

## **Cakewalk Pro Audio 4.5**

(for Windows 3.1)

README.DOC

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# General Information

## Press F1 for Context-Sensitive Help

Remember that you may press the F1 function key at any time to get help related to what you're doing in Cakewalk Pro Audio.

## CompuServe

An excellent alternative to technical support via phone or mail is to use CompuServe. Type "GO MIDI AVEN" and switch to our section (number 3). Messages are usually answered within 24 hours during weekdays by Cakewalk Music Software staff and experienced users. A variety of files are available for download. Type "GO MIDI" for questions and discussion about MIDI topics and products not related to Cakewalk.

Also available in our Library 3 of the MIDI AVEN forum are a number of customer-contributed files. These include instrument definitions, dump request macros, and more.

## Web

Please visit us on the World Wide Web at "<http://www.cakewalk.com>".

## Fax Back Hotline

The Cakewalk Music Software Fax Back Hotline provides you with the latest technical and descriptive information about Cakewalk Music Software products. When you call the Fax Back Hotline using a touch tone phone, you use a menu system to request documents that will be faxed to you promptly.

Pressing 1 at the main menu lets you order an index of available documents. Follow the prompts to request one of two indexes: the index of marketing and sales documents (999) or the index of technical support documents (998). Both indexes describe the available documents in their categories and identify each by a three-digit code.

In the United States, the phone number of the Fax Back Hotline is (800) 370-6912. International callers must use the US phone number (617) 431-9412.

## Driver Included with Cakewalk Pro Audio

Most drivers you will use are either included with Windows 3.1 or provided by the manufacturer of the MIDI interface or sound card. However, we have included one driver on the Cakewalk Pro Audio diskette.

**IMPORTANT!** If you have a SCSI hard drive controller be sure to read thoroughly the section below titled, "WARNING: SCSI Hard Drives"!

## Roland MPU-401 and compatibles

Windows 3.1 includes a driver for MPU-401 compatible MIDI interfaces. You may want to use our driver instead. It can be opened for output by more than one program at the same time, so that you don't have to quit one MIDI program before starting another.

**Important:** Be sure to Remove the Microsoft driver before you Add ours. If both drivers are installed, you will experience problems.

Please see the Cakewalk Pro Audio User's Guide for instructions on adding or removing drivers using the Drivers icon of the Windows Control Panel. Insert the Cakewalk Pro Audio diskette in the drive when prompted.

## Auto Shuttle

In this version of Cakewalk, changing the selection does not immediately update the Auto Shuttle times as was the case in Cakewalk 3.0. This is intentional: Doing so would have undesirable

results in this version because "the selection" is more flexible. For example, let's say you are looping all of measure 1. In the Piano Roll, you want to drag and drop some notes while still playing and looping. You lasso select notes on beats 2 and 3. The selection has changed -- should Auto Shuttle immediately "collapse" down to looping just beats 2 and 3? No. That would be annoying. This is why Auto Shuttle was "disconnected" from selection changes.

However, you may quickly reload Auto Shuttle with new selection times, when you want that to happen. To do so, simply turn on Auto Shuttle by clicking the loop button. (When Auto Shuttle is already on, simply click the button off and on again quickly.) In other words, whenever Auto Shuttle is turned on, it sets the shuttle times to match the current selection times.

### **Synchronization of digital audio to SMPTE**

Cakewalk Pro Audio can play and record digital audio while in SMPTE sync mode, as well in internal sync mode. If the external clock drifts or changes rate, CWPA will "stretch" or "shrink" the digital audio in order to stay in sync. Note that this stretching or shrinking of the audio may introduce slight pitch changes, but these pitch changes will be negligible if the external clock is reasonably stable.

If the external clock is particularly fast or slow, you may notice more drastic pitch changes as Cakewalk races to "catch up" with the external clock. These pitch changes should quiet down once Cakewalk "locks in" to the external clock's exact position.

When a song contains Audio events, using SMPTE sync places an additional burden on the computer's CPU during playback. For best digital audio performance, use Audio sync whenever possible.

If your sequence contains MIDI data only (no digital audio), then we recommend that you do not use the Audio sync mode. Internal sync mode is the most efficient playback method for a song which contains no audio.

*Note:* Cakewalk Pro Audio can play audio using Internal sync mode. However, it does so by trying to make the audio play in sync to the computer CPU. As with SMPTE sync, this is more work for the CPU. Thus, although it is possible to play a song containing audio using Internal sync mode, this is not recommended and provides no benefit.

*Note:* Cakewalk Pro Audio will not properly support audio playback under MIDI sync. The audio will play, but will freewheel at its own rate.

### **Full volume and pan for audio tracks**

Audio tracks can be panned to any position in the stereo field, and will respond to controller 10 to change the panning during playback. The values of controller 10 are assigned discrete increments with 8 steps in either direction.

Individual audio track volume is now supported via the track Volume parameter and controller 7. If you assign a channel to an audio track, its volume and pan controllers will become available in the faders view.

Changes to volume and pan during playback take effect only after a slight delay. To minimize this delay, you may reduce the number of Mix Buffers in Settings | Audio. This is recommended only for faster machines.

As each audio event is prepared for mix-down, its velocity is added with the track's Vel+ property, then the track Vol (volume property) is used to scale the result, producing a final event volume. This volume is computed as follows:

If Velocity + Vel+ is greater than zero, then the final volume is

$\text{Vol} * ((\text{EventVelocity} + \text{Vel}+) / 127).$

Otherwise, the final volume is zero.

### **Recording modes for audio**

The full complement of replace, auto-punch and loop-recording modes is available for audio recording as well as MIDI recording.

### **Full MMC auto-punch**

Auto-punch works for all MMC devices which support on-the-fly recording. (In past versions of Cakewalk, Auto-punch was restricted to only those devices which supported the MMC Event command.)

If all MMC features work except for Auto-Punch record mode, your equipment probably doesn't support the MMC Event command. (Consult with the manufacturer if you aren't sure.) You can overcome this limitation by adding the following line to the Options section of your TTSSEQ.INI file, which can be found in your Cakewalk Pro Audio directory:

```
[Options]
MMCUseEvent=0
```

Make sure you restart Cakewalk for the new setting to take effect. This mode causes Cakewalk to send MMC commands on-the-fly to perform automated punches during record. This method is less precise than use of pre-programmed events, so only use this setting if necessary.

### **Chord dialog Import button**

In the Staff view, when you right-click on a chord event, you get the Chord Properties dialog. This has an Import button, allows an existing chord library to be merged into your current chord library. This is especially useful when you install a new version of Cakewalk and you've added chords of your own to the chord library that you don't want to lose.

Cakewalk installation will never overwrite the existing chord library, which is in file CHORDS.LIW; it will copy the new chord library to CHORDNEW.LIW if CHORDS.LIW already exists. You can then use the Chord dialog Import button to import the new chords from CHORDNEW.LIW without losing your own chords. The Import function checks each chord carefully to avoid creating duplicates.

Due to the large number of chords in the standard chord library, the Import function may take a long time to complete. If you are sure that you never added chords of your own to the library, then you can simply copy CHORDNEW.LIW to CHORDS.LIW to get the new library.

*Note:* The chord library in 4.5 is identical to the one in 4.0 -- no new chords were added. So the above information is more for future reference.

### **Panic Strength**

The Panic button stops playback and turns off any "stuck notes". There are two ways a MIDI note can be turned off: By a note-off message or by MIDI controller number 123 ("all notes off"). By default, Panic uses controller 123 only.

This may be insufficient for some older synthesizers. If so, set PanicStrength=1 in the [WINCAKE] section of WINCAKE.INI. To do so, you may use Settings | Initialization Files.

Panic will send a note-off message for every note on every channel of every port. This makes Panic much slower but will resolve the problem.

# Using Digidesign Session 8

If you are using Digidesign Session 8 with Cakewalk Pro Audio, please read the following sections carefully.

## Setting up Cakewalk with Session 8

### T TSAUDS8.DLL

Make sure Cakewalk Pro Audio is not running. Run Notepad, and open WINCAKE.INI. Locate the following line:

```
[Wincake]
AudExtDLL=C:\CAKEAUD\T TSAUDMM.DLL
```

Change the line by replacing T TSAUDMM.DLL with T TSAUDS8.DLL. Note that your path for T TSAUDS8.DLL may be something other than C:\CAKEAUD.

```
[Wincake]
AudExtDLL=C:\CAKEAUD\T TSAUDS8.DLL
```

### SCSI\_DSP.DLL

Cakewalk Pro Audio requires SCSI\_DSP.DLL, which comes included with the Session 8 software. This file must be copied into your Cakewalk Pro Audio directory. If you are using Windows 95, you must use version 2.03 which is included in Digidesign's update for Windows 95.

## Running SESSION8.EXE concurrently with Cakewalk Pro Audio

If you need to run SESSION8.EXE at the same time as Cakewalk Pro Audio, you must do so in the following way. It is important to do these steps in exactly the order listed:

- (1) Start Cakewalk Pro Audio.
- (2) Start SESSION8.EXE.
- (3) Press the Play button in SESSION8.EXE. Playback should start for a moment, then immediately stop.
- (4) Press ALT+TAB to get back into Cakewalk Pro Audio.

**IMPORTANT:** When running these programs in tandem, you must start the two programs in this order and press Play in Session 8.

## Session 8 routing, mixing and equalization

Cakewalk Pro Audio supports Session 8 routing, level controls and equalization. Most Session 8 users should find that there is no need to run SESSION8.EXE in conjunction with Cakewalk Pro Audio.

If you decide to run SESSION8.EXE in along with Cakewalk Pro Audio, please avoid "mixing and matching" the two programs when setting audio routing or mixing. If you must run both programs simultaneously, we recommend that you do all of your mixing and routing from Session 8 instead of CWPA.

**IMPORTANT:** If do run SESSION8.EXE, do not attempt to record or playback from within it while Cakewalk Pro Audio is running.

## Settings | Audio | Routing

Choose Settings | Audio and click the Routing button. This will open a routing window that is nearly identical in function to the Session 8 routing page. One minor difference is the procedure for assigning inserts.

To assign an insert to an input, click on the button next to the input you'd like to assign. Repeated clicks on the button will cycle thru all available inserts. Settings made in this routing window are retained between Cakewalk sessions, and are saved in T TSAUDS8.INI.

## Settings | Audio | EQ

Choose Settings | Audio and click the EQ button. This will open a window that allows you to configure the Session 8's realtime equalizers.

To assign an EQ to a track, enter the desired track number in that equalizer's row. Entering a zero, or leaving the field blank, will deassign the equalizer. EQ's may be "stacked" by assigning each of them to the same track.

Settings made in this window are retained between Cakewalk sessions, and are saved in TTSAUDS8.INI.

## Session 8 audio controllers

Cakewalk Pro Audio includes a template file and instrument definition that will make the full set of Session 8 volume controls available directly within Cakewalk.

The controller names for the "Session8 Audio" instrument may be found in SRC.INS. To use these controller names, please do the following:

1. Choose Settings | Assign Instruments and click the Define Instruments button.
2. Click Import and choose SRC.INS from the list of files, then click OK.
3. Choose Session8 Audio from the list of instruments, and click OK.
4. Click Define Names and choose the Controller Names tab.
5. For List pick Standard and for Based on List pick Session8 Audio.
6. Close the Define Names dialog, Close the Define Instruments dialog, and click OK.

The following controller names are defined by "Session8 Audio":

| <u>Controller#</u> | <u>Controller Name</u> | <u>Description</u>                      |
|--------------------|------------------------|---|
| 7                  | Volume                 | audio track playback volume             |
| 10                 | Pan                    | audio track playback pan                |
| 16                 | Main/L                 | left main stereo volume                 |
| 17                 | Main/R                 | right main stereo volume                |
| 18                 | Cue/L                  | left master cue volume                  |
| 19                 | Cue/R                  | right master cue volume                 |
| 20                 | Cue                    | audio track cue level                   |
| 21                 | SEND 1 (input)         | effects send 1 level, from input/return |
| 22                 | SEND 2 (input)         | effects send 2 level, from input/return |
| 23                 | SEND 3 (input)         | effects send 3 level, from input/return |
| 24                 | SEND 4 (input)         | effects send 4 level, from input/return |
| 25                 | Volume (input)         | input/return volume                     |
| 26                 | Pan (input)            | input/return pan                        |
| 27                 | SEND 1 (output)        | effects send 1 level, from playback     |
| 28                 | SEND 2 (output)        | effects send 2 level, from playback     |
| 29                 | SEND 3 (output)        | effects send 3 level, from playback     |
| 30                 | SEND 4 (output)        | effects send 4 level, from playback     |
| 80                 | Send 1 Master          | master volume for effects send 1        |
| 81                 | Send 2 Master          | master volume for effects send 2        |
| 82                 | Send 3 Master          | master volume for effects send 3        |
| 83                 | Send 4 Master          | master volume for effects send 4        |

# Hardware-Specific Information

## Audio Events and MIDI Input Using Sound Blaster

Certain older models of the Sound Blaster cannot do both MIDI input and wave output at the same time. (However, newer Sound Blaster cards, such as the Sound Blaster 16, are fully capable of performing MIDI input and wave output simultaneously.) Thus, if you've selected "Creative Labs" as a MIDI In device in Cakewalk's Settings | MIDI Devices dialog, wave audio won't work. This includes Cakewalk's special Auyio and MClcmd events as well as wave audio attempted by any other Windows application running while the Creative Labs MIDI In device is open. This is not a limitation of Cakewalk — while any program is using the older Creative Labs MIDI In device, wave audio will not work.

Note that MIDI output will work fine along with wave audio: you can select "Creative Labs" from the list of MIDI Out devices. The problem occurs only when you've selected the "Creative Labs" MIDI In device.

## Striping a Tape with "Smart FSK" or CLS

If you are striping a tape with a form of "Smart FSK" you need to check that an option in Settings | MIDI Out is turned on while you are striping the tape. This option is Transmit Start/Continue/Stop/Clock, which is off by default. If this option isn't checked, striping won't be successful. Why? These forms of sync basically encode MIDI Sync information in a special code on tape. Therefore to create the code you must have Cakewalk emit MIDI Sync by checking the Transmit Start/Continue/Stop/Clock option. Once you stripe the tape, remember that in order to have Cakewalk play in sync to Smart FSK, you need to choose Settings | Clock and pick MIDI Sync (or press the control bar clock button until it reads MIDI).

## MIDI Time Piece Tips and Tricks

These comments are to help you use the MIDI Time Piece (MTP) made by Mark of the Unicorn (MOTU).

A problem with the initial release of Windows 95 restricts the number of MIDI output ports to 11. There is no known work-around for this problem. This means that you will be unable to access all 16 ports when using a pair of MTPs.

In Windows, input ports are separate. This means that the System Exclusive receive buffers that Cakewalk uses are distributed among all the input ports. Using Cakewalk's MIDI Devices command (on the Settings menu), you may need to de-select all input ports except for the one receiving the System Exclusive. This ensures that there are enough buffers for the desired port. After the System Exclusive dump, you can return to MIDI Devices to switch the input port back to receive your MIDI controller's data.

"FAST 1X" mode of the MTP may exhibit strange behavior with System Exclusive send. This is a result of the MTP's "middle-man" processing techniques. The MTP Windows driver is not allowed to send System Exclusive through the MTP byte by byte. The MTP stores System Exclusive in a buffer to be sent out in larger, faster packets. This causes checksum errors on a Sound Canvas, for example. We are able to send System Exclusive to the Sound Canvas in FAST 1X mode by lowering the TTSSEQ.INI's SendSysxPacketSize parameter to 344. This number will differ for individual computer systems. Use FAST 1X mode with System Exclusive "at your own risk."

MOTU's MTP setup software is a DOS program and doesn't currently run together with the Windows driver in Windows 386 Enhanced or Standard modes. To use the MOTU setup program, exit Windows altogether.

MOTU provides a starting template for their setup software called WINDOWS.MTP. This should be loaded (hint: see item 3) before using the MTP as an interface in Cakewalk Pro Audio. The



MTP driver will access the MTP's current state as configured by WINDOWS.MTP rather than reinitializing it. This will allow you to customize the provided template using MOTU's MTP software, and then access this setup in the Windows driver.

When connecting two MTP's together for 16 input/output ports, put the unit assigned to ports 1-8 first in the chain. Then, connect the network cable from the back of this unit to the network input on the second unit (ports 9-16).

Since the MTP has a 17th port for sync input, you will see this in the Cakewalk Pro Audio MIDI Devices list as a separate input port option. Cakewalk Pro Audio supports a maximum of 16 input ports. If you have two MTP's using all 16 input ports and are using SMPTE sync, one input port should be deactivated in MIDI Devices in favor of using that 16th available input port as your sync port. Also, sync audio input should be read on the first MTP. This configuration is based on the routings of the provided WINDOWS.MTP template.

#### **Hewlett-Packard LaserJet 4**

Printing from within the Staff view may lead to General Protection Faults in the LaserJet 4 Windows driver. Obtaining the latest version of the driver may solve this problem.

As this is written, the latest version of the driver is 31.V1.26. (To see the version number of the driver from within Cakewalk, choose Print Setup, select the LaserJet 4, press the Options button, and then press the About button.)

To obtain the latest version of the driver, please call HP Driver Distribution at 303-353-7650.

#### **Gravis UltraSound**

Cakewalk Pro Audio supports sound cards that use "patch caching," like the Gravis UltraSound. These cards load sounds from your hard drive as needed. If you are using this kind of sound card, the Update Patch Cache command on the Realtime menu will be enabled. When you choose this command, Cakewalk examines your song to see which Patch numbers you have used. It gives this list to the sound card, which loads the required sounds. This process can take some time, so Cakewalk lets you control when to "recalculate" the patches used, by you issuing the Update Patch Cache command. (Cakewalk also performs the "recalculation" when you use Open or New to open or clear a song file.)

If you are using the Play List view, please be aware that you may experience a delay between songs due to the need to load the sounds required for the next song. This does not reflect any potential problem with Cakewalk. It is simply the way such a sound card must work.

#### **Roland SC-88**

The following information will help you use the Roland SC-88 with Cakewalk. Please refer to the SC-88 manual for more specific information.

##### *Understanding SC-88 Bank Selection*

The instrument definitions for the SC-88 make it easy for you to select patches in the upper sound banks. Patch and note names lists are provided. Bank numbers have been calculated and associated to patch and note names lists in the SC-88 instrument definitions. In short, the SC-88's two synthesizer modes are fully supported and all you need to do is select banks and patches.

The Roland SC-88 Super Sound Canvas is a very flexible sound module. There are three basic methods of using the SC-88's bank selection in Cakewalk.

The original Roland GS bank selection is done by using only Controller 0 events to select banks. This lets you simply type the number of the Controller 0 value directly into the Bank column for each track.

The SC-88's bank selection is different. It needs to be done using both Controller 0 and Controller 32 events. (Cakewalk calls this the "Normal" bank selection method and it is used by many synthesizers.) Bank selection using both Controller 0 and 32 messages will require that the bank numbers be different than the original GS values. The following formula is used to calculate the Normal bank selection value in the SC-88 instrument definitions:

$$(\text{Controller0} * 128) + \text{Controller32} = \text{Normal bank number}$$

Use of the Normal bank selection method is required because the SC-88 contains two independent synthesizer modules. One is the SC-55 mkII emulation map (an earlier incarnation of Roland GS) and the other is the new SC-88 which contains higher resolution samples and many more variation sounds in its upper banks. The two modules can be selected individually per channel by use of the Control 32 event (with a value of 1 to choose the SC-55 mkII and a value of 2 to choose the SC-88). The SC-88's bank selection scheme boils down to this:

$$(\text{BankNumber} * 128) + <1 \text{ or } 2 > = \text{Normal bank number}$$

Examples:

To select Bank 8 on the SC-88, the bank number is 1026:

$$(8 * 128) + 2 = 1026$$

To select Bank 8 on the SC-55 mkII map, the bank number is 1025:

$$(8 * 128) + 1 = 1025$$

### *Using Cakewalk's SC-88 Instrument Definitions*

#### Method 1

Use this method if you want full control over all bank selection capabilities of the SC-88 and are not afraid of getting your hands dirty.

Using the Settings | Instruments command, associate your non-drum channels to the "Roland GS SC-88 Modes 1&2" definition. Next, associate channel 10 to the "SC-88 GS Drumsets" definition. If you are not familiar with the use of this dialog box, you can press F1 while in the box for instructions.

To change the bank for a track, double-click on the Bank parameter. The Track Parameters dialog will appear. Use the drop down list box for the Bank item to choose the bank. The banks have numbers that may seem bizarre at first, but remember that you're using the Normal bank selection method. You may ignore the numbers and simply choose the banks based on their names.

The Track Parameters dialog box is the easiest place to select a bank by its name. The bank number value will be automatically entered into the Track pane's Bank column. (You can memorize these hideous numbers and enter them manually in the Bank cell of a track, but selecting them from a list is much easier.)

#### Methods 2 and 3

You might find it more straightforward to select banks if they are separated by synthesizer emulation modes. Use Methods 2 or 3 if you would like to easily choose from either the SC-88 or SC-55 mkII modes without having to sift through all combined banks in the pull down Track

Parameters dialog box list.

Use method 2 if you have only one MIDI output port and can access only the first input port on the SC-88. Use method 3 if you can access both input ports on the SC-88.

Method 2. This method makes use of one port where the SC-88, SC-55 and SC-88 drum sets share the available 16 MIDI channels. If you only have one MIDI interface, you will use this method.

Use Settings | Instruments to associate Port 1/Channels 1..9 to the "Roland GS SC-88 Mode 2" (SC-88) definition. Associate Port 1/Channel 10 to "Roland GS SC-88 Drumsets" and Port 1/Channels 11..16 to "Roland GS SC-88 mkII Mode 1" (SC-55 mkII).

In this case, you will need to keep in mind those hard-wired channel assignments when working on your song. The SC-88 will always be on channels 1-9 and the SC-55 will always be on channels 11-16. Drumsets for both modes will be on channel 10.

Method 3. Use this method if you are going to use both MIDI ports on the SC-88.

The SC-88 is capable of using two 16 channel MIDI ports for a total of 32 independent MIDI channels. To hook up both MIDI ports of the SC-88, please refer to the Roland user's guide.

Use Settings | Instruments to associate the "Roland GS SC-88 Mode 2" (SC-88) definition to all channels of the first port and the "Roland GS SC-88 mkII Mode 1" (SC-55) to the second port. Remember that channel 10 should be associated to the "Roland GS SC-88 Drumsets" for each port.

In this case, all channels on port 1 will be the SC-88, and all channels on port 2 will be the SC-55.

#### *Additional Notes on the SC-88 and Cakewalk*

1. Any files created using the new Roland GS SC-88 bank selection methods will be downward compatible with the original GS specifications when creating .MID files.
2. Cakewalk \*.WRK files created using Cakewalk's SC-88 instrument definitions will not produce files which are compatible with the original "Roland GS" and "Roland GS mkII" instrument definitions in Cakewalk.

Earlier GS synthesizers don't use Controller 32 because there aren't any synthesizer modes to switch between.

The bank numbers for the original GS instrument definitions use the "Controller 0 Only" method of bank selection. The numbers which appear in the Bank cell of a track are the actual Controller 0 values specified in the Roland manual.

3. Some of the SC-88 piano and string sounds are much thinner than the SC-55 counterparts. You can compare them to see which ones fit best in your music.
4. Check out the drum set bank selection in the "Roland GS SC-88 Drumsets" definition. You can use the SC-88 drums (most SC-88 drums are way better - you can do snare rolls without note cutoff problems) or the SC-55 drums (the mkII Power drum set has a snare drum that is bigger sounding).
5. You'll know that you're in the SC-55 emulation mode if you manually advance to the active Part/Channel on the SC-88's front panel and the "SC-55 Map" light is on. You can also tell by the

double-quote mark which appears just before the sound's name on the SC-88 display.

Note: You must switch to the part manually using the front panel Part button to see its parameters.

6. The SC-88 can be used as a Windows MIDI interface which connects to your PC's serial port. Check the Roland user's guide for more information on Windows device drivers and cabling instructions. Be aware that this interface is only active on the MIDI A (first MIDI port) portion of the SC-88. MIDI B (second MIDI port) must be accessed via MIDI cables.

### **Yamaha TG-500**

The following tips will help you use the Yamaha TG-500 with Cakewalk. Please refer to the TG-500 manual for more specific information.

#### *Global channel*

Make sure the TG-500 is set to receive on global MIDI channel 1.

#### *Instrument definition*

In Cakewalk's Settings | Instruments command, assign the "TG-500" definition to the correct Port/Channel. Since the TG-500 is a 16 channel multitimbral instrument, this will be all 16 MIDI channels for whatever Port you've connected the TG-500 to.

The instrument definition includes banks of patches for all three TG-500 modes (explained in the next section). If you are working in Multi mode, you should disregard the banks that begin with either "Yamaha TG-500 VCE..." or "Yamaha TG-500 PFM...". These only apply if you're working in either Voice or Performance mode, respectively. The banks that do apply for Multi mode are the ones numbered 32-37, 39, 40, 42, 43, 80-82, and 84-86.

#### *TG-500 modes*

The TG-500 has three modes of operation: Voice, Performance, and Multi. With a sequencer you typically want to work in Multi mode. To choose Multi mode, send the following Controller messages to the unit on this global channel (MIDI channel 1):

| time     | message | value |
|----------|---------|-------|
| 1:02:000 | Ctrl 0  | 0     |
| 1:02:001 | Ctrl 32 | 16    |
| 1:02:002 | Patch   | 0..15 |

The Controller 0 and 32 bank select messages will put the unit in Multi mode and the Patch change message will call up the corresponding Multi. Use the Event List view to insert these in a track. Also, make sure they start at a time later than 1:01:000, otherwise when you save the Cakewalk file they'll be sucked into the track Bank and Patch parameters. Yamaha suggests that these Controller and Patch change messages all happen within the first measure of each song, and the actual song starts on measure 2.

The TG-500 instantly memorizes any changes made to a Multi on its front panel. You may, however, wish to store the initial patch changes in your Cakewalk tracks - just in case. For example,

To select a VOICE within a MULTI from the INTERNAL 1 bank:

| time     | message | value |
|----------|---------|-------|
| 1:03:000 | Ctrl 0  | 0     |
| 1:03:001 | Ctrl 32 | 32    |
| 1:03:002 | Patch   | 0..63 |

To select a PERFORMANCE within a MULTI from the PRESET 2 bank:

| time     | message | value |
|----------|---------|-------|
| 1:03:000 | Ctrl 0  | 0     |
| 1:03:001 | Ctrl 32 | 85    |
| 1:03:002 | Patch   | 0..63 |

### **WARNING: SCSI Hard Drives**

The installation of most Windows MIDI drivers also installs a virtual device driver ("VxD"). For example, this file is VMPUD.386 for our MPU.DRV driver (MPU-401). This VxD file is only used by Windows in 386 Enhanced Mode.

#### *The purpose of the VxD*

The Twelve Tone Systems VxD reads the card's base address from SYSTEM.INI (which you set using Control Panel Driver Setup) and traps accesses from that address to that address plus 10h (10 hex or 16 decimal). The goal of this VxD is simply to prevent DOS programs from accessing the card and interfering with the Windows driver's handling of the card while Windows is running. If an access is detected, the VxD displays an error message and simulates a dead card to the "offending" DOS program. The Twelve Tone Systems VxD is based on the original Microsoft VxD sample code and works the same way over the same address range.

Why are addresses trapped from the base address to the base address plus 10h, when supposedly the MPU-compatible cards only use addresses from the base address to the base address plus 1? Many MPU-compatible cards, such as the original Roland MPU-401 and Music Quest cards, actually respond to other addresses within that 10h range. When set at base address 330h, the Music Quest PC MIDI card has been reported to respond to 332h-337h as well, and the MPU-401 has been reported to respond to 338h-339h. Apparently, these cards do not decode all the address lines. Thus the safest, most-complete approach when dealing with MPU-compatible cards is for the VxD trap the whole range of 10h addresses.

#### *The potential problem with SCSI cards*

Unfortunately, it has also been reported that if the access comes from a SCSI card trying to access a SCSI hard drive within DOS, the error message never appears and DOS hangs. Hard drive data loss is a possibility. SCSI card owners should beware of setting their SCSI card address anywhere within this range. If it doesn't conflict with the card directly, then it will conflict with the VxD like this in enhanced mode if it's installed. If you're sure it doesn't conflict with your card, you can decide to forego the VxD protection by removing the VxD.

#### *Removing a VxD .386 file*

If you decide it's safe to remove the VxD, here's how to do it. Although Control Panel's driver installation knows how to install the VxD file associated with a driver, its driver removal does not know how to remove it. Therefore, an installed VxD will remain forever installed, unless you remove it manually. To do this, edit SYSTEM.INI with a text editor like the Windows Notepad. Find the line DEVICE=VMPUD.386 or DEVICE=VMQXD.386 under the section [386Enh] and delete it. Save the file and restart Windows. If you ever re-install the driver using Control Panel, you'll have to do this again.

# Sample Files

The following sample files are installed automatically by Cakewalk Pro Audio SETUP.

## **DNA Grooves (.GRV)**

A sample groove file, DNA\_DFCW.GRV, is included. This contains approximately a dozen groove patterns for use with the Groove Quantize command. Please see the WC.TXT file for more information.

## **Work Files (.WRK)**

Various Cakewalk song files for your learning and entertainment pleasure!

## **Template Files (.TPL)**

Example of custom template configurations used to create other similar .WRK files.

## **Bundle File (.BUN)**

RIFFUNK.BUN is a Cakewalk "bundle" file, which is used to transport MIDI and audio in a single file. This file demonstrates synchronized playback of digital audio and MIDI.

## **CAL Files (.cal)**

Examples of various program files for the Cakewalk Application Language.

# Instrument definitions

For a full explanation of instrument definitions, please see the documentation for the Settings | Instruments command. Briefly, instrument definitions help Cakewalk understand the way a particular synthesizer works. This enables Cakewalk to adjust some of its features, to make them easier for you to use.

If a definition doesn't exist for your particular synthesizer, that doesn't mean it's completely incompatible with Cakewalk. You can use it with Cakewalk. Certain features (like choosing patches) won't be quite as easy or automatic, but they won't be impossible.

## Upgrading from an earlier version

SETUP does not overwrite your existing MASTER.INS file. That file contains the instrument definitions that Cakewalk loads every time it starts. SETUP installs a new file, called SRC.INS, which contains the latest complete set of available instrument definitions.

To import any of these, see "Importing Instrument Definitions", next.

## Importing instrument definitions

Cakewalk Pro Audio allows you to import individual instruments from a \*.INS file containing many definitions. After you supply the name of the \*.INS file, you pick from a list of all the instruments defined in that file.

To import instrument definitions, take the following steps:

1. Choose the Instruments command from the Settings menu.
2. In the Assign Instruments dialog, press the Define Instruments button.
3. In the Define Instruments dialog, press the Import button.
4. Pick the name of the file containing the instrument definitions you wish to import. For example, pick SRC.INS. Press OK.
5. Pick one or more instrument definitions from the list. Click on each name to select it. Click again to un-select it. Press OK.
6. Each definition you selected will be imported, one by one. If a definition of the same name already exists, you will be asked if you wish to replace the existing one with the new one. Generally, you should answer Yes. Answer No only if you customized the existing definition in some way and do not want it to be replaced by the imported definition.
7. Press OK to exit the Define Instruments dialog.
8. Press OK to exit the Assign Instruments dialog.

# Other notes

## Virtual Piano

Cakewalk Pro Audio includes Virtual Piano™, an on-screen musical keyboard. Virtual Piano turns your computer keyboard and mouse into a simple MIDI instrument for playing notes. You may use it with any Windows program, including Cakewalk Pro Audio, as a substitute for an external MIDI keyboard.

Cakewalk Pro Audio SETUP automatically installs the Virtual Piano application and its companion MIDI driver.

Important: You must perform an additional step to make sure Cakewalk will accept input from the Virtual Piano MIDI driver. Choose Settings | MIDI Devices, and select the Virtual Piano driver in the list of input ports. This input port is how the Virtual Piano sends notes to Cakewalk.

You can start Virtual Piano from Cakewalk by choosing the Virtual Piano command from the Realtime menu. The shortcut key for this command is CONTROL+K. Virtual Piano uses the same key to switch back to Cakewalk. As a result, you can move between the two programs quickly by typing CONTROL+K.

For more information about Virtual Piano, choose Contents from the Virtual Piano Help menu and you will see a list of available topics.

## Lyrics view, Cal view, and special keys

The shortcut keys for starting and stopping playback (SPACEBAR, P), recording (R), and rewinding (W), do not work in some circumstances. If the Lyrics view or Cal view are active, then you use these keys to type spaces and characters. For example, you need to be able to type spaces in your lyrics, so the SPACEBAR let you do that instead of starting and stopping playback!

Note that if the Lyrics view or Cal view is minimized (an icon) and you click on the icon, that becomes the active view. The title beneath the icon is highlighted. Even though you are not displaying the window at its normal size, it is still the active window. Thus the shortcut keys for playback, recording, and rewinding do not work. Make another window active (for example by clicking on it) to regain the use of these keys as shortcuts.

## Dump Request Macros

When you press the Receive button in the Sysx window, you may pick from a list of Dump Request Macros. These are short System Exclusive messages sent to a synthesizer to make it dump (send back) System Exclusive data. DRMs are defined in your WINCAKE.INI file in the [Dump Request Macros] section. You may add your own DRMs or modify the ones that we have provided. Use the Windows Notepad to edit the file.

Please note that many DRMs have been donated by customers who are using the particular equipment. In some cases we have not been able to test those DRMs because we do not have access to that equipment. We are redistributing such DRMs on an as-is basis. Additional user-supplied DRMs may be available on BBSs like CompuServe.

## Mail Support

Cakewalk Pro Audio lets you send files via Microsoft Mail or any other mail system that offers the MAPI Simple Mail Interface. If you have installed such a mail system, Cakewalk Pro Audio will automatically add a Send command to its File menu. Choosing Send will call up the standard MAPI dialog box with the current Cakewalk Pro Audio song file attached to the message.



# Acknowledgments

We would like to thank the following customers who have contributed instrument definitions or System Exclusive dump request macros:

## **Dump request macros**

360 Systems 8x8 Midi Patcher - Bob Camp  
Alesis D4 Drum Module - Peter DeFazio  
Alesis Midiverb III - Robert Rampley  
Alesis Quadraverb - Sergio Blostein and Chris Connell  
Alesis QuadraSynth - Robert Rampley  
Alesis Quadraverb GT - Robert Rampley  
Casio CZ-1000 - Steve Quinlan  
Digital Music MX-8 - Jim Kometani  
Digitech GSP-21 - Legend Russell C. Cole  
E-Mu Proteus - Bob Camp  
E-Mu Proteus FX - Andrew Fiddian-Green  
Ensoniq ESQ-1 - Mark Moulding  
Ensoniq TS-10/12 - David UZ Hahn  
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Korg M-1 - Ozzie B. Bostic and Pete Halliday  
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Korg 707 - Sergio Blostein  
Korg DDD-1 - Sergio Blostein  
Korg M3R - Sergio Blostein  
Korg T1 - Sergio Blostein  
Korg DW-6000 - Christopher Moreno  
Korg T3 - Larry Bachtell  
Korg Wavestation - Larry Bachtell  
Korg X3 - Daniel Joseph Oak  
Korg X5DR - Jay M. Meyers  
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Lexicon LXP-5 - Sergio Blostein  
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Roland D-50 - Steve Quinlan  
Roland JV-880 - Warren Bedell  
Roland S-550 Sampler - Bob Camp  
Roland D110 - Jim Kometani  
Roland D-20 - Matt Boland  
Roland JD-800 - Stephen Tapp  
Roland JD-990 - G. W. Greene  
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Roland U-20 - Sergio Blostein

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Yamaha DX-2 - Sergio Blostein  
Yamaha DX7II - Susan Gulick  
Yamaha DX-21 - Christopher Moreno  
Yamaha ProMix 01 - Richard R. Goodwin  
Yamaha RX5 - Sergio Blostein  
Yamaha RX-11 - Sergio Blostein  
Yamaha RY-30 - Patrick Band and Henrique Lang  
Yamaha SY35 - Russell C. Cole  
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Yamaha SY-85 / TG-500 - Richard R. Goodwin  
Yamaha TG-33 - Patrick Band and Henrique Lang  
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Digitech DSP-256XL - Richard S. Huntrods  
Digitech DSP-2101 - Christopher Orth  
Digitech GSP-21 Legend - Russell C. Cole  
E-MU Classic Keys - Morten Saether  
E-MU ProFormance - Morten Saether  
E-MU ProFormance+ - Morten Saether  
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E-MU Proteus FX GM - Andrew Fiddian-Green  
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Ensoniq SQ-1 - Dave Weatherall & Gabi Heigl  
General Music S Series - Dave Williams  
General Music WS Series - Dave Williams  
General Music WX/SX Series - Dave Williams  
JL Cooper MSB+ REV2 - Morten Saether  
JL Cooper Fadermaster 2.0 - Morten Saether  
Korg 01/W Drum Kits - Greg Belfor  
Korg 03R/W - Chinh Nguyen Do  
Korg 05R/W - Art Slater  
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Korg T3 - Paul Spencer  
Korg Wavestation SR - CIS 76075,1726  
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Roland GR-1 - Morten Saether  
Roland GSmkII - Jim Kometani

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Roland U-220 - G. W. Greene  
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Yamaha PSR-500 - Bill Sweeney  
Yamaha SY-22 - Rob Kooijman  
Yamaha SY-85 - Daniel K Jorenby  
Yamaha SY-99 - Jean-Philippe Poibeau  
Yamaha TG100 - James Spooner  
Yamaha TG300 - Jac Hedberg  
Yamaha W5/7 - Jeff Barnett  
Yamaha SY-35 - Russell C. Cole  
Yamaha SY-77 - Jeffrey Greenberg  
Yamaha SY-99 - Jean-Philippe Poibeau  
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There is no additional information at this time for README.WRI.