Pinnacle Liquid to use the audio signal at the DV con-nector. The video input switches automatically to *1394*.

Only for users of Pinnacle Liquid versions equipped with analog signal inputs and outputs:

- *Ch1-Ch2* - Choose this option if you want Pinnacle Liquid to use the audio signal at the analog audio connectors (cinch connectors on breakout box).
- *None* - Choose this option to operate the selected device without an audio interface.

If you have a `Liquid Edition PRO Box` connected to your system, you have two additional digital audio inputs: AES and SPDIF. Select according to actual signal input.

Video Output

These settings concern the actual video outputs of the computer or the breakout box (if connected).
Select the output to which the recording device is connected. This setting will be used in the *Record to Tape* tool.
Entries with a preceding "Liquid:" refer to generic interfaces of the computer, such as a built-in DV (IEEE 1394) connector.

Audio Output

Assign an audio output to the selected device.

Inputs/Outputs Tab

On this tab, you can configure the inputs and outputs.

(Recorders and players are assigned on the *Connections* tab.)

Video Inputs

- *IEEE 1394* -
  each availabe DV device is listed here with its manufacturer name and a number; if no device is connected, it says so: *No device*.
  The system receives this information directly from the Windows operating system, which in turn checks all i.Link (DV, Firewire, IEEE 1394) connections of the computer and on the breakout box, if connected.
  If more than one device is connected, you can select one. The device you select <u>here</u> is the one that is controlled by the DV remote interface. It can be used in the *Logging Tool* for clip logging and capturing of AV data to the system's harddisks.
  Please note: the software does not list DV interfaces but devices connected to an interface: a DV interface remains invisible until an operating DV device is connected.

Only for users of Pinnacle Liquid versions equipped with analog signal inputs and outputs:

- *Y/C* -
  PAL *Setup*: *B,G,H* oder *SECAM*
  NTSC *Setup*: *NTSC M* or *NTSC J*; *Hue*

- *CVBS* -
  PAL *Setup*: *B,G,H* oder *SECAM*
  NTSC *Setup*: *NTSC M* or *NTSC J*; *Hue*

- *Component YUV* -
  see *CVBS*.
- *Component RGB* -
  see *CVBS*.

Video Outputs

- *IEEE 1394 -*
  same functionality and setting as described above.

- *DV Output Format -*
  Select either *DV* or *DVCPro 25*.
  If you want to output DV captured material via *Record to Tape* on a DVCPro device, you need to switch formats (and v.v.). Be aware that *Timeline* clips will be rendered to the other format <u>before</u> the recording can start.

- *Component > Mode -*
  Liquid Edition PRO Box: several options for the component output:
  - *YUV* (normal)
  - *YUV Progressive* (non-interlaced full frames)
  - *RGB* (RGB signal output)
  - *Y/C* (Y and C separated on two connectors)
  - *Triple FBAS/CVBS* (identical CVBS signal on three connectors).

Audio Inputs

- *DV Embedded -*
  Here you can mute the incoming audio signals (*On*), provided that the player is not in play mode.

Audio Outputs

- *ASIO -*
  Pinnacle Liquid supports the professional ASIO 2.0 audio driver standard to integrate and control audio hardware such as sound cards.
  If more than one ASIO driver or device exists in a computer system, you can select one of them to operate with Pinnacle Liquid. The default ASIO 2.0 driver is a *DirectX Full Duplex* driver (two channels). The line below lets you open the control panel of the selected driver.

- Digital -
  Liquid Edition PRO Box: Select either *SPDIF* or *ADAT* mode.

System Settings

Icon Systems Settings

Systems Settings contains parameters which affect the system itself, such as the still image display or the render file storage location. Double-click the icon *Systems Settings* to open the dialog box.

Changing Parameters

Procedure for changing default values *page 4-17*

General Tab

Contains the *General, Video Display* and *Rendering* areas *page 4-18*

System Info Tab

Information on software and hardware versions, etc. *page 4-19*

Changing Parameters

This dialog box is similar to Windows Explorer in terms of its organization. The categories that can be selected appear on the left; to display subcategories, click the plus sign in the box. Use the right-hand field to adjust the parameters for each category by double-clicking a value, entering one with the keyboard or selecting one from the appropriate drop-down menu.

Restore Initial State - Click this button to restore the settings that were activated when you first opened the item.

General Tab

This tab contains the following sections:

General *page 4-18*

Video display *page 4-18*

Rendering *page 4-19*

General

◆ *Digital Audio Reference Level -*
You can set the audio reference level in single steps in a range from -9 dBFS to -20 dBFS. The red range (start of overload limit) of the Pinnacle Liquid audio level meters is adapted accordingly (for instance in the *Audio Tool*).

Video Display

◆ *Still Display* - Select one of three options:
Both (fields)
Odd (fields)
Even (fields)

Double-click a value to open a selection menu. *Odd* is default; this setting avoids the flickering of the still image on the video monitor (the inlay is not affected).

◆ *Viewer Mode -*
Choose *Overscan* or *Underscan*. *Overscan* is the default setting; it roughly corresponds to the picture area that normally appears on a TV monitor.
Underscan and *Overscan* affect all video inlays of the software. If you select *Individual*, you can use the tool buttons of each *Viewer* to toggle *Underscan* and *Overscan*.

The field order in Pinnacle Liquid is chronological: odd/even field (PAL and NTSC). The frame order is positional: odd/even field (PAL) and even/odd field (NTSC).

Rendering

- ◆ *Destination Volume -*
  Enter the directory for saving rendered files.
  Double-click *Value* to open an edit field (quit with ENTER), or click the "three dots" to browse for a destination directory.

- ◆ *Holdoff -*
  The value entered here defines the time in seconds, after which rendering should begin after the last processing step of an effect. If you enter 3 seconds, the system begins rendering 3 seconds after the effect was last processed.

System Info Tab

This tab provides you with information on your system's hardware and software status and on available system formats.

FX Editors Settings

These settings influence the quality of effects, both in finished sequences and in the preview in the *Effect Editors*. Double-click the icon *FX Editors Settings* to open the dialog box.

Icon *FX Editors Settings*

Please be aware that these settings apply only to rendered (*Classic*) effects. Realtime effects are not affected by these parameters.

Render Quality Tab *page 4-20*

Preview Quality Tab *page 4-20*

System Tab *page 4-21*

Advanced Settings *page 4-21*

Render Quality Tab

Select either *Best, High* or *Preview Quality* for rendering effects. *Preview* delivers the fastest results, but the lowest quality. Always use *Best* for masters.

Preview Quality Tab

Use this tab to specify the quality of the effect preview display. Keep in mind that the system has to do a lot of processing to display clips at maximum resolution. Therefore, clips in the effect preview display may appear a bit jerky, especially if the effects are complex - even at maximum quality.

- If you choose *Fast Preview First* and *Best Quality Last*, the effect preview will first appear with a low resolution. This gives you a quick look at the effect. Maximum resolution is then used for the final preview so that you can ultimately see the effect at maximum quality.

- Whether or not *Fast Preview First* and *Best Quality Last* can be selected depends on which preview quality you selected. With *Best, Best Quality Last* is automatically selected. With *Fast Preview, Fast Preview First* is automatically selected. With *High Quality*, either *Best Quality Last* or *Fast Preview First* can be selected.

First click the required main preview quality: *Best, High* or *Fast Preview* and then the corresponding options *Best Quality Last* or *Fast Preview First.*

System Tab

- *Video Draw Method - Bitmap (BMP)* is the default setting. Other options are *Video Driver*, *Video for Windows* and *Bitmap (DIB)*.

- *Image Cache Size* - used for specifying cache size. Default setting: 64megabytes. If your system is well equipped with RAM, increase the setting to achieve higher performance.

- Pinnacle Liquid supports the MMX function of Pentium processors. If your computer can handle MMX extensions, activate this function to increase system performance.

- *SSE1/2* relates to a subset of Intel processor commands. If you're using one or more SSE capable CPU(s) in your system, check these options to enhance system performance.

Advanced Settings

Use *Advanced Settings* to fine tune effect rendering parameters. You should, however, edit these parameters only if you're knowledgeable in the field of render mathematics. We recommend consulting specialized literature before you make any changes here, since a detailed description is beyond the scope of this reference manual.

Plug-In Settings

Icon Plug-In Settings

These settings are used for specifying which folder contains the additional video filters and video effects to be used with Pinnacle Liquid. The plug-in files must be compatible with the "Adobe Premiere interface for plug-ins" (*.prm). Double-click this icon to open the *Plug-In Settings* dialog box.

Click *Add* and select the directory containing the plug-in you want to add. As soon as you confirm your selection by clicking *OK*, the path is entered in the plug-in directory window.

To remove a plug-in directory, select the path and click *Remove*. If you remove a plug-in from the directory window, only the path to this plug-in is deleted and not the plug-in itself.

Use the *Move Up* and *Move Down* arrows to change the order of the paths in the plug-in directory window.

Whenever you add a plug-in or delete a plug-in from this directory window, you must restart Pinnacle Liquid in order for the changes to take effect. To save time, therefore, make several changes in a single procedure before confirming your actions by clicking *OK*.

Once you have followed this procedure to add new plug-ins, Pinnacle Liquid identifies each plug-in as either a *Transition Plug-In* or a *Clip Plug-In* and stores it in the *Project* window on the `Library` tab. It is then available in the *PlugIn Racks* and can be used like any other effect.

Index

PINNACLE

Volume I