With Cubase and Nuendo being created from the same code and both of them sharing one common DAW feature set three questions are often asked:

QUESTION 1 *"Who is the Cubase user and who is it that needs Nuendo?"*

QUESTION 2 *"What is the exact difference between Cubase and Nuendo?"*

QUESTION 3 *"What is it that is provided extra with Nuendo?*

ANSWER 1 *"If you are creating or producing music, Cubase SX is clearly designed for your needs. Everything developed at Steinberg which is needed for musical applications is included in Cubase. Only if your work also involves audio post production parts for film or television, demands extended surround features or includes delivering for multi media sound Nuendo should be the tool of choice. Nuendo alone offers features tailored to meet the requirements of these projects."*

ANSWER 2 *"Aside from the fact that Nuendo is perceived differently in the user base, the difference lies in the feature set. While both Nuendo and Cubase share a common set of standard DAW functionalities and are both equipped with a fantastic feature set for music production, Nuendo adds functionalities tailored to meet the demands of those working in post production, multimedia and surround projects. Due to the extensive feature set of Nuendo, customization is also taken further than in Cubase SX to allow users to set up the system according to their individual needs in respect to the project they are working on."*

ANSWER 3

Please refer to the below list to learn about all features that are provided extra for Nuendo users compared to Cubase SX.

What it is that Nuendo provides extra

While Nuendo always incorporates all features included in Cubase SX, the following features are provided extra:

Network Collaboration

The **Network Collaboration** capabilities of Nuendo 2.1 allow true networking and team-working on projects. It allows users to connect multiple Nuendo workstation computers via standard LAN network cards. An entire project or just selected tracks can be opened on multiple computers for other members of the network to access and edit. Complete management of access rights and user groups makes it easy to collaborate on large-scale projects.

- The **User Manager** is the place to view all users in the network and define what other Nuendo users are allowed to do with your project. Are they able to read just some or all tracks? And even more important: Are they allowed to edit them as well? This decision is naturally made by the owner of a project.

- Network **Permission Presets** are real time savers. Once permissions are defined, they can be stored as presets and be recalled or edited for other projects.

- **Committing** changes is the most important feature of the network collaboration feature set. Edits made to you tracks or the tracks of others are transferred to the other systems connected.

- **Loading Changes** will update one or more tracks of a project so the work of other team members is integrated.

- **Automatically Apply Changes** applies immediate updates as soon as they are available in the network.

- The **Shared Projects List** provides an overview on all projects that have been opened for network access by their owners. The viewer's personal access rights are visible next to the projects.

- **Locking Tracks** makes it possible to get exclusive access to a certain track in case multiple users have editing rights. A track stays locked for the user who placed the lock until he himself or the owner of the corresponding project removes the lock.
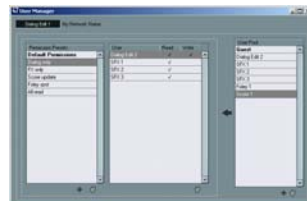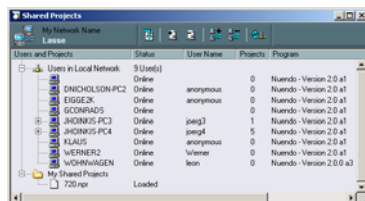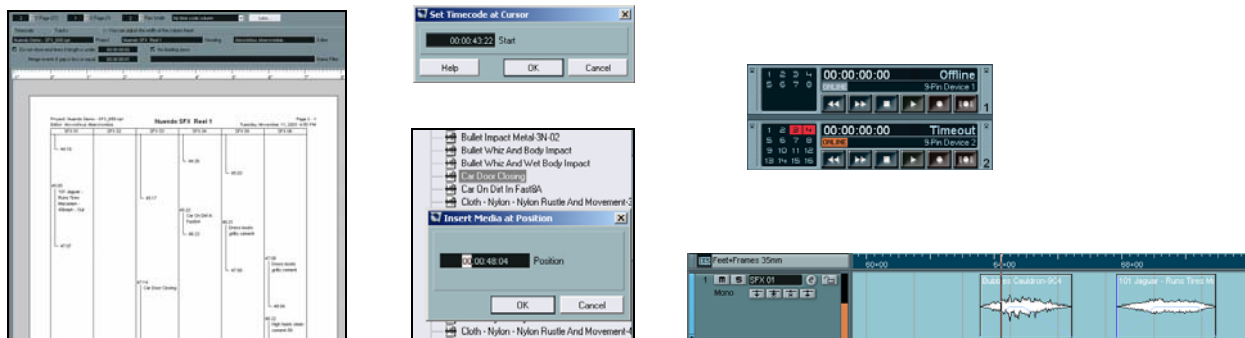

Project formats

Being able to exchange projects with other workstations is a mandatory requirement for any modern media production software. In addition to the wide range of file formats supported by Nuendo and the inclusion of OMF for exchanging projects, the following exchange formats are available in Nuendo to swap files with devices such as Tascam or AKAI dubbers, high end digital workstations from Fairlight, SADie and Fairlight, as well as importing edit decision lists from Adobe Premiere.

- **AES-31 s**upport

- **OpenTL 3.0** support

- **Premiere Generic EDL** support

Functionalities for "audio to picture" work

Alongside the usual workstation capabilities found in musical environments today, those dealing with "audio to picture" often have additional demands. The following functionalities are exclusively available in Nuendo to support those working for film, television or multimedia:

- Display **Film Formats** (feet and frames for 16mm and 35 mm film) in timeline and counters.

- Command **Set Timecode at Cursor Position** for quickly adapting projects in time.

- **Edit Mode** for syncing events & fades to the picture. The picture always follows while moving/trimming audio events or their fades.

- The command **Insert into Project at timecode position** which is available in the Pool enables the user to quickly transfer events from the pool into the project at specific time code positions.

- **The Track Sheet** provides a textual "flow chart" representation of the project. It lists all audio tracks and their contents and can easily be printed out.

- The ability of Nuendo to act as a **Sony 9-Pin Master** makes it possible to control 9-Pin compatible devices such as analogue or digital video decks, multi track recorders and other 9-Pin compatible applications. These devices then become a timecode master for Nuendo but their transport functionalities are comfortably controlled from within Nuendo.

Surround functionalities

In addition to enabling user to set up projects in mono and stereo as well as any standard surround formats up to 5.1, Nuendo allows for multi channel environments all the way up to 10.2. This means that every audio input, audio track, effect return, group and audio output can be six, seven, eight, nine or even twelve channels wide. For those wanting to encode their project to standard delivery formats, Nuendo supports exporting to LCRS with the included Matrix Encoder/Decoder plug-ins as well as Dolby Digital or DTS with help of optional encoder plug-ins.

- Additional Surround formats (**6.0 / 6.1 / 7.0 / 7.1 / 8.0 / 8.1 / 10.2**)

- **Matrix Encoder** and M**atrix Decoder** plug-in allowing for real-time encoding/decoding to LCRS.

- **Mix 8 to 2** plug-in for down-mixing up to 8 channels back to stereo or mono.

- Support for **Nuendo Dolby Digital Encoder** for encoding projects directly to AC3.

- Support for **Nuendo DTS Encoder** * for encoding projects directly to the DTS format.

- **MixerDelay** plug-in allowing for distance compensation and rerouting within multi-channel tracks.

- Allowance for **Optional Panner** plug-ins as an alternative to the provided Nuendo surround panner.
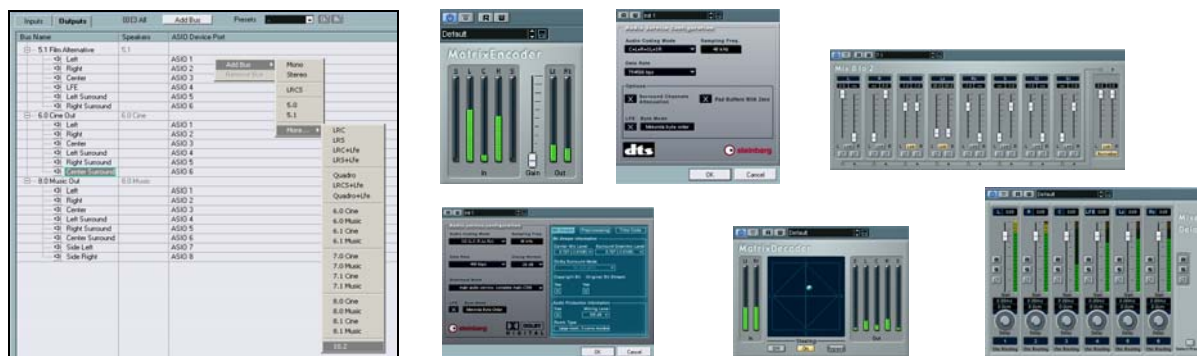
Other functionalities

An array of other functionality is included in Nuendo to provide features that have been requested by high profile studio users:

- Record Sampling Frequency up to **192 kHz** for the ultimate sound experience.

- Online Recording Mode for automatic punch in/out when receiving timecode information.

- **Advanced Cross Fade Editor** with additional options to fine tune cross fades.

- Audio process **Acoustic Stamp** which processes any desirable impulse response allowing for offline convolution effects.

- Batch Processing: The offline process history can be saved and recalled as a batch process.

- A **Fourth Mixer Instance** is available providing optimal overview on any kind of track.

- Menu Entries can be disabled in order to hide unwanted functionality.

- Key commands can be disabled in order to suppress unwanted functionality.

- Alternative Key Command Sets can be configured and toggled with a single key stroke.

- Denoiser and **Declicker** plug-in for audio restoration.

- **MultiScope** plug-in including an oscilloscope, FFT spectrum analysis as well as phase metering and a jelly-fish surround sound view.

- **TestGenerator** plug-in for generating test tones (sine, square, saw, triangle) and noise (white, brown, pink).

Hardware support

The following hardware devices are supported exclusively by Nuendo providing additional functionality.

- **Time Base Synchronizer *** This piece of technology actually provides three devices in one. First of all Time Base is a complete LTC reader/writer, an MTC reader/writer and a VITC reader/writer/inserter. Secondly Time Base is the perfect clock master with its 4 separate word clock outputs. Thirdly Time Base provides a wide library of supported 9-Pin machines not only providing additional 9-Pin master abilities for Nuendo but also enabling the Nuendo software to act as a SONY 9-Pin slave for external 9-Pin devices which can be controlled from within Nuendo. All communication between Nuendo and Time Base is achieved with help of a System Link connection guaranteeing sample accurate Sync at any time.

- The Steinberg **ID Hardware Controller** enables users to get directly in touch with their Nuendo software. ID clearly marks a new stage in hardware controller development. It was developed in tandem with the Nuendo software and provides many unique features in conjunction with Nuendo version 2.1.1 *.

* Upcoming products
DTS Encoder: January 2004
ID Hardware Controller: January 2004
Timebase Synchronizer: December 2003
Information on these products will be published November/December 2003.