

MachineControl

Version 1.0.1 for Windows NT

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PN 932106921-00 REV B

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Introducing MachineControl™ for Pro Tools

About Machine Control

MachineControl is Digidesign's integrated machine control option, facilitating serial control of remote audio and video devices from within Pro Tools.

With MachineControl installed, your Pro Tools system can act as the master or slave to external 9-pin or V-LAN machines. The Pro Tools Transport Window can then be used as the master controller for either Pro Tools, the remote deck, or both.

MachineControl for Pro Tools lets you designate either the external machine or Pro Tools as the Transport Master. The Pro Tools Online control (in the Transport Window) lets you engage or disengage the slave device.

MachineControl Features

- ◆ Provides synchronized (online) or independent (offline) control of your machine and Pro Tools directly from the Pro Tools Transport Window.
- ◆ Scrub-to-Picture feature allows scrubbing of your Pro Tools session audio and external transports simultaneously.
- ◆ On-screen indication of current machine status and location during play, rewind / fast-forward / pause (search mode), unlace and rewind / fast-forward (high speed), region and session time code and session time versus incoming time code.
- ◆ Status indication in the transport window provides user feedback for the various control modes (useful for troubleshooting).
- ◆ Remote/Local Mode detection—Pro Tools can tell if the device has been physically switched to local mode, thereby reducing communication errors.
- ◆ When Pro Tools is parked and you are cueing the external transport independently (offline), the Pro Tools playback cursor follows and indicates the machine's time/location.

MachineControl Components

Your MachineControl package includes:

- ◆ “MachineControl Install 1” Diskette, which contains the MachineControl Installer file as well this User Guide, the MachineControl ReadMe and your two hard disk authorizations.
- ◆ “MachineControl Install 2” Diskette, which additional installation files.
- ◆ One PC-to-Sony 9-pin Serial Control Cable.

System Requirements

- Digidesign-approved Pro Tools NT system
- Pro Tools software version 4.2.1 (or higher)
- At least 128 megabytes of RAM
- A 14-inch or larger color monitor with 16-bit (65,536) colors. A 17-inch or larger monitor is highly recommended.

For the latest list of qualified CPUs and hard drives, contact your Digidesign dealer or visit the Digidesign website.

Hardware Requirements

- 9-pin serial MachineControl cable (included)
- Sony® 9-pin or Videomedia® V-LAN™ compatible external video or audio device(s)

- A time code reader card in the VTR/ATR is required for MachineControl of Sony 9-pin machines. Video decks that do not have a video sync input or an onboard time code reader may not provide reliable sync when used with MachineControl. V-LAN machines may not require a time code reader card — consult your machine's documentation for more information.
- A Digidesign Universal Slave Driver™
– or –
A Digidesign Video Slave Driver™ with a standard MIDI Interface capable of converting Linear Time Code to MIDI Time Code.

A Digidesign USD and/or VSD may be required for resolved systems. Digidesign's USD provides continuous near sample-accurate direct hardware synchronization of Pro Tools to all industry-standard synchronization formats (including LTC, VITC, video, word clock, Bi-phase and tach). Digidesign's Video Slave Driver provides continuous direct hardware synchronization of Pro Tools to video black burst (house sync) or word clock.

Using MachineControl with Pro Tools

This guide assumes that you have installed Pro Tools, verified that it works properly and have a basic understanding of its operating conventions as explained in your Pro Tools User Guides. Specifically, you must know how to:

- ◆ Configure all the appropriate parameters in the Pro Tools Session Setup window, in-

cluding sample and frame rate, start frame, offset, input format, sync mode, and synchronization, session time, and time code parameters

- ◆ Display session time in SMPTE frames
- ◆ Put Pro Tools online, record online, and take Pro Tools offline
- ◆ Spot regions manually and via Auto-Spot mode to SMPTE times
- ◆ Use all other time code-related editing and transport features described in your *Pro Tools Reference Guide*.

About Synchronization

Clock Reference

When locking a digital audio workstation such as Pro Tools to other machines or synchronizers, it is very important to have a common time base for all systems. In this context, “time base” refers to a common clock that provides the same speed information to all devices accepting this sync signal. The most common source of clock reference in the professional audio and video world is Video Sync, also called Black Burst (or House Sync). Other formats include word clock, AES/EBU null (or “AES/EBU black”), pilot tone (50 or 60 Hz), Bi-phase and tach.

Positional Reference

While clock reference maintains a common play speed among devices, a common positional reference keeps them in synch with the audio application. SMPTE time code is the most common positional reference and can be present as Linear Time Code (a stream of audio pulses) or Vertical

Interval Time Code (data hidden in the blanking interval of a video signal).

A Typical Scenario

In a typical machine control setup, Pro Tools is controlling a remote video or audio transport (via MachineControl).

For clock reference, both Pro Tools and the remote deck are referenced externally to black burst (“house sync”). Pro Tools locks to this video black signal via the BNC inputs of a VSD or USD sync peripheral device. VSD and USD feed Super Clock (256 x Sample Clock) resolved from your sync source (video black in this case) to your Pro Tools audio interface (888 or 882). Refer to your VSD or USD manual for details.

For positional reference, Pro Tools is receiving timecode from the remote deck via LTC (an audio stream plugged directly into USD or an LTC-to-MIDI time code converter) or via VITC (part of a video signal fed to USD’s Ref Video In or Video In jacks). This timecode tells Pro Tools when to start and stop playback. Refer to your VSD or USD manual for details.

The remote deck must share the same clock reference as Pro Tools for the two to become synchronized, so video black will be fed to the reference input jack on the remote deck. Consult the documentation of your external decks to make sure they can be externally referenced.

No positional reference information needs to be sent from Pro Tools to the external deck. In this example, the remote deck is sending positional reference information (in the form of LTC or VITC) to Pro Tools, which is slaving to that data.

Installing and Configuring MachineControl

Installing Machine Control

Your MachineControl software installer is on two diskettes. One of these, “MachineControl Install 1,” is also the authorization disk for MachineControl.

Each copy of MachineControl permits two hard disk authorizations. Once you have installed these two authorizations, you cannot perform additional authorizations until you reclaim an authorization.

A DeAuthorizer application, named “MachineControl DeAuthorizer.exe” is installed automatically in the Pro Tools folder. The DeAuthorizer permits you to reclaim authorizations by removing them from your hard disk and returning them to the “MachineControl Install 1” disk.

A note about key disk usage

Unlike MachineControl for the Macintosh, you cannot run Machine Control for Windows merely by placing the key diskette in the computer’s floppy drive. You must install an authorization onto your computer’s hard drive to use MachineControl on your Windows machine.

▲ It is not necessary to remove MachineControl software or reclaim an authorization before you defragment or optimize your drive. However, should you wish to *re-initialize* (or re-format) your hard drive, you must reclaim MachineControl authorization (and all other similar Plug-In authorizations) or they will be erased when you initialize or reformat your hard drive.

Register Your Software

When we receive your completed MachineControl Registration Card, you will receive a backup disk containing two additional hard disk authorizations. As a registered user you’ll also receive periodic software updates and notification of upgrades. Send in your Registration Card today!

Preparing for Installation

Before you install MachineControl, you must install Pro Tools version 4.2.1 (or higher) and confirm that it is operating correctly. Refer to your *Pro Tools Installation Guide* for details.

Once Pro Tools is installed, check the MachineControl™ Install Disk #1 and make

sure it is unlocked. If the diskette is locked, you will not be able to authorize or deauthorize your copy of MachineControl.

To install MachineControl software on your computer:

- 1 Insert the "MachineControl Install 1" diskette into your computer.
- 2 Locate and double-click the "Install MachineControl.exe" application on the Installer diskette.
- 3 Follow the on-screen instructions to install the software on a selected hard drive. (In most cases, this will be your Windows System drive.)
- 4 When installation is complete, click Finish to restart your computer.
- 5 Once your computer has restarted, if a warning dialog appears, click Cancel to close the dialog.
- 6 Launch Pro Tools, and follow the on-screen instructions for authorizing MachineControl. Because Pro Tools is typically installed on your Windows System drive, this hard drive will be selected. If you want to install the authorization on another hard drive, navigate to its location and select it.
- 7 Click OK. One of your two authorizations will be installed on the selected hard drive.

To check that your installation and authorization have been successful:

- 1 In Pro Tools, choose Setups > Peripherals and click Machine Control.
- 2 In the 9-pin Serial section of this dialog, you should be able to enable Machine Control by clicking the Enable checkbox.

Removing MachineControl Software

If you want to remove MachineControl, you should deauthorize your hard drive before you remove the MachineControl software.

To remove authorization from a hard drive:

- 1 Locate the file "MachineControl DeAuthorizer.exe" on your hard drive (in Program Files/Digidesign/DeAuthorizers). Double-click this file to launch the DeAuthorizer.
- 2 Insert the "MachineControl Install 1" or backup authorization diskette into your computer.
- 3 Locate the drive containing the authorization you want to remove (indicated by a small key icon) and select it.
- 4 Click Remove. The authorization is returned to the diskette.

To remove the MachineControl software:

- 1 From the Start menu, choose Settings > Control Panels and double-click Add/Remove Programs.
- 2 Select "Pro Tools MachineControl" from the list of installed applications and click Add/Remove.
- 3 A dialog appears asking you to confirm the removal of the "Tpkd.sys" file. Click Yes.
- 4 When the removal process is complete, click OK and close the "Add/Remove Programs Properties" window.

Hardware Connections and Setup Suggestions

This section provides suggestions and guidelines for connecting a basic Pro Tools setup to an external video system. It is assumed that you have already installed your Pro Tools audio hardware and software as explained in your *Pro Tools System Installation Guide*. MachineControl will work with any machine that supports either the Sony 9-pin or V-LAN protocol. If your system uses Sony 9-pin, you can use the serial control cable, included with MachineControl, to connect your VTR/ATR to your computer as described below.

9-pin, Time Code and Clock Reference Connections for MachineControl

Pro Tools needs three types of connections in order to achieve synchronization with external machines: serial control communication, positional reference and clock reference.

- ◆ For control communication, a 9-pin connection is required (use the cable included).

The 9-pin cable must be connected (between one of your computer's serial port and the remote deck's 9-pin Input port) to allow Pro Tools to send commands such as play, rewind and locate to the external deck.

- ◆ For clock reference information, Pro Tools begins playing it back at a rate determined by your audio interface (888 or 882). This interface looks to your sync peripheral (USD or VSD) for Super Clock

data, so your USD or VSD should be referenced to the same source as the external deck you want to control.

- ◆ For positional information, Pro Tools will utilize the data supplied by USD, SSD or SMPTE-to-MTC to determine where to begin playback. This requires that you have LTC (Linear Time Code) on an audio or "address" track of your VTR/ATR, or that you have VITC (Vertical Interval Time Code) embedded in your video source (USD only).

To connect your computer for use with MachineControl:

- 1 Using the 9-pin cable included with MachineControl, connect one of your computer's serial ports to the 9-pin In port of your VTR/ATR.
- 2 Connect your clock source (house sync, word clock, etc.) to your sync peripheral (USD or VSD). Make sure your audio interface is connected to the SuperClock output of your USD or VSD. Also, make sure the remote deck you are trying to control is connected to the same clock source as Pro Tools.
- 3 Connect your positional reference (LTC or VITC, etc.) to your USD or SSD (or LTC-to-MTC converter). Then connect your USD, SSD or LTC-to-MTC converter to Pro Tools via the appropriate serial port.

Configuring MachineControl

Once MachineControl software is installed and your external machine(s) are connected, launch Pro Tools to configure your system.

Pro Tools System Settings

You will need to select the serial port and machine type for each device connected to your computer.

To set up a MachineControl device:

- 1 In Pro Tools, choose Setups > Peripherals, and click Machine Control.
- 2 Click the Port pop-up and choose the serial port you want to use for the 9-pin or V-LAN connection.
- 3 Choose the device being used for LTC or MIDI Time Code. Select USD if you own one. Or, if you own a MIDI interface such as an Opcode Studio 4, choose “Generic MTC Reader.”
- 4 Do not use the designated machine port for any other function (time code, MIDI metronome, etc.). In other words, make sure that 9-pin or V-LAN MachineControl is the only communication on the selected port.
- 5 Select the appropriate machine type (Sony 9-pin or V-LAN) from the Machine Type pop-up menu.
- 6 Click OK to close this dialog.

Pro Tools will now begin looking for external devices connected to the serial port you just designated. Pro Tools will remem-

ber your Peripherals configuration unless you specifically change it or disconnect it.

▲ Be sure to set your machine-controllable VTR or ATR to “remote” or “ext” mode to receive the 9-pin or V-LAN information. If all other Pro Tools machine communication is established and the machine is not in remote mode, Pro Tools will indicate machine “local” mode and display the message “Cannot Establish Sync” in the status display.

Setting MachineControl Pre-roll

To set Machine Control pre-roll:

- 1 Open an existing Pro Tools Session, or create a new one.
- 2 In Pro Tools, choose Setups > Peripherals, and click Machine Control.
- 3 In the Serial 9-pin section of this dialog, you can enter the desired amount for pre-roll. Pro Tools needs a certain amount of pre-roll before it can lock to incoming time code. By default, both pre- and post-roll will be set to 150 frames, which is usually sufficient.

▲ If your pre-roll is set too short, Pro Tools will not have adequate time to lock to the incoming LTC from the machine, and will therefore begin playback late or not play at all.

- 4 To have the machine chase to Edit Window audio selections, engage Machine Follows Selection/Scrub in the Pro Tools Operation Preferences.
- 5 To have the machine chase the Pro Tools memory location selection, select the Machine Follows Memory Location option in the Pro Tools Preferences. When this option is enabled, if you recall a memory lo-

cation the machine will locate to the recalled position. The machine will not locate with pre-roll, but will instead park on the desired frame for Auto Spotting.

Configuring a Pro Tools Session

So far, you have configured the Pro Tools system settings for MachineControl. This section explains how to configure an individual Pro Tools session to use MachineControl. The affected parameters include frame and sample rates, session start time and other time code settings. Each of these settings must be chosen according to the requirements of the project you are working on.

For example, you must know the frame rate of your video material and set Pro Tools to the same rate and format. This will guarantee that your Pro Tools session will sync and spot accurately to time code both while you are working on it and when it is taken to the next stage of the particular project (i.e., layback to video/film, etc.).

▲ Some video decks are able to simultaneously generate time code in a format other than that striped on tape. Check your deck to make sure it is configured to output the proper time code frame rate for the particular project you are working on.

To set up your Pro Tools session for MachineControl:

- 1 Choose Display > Show Session Setup Window.
- 2 Set the Sample Rate for your session. Unless you have a compelling reason to change it, use the same sample rate of your source audio material (if any). Refer to your Pro Tools User Guides for more information on the Session Setup window and its options.
- 3 Select the TIME CODE frame rate and format appropriate to your session. Available frame rates include 24 FPS, 25 FPS, 29.97 drop, 29.97 FPS, 30 drop and 30 FPS.
- 4 Set the CH 1-2 Input and session Sync Mode as necessary. Refer to your Pro Tools User Guides for more information on these two options.
- 5 Set a Session start time. Use the Session Start field to enter a beginning time address for your session based on an appropriate time code address at the beginning of your project tape. (Because video work tapes are rarely striped beginning at a TIME CODE frame address of 00:00:00:00, this is a very useful function.) Pro Tools TIME CODE-related functions (such as Spot mode or region time-stamping) will then use this value as their start frame reference. If Pro Tools is receiving time code, the current location will be shown in the Current Time Code field below the Session Start field.

The Session Setup Window

The Session Setup window can optionally display additional time code-related settings. To display the enlarged Session Setup window, click the zoom box in the upper right hand corner of the Session Setup window. The additional controls found in the expanded Session Setup window include the following:

Output Time Code Choices include using a peripheral device such as a SMPTE Slave Driver, USD or MIDI Time Code.

Sync Offset Use this field to define an offset for your session. Sync offsets can be used to compensate for the delay associated with certain MTC and LTC-to-MTC devices. Consult the manufacturer of your MIDI device to obtain specific values for delay times when reading MTC.

Time Code Free Wheel Choices include none, variable, and Jam Sync.

Sample Rate Pull Up/Pull Down Choose the option appropriate for the current project.

Refer to your Pro Tools User Guides for more information on the Session Setup window and its options.

Other Settings

Other Pro Tools parameters affect its behavior when working with external time code. To get the best performance from your MachineControl-enabled Pro Tools system, consult your Pro Tools User Guides to for information on the following:

- ◆ Time Scale display
- ◆ ‘Record Online at Sync’ versus “Record Online at Insertion/Selection”
- ◆ Pre-/Post-roll Playback
- ◆ Online Troubleshooting

Using MachineControl

Online and Offline Operation

When Pro Tools Online mode is engaged, all connected devices will respond to Pro Tools Transport commands. When Online mode is not engaged, only the selected Master Transport device (the machine or Pro Tools) will respond to Pro Tools Transport commands.

When offline you can play either the Pro Tools session or the machine tape alone. This mode prevents Pro Tools from having to wait for the machine to cue up and sync, plus it lets you cue and play your machine using the Transport Window as a remote control. These capabilities provide a very convenient manner in which to cue the various devices in your system.

Toggling Control of the Transport

With MachineControl, the Pro Tools Transport window becomes a multi-function controller. With a single keystroke, either the machine or Pro Tools can be selected as the “master” device.

To toggle the Pro Tools Transport between Pro Tools and the machine:

Click the area labeled Transport = (directly below the online button) to display the Transport toggle pop-up. Select “Transport = Machine” or “Transport = Pro Tools.” Alternatively, press Control+[(Left Bracket) to toggle between Pro Tools and machine transport.

When Transport = Pro Tools

When the machine is slaved to Pro Tools, the machine will ignore all transport and cursor commands (Selector tool, scrub, etc.) until you put the session online. When Pro Tools goes online and you begin playback, the machine will be cued up to a pre-roll time (set via the Machine Setup command of the Setups menu) before the current insertion time, and then roll. The session will lock to the machine’s time code.

Additionally, when online:

- ◆ Clicking a Pro Tools memory location will move both the Session and the Machine to that point. This assumes the option Machine Follows Memory Location is engaged in the Peripherals/Operations dialog box.

◆ Selecting a placed region with the Grabber tool will move the Machine to the frame that lines up with the beginning of that region.

When Transport = Machine

When Transport = Machine, the Pro Tools Transport can be used as a machine remote control or a system master control. When offline, the Transport will only control the machine. When online, the Transport will still only control the machine, but Pro Tools will follow and lock to the machine.

In addition:

- ◆ When Auto Spot is turned on, regions are spotted to the current Machine time.
- ◆ When Auto Spot is turned on, the Trimmer tool cuts to the current Machine time.
- ◆ The Pro Tools Edit Window counter displays the current machine (9-pin) or session time code location, depending on which device is the transport master.

About Local versus Remote

If the Transport toggle will not stay in Machine mode, or if the toggle suddenly switches to Pro Tools mode from Machine mode, check your machine's Local/Remote setting. Pro Tools polls the connected machine periodically to check the status of the machine's Local/Remote setting. If communication is lost with your deck, Pro Tools posts a dialog box informing you of this.

Remote Machine Playback Control

Basic communication can quickly be verified and tested by first using the Pro Tools Transport to control the machine alone. This is done by toggling the Transport to Machine mode (described below).

To play or cue your machine independently of Pro Tools:

- 1** Make sure Transport = Machine on the Pro Tools Transport window.
- 2** Make sure the Online button on the Pro Tools Transport is off (not highlighted).
- 3** Choose Show Session Setup from the Pro Tools Display menu, and adjust session parameters accordingly, as described in your Pro Tools User Guides.
- 4** Press any of the Pro Tools Transport buttons to control your machine.

The Time Code Display window always displays incoming LTC or 9-pin time in the Current Time Code field during fast-wind, and switches to display received LTC or MIDI Time Code when in playback mode.

There are four ways to put Pro Tools in online mode:

- by clicking the Transport's Online button,
- by choosing the Options > Online
- by pressing Control+J
- by holding down the Alt key and pressing the Spacebar.

Each of these methods toggles the online/offline status of your Session.

To synchronize Pro Tools and machine playback from the Pro Tools Transport:

- 1 Make sure Transport = Pro Tools.
- 2 Put Pro Tools online as previously described.
- 3 Click the Play button.

Assuming the tape in the machine is striped with time code that matches your Session time, the machine will locate to the position of the Pro Tools on-screen selection/insertion point or memory location (plus pre-roll), and begin playing back in sync.

Online Display Information

To simplify the task of working with Pro Tools and external machines simultaneously, several display elements of the Edit and Transport windows provide machine status information.

When Pro Tools is online, the Transport online button flashes blue. “Waiting for Sync” will be displayed in the Pro Tools Status box in the lower left corner of the Edit Window.

The online button will continue to flash blue until you click the Play button, and/or until time code lockup (all devices locked and responding in sync). The Time Code display in the Edit Window will show the Machine Time when the machine is Master.

Upon lockup with the session, the display switches to show the session time. If your system doesn’t seem to be achieving lockup soon enough, you might want to adjust your machine pre-roll (choose Ma-

chineControl from the Setup menu and enter a longer amount of machine pre-roll).

Toggling the Transport while online

When online, toggling the transport control between Pro Tools and your Machine will also toggle their master/slave relationship. In other words, with Transport = Machine and Pro Tools online, Pro Tools will chase and lock to the current location of the Machine instead of the Machine chasing and locking to the current location/selection in the Pro Tools Session. In this scenario, you can use either the on-screen Transport buttons or the Machine’s transport controls.

Fast-forward, Rewind and Searching on the Machine

As explained in the first sections, Pro Tools can cue the machine in “search” mode (tape laced against heads) or hi-speed (unlaced) mode.

Search and Hi-Speed Cue Modes

MachineControl provides two cue modes for remote machine operation: search and hi-speed. In Search mode, the tape remains laced and will remain so during fast-forward/rewind. In Hi-speed mode, the tape is unlaced before fast-forward/rewind. The Pro Tools Transport window indicates the laced status of the tape as described below:

To tell whether or not tape is laced:

Check the Pro Tools Transport buttons. When the machine is paused and the tape is laced against the heads, the Stop button glows solid (it does not flash) and the Play button flashes. While searching in this mode, the Play button continues to flash and the fast-forward or rewind button (depending on which direction you are searching) will glow solid. When the tape is unlaced all Transport buttons turn off (none glow or flash). While searching in this mode, only the selected ffwd/rewind button will be illuminated. This indicates that MachineControl is in hi-speed mode.

▲ Some machines, including several popular VHS decks, do not support a shuttle mode in which the tape stays laced. These decks will unlace the tape before shuttling. Consult your device's user manual for more info.

To unlace the tape on the machine (for hi-speed cueing):

- 1 Make sure Transport = Machine on the Pro Tools Transport window.
- 2 If the deck is cueing or playing, click the Stop button (or press the Spacebar) to stop playback.
- 3 Press Control-Period to unlace the tape. All Transport buttons will turn off (none will glow or flash).

Fast-Forward and Rewind

To fast-forward and rewind (hi-speed) using the mouse:

- 1 Select Transport = Machine or Transport = Pro Tools as appropriate. Refer to the pre-

vious section which explained this toggle switch.

- 2 Configure Pro Tools for online or offline mode as appropriate. When online, all devices will respond as one to the Pro Tools Transport controls. When offline, only the individual devices selected in the previous step (i.e., machine or Pro Tools) will be controlled by the Pro Tools Transport.

- 3 Press Control-Period or click the Stop button on the Pro Tools Transport. The machine will unlace the tape. (The Spacebar will simply stop playback while leaving the tape laced.)

- 4 Click the fast-forward or rewind buttons (or RTZ or Go To End buttons) on the Pro Tools Transport. The Pro Tools cursor will indicate the current machine location.

To fast-forward and rewind (hi-speed) using the computer keyboard:

- 1 Select Transport = Machine.
- 2 Configure Pro Tools for Online or Offline mode as appropriate. When online, all devices will respond as one to the Pro Tools Transport controls. When offline, only the individual devices selected in the previous step (i.e., machine or Pro Tools) will be controlled by the Pro Tools Transport.
- 3 Press Control-Period or click the Stop button on the Pro Tools Transport. The machine will unlace the tape.
- 4 Press the Shift > to fast-forward. Press Shift < to rewind. Press the Spacebar to pause the machine. When paused, the Stop button is illuminated and the Play button will flash.

To fast-forward and rewind in search mode

- 1 Click the Play button or press the Spacebar to begin machine playback.
- 2 Press the Spacebar again to pause the machine (this is merely to ensure that the tape is laced). The Stop button will be illuminated and the Play button will flash when the machine is paused.
- 3 Click the Transport's fast-forward or rewind button, or press Control > (fwd) or Control < (rew) to search the tape.

▲ Some devices may not support a shuttle mode. These devices will not accept the shuttle command using the Control < or Control > keys. In these cases, the FF and REW icons in the Pro Tools Transport will blink, and clicking them will place these types of decks in true ff/rew mode.

To playback Pro Tools independently of your machine:

- 1 Make sure Transport = Pro Tools is selected in the Pro Tools Transport window.
- 2 Make sure the online button of the Pro Tools Transport is off (not highlighted).
- 3 Click the Play button in Pro Tools, or press the Spacebar. Pro Tools will play back normally without locking to your external device.

Spotting to the Machine

To spot regions to the machine, use the Pro Tools Spot mode and/or Auto Spot mode (if using VITC). Refer to your Pro Tools User Guides for information on using Spot and Auto Spot mode to spot regions to SMPTE locations. You will also

find instructions for using the Move Region To dialog, trimming to SMPTE, time stamping, region exporting and more.

▲ Note that the Pro Tools Auto Spot mode uses the machine's time code locations or incoming MTC or LTC for location information. Therefore, Auto Spot mode will force the Region to be spotted to the current incoming machine time code location, NOT the current insertion cursor location. If you wish to spot your elements directly to the current cursor location, use Control-drag.

Locating to Memory Locations

To have the machine locate to Pro Tools memory locations, select the Machine Chases Memory Locations option in the Pro Tools Operations Preferences.

When Machine follows memory locations is engaged:

- Locate to a memory location (number) = the one- or two-digit number (1-99), followed immediately by the decimal point key of your computer's numeric keypad. Or click on a memory location button in the Pro Tools Transport window.
- The Return to Zero and Go To End buttons on the Transport Window cue the machine to the start and end of the Session (not necessarily the start and end of the video tape.)

▲ A number of machines will not cue to a location that is one frame ahead of its current location.

Key Commands

Command	Keyboard Shortcut
Rewind	Shift <
Fast Forward	Shift >
Shuttle Backward	Shift -
Shuttle Forward	Shift +
Frame Bump Backward	Alt -
Frame Bump Forward	Alt +
Locate to Selection Start	Control+Left Arrow
Locate to Selection End	Control+Right Arrow
Locate to Selection Start Minus Preroll	Alt+Left Arrow
Locate to Selection End Minus Preroll	Alt+Right Arrow
Toggle Transport Master	Control-\
All Transport Buttons Off	Command-Period
Search Mode Toggle	Spacebar

Troubleshooting

Solutions to Common Problems

The machine is not recognized

The session was saved with MachineControl, but now opens without it being selected in the transport window. When opening a session saved with MachineControl, a dialog warns that there were “problems initializing MachineControl.” When spotting a region, the “Capture Machine Time” button is grayed out.

Potential Solutions:

Open the Peripherals dialog (Setups menu) and confirm that the correct port is chosen for MachineControl. Verify that the correct serial port is chosen in the Serial Port dialog (Setups menu). Make certain that the 9-pin serial cable is connected at both ends.

If you are using the “through” port on a MIDI interface, make sure that it is switched to “Through” and is powered on. To confirm this is not the problem, remove the MIDI interface and connect the VTR directly to the Computer (unless the MIDI

interface is being used for LTC-to-MTC conversion).

Verify that the machine(s) and any V-LAN interfaces are powered on. Try opening the Serial Ports dialog, reset the machine port and closing the dialog (doing this causes Pro Tools to scan the serial port for V-LAN or 9-pin).

Make certain that only a Digidesign-approved cable is being used (for Sony 9-Pin applications) - do not use an off-the-shelf type modem cable.

Pro Tools transport has no effect on machine

Though the MachineControl dialog indicates that Pro Tools “sees” the machine, nothing happens when you use the transport in Pro Tools (the VTR doesn’t respond to the commands). When spotting a region using the “Capture Machine Time” button, an incorrect time is entered.

Potential Solutions:

Most machine controllable transports need to be placed in a “Remote” or “ext” mode to allow them to be slaved to other devices. Verify that the VTR/ATR is in this mode. Refer to the documentation that

came with your deck if you need more information on Remote and Local modes.

Check the current status of the “Transport = Pro Tools” or “Transport = Machine” setting.

If the machine protocol is V-LAN and there are multiple machines on the V-LAN network, open the Machine Setup dialog (Setups menu) and verify that the correct VTR is selected via the pop-up menu.

Time code inaccuracy

The time code locations shown in the Selection and Position Indicator boxes do not match machine time code.

Potential Solutions:

This problem can be caused by a number of things. Sometimes the TIME CODE times reported by machines are not in sync with the time code that gets played out of their timecode ports.

If the values get progressively farther and farther apart, the first thing to check is the frame rate. Make sure you have set Pro Tools to the same frame rate as the movie/machine frame rate. Also check the frame format (drop or non-drop).

If the values differ by a significant margin (i.e., an hour, twelve hours, etc.), perhaps your Start Frame number hasn't been set correctly. You can check and set the Pro Tools Start Frame number via the Machine Setup command of the Setups menu. The Machine Setup window lets you set Start Frame as well as your frame rate and format.

Contacting Technical Support

If you've tried everything and still can't seem to get your Pro Tools system to work, call Digidesign Customer Support (refer to the Customer Support information that was included with your Pro Tools package) and ask for assistance. The Digidesign Technical Support Team will do everything they can to help you get up and running.