

# DAKOTA™ Update Notes — software version 2.0

Beginning with v2.0, the Dakota software includes the following enhancements.

- A new Patchbay tab in Dakota's control panel for input monitoring and digital audio format conversions.
- An ASIO 2.0 driver for low-latency performance and sample-accurate sync when using Dakota with Steinberg's Cubase VST (v3.7).
- Sample-accurate sync when using Dakota with Syntrillium's Cool Edit Pro (v1.2).
- A Taskbar icon for quick access to the Dakota control panel.
- New settings available in the System tab of Dakota's control panel.

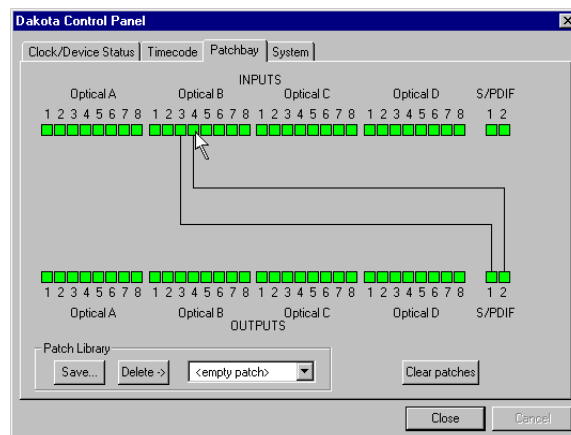
## Installation

You can download the new Dakota driver (in a ZIP file) from our web site. To install the driver:

1. Open the ZIP file, and extract all the enclosed files to a floppy disk.
2. Navigate to the Device Manager tab in the System Properties window (Start > Settings > Control Panel > System > Device Manager).
3. Click the "+" next to "Sound, video and game controllers" to open that part of the device tree.
4. Select "Dakota Audio Device" in the list, and click the Properties button.
5. Open the Driver tab, and then click the "Update Driver" button to start the Update Wizard.
6. Follow the Wizard instructions to install the new Dakota driver.
7. Once the driver installation is complete, reboot the computer.

## Patchbay tab

The Patchbay tab lets you route any Dakota/Montana audio input to any output, providing both input monitoring and digital audio format conversions (SPDIF optical to/from SPDIF electrical, and ADAT to/from SPDIF). For example, you can monitor Dakota's "Optical B 3:4" inputs through the SPDIF coax outputs, as shown here.



Dakota and Montana inputs appear in the top row of icons; outputs appear in the bottom row. To create a patch, click on an input icon and then click on an output icon, or drag the cursor from an input to an output. Lines automatically appear to indicate the routing(s).

To delete a particular routing, double-click on its input or output icon. To undo all the current routings and start again, click the "Clear patches" button.

To save the current routings in the Patch Library, click "Save..." and type a name for the patch. You can then restore those routings by selecting the saved patch from the drop-down box. To delete a saved patch, select it in the drop-down box and then click the "Delete" button.

## ASIO 2.0 driver / Sample-accurate sync in Cubase VST

Dakota's new ASIO 2.0 driver provides ultra-low latency when adjusting parameters and monitoring inputs with Steinberg's Cubase VST application. Beginning with version 3.7, Cubase VST also supports sample-accurate transfers between Dakota and any ADAT digital tape machine. To use Dakota's ASIO 2.0 driver in Cubase VST:

1. Close Cubase VST, and open the System tab of Dakota's control panel.
2. Select the desired Buffer Size and ASIO Resolution settings (see "System Tab" in this document for details).
3. Open Cubase VST, and select "System..." from the Audio menu.
4. In the "Audio I/O" section of the Audio System Setup window, set the ASIO Device to "ASIO Dakota Driver."



5. Verify that the sample rate, audio source, number of channels, and other options are correct. Using larger disk block buffer sizes may improve performance (ie, the number of tracks).
6. Click "OK" to close the Setup window.

Note: If you want to record or playback 24-bit audio, you must set Dakota's ASIO Resolution to "24 Bit" (in step 2) and you also need to enable the 24-bit button at the top of the Cubase VST "Arrange" window.

For sample-accurate audio transfers, you also need to:

1. In Cubase, select "Synchronization" from the Options menu, and set the Timecode Base to "ASIO 2.0" (You can also double-click the Sync button in the transport bar to open the Synchronization dialog.)
2. Make sure that the Sync button is activated in the Cubase transport bar.
3. In the Dakota control panel, open the Timecode tab and select "ADAT Sync" as the timecode source. Usually, you'll also want to set the clock source (in the Clock/Status tab) to "ADAT Sync."

Now the ADAT transport will also control the location of Cubase. Remember that the ADAT's display shows hours, minutes, seconds, and subframes that range from 0-99. Cubase's last value is a SMPTE frame, and its range is controlled by the frame rate setting in Cubase's Synchronization dialog.

## Sample-accurate sync in Cool Edit Pro

Beginning with version 1.2, Cool Edit Pro supports sample-accurate transfers between Dakota and any ADAT digital tape machine. This example demonstrates how to record sample-accurate tracks from the ADAT to the computer.

1. Connect the ADAT's 9-pin sync output to Dakota's ADAT 9-pin sync input, and set Dakota' control panel options to:
  - Clock source = ADAT sync
  - Timecode source = ADAT sync
  - Sample rate = 48kHz
  - Frame rate = 30 NDAlso, enable checkbox 1 after "MIDI In devices (to software)" so Dakota port 1 will send ADAT-derived MTC to Cool Edit Pro.
2. Open a new 48kHz project in Cool Edit Pro, and select multitrack mode.
3. In the Options menu, enable "Sample Accurate Sync" and (under Settings–Devices) set MIDI IN to "Dakota 1."
4. Arm track 1 (sourced from "A 1:2 Dakota"), and press F7 to enable SMPTE Sync mode.
5. Play the ADAT. Cool Edit Pro automatically starts recording (and displays waveforms) when it receives timecode.
6. Press F7 again to disable SMPTE Sync mode. Recording stops, and the waveforms are redrawn in their sample-accurate positions on the timeline.

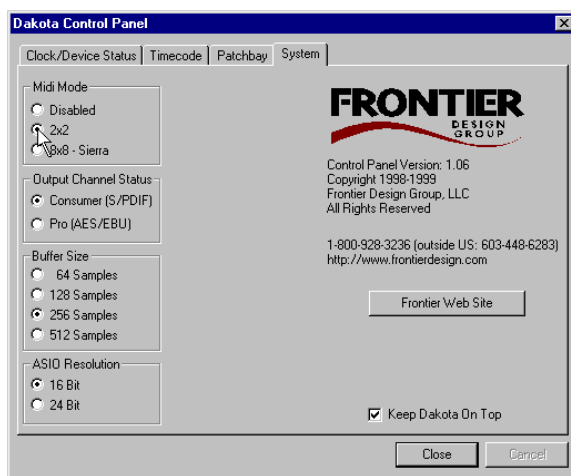
## Taskbar icon

Whenever Dakota is installed in your system, an icon with two bars appears in the Windows Taskbar (usually at the bottom of the screen). The bottom bar lights green whenever any Dakota output is active. The top bar lights red whenever any Dakota input is active, and blinks whenever an active input has an error (see the Clock/Status tab for details about any input errors).

Double-clicking on the icon opens the Clock/Status tab of the Dakota control panel. You can also right-click on the icon to display a pop-up menu that lets you go directly to Dakota's Clock/Status, Timecode, Patchbay, or System tab.

## System tab

The System tab now has four sections — MIDI Mode, Output Channel Status, Buffer Size, and ASIO Resolution. It also has a checkbox labelled "Keep Dakota On Top." When the box is checked, the Dakota control panel remains in front of other windows on your screen.



**MIDI Mode** — lets you enable and disable Dakota's MIDI ports. The default setting is "Disabled" to avoid a Windows 95 limitation (see warning below). To enable Dakota's MIDI ports, select either "2x2" (if Sierra is not attached to Dakota) or "8x8 - Sierra" (if Sierra is attached to Dakota), and then reboot the computer.

**WARNING!** Windows 95 is limited to a maximum of 11 MIDI input ports and 11 MIDI output ports. Adding Dakota's (or Sierra's) MIDI ports may put your system beyond the limit, causing it to crash with the "blue screen" message "MSGSRV32 caused a general protection fault..." There is no easy way to recover from this crash, so *before you enable MIDI ports in the Dakota control panel*, make sure your Windows 95 system doesn't have too many other MIDI ports enabled (9 if you're using just Dakota; 3 if you're using Sierra). This is not a problem in Windows 98.

**Output Channel Status** — sets the channel status bits for Dakota's stereo outputs to either Consumer (S/PDIF) or Pro (AES/EBU). The default is S/PDIF. If you have an external signal converter, you can use Dakota's Pro setting to generate true AES/EBU output.

**Buffer Size** — indicates how often data is processed between the Dakota hardware and its driver. Smaller buffer sizes yield faster response times (lower latency) which most noticeably affect audio functions, such as monitoring inputs in Dakota's Patchbay or using Dakota's ASIO driver in Cubase VST. Larger buffer sizes provide more protection against audio glitches. The default setting is 256 samples. We recommend that you set the buffer size as large as possible while attaining suitable latency for your audio. You must close all audio applications before you change Dakota's Buffer Size. The new setting takes effect when you restart the application(s).

**ASIO Resolution** — sets the resolution for recording and playback when using Dakota's ASIO driver in Cubase VST to either 16-bit or 24-bit audio. You must close Cubase VST before changing Dakota's ASIO Resolution setting.