Cakewalk® Home Studio™ 8.04
(for Windows 95/98/NT 4.0)
README.RTF
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This file contains supplemental information on Cakewalk® Home Studio™, Version 8.04.   It was prepared on February 23, 1999.

Contents

Corrections & Clarifications
This section of the Readme.rtf file contains corrections and clarifications to the Home Studio 8 online documentation.

Prepare Using N Millisecond Buffers

This option on the **MIDI** page of the **Tools-Global Options** property sheet lets you specify how far in advance Home Studio 8 prepares MIDI data during playback. The default is 500 milliseconds.

If playback stops prematurely, you may try *larger* values (although you should also check the buffer options in **Tools-Audio Options-Advanced**).

If you are using MIDI effects, you may want to try *smaller* values -- for example, 100 milliseconds. Doing so means that, if you change a property for a MIDI effect, there will be less delay before you hear the new value take effect.

Audio Pan Envelopes

In the Audio view, pan envelopes are represented as left on top, and right on the bottom by default. This is consistent with stereo audio tracks, where the left track is on top, and the right track is on the bottom. This is also consistent with most horizontal audio meters. However, some people may prefer to have left values displayed on the bottom, and right on top. This will be more consistent with controller 10 (pan) values in the Piano Roll view, where small values (0-63; left) are on the bottom, and large values (65-127; right) are on top. You can flip the pan envelopes so left is on the bottom, and right is on top. To do so, add the following line to the [Audio View] section in CAKEWALK.INI:

        [Audio View]
        PanEnvelopeRightOnTop=1

The default value is 0 (zero), which means that pan envelopes will operate with left on top.

Audio Data "Queue" Buffers

Some DirectXplug-ins maintain a "queue" of audio data buffers while they are processing, and do not produce any audio output buffers until several input buffers have been received.   For Home Studio to handle this situation properly, we need to create extra buffers to make up for the ones being queued by the plug-in.   This TTSAUDDX.INI variable controls how many extra buffers we create:

[Wave]
ExtraStreamBufs=<n, default=4>

Video Issues

Keyboard Support to Advance by a Frame or a Frame Increment:

If the Video view is the active window, you can now use keyboard shortcuts to advance by a frame or a frame increment. The +/-, and left/right arrow keys move forward/backwards by a single frame. If the control key is pressed, then the frame increment value is used (default = 5 frames) Alternatively you can use the [and] keys to seek by the frame increment.

You can change the frame increment that is used when pressing the control or [and] keys. To do so, add the following line to the [Video View] section in CAKEWALK.INI:

[Video View]
    FrameSkipDelta=5

The default value is 5, which means that Pro Audio will advance by 5 frame increment while seeking using the [ ] or Control key combinations.

On seeking by frames in the video view, the now time is changed to the nearest tick value corresponding to the frame displayed.

Optimizing Editing With Video:

- If you intend on doing a lot of seeking around or looping and editing with a video file loaded, make sure that your video file has sufficient keyframes. Since each frame has to be computed from the last keyframe encountered, if you have very few keyframes in the video, performance may be slow. To change the number of keyframes, you may recompress the file using **Tools-Export Video to AVI** and specify more frequent keyframes. Choose a suitable video compressor such as "Indeo Video 5.04" and change the KeyFrame Rate parameter to a number between 1-5. A value of 1 makes every frame a keyframe, and higher numbers insert a keyframe after that many frames.
- Another optimization tip is to put video on a separate drive from your audio. You can change the path from **Tools-Global Options-Folders**.
- Changing the video properties such as Trim and Start time, imposes some degree of overhead. You can apply any changes made here by using **Tools-Export Video to AVI**.

MPEG and QuickTime video files

Please note that the Start Time, Trim-in time, and Trim-out time can only be set for AVI video files. If you need to adjust these settings for an MPEG or QuickTime files, use the **Tools-Export Video to AVI** command to save the video file as an AVI file. You can then insert the new AVI file, and adjust the Start Time, Trim-in time, and Trim-out time from the Video Properties dialog.

Exporting video to AVI

Compression issues
Note that not all compression codecs listed may necessarily be compatible while re-compressing video through "Export to AVI". If an incompatible codec is selected an error message may be displayed during the export.

Video Compression
Note that if "No compression" is selected, the video retains its original compression.
The following video compression codecs have been found to be compatible. Different codecs provide varying degrees of compression performance.

Indeo Video 5.04
Intel I.263
Cinepak Codec by Radius
Microsoft Video 1
Microsoft RLE

Video compression cannot be used if the Start Time, Trim-in Time, or Trim-out Time settings have been changed in the Video Properties dialog. If any of these settings have been changed and you need to use

video compression, you can 1) export the video file to a new AVI file, 2) then insert the new AVI file, and finally 3) export the video to a new AVI file.

Audio compression
The following audio compression codecs have been found to be compatible. You may see different codecs installed on your system.

CCITT - A Law
CCITT - U Law
DSP Group TrueSpeech
PCM (this is the standard uncompressed format for wav files)
GSM 6.10
IMA ADPCM

Problems Importing QuickTime video files

If your system has a basic Windows installation with DirectShow installed, you may not be able to insert QuickTime video files. You may need to install the latest video Codecs from Microsoft's web site in order to import different video formats.

The problem can be solved going to Microsoft's web site (http://www.microsoft.com) and downloading and installing the latest version of Media Player (version 5.01.52.0701 is the latest as of 9/11/98).

Console View Resources

Some customers have reported difficulties using the Console view with a project that contains a large number of tracks.   Cakewalk has confirmed this problem can occur and is investigating this further. Meanwhile, if you encounter this problem, try to reduce the number of tracks.   For example, if the project contains Muted or Archived tracks, try deleting those from the copy of the project with which you want to use the Console view.

Console View and Aux Sends

The Console view supports a special CAKEWALK.INI setting:

[Console View]
TileConsoleAuxSends=<1 or 0, default=1>

When set to 0, the send knobs and enable buttons for an audio module are lined up top to bottom and do not wrap. Tiling occurs when you have more than 4 aux sends configured). This option is useful if you prefer to use more vertical space in the console than horizontal.

Note: This variable is useful if you use any of the Session 8 templates, since the Console view in these templates are configured to show 5 aux sends.

Enable Read and Write Caching

Please keep in mind that the *Enable Read Caching* and *Enable Write Caching* options in **Tools-Audio Options-Advanced** will not take effect until you exit and restart Home Studio.

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 CAKEWALK.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.

Real-time Effects and Processor Speed

To properly use real-time effects in the Console view, you need a computer with a Pentium 120 MHz or faster processor. Even with such a powerful CPU, there is a limit on the number of effects you can use simultaneously. Furthermore, different types of effects are "more expensive" in terms of how much CPU they consume. For example, Reverb is relatively expensive, whereas the 2-band EQ effect is relatively inexpensive.

A good strategy is to use an expensive effect like Reverb in an Effects Loop (Aux section in the Console view)). That way, you can have several audio tracks share one effect. You can then individually adjust each track's send and return levels.

Finally, no matter how slow your CPU is, you can always use any effect by applying it to the audio as an off-line edit command.

Managing Chord Libraries

The Chord Properties dialog box has in **Import** button that allows an existing chord library to be merged into your current chord library.   This is especially useful when you install a new version of Home Studio, but you've added chords of your own to the chord library that you don't want to lose.

The Home Studio installation process 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.

Panic (Reset) Strength

The **Reset** command (Realtime-Reset and Transport toolbar) 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, Reset uses controller 123 only.

This may be insufficient for some older synthesizers.   If so, set PanicStrength=1 in the [WINCAKE] section of **CAKEWALK.INI**.   To do so, you may use **Tools-Initialization Files**.   Reset will send a note-off

message for every note on every channel of every port.   This makes Reset much slower but will resolve the problem.

The following   describes in detail which events Home Studio transmits for both Reset options:

PanicStrength=0

Home Studio sends:

Event:	Value:	Channel:	Port:
Pitch Wheel	0	1-16	All
Controller 1	0	1-16	All
Controller 7	127	1-16	All
Controller 10	64	1-16	All
Controller 64	0	1-16	All
Controller 66	0	1-16	All
Controller 67	0	1-16	All
Controller 121	0	1-16	All
Controller 123	0	1-16	All

PanicStrength=1 (this method takes longer, as it send a Note Off message for every pitch on every channel on all ports; the first method only sends a single "All notes off" message (controller 123), which some older equipment don't respond to properly)

Home Studio sends:

Event:	Value:	Channel:	Port:
Note Off	C#5-G9	1-16	All
Pitch Wheel	0	1-16	All
Controller 1	0	1-16	All
Controller 7	127	1-16	All
Controller 10	64	1-16	All
Controller 64	0	1-16	All
Controller 66	0	1-16	All
Controller 67	0	1-16	All
Controller 121	0	1-16	All
Controller 123	0	1-16	All

Lyrics View and Special Keys

The shortcut keys for starting and stopping playback (SPACEBAR, P), recording (R), and rewinding (W), do not work in the Lyrics or CAL view, since these keys are used instead to type   lyrics or CAL commands.   When the Lyrics or CAL view is the active window, use the buttons in the Transport toolbar to start, stop, record, and rewind.

Sample StudioWare™ Panels

Cakewalk Home Studio comes with sample StudioWare™ panels. Some of these are available by choosing **File-Open**, selecting *StudioWare* in the *Files of Type* list, then double-clicking on the desired

StudioWare™ icon.   Others are included within template (.TPL) files. Cakewalk Home Studio 8.0 ships with these StudioWare™ panels:

Panel:	Format:
AWE	.CakewalkStudioWare
General MIDI	.CakewalkStudioWare
Roland GS	.CakewalkStudioWare

Bug fixes in Home Studio 8.04

The following is a list of bugs and other issues that have been addressed since version 8.03.

Bugs fixed in version 8.04:

- MIDI Playback was heard with fader at minimum after recording automation beginning at time 3:01.

- Fader positions and volume levels did not reflect the volume parameters at time 0 after rewinding.

- Console view remote control parameters would   revert to NPRN values when StudioMix was disabled.

- Pressing F1 for help with Console view open removed the Main output meters, and did not bring up the Console view help topic.

- MIDI Pan not responding to recorded automation data.

- Loading a file containing automation data could lead to a crash under Windows NT 4.0.

- Fader positions and volume levels were not retained when rewinding to time 0 with 'null' values ("—").

- Recording automation from the Console view caused the volume level to revert to values displayed in Track view.

- Old automation could be heard while new automation was being recorded when punching in or overwriting.

Hardware Notes

Limitations of Early Sound Blaster Cards

Certain early models of the Sound Blaster cannot do both MIDI input and wave output at the same time. Thus, if you've selected ″Creative Labs″ as a MIDI In device in Home Studio 's **Tools-MIDI Devices** dialog, wave audio won't 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.

AWE Wave Synth and Audio Output

You cannot use the AWE as an audio device if you use the WaveSynth as a MIDI output device. Audio playback and the WaveSynth won't work at the same time, because the WaveSynth ties up the AWE audio device. In order to use the AWE as an audio device, go to **Tools-MIDI Devices**, and make sure the WaveSynth is not selected as an output device.

This is a limitation of the AWE/WaveSynth driver, not Home Studio.

MIDI Time Piece tips and tricks

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

MIDI output port restriction
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 can't access all 16 ports when using a pair of MTPs.

System Exclusive tips
″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 won't send System Exclusive through the MTP byte by byte; instead, 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 `SysxSendPacketSize` parameter to 344. However, note that if you want to try this yourself, you'll need to find a number that works on your computer system. In short, use FAST 1X mode with System Exclusive ″at your own risk.″

MOTU starting template
MOTU provides a starting template for their setup software called **WINDOWS.MTP**. Make sure that this is loaded before using the MTP as an interface in Cakewalk Home Studio. The MTP driver will access the MTP's current state as configured by **WINDOWS.MTP** rather than reinitializing it. This will let you customize the provided template using MOTU's MTP software, and then access this setup in the Windows driver.

Connecting two MTPs
When connecting two MTPs 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 the first unit to the network input on the second unit (ports 9-16.)

Using the sync input port
Since the MTP has a 17th port for sync input, you will see this in the Cakewalk Home Studio **MIDI Devices** list as a separate input port. Cakewalk Home Studio supports a maximum of 16 input ports. If you have two MTPs using all 16 input ports and are using SMPTE sync, deactivate one input port in **MIDI Devices** so that you can use the 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.

Gravis UltraSound

Cakewalk Home Studio supports sound cards that use ″patch caching,″ such as 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, Home Studio 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 Home Studio lets you decide when to use **Update Patch Cache** to ″recalculate″ the patches used. (Home Studio also performs the ″recalculation″ when you use **File-Open** or **File-New** to open or clear a song file, and when you switch between multiple open files.)

If you are using the Play List view, please be aware that there may be a delay between songs, because the sounds required for the next song need to be loaded. This doesn't mean that there is a problem with Home Studio. This is just the way such a sound card must work.

Instrument Definitions

Instrument definitions help Home Studio understand the way a particular synthesizer works. This enables Home Studio to adjust some of its features, making them easier for you to use.
If a definition doesn't exist for your particular synthesizer, that doesn't mean that it's incompatible with Home Studio. Certain features (like choosing patches) won't be quite as easy or automatic, but they won't be impossible. Remember too that you can create your own instrument definitions for use with your MIDI gear.

For a full explanation of instrument definitions, please see the sections on the **Tools-Instruments** command in the online documentation.

Upgrading from an earlier version

Home Studio SETUP does *not* overwrite your existing **MASTER.INS** file. That file contains the instrument definitions that Home Studio loads every time it starts. SETUP installs new **.INS** files for each supported manufacturer. These files contain the latest complete set of available instrument definitions.

To learn how to import any of these .INS files, see *″Importing Instrument Definitions″* in the online documentation.

Roland SR-JV80 series expansion boards

Cakewalk Home Studio 8.0 includes instrument definitions for many of the Roland SR-JV80 Series expansion boards. In order to use these patch lists properly, you must add banks to existing Roland JV/XP instrument definitions.

Note: The Roland JV/XP instrument definitions that are included with Home Studio 8.0 have been updated to include all of the expansion banks for the corresponding instrument. This makes it easier to assign a specific SR-JV80 bank to a JV/XP instrument definition. If you are using a JV/XP instrument definition from a previous version of Home Studio, you might want to import the updated version that is included with Home Studio 8.0.

This section will show you how to add banks from these expansion boards.

1. Open Home Studio, and go to **Tools-Instruments.** Click on the Define button to open the **Define Instruments and Names** dialog box.
2. Click the Import button.
3. Select ROLAND.INS, then click Open.
4. Select one of the *″*Roland SR-JV80…″ instrument definitions, then click OK.

   The selected *Roland SR-JV80* patch names have now been imported, but this instrument definition will not work by itself. It is just a placeholder for the individual expansion board patch names. You can safely delete the imported *Roland SR-JV80* instrument definition if you wish, since the individual Patch Name lists will remain.   To use the expansion board Patch Names, you must add the patch name lists to an existing Roland JV/XP instrument definition (e.g., Roland JV-1080, XP-50, or XP-80.)

   The expansion board slot bank numbers are:

Bank #:	Expansion Board Slot:
10752	A1 (patches 1-128)
10753	A2 (patches 129-255)
10754	B1 (patches 1-128)
10755	B2 (patches 129-255)
10756	C1 (patches 1-128)
10757	C2 (patches 129-255)
10758	D1 (patches 1-128)
10759	D2 (patches 129-255)
10760	E1 (patches 1-128)
10761	E2 (patches 129-255)
10762	F1 (patches 1-128)
10763	F2 (patches 129-255)
10764	G1 (patches 1-128)
10765	G2 (patches 129-255)
10766	H1 (patches 1-128)
10767	H2 (patches 129-255)

The steps below show you how to add one of the expansion board Patch Name lists to an existing instrument definition. For example, if you have the Roland XP-50 with the SR-JV80-04 Vintage Synth expansion board installed in slot A, do the following:

1. Import the Roland XP-50 and Roland SR-JV80 Expansion Boards instrument definitions (if you haven't already done so.)
2. Expand the Roland XP-50 branch until you can see the *Patch Names for Banks* branch.
3. Expand the *Names* tree so you can see all the individual *Patch Name* branches.
4. Drag the *SR-JV80-04 Vintage Synth 1-128* list from the *Names* tree to the *10752 = XP-A1* branch in the *Patch Names for Banks* folder. Release the mouse button. The proper bank number is already displayed (10752), so click OK.

   Note: If you're using an older JV/XP instrument definition that doesn't already include the expansion banks, drag the *SR-JV80-04 Vintage Synth 1-128* list from the *Names* tree to the *Patch Names for Banks* folder (or over an existing bank.) Release the mouse button, and enter the proper bank number.

According to the list above, we know that patches 1-128 in expansion slot A uses bank # 10752, so enter that number.

5. Drag the *SR-JV80-04 Vintage Synth 129-255* list from the *Names* tree to the *10753 = XP-A2* branch in the *Patch Names for Banks* folder. Release the mouse button. The proper bank number is already displayed (10753), so click OK.

You can repeat this process for any other expansion boards that you have.

QTools/AX Frequently Asked Questions (FAQ)

These questions and answers are provided to help you better operate QTools/AX v1.0 within Cakewalk Home Studio version 8.0. There are two main methods of using QTools/AX within Home Studio; in an off-line mode or real-time through the Console view. Questions 1 through 11 deal with questions related to the Console view and questions 12 through 15 deal with off-line operations.

If, after reading through this F.A.Q., you still require technical support regarding the QTools/AX plug-ins, please use the email address below to forward your support questions to our speedy and courteous QSound Technical Support Team and we will do our best to help you out. BE SURE TO HAVE YOUR REGISTRATION NUMBER! QSound will only provide technical support to registered QTools/AX users.

QTools/AX Technical Support Email: qtoolsax.support@qsound.com

Console View:

1. **Where can QTools/AX 3D audio plug-ins be inserted in the Console view?**

    Due to the specialized nature of 3D processing, the QTools/AX plug-ins are restricted to specific areas of the console view where the proper signal flow can be produced to provide the desired 3D results. These areas are as follows:

AUX CHANNELS	QSYS/AX, Q123/AX, and QX/AX can all be inserted on AUX Channels. There are some conventions that must be followed when inserting QSYS/AX and Q123/AX on these channels as they require a mono input (please see question #4).
MASTER FADER	Depending on what hardware configuration you have, you may be able to insert QX/AX on the Master Fader section as well. You will know if this is possible if an insert window appears over the Master Fader's LED Meters. Q123/AX and QSYS/AX will not insert here as they require mono input.

2. **Why can't I insert QTools/AX plug-ins on a regular channel (track)?**

QTools/AX plug-ins require specific audio signal flow to work. The channel signal flow in Cakewalk Home Studio 8.0 is stereo because each channel has its own L/R pan slider.

QSYS/AX and Q123/AX require mono input while producing a stereo output. If they are allowed to be inserted on a channel strip, these plug-ins would look for a mono signal for input and only find a stereo stream. They would not connect to the stream and they would not produce a 3D effect. These two plug-ins can be inserted only on AUX channels. (Please see question # 4 for further details)

If QX/AX is inserted on a channel strip, you would assume that since QX accepts stereo input and outputs stereo, that it should connect fine with the signal flow. This would be true for most processes, only the QX/AX plug-in is *specialized*. It requires a stereo input that has differences in left and right audio content before it actually will create an expanded 3D stereo output. Just because the channel can send to both right and left only means that it can send the SAME audio to either side of the stereo signal, at adjustable volume levels. Unfortunately, this is stereo in format, not content, and will not produce a 3D stereo effect. QX/AX works best on true stereo mixes where individual elements within the stereo signal are panned to unique pan positions. QX/AX works best inserted on an AUX channel or the Master Fader where you can send it many different tracks that all have individual pan positions.

3. **Why can QX/AX be inserted on the Master Fader, but not QSYS/AX or Q123/AX?**

QSYS/AX and Q123/AX are designed to create stereo 3D effects from mono elements. They both require a mono signal as input. The Master Fader insert is stereo input and output. QX/AX is the only plug-in that will have an effect because it requires a stereo input.

4. **Why do I receive a "Cannot patch effect" error when I try to insert QSYS/AX or Q123/AX on an AUX Channel that I already have other plug-ins inserted?**

The AUX channels in the console view are set up to default to stereo input and output. If you have a plug-in that requires mono input (Such as QSYS/AX or Q123/AX), they must be inserted FIRST on the AUX channel. The AUX channel can only identify and create the proper mono signal input connection provided that these mono-to-stereo plug-ins are the inserted first.

This means that if you wish to use QSYS/AX on a channel with a delay and a reverb as well, you must select QSYS/AX FIRST and insert the other plug-ins after. You will not be able to insert QSYS/AX and then another mono-to-stereo plug-in right after (such as Q123/AX) because these plug-ins produce a stereo output and Home Studio will not create a mono configuration after the first plug-in has been inserted.

QSound recommends that QSound 3D audio processing be the last process in the signal chain. Many processes can destroy the 3D audio encoding if they are applied after QSound.

This recommendation is in direct conflict with the current convention mentioned above for Cakewalk Home Studio 8.0 software in that you must place QSYS/AX and Q123/AX FIRST on an AUX channel for them to connect properly. One solution is to create AUX channels that are dedicated to individual QSYS/AX and/or Q123/AX processors. Other processing should be done on the channel BEFORE it the AUX channels set up exclusively for QSYS/AX and/or Q123/AX processing.

5. **How does the AUX "Pre" button affect my QSound set-up?**

   The "Pre" button on the AUX channel allows you to send the signals from the channel directly from the channel BEFORE the level faders on the channels. This means that you can have the channel level faders at "0" but the AUX channel will still receive signal from the AUX SEND LEVEL knob (provided it is turned up and the SEND ENABLE button on the channel(s) is on).

   In the alternate mode, ("Pre" AUX channel button not selected), the level sent to the AUX channel is affected BOTH by the channel level fader (direct signal) and the AUX SEND LEVEL (effects signal) knob. The big difference is that the channel level fader will also send direct signal to your final mix (original signal from that channel that goes directly to the Master Fader and doesn't go through the AUX channel)

   When an AUX channel is in 'Pre' you are still able to adjust the associated channel pan faders. Therefore, you can send a stereo mix to the AUX channel from the AUX SEND LEVEL knobs.

   If you wish to create the most dramatic QSound effects, it is suggested that you use "Pre" mode and turn off all of the associated channel level faders. This will send 100% of your channel's signal through the AUX channel and the 3D effect will not get watered down by any direct signal coming from the channel level faders.

6. **How should I setup the individual channel pan faders to get proper QSound processing?**

   This will depend on which QTools/AX plug-in you are sending to on the AUX channel.

   If you are sending signal to QX/AX, you can adjust the channel pan fader to wherever you wish to reproduce the sound in a 3D expanded soundfield. For instance, if you want a guitar to show up way outside the right speaker in "Q" Right, you could pan this guitar far to the stereo right with the pan and this will show up at the AUX channel (along with anything else you are sending this AUX channel) in a stereo mix and QX/AX will expand this stereo submix into QSound 3D.

   In the event that you are sending a signal to a QSYS/AX or Q123/AX plug-in on an AUX channel, the position of the pan fader on the individual channel will not matter because when the stereo (panned) signal reaches the AUX channel it will be first summed to a mono signal and be fed to these mono-to-stereo processors. (This is, of course, provided that the QSYS/AX or Q123/AX plug-in was inserted FIRST on that AUX channel.)

7. **What are the faders on the AUX channels for and how do they effect my QSound effect?**

   On the AUX channels there are two faders that resemble the channel pan faders . These AUX faders have a somewhat different purpose. They are balance controls for the input and the output of the AUX channel. They work similarly to the balance control on a home stereo or boombox. They will not move the incoming signal from left and right, they will merely attenuate the signal on either side depending on the setting.

   When using all QTools/AX plug-ins, it is critical that both of these balance controls remain directly in the center position. This will assure that you send the proper signal to the plug-ins. As described above, when QSYS/AX or Q123/AX is inserted on an AUX channel, the stereo signal

that arrives at the plug-in (again, provided that the plug-in was inserted FIRST on the AUX channel) will be summed to mono. This send (input) balance fader will have no effect on the input to a QSYS/AX or Q123/AX plug-in but the return (output) balance fader will have an effect on the output if it is adjusted. Thus, it is recommended that you leave these faders in their center position.

8. Can I insert QTools/AX plug-ins on MIDI tracks?

QTools/AX plug-ins can only work with digital audio tracks. If you wish to put 3D audio effects on your MIDI sounds you can record the audio out of your synthesizer or sound module back into Home Studio as a .WAV file and subsequently process with QSound effects.

9. Could you please describe a sample set-up that will allow me to use the QSYS/AX plug-in properly so that I get a guitar solo track (#1) out in "Q" Right and a keyboard track (#2) in "Q" Left?

Channel #1 & EFFECT Set-up:

Channel #1 = Electric Guitar Solo
Channel #1 Pan Position = Panned to extreme stereo right

(Actually, it doesn't matter where the channel strip pan position is for the AUX send because it will sum to mono at the QSYS/AX effect BUT if you decide to bring up the channel strip fader it will show up wherever this pan fader is positioned.)

Channel #1 Channel Strip Level Fader = Set to "0" for Maximum QSYS/AX 3D effect
Channel #1 Send Knob Setting = Using SEND #1 for this effect. Set AUX SEND #1LEVEL to max
Channel #1 Send Enable Button = ON

AUX #1 = QSYS/AX plug-in Inserted (NO OTHER plug-ins INSERTED)
AUX #1 Send Balance Fader = Set to Center position ***This will be disabled with a QSYS/AX inserted***
AUX #1 Send Level Knob = Set to Max (adjust to suit after)
AUX #1 Return Balance Fader = Set to Center position ***This is important that it is centered for proper 3D effect***
AUX #1 Return Level Knob = Set to Max (adjust to suit after)
AUX #1 Pre Button = ON

QSYS/AX on AUX#1 Pan Position Fader = Set to extreme right (value = +63)
QSYS/AX on AUX#1 Input Level = Set to Max (adjust to suit after)
QSYS/AX on AUX#1 Crossover = Set to suit
QSYS/AX on AUX#1 Bypass Box = DO NOT SELECT

Channel #2 & EFFECT Set-up:

Channel #2 = Keyboard
Channel #2 Pan Position = Panned to extreme stereo left

__(Actually, it doesn't matter where the channel strip pan position is for the AUX send because it will sum to mono at the QSYS/AX effect BUT if you   decide to bring up the channel strip fader it will show up wherever this pan fader is positioned.)__

Channel #2 Channel Strip Level Fader = Set to "0" for Maximum QSYS/AX 3D effect
Channel #2 Send Knob Setting = Using SEND #2 for this effect. Set AUX SEND #2 LEVEL to max

*__**Now, we are creating a new 3D effect in "Q" left with the keyboard, you will need a separate QSYS/AX plug-in on another AUX channel to create this effect**__*

Channel #2 Send Enable Button = ON

AUX #2 = QSYS/AX plug-in Inserted (NO OTHER plug-ins INSERTED)
AUX #2 Send Balance Fader = Set to Center position ***This will be disabled with a QSYS/AX inserted*
AUX #2 Send Level Knob = Set to Max (adjust to suit after)
AUX #2 Return Balance Fader = Set to Center position ***This is important that it is centered for proper 3D effect**__*
AUX #2 Return Level Knob = Set to Max (adjust to suit after)
AUX #2 Pre Button = ON

QSYS/AX on AUX#2 Pan Position Fader = Set to extreme left (value = -63)
QSYS/AX on AUX#2 Input Level = Set to Max (adjust to suit after)
QSYS/AX on AUX#2 Crossover = Set to suit
QSYS/AX on AUX#2 Bypass Box = DO NOT SELECT

10. **Could you please describe a sample set-up that will allow me to use the QX/AX plug-in properly so that I get a stereo synth track (Channels # 3 & 4) to expand into 3D?**

Channel #3 & 4 Set-up:

Channel #3 = stereo Synth Left Channel
Channel #3 Pan Position = Panned to extreme stereo left
Channel #3 Channel Strip Level Fader = Set to "0" for Maximum QX/AX 3D effect
Channel #3 Send Knob Setting = Using SEND #3 for this effect. Set AUX SEND #3 LEVEL to max

***Suggested that you group the AUX # 3 SEND LEVEL Knobs at the same level on channels #3 & 4 ***

Channel #3 Send Enable Button = ON
Channel #4 = stereo Synth Right Channel
Channel #4 Pan Position = Panned to extreme stereo right
Channel #4 Channel Strip Level Fader = Set to "0" for Maximum QX/AX 3D effect
Channel #4 Send Knob Setting = Using SEND #3 for this effect. Set AUX SEND #3 LEVEL to max

***Suggested that you group the AUX # 3 SEND LEVEL Knobs at the same level on channels #3 & 4 ***

Channel #4 Send Enable Button = ON

AUX #3 = QX/AX plug-in Inserted (NO OTHER plug-ins INSERTED)
AUX #3 Send Balance Fader = Set to Center position **This is important that it is centered for proper 3D effect**
AUX #3 Send Level Knob = Set to Max (adjust to suit after)
AUX #3 Return Balance Fader = Set to Center position **This is important that it is centered for proper 3D effect**
AUX #3 Return Level Knob = Set to Max (adjust to suit after)
AUX #3 Pre Button = ON

QX/AX on AUX#3 Input Level Fader = Set to Max (Adjust to suit after)
QX/AX on AUX#3 Crossover Fader = Adjust to suit
QX/AX on AUX#3 Center Drop Fader = Set to Max (0.0 dB) for best results. **More extreme 3D effects as Center Drop is attenuated**.
QX/AX on AUX#3 Bypass Box = DO NOT SELECT

11. Could you please describe a sample set-up that will allow me to use the Q123/AX plug-in properly so that I can take mono sax track (#5)   and give it some "3D stereo" realism?

Channel #5 & EFFECT Set-up:

Channel #1 = Saxophone
Channel #1 Pan Position = Panned to extreme stereo right

(Actually, it doesn't matter where the channel strip pan position is for the AUX send because it will sum to mono at the QSYS/AX effect BUT if you   decide to bring up the channel strip fader it will show up wherever this pan fader is positioned.)

Channel #1 Channel Strip Level Fader = Set to "0" for Maximum Q123/AX 3D effect
Channel #1 Send Knob Setting = Using SEND #4 for this effect. Set AUX SEND #4 LEVEL to max
Channel #1 Send Enable Button = ON

AUX #4 = Q123/AX plug-in Inserted (NO OTHER plug-ins INSERTED)
AUX #4 Send Balance Fader = Set to Center position **This will be disabled with a Q123/AX inserted**
AUX #4 Send Level Knob = Set to Max (adjust to suit after)
AUX #4 Return Balance Fader = Set to Center position **This is important that it is centered for proper 3D effect**
AUX #4 Return Level Knob = Set to Max (adjust to suit after)
AUX #4 Pre Button = ON

Q123/AX on AUX#4 Pan Position Fader = Set to center first and adjust to suit for 3D stereo effect
Q123/AX on AUX#4 Input Level = Set to Max (adjust to suit after)
Q123/AX on AUX#4 Bypass Box = DO NOT SELECT

Offline processing:

12. Are there any other ways of using the QTools/AX plug-ins in Home Studio?

QTools/AX plug-in can be accessed in an off-line mode through the right-click mouse menu, or by choosing **Edit-Audio Effects-QTools**. This off-line processing is identical to the processing found in Cakewalk Home Studio version 6.01. After you select the audio track(s) that you wish to use QTools/AX plug-ins on, you can bring up the plug-in interfaces through the Edit menu.

13. Are the track's pan values important when processing off-line?

Yes, to produce the proper QSound 3D effects, there are some conventions that must be followed to assure proper QSound 3D processing.

If you are using either of QSound's two mono-to-stereo plug-ins, QSYS/AX or Q123/AX, it is critical that the tracks to be input into the processor by panned center (Pan Value = 64). If any of the track are set at any other pan value (including 0 or 127), the resulting effect will not be QSound 3D.

When you are using the QX/AX plug-in, the tracks you select MUST be in stereo pairs ONLY (i.e. the 'top' track of a stereo pair has a pan value set at "0" and the 'bottom' track of that same stereo pair must have a pan value set at "127". This is the only way that Home Studio will recognize the two tracks as a stereo pair and the QX/AX plug-in will accept this pair and process it properly. If the pans are not set to these values and in this track order, you will not receive proper QSound 3D stereo expansion.

14. Why are there 2 pages on the plug-in Interface and what is the Mixing page all about?

Home Studio deals with digital audio streams in a unique way which requires specialized plug-ins such as QTools/AX to have some additional mixing options. Due to the nature of the effects, two of the three Qtools/AX plug-ins require mono input and produce a stereo output (these are QSYS/AX and Q123/AX), and the other plug-in (QX/AX) requires a stereo input and produces a stereo output.

To assure that you get the best results when any of the three plug-ins, it is highly recommended that you use the "Create a Send Submix" option ONLY! If you use the either of the other two settings, you run a larger risk of not getting proper QSound 3D audio results. When you use the Send Submix option, you are able to setup what tracks you would like the resulting processed stereo file to show up on. The display only lets you choose a single track, but it will allocate the track you choose as the 'L' channel and the next track down as the "R" track and it should set the pan values accordingly.

15. Can I do any adjustments on the plug-ins in real-time when I process off-line?

No, in the off-line mode, you cannot adjust any parameters in real-time. Home Studio offers an Audition button on the side of the interfaces so that you can hear a portion of the selected file(s) with the effect. This Audition is not a real-time function either. Home Studio has provided the Console view for the purpose of real-time functionality.

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