Studio *Index*

Generalities on Quartz STUDIO

Quartz STUDIO is a digital recorder using "Direct-to-Disk" technology in the P.C.® Windows® environment.

8 monophonic "Virtual Tracks" can be used to Record or Import existing .WAV files.

Quartz STUDIO can manage up to 8 mono Inputs and 8 mono Outputs depending on the sound cards installed in your system.

One installed stereo card gives access to 2 separated mono Inputs and 2 separated mono Outputs.

Multi-Input/Output sound boards can also be used : each stereo port gives access to 2 mono Inputs or Outputs.

Quartz STUDIO offers a « PortaStudio® like » interface, clear and user friendly controls based on analogous consoles, but with all features that only computer product can provide easily.

Troubleshooting

◆　　*Real Time process:*

Quartz STUDIO is a '**Real Time**' program ; it is important to note that all the system components which are used in the process of reading and recording must be totally synchronized in order to record while reading a mix.

While a brief delay when using a business-type application does not provoke any particular concern (a user is not worried if a cut and paste, or an image display operation takes 50 one thousandths of a second more to accomplish), in the case of a product like Quartz STUDIO such a delay (as small as it may appear), in either reading or recording can have   serious consequences. The 'take' can be ruined, and the overall quality of the output can be damaged.

Quartz STUDIO functions uniquely in   44.100 kHz, in order to ensure optimal quality (CD quality).

The combination of a high sampling frequency and 16 bit resolution implies a high transfer rate - from the point of view of the machine's bus, its sound cards, as well as on read and write disk accesses.

Furthermore, using the function «simultaneous read and record» on one sound card or on two different sound cards which were not designed for such a task or whose drivers are not optimized to accomplish such functions, can provoke undesireable consequences - loss of synchronization, gaps, noise, etc., which are incompatible with a serious utilisation of such a professionally designed product.

When data flow can't be processed by the program, because computer is overloaded, mix playing is stopped and an alert message is displayed :
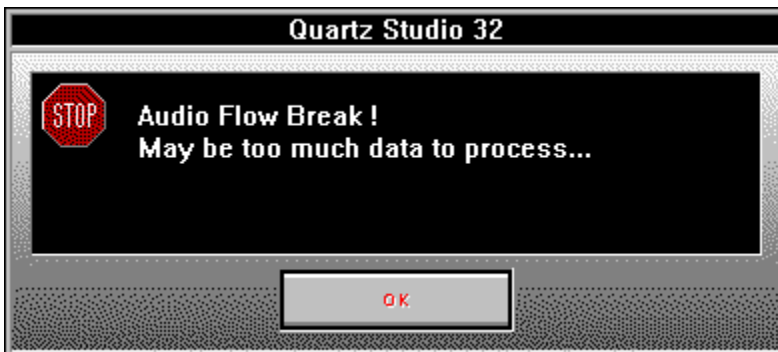
If you should encounter this message , slowdowns or cuts while using the   program, we suggest that you try some of the following:

⇒ Open only the number of tracks you need for the "take" you work on.

⇒ De-activate DSP effects

⇒ De-activate Automation

⇒ Use 2 separate disk drives for Record and MixTemporary files (see ***Options/Temp. Directories***)

⇒ Avoid the synchro of MCI files within the mix (see ***Options/MIDI file***, ***Options/CD Audio***, ***Options/Video file***)

⇒ Avoid synchronizing another program on the same machine (see ***QMTC driver***)

⇒ Read the mix in 8 bit mode (see ***Options/Recording***)

⇒ Reduce the updating load for counters and bargraphs (see ***Options/Display***).

⇒ De-activate the display of the bargraphs   (see ***Options/Display***).

Studio *The Console*

In the following snapshot, click in an area to get help.

Quartz Studio - Version 1.00 - Mix: Copy fromSTANDUP.QRM - Auto: STAND1.QRA

The Master Bargraphs

The Console's 8 Slices

The Functions

Transport & Counters

PLAY   COUP 2
00-00-33- 15   00-0 1-03- 10
00-00-52-20   00-05- 10-00

Synchro & Automation

The Master Volumes

TRACK VOLUME...

 DSP button

Calls the Effects connection box (<u>Digital Signal Processing</u>) for the concerned track, if no effect is already assigned to the track.

If at least one effect is assigned to the track, a list is proposed to choose which effect has to be modified among those already assigned to the track, or to call the Effects connection box.

When at least One effect is connected to the track, the DSP button is outlined with a green line.

🎛️ Signal Processing

When activating *Edit/Signal Processing* menu, you are presented the **Effects Connection dialog box.**

You can also access this box from DSP button of any mixer's slice.

Effects are applied in real time to the concerned track and their parameters are saved in the mix, these parameters can be modified by the user.

When tracks are exported or "*Edit/Tracking*" mode is used, the effects can be processed to the concerned track(s).

Quartz STUDIO can accept up to **16 Effects** which can be called directly from this dialog box.

The effects have extension **Q3P** (32 bit effects); they need to be installed in the main directory of Quartz STUDIO program. If more than 16 effects are present, only the first 16 ones are accessible.

Quartz STUDIO is delivered with a set of 8 basic effects to better understand real time signal processing on Wave elements.:

      - AUTO PAN

      - BAND PASS FILTER

      - STEREO CHORUS

      - COMPRESSOR

      - STEREO DELAI

      - 3 BAND EQ

      - NOISE GATE

      - VIBRATO

As soon as new effects are developped, they will be proposed as Plug-In modules for the program.

Click in the following dialog box to get more help:
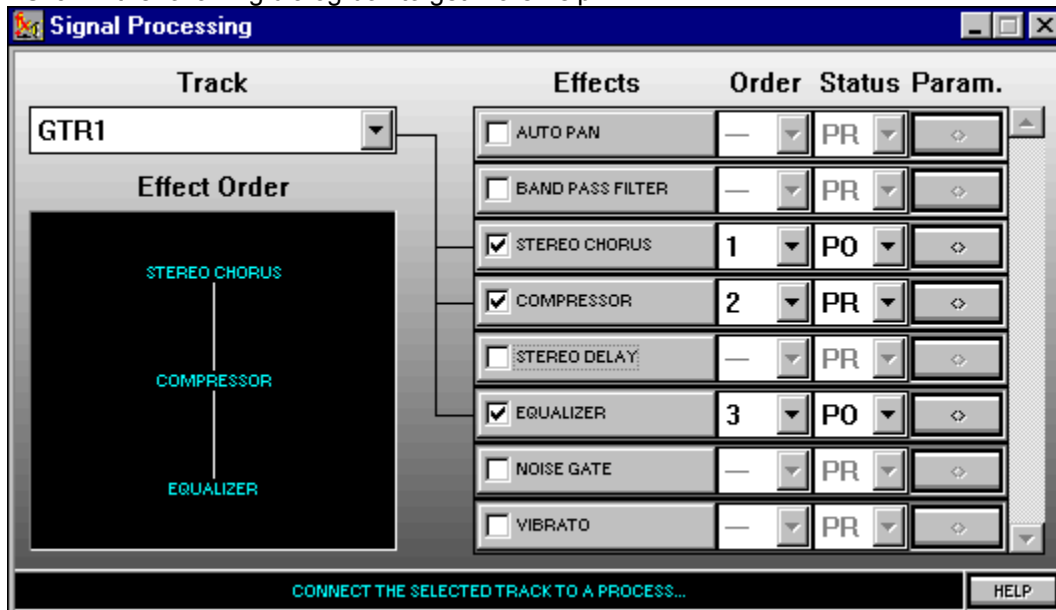
Track Selection

Select the track on which effects have to be applied.

When calling from DSP button of a mixer's slice, selection is automatically done for the calling track.

 Effects priority order display

Displays the priority order of the effects applied to the track (the effect on top of the display is processed first, and so on).

The order of the effects is selectable using <u>ORDER</u> boxes near effects selector.

Activate an effect

Activates or de-activates the corresponding effect.

 Modify effects order

These ORDER boxes allows to choose in which order the effects will be processed (priority order).

(1 is processed first etc...)

ATTENTION : The effects priority order is applied when all the effects to be processed have the same status <u>PRE or POST fader</u>.

If some effects are defined PRE fader and other ones are defined POST fader :

      - PRE fader effects are processed first,

      - then volume and balance adjustments are applied

      - then POST fader effects are processed.

Select PRE or POST fader effects

This selection allows to choose if the Volume and Balance faders of the track are processed **Before** or **After** the procesing of the corresponding Effect.

When PR (PRE fader) is selected, the effect processing takes place **before** the Volume and Balance processing.

When PO (POST fader) is selected, the effect processing takes place **after** the Volume and Balance processing.

If some effects are defined PRE fader and other ones are defined POST fader :

- PRE fader effects are processed first,
- then volume and balance adjustments are applied
- then POST fader effects are processed.

 Access to effects parameters

Clicking on these buttons calls individual effects dialog boxes to load Presets or modify parameters.

Scroll bar

Allows access to more than 8 effects (maximum 16).

Windows Controls

Allows access to standard Windows functions applicable to the main window.

Allows exiting program when double-clicked.

Quartz STUDIO Title bar

Displays the name of the current **Mix** file and the name of the current **Automation** file.

Iconize Quartz STUDIO

When clicked, iconize Quartz STUDIO.

The 8 Slices of the Console

Quartz STUDIO includes 8 identical slices corresponding to **8 mono tracks** on which the mix can be performed.
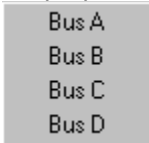
In the following snapshot, click in an area to get help.

Input Audio board

Assigns the Input of this slice to a **sound board** installed in your system.

If several boards are installed in the system or multi-Input board is present, the following drop down box is proposed.

Bus A
Bus B
Bus C
Bus D

The letters A, B, C and D correspond to the assignement in the dialog *Options/Inputs-Outputs*

If no board is defined in the Input section of a Bus, indication "**...** " is displayed in this window.

As default parameter, as soon as a board is defined in the Input section, it is assigned to Bus "**A**".

Input Channel

Assigns the Input of the slice to **Left Channel or Right Channel** of   the sound board assigned to the slice.

**For one stereo sound board, Left or Right channel can only be assigned to One slice in Input.**

WARNING : When One Input channel is assigned to a mixer's slice, this track goes to "Monitoring" mode.

Consequently, when playing this track, the Incoming signal is routed to the Output of the track (monitoring) instead of the content of the mix.

Output Audio board

Assigns the Output of this slice to a **sound board** installed in your system.

When clicking in this area, the following drop down box is proposed.

Bus A
Bus B
Bus C
Bus D
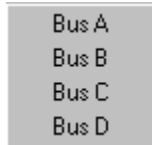
If several boards are installed in the system or multi-Output board is present, the letters A, B, C and D correspond to the assignement in the dialog   ***Options/Inputs-Outputs***

Assigned Output sound board can be different of assigned Input board for the same slice.

Global Output of each port can be adjusted by using the corresponding sliders in the MASTER sliders area ; the Output signal for each of these ports is monitored on the bargraphs in the MASTER bargraphs area.

If no board is defined in the Output section of a Bus, indication "**...** " is displayed in this window.

As default parameter, as soon as a board is defined in the Output section, it is assigned to Bus "**A**".

It is also possible **to define GROUPS** of tracks even if there are less than 4 output ports available in the system. In this case, assigning tracks to an Output which has no physical port creates a GROUP whose volume can be adjusted using the corresponding MASTER slider, the track is anyway physicaly routed to the first available physical port (A port) defined in   ***Options/Inputs-Outputs***

In this case this area indicates the way the routing is done : B->A means that MASTER B is active, but Output signal is routed to Output A, etc...

Example : There is only one Output port in the system, which is mandatory defined as PORT A.

You can assign the tracks 1 and 2 to port A, slider A will be active for these 2 tracks.

You can assign the tracks 3, 4, 5 and 6 to port B, you will get indication B->A, slider B will be active for these 4 tracks, but the signal will be outputted to port A.

You can assign the tracks 7 and 8 to port C, you will get the indication C->A, slider C will be active for these 2 tracks, but the signal will be outputted to port A.

Output Balance

Gives the positionning of the track in the **stereophonic** space.

When a Balance knob has got the focus (index goes red), the following keys allow a quick change:

HOME key: middle position (right/left balanced)

PAGE UP key: maximum Right

PAGE DOWN key: maximum Left

LEFT ARROW key: Balance towards left

RIGHT ARROW key: Balance towards right

With the mouse, just "drag" potentiometer index to the desired position.

Activation of a track

Allows activation or un-activation of a track Output (**Open/Close** a Track)

Solo of a track

Allows to play **SOLO** the selected track.

The corresponding Open/Close button of the track is activated when the track is in SOLO mode.
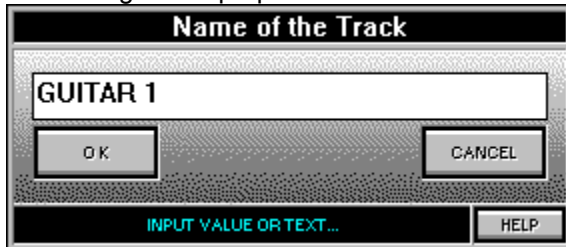
Several tracks can be put in SOLO mode at the same time.

When no SOLO buttons are activated, Output configuration of the tracks is given by activation of tracks Open/Close buttons.

Track Name

Allows to assign a **Name** to each track. The name can have 7 characters maximum.

Following box is proposed:

This name will be displayed in "Waves" and "Automation" windows and saved in the Mix file .QRM and Automation file .QRA

As default value, number of the track from 1 to 8 is assigned as name to the track.

Output Volume level

This slider determines the **Output level** of the track.

When a slider has got the focus (it is red outlined), the following keys allow a quick change:

HOME key: middle position (level -6 dB)

PAGE UP key: maximum level

PAGE DOWN key: minimum level

UP ARROW key: increase level

DOWN ARROW key: decrease level

With the mouse, just "drag" potentiometer index to the desired position.

Track Bargraph

Gives the maximum level of waveform in Input or Output for the concerned track.

"Master" Bargraphs

Gives the maximum level of waveform in Output for the concerned sound board Output or <u>Group</u> A, B, C or D.

The letters A, B, C and D correspond to the assignement in the dialog ***Options/Inputs-Outputs*** or to the assignement of the <u>Group</u> .

Access to functions

In the following snapshot, click in an area to get help.

FUNCTIONS

| FILE | EDIT | OPTIONS |

File Functions

In the following snapshot, click on a function to get help.

New Mix
Open Mix
Save Mix As...
Save Mix

New Automation
Open Automation
Save Automation As...
Save Automation

Import
Export a Wave File
Export for Quartz Audio

Exit

New Mix

Reinitialize Quartz STUDIO for a new Mix session.

It is mandatory to save the current mix if you want to keep the modifications done in the previous session.

An alert box "Clear All?" allows to go back to Save in case this control is activated by error.

Internal Quartz STUDIO format needs about 40 Megabytes per minute of recording whichever the number of tracks used in the Mix.

Open Mix

Loads for a new session an existing Mix, extension .QRM

If the wave image file, extension .QRI exists, it is loaded in memory, otherwise it is computed.

Mix file includes all Audio data for the 8 mono tracks used by Quartz STUDIO.

If an automation file .QRA with the same name as the loaded .QRM exists, it is loaded with the .QRM mix   file.

Quartz STUDIO allows to work in **destructive** or **non-destructive** modes.

The user is alerted to make the choice to work on a **copy of the Mix** or on the original file.

Working on a copy of the mix prevents loosing previous work but needs more room available on disk.

The name of current Mix will be displayed in Quartz STUDIO title bar, if you work on a copy of the mix, it will be displayed as "**Copy from** name of the mix.QRM".

The automation file .QRA used with the current Mix, if any, is also displayed in the title bar.

Internal Quartz STUDIO format needs about 40 Megabytes per minute of recording whichever the number of tracks used in the Mix.

Save Mix as...

Saves on disk the current mix with a new name.

You will be asked to give the file a name, and it will be saved with the extension .QRM which is a specific format of Quartz STUDIO.

Saving a mix doesn't require additional room on disk, as Quartz STUDIO only renames the temporary file already created.

Save Mix

Saves on disk the current mix with current name.

File has a .QRM extension which is as specific format of Quartz STUDIO.

Saving a mix doesn't require additional room on disk.

If you are working on a "**Copy of a mix**" (refer to "Open Mix"), you will be asked if you want to continue working on the copy or not.

ATTENTION: If you answer NO, the modifications will be saved in the original Mix you made the copy from and the copy will be deleted.

 New Automation

Reinitializes Quartz STUDIO for a new Automation session.

It is mandatory to save the current automation if you want to keep the modifications done in the previous session.

An alert box "Clear All?" allows to go back to Save in case this control is activated by error.

This function has no impact on current Mix file.

 Open Automation

Loads an existing Automation previously saved as a .QRA file.

An automation is a list of events for Level, Balance, Tracks activation occuring at a given time.

The name of current Automation will be displayed in Quartz STUDIO title bar

Each event of this list can then be manually modified in <u>Edit/Automation</u> window.

Save Automation as ...

Saves on disk the current automation with a new name.

You will be asked to give the file a name, and it will be saved with the extension .QRA which is a specific format of Quartz STUDIO.

Save Automation

Saves on disk the current automation with current name.

File has a .QRA extension which is as specific format of Quartz STUDIO.

Import

Allows to Import to One or Two of Quartz STUDIO tracks an existing Wave file (mono or stereo).

Wave file is positionned in the mix **from Current Position** on the track or tracks selected by user.

In the Import box, 2 counters indicate beginning and end positions to where the Importation will be done, depending of the Current position cursor.

Valid formats include   11.025, 22.050 & 44.100 kHz in 8 or 16 bits, mono or stereo.

Import dialog box gives information concerning the source file: Name, Frequency, Resolution and Duration, as well as target position in the mix: Beginning and End positions.

User has to indicate the **track** or **tracks** where the import has to be done.

If Wave file is mono and more than a destination track is selected, importation will be done on the first track of the list (from 1 to 8)

If Wave file is stereo and more than 2 destination tracks are selected, importation will be done on the first 2 tracks of the list (from 1 to 8)

Tracks don't need to be contiguous.

A pre-hearing of selected wave file is possible when "**Auto Audition**" checkbox is validated.

Playing wave files in this mode is directed to Output declared as WAVE OUT A in Options/Inputs-Outputs. It is only possible if the assigned sound board supports the wave file format requested (sampling frequency and resolution).

Export a Wave File

Exports current mix part between Left and Right locators as it is read by Quartz STUDIO in the form of a unique .**WAV** file.

Export takes into account Level and Balance tracks parameters but ignores "Master volumes".

You will be asked to give the target file a name and a path, as well as the tracks to export and type of target file (mono or stereo)
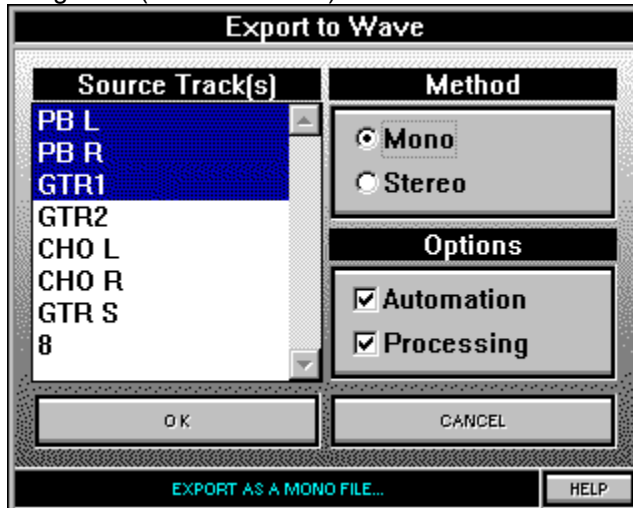
As default parameters, AUTOMATION and EFFECTS applied to the source track(s) are taken into account for the exported file.

You can choose not to process the AUTOMATION events (changes in Volume, Balance and Activation of the track) and/or the EFFECTS applied to the track(s) by unchecking the options checkboxes **Automation** or **Processing** respectively.

If the track does not include Automation events or Effects between the two locators, these options are not proposed (grayed).

If the Track is OFF or if it is not active between the two locators, an alert message is issued.

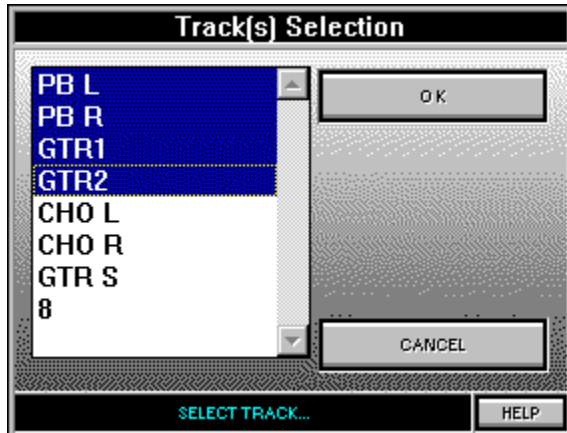Target file is exclusively saved in **44.1 kHz 16 bits.**

You need to have enough room on the disk on which the Wave file will be saved (**10 Megabytes per minute in stereo** or 5 Megabytes per minute in mono)

Export for Quartz Audio

Exports current mix part between Left and Right locators as it is read by Quartz STUDIO in the form directly usable by the mixing software   Quartz AUDIO PRO.

Export takes into account Level and Balance tracks parameters but ignores "Master volumes".

You will be asked to specify tracks to export and to give the target file a name and a directory path, it will be saved with the extension .**QAM** which is a specific format of Quartz AUDIO PRO.

Tracks are exported individually in a .WAV form, one after the other.

Quartz STUDIO gives to the Wave files the names 1, 2, 3,..., 8 corresponding to the 8 tracks, they are saved in the same directory as the one specified to save the .QAM file

Target files are exclusively saved in **44.1 kHz 16 bits mono.**

The elements created as individual tracks will be named with the actual track names.

You need to have enough room on the disk on which the Wave files will be saved (**5 Megabytes per minute per exported track**)

.QAM file is directly usable in Quartz AUDIO PRO and uses the exported .WAV files.

Quit

Quits the program, equivalent to the keyboard ALT + F4 keys.

If any modifications have not been saved, you are invited to do so now by saving the Mix and/or the Automation.

Studio *Edit Functions*

In the following snapshot, click in an area to get help.

Cut
Copy
Paste
Clear
Move
Tracking
Optimize

Automation
Markers
Waveforms
Spatial Display
Signal Processing
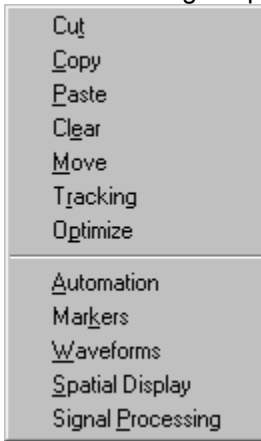
Cut

Erases the Audio data **between left and right locators** for the tracks selected in the "track selection" dialog box;
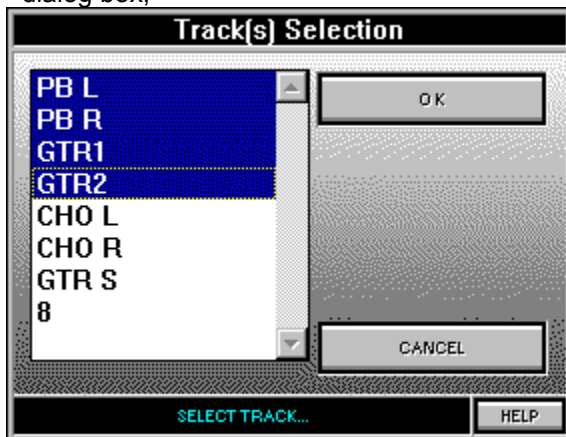
and **copies** these data in Quartz STUDIO "Copy Buffer" for later use.

Track Selection box

Select in this dialog box the Track or Track for the corresponding Edition function: <u>Cut</u>, <u>Copy</u>, <u>Move</u>.

All the Edition functions are performed on data enclosed between both locators (Left and Right).

Copy

Copies the Audio data **between left and right locators** for the tracks selected in the "track selection" dialog box, towards Quartz STUDIO "Copy Buffer" for later use.

Mixing tracks are not modified.

Paste

Pastes in the current mix the content of Quartz STUDIO "Copy Buffer" **<u>from the position of current position cursor.</u>**

You are invited to precise the number of Repetitions of Paste operation in the following box:

The part of the mix which has been previously Cut or Copied (and put into the Quartz STUDIO clipboard) is Pasted on the same tracks as when copied but **<u>from the position of current position cursor.</u>**

Paste supersedes any existing data on the tracks.

Clear

Clears the Audio data **between left and right locators** for the tracks selected in the "track selection" dialog box without any saving of the data.
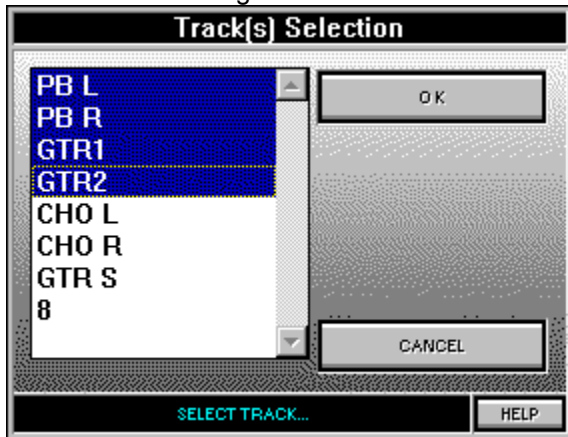
Move

Processes in one function a "**Cut-Paste**" operations of the Audio data **between left and right locators** for the tracks selected in the "track selection" dialog box , towards the same tracks **from the position of current position cursor.**
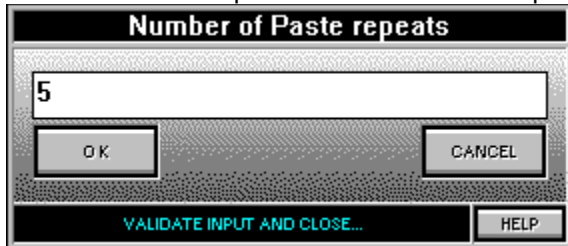
Tracking
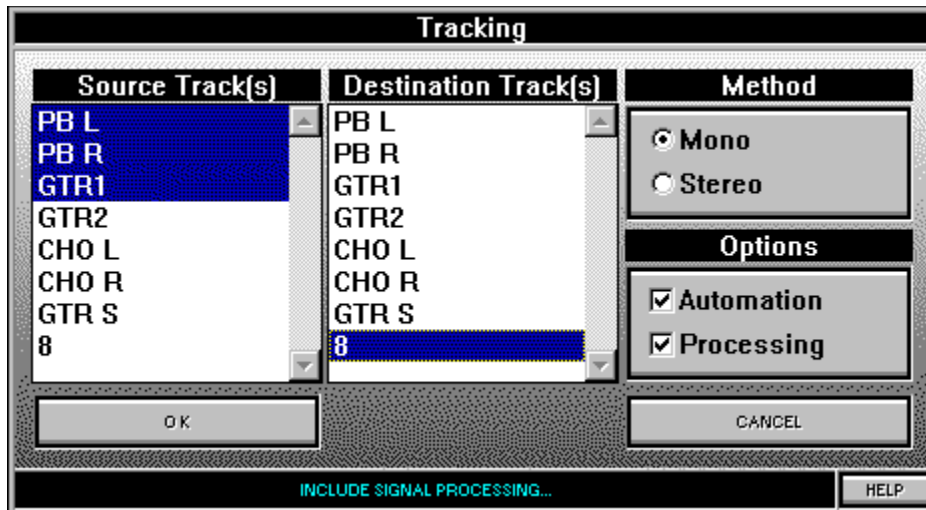
Processes in one function an "**Exportation-Importation**" operations of the Audio data **between left and right locators** for the tracks selected as **Source** in the "track selection" dialog box , and places them **between left and right locators** on the tracks selected as **Destination** in the "track selection" dialog box.

Tracking supersedes any existing data on the destination tracks.

WARNING:

As default parameters, AUTOMATION and EFFECTS applied to the source track(s) are **NOT** taken into account for the exported file.

You can choose to process the AUTOMATION events (changes in Volume, Balance and Activation of the track) and/or the EFFECTS applied to the track(s) by checking the options checkboxes **Automation** or **Processing** respectively.

If the track does not include Automation events or Effects between the two locators, these options are not proposed (grayed).

If the Track is OFF or if it is not active between the two locators, an alert message is issued.

"Copy Buffer is" not modified.

Optimization
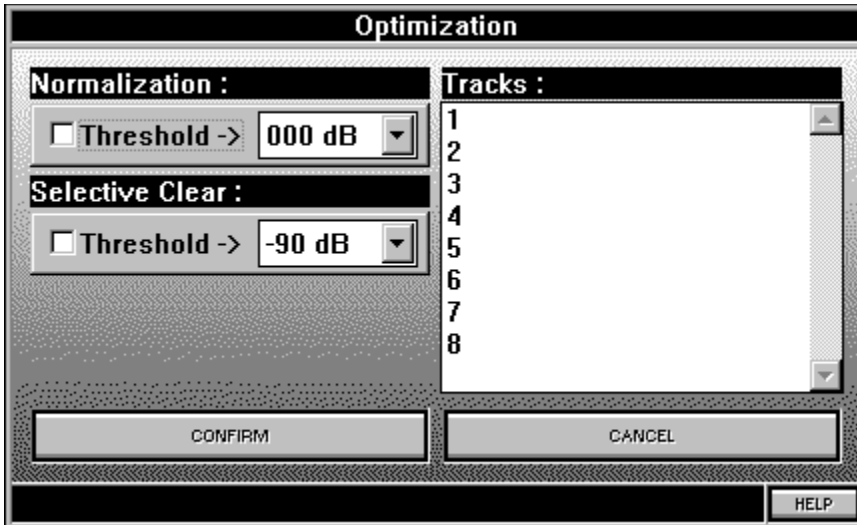
Allows track data optimization by the mean of two individually selectable methods.

Optimization always occurs **between left and right locators** position on the **tracks selected** in the 'track selection' list.

Methods are :

Normalization

- A method which allows <u>audio data volume modification</u>. The amount of gain change is always set relative to a reference level called 'Threshold'. This can be very convenient to optimize the gain of low level audio data.

- Before Normalizing, selected tracks are always searched for a peak level. If a track peak level is greater than the selected threshold, you'll be told by the program that 'no Normalization is required on track X for selected threshold' and no Normalization will occur for this track.

- The threshold parameter selection is performed using the drop down list labelled 'Threshold' in the Normalization method area (the parameter is expressed in -decibels).

- The Normalization method is made available when the Normalization method area check box is checked.

Selective Clear

- A method which allows <u>selective clearing of audio data</u>. This works as would do a hard noise gate, by removing audio data when its level is lower than a reference threshold.

- As you know, Quartz Studio audio data is divided in slices of 40 milliseconds. When an audio data slice is cleared, its samples are not only set to zero but the slice itself is marked as 'not used'. At playback time, Mixing of the tracks is also performed by slices of 40 ms, so if a track audio data slice is marked as 'not used', the track is not mixed and <u>processing time is saved</u>.

When recording sound data or importing a sound file in Quartz Studio, you not only get the useful part of the signal but also the background noise as it is considered as normal audio data by the program. Using the 'Selective Clear' optimization method on new recorded or imported audio data can greatly help you to mark all the useless parts of a track as 'not used' in a way that would be very difficult to achieve manually by using the normal 'Clear' function.

- Before performing a Selective Clear, selected tracks are always searched for a peak level by steps of 40 milliseconds. If no track 40 ms slices peak level is lower than the selected threshold, you'll be told by the program that 'no Selective Clear is required on track X for selected threshold' and no Selective Clear will occur for this track.

- The threshold parameter selection is performed using the drop down list labelled 'Threshold' in the Selective Clear method area (the parameter is expressed in -decibels).

- The Selective Clear method is made available when the Selective Clear method area check box is checked.

Automation

Calls <u>Automation Window</u>

This window can be iconized and recalled by the same function or by a keyboard shortcut if it has been defined.

Markers

Calls <u>Markers Window</u>

This window can be iconized and recalled by the same function or by a keyboard shortcut if it has been defined.

Waveforms

Calls   <u>Waveforms</u> display window.

This window can be iconized   and recalled by the same function or by a keyboard shortcut if it has been defined.

Spatial display

Calls stereophonic <u>Spatial display</u> window.

This window can be iconized and recalled by the same function or by a keyboard shortcut if it has been defined.

Signal Processing

Calls <u>Digital Signal Processing</u> connection window.

The connection box reflects the DSP status of a specific track (Effects applied to the track) ; when called from the menu ***Edit/Signal Processing***, the last Connection box previously displayed is opened.

This window can be iconized and recalled by the same function, by a keyboard shortcut if it has been defined or by a DSP button on the mixer's slices.

Studio *Options Functions*

In the following snapshot, click on a function to get help.

Inputs/Outputs
Temp Directories
Auxiliary Gains
Recording
Midi File
CD Audio
Video File
Sync Offset
Keyboard Shortcuts
Display

Save Preferences

Help Index
About QUARTZ Studio

Inputs-Outputs

```
┌─────────────────────── Inputs / Outputs ───────────────────────┐
│ ┌WAVE IN Port A:───────────┐  ┌WAVE OUT Port A:──────────────┐ │
│ │ Sound Track 128, Wave Record ▼│  │ Sound Track 128, Wave Out 1  ▼│ │
│ ┌WAVE IN Port B:───────────┐  ┌WAVE OUT Port B:──────────────┐ │
│ │ CS4232/36/37/38           ▼│  │ Sound Track 128, Wave Out 2  ▼│ │
│ ┌WAVE IN Port C:───────────┐  ┌WAVE OUT Port C:──────────────┐ │
│ │ ***                       ▼│  │ Sound Track 128, Wave Out 3  ▼│ │
│ ┌WAVE IN Port D:───────────┐  ┌WAVE OUT Port D:──────────────┐ │
│ │ ***                       ▼│  │ Sound Track 128, Wave Out 4  ▼│ │
│ ┌Mix Memory Buffer Size (Bytes):┐ ┌MIDI OUT Port (Sync):───────┐ │
│ │ 0                          │  │ QMTC Midi Output           ▼│ │
│ │                            │  ┌MIDI OUT Port (Midi):───────┐ │
│ │   CLOSE    │ SAVE AND CLOSE │  │ Sound Track 128, Midi Out  ▼│ │
│ │          SELECT AUDIO INPUT PORT B...              │ HELP │  │
└────────────────────────────────────────────────────────────────┘
```

Allows to define Inputs/Outputs WAVE and MIDI ports.

4 **WAVE Inputs** A, B, C, D can be assigned to the system installed boards Inputs.

4 **WAVE Outputs** A, B, C, D can be assigned to the system installed boards Outputs.

Inputs and Outputs are considered as stereophonic, that is to mean 2 mono channels per board or driver of a Multi-track card.

MIDI OUT (Sync) port determines the MIDI Output for synchronization on which are sent the SMPTE codes on MTC form (MIDI TIME CLOCK).

MIDI OUT (Midi) port determines the MIDI Output for reading MidiFiles .MID or .RMI directly synchronizable in Quartz STUDIO thru MCI controls.

Mix Memory Buffer Size (Bytes) : default value is 0

Allows user to determine the amount of **Bytes** used in RAM as buffer when reading the mix file.

Specifying between 100000 and 200000 can help the program running on small machines.

However specifying a value too high prevents counters and bargraphs to display smoothly (as more time is spent to read data on hard disk).

These parameters are saved in the Preferences file (QRTZREC.INI).

To save the modifications in the preferences file, exit this dialog box using SAVE AND CLOSE button, if exit is done using CLOSE button, new parameters are only valid for current session and not saved in the preferences file.

Temp. Directories

Temp Directories

Mix :

`C:\WAVES`   BROWSE

Record :

`D:\_TRANSFE`   BROWSE

CLOSE	SAVE AND CLOSE	CLEAR

SAVE SETTINGS AND CLOSE DIALOG BOX...   HELP
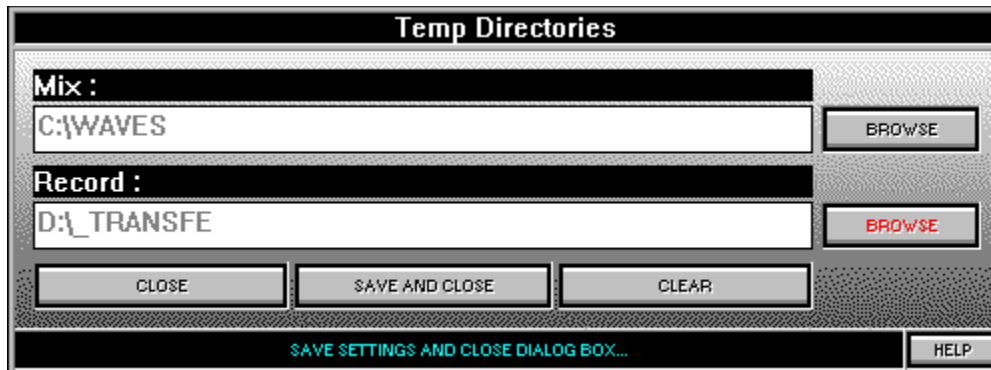
Allows to define Directory pathes for temporary files used in Mix and Record.

If the system is equipped with more than One hard disk drive, it is recommended to affect these 2 pathes on two different drives.

To chose a path, use the BROWSE button.

To clear both pathes, use the CLEAR button.

If no temporary path are defined, Quartz STUDIO uses the Windows default path.

These parameters are saved in the Preferences file (QRTZREC.INI).

To save the modifications in the preferences file, exit this dialog box using SAVE AND CLOSE button, if exit is done using CLOSE button, new parameters are only valid for current session and not saved in the preferences file.

Auxiliary Gains
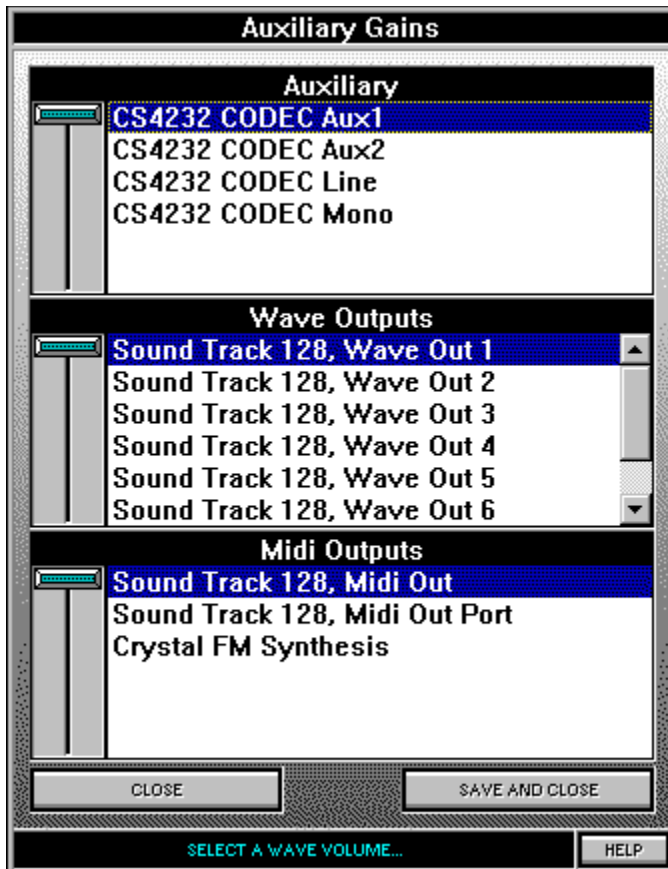
Allows you to modify, directly from within Quartz STUDIO, the input or output volumes of the different sound cards in your system.

You can access and alter WAVE OUT, MIDI OUT, as well as INPUT levels with the help of the cursors located near each window.

These various modifications are only possible if your sound card was designed to be able to handle them.

These parameters are saved in the Preferences file (QRTZREC.INI).

To save the modifications in the preferences file, exit this dialog box using SAVE AND CLOSE button, if exit is done using CLOSE button, new parameters are only valid for current session and not saved in the preferences file.

Recording dialog

You can select one of two recording modes:

- **Direct-to-Disk**
- **Memory**

Recording in memory is usable if system RAM capacity is sufficient, to avoid lots of disk accesses of D2D mode, and allows using Quartz STUDIO on configurations on which it wouldn't have ben able to run.

Only temporary recording data are stored in memory, in this mode; as soon as recording is over these data are transfered on the disk mix file and memory is freed. However the possible length of recording in this mode is very limited.

Parameter "**8-Bit-Playback**" allows use of the 'Simultaneous read and record' function for configurations and sound cards which are not sufficiently powerful to process at 44,1 kHz - 16 bit - stereo.

This mode provides sufficient audio quality for playing the file while considerably reducing the read transfer rate towards the sound card defined as Output.

The basic mix is not at all affected by the use of "8-Bit-Playback".

For recording, you are always in **Punch IN - Punch OUT** mode which means the recording begins at left locator and automatically stops at right locator

Parameter "**Automatic Stop**" defines if playing the mix during recording has to be stopped at right locator position.

When "**Automatic Stop**" is unchecked playing the mix continues after right locator.

These parameters are saved in the Preferences file (QRTZREC.INI).

To save the modifications in the preferences file, exit this dialog box using SAVE AND CLOSE button, if exit is done using CLOSE button, new parameters are only valid for current session and not saved in the preferences file.

This dialog box also includes a counter which gives an approximation of recordable time for the current configuration.

This approximation takes into account:

      - The number of Open Inputs (if no input is valid, counter displays "- - - - - - -")

      - The mode of recording: Direct-to-Disk or Memory (when switching to memory mode, a certain amount of time is necessary to compute the estimation, the cursor becomes an hourglass)

      - The fact that temporary mix and record directories are located on the same disk drive or on two different drives (***Options/Temp Directories***)

      - The fact that a mix already exists and the position of Left Locator (beginning of recording) in regards to the End of the mix.

If no room is available for recording, given these parameters, counter will display "- - - - - - -".

MIDI File

Allows selection and validation of a MIDI file which will be handled in synchronization with the Mix.
Select the file using BROWSE button. To cancel selection, use CLEAR button.

Valid formats are .MID and .RMI

Allows also to chose a **Pre or Post Offset** to apply in the synchronization process between MIDI file and Mix.

If + is selected, MIDI file is launched with a delay of the indicated value.

If - is selected, MIDI file is launched in advance of the indicated value.

Units are always Hours-Minutes-Seconds-Frames(Images).

These information are saved in the mix file.

CD Audio

Allows selection and validation of a CD-AUDIO track which will be handled in synchronization with the Mix.
Select CD Track directly in drop-down list giving available tracks.

Allows also to chose a **Pre or Post Offset** to apply in the synchronization process between CD track and Mix.

If + is selected, CD track is launched with a delay of the indicated value.

If - is selected, CD track is launched in advance of the indicated value.

Units are always Hours-Minutes-Seconds-Frames(Images).

These information are saved in the mix file.

VIDEO File

Allows selection and validation of a VIDEO file which will be handled in synchronization with the Mix. Select the file using BROWSE button. To cancel selection, use CLEAR button.

Valid formats are: Video files .AVI (needs Microsoft Video for Windows installed) or .MOV (needs Apple Quick Time for Windows installed) or Animation files .FLI or .FLC (needs Autodesk pilot installed).

Autodesk, Microsoft, Apple are registered trademarks.

Allows also to chose a **Pre or Post Offset** to apply in the synchronization process between VIDEO file and Mix.
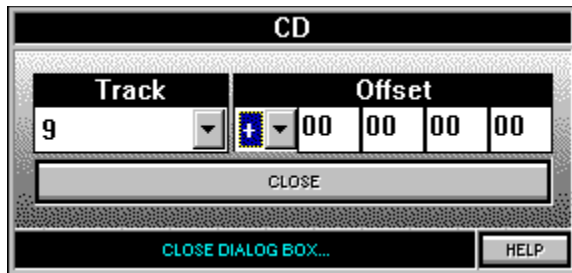
If + is selected, VIDEO file is launched with a delay of the indicated value.

If - is selected, VIDEO file is launched in advance of the indicated value.

Units are always Hours-Minutes-Seconds-Frames(Images).

These information are saved in the mix file.

Synchro Offset
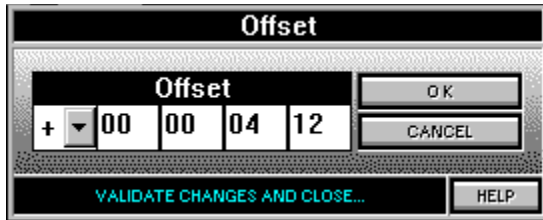
This items applies only when Quartz STUDIO synchronizes an external process.

NOTE: Quartz STUDIO is always "**Master**" of a synchronization chain.

Units are always Hours-Minutes-Seconds-Frames(Images).

Synch Offset represents the **time difference** between the sender and the receiver of a time code.

example:

For a synch offset of 3 seconds,

If the time code sender emits a time code of   0, the receiver will get it as 3,

If the time code sender emits a time code of 1, the receiver will get it as 4,

etc ...

In Quartz STUDIO, when you define a synch offset different than 0, by using this Synchro Offset dialog box, the result is that:

> Quartz STUDIO is always "Master"   (SC button has to be activated)

The 'slave' procedures called by Quartz STUDIO (such as QUARTZ, an external sequencer or an external device) **will be delayed by the value of the synch offset** with respect to Quartz STUDIO.

<div style="text-align:center">

QUARTZ STUDIO Master

|

Less (-) Synch Offset

|

Slave procedures of QUARTZ STUDIO

</div>
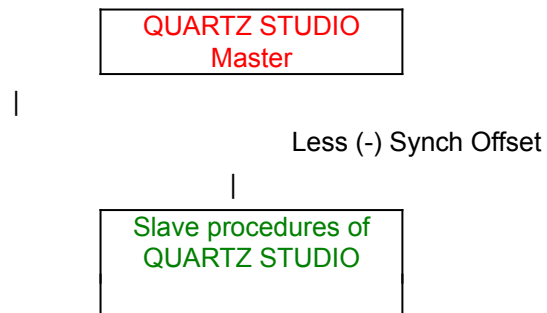
Keyboard Shortcuts

Quartz STUDIO allows the user to defines his own keyboard shortcuts.

It is possible to define shortcuts for basic **Menus** of the program and for dynamic **Commands**.

Select Menu or Commands in the "**Shortcut type**" section.

Select   Basic Key you want to assign to menu or command; it is possible to use keys with ALT, SHIFT or CTRL or a combination of these special keys

Some definitions are reserved   (ex: ALT + F4), Quartz STUDIO indicates them if you try to define one of them.

If you use the same Key for 2 different actions, Quartz STUDIO detects this fact and considers these 2 actions are **Toggled** when activating the key (example PLAY/STOP using space bar).

Quartz STUDIO is delivered and initially installed with a set of keyboard shortcuts compatible with our other product Quartz AUDIO PRO.

These parameters are saved in the Preferences file (QRTZREC.INI).

To save the modifications in the preferences file, exit this dialog box using SAVE AND CLOSE button, if exit is done using CLOSE button, new parameters are only valid for current session and not saved in the preferences file.

Display
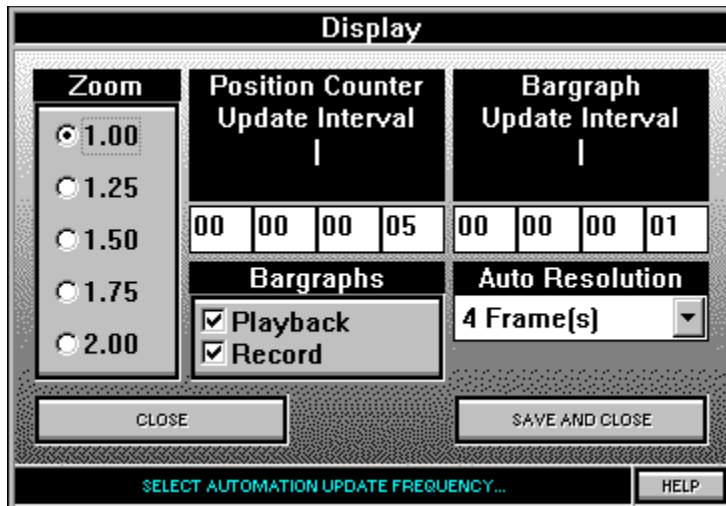
Allows to modify the display parameters of Quartz STUDIO Main window.

- Zoom factors can be adjusted between   1.00 and 2.00

    1.00 corresponds to   640x480 full screen,

    1.25 corresponds to   800x600 full screen...

- "Bargraphs" vu-meters can be activated or not during PLAY and/or RECORD process.
- "Bargraphs" vu-meters update interval can be adjusted
- Position Counters update interval can be adjusted.

Default values are the following :

Bargraphs are active during Playback and Recording, and updated every frame (40 ms) ; position counters are updated every 5 frames (200 ms).

If you chose not to activate vu-meters or to update less often, the computing load of Central processor unit is reduced to allow more computing time for plain Audio processing.

You can modulate the load depending on the power of your machine.

Auto Resolution parameter determine how often the sliders, pots and spatial display window are updated when in Automation mode.

1 Frame means the program has to redraw these elements every 40 milliseconds which can be too constraining for your machine. Choosing **4 or 5   Frames** is a good choice which keeps smooth display while reducing CPU load.

These parameters are saved in the Preferences file (QRTZREC.INI).

To save the modifications in the preferences file, exit this dialog box using SAVE AND CLOSE button, if exit is done using CLOSE button, new parameters are only valid for current session and not saved in the preferences file.

Save Preferences

Saves the configuration parameters of Quartz STUDIO in the configuration file QRTZREC.INI located in Quartz STUDIO directory.

This configuration parameters include:

- Definition of sound boards used in Inputs and Outputs for "WAVE" and Outputs for "MIDI" (Options/Inputs-Outputs).

- Zoom factor, Bargraphs activation and Update time values (Options/Display).

- Recording mode (Options/Recording).

- Auto Audition of Wave files when Importing a .WAV (File/Import/Auto Audition)

- Definition of Keys assignement to menus and commands (Options/Keyboard Shortcuts)

- Definition of temporary pathes (Options/Temp. Directories)

- Position of the Windows (Main, Waveforms, Markers, Spatial Display, Automation)

- Definition and values for auxiliary volumes adjustments (Options/Auxiliary Gains)

About Quartz Studio...

Gives indications on "Copyrights" and revision level of Quartz STUDIO software.

Help Index

Calls Quartz STUDIO Help Index page.

Studio *Transport and Indicators*

In the following snapshot, click in an area to get help.

PLAY	REC	MARQUE
00-00-00-00		00-00-00-00
00-00-20-00		00-05-10-00

TRANSPORT

| |< | << | < | > | >> | >| |

| STOP | PLAY | [REC] |
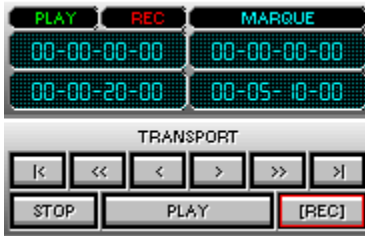
PLAY indicator

Displays PLAY when in reading a mix mode.

RECORD indicator

Displays REC when in recording mode.

 Marker indicator

Displays name of current Marker.

Left Locator position

Gives the time position of **Left Locator** in Hours-Minutes-Seconds-Frames.

If you click in this window, a menu is proposed to quickly move this locator to special points of the mix (Beginning, Curent position cursor) or to force to a specific position in Hours-Minutes-Seconds-Frames.

Right Locator position

Gives the time position of **Right Locator** in Hours-Minutes-Seconds-Frames.

If you click in this window, a menu is proposed to quickly move this locator to special points of the mix (End, Curent position cursor) or to force to a specific position in Hours-Minutes-Seconds-Frames.

Current Position

Gives the time position of **Current cursor** in Hours-Minutes-Seconds-Frames.

Donne la position temporelle du curseur courant en Heures-Minutes-Secondes-Trames.

If you click in this window, a menu is proposed to quickly move this cursor to special points of the mix (Left locator, Right locator) or to force to a specific position in Hours-Minutes-Seconds-Frames.

End of Mix position

Gives the time position of the **End of existing recording** in Hours-Minutes-Seconds-Frames.

Return to Beginning

Directly positions the current cursor to Beginning of the mix (Position 00-00-00-00).

Fast Rewind

Fast rewind of current position cursor.

Rewind

Rewind of current position cursor.

Forward

Forward of current position cursor.

Fast Forward

Fast forward of current position cursor.

Go to End

Directly positions the current cursor to End of the mix.

Stop

Stops playing or Recording.

Play

Go into Play mode.

Recording

Go into Recording mode.

Depending if <u>AU</u> (Automation) button is active or not, it is an **Audio data recording** or an **Automation events recording**.

Recording always proceeds from Left locator position and stops automatically at Right locator position (PUNCH-IN/PUNCH-OUT mode).

If current position is **before** the Left Locator, mix is read from this current position and recording begins when time position equals left locator position.

If current position is **after** the Left Locator, reading the mix and recording are launched simultaneously from left locator position, the rest of the process is the same as above.

Playback of the mix is normally stopped when right locator position is reached, user can decide to stop manually the playback by unchecking **Automatic Stop** parameter in ***"Options/Recording"*** menu.

In both cases , user then decides if recording is valid and has to be embedded in current mix or not.

It is not allowed to record while in LOOP mode.

Studio *Synchro and Automation*

In the following snapshot, click in an area to get help.

Loop button

Allows Playing in Loop mode between left and right locators.

This mode is not allowed in Recording (Audio or Automation)

Loop indicator

Displays <> when Loop mode has been activated.

Studio Automation button

Allows Recording and Playing an Automation file of volumes and balance modifications events.

Automation indicator

Displays AU when Automation mode has been activated.

Synchro button

Allows sending on **MIDI OUT (Synchro)** port of MTC code to synchronize SMPTE equipments.

Quartz STUDIO is always "**Master**" of a synchronization process.

Synchro indicator

Displays SC when Syncro mode has been activated.

MCI MIDI file activation button

Allows reading in synchro with the mix, the MIDI file previously defined in dialog *__Options/Midi file__*

MIDI synchro indicator

Displays MD when MIDI button has been activated.

MCI CD track activation button

Allows reading in synchro with the mix, the CD AUDIO track previously defined in dialog ***Options/CD Audio***

CD track synchro indicator

Displays CD when CD AUDIO button has been activated.

MCI VIDEO file activation button

Allows reading in synchro with the mix, the VIDEO file previously defined in dialog ***Options/Video file***

VIDEO synchro indicator

Displays VD when VIDEO button has been activated.

"Master" Volumes
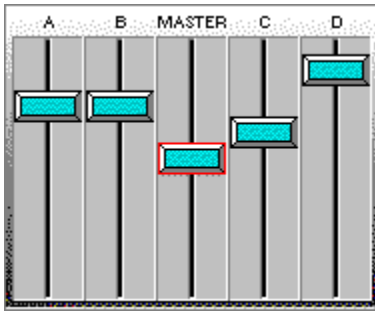
Allow Output levels adjustments for the sound boards or groups defined as A, B, C or D.

The letters A, B, C and D correspond to the assignement in the dialog   ***Options/Inputs-Outputs*** or to the assignement of the <u>Group</u> .

Micro Help

Displays a context sensitive help line for the function who has got the "focus".

Waveforms window

Displays the Audio data waveforms of the 8 tracks.

You can also move in the mix and set locator positions for further Editing actions.

In the following snapshot, click in an area to get help.
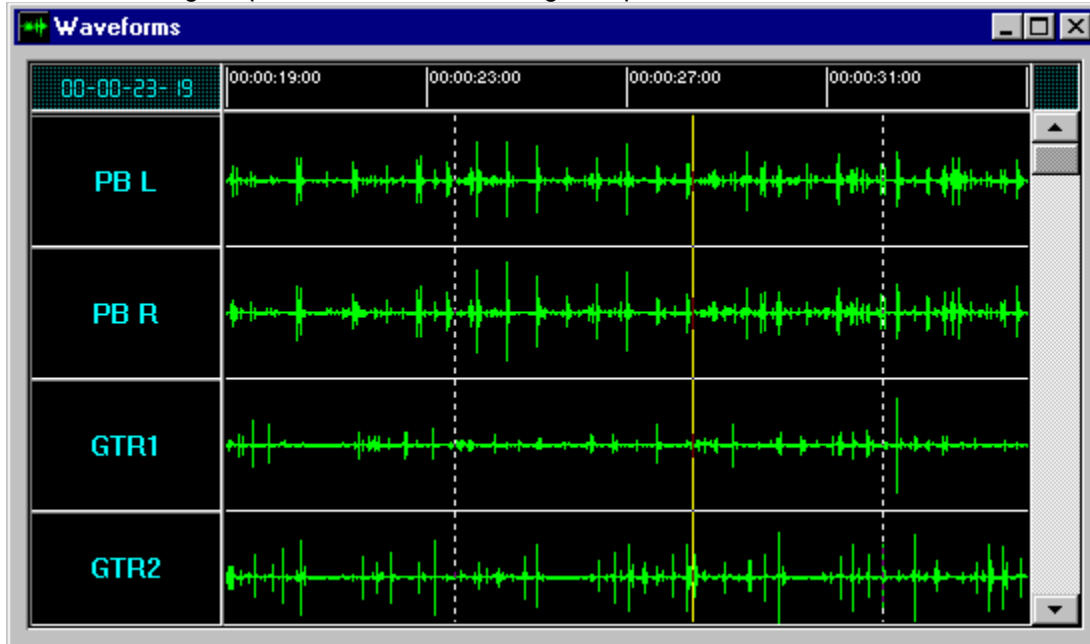
Mouse position counter

Gives the position in Hours-Minutes-Seconds-Frames of the the **Mouse cursor position** on the waveforms grid.

Allows a precise positionning of <u>Current position cursor</u>   and <u>left</u> or <u>right</u> locators.

On the whole grid : One horizontal pixel = One frame (Image)

Studio Tracks

Gives the Track reference name defined in each <u>slice of the console</u>

Default values display 1,2,3,4,5,6,7,8.

 Time ruler

Time reference for waveforms display in Hours-Minutes-Seconds-Frames.

On the whole grid : One horizontal pixel = One frame (Image)

 Waveforms

Graphic representation of Audio data for the 8 tracks of the console.

Current position cursor

Cursor used as a reference point when <u>Reading</u> a mix   and positionning Editing results in the following operations: <u>Paste</u>, <u>Move</u>, <u>Tracking</u>   .

Current position cursor is set on the waveforms grid by clicking with **left button** of the mouse anywhere on the grid.

PLAY and STOP of the mix are activated by clicking with **right button** of the mouse (toggle).

 Left locator

Displays <u>Left locator</u> position.

Left locator is set by clicking with **left button** of the mouse while pressing **SHIFT** key on keyboard.

Locators are used in <u>Recording</u> and Editing (<u>Cut</u>, <u>Copy</u>, <u>Move</u>, <u>Tracking</u>) operations.

Right locator

Displays <u>Right locator</u> position.

Right locator is set by clicking with **Right button** of the mouse while pressing **SHIFT** key on keyboard.

Locators are used in <u>Recording</u> and Editing (<u>Cut</u>, <u>Copy</u>, <u>Move</u>, <u>Tracking</u>) operations.

Tracks vertical scroll bar

Allows scrolling vertically the 8 tracks of the mix.

Studio Automation window

Allows to display automation **Events**, to modify them and to create new events.

Automation events are saved in **.QRA** files using function **_File/Save Automation_**

In the following snapshot, click in an area to get help.

List of Automation Events

Time	Track	Type	Value
00:00:00:00	8	Balance	0
00:00:00:00	8	Track	Off
00:00:00:00	8	Volume	128
00:00:00:00	Bus A	Volume	128
00:00:00:00	Bus B	Volume	128
00:00:00:00	Bus C	Volume	128
00:00:00:00	Bus D	Volume	128
00:00:00:00	CHO L	Balance	-64
00:00:00:00	CHO L	Track	On
00:00:00:00	CHO L	Volume	124
00:00:00:00	CHO R	Balance	64
00:00:00:00	CHO R	Track	On
00:00:00:00	CHO R	Volume	122

Sort By
- ⦿ Time
- ◯ Track
- ◯ Type

ADD

DELETE

EDIT

SEL. ALL

SELECT AN AUTOMATION EVENT...

HELP

Studio **Automation events**

List of Automation events associated with current mix.

To edit one event, simply click on it in the list and activate EDIT button, or double-click on this event in the list.

An automation event is defined by:

- A time position:**Time i**n Hours-Minutes-Seconds-Frames

- The **Track** on which it occurs which can be one of the 8 **tracks** of the console, one of the **Master outputs** A,B,C,D or **Main master**.

- A **Type** of event which can be:

  TRACK (active=ON or inactive=OFF)

  VOLUME (the level between 0 and 128)

  BALANCE (between -64=full left and +64=full right)

- A **Value** (depends of the Type, see above)

These events can be Sorted, Edited, Deleted .

To select an event, click on it in the list; multi-selection is allowed to delete several events at the same time.

Studio **Edit an automation event**

H	M	S	F	Track	Type	Value
00	01	35	00	GTR1 ▼	Volume ▼	64 ▼

| OK | CANCEL |

SELECT AUTOMATION EVENT TYPE... | HELP

Parameters that can be modified are:

- The time position:**Time i**n Hours-Minutes-Seconds-Frames
- The **Track** on which it occurs which can be one of the 8 **tracks** of the console, one of the **Master outputs** A,B,C,D or **Main master**.
- The **Type** of event which can be:

  TRACK (active=ON or inactive=OFF)

  VOLUME (the level between 0 and 128)

  BALANCE (between -64=full left and +64=full right)
- The **Value** (depends of the Type, see above)

For a given **Time position**, there can be only **One** automation event of a given **Type**.

Delete an automation event

Clears from the list one or several events previously selected.

Add an automation event

Opens an <u>Edition</u> dialog box to create a new automation event.

For a given **Time position**, there can be only **One** automation event of a given **Type**.

Sort automation events

Automation events can be sorted by Increasing order function of:

- their Time position,
- the track on which event occurs,
- the type of event (see <u>Event list</u>)

Select all events

Selects the complete list of events to delete them and create a new automation list.

Studio *Markers window*

Displays the Markers , allows to Edit them or create new cues.

You can also modify the position of the locators or current position cursor in accordance with a selected marker.

A maximum of 32 markers can be defined for a given mix.

Markers postions and names are saved in the mix.

In the following snapshot, click in an area to get help.

Markers

```
00:00:08:15 - APPLAUSE
00:00:12:13 - 00:00:12:13
00:00:16:19 - 00:00:16:19
00:00:20:19 - GUITAR
00:00:24:19 - 00:00:24:19
00:00:34:13 - 00:00:34:13
00:00:40:20 - 00:00:40:20
00:00:52:13 - 00:00:52:13
00:01:02:00 - MARKER 3
00:01:11:14 - 00:01:11:14
```

ADD
DELETE
EDIT
CATCH
LEFT LOC
RIGHT LOC
POS

SELECT A MARKER...

HELP
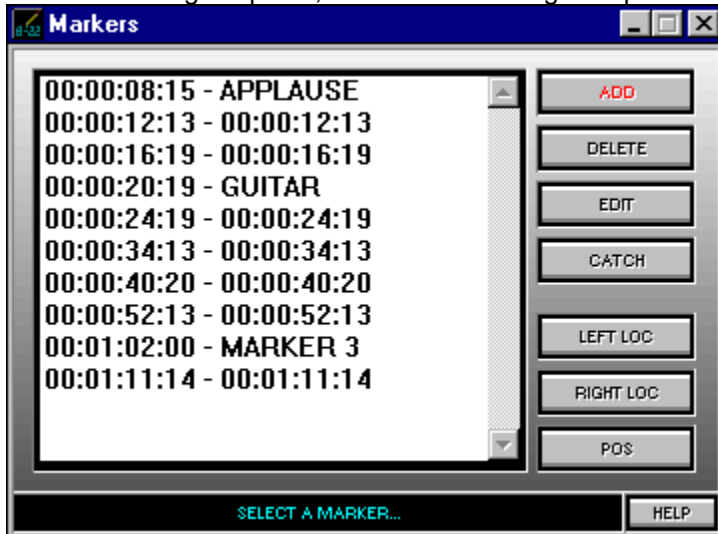
Change current position to a marker

Forces the current position cursor to time position of the selected marker.

If several markers are selected, it's the first one in the list which is taken into account.

Change right locator to a marker

Forces the right locator to time position of the selected marker.

If several markers are selected, it's the first one in the list which is taken into account.

Change left locator to a marker

Forces the left locator to time position of the selected marker.

If several markers are selected, it's the first one in the list which is taken into account.

Catch a marker

Create a marker at the current cursor position.

As default, Quartz STUDIO gives for marker name the current position in Hours-Minutes-Seconds-Frames.

This marker can then be edited using EDIT button to give the characteristics required by user.

Studio **Edit a marker**

Clicking on this button opens a dialog box allowing the modification of selected marker's characteristics.

Positon is given in Hours-Minutes-Seconds-Frames.

Marker					
NAME		**H**	**M**	**S**	**F**
INTRO		00	00	04	20
OK			CANCEL		

TYPE IN MARKER NAME... [HELP]

You can modify selected marker's position by entering a new value in the corresponding **Time** boxes of the dialog.

You can give a new name to the selected marker by entering it in the NAME box of the dialog, this name will appear in the TRANSPORT window when reading the mix.

Delete a marker

Clears one or several markers selected in the list.

Add a marker

Adds a marker to the list.

By default, the added marker is set to ZERO postion.

This marker can then be edited using EDIT button to give the characteristics required by user, POSITION and NAME.

List of the markers

Displays the list of all markers associated to current mix by time position increasing value.

To edit one marker, simply click on it in the list and activate EDIT button.

A marker is defined by:

- A time position:**Time i**n Hours-Minutes-Seconds-Frames
- A name, which can simply be the position if no name has been given.

To select a marker, click on it in the list; multi-selection is allowed to delete several markers at the same time.

Spatial display window

Gives a user friendly display of Levels and Balances for each of the tracks in stereophonic space.

Allows modification in real time of tracks levels and pans when dubbing a video, for example.

Each track is represented as a square including its number fro 1 to 8.

When moving the square in the area, you modify level and balances for the selected track exactly as if you were using 3D potentiometers.

The modifications are reported to the console Level and Balance potentiometers.

(In the same way, modification of the sliders and knobs on the console are reported in the Spatial display window)

In the following snapshot, click on a track number to see the corresponding Level and Balance values on the console potentiometers.
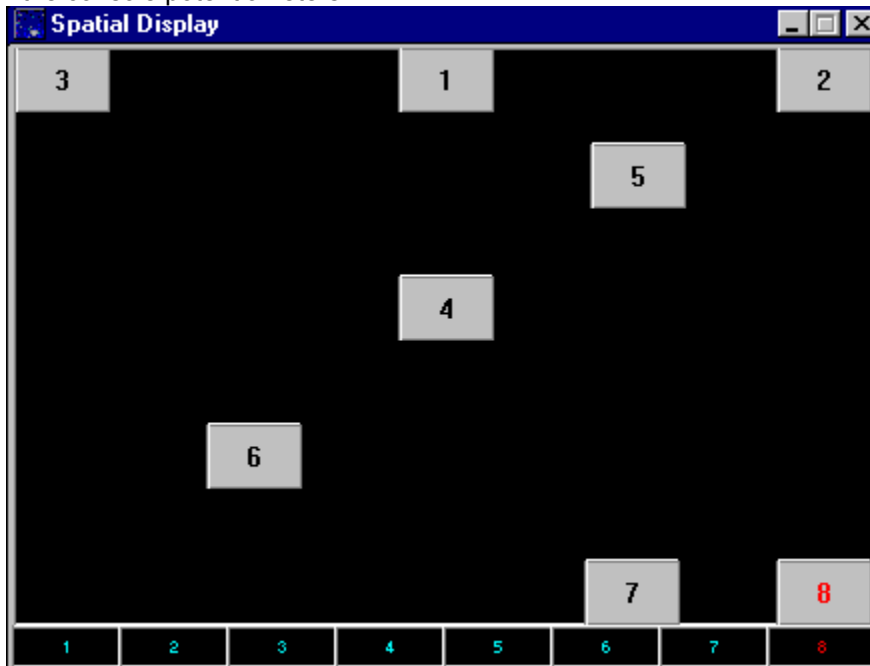
Select a Track

This area allows to select a track object on the spatial display to be put in foreground, it is then easy to move the square to the required position.

This area gives the names of the tracks as defined in the track slices, the squares indicate the corresponding numbering 1 to 8.

 Track 1

BALANCE

TRACK

0

SOLO

DSP

NAME

MAX_CTR

VOLUME

Volume is Maximum,
Balance is Centered.

Studio **Track 2**

BALANCE

TRACK

0

SOLO

DSP

NAME

MAX_RIG

VOLUME

Volume is Maximum,
Balance is Full Right.

Studio **Track 3**

BALANCE

TRACK

0

SOLO

DSP

NAME

MAX_LFT

VOLUME

Volume is Maximum,
Balance is Full Left.

Studio **Track 4**

BALANCE

TRACK

0

SOLO

DSP

NAME

MED_CTR
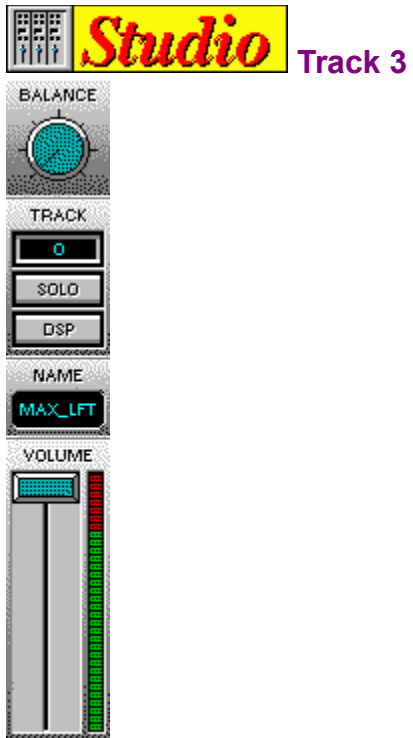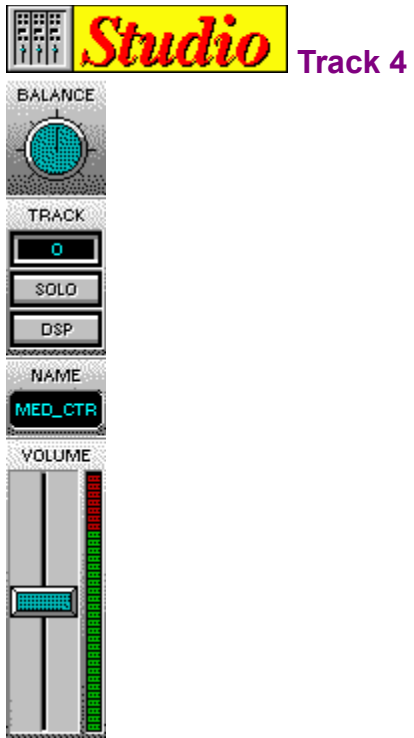
VOLUME

Volume is at Mid-Range,
Balance is Centered.

Studio **Track 5**

BALANCE

TRACK

O

SOLO

DSP

NAME

3/4_+R

VOLUME

Volume is 75 %,
Balance is 3/4 Right.

Studio **Track 6**

BALANCE

TRACK

0

SOLO

DSP

NAME

1/4_+L
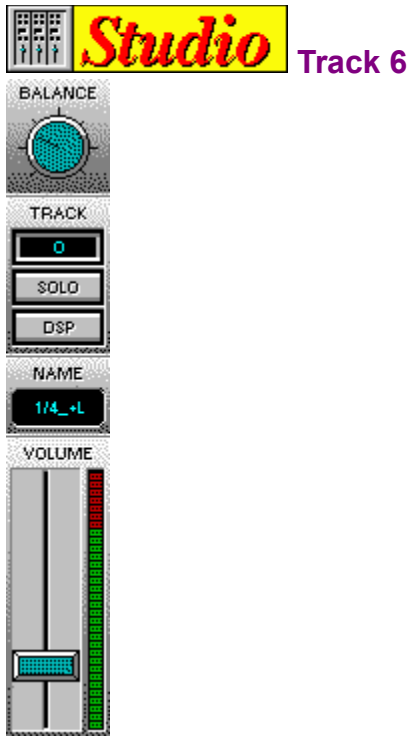
VOLUME

Volume is 25 %,
Balance is 3/4 Left.

Studio **Track 7**

BALANCE

TRACK

O

SOLO

DSP
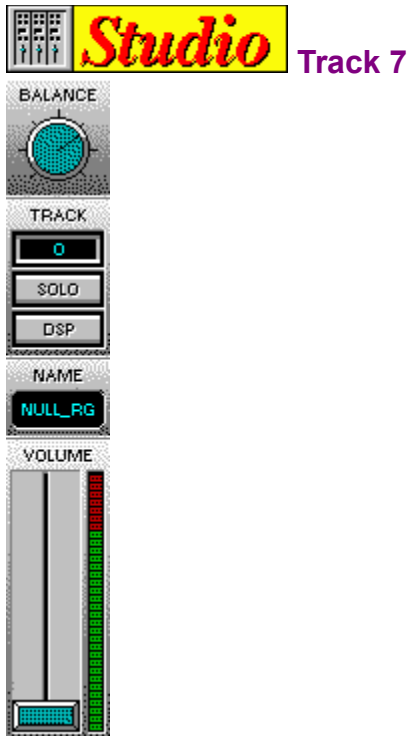
NAME

NULL_RG

VOLUME

Volume is Null,
Balance is 3/4 Right.

Studio **Track 8**

BALANCE

TRACK

0

SOLO

DSP

NAME

NULL_RG

VOLUME

Volume is Null,
Balance is Full Right.

 The Menus

The Menus are accessible in "**Functions**" area of the main window.

In the following snapshot, click on a function to get help.

The QMTC driver

Quartz STUDIO is supplied with QMTC, a MIDI peripheral device manager
which is used for the time synchronization (MTC: MIDI Time Code) between
Quartz STUDIO and another program on the same P.C. (MIDI Sequencer,   etc....)

The driver is composed of an Input: **QMTC MIDI Input** and an Output: **QMTC
MIDI Output**.

As Quartz STUDIO is always "**Master**" in a synchro process, it will use **MIDI Out Port** and Slave
program will use MIDI IN Port.
For Quartz STUDIO to handle this driver and send all its MTC code synchro information, you need to
define **QMTC MIDI Output** in ***Options/Inputs-Outputs*** **MIDI OUT (Sync) port.**

Quartz STUDIO works always in **25 frames per second** (Video EBU).

This allows synchronization of a MIDI sequencer which is able to process MIDI TIME CODE, for
example, without any external cabling.

Installation under Windows 95

The QMTC driver is not compatible with Windows NT
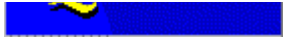
Installing QMTC under   Windows 95

- Open Windows Configuration Panel.
- Double-Click on the "Add New Hardware" icon.
- Click on 'Next' in the dialog box.
- Cliquez on the 'No' button in the dialog box.
- Click on 'Next' in the dialog box.
- Select in the list "Sound, Video and game controllers".
- Click on 'Next'.
- Click 'Have Disk'.
- Insert QUARTZ STUDIO Master CD in the CD-ROM Drive.
- Be sure to have the displayed path corresponding to the disk drive you've
   inserted the CD in, the information file for installing the driver
   is located in the following path of the CD: ENGLISH\STUDIO
- Click on 'OK'.
- In the box, click on 'OK'.
- Click on 'Finish' in the "Add New Hardware Wizard" dialog box.

Studio Standard Keyboard shortcuts

These are the "factory settings", Menus and Commands accelerators can be defined by the user.
Please read the paragraph Keyboards Shortcuts to know how they can be defined.

Menus:

CTRL + N	New Mix
CTRL + O	Open Mix
CTRL + E	Save Mix As...
CTRL + S	Save Mix
ALT + CTRL +N	New Automation
ALT + CTRL +O	Open Automation
ALT + CTRL +E	Save Automation As...
ALT + CTRL +S	Save Automation
ALT + A	Import Wave
ALT + W	Export Wave
ALT + X	Export for Quartz AUDIO
ALT + F4	Quit Quartz STUDIO
CTRL + X	Cut
CTRL + C	Copy
CTRL + V	Paste
Del	Clear
ALT + M	Move
ALT + K	Tracking
ALT + F	Preferences
ALT + 1 (numeric keys)	Waveforms Window
ALT + 2 (numeric keys)	Markers Window
ALT + 4 (numeric keys)	Spatial display Window
CTRL + F1	Calls Quartz STUDIO Help File

Transport and Commands:

Space Bar	Toggle Play/Stop
F7	Loop
F8	Recording
0 (numeric keyboard)	Go to point Zero of the Mix

Studio *Questions/Answers*

How to configure my Windows 95 system for optimal working with Quartz STUDIO ?

Quartz STUDIO is a real-time application, it is necessary to let it manage the system resources without interference with any other application.

- have all your hard disks carefully defragmented

- do not use hard disk compression or memory doubler

- do not run other applications while using Quartz STUDIO.

- disable background programs that can take time scanning status or intercept file transfers:

     - disable anti-virus software

     - disable power management software

     - disable screen saver software

     - disable CD-ROM auto-insert notification

- Prevent Windows 95 from writing files on disk in background by disabling "Write-behind caching for all drives" in *Control Panel/System/Performance/File System/Troubleshooting*

- Prevent Windows 95 from resizing swap file on disk by setting a fixed value for virtual memory

In *Control Panel/System/Performance/Virtual memory*, choose : *Let me specify my own virtual memory settings* and set *Minimum* and *Maximum* values to between 1 and 2 times your amount of RAM

(32 is a good value if you have 16 or 32 Mbytes RAM memory; 64 if you have more RAM installed)

- Prevent Windows 95 from using all your available RAM for caching files when reading

Open SYSTEM.INI file (located in your Windows directory) in NOTEPAD editor

In section [VCACHE] , add the following line (or modify it if it already exists)

MaxFileCache=4096 if you have 16 Mbytes RAM or MaxFileCache=8192 if you have 32 Mbytes or more RAM memory.

Can I use Quartz STUDIO under Windows NT 4 ?

Yes, STUDIO 32 is a native 32 bit application which takes advantage of NT operating system.

If your sound card has a reliable NT driver you will work smoothly under NT 4.

One of the unique features is to be able to resize or move Quartz STUDIO windows while keeping operation of bargraphs or counters during the move, which is not possible under Windows 95.

However, the QMTC driver is not usable under Windows NT.

How much space do I need on my hard disk to use STUDIO ?

Quartz STUDIO uses a specific file format on disk to achieve simultaneous multi-track Play and Record. Tracks are interleaved in 40 ms slices.

That requires a fixed file format. Consequently, space necessary on disk is the same one whichever the number of tracks which are used in the mix : 40 MBytes per minute of mix. It corresponds to 8 times 5 MBytes necessary for 1 mono track in 44.1 kHz 16 bits.

Which files are used in Quartz STUDIO ?

Basic mix file of Quartz STUDIO is the **.QRM file**, it includes all audio data of your mix in interleaved format of 40 ms slices, audio data are in 44.1 kHz, 16 bit resolution requiring 40 MBytes per minute of recording.

In addition, the .QRM file includes all information regarding the settings of each track slice when it has been saved on disk : Bus settings for Input and Output, Name of track, Open or Closed, Solo or not, Volume and Balance settings, Effects applied and their parameters

It also includes the settings for volumes of individual Output busses A, B, C and D, as well as Master's.

All general information are also saved in the mix : Time positions of Locators and current position cursor, Cues (Markers), pathes and offset of linked files for MIDI, VIDEO and CD track, if any, status of the controls for LOOP, SYNCHRO and MCI activation (MD, VD and CD)

Consequently, when you open a .QRM mix file, you retrieve your complete workspace.

Quartz STUDIO needs an "Image file" to display quickly sound shapes when in Waveforms window, it's the **.QRI file** which is updated each time a modification is done in the mix file. The .QRI file is created in the same directory as the .QRM file with the same name as the .QRM. It only needs a few kilobytes.

Quartz STUDIO creates also a **.QRX** file including the information concerning the effects which were present when the mix was saved.The .QRX file is created in the same directory as the .QRM file with the same name as the .QRM. It only needs a few kilobytes.

If an automation was recorded and saved, a **.QRA** file is created. This file has to be named and saved by the user.   It only needs a few kilobytes.

If you save your automation in the same directory as your mix **with the same name as your mix**, it will be loaded concurrently with your mix file.

What does mean PUNCH-IN/PUNCH OUT in STUDIO ?

It means that all recordings are done between Left and Right locators.

This apply to recording Audio signals and Automation events. This allows to change only the part you want to re-record without changing what is before and after (you can change as little as 1 frame of 40 ms). As a consequence you need first to set the locators to the

desired values before you make any recording in STUDIO and to set the input or inputs to the track or tracks you want to modify.

However you can listen to all the tracks on which a record input is not set, even from the beginning of your audio marerial; recording process will be automatically set on at left locator position and released when right locator is reached.

I already have a Wave file I want to use in my new song, how can I import it in STUDIO?

Very simply.

First determine where you need to include it in your new mix, may be you don't want this file to be put at the beginning of your mix, in this case, set the current position at the time you want the file to be imported : click in position counter and "*change position*" in pop-up menu presented.

Remember all Time information in STUDIO are given in Hours/Minutes/Seconds and Frames (Frames are based on 25 images per second, so one frame is 40 milliseconds)

Go to *FILE* menu and activate *Import.*   You will be presented a File selection box "*Import a sound file*". Select the Wave file you want to Import in STUDIO.

An indicator will display the characteristics of the file (sampling frequency, 8 or 16 bits, 1 or 2 channels)

It is also possible to launch playing of the file when selecting, by checking "Auto Audition" checkbox.

Open the file, an Import dialog box is then displayed; this box will give you information on where the file will be inserted and ask you on which track (or tracks if it is stereo) it has to be put. Select the destination Track (or Tracks).

Quartz STUDIO then includes the Wave file in its mix and computes the display image which is used in Waveforms window.

I want to import an existing sample and repeat it let's say 20 times on a track to use it as rhythm basis for my next recordings, how to do this ?

First import it as explained in the previous answer at the place and on the track where you want your first sample to be put. Open the Waveforms window (EDIT *Waveforms*) to directly work in a visual way.

If it is a brand new mix (no other elements than the one you have just imported), click in the left locator counter and set it to the current position (Left locator = Position in the pop-up menu), then click in the right locator counter and set it to the end of your sample (Right locator = End in the pop-up menu).

Go to EDIT menu and activate "*Copy*", select the track on which your sample is (or 2 tracks if it a stereo sample), activate "*Paste*" and enter the number of repeats you need (max = 99).

If it is an existing mix, set the locators manually at the beginning and end of your sample to be looped and do the same *Copy/Paste* operation.

To easily set left and right locators in the Waveforms window :

Press SHIFT on keyboard while pressing left mouse button for left locator, press SHIFT on keyboard while pressing right mouse button for right locator.

I want to use a sample to be repeated, as in the previous question, but this sample is part of my existing mix, is it possible ?

Yes, you need to do this in two operations.

Open the Waveforms window (EDIT *Waveforms*) to directly work in a visual way.

First set the locators manually at the beginning and end of your sample (use the LOOP button <> and mouse position counter to help you find the exact loop points)

To easily set left and right locators in the Waveforms window :

Press SHIFT on keyboard while pressing left mouse button for left locator, press SHIFT on keyboard while pressing right mouse button for right locator.

Go to EDIT menu and activate "*Tracking*", select the track on which your sample is (or 2 tracks if it a stereo sample).

The source track(s) need(s) to be open and the Volume and Pan have to be set at the level you want your loop to be repeated.

Select the destination track (or tracks) you want the sample to be put and activate OK button.

The sample is "Tracked" once on the destination track (or tracks), at the place where it was on the other track(s), between both locators.

Your first sample probably needs to be set at another time position?

Set the current position cursor at the exact place you need your first sample to begin.

Go to EDIT menu and activate "*Cut*", select the track on which your sample is (or 2 tracks if it a stereo sample), activate "*Paste*" and enter the number of repeats you need (max = 99).

That's it. Quartz STUDIO then includes the repeated sample in its mix and computes the display image which is used in Waveforms window.

I have done an automation for my mix and want to have it loaded each time I load this mix, have I to reload this automation each time I load my mix ?

No, if you save your automation in the same directory as your mix **with the same name as your mix**, it will be loaded concurrently with your mix file.

For the automation to be taken into account, you need to press AU button in Synchro and Automation control area.

You can anyway choose to open any automation file using menu FILE / *Open Automation*.