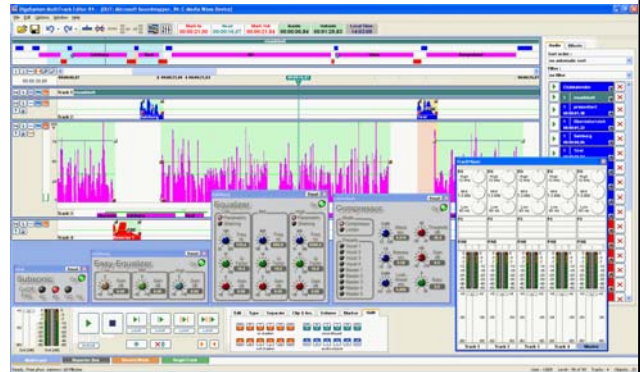




Digital Audio & Video System Integration & Development

DigaSystem.
The Radio Operating System



MultiTrack Editor V4



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1 INTRODUCTION

1.1 Overview

The MultiTrack Editor is the premier high-end audio production tool for the **DigaSystem**, featuring virtual track management and object-oriented production with unlimited tracks and clips. MultiTrack Editor 4 is the latest software version, offering a lot of new features. It works with all audio formats, supports multi-format editing and is equipped with an internal 32 bit floating-point audio engine. The new version allows sample-accurate cuts, even with MP2/MP3 files, including precise cuts with automated zero level detection as well as automated cross-fades.

The professionally redesigned GUI is grouped into four separate working areas, which are accessed through tabs at the bottom of the screen:

- MultiTrack
- Reporter Box
- Record
- SingleTrack

Each screen layout is designed to handle specific tasks, displaying only those functions essential to the current production stage.

1.2 mp3 Codec Licence Note

Please note:

For all mp3 applications within all DigaSystem modules, the following mp3 codec license notice is applicable:

“Supply of this product does not convey a license nor imply any right to distribute content created with this product in revenue-generating broadcast systems (terrestrial, satellite, cable and/or other distribution channels), streaming applications (via Internet, intranets and/or other networks), other content distribution systems (pay-audio or audio-on-demand applications and the like) or on physical media (compact discs, digital versatile discs, semiconductor chips, hard drives, memory sticks and the like). An independent license for such use is required. For details, please visit <http://mp3licensing.com>”.



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1.3 What's new in V4 **NEW**

Again, there are several new features since MTE V3. Wherever there is a new feature in MTE V4 compared to V3, there is always the **NEW** sign. For having information about the additional functionality in this upgrade, please refer to the **NEW** signs in the TOC or directly in the chapters' headlines or paragraph.

The new functions / features in MTE v4 are:

- New Design
- Completely new 32bit Floating-Point Audio Engine (MultiRec_2.ocx)
- Built-In effects "EasyEqualizer, Parametric Equalizer, Subsonic Filter and Compressor"
- Track Mixer with Master channel
- Real-time processing for volume, balance and effect parameters
- Modify volume, panorama, and parameter curve within objects
- Moving Sound head option
- Linear audio processing at the sample level
- Linear 24 bit and 96 kHz support
- Mixed operation with all supported audio and file formats possible
- Vertical zooming possible in the MultiTrack page
- Overview window in the MultiTrack page
- Waveform: Soft Scrolling
- New clipboard colors
- Definable colors for the timeline in track mode
- Time-stretching direct with timeline objects
- Adjustable pre-roll for playback
- Optimized object insertion in the Trackpage
- Definable recording format templates
- Maximal file size for recordings 4 GB
- Log files can be activated in the application settings

1.4 What's New from Version 4.181 / 4.206 **NEW**

- Supporting further relais commands: PLAYFRWD, PLAYFFWD, DOUBLESTOP, RECORD, RECORDPLAY, SET_MARK



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- Supports Ungrouping of objects in SingleTrack Page (by clicking the „U“ Symbol in the overview bar.
- Reset of Track Mixer EQ und Panning
- Keyboard Shortcuts for setting markers in Record Mode and Reporter Box
- New Clip-Create Button in Record Mode: Text-Audio Clip Button
- Question dialog when having tracks muted and saving a new file.
- Modifying the takes overall volume in Options – Takes menu command.
- Displaying the Fade curve within SingleTrack Page. Parameter: [Settings] SingleTrackShowFadeCurve=1
- Automatically loading the first take into the SingleTrack Page's edit block. Parameter: [Settings] LoadTakeToSingleTrack=1
- After an edit in SingleTrack Page, the start / end markers can be reset to the take start / end (behaviour like in former Edit Station) or just stay where they are. Parameter: [Settings] EditSelectAll=0 (values: 0, 1, default: 0)
- When loading new takes: Clipboard focus changes to last loaded clip
- Introducing the Schedule Screen: Scheduling audio clips to a list and exporting it to the NewsPlayerX.
- Marker names are taken over when creating clips („Mark to Clip“)
- Displaying the cumulative length of all clips or takes in the clipboard („Options“ menu).

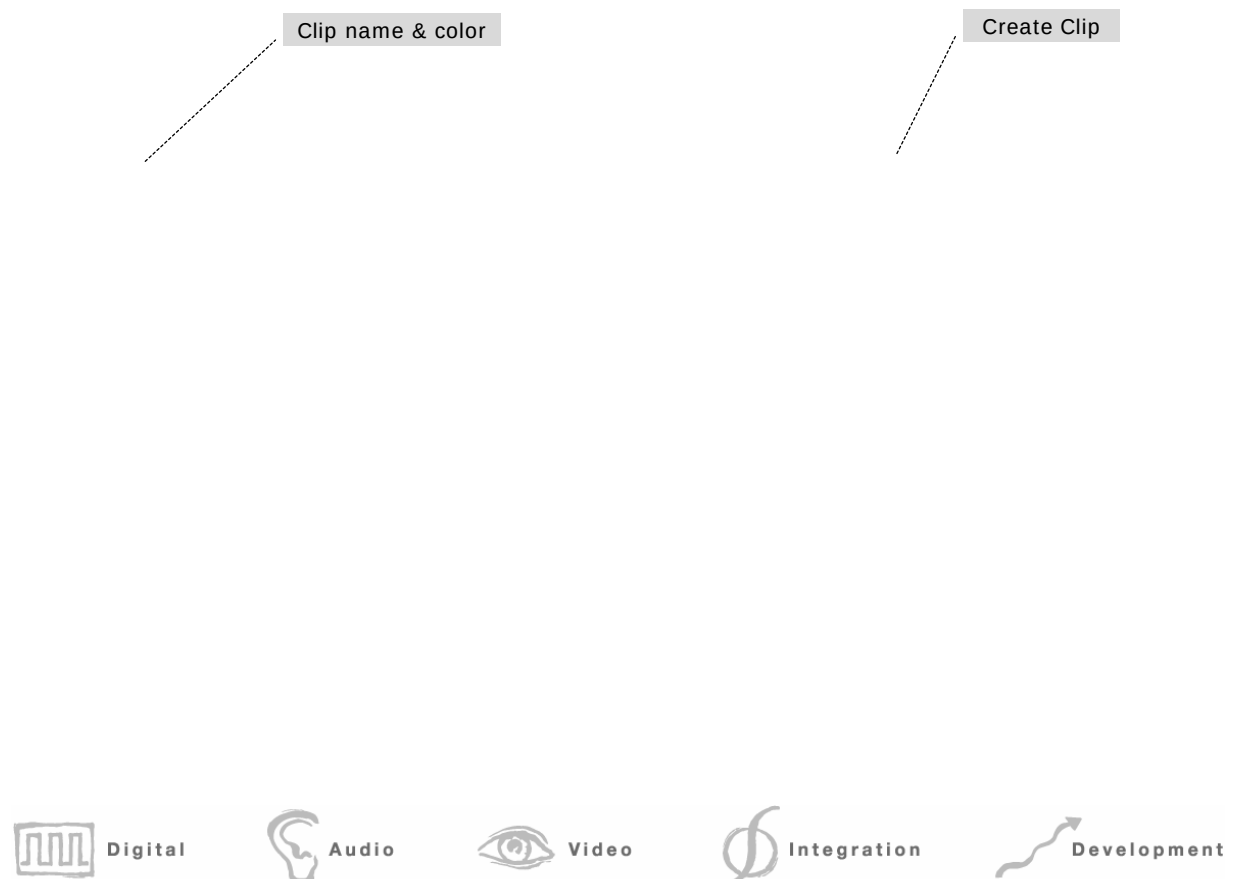


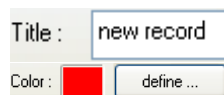
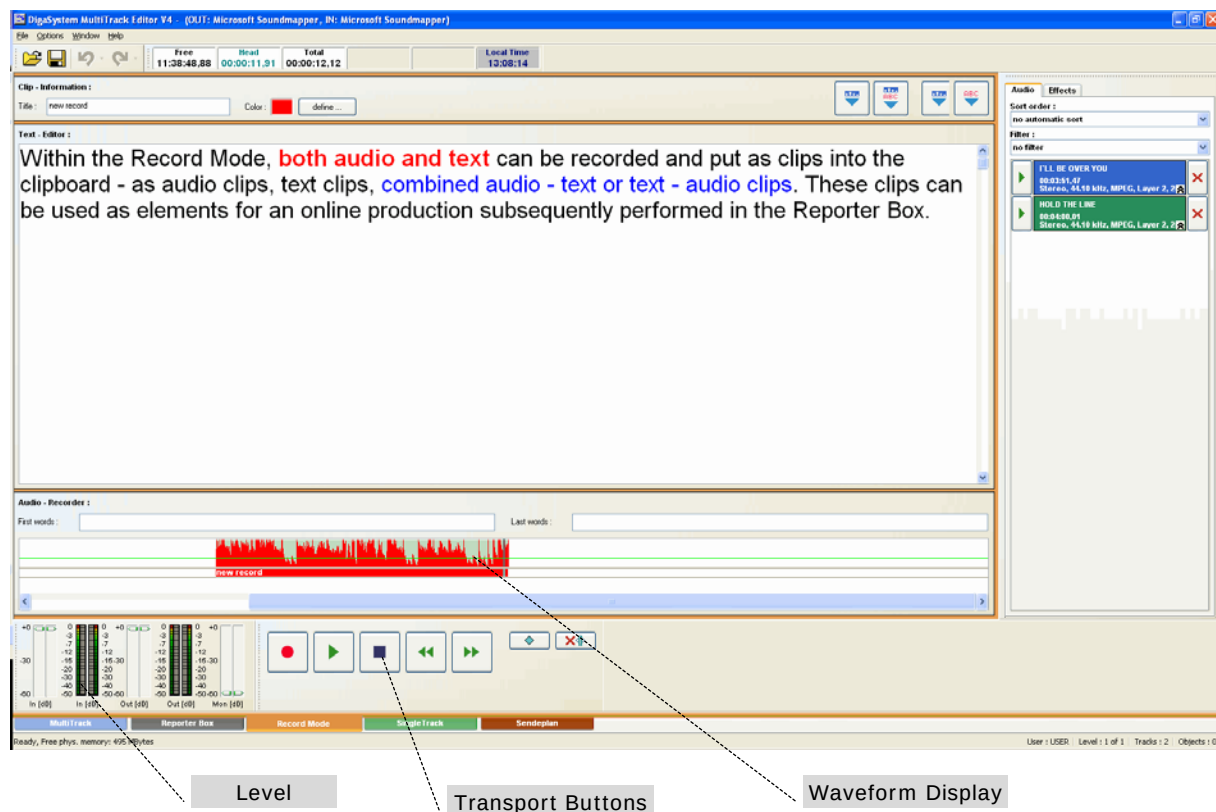
2 THE RECORD PAGE

The Record Page allows instant and convenient recording of new material within the MultiTrack environment without the need to switch back to a different recording application. The recorder features large level sliders and peak meters as well as instant wave form display of the recorded audio signal. Tape machine-like operation features punch-in recording with automatic overwrite function as well as setting of markers during recording for later editing purposes. The audio format automatically defaults to the format currently used in the MultiTrack Page, but can be set to any supported format and data rate (MPEG, WAV etc.). Recordings are automatically stored to the clipboard and can be individually named and colored for easy recognition.

2.1 Window Areas and Window Elements **NEW**

A typical Record Page window is shown in the following diagram and those elements which are not common to other pages are indicated. The Record Page serves as the location for the recording of new clips or clip elements which are then saved to the Clipboard to be further manipulated in other pages.





Clip name & color

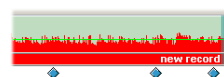
Before / during / after the recording process, the name and clip of the recording is to be defined here.



Create Clip

With these three buttons, an audio / text / combined audio-text take is created.

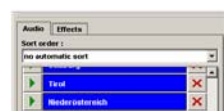
The "Combined text-audio take" button can be displayed by using the parameter MultiTrack / Settings / UseRecordScreenTextAudioButton=1.



Waveform Display

The Waveform Curve Display shows the waveform curve of the recording made up to the current time and the markers which have been set.

NEW: Soft Scrolling is implemented for a smoother waveform movement during playback. This is particularly advantageous for TFT screen users.



Clipboard

The clipboard contains all takes, clips and text elements



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used in the editor project.

NEW: In the context menu (right mouse button) of the Clipboard new color choices are readily available. Besides, the displayed colors are used by order for the different takes loaded. The clips generated get the same color as their mother takes.



Sound effects

NEW (only in MTE): Besides it contains a further tab named "Effects" which contains the D.A.V.I.D.

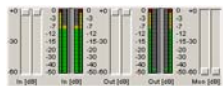
EasyEqualizer, Parametric Equalizer, Subsonic Filter and Compressor,

and 3rd party DirectX effects installed and registered in the system.



Transport Buttons

This field contains the buttons for Record and Play, Rewind and Fast Forward.



Level Display

Displays the level of the monitored and the recorded signal.



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2.2 Button Bar

The Button Bar shows the functions available on the currently-selected page.



Load audio file

Opens a sound file. The Database Manager (or, if no DBM present, the Windows selection box) opens. After a file is loaded it is put into the Clipboard.



Save as new file

Saves the current production as a new sound file to the Database (or, if no DBM present, the Windows selection box opens).



Undo

Undoes the last action. By clicking the down arrow a list of the most recent actions is displayed so that multiple actions can be selected and undone.



Redo

Redoes the last undone action. By clicking the down arrow a list of the most recent undone actions is displayed so that multiple actions can be selected and repeated.



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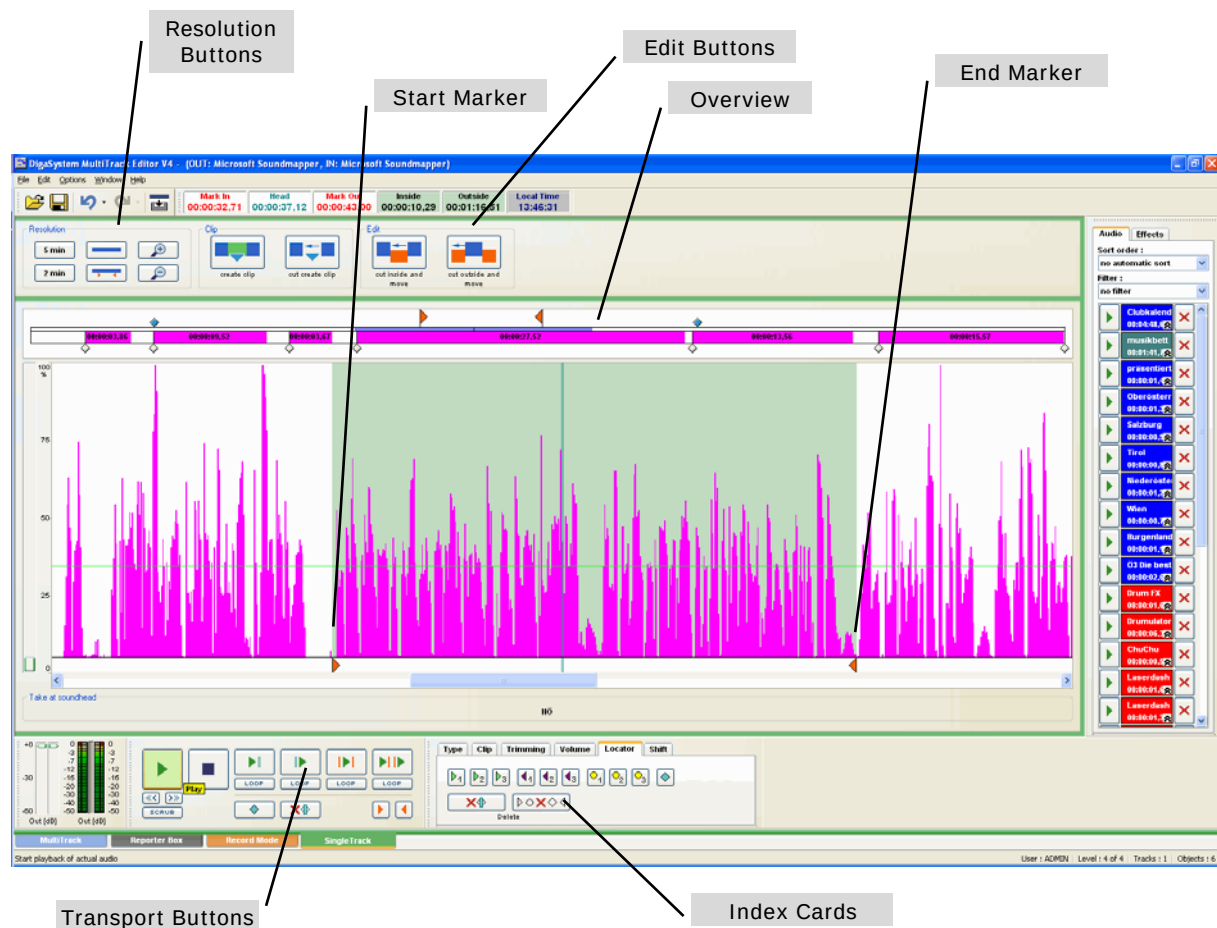
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3 THE SINGLETRACK PAGE

The Page formerly known as Edit Station Page has changed its name to SingleTrack Page, since the DigaSystem editors have developed through the years to a portfolio of easy-to-handle tools with clearly structured workflows – SingleTrack, EasyTrack, and MultiTrack.

3.1 Window Areas and Window Elements **NEW**

A typical window of the SingleTrack page is shown in the following diagram with its window areas, elements, and buttons. The SingleTrack page is used for pure and easy editing of audio contents.



Resolution Buttons

The size of the Take segment, currently displayed as a waveform in the Edit Zone, can be switched between two pre-defined values (configurable in menu OPTIONS – SETTINGS – TRACK – RESOLUTION), each having its own



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button. The middle button column offers the buttons to view the whole take or to zoom in to the current edit area. On the right, the "Zoom In" and "Zoom Out" buttons half or double the time slot from the left to the right.



Overview Bar

The Overview Bar is a horizontal representation of a whole audio item loaded into the SingleTrack Page, together with its various regions and markers.

Waveform

NEW: Soft Scrolling is implemented for a smoother waveform movement during playback. This is particularly advantageous for TFT screen users.

NEW: In the new section "GUI", the following parameters can be set for the individual timeline elements.

ClrTrackFadeLine = Color of the Volume line
ClrTrackInside = Color of the marked area outside objects
ClrTrackInsideObject = Color of the marked area of a not selected object
ClrTrackInsideObjectSelect = Color of the marked area of a selected object
ClrTrackObject = Color of a not selected object
ClrTrackObjectSelect = Color of unmarked selected objects
ClrTrackOverviewHead = Color of soundhead in overview window
ClrTrackOverviewScreenRange = Color of timeline section in overview window
ClrTrackPanLine = Color of balance line
ClrTrackParameterLine = Color of effect parameter line

The colors are entered as RGB values, for example: #000000 for black.

NEW: Phase Indicator

A phase indicator is integrated into the VU-Meter for recording as well as playback. The thresholds are found in the section "VUMeters" consists of these parameters:

PhaseThresholdInput = -50

PhaseThresholdOutput = -50

In the case of a phase inconsistency when recording or playing back, a red bar will appear in the VUMeter.

NEW: Preset the timeline resolution for MultiTrack and SingleTrack Page

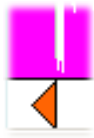
In order to preset a horizontal resolution upon MTE's start, the parameter "TimeResStartup" (Settings) can be defined in seconds.





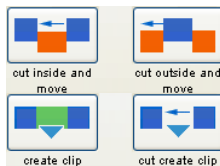
Start Marker

The Start Marker is symbolized by a red arrow pointing to the right, defining the start point for a selected edit area. Clicking the "Start Marker" places the Play Head at the Start Marker position.



End Marker

The End Marker is symbolized by a red arrow pointing to the left, defining the end point for a selected edit area. Right-Clicking the "End Marker" places the Play Head at the End Marker position.



Edit buttons

The most important edit buttons like Cut Inside / Outside and Copy / Cut and Create Clip are displayed on large buttons directly above the Track and Overview Windows.



Index Cards

Many commands are located more compactly on six index cards. Depending on which operation you are currently performing, the most closely associated index card is opened automatically. However, by simply clicking the appropriate card heading, you can open up any chosen index card whenever you like. For a detailed information see below.

Transport Buttons

Using the Transport buttons, as described below, you can activate various modes of audio playback monitoring:



Play

Single click: Playback starts from the current Play Head position.

NEW: Double-click: Playback starts with a predefined Pre-Roll, i.e., the soundhead will be set some time before the playback is to begin. The pre-roll time is adjustable under 'Options/Settings/Spur/Pre-Roll'



The **arrow buttons** below the Play button allow to play in multiple speed for-/backwards.

The **Scrub button** allows using the "tape's" scroll bar for reel-rocking-like action of playback.



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Play Left of Head

Single click: Plays x sec. of audio material (pre-defined in the "Adjustable Parameters" dialog box) which is currently seen to the left of the Play Head, stopping at the initial Play Head position.

The **Loop button** allows playing the same portion of audio material repeatedly (loop mode).



Play Right of Head

Single click: Plays x sec. of audio material (pre-defined in the "Adjustable Parameters" dialog box) which is currently seen to the right of the Play Head, returning to the initial Play Head position.

The **Loop button** allows playing the same portion of audio material repeatedly (loop mode).



Play Inside Markers

Single click: The first x sec. of audio material after the Start Marker and the last x sec. before the End Marker are played back.

The **Loop button** allows playing the same portion of audio material repeatedly (loop mode).



Play Outside Markers

Single click: The last x sec. of audio material before the Start Marker and the first x sec. after the End Marker are played back.

The **Loop button** allows playing the same portion of audio material repeatedly (loop mode).



Stop

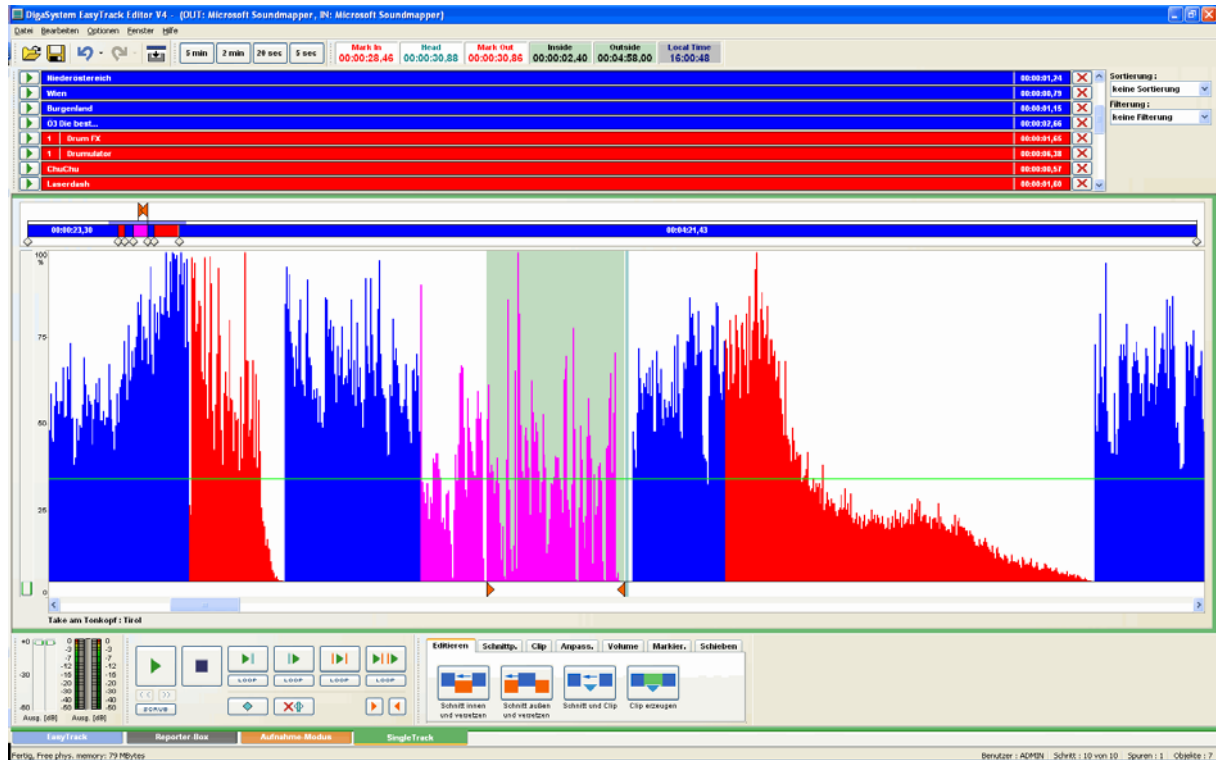
Single click: Stops playback

Double-click: Moves the Play Head to the beginning of the Audio Item.



3.1.1 The „Edit-Station-Layout“ **NEW**

In order to make the transition for former Edit Station users even more comfortable, the layout of the SingleTrack page can be adjusted to look like the former Edit Station:



When selecting the Clipboard position „top“ by using the context menu on the Clipboard's header bar, the clips / takes are shown in one line each. The durations displays of the clips are shown at the right side of each clip. So, even long clip names can be read easily. Besides, the drop-down fields „Filtering“ and „Sorting“ are displayed on the right side.

Additionally, the following parameters need to be switched:

Multitrack/Settings/„SingleTrackSmallScreenActive=1“
(default 0)

This parameter

- positions the resolution buttons in the symbol bar (4 buttons available here)
- positions the buttons of the „edit“ and „clip“ groups into



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the Edit Tools Bar ("Edit" and "Clip" tab)

In order to configure the resolution buttons in the symbol bar, the following parameters are used:

Section: Multitrack/Settings

Parameter:

ResolutionButton1 / ResolutionButton2 /
ResolutionButton3 /
ResolutionButton4

Available values:

TimeDef1 = resolution as configured under Settings /
"TimeDef"

ZoomOut = zoom out

ZoomIn = zoom in

ZoomAll = show all

3.2 The Button Bar **NEW**

The Button Bar displays the commands available for the currently-selected page.



Load audio file

Opens a sound file. The Database Manager (or, if no DBM present, the Windows selection box) opens. After a file is loaded it is put into the Clipboard.



Save as new file

Saves the current production in a new one-track sound file to the Database (or, if no DBM present, the Windows selection box opens).



Undo

Undoes the last action. By clicking the down arrow a list of the most recent actions is displayed so that multiple



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actions can be selected and undone.



Redo

Redoes the last undone action. By clicking the down arrow a list of the most recent undone actions is displayed so that multiple actions can be selected and repeated.



Track to MultiTrack Page

Copies the objects of the whole track to the MultiTrack Page.

If the track has already been imported from the MultiTrack Page into SingleTrack Page, the original track within the MultiTrack Page is replaced by the current edited version. In case the track has been taken from the clipboard to the SingleTrack Page, a new track will be created in the MultiTrack Page.

NEW Tipp:

Normally copying multiple objects from the Edit Station page into the Track Mode page with the button "Copy to track screen" transfers the individual objects. The parameter "EditStationCopySingleObject=1" (Settings) will automatically group the objects together upon transfer into the Track Mode page.



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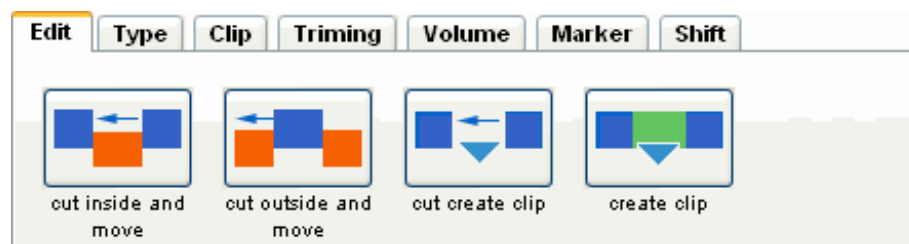
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3.3 The Edit Tools Bar

In the SingleTrack page, the edit commands are displayed in the Edit Tools Bar, which contains several tabs.

3.3.1 EDIT tab **NEW**

The EDIT tab is shown only in the "Edit Station layout". It displays the Edit and Clip commands which are normally displayed above the track overview.



Cut inside and move

This button cuts the marked region and the part following the cut position is appended without inserting a pause. This function corresponds to the Single Track's "Cut Inside" function. The two parts are considered one object when synchronizing.



Cut outside and move

The two regions outside of the marked regions are cut and the remaining region in the track is moved to the very beginning.



Cut Create Clip

This button moves the region bound by the start and stop marks to the Clipboard. A dialog box then appears so that a name and color can be defined. After the dialog box is confirmed with OK, the original edit area within the take is edited out.



Create Clip

This button copies the region bound by the start and stop marks to the Clipboard. A dialog box then appears so that a name and color can be defined.

3.3.2 TYPE tab **NEW**

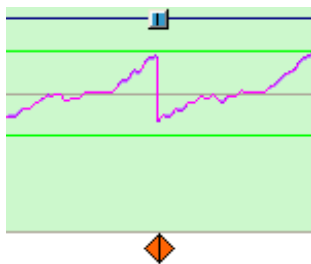
From version 4, all editors are able to edit down to the sample not only linear, but as well compressed audio formats! For this, the new audio engine converts the format internally into a 32bit floating format.



Frame exact editing

The default option provides editing at the edges of each mpeg frame.

Sample exact editing at In/Out position

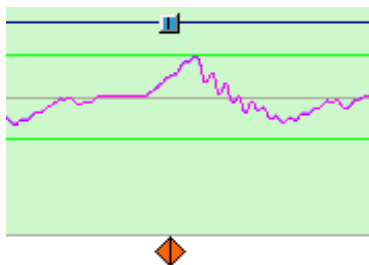


Editing is done down at samples at the current positions of In / Out markers.

When switching to sample exact editing, an info window appears to inform you that switching back to frame exact editing is only possible if all tracks are empty. The reason for this is that the audio format is changed internally, which cannot be undone with

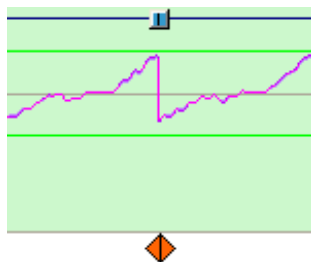
using the same files.

Sample exact editing using automatic zero detection



Editing is done down at samples, the positions of In / Out markers are shifted to the next zero phase.

Sample exact editing using automatic crossfade



Editing is done down at samples, an automatic crossfade is applied to connect the two waveform parts.

Tipp:

The switch from frame to waveform display can be configured with the parameter



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- in MultiTrack page:
"MultiTrack\Settings\TrackEditMaxWaveformTimePerPixel".

- in SingleTrack-Page:
"MultiTrack\Settings\SingleTrackMaxWaveformTimePerPixel".

Default value is 0.004. Change this value to 0.008 for an earlier switch or to 0.002 for a later switch.

3.3.3 CLIP tab



Mark to Clip

Splits up the parts between markers to several new clips.

From Version 4.0.0 168:

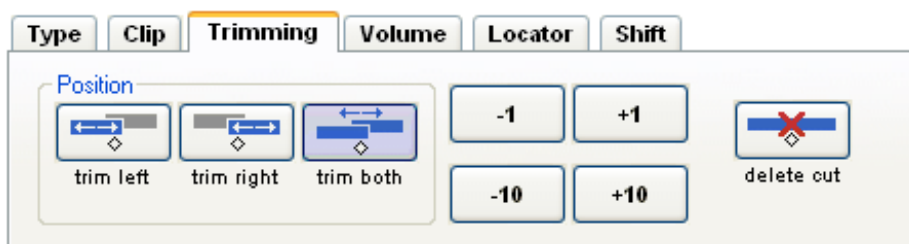
The names of the markers for the clips are automatically taken over to the according clips. Before performing "Mark to Clip", the markers can be named freely by double-clicking the marker in the SingleTrack page overview window. Besides, the default names of the markers can be defined in Settings / "General 2" tab.



Edit to Clip

Splits up the parts between edit positions to several new clips.

3.3.4 TRIMMING tab



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Trim left / right / both

Defines which side of the Edit Point you intend to trim. The edit is manipulated framewise,



-1 / -10 / +1 / +10

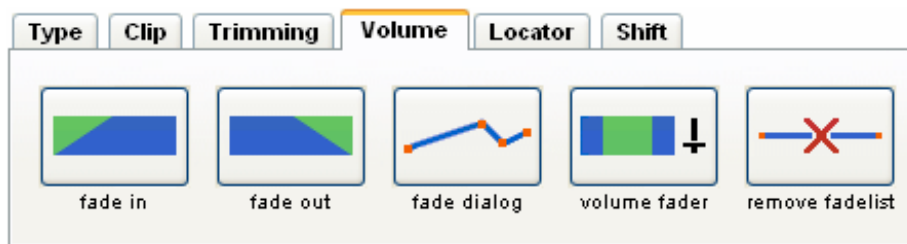
Cuts / adds frames at the selected edit position, so it trims the edit frame wise.



Delete cut

Deletes the selected edit, i.e. the edit where the play head has been placed before. After undoing the edit, the start and end marker are visible at the former edit positions. So the edit can be quickly modified and performed again.

3.3.5 VOLUME tab



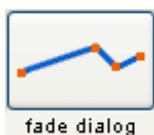
Fade in

inside the edit area, creates a linear fade in, based on the volume value defined in OPTIONS / SETTINGS / TRACK / FADE IN.



Fade out

inside the edit area, creates a linear fade out, based on the volume value defined in OPTIONS / SETTINGS / TRACK / FADE OUT.



Fading Dialog

opens a dialog box in which fading points inside the edit area can be defined.



Volume Fader

Using this button, the overall volume level of the edit area can be corrected up or downwards.



Remove Fadelist

Fadings are deleted within the marked area. The fading points remaining outside the area are connected linear.



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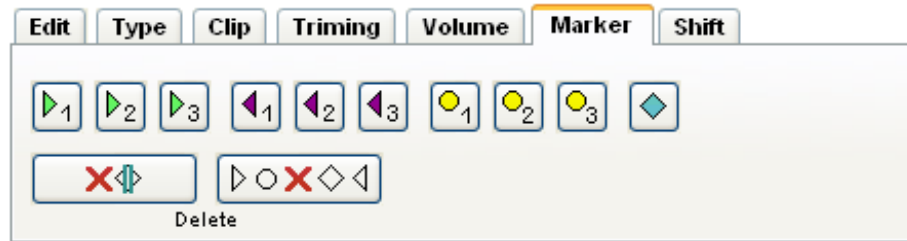


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3.3.6 MARKER tab



Marker Type 0

At the replay head position a locator is placed to easily find this position later on.



Marker Type 1

At the replay head position an intro locator is placed to easily find this position later on. Inside the editor, this marker has no further meaning, just a different kind of marker. However, an OnAir automation system can be configured to recognize this sort of marker to perform any defined action (e.g. mark in / fade in / intro).



Marker Type 2

At the replay head position an intro locator is placed to easily find this position later on. Inside the editor, this marker has no further meaning, just a different kind of marker. However, an OnAir automation system can be configured to recognize this sort of marker to perform any defined action (e.g. mark out / fade out / outro).



Marker Type 3

At the replay head position an intro locator is placed to easily find this position later on. Inside the editor, this marker has no further meaning, just a different kind of marker. However, an OnAir automation system can be configured to recognize this sort of marker to perform any defined action (e.g. chorus / refrain).



Delete Marker

The locator where the replay head is on is deleted.



Delete all Markers

All locators of this track are deleted.



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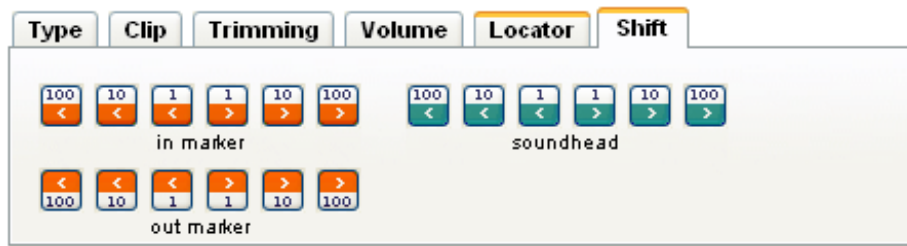


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3.3.7 SHIFT tab



Move In Marker

With these buttons, the start marker can be moved by 1 / 10 / 100 frames to the left or to the right.



Move Replay Head

With these buttons, the replay head can be moved by 1 / 10 / 100 frames to the left or to the right.



Move Out Marker

With these buttons, the end marker can be moved by 1 / 10 / 100 frames to the left or to the right.



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4 THE MULTITRACK PAGE

The MultiTrack Page is used for track and object management and all editing jobs. Each track can be individually displayed in three different views and different resolutions. In addition to the common single-track editing functions typical functions for MultiTrack environment like synchronization, grouping, fade and volume change functions etc. are available. Other useful features include one-track cross-fade mixer and complex auto-ducking as well as comfortable undo/redo options.

A button bar enables instant access to the most-common functions. An individually customizable time display provides for a good overview of marker setting, head position and other important timing information. Large transport buttons enable extended playback options, including scrub-play, loop-play and loop-trim functions.

Transfer of clips between the multi-format clipboard and any track as well as moving clips between tracks is done through easy Drag&Drop operation.



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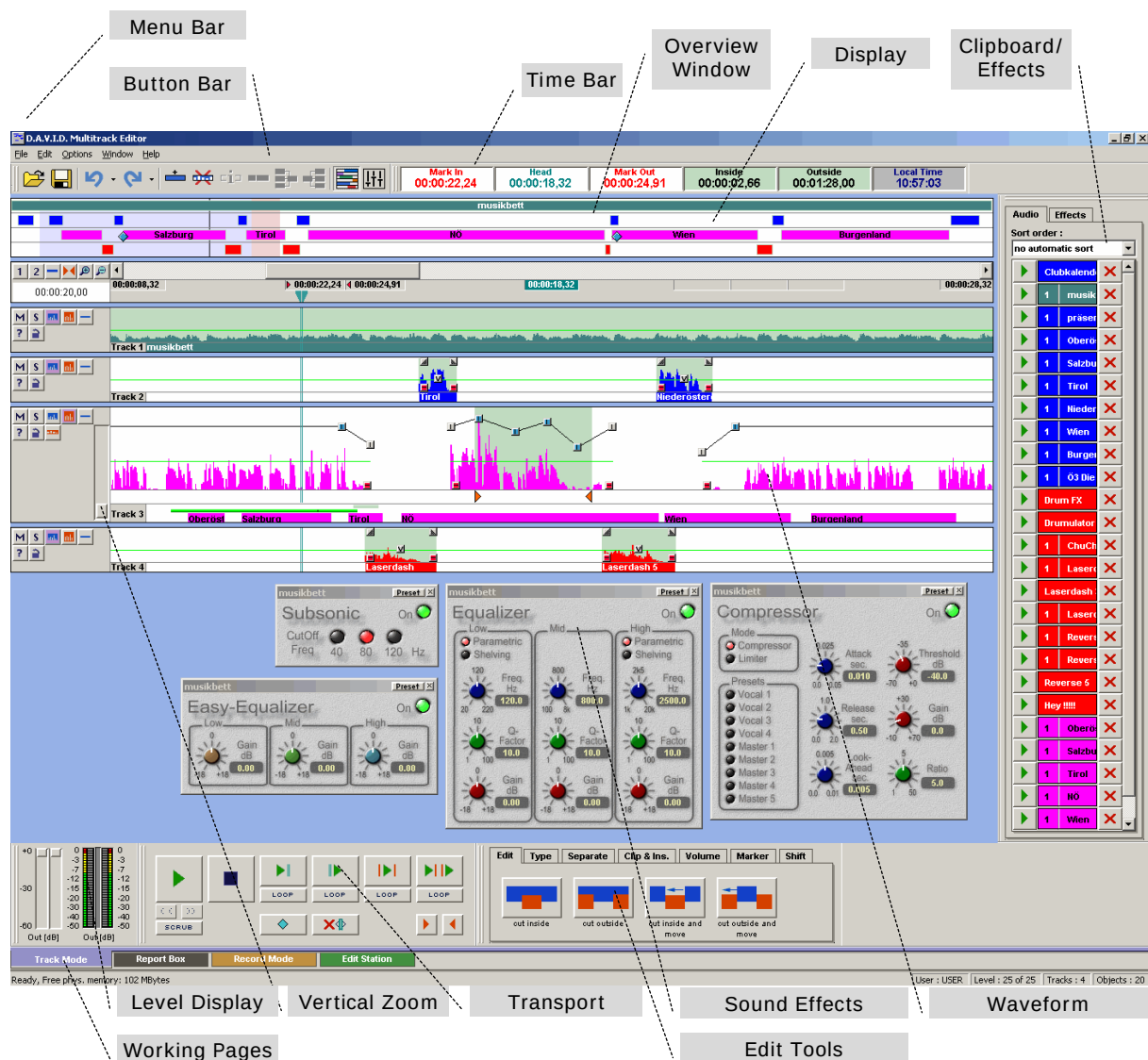
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4.1 Window Areas and Window Elements **NEW**

A typical window of the MultiTrack Page is shown in the following diagram with its window areas, elements, and buttons. The MultiTrack Page is used for the synchronization and production of audio clips.



Window elements in the MultiTrack Page (see below for explanation)

Menu Bar The Menu Bar shows the active window's available menus. Each of these pull-down menus can be selected by clicking the respective menu name.

Button Bar The Button Bar displays commands available on the selected page (see below).



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- Time Bar** The Time Bar can be set to show the project duration or display real-time information.
- Overview Window** **NEW:** The Overview window shows the complete project and allows importing objects from the audio board via Drag&Drop and moving objects around.
- Display Bar** The Display Bar displays the various resolution buttons and the scroll-bar for the waveform curve, as well as marker info fields.
- Vertical Zoom** **NEW:** The track in Edit mode has a vertical zoom bar to enlarge the vertical view. This does not affect the volume of the track.
- Waveform** In the Waveform Curve Display of the MultiTrack Page all tracks are displayed in their current display format (assuming they are not hidden).
- NEW:** All major audio formats can be handled and mixed simultaneously within tracks. For this, an internal 32bit float audio engine is used.
- NEW:** Soft Scrolling is implemented for a smoother waveform movement during playback. This is particularly advantageous for TFT screen users.
- NEW:** In the new section "GUI", the following parameters can be set for the individual timeline elements.
- ClrTrackFadeLine = Color of the Volume line
 ClrTrackInside = Color of the marked area outside objects
 ClrTrackInsideObject = Color of the marked area of a not selected object
 ClrTrackInsideObjectSelect = Color of the marked area of a selected object
 ClrTrackObject = Color of a not selected object
 ClrTrackObjectSelect = Color of unmarked selected objects
 ClrTrackOverviewHead = Color of soundhead in overview window
 ClrTrackOverviewScreenRange = Color of timeline section in overview window
 ClrTrackPanLine = Color of balance line
 ClrTrackParameterLine = Color of effect parameter line
- The colors are entered as RGB values, for example: #000000 for black.

NEW: Phase Indicator

A phase indicator is integrated into the VU-Meter for



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recording as well as playback. The thresholds are found in the section "VUMeters" consists of these parameters:

PhaseThresholdInput = -50

PhaseThresholdOutput = -50

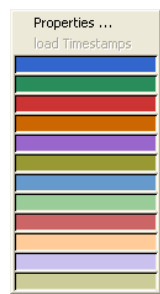
In the case of a phase inconsistency when recording or playing back, a red bar will appear in the VUMeter.

NEW: Preset the timeline resolution for MultiTrack and SingleTrack Page

In order to preset a horizontal resolution upon MTE's start, the parameter "TimeResStartup" (Settings) can be defined in seconds.

Clipboard The Clipboard contains all the clips which are needed for the project as well as textual elements for production in the Reporter Box.

NEW: In the context menu (right mouse button) of the Clipboard new color choices are available.



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Sound Effects

NEW: The following effects are built-in:

EasyEqualizer, Parametric Equalizer, Subsonic Filter and Compressor,

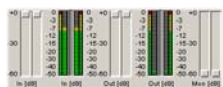
Those effects are applicable to tracks and objects.

Besides, the DirectX interface can be used to integrate any plug-in effects besides the built-in effects, as known from MTE v3.



Transport Buttons

This field contains the buttons for Record and Play, Rewind and Fast Forward.



Level Display

Displays the level of the monitored and the recorded signal.

4.2 The Button Bar **NEW**

The Button Bar displays the commands available for the currently-selected page.



Load audio file

Opens a sound file. The Database Manager (or, if no DBM present, the Windows selection box) opens. After a file is loaded it is put into the Clipboard.



Save as new file

Saves the current production as a new sound file to the database (or, if no DBM present, the Windows selection box opens).



Undo

Undoes the last operation step. By clicking the down arrow a list of the most recent actions is displayed so that multiple actions can be selected and undone.



Redo

Redoes the last undone action. By clicking the down



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arrow a list of the most recent undone actions is displayed so that multiple actions can be selected and repeated.



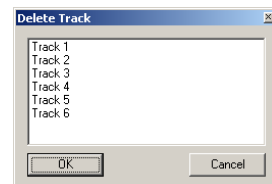
Add new track

Adds a new track below the existing ones.



Remove track

Removes a track to be selected in the following dialog:



Calculate length

If the beginning of a project has a region with no audio objects, this region will be truncated, which means that the pause at the beginning will be deleted.



Group / Ungroup

Groups multiple objects or tracks into one object / track. With a selected group: Dissolves a group into its individual objects.



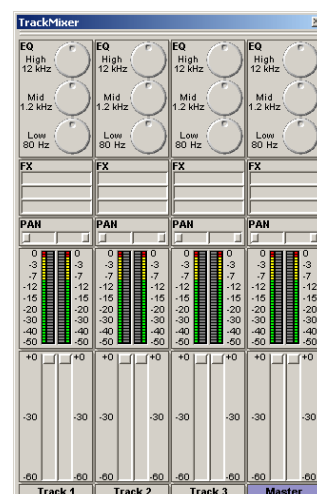
NEW: Track overview

Displays the Overview Window beyond the tracks.



NEW: Track mixer

Displays the track mixer.



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4.3 The Time Bar

The Time Bar of each page displays the time information which has been set for the selected page.

Mark In 00:00:29,02	Head 00:00:53,34	Mark Out 00:00:46,55	Inside 00:00:17,52	NY Time 11:50:31	Local Time 17:50:31
------------------------	---------------------	-------------------------	-----------------------	---------------------	------------------------

4.3.1 Move /hide the Time Information Bar

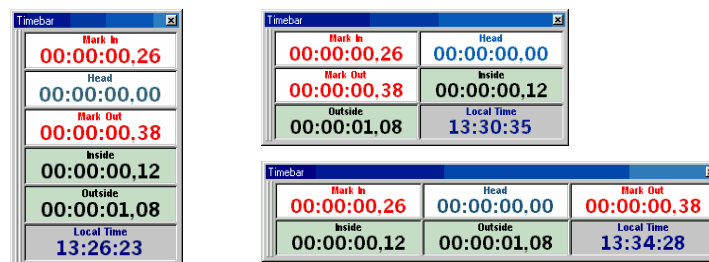


By clicking the double line of one of the areas (button bar, time bar, clipboard) with the right mouse button, the following context menu appears:



Chose the appropriate command to move the area to the top, bottom, left or right end of the work field, or chose Floating to place it anywhere between.

Within the floating status, the size of the clipboard and the time bar can be adjusted like this:



4.3.2 Settings for the Time Bar

Click with the right mouse button on the required Time Information field and the following dialog will be displayed:



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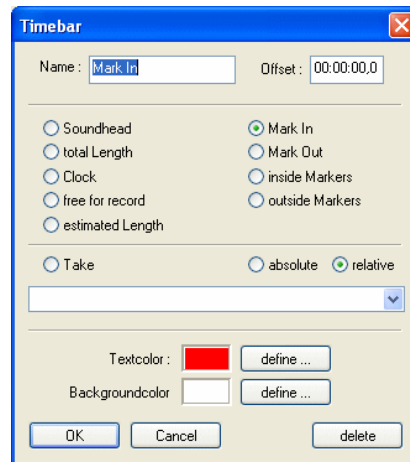
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Select one of the following:

NAME - contains a default value which can be changed.

OFFSET - an amount can be added or subtracted from the current value so that, for example, the current time in New York can be displayed (see diagram).

SOUND HEAD - the position of the recording head.

TOTAL LENGTH - the total length of the project including all tracks.

CLOCK - actual time.

FREE FOR RECORD - Free disk space on the hard disk medium available for recording

MARK IN - display the mark in.

MARK OUT - display the mark out.

INSIDE MARKERS - the length of the marked region.

OUTSIDE MARKERS - the length of the region outside of that marked.

TAKE ABSOLUTE - the head position in real time of the selected take.

TAKE RELATIVE - the head position relative to the total take length.

Besides there are **DEFINE** buttons for text color and Background color.



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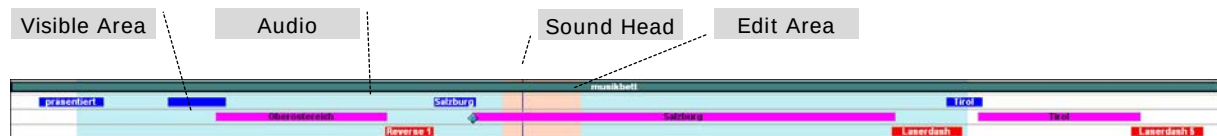
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4.4 The Overview Window **NEW**

The Overview Window contains a representation of the entire project over all tracks.



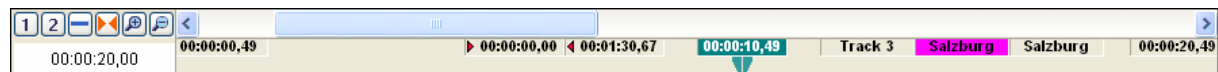
Visible Area – The area which is currently displayed in the waveform

Audio Objects – The audio objects in their relative position. The audio objects can be moved inside the Track Overview via Drag&Drop.

Sound Head – current sound head position

Edit Area – area marked in the waveform by start and end markers.

4.5 The Display Bar



Selects the view zoom of the waveform.

The buttons **1** **2** can be freely defined in the settings dialog (see below).

The  button displays the entire project.

The  button displays the marked region.

The   buttons zoom in/out by halving/doubling the time value .

The 00:00:20,00 time field allows entering a desired zoom time.



Using the scroll bar, the sound head can quickly be moved to any position within the project and with the individual elements of the scroll bar any position in the take can be reached even if it is far from the current



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head position.

00:00:00,49

Displays the position at the left end of the window.

▶ 00:00:00,00

Displays the positions of the start and end markers.

◀ 00:01:30,67

00:00:10,49

Displays the recording head position.

Track 3

Displays a locator lying near to the head with information on track number, take name, and the locator type.

Salzburg

Salzburg

00:00:20,49

Displays the position at the right end of the window.



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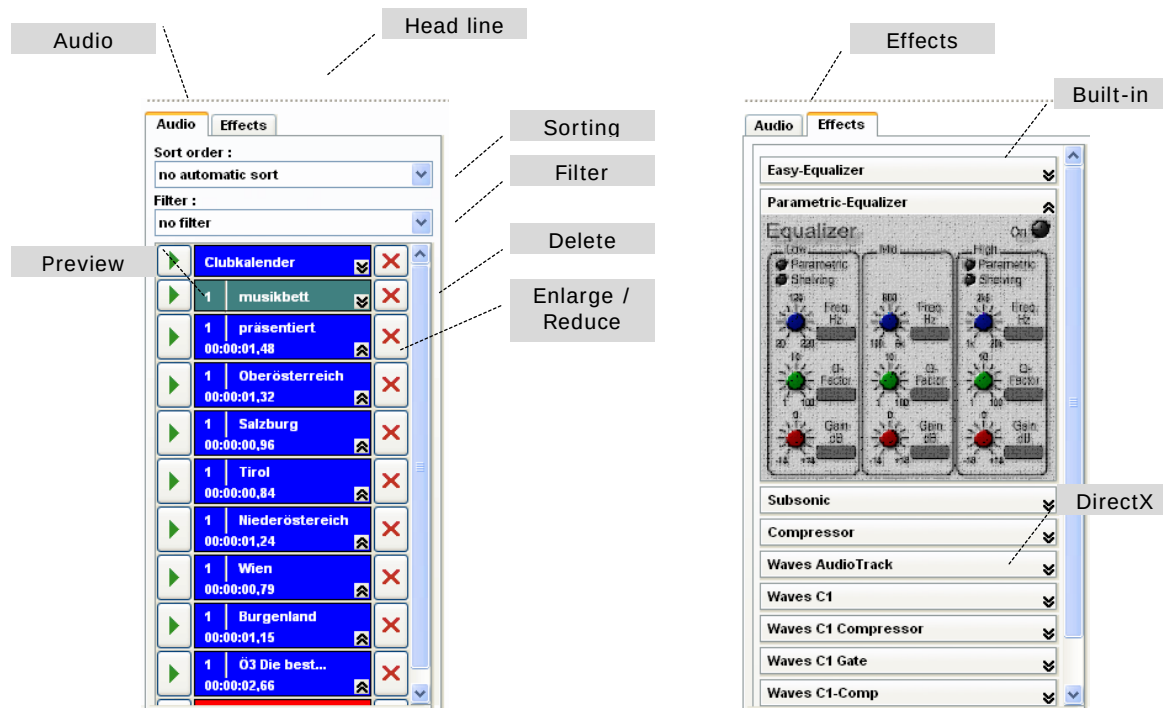
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4.6 The Multifunction Clipboard **NEW**

The Multifunction Clipboard contains all loaded original takes and clips out of these takes, besides it stores the built-in and DirectX effects. As it is the only element which stays the same in all 4 pages, it serves as a clipboard when moving between the pages.



Head line - By right-clicking on the head line, the following context menu appears:



Select the appropriate command to position the Audio / Effects Board at the top, bottom, left or right end of the screen, or select Floating to place it anywhere between.

4.6.1 Audio Tab (Clips& Takes)



Audio – In the Audio tab, all loaded audio and text elements like original takes, audio and text clips are displayed.

Sorting – The display of the elements can be sorted by



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the following criteria:

no automatic sort
name ascending
name descending
length ascending
length descending

Filter :
no filter

Filter – by the Filter dialog, the kind of elements to be displayed can be selected:

no filter
all audioclips
original takes
edited audioclips
text clips
data clips



Preview – plays the clip to preview its content.

Delete – deletes the clip. A control box comes up to confirm the action.



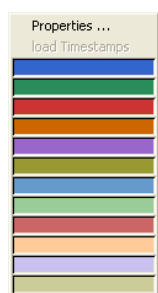
In order to skip the confirmation box, hold down the Ctrl key when clicking the Delete button.



Expand / Reduce – shows only the name of the clip (reduced) or as well the length and file format of the clip (expanded).



NEW



NEW

Clipboard Colors

In the context menu (right mouse button) of the Clipboard new color choices are readily available. Besides, the displayed colors are used by order for the different takes loaded. The clips generated get the same color as their mother takes.

From version 4.0.0.168:

When an new Clip/Take is loaded /created, the Clipboard automatically scrolls down to the new clip. So you need not scroll down manually.



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4.6.2 Effects Tab

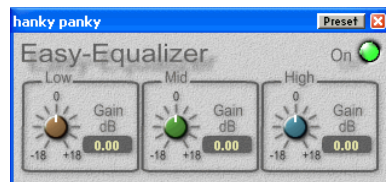


Effects – switches to the effects tab, which shows all available effects

Built-in – the first effects shown are the MTE4 built-in effects. Depending on your access rights, there are up to four effects: Easy Equalizer, Parametric Equalizer, Subsonic, Compressor.

DirectX – below the built-in effects, the DirectX effects registered in the system are displayed.

4.6.2.1 Easy Equalizer



Description of the EasyEqualizer parameters

- Gain for Filter 1 in dB (-18.0 .. 18.0 dB)
- Gain for Filter 2 in dB (-18.0 .. 18.0 dB)
- Gain for Filter 3 in dB (-18.0 .. 18.0 dB)
- The mid frequencies, the filter modes (shelving / parametric) and the filter curves for the three bands can be configured in the DigaSystem Administrator Settings.

Preset-Management

Preset All onboard effects offer a preset management that can be seen by clicking on the "Preset" button in the effect dialog. Behind these Preset buttons, default effect settings can be saved user-defined and globally to be easily applied to the objects/tracks.

1. Call up an effect and adjust the parameters as desired.
2. Click the Preset button within the effect dialog.



3. Click the „NEW“ command and enter the name for the new setting. After clicking “OK”, the new setting is saved.



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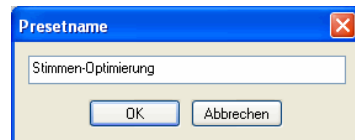
Video



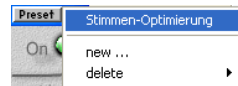
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4. In order to apply an existing preset, click on the preset button and select the desired preset.



4.6.2.2 Parametric Equalizer



Description of the Parametric Equalizer parameters

- Mode for Filter 1, either parametric or low shelving
- mid (parametric) or cutoff (shelving) frequency for Filter 1 in Hz
- Q for parametric Filter 1 (1.0 .. 100.0)
- Gain for Filter 1 in dB (-18.0 .. 18.0 dB)
- mid frequency for parametric Filter 2 in Hz
- Q for parametric Filter 2 (1.0 .. 100.0)
- Gain for parametric Filter 2 in dB (-18.0 .. 18.0 dB)
- mode for Filter 3, either parametric or high shelving in Hz
- mid (parametric) or cutoff (shelving) frequency for Filter 3
- Q for parametric Filter 3 (1.0 .. 100.0)
- Gain for parametric Filter 3 in dB (-18.0 .. 18.0 dB)

Remarks:

The low and the high-band filters are either parametric or shelving filters. If shelving-filters are used then Q has no effect. The mid-band filter is not selectable, it's just a parametric filter.



Valid values for Q are in the range: $+1.0 < Q < +100.0$

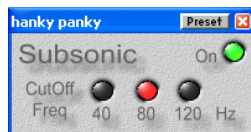
The gain can be regulated within $-18.0 \text{ dB} < \text{Gain} < +18.0 \text{ dB}$

The frequency can be every value ranging from 10 Hz to $(0.5 * \text{Samplerate} - 0.1 * 0.5 * \text{Samplerate})$

Example for Samplerate 48000 Hz:

frequency range 10 Hz to 21600 Hz (=24000 Hz – 2400 Hz)

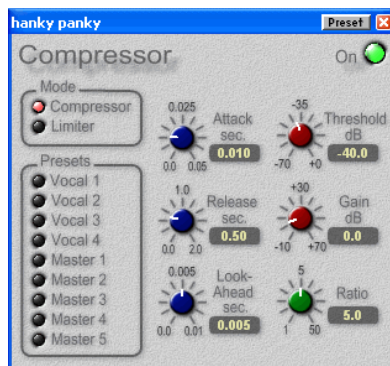
4.6.2.3 Subsonic



Description of the Subsonic parameters

- CutOff Freq: There are three selectable cutoff frequencies: CUT40 Hz, CUT80 Hz and CUT120 Hz

4.6.2.4 Compressor



Description of the Compressor parameters

- Mode: Selects mode Compressor / Limiter
- Presets:
 - VOCALS1 : 2:1 ratio, long attack, long release, slight lookahead
 - VOCALS2 : 4:1 ratio, shorter attack, shorter release
 - VOCALS3 : 6:1 ratio, very short attack
 - VOCALS4 : vocal Limiter in order to avoid clipping, might introduce distortion for extreme thresholds
 - MASTER1 : master compressor with 1ms attack and short release
 - MASTER2 : master compressor with 0.1ms attack and short release



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MASTER3 : limiter with long release (avoids clipping, but generally reduces gain)

MASTER4 : limiter with medium release (makes the sound “fater”)

MASTER5 : limiter with very short release (be carefull!) (might make the sound really “fat”)

- Threshold : sets the threshold in dB
- Ratio : sets the ratio 1:x (1.0.. 50.0)
- Attack : sets the attack time in s
- Release : sets the release time in s
- Gain : sets the gain in dB
- LookAhead : sets lookahead time in s (<0.01s), introduces delay!

4.7 Track Buttons

Depending on the currently-selected track view, each track has its own set of buttons.

4.7.1 Small Display



The **small display** is the smallest view of a track in the waveform display. This view serves to make this track which is currently not being worked-on as small as possible, so only very few basic functions for playing this track are available.

The object is displayed as a bar with the name of the file. The bar itself has no functions available.



The Mute Button

This button mutes the track so that it is not played with the project.



The Solo Button

This button switches into solo mode so that only this track is heard.



Small Display

The colored button indicates the active Small display



Block Display

Changes to Block display



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Edit Display

Changes to Edit display

4.7.2 Block View



The **Block View** is used mainly to synchronize the track and to modify the track volume.

The object displays a waveform curve with integrated volume and fade buttons. Under the waveform curve is the track block with the name of the file. For more information on the functions of waveform curve see below.



The Mute Button

This button mutes the track so that it is not played with the project.



The Solo Button

This button switches into solo mode so that only this track is heard.



Small Display

Changes to Small Display



Block Display

The colored button indicates the active Block display



Edit Display

Changes to Edit display



Track Info

This button shows information for this track. For more information see below.



Lock Track

This button is for locking/unlocking the track. When locked a track cannot be modified. The background of a locked track is displayed in grey.



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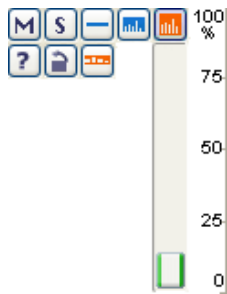


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4.7.3 Edit View



The **Edit View** provides functionality for extensive editing of the track such as mark, cut, fade, insert, separate, create clip, etc.

The object itself is displayed as a large waveform. Below the waveform is the track block with the track name, the in- and out-marker, the visible area, and name of the audio objects. See below for more information about the waveform.



The Mute Button

This button mutes the track so that it is not played with the project.



The Solo Button

This button switches into solo mode so that only this track is heard.



Changes to Small display



Changes to Block display



The colored button indicates the active Edit display



Track Info

This button shows information for this track. For more information see below.



Lock Track

This button is for locking/unlocking the track. When locked a track cannot be modified. The background of a locked track is displayed in gray.



Copy to SingleTrack Page

The track is copied to the MultiTrack Editor's SingleTrack Page. There, it can be edited comfortably (see chapters SingleTrack Page chapters below) and then be written back to the MultiTrack Page afterwards to replace the original track content.



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4.8 The Edit Tools

When switching a track into Edit View, the Edit Tools Bar, which contains several different edit commands in several tabs, appears at the bottom. As the Edit Tools Bar is integrated in the SingleTrack Page as well, you will find details about the functions in the next chapter.

4.8.1 EDIT tab



cut inside

Cut inside

The marked region is cut and a pause is created. The two remaining parts before and after the cut region are not separated but rather considered as one object when synchronizing.



cut outside

Cut outside

The regions outside of the marked region are cut. This track then only contains the marked region.

cut inside and
move

Cut inside and move

This button cuts the marked region and the part following the cut position is appended without inserting a pause. This function corresponds to the Single Track's "Cut Inside" function. The two parts are considered one object when synchronizing.

cut outside and
move

Cut outside and move

The two regions outside of the marked regions are cut and the remaining region in the track is moved to the very beginning.



4.8.2 TYPE tab **NEW**

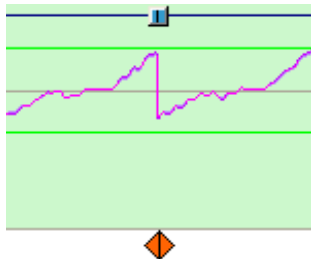


Frame exact editing

The default option provides editing at the edges of each mpeg frame.

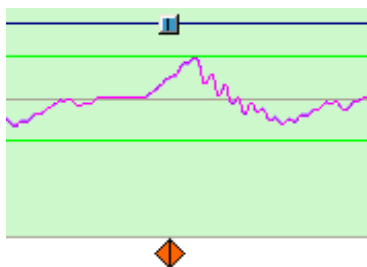
Sample exact editing at In/Out position

Editing is done down at samples at the current positions of In / Out markers. This may result in audio clicks when editing at a plus and a minus wave.



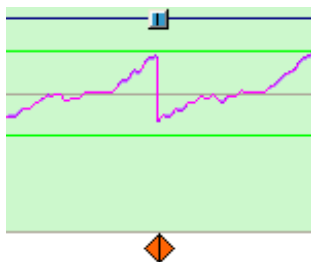
Sample exact editing using automatic zero detection

Editing is done down at samples, the positions of In / Out markers are shifted to the next zero phase.



Sample exact editing using automatic crossfade

Editing is done down at samples, an automatic crossfade is applied to avoid audio clicking.



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Tipp:

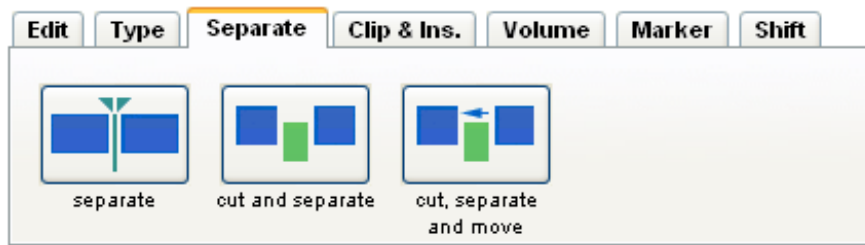
The switch from frame to waveform display can be configured with the parameter

- inside SingleTrack page:
"MultiTrack\Settings\TrackEditMaxWaveformTimePerPixel".

- inside SingleTrack-Page:
"MultiTrack\Settings\SingleTrackMaxWaveformTimePerPixel".

Default value is 0.004. Change this value to 0.008 for an earlier switch or to 0.002 for a later switch.

4.8.3 SEPARATE tab



Separate

The object is divided at the head position, so the two parts can be subsequently synchronized separately.



Cut and Separate

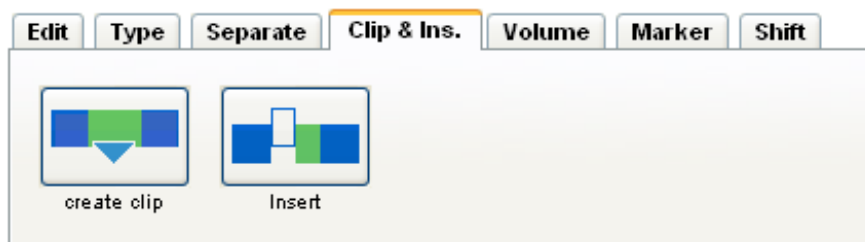
The marked region is cut, the two remaining parts are separated so that they can subsequently be separately synchronized.



Cut Separate and Move

The marked region is cut, the two remaining parts are separated and moved together.

4.8.4 CLIP & INS tab



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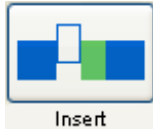
Development



create clip

Create Clip

This button copies the region bound by the start and stop marks to the Clipboard. A dialog box then appears so that a name and color can be defined.

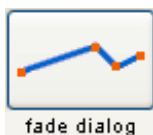
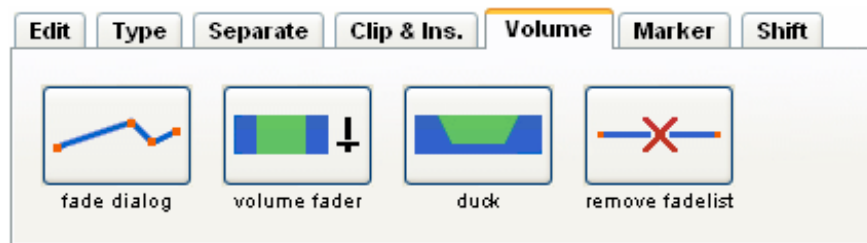


Insert

Insert

A pause is inserted at the start mark for the length of the marked region. The two parts are considered one object when synchronizing.

4.8.5 VOLUME tab



fade dialog

Fading Mode

This button opens a dialog box in which fading points can be set.



volume fader

Volume Fader

Using this button, the volume level of a marked area can be corrected up or downwards.



duck

Duck Fade

Within the marked area a duck fade is assigned. The Autoduck parameters are used (see menu OPTIONS – AUTODUCK).



remove fadelist

Remove Fadelist

Fadings are deleted within the marked area. The fading points remaining outside the area are connected linear.



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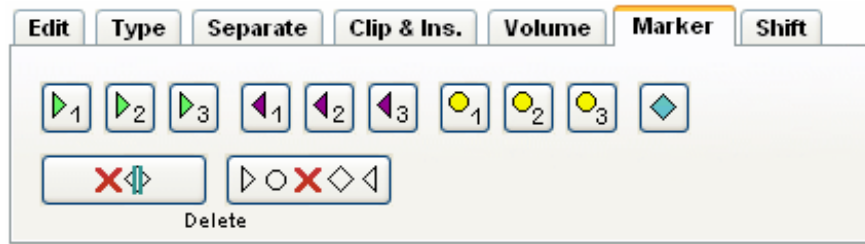


Integration



Development

4.8.6 MARKER tab



Marker Type 0

At the replay head position a locator is placed to easily find this position later on.



Marker Type 1

At the replay head position an intro locator is placed to easily find this position later on. Inside the editor, this marker has no further meaning, just a different kind of marker. However, an OnAir automation system can be configured to recognize this sort of marker to perform any defined action (e.g. mark in / fade in / intro).



Marker Type 2

At the replay head position an intro locator is placed to easily find this position later on. Inside the editor, this marker has no further meaning, just a different kind of marker. However, an OnAir automation system can be configured to recognize this sort of marker to perform any defined action (e.g. mark out / fade out / outro).



Marker Type 3

At the replay head position an intro locator is placed to easily find this position later on. Inside the editor, this marker has no further meaning, just a different kind of marker. However, an OnAir automation system can be configured to recognize this sort of marker to perform any defined action (e.g. chorus / refrain).



Delete Marker

The locator where the replay head is on is deleted.



Delete all Markers

All locators of this track are deleted.



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4.8.7 SHIFT tab



in marker

Move In Marker

With these buttons, the start marker can be moved by 1 / 10 / 100 frames to the left or to the right.



soundhead

Move Replay Head

With these buttons, the replay head can be moved by 1 / 10 / 100 frames to the left or to the right.



out marker

Move Out Marker

With these buttons, the end marker can be moved by 1 / 10 / 100 frames to the left or to the right.



audioobject

Move Audio Object

With these buttons, the audio object(s) marked in other track(s) can be moved by 1 / 10 / 100 frames to the left or to the right.



5 THE REPORTER BOX PAGE

The Reporter Box enables the production of takes in a **live-like** environment. While recording on one track, pre-recorded audio clips can be inserted on a second track. A good example is the production of an interview, where the answers have been pre-recorded (e.g. on portable equipment) and the related questions are to be modified and re-recorded. Instead of recording all the questions and then mounting questions and answers together, the Reporter Box supports interactive recording and mounting in one pass.

Preparation: A script area allows for script editing within the MultiTrack environment, thus enabling the user to prepare a story (e.g. an interview) containing text and audio clips. Text can be generated and edited in the script area supporting full RTF formatting. Alternately, text can be imported through the Windows clipboard from any other application. Text blocks can be separated into text clips which can be stored to the multi-purpose MultiTrack clipboard. Audio and text clips are inserted from the clipboard into the script by simple Drag&Drop operation. Audio clips can be moved around within the text just like any other text block. At any time the total run time - including the estimated speech time according to the speakers personal speech index - can be calculated.

Production: While recording is in progress the script including text and audio clips is prompted in large letters for easy off-screen reading. The pre-recorded audio clips can be inserted into the recording at any time through a single key stroke. Recording can be paused **and** repeated at any time. The monitoring volume can be adjusted independently.

Once finished, the recording can be transferred to the MultiTrack Page, where the recorded track and the pre-recorded clips appear on different tracks for convenient finalization of the production.



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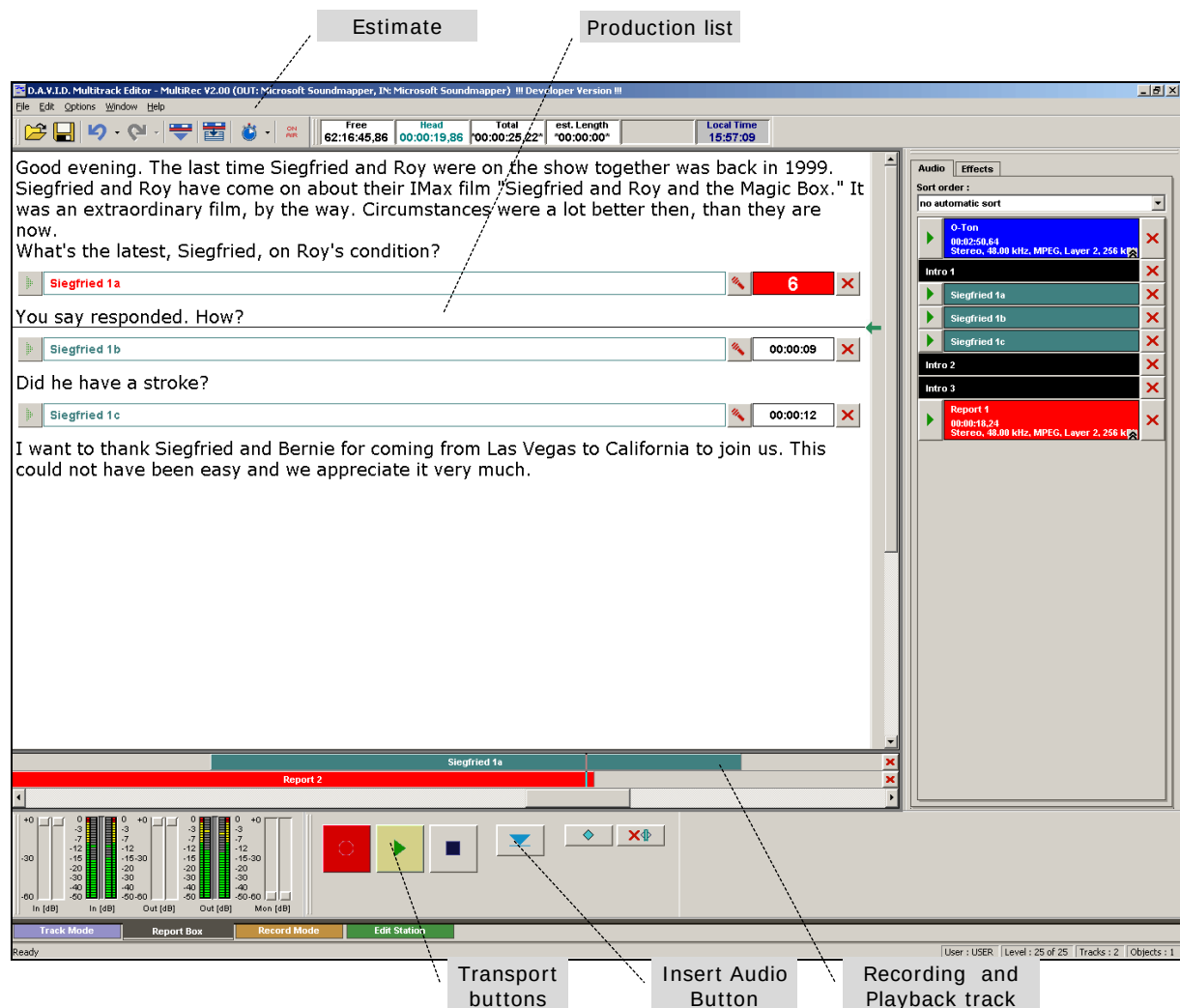
Integration



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5.1 Window Areas and Elements

A typical Reporter Box page is shown below, with descriptions of those elements which differ from other pages. The Reporter Box page is for the production of the elements specified in the Text Integration page. Text passages can be read-out and recorded here while original recordings are being played back.



Window elements of the Reporter Box page (see below for explanation)



Playback and recording track

During production the playback and recording track is displayed here.



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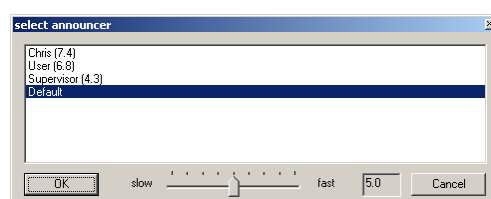
Production list

All audio and text elements used for the production are copied to this area. via Drag&Drop While production runs, the sequence board is scrolling down automatically.



Estimate Length

Estimates the length of the complete production by counting the audio items and the time of the text items, depending on the speech speed selected from the dialog to be accessed via the arrow.



The individual speech speed can be calculated and then saved to your personal user settings in the "DigaText" application.



Transport Buttons

This field contains the buttons for Record and Play.



Insert Audio Button

When you recorded your question by reading it from the sequence board, click this button for inserting the following audio item. During the playing of the audio and monitoring it via headphone, you can over-voice it when the micro button on the audio bar is switched on.

5.2 The Button Bar

The button bar displays those functions which are available for the selected page



Load audio file

Opens a sound file. The Database Manager (or, if no DBM present, the Windows selection box) opens. After a file is



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loaded it is put into the Clipboard.



Save as new file

Saves the current production as a new sound file to the Database (or, if no DBM present, the Windows selection box opens).



Undo

Undoes the last action performed. By clicking the list arrow a list of the most recently-used actions is displayed for selection and the undo-ing of multiple actions.



Redo

Redoes the last action undone. By clicking the list arrow a list of the most recently-undone actions is displayed for selection and the redo-ing of multiple actions.



Copy to clipboard

Copies the production to the clipboard to create a new clip by merging the recording and playback track. In this case, the two tracks can not be post-produced separately afterwards.



Copy to another page

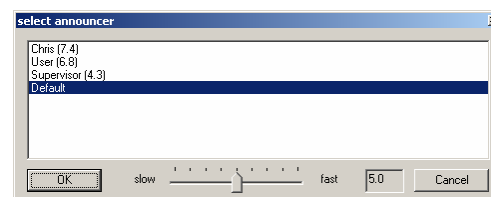
Copies the production to another Page. Tracks which have been before in the respective page are deleted by this action.

copy to one track
copy to two tracks
copy to one additional track
copy to two additional tracks
copy to SingleTrack screen



Estimate Length

Estimates the length of the complete production by counting the audio items and the time of the text items, depending on the speech speed selected from the dialog to be accessed via the arrow.



Live Mode

When activating this option, volume changes done with the DigaStudio mixing desk to the inserted audio



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material are possible during the replay of a source audio item, as they are recorded directly. In this case, the two tracks can not be post-produced separately, as the two sources (recording and inserted audio items) are recorded to one track.



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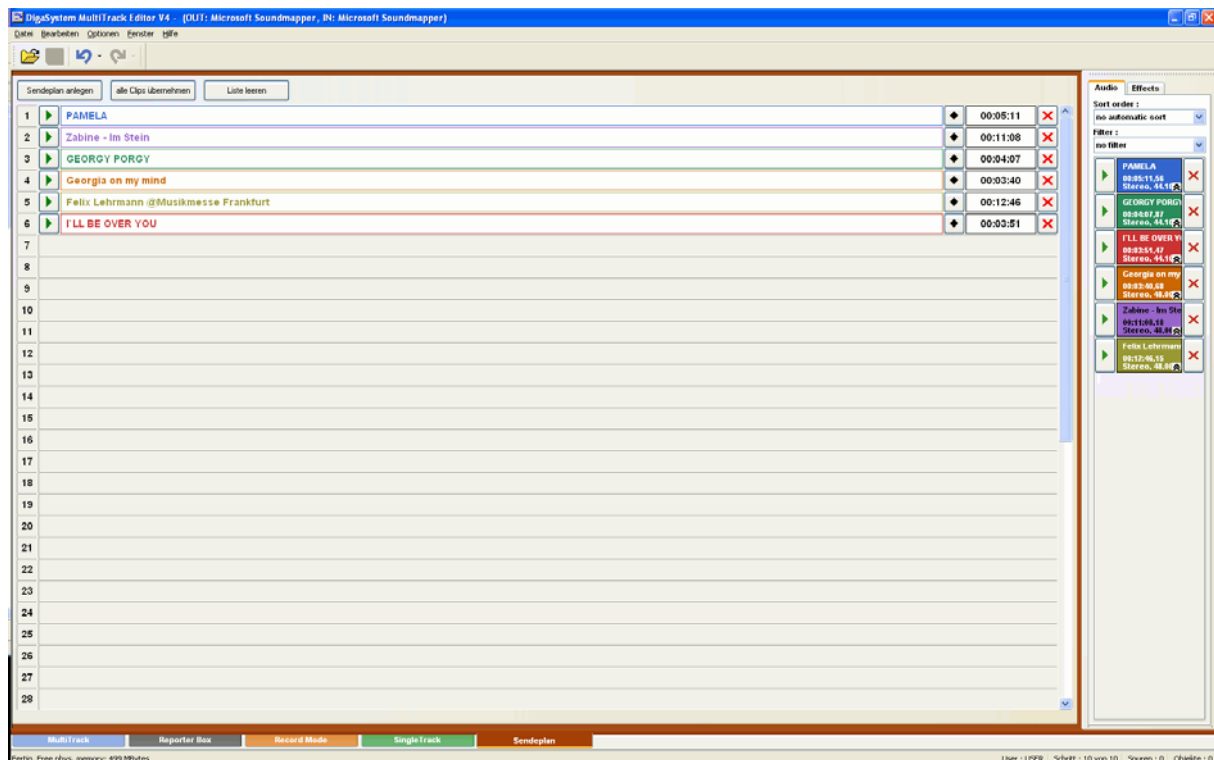
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6 THE SCHEDULER PAGE

The Scheduler Page allows to creating a schedule from single clips / takes and to export it directly into the NewsPlayerX environment.



Button Bar Die Symbolleiste zeigt die für die ausgewählte Seite geeigneten Befehle an (siehe nachfolgende Darstellung).



Load audio file

Opens a sound file. The Database Manager (or, if no DBM present, the Windows selection box) opens. After a file is loaded it is put into the Clipboard.



Save as new file

Saves the current production as a new sound file to the Database (or, if no DBM present, the Windows selection box opens).



Undo

Undoes the last action performed. By clicking the list arrow a list of the most recently-used actions is



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displayed for selection and the undo-ing of multiple actions.



Redo

Redoes the last action undone. By clicking the list arrow a list of the most recently-undone actions is displayed for selection and the redo-ing of multiple actions.

Scheduler Board

The audio clips / takes are positioned at the Scheduler Board by Drag & Drop.

Button „Sendeplan anlegen“

The contents inside the Scheduler board are saved as an XML file together with the according audio files into a defined directory. The schedule can be loaded directly into the NewsPlayerX via a specified keyboard shortcut.

Button „Alle Clips übernehmen“

This button takes over all displayed clips/takes in the displayed order into the scheduler board.

Button „Liste leeren“

All entries are being deleted from the scheduler board.



By toggling the Stopset / Playset button, the following entry is played out either manually (with an own Play command) or automatically plays out after the current entry has finished.



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7 GENERAL PROCEDURES

7.1 Starting up the MultiTrack Editor

7.1.1 From the Database Manager

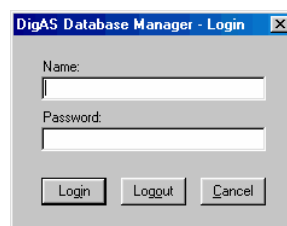


1. Start the Database Manager.
2. Click the button **MULTITRACK EDITOR**.

7.1.2 From the Desktop



1. Click the MultiTrack Editor symbol. The following Login dialog appears:



2. Enter your name and password. Those are registered in the DigaSystem Administrator tool, which controls the rights of all users. Further details for system administrators about settings within the DigaSystem Administrator are described in the Technical Documentation.

7.2 Loading a Take / Project

Takes which are to be edited in the MultiTrack Editor must be first loaded into the clipboard. Then, as a second step, they are taken from the clipboard and placed in the respective location in the multitrack area.



- Drag the required take or project out of the DigaSystem Database onto the button **MULTITRACK** in the Database Manager. The take / project will be copied into the MultiTrack Editor clipboard. For loading several takes, please highlight the desired takes (by using the Shift or Ctrl keys) and drag them onto the MultiTrack button.

Or



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- Select the menu option in the Database Manager **TOOLS – DBM ABOVE MULTITRACK EDITOR** so that the MultiTrack Editor window is reduced to the lower half of the screen. Drag the required take or project from the Database Manager into the clipboard of the MultiTrack Editor.

Or, in case you are in the MultiTrack Editor already:

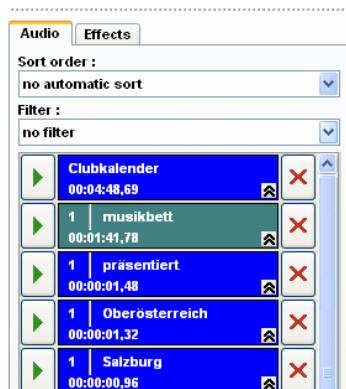


- Click the button **OPEN SOUNDFILE** in the button-bar. If a database is connected to the MultiTrack Editor, the Database Manager is opened to select a take (for further information please see the Database Manager's manual). In case there is no database, the Windows Selection Box is opened.

The item loaded first into the editor can be loaded directly into the edit block of the SingleTrack page. The following parameter needs to be set:

MultiTrack/Settings/**LoadTakeToSingleTrack=1**

7.3 Working with the Clipboard



The Clipboard at the right contains all clips you import / create during you are working in MultiTrack Editor. The Clipboard may contain “Takes” (i.e. original files from the Database Manager or MTE recordings as well as “Clips” (created from Takes) and text clips. The Clipboard serves as intermediate container of all elements when working in the different pages.

7.3.1 Displaying the Clips

Clips and Takes can be displayed in a single-line or double-line mode.

In single-line mode, the name of the clip is displayed (with files from outside the DigaSystem, the directory\filename is shown as in the following screen).

In double-line mode, additionally the audio length and



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the audio format of the clip are displayed.

By clicking the double-arrow button on a clip you toggle the display mode. If you hold the SHIFT key pressed while switching, all clips are toggled to the other display mode.



7.3.2 Creating a Clip

In all pages, clips can be created from the contents inside these pages.



In the MultiTrack Page:

1. Change to Edit Mode in the desired track.
2. Place start and end mark and so highlight the desired area.
3. Click the Create Clip button in the "Clip & Ins." Tab.



In the Reporter Box:

1. Finish the Reporter Box production.
2. Click the Create Clip button in the Button Bar.



In the Record Page:

1. Finish your recording and enter an appropriate name.
2. Click the Create Audio Clip button to create an audio clip, or

Click the Create Audio/Text Clip button to create a combined audio/text clip, or

Click the Create Text Clip button to create a text clip.



In the SingleTrack Page:

1. Place start and end mark and so highlight the desired area.
2. Click the Create Clip button above the track overview.



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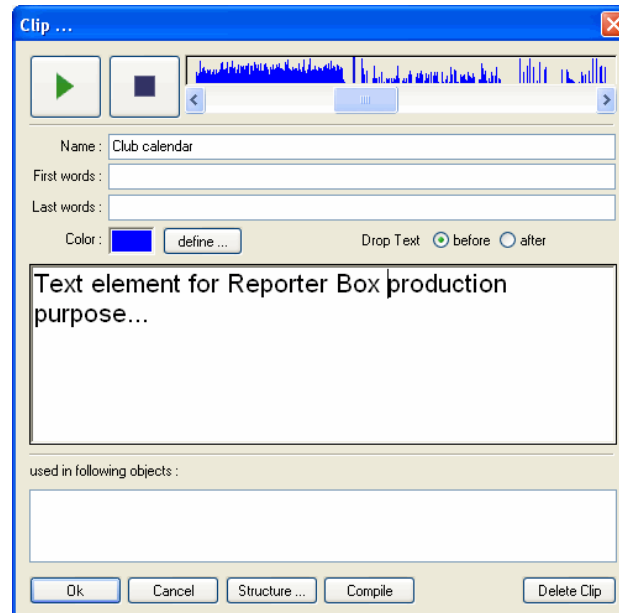


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7.3.3 Modifying a Clip

In order to view / modify a clip:

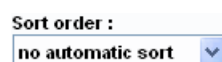
1. Double-Click the desired clip. The clip properties dialog appears:



2. Use the transport buttons to pre-listen the clip.
3. Enter the appropriate clip name or its first and last words
4. Use the Color "define..." button to select a different color.
5. Enter moderation text (when preparing for a Reporter Box production) and check the appropriate option "Drop text before" of "after" the audio, depending on when you want the text to be dropped within your Reporter Box production list.

7.3.4 Sorting the Clips

You can define which clips are displayed as well as their sorting order:



To define the sorting order, click on the "sort order" Field arrow. The following choices are available:



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no automatic sort
name ascending
name descending
length ascending
length descending

In case of "no automatic sort", the clips are sorted in the order of creation.

Filter :
no filter

To define the kind of elements to display, click on the "Filter" field arrow. The following choices are available.

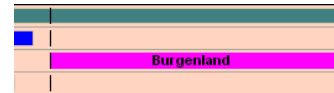
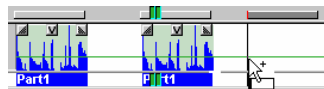
no filter
all audioclips
original takes
edited audioclips
text clips
data clips

7.3.5 Inserting a Clip **NEW**

Clips can be inserted into the SingleTrack, MultiTrack, and Reporter Box Page:

Into the MultiTrack Page:

1. Drag&Drop the desired clip to any position within the desired track or **NEW** in the track overview.



NEW

Optimized insertion:

1. Insert a clip/take into a track and start playing back.
2. Hold down the ctrl key and click the desired clip to insert. The clicked clip is immediately inserted at the next free track.
3. The next clip can be inserted immediately again simply by CTRL & clicking.

Into the Reporter Box:

1. Drag&Drop the desired clip to any position within the production list window.

Into the SingleTrack Page:

1. Drag&Drop the desired clip to the track overview (as well insert function), or middle-click the clip (removes any existing audio from the waveform).



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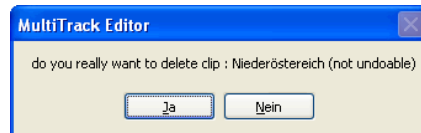
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7.3.6 Deleting a Clip

- 
1. Click the **DELETE CLIP** button at the right side of the clip.
A confirmation dialog appears:



Skipping the confirmation message

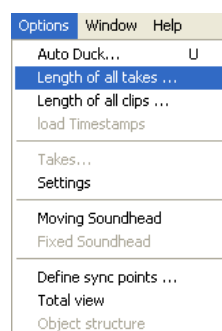
In order to delete a clip without the confirmation message, hold down the Ctrl key when clicking the DELETE CLIP button.

ATTENTION:

Deleting Takes deletes all deriving Clips

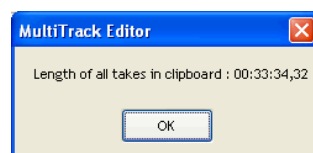
If Takes are deleted from the clipboard, as well the clips which derive from this take are deleted. This is because clips are always only references of the original takes; they have never their own audio file. So be careful with deleting takes during a running production. Before deleting elements which might be used inside your project, first select the filter "Original Takes" and "Edited Audio Clips" to distinguish between the two kinds.

7.3.7 Cumulative Length of Clips / Takes **NEW**



The cumulative length of all clips / takes inside the clipboard is displayed via the menu Options -

Die kumulative Dauer aller im Clipboard befindlichen Clips bzw. Takes wird über den Menübefehl Optionen – Länge aller Takes bzw. Länge aller Clips aufgerufen:



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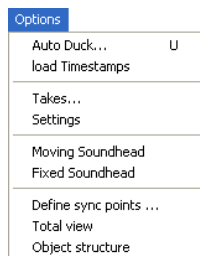
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7.4 Fixed / Moving Sound Head **NEW**

1. In order to switch to a moving / fixed sound head, use the appropriate command in the options menu.



7.5 Transport Functions

7.5.1 Normal Speed

The tracks can be replayed as follows:



1. Click the Play button to play from the current play head position.



2. Double-click the Play button to play from the defined Pre-Roll position. The pre roll time is defined in the Settings dialog – Track.



3. Click on the Stop button to end the playback.



4. Double-click on the Stop button to move the sound-head to the beginning of the take.

7.5.2 Variable Speed

The take inside the editor can be audibly played fast forwards and backwards. Use the Arrow left / right button under the Play button to enhance the playback speed forward and backwards, or use the arrow left / right keys (depending on the layout of the shortcut definitions).



1. Click the Play button. Normal speed playback starts.
2. Press the Arrow right button under the Play button to double the playback speed. Repeat for three /four times playback speed. Click the Arrow Left button to slow down the playback speed again.
3. Starting from the normal playback speed, click the



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Arrow left button to switch to backward playback. Repeat for double / three / times backward playback speed. Click the Arrow Right button to slow down the backward playback speed again.

4. Click the Play button to switch back to normal playback speed.

Direction	backward			forward			
Speed	3x	2x	1x	1x	2x	3x	4x
Buttons / Keys							

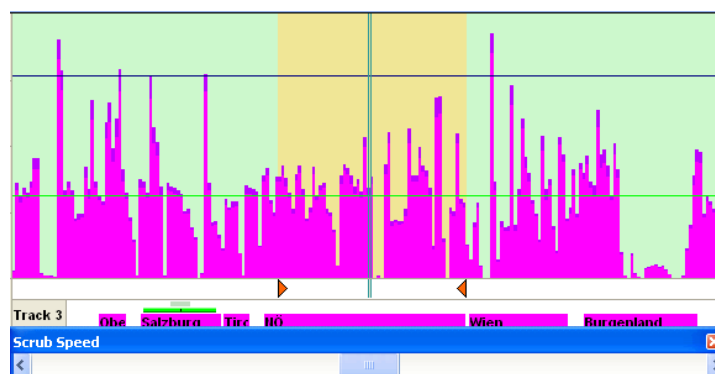
7.5.3 Scrub Function

The Scrub mode emulates a "reel-rocking" method of acoustically localizing Edit Points, traditionally performed on analogue tape machines. Activating the Scrub button changes the function of the scroll bar (situated on the Edit Zone's lower edge):

The position of the slider in the scroll bar corresponds to the speed at which audio material can be "scrubbed" forwards or backwards, and is continuously adjustable. Initially, the scroll bar's slider jumps to a position directly beneath the Play Head, representing the zero setting.



1. Activate the Scrub mode by clicking the **SCRUB** button below the transport buttons. Activating the Scrub button changes the function of the scroll bar (situated on the bottom of the track). The position of the slider in the scroll bar corresponds to the speed at which audio material can be "scrubbed" forwards or backwards. Initially, the scroll bar's slider jumps to a position directly beneath the Play Head, representing the zero setting.





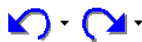
2. Hold down the left mouse button on the scroll bar's slider.
3. Drag the slider to the right or left until the desired position is reached.
4. Move the scroll slider quickly back and forth over the chosen position to produce an audible effect comparable to "reel-rocking".
5. Move the slider more slowly to localize the exact position, and then release the mouse button when the precise point is reached.
6. Click the start mark / end mark button below the transport buttons to place the start or end mark exactly at the head position.



7.6 Undo / Redo

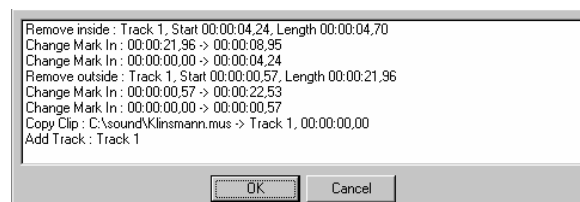
To undo an action or to redo one or more actions which have been undone proceed as follows:

1. Click the buttons **UNDO / REDO** to undo or redo an action, or



2. Click the list arrow next to the buttons **UNDO / REDO** in order to stepwise undo or redo multiple actions.

Below is an example of actions which have been performed:



7.7 Saving a project **NEW**

If a project is not completely finished it can be saved as a project. A project can contain various takes, clips, undo steps, and macros. This can be done in various ways:

1. Click the menu **FILE - SAVE DATABASE PROJECT**. The following dialog appears:



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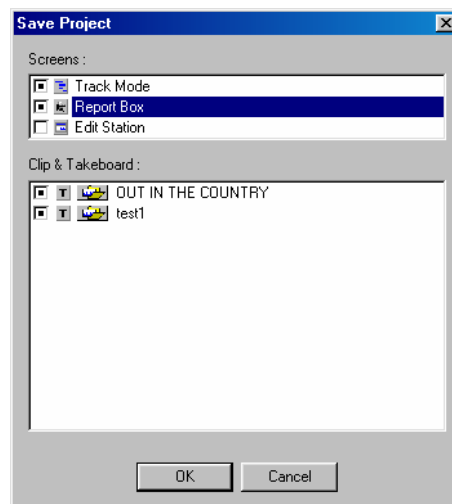
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Screens - Usually upon saving a project, all used work areas are saved.

NEW This behaviour can now be influenced with the parameter "!ProjectSaveScreen":

ProjectSaveScreen = all (Default setting)

ProjectSaveScreen = active (selects only the current workspace)

ProjectSaveScreen = MULTITRACK|EDITSTATION (saves only Track Mode and Edit Station)

ProjectSaveScreen = REPORTBOX (saves only Reporter-Box)

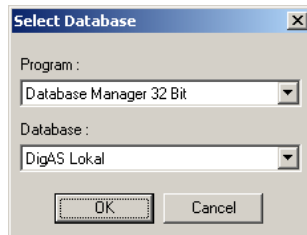
Clip & Takeboard - Just by accepting the default option, the symbol  indicates that the new project file will contain also the audio of all files, so you will not be dependant on any original files in the database. This is the safest way to save your project, and should be preferred. However, if you want to spare disk space (e.g. when working on your own Notebook) and you are sure not to delete any of the original files used in this project, you could also save only the reference (cut list) data, which point to the original source files within the database. This is done by switching on the respective symbol to the  symbol.

NEW: Deactivate 'Reference' or 'Data' choice when saving projects

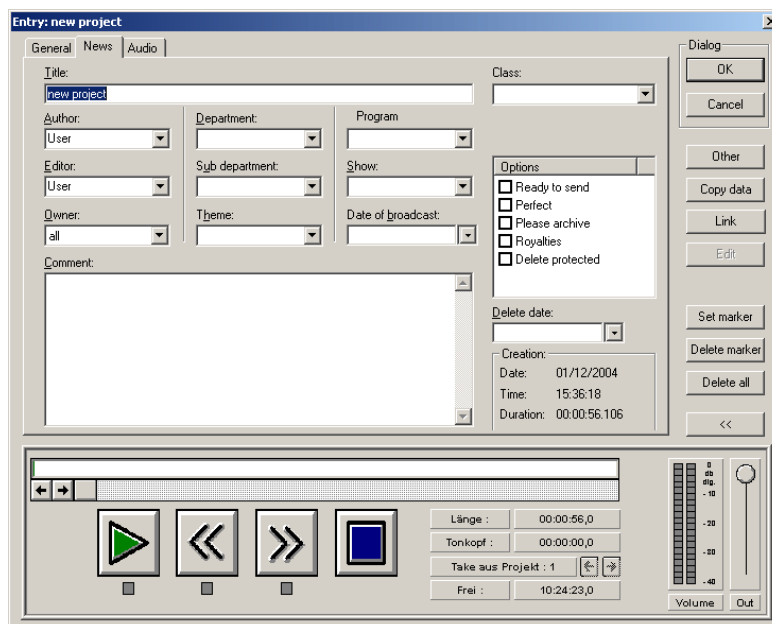
If the user should be prohibited from changing the preset

'Reference' or 'Data' choices found in the Settings (Options; Setting; Files; Project), the parameter "ProjectSaveSoundfileSwitch=0" (Settings) allows this choice to be deactivated.

2. Click "OK". If the Database Manager is connected, the following dialog for selecting the database table appears. If not, the Windows dialog appears to enter the appropriate name.



After the desired table has been selected and confirmed with OK, the database entry mask appears with a default naming of the new audio item:



3. Enter a name and confirm with **OK**.

Note:

When using the **SAVE PROJECT** command, the project will be saved in a directory to be defined. In this case, the sound data are default saved with the project. However, in a complete DigaSystem environment this command will likely be hidden and only be available when no Database Manager is present.



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7.7.1 Saving Project & New Take in one Workstep **NEW**

Set the parameter "MenuFileSaveTakeAndProject=1" (Settings). A new menu command appears in the File menu: "Save Take and Project".



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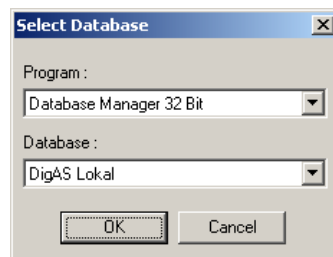


Development

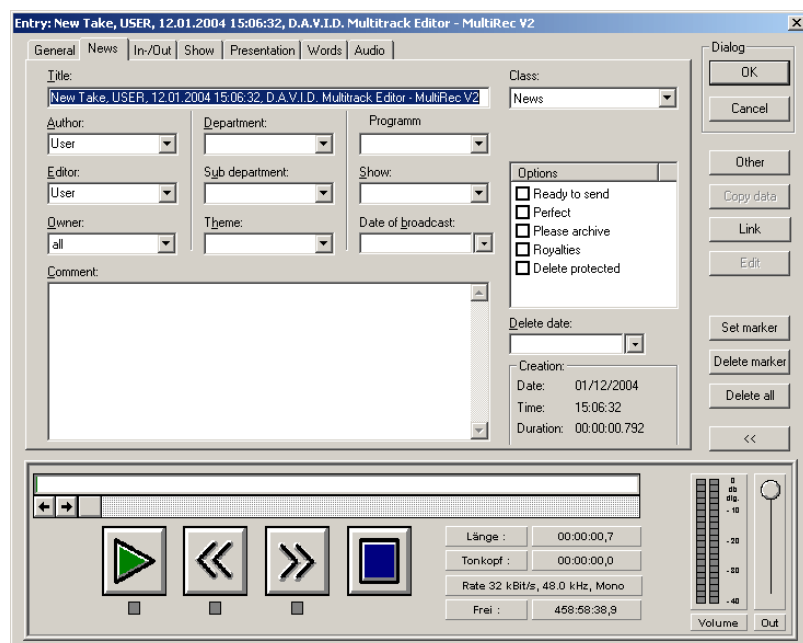
7.8 Saving a New Take **NEW**

When a project is finished, in order to be able to On-Air broadcast it, it must be saved as a new take:

1. Click the menu **FILE - SAVE TAKE** or use the Save button. If the Database Manager is connected, the following dialog for selecting the database table appears. If not, the Windows dialog appears to enter the appropriate name.



2. After the desired table has been selected and confirmed with OK, the database entry mask appears with a default naming of the new audio item:



3. Enter the required naming of the item and confirm with **OK**.

Note: When saving a new file, the calculation is done via software codecs. Therefore the saving speed depends on the cpu speed.

NEW Tipp:



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Default Name creation upon saving to DBM

There are a few parameters available to assist in the automatic titling of takes saved to DBM:

CreateTakeName = "" title of your choice, default = "new take"

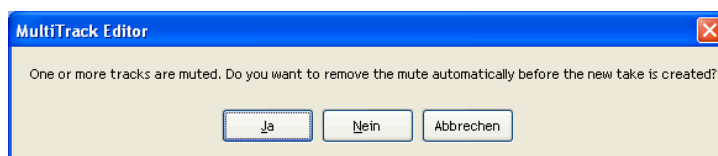
CreateTakeNameAddDate = 1 includes the current time and date

CreateTakeNameAddProgramm = 1 includes the name of MTE

CreateTakeNameAddUser = 1 include the name of the logged-in user

From version 4.0.0.168:

When saving a multitrack production including muted tracks, a question box appears to check if the muted track should be audible in the new take or not:

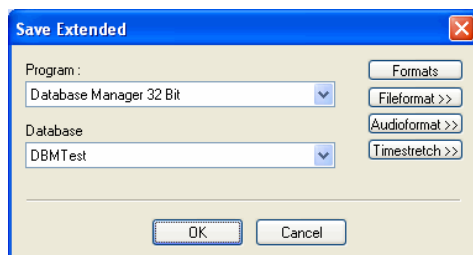


The new flag for enabling this feature is:

[Settings] QueryMutedTracks=1

7.9 Save Extended **NEW**

The **FILE - SAVE EXTENDED** command allows saving your production in different file formats and audio formats, to time stretch and normalize it. By calling this command, the following dialog box appears:



NEW Tipp:

With the parameter "ShowSaveExtendedSections" (Settings) one can activate the individual regions:

FILESYSTEM = saving to file system (or DBM)

FILETYPE = the "Fileformat" area

AUDIOFORMAT = the "Audioformat" area



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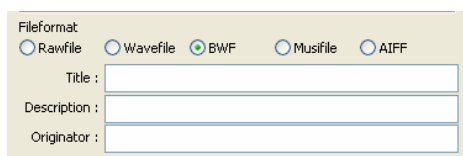
TIMESTRETCH = the "Timestretch" area

All areas are default activated:

ShowSaveExtendedSections =
FILESYSTEM|FILETYPE|AUDIOFORMAT|TIMESTRETCH

7.9.1 File Formats

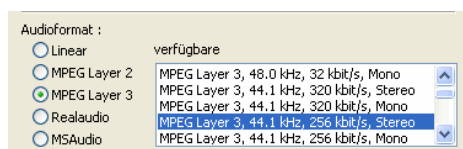
You can save the production in different file formats. By clicking the **FILE FORMAT** button, the following dialog box appears underneath the one shown above:

A dialog box titled "FileFormat" with five radio button options: "Rawfile", "Wavefile", "BWF" (selected), "Musifile", and "AIFF". Below the options are three text input fields labeled "Title:", "Description:", and "Originator:".

Click the desired option to save the file in this particular file format. Depending on the selected format, there are Text fields to be filled out, which are saved within the new file.

7.9.2 Audio Format

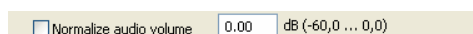
You can save the production in different audio formats. By clicking the **AUDIOFORMAT** button, the following dialog box appears:

A dialog box titled "Audioformat:" with radio button options: "Linear", "MPEG Layer 2", "MPEG Layer 3" (selected), "Realaudio", and "MSAudio". To the right of "MPEG Layer 3" is a list box labeled "verfügbare" containing five entries: "MPEG Layer 3, 48.0 kHz, 32 kbit/s, Mono", "MPEG Layer 3, 44.1 kHz, 320 kbit/s, Stereo", "MPEG Layer 3, 44.1 kHz, 320 kbit/s, Mono", "MPEG Layer 3, 44.1 kHz, 256 kbit/s, Stereo" (highlighted), and "MPEG Layer 3, 44.1 kHz, 256 kbit/s, Mono".

Click the desired option to save the file in this particular audio format. Some of the destination audio formats are only available when the specific codec is installed (MPEG Layer 3, Realaudio, MSAudio).

7.9.3 Normalize

The same dialog box contains the command for the normalizing function.

A control element for normalizing audio volume. It consists of a checkbox labeled "Normalize audio volume" which is currently unchecked, followed by a text input field showing "0.00" and a label "dB (-60,0 ... 0,0)".

Activate the **NORMALIZE AUDIO VOLUME** option. By confirming with OK, the production will be mixed and afterwards leveled to max. 0 dB (or another value to be defined).



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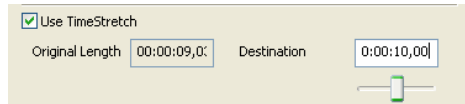
Integration



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7.9.4 Time Stretch

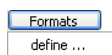
You can time stretch your production to a certain real time length. By using the time stretch command, there will be no pitch shifting. By clicking the **TIME STRETCH** button, the following dialog box appears:



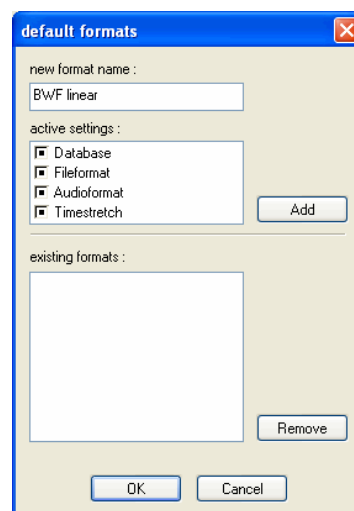
1. Activate the **USE TIME STRETCH** option.
2. Drag the slider to the left or to the right to stretch or compress the length of the production, or use the entry field to enter the length numerically.

7.9.5 Default Format Templates

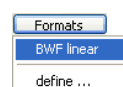
Once you have defined the desired output format, you can save the settings into a default format template in order to be able to call up the format quickly next time.



1. Click the Format button in the Save Extended dialog. The following dialog appears:



2. Enter a new format name and activate the desired options. By using the „Delete“ button, a marked format template can be deleted.
3. For loading an existing default format template, call the „Save Extended“ command and click the „Format“ button. All existing formats appear to be selected.



7.10 Stereo Split & Save **NEW**

Like in the Edit-Station, there is also a function in MTE to separate the left and right channels of the stereo signal in the timeline. In addition, the stereo signal can also be mixed together. This function offers a solution for example when in a telephone interview, both conversational partners were originally on separate channels and the location recording should be processed.

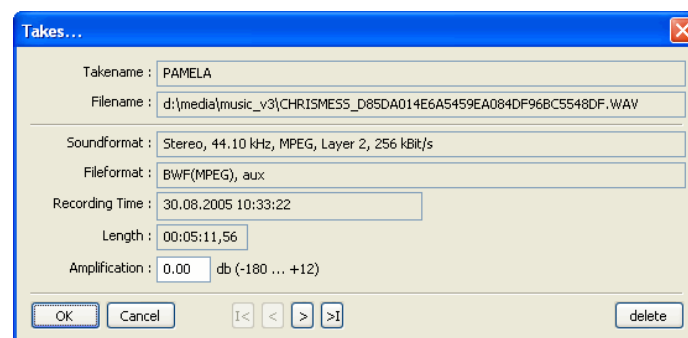
The new menu commands are to be found in the file menu. However the menu commands can be named individually, the meaning of the individual commands are:

- StereoLeft = Extracts the left channel of a stereo take as a new take in the clipboard
- StereoRight = Extracts the right channel of a stereo take as a new take in the clipboard
- StereoSplit = Extracts the left and right channels of a stereo take in a single action as new takes in the clipboard
- StereoMix = Creates a new take where left and right channels will be mixed.

7.11 Take Information

To view additional information about the takes which have been loaded proceed as follows:

Click the menu Options - Takes in the button bar. The following dialog appears:



The take parameters are displayed. Of these, the overall volume can be adjusted. Use the arrow buttons to view additional takes and with the **DELETE** button they can also be deleted (only in the MultiTrack Editor application).



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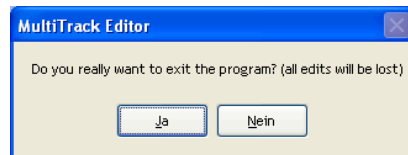
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7.12 Close the MultiTrack Editor

To close the MultiTrack Editor proceed as follows:

1. Click the menu **FILE - EXIT**.
2. Confirm with **OK**.

Note: The project currently opened in the MultiTrack Editor will not automatically be saved. Therefore the following dialog box reminds you to save your work before leaving the MTE:



7.13 Automatic Cleanup **NEW**

In MTE4, created recordings will normally be completely or partially deleted using the menu command FILE - CLEANUP. This procedure can be automated with the parameter "RecordAutoCleanup=1" (Settings). When set, MTE checks the recording directory upon every new start, for files that are older than 24 hours and deletes these. The parameter "RecordAutoCleanupDays" allows one to raise the maximum days until automatic deletion from 1 up to 365.

7.14 Log Files **NEW**

The Settings tab "Logging" allows activation of various log file generation for the MTE4. The appropriate parameter is then automatically set. As with all the settings, the tab "Logging" is only accessible to users with the right for the DigaSystem action "Auto_Change_Setup".



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8 PROCEDURES IN RECORD PAGE

8.1 Disable recording function **NEW**

NEW: Setting the parameter "UseRecord=0" (Settings) will hide the red recording button in all screens.

8.2 Defining record format templates **NEW**

NEW: Before beginning to record, different recording format templates can be defined. Under "Options/Settings/Record", recording templates can be created, depending on whether the admin "action" parameter "Auto_Change_AudioCreateFormat" is set. As soon as a template is saved, a combo-box appears in the Record Page as well as in the Reporter-Box where you can quickly choose from the available recording format templates. Without templates, the audio format predefined in the Settings dialog will be used like before.



8.3 Maximal file size for recordings 4 GB **NEW**

NEW: The maximal file size for recordings has been increased from 2 GB to 4 GB (4 GB is the max. file size for WAVE data according to the RIFF-Standard). This results in approx. 6 hours using the format "Linear 16 bit stereo, 48 kHz" or 2 hours with the format "Linear 24 bit stereo, 96 kHz".

8.4 Prepare recording

A recording can be previewed and the input level adjusted without having to start the recording.



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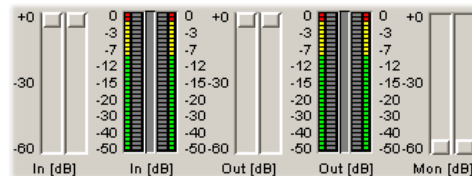
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1. Click the Record button.
2. Adjust the input signal to its optimal level by clicking the input control and holding the button pressed while at the same time moving the control up or down. The level display should not enter the red region to avoid overdriving the recording.



You can adjust the left and right channels independently. Proceed as follows:

3. Press and hold the right mouse button on the left or right control and move it up or down.

8.5 Recording

The recording can be interrupted and restarted at any time without losing the first part of the recording.



1. Click the Record button to prepare the recording.



2. Click the playback button to start the recording. The waveform curve display shows the curve for the current recording as well as a red bar display.



3. Click the Record button to interrupt the recording.



4. Click the playback button to continue with the recording. The recording continues immediately after the end of the previous recording.



5. Click the Stop button to end the recording.

8.6 Previewing a recording

Proceed as follows to preview a recording:



1. Double-Click the Stop button to move the sound-head to the beginning of the recording.



2. Click the Play button to preview the recording.



3. Click the Stop button to end the playback.



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8.7 Previewing a take from a selected position

There are various ways to move the sound-head to a selected position in order to play-back the recording from this point:

8.7.1 Rewinding with the audio buttons



1. Click the Fast Forward button to wind the take forwards.



2. Click the Rewind button to wind the take backwards.

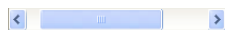


3. Click the Play button to return to playback speed, or



4. Click the Stop button to end the rewind or playback.

8.7.2 Using the scroll bar



- Click the scroll-bar arrows on the left and right of the scroll bar and keep the mouse button pressed until the desired position is reached.
- Click the button on the scroll-bar and drag it to the left or right, or
- Click the free area to the left or right of the scroll-bar button to move the position left or right by one screen.

8.8 Setting markers

You can set markers in the Record page to make editing positions visible. If you then copy the recording to the clipboard the markers are also copied so that you can move the sound-head or the in or out markers to these positions with a single mouse click.



You can set markers during recording or playback, or during a stop, by clicking the marking buttons. The marker is placed at the current sound-head position.



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8.9 Naming and transferring a recording

Title : new record

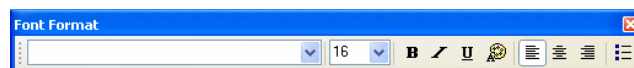


1. Before transferring a recording to the clipboard you can give the take a suitable name by entering it in the **TAKENAME** field.
2. Click the **AUDIO CLIP** button to transfer the recording to the clipboard. The recording is placed in the clipboard as a clip. Now you can switch to the MultiTrack Page to edit the recording further.

8.10 Create Text Clip

Besides audio clips, text can be entered within the text editor window. For this the text can be formatted in rich text format (rtf) like this:

1. Select the **TEXT FORMATS** command from the **OPTIONS** menu.



2. Define the appropriate text format.
3. Click the **Text Clip** button to create a clip containing the text, which later can be used as an element for you online production in the Reporter Box. (See "Procedures in Reporter Box").

8.11 Create combined Audio-Text Clip

A clip can contain audio and text at the same time. This makes it very easy to connect a recording, e.g. an answer of an interview partner, with the written question of your script (or presentation text), which are online produced afterwards in the Reporter Box. So, one single clip can contain the whole text - audio unit as an element for the online production.

With a combined Audio-Text Clip, there are the two alternatives for the production of audio followed by text and text followed by audio:



Audio-Text-Clip

A Unit of audio and text is been created in one clip.

For the following steps of producing with these kinds of clips please see chapter "Procedures in Reporter Box".

The position of the text (before / after audio) can be changed by double-clicking the clip and then selecting the **DROP TEXT BEFORE / AFTER** option. Besides, all text



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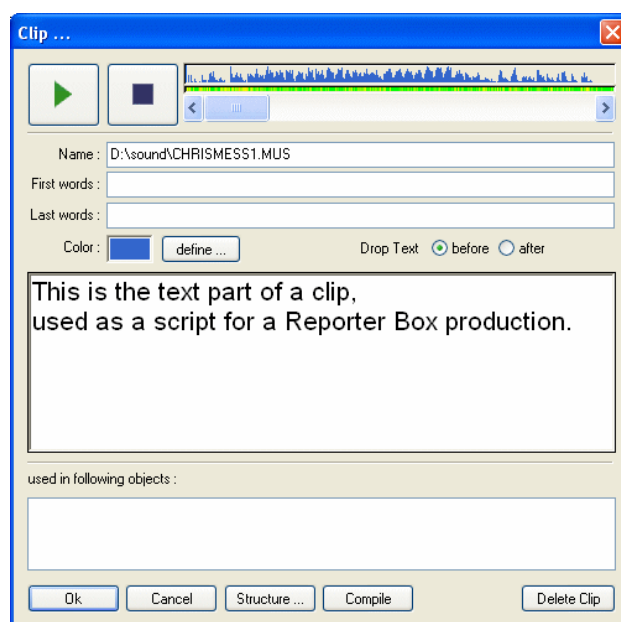


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passages can be edited.



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9 PROCEDURES IN SINGLETRACK PAGE

9.1 Copy an audio item into SingleTrack Page

9.1.1 ... from Record Page



1. Create a clip of your recording within the Record Page.
2. Change to the SingleTrack Page.
3. Drag the clip from the clipboard to the overview window, or middle-click the desired clip.

9.1.2 ... from MultiTrack Page



1. Switch the desired track to edit mode.



2. Click the "Copy to SingleTrack Page" button at the left side of the track. The SingleTrack Page is opened, the track is loaded.

9.2 Monitoring an Audio Item

An Audio Item can be monitored by carrying out the following steps:



1. Click once on the Play button to monitor an Audio Item from the current Play Head position.



2. Double-Click the Play button to monitor an Audio Item from the start of the waveform segment currently displayed in the Edit Zone.



3. Click once on the Stop button to stop playback.



4. Double-Click the Stop button to move the Play Head to the beginning of the Audio Item.

9.3 Select Zoom Factor

Additionally to the resolution buttons shown in the MultiTrack Page, the following buttons are used:



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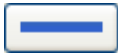
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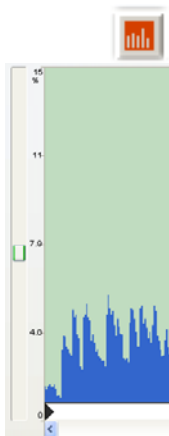
The **RESOLUTION ALL** button shows the whole track in the edit window.



The **RESOLUTION MARKER** button shows the highlighted area in the edit window.

9.4 Vertical Zoom **NEW**

For a better view on the waveform during low volumes, the waveform can be zoomed in vertically. Proceed as follows:



1. Click the **EDIT DISPLAY** button. The Volume Offset Slider appears which contains a volume slider and a numerical display for the relative offset.
2. Drag the slider up or down to change the view. The percentage of the volume is displayed accordingly.

9.5 Positioning the Play Head

Several different methods can be employed to position the Play Head in an Audio Item. They are as follows:

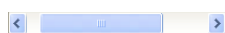
9.5.1 Middle Mouse Button

- Middle-click the desired Position in the waveform. After releasing the waveform, the head jumps to the selected position.

From version 4.0.0 168:

As well in the overview window, the middle mouse button serves to position the play head freely.

9.5.2 The Scroll Bar



By clicking the appropriate arrow in the scroll bar (situated on the Edit Zone's lower edge) and holding down the left mouse button, you can wind an Audio Item



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forward or backwards until the desired position is reached. Alternatively,

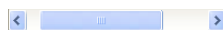
You can Click the scroll bar's slider and, holding down the left mouse button, drag the slider to the left or right. Thirdly,

You can click in the free areas to the left or right of the scroll bar's slider. Each time you click, the Audio Item moves (either forwards or backwards) by the length of the waveform segment, currently displayed in the Edit Zone.

9.5.3 Scrub Mode

The Scrub mode emulates a "reel-rocking" method of acoustically localizing Edit Points, traditionally performed on analogue tape machines. Activating the Scrub button changes the function of the scroll bar (situated on the Edit Zone's lower edge):

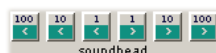
The position of the slider in the scroll bar corresponds to the speed at which audio material can be "scrubbed" forwards or backwards, and is continuously adjustable. Initially, the scroll bar's slider jumps to a position directly beneath the Play Head, representing the zero setting.



1. Activate the Scrub mode by clicking the **SCRUB** half of the Scrub/Skip toggle switch. The button turns dark grey in color.
2. Drag the scroll bar's slider to the right (forward scrubbing) or left (backward scrubbing).

9.5.4 The Trim Buttons

The Trim buttons allow fine adjustment of the play head position. The smallest possible units of movement (frames) are determined by the Musicam Layer standard used, together with the selected sampling frequency.



Click the appropriate buttons in the "Shift" tab to move the Play Head to the left or to the right.



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9.6 Locators

9.6.1 Placing Locators



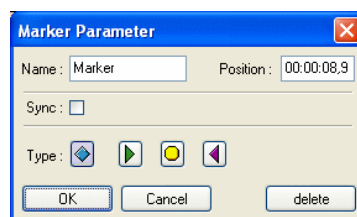
1. Open the "Locator" tab by clicking it.
2. With the Play Head positioned at the desired position, click the required Locator button.

9.6.2 Naming Locators

Besides defining default locator names in Settings / "General 2" tab, the names of the blue locators can be defined freely. After placing a locator in the Audio Item, proceed as follows:



1. Double-click the required blue locator. The locator's properties dialog appears:



2. Enter the desired name for this locator.
3. Confirm the action with OK.

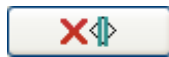


From Version 4.0.0 168:

When using the "Mark to Clip", the names of the (start) markers for the clips are automatically taken over to the according clips.

9.6.3 Deleting Locators

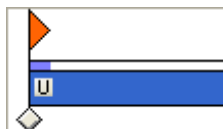
Before you can delete a Locator, you must first ensure that the Play Head is on or within 10 frames of the Locator marker in question. This can be done as follows:



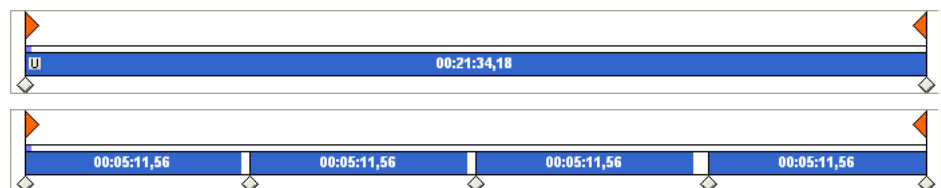
1. In the Overview Bar, click with the middle mouse button on the Locator in question.
2. With the Play Head now positioned on or near the chosen Locator, click the delete button.
3. Click the "Delete all" button to delete all locators in the current timeline.

9.7 Resolving Object Groups NEW

When a group of audio elements has been exported from the Multitrack Page to the SingleTrack Page, it can be resolved again to its separate elements. However, the elements may not be overlapping, as the SingleTrack Page supports only one track.



1. Click the „U“ button at the left side of the track overview. The objects are resolved.

**9.8 Selecting Regions "On-the-fly"**

Before being able to perform edits on a region, you must first select it by defining Start and End Marker positions. The quickest way to do this is by placing the Markers "on-the-fly".

1. Move the Play Head, if necessary, to the section of Audio Item in which you want to select a region.



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2. Start playback by clicking the Play button. Position the mouse pointer on the **START MARKER** button.
3. As you monitor the Audio Item's playback, wait until you hear the start of the region you want to select, and then click with the left mouse button on the **START MARKER** button. The Start Marker now appears at the desired point in the Audio Item.
4. Repeat steps 1. and 2., positioning the mouse pointer this time on the **END MARKER** button.
5. As you monitor the Audio Item's playback, wait until you hear the end of the region you want to select, then click with the right mouse button on the **END MARKER** button. The End Marker now appears at the desired point in the Audio Item.



This method of placing Markers "on-the-fly" is not always suitable, of course, when exact Marker positioning is required. However, it can serve as a very good starting point for more detailed editing, when used in conjunction with any one of the methods described in the following sections.

If you need to place or adjust Marker positions more precisely, you may employ one of three methods. However, it must be understood that regardless of which method you select, whether it be the on-screen placement, the Scrub mode, or the Looping function, each one is based on the current position of the Play Head. Before you can make fine corrections to Marker positions, you must first move the Play Head on to the Marker you want to adjust. This may be done as follows:



To move the Play Head on to the Start Marker, click the start marker below the waveform display with the left mouse button.



To move the Play Head on to the End Marker, click the end marker below the waveform display with the right mouse button.

These operations can also be performed, should one or both of the Markers be situated outside the currently visible section of the Edit Zone's waveform display. In this case, the corresponding Marker flag appears at the left-hand or right-hand end of the Edit Zone.



9.9 Selecting Regions Visually

One of the fundamental advantages of digital editing, is undoubtedly its capability of incorporating visual localization, together with audio perception, into the editing process. With a little practice at linking "what you see" with "what you hear", you will soon realize how quickly you are able to localize Edit Points, identify pauses in speech, and recognize many other audio characteristics by viewing the waveform display while listening to the sound.

9.9.1 Placing Start and End Markers

1. Move the Play Head, if necessary, to the approximate position in the Audio Item at which you want to place a Marker.
2. Move the mouse pointer to the desired point in the Edit Zone's waveform display.
-   3. Hold down the left mouse button if you want to place a Start Marker, the right mouse button for an End Marker. In both cases, a thin vertical line appears at the tip of the mouse pointer, indicating the position of the corresponding Marker.
4. Drag the Marker to the left or right until the exact position is reached.
-   5. Release the mouse button to place the desired Marker at the current mouse position.

9.10 Selecting Regions using the Scrub Mode

The Scrub mode emulates a "reel-rocking" method of acoustically localizing Edit Points, traditionally performed on analogue tape machines. Activating the Scrub button changes the function of the scroll bar (situated on the Edit Zone's lower edge):

The position of the slider in the scroll bar corresponds to the speed at which audio material can be "scrubbed" forwards or backwards, and is continuously adjustable. Initially, the scroll bar's slider jumps to a position directly beneath the Play Head, representing the zero setting.



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9.10.1 Placing Start and End Markers

1. Move the Play Head, if necessary, to the approximate position in the Audio Item at which you want to place a Marker.



2. Activate the Scrub mode by clicking the **SCRUB** half of the Scrub/Skip toggle switch. The button turns dark grey in colour.



3. Hold down the left mouse button on the scroll bar's slider.
4. Drag the slider to the right or left until the desired position is reached.
5. Move the scroll slider quickly back and forth over the chosen position to produce an audible effect comparable to "reel-rocking".
6. Move the slider more slowly to localize the exact position wanted, then release the mouse button when the precise point is reached.



7. Click the **START** or **END MARKER** button.

9.11 Selecting Regions by Looping

The different Loop functions are activated by the two Transport buttons situated to the right of the **STOP** button. The vertical bar on these buttons symbolizes the Play Head.



Play Left of Head

Single click: Plays x sec. of audio material (pre-defined in the "Adjustable Parameters" dialog box) which is currently seen to the left of the Play Head, stopping at the initial Play Head position.

The Loop button allows playing the same portion of audio material repeatedly (loop mode).



Play Right of Head

Single click: Plays x sec. of audio material (pre-defined in the "Adjustable Parameters" dialog box) which is currently seen to the right of the Play Head, returning to the initial Play Head position.

The Loop button allows playing the same portion of audio



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material repeatedly (loop mode).



Play Inside Markers

Single click: The first x sec. of audio material after the Start Marker and the last x sec. before the End Marker are played back.

The Loop button allows playing the same portion of audio material repeatedly (loop mode).



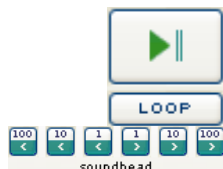
Play Outside Markers

Single click: The last x sec. of audio material before the Start Marker and the first x sec. after the End Marker are played back.

The Loop button allows playing the same portion of audio material repeatedly (loop mode).

9.11.1 Placing Start and End Markers

1. Move the Play Head, if necessary, to the approximate position in the Audio Item at which you want to place a Marker.



2. Click the **PLAY LEFT OF HEAD LOOP** button.

3. While the portion of audio material is being looped, click the appropriate Trim buttons (situated in the SHIFT tab) to finely adjust either the Start or End Marker position.



4. When the desired position is reached, press the Stop button.



5. Click on either the **START MARKER** or **END MARKER** buttons to place the corresponding Marker in the Audio Item.

9.12 Selecting Regions in the Overview Bar

The Overview Bar allows you to place Start and End Markers on any already existing Markers like locators, edit points, the audio item's Start



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and End Point.



Click with the left mouse button on one of the above-mentioned markers to place the start marker on it or with the right mouse button to place the end marker on it.

9.13 Editing inside / outside

SingleTrack Page offers you two alternatives for cutting out parts of an Audio Item: you can either remove the selected region defined by Start and End Markers, or keep the selected region while removing the areas outside the Markers.



Click the **CUT INSIDE** button above the track overview to cut out the selected region, or alternatively,

Click the **CUT OUTSIDE** button to cut out all audio material outside of the selected region, keeping the region itself.

9.14 Trimming Edit Points

When you edit a Take by either cutting out a part of it or inserting a Clip into it, you haven't, of course, irrevocably split the original Take at the point of edit. The Take still exists as a completely intact audio file, which means that the removed parts can be restored, or partly restored if necessary. This is effectively what you are doing when you shift an already existing Edit Point. This can be carried out as follows:



In the Overview Bar, click with the middle mouse button on any edit point you want to trim (as well start and end markers and trim points between clips from different takes are available).

Open up the TRIMMING index card by clicking the corresponding card heading.



Select which side of the Edit Point you want to trim:

left,
right, or
both sides



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	To shorten the Audio Item on the selected side of the Edit Point, click the negative Trim buttons
	
	To lengthen the Audio Item on the selected side of the Edit Point, click the positive Trim buttons.
	

An example:

Select a region to be edited. The corresponding Start and End Markers now appear in the Overview Bar:

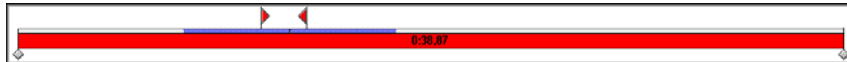


Fig 1: Complete Take

Next, cut out the selected region by clicking the **REMOVE REGION** button (see the following diagram).



Fig 2: Edit Point inserted into Take

An arrow (in this case, pointing to the right) symbolizes an Edit Point marking the position where the region has been removed. This particular arrow indicates that playback continues at a later point in the original Take.

Now, however, you wish to shorten the section before the Edit Point. To do this, click with the middle mouse button on the Edit Point, hereby moving the Play Head to this position. Now, select from the Trim Points menu, the page: Take out Left.



Fig. 2: Left-hand Section shortened by 20 Frames

Clicking one of the negative Trim buttons will now shorten the portion of audio material to the left of the Edit Point. The new length is displayed inside the left-hand section of the bar as a time read-out:



Fig. 2: The original state is restored, the Edit Point has no practical effect.

In contrast, clicking one of the positive Trim buttons will lengthen the portion of take to the left of the Edit Point.



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9.15 Undoing Edits

Any previously performed edit, not only the last one carried out, may be reversed using a special "Undo Edit" function. This can be done as follows:



1. Click with the middle mouse button on the desired Edit Point in the Overview Bar.

2. Open the "Trimming" index card.



3. Click the delete button situated on the index card's right-hand side.

9.16 Undo / Redo

To undo an action or to redo one or more actions which have been undone proceed as follows:

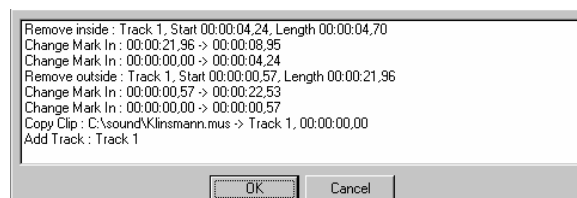


1. Click the buttons **UNDO / REDO** to undo or redo an action, or



2. Click the list arrow next to the buttons **UNDO / REDO** in order to undo or redo multiple actions.

3. Below is an example of actions which have been performed:



9.17 Fades

Several types of fades may be applied to Audio Items. These are as follows: fade-ins and fade-outs with a choice of 4 fade curves, individually defined fade and volume curves, automatic fading in and out, volume adjustment of selected regions, deleting fades inside selected regions.

9.17.1 Fade-Ins, Fade-Outs

To apply a fade-in or a fade-out to a selected region of an Audio Item, carry out the following steps:



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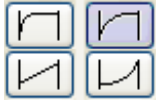
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1. Select the region to which the fade be applied by placing Start and End Markers in the Audio Item.
2. Open up the "Volume" index card by clicking the corresponding card heading.



3. Select the desired fading character. Concerning the fade out function, simply imaging the same button to have the horizontally mirrored functionality.



4. Click on either the **FADE IN** or **FADE OUT** button to assign the appropriate fade to the selected region.

9.17.2 Custom Fade and Volume Curves

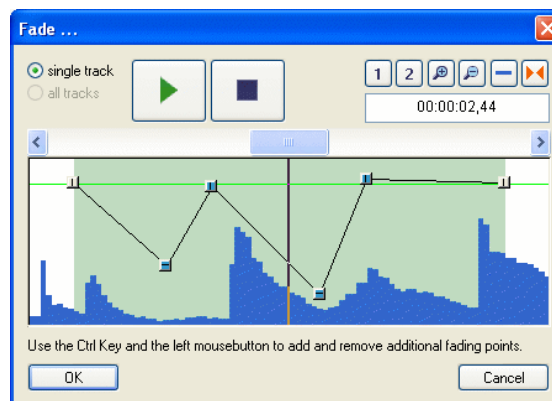
To apply an custom fade and volume curve to a selected region of an audio item, perform the following steps:



1. Select the region to which the fade/volume curve be applied by placing Start and End Markers in the audio item.
2. Open up the "Volume" index card by clicking the corresponding card heading.



3. Clicking the "Customize Volume" button opens up the dialog box shown below.



4. To place Contour Points in the graphical display, hold the Ctrl key and Click the desired positions.
5. Dragging the selected Contour Point up and down vertically increases or decreases the volume at this position. Click on it with the right mouse button to switch it from vertical to horizontal movement. Dragging the selected Contour Point up and down horizontally now changes its time-related position.
6. To delete a Contour Point, hold the Ctrl key and click on it.



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9.17.3 Adjusting a Region's Volume

The volume of a selected region can be adjusted as follows:

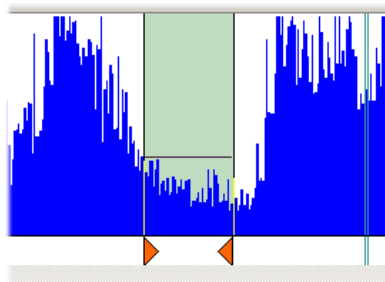


1. By placing Start and End Markers, select the region whose volume is to be adjusted.

2. Open up the "Volume" index card by clicking the corresponding card heading.



3. Click the "Volume Fader" button. A horizontal "Volume Level Line" appears in the Edit Zone, indicating the peak volume within the selected region.



4. Drag this line to the desired vertical position.

9.17.4 Deleting Fades

A fade that has been applied to a region, may also be deleted. This can be done as follows:



1. By placing Start and End Markers, select the region from which the fade is to be deleted.

2. Open up the "Volume" index card by clicking the corresponding card heading.



3. Click the "Remove Fadelist" button to delete the Fade.

9.18 Creating Clips

9.18.1 Create Clip by copying



1. Mark the area to be copied to the clipboard, with start and end mark.



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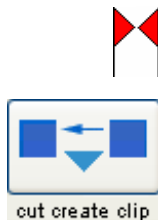


2. Click the **CREATE CLIP** button. A dialog box appears, in which to enter an appropriate Clip name.



3. Enter the name of your choice.
4. Confirm the action with **OK**.

9.18.2 Cut Create Clip



1. Mark the area to be copied to the clipboard, with start and end mark.
2. Click the **CUT CREATE CLIP** button. A dialog box appears, in which to enter an appropriate Clip name.
3. Enter the name of your choice.
4. Confirm the action with **OK**.

9.19 Inserting a Clip into an Audio Item

To complete the copying and moving operation, you may now insert the Clip at its new position into any Audio Item of your choice (whether it be a Take or a Sequence).

A clip is always inserted at the momentary position of the Play Head. To move the Play Head to the desired point of insertion, choose one of the following methods:

9.19.1 Positioning the Play Head

1. Move the Play Head, if necessary, to the approximate position in the Audio Item at which you want to insert the Clip.
2. Move the mouse pointer on to the desired point in the Edit Zone's waveform display and click with the middle mouse button. The Play Head now moves to the chosen position.



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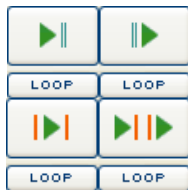


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9.19.1.1 Checking the Play Head's Position



1. Check the exact position of the Play Head using the various alternatives offered by the Transport buttons, **PLAY LEFT OF HEAD / PLAY RIGHT OF HEAD, PLAY INSIDE MARKERS / PLAY OUTSIDE MARKERS.**

9.19.1.2 Adjusting the Play Head's Position



1. Move the mouse pointer on to the desired point in the Edit Zone's waveform display.
2. Using the middle mouse button, drag the chosen point in the waveform display on to the Play Head.
3. Release the mouse button to leave the Play Head at the desired position.

9.19.2 Positioning the Play Head in the Scrub Mode

The Scrub mode emulates a "reel-rocking" method of acoustically localizing Edit Positions traditionally performed on analog tape machines. Activating the Scrub button changes the function of the scroll bar (situated on the Edit Zone's lower edge):

The position of the slider in the scroll bar now corresponds to the speed at which a Take can be "scrubbed" forwards or backwards, and is continuously adjustable. Initially, the scroll bar's slider jumps to a position directly beneath the Play Head, representing the zero setting.

9.19.2.1 Positioning the Play Head



1. Move the Play Head, if necessary, to the approximate position in the Audio Item at which you want to insert the Clip.
2. Activate the Scrub mode by clicking the **SCRUB** half of the Scrub/Skip toggle switch. The button turns dark grey in colour.
3. Hold down the left mouse button on the scroll bar's slider.
4. Drag the slider to the right or left until the desired position is reached.



5. Moving the scroll slider quickly back and forth over the chosen position produces an audible effect comparable to "reel-rocking".
6. Move the slider more slowly to localize the exact position wanted and then release the mouse button when the precise point is reached.



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9.19.2.2 Finely Adjusting the Play Head's Position

Moving the scroll slider quickly back and forth over the chosen position produces an audible effect comparable to "reel-rocking".



1. Move the slider more slowly to localise the exact position wanted, then release the mouse button when the precise point is reached.

9.19.3 Positioning the Play Head by Looping

The different Loop functions are activated by the two Transport buttons situated to the right of the **STOP** button. The vertical bar on these buttons symbolizes the Play.



1. If necessary, move the play head to the approximate position in the audio item at which you want to insert the clip.
2. Click the "Play Left of Head" or "Play Right of Head" loop button.
3. While the portion of audio material is being looped, click the appropriate Trim buttons (situated below the Transport buttons) to finely adjust Play Head's position.
4. When the desired position is reached, press the Stop button.



9.20 Inserting a Clip

1. Select the desired Click by clicking it
2. Drag the Clip on to the Overview Bar, but do not yet release the mouse button. A vertical line appears, representing the position of the Play Head
3. If you want to place the Clip's end point at the current position of the Play Head, move the mouse pointer on to the left-hand side of the Play Head's symbol.
4. Alternatively, if you want to place the Clip's start point at the current position of the Play Head, move the mouse pointer on to the right-hand side of the Play Head's symbol.



5. Release the mouse button to insert the Clip.

9.21 Dividing a Take into Clips

Using Locators to define sections of audio material, you can divide a Take quickly and easily into several Clips. This is done as follows:

1. First place any locators at the desired positions in the take. To do this, please refer to the section of this chapter entitled Placing Locators.
2. Open the **CLIP** index card.
3. Click the **MARKER TO CLIP** button to copy the locator-defined sections of Take onto the required number of Clip tracks.



From Version 4.0.0 168:

The names of the markers for the clips are automatically taken over to the according clips. Before performing “Mark to Clip”, the markers can be named freely by double-clicking the marker in the SingleTrack page overview window. Besides, the default names of the markers can be defined in Settings / “General 2” tab.



4. Click the **EDIT TO CLIP** button to copy the edit-defined sections of Take onto the required number of Clip tracks.

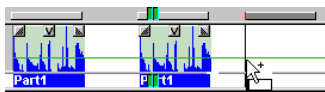


10 GENERAL PROCEDURES IN MULTITRACK PAGE

10.1 Inserting a Clip

In order to work with an object residing in the clipboard (for editing / producing), it must first be dragged onto the working area of the MultiTrack page:

1. Simply drag the required object from the clipboard onto the track or onto the track overview.



2. When holding down the Shift key during the insertion process, an object can be inserted overlapping another object in the time line. The Crossfade Editor appears to define the crossfade settings.
3. **NEW**: When holding down the CTRL key during the insertion process, a clip can be inserted within another object already in the time line. The part at the right of the insertion position is shifted to the right for the length of the inserted clip.
4. **NEW**: When holding down the CTRL + Shift key during the insertion process, a clip can be inserted within another object already over all tracks. The parts in all tracks at the right of the insertion position is shifted to the right for the length of the inserted clip.

10.1.1 Optimized insertion

NEW

1. Insert a clip/take into a track and start playing back.
2. Hold down the ctrl key and click the desired clip to insert. The clicked clip is immediately inserted at the next free track.
3. The next clip can be inserted immediately again simply by CTRL & clicking.

10.2 Auto Duck

The Auto Duck function ducks down all events of a track, wherever there are audio objects in other selected tracks. In order to automatically duck one or more tracks proceed as follows:



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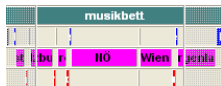
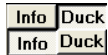
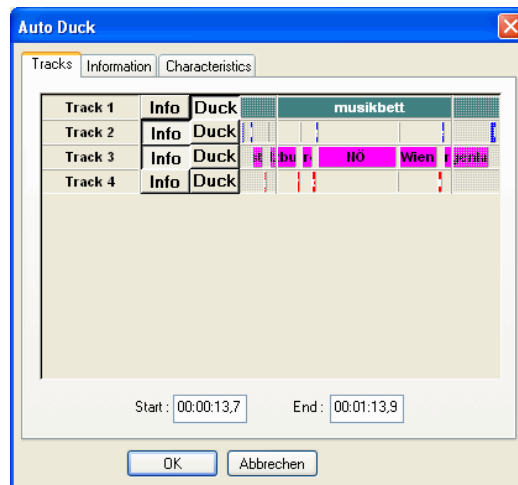


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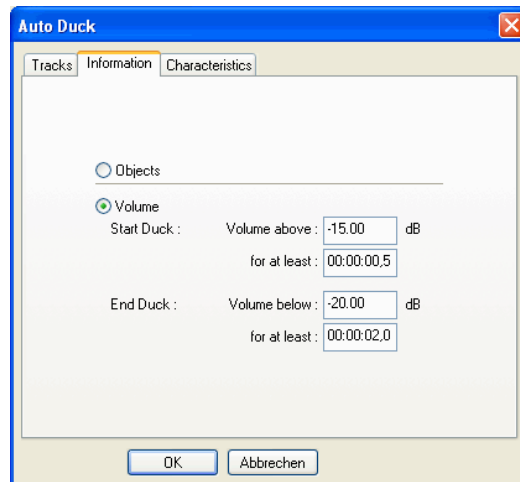
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1. Click on the menu **OPTIONS – AUTO DUCK**. The following dialog appears:



2. Click on the buttons **INFO** and **DUCK** in order to select the required function to the respective tracks. (**DUCK** means: this track will be ducked whenever an audio object is playing on a track marked with **INFO**.)
3. In case you want to auto duck only a certain region, clicking in the track area within the dialog with the left and right mouse buttons.
4. In the next tab "Information", check the option
 - "Objects" if you want to use the info objects to control the fadings,
 - "Volume" if you want to apply the fadings depending on the volume of the individual object. In our example picture: If the volume of the info-object is above -15 dB for more than 0,5 sec., auto duck starts and the duck-object is ducked down. If the volume of the info-object is below -20 dB for more than 2 sec., auto duck stops, the volume of the duck-object is coming up again. So, the procedure "Volume" takes blank passages within the object into account.

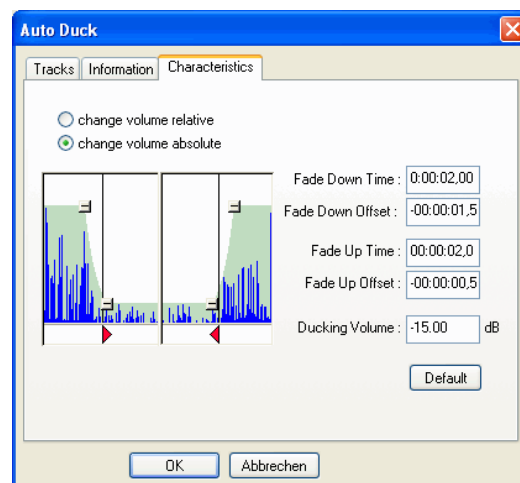




5. In the next tab "Characteristics", you define the fading curve by dragging the fading buttons to the desired positions.

In order to adjust the two inner fading buttons (setting the volume level) right-click on the fading buttons. The symbols change from  to , and the buttons can now be adjusted vertically.

Alternatively, the time and volume settings can also be entered directly into the numeric fields.



6. Clicking "OK" executes the auto duck.

10.3 Track Mixer **NEW**

Using the Track Mixer, all tracks can be adjusted in terms of volume, Stereo panning, EQ and effects.

1. Open the Track Mixer by clicking the appropriate button in the symbol bar.



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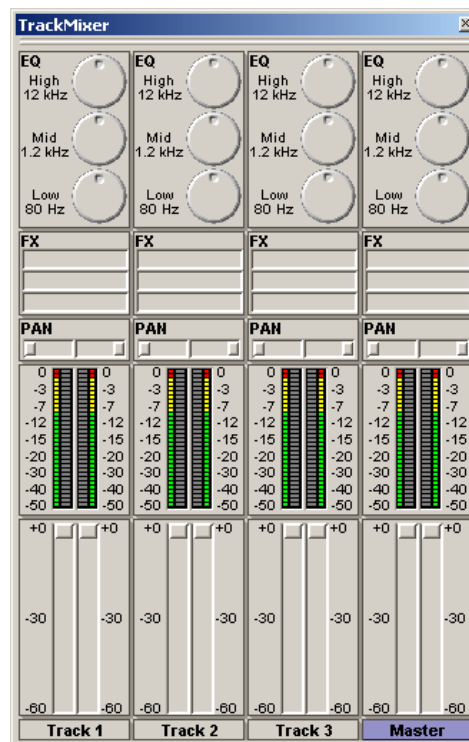
Video



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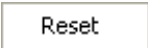


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2. Volumes are changed by using the appropriate sliders for the tracks or master. All changes will be real-time processed, i.e. you will hear the changes immediately.
3. The 3 band EasyEqualizer is already set default for every track. The frequency knobs can be adjusted with the left (sweeping) mouse button or the right (stepped: 6db steps) mouse button.
4. Other effects are assigned via Drag&Drop from the clipboard onto the FX placeholder of the appropriate mixer track (max. 3 effects per track). The appropriate effect window for defining the effect properties opens automatically to define the desired effect settings.
5. In order to reset the section settings of a channel (sections EQ and PAN), right-click on the section of the desired channel and select the „Reset“ button.

Reset

With changed track settings and closed Track Mixer, the Track Mixer symbol in the symbol bar blinks.

10.4 Using Effects **NEW**

MTE4 has a new registry card in the clipboard: 'Effects', which displays the built-in **EasyEqualizer**, **Parametric Equalizer**, **Subsonic Filter and Compressor**, as well as any DirectX effects installed in the system.



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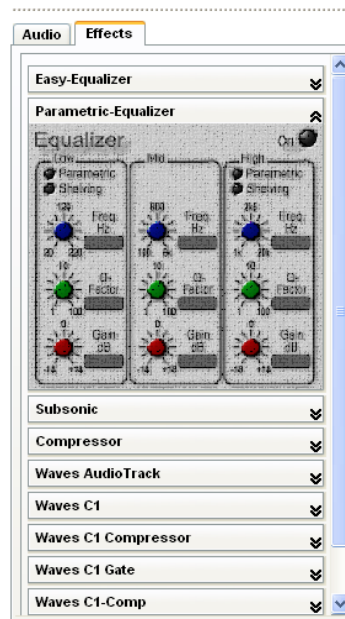


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1. Open the "Effects" tab in the MTE4 Clipboard.



10.4.1 Easy Equalizer



Description of the EasyEqualizer parameters

- Gain for Filter 1 in dB (-18.0 .. 18.0 dB)
- Gain for Filter 2 in dB (-18.0 .. 18.0 dB)
- Gain for Filter 3 in dB (-18.0 .. 18.0 dB)
- The mid frequencies, the filter modes (shelving / parametric) and the filter curves for the three bands can be configured in the DigaSystem Administrator Settings.

Preset-Management

Preset All onboard effects offer a preset management that can be seen by clicking on the "Preset" button in the effect dialog. Behind these Preset buttons, default effect settings can be saved user-defined and globally to be easily applied to the objects/tracks.

5. Call up an effect and adjust the parameters as desired.

6. Click the Preset button within the effect dialog.



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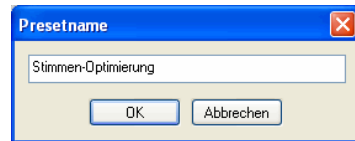


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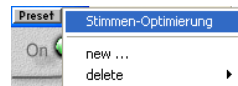


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7. Click the „NEW“ command and enter the name for the new setting. After clicking “OK”, the new setting is saved.



8. In order to apply an existing preset, click on the preset button and select the desired preset.



10.4.2 Parametric Equalizer



Description of the Parametric Equalizer parameters

- Mode for Filter 1, either parametric or low shelving
- mid (parametric) or cutoff (shelving) frequency for Filter 1 in Hz
- Q for parametric Filter 1 (1.0 .. 100.0)
- Gain for Filter 1 in dB (-18.0 .. 18.0 dB)
- mid frequency for parametric Filter 2 in Hz
- Q for parametric Filter 2 (1.0 .. 100.0)
- Gain for parametric Filter 2 in dB (-18.0 .. 18.0 dB)
- mode for Filter 3, either parametric or high shelving in Hz
- mid (parametric) or cutoff (shelving) frequency for Filter 3
- Q for parametric Filter 3 (1.0 .. 100.0)
- Gain for parametric Filter 3 in dB (-18.0 .. 18.0 dB)

Remarks:

The low and the high-band filters are either parametric or shelving filters. If shelving-filters are used then Q has no effect. The mid-band filter is not



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selectable, it's just a parametric filter.

Valid values for Q are in the range: $+1.0 < Q < +100.0$

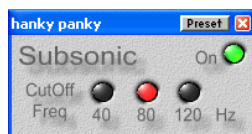
The gain can be regulated within $-18.0 \text{ dB} < \text{Gain} < +18.0 \text{ dB}$

The frequency can be every value ranging from 10 Hz to $(0.5 * \text{Samplerate} - 0.1 * 0.5 * \text{Samplerate})$

Example for Samplerate 48000 Hz:

frequency range 10 Hz to 21600 Hz (=24000 Hz – 2400 Hz)

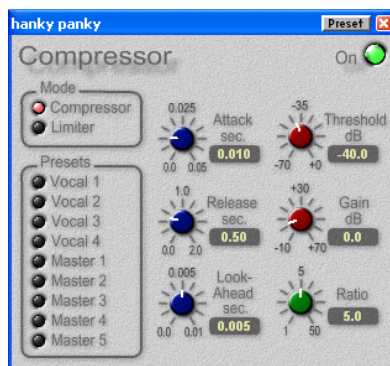
10.4.3 Subsonic



Description of the Subsonic parameters

- CutOff Freq: There are three selectable cutoff frequencies: CUT40 Hz, CUT80 Hz and CUT120 Hz

10.4.4 Compressor



Description of the Compressor parameters

- Mode: Selects mode Compressor / Limiter
- Presets:
 - VOCALS1 : 2:1 ratio, long attack, long release, slight lookahead
 - VOCALS2 : 4:1 ratio, shorter attack, shorter release
 - VOCALS3 : 6:1 ratio, very short attack
 - VOCALS4 : vocal Limiter in order to avoid clipping, might introduce distortion for extreme thresholds
 - MASTER1 : master compressor with 1ms attack and short release
 - MASTER2 : master compressor with 0.1ms attack and short release
 - MASTER3 : limiter with long release (avoids clipping, but generally



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reduces gain)

MASTER4 : limiter with medium release (makes the sound “fater”)

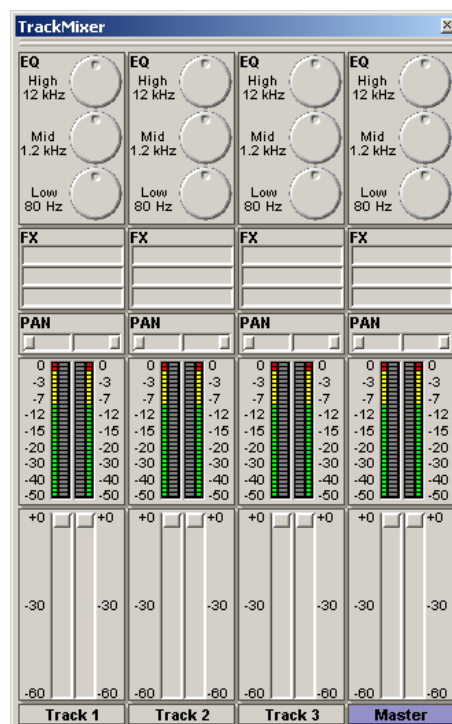
MASTER5 : limiter with very short release (be carefull!) (might make the sound really “fat”)

- Threshold : sets the threshold in dB
- Ratio : sets the ratio 1:x (1.0.. 50.0)
- Attack : sets the attack time in s
- Release : sets the release time in s
- Gain : sets the gain in dB
- LookAhead : sets lookahead time in s (<0.01s), introduces delay!

10.4.5 Applying Effects to Tracks **NEW**

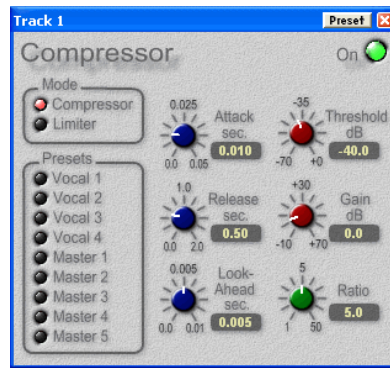


1. Open the Track Mixer by clicking the appropriate button in the symbol bar.



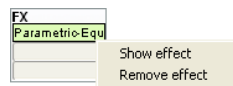
Drag&Drop the effect from the clipboard onto the FX placeholder of the appropriate mixer track (max. 3 effects per track). The appropriate effect window for defining the effect properties opens automatically, e.g.





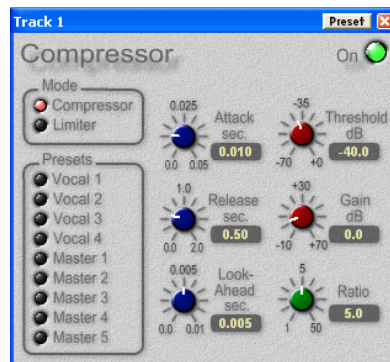
Changing / Removing Effects

1. By right-clicking on the effect on its FX slot inside the track mixer, a context menu appears to select the appropriate command.



10.4.6 Applying Effects to Objects **NEW**

1. Drag&Drop the desired effect onto the audio object situated in a track. When an effect is applied to an object via Drag&Drop, the effect dialog will automatically open, for example:



In addition, by the presence of the "FX" symbol in the block view you will recognize that this object contains an effect.



Digital



Audio



Video



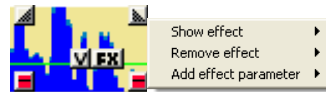
Integration



Development

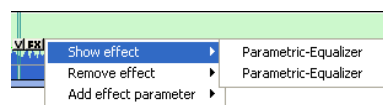
Changing / Removing Effects

2. By (left) clicking on the "FX" symbol, a context menu appears showing the effect; allowing effect removal and also for adding or removing effect parameters.



Applying an effect once again

The same effect can be applied several times on an object or a track. Here, the respective settings are saved separately, so they can be edited separately afterwards.



Realtime Editing of Effect Parameters

Effect parameters can be edited in realtime mode (see chapter "Real-time Processing"). Realtime editing is only available for D.A.V.I.D. effects.

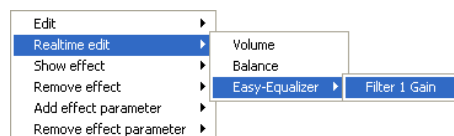
First, select the desired effect:

1. Assign the effect to the desired audio object by dragging it onto the object (being in block view).
2. Select the desired effect parameter by selecting it in the „Add Effect Parameter” command.



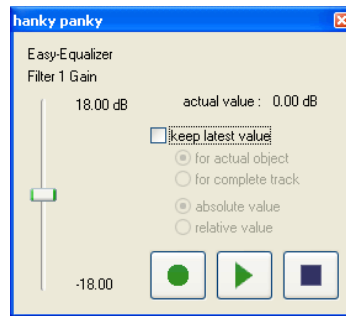
Now, perform the realtime editing:

1. Switch the track to Edit View.
2. Hold the CTRL key pressed and right-click on the wave form, then select the effect parameter under the „realtime edit” command.

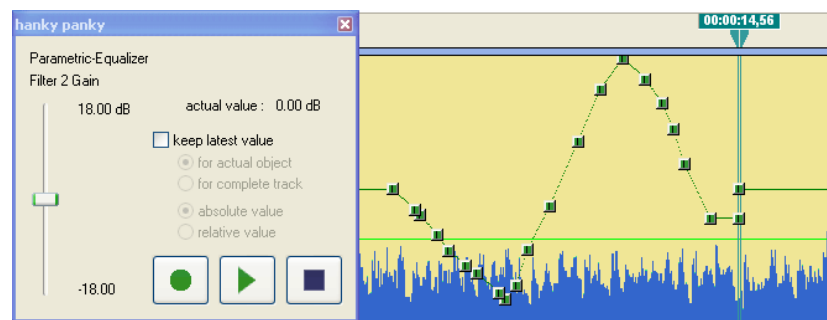


The following window opens:



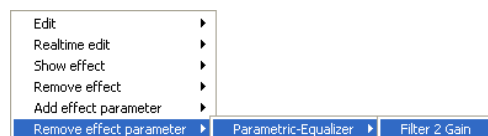


3. Click the Record button in the dialog and then the Play button. During the recording process, move the volume slider up or down. The changes are immediately audible. The recorded changes are displayed as fade buttons in track after the recording process has stopped. They can be edited / deleted separately as usual.



Deleting the realtime effect recording:

1. Hold the CTRL key pressed, right-click on the wave form and, under the „Delete effect parameter“ command, select the effect parameter.



10.4.7 Preset-Management **NEW**

Preset

All onboard effects offer a preset management that can be seen by clicking on the "Preset" button in the effect dialog. Behind these Preset buttons, default effect settings can be saved user-defined and globally to be easily applied to the objects/tracks.

1. Call up an effect and adjust the parameters as desired.



Digital



Audio



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Integration

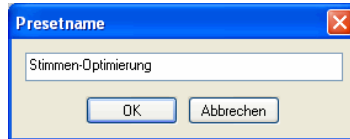


Development

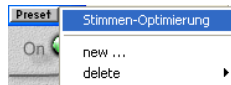
2. Click the Preset button within the effect dialog.



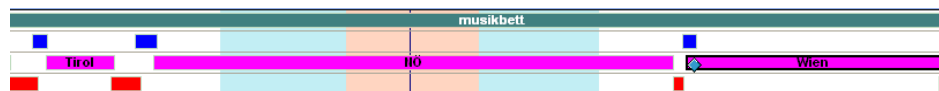
3. Click the „NEW“ command and enter the name for the new setting. After clicking “OK”, the new setting is saved.



4. In order to apply an existing preset, click on the preset button and select the desired preset.



10.5 Using the Overview Window **NEW**



The Tracks overview survey contains a representation of the entire project over all tracks.

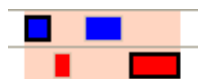
10.5.1 Inserting Clips **NEW**

1. Drag&Drop the desired clip to any position within the track overview.

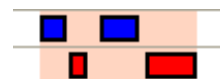


10.5.2 Moving Audio Objects **NEW**

1. Click the required object. The marked object is highlighted with a black border. If you want to select more than one object hold the Ctrl key down while clicking the objects (selective add) or the Shift key (including add).



Selective add (Ctrl key)



Including add (Shift key)

2. Drag the object(s) to the required position.



11 PROCEDURES IN MULTITRACK PAGE, SMALL DISPLAY

In the MultiTrack Page there are various kinds of track display:

 Small display

 Block display

 Edit display

With each the display modes various functions are associated which are only available when the respective display is selected. The procedures within the MultiTrack Page are also dependent on the various displays.



The minimized display of a track includes, with the exception of mute and solo, no additional functionality, since the track and its objects is shown in the smallest possible space to make room for other tracks.



Digital



Audio



Video



Integration



Development

12 PROCEDURES IN MULTITRACK PAGE, BLOCK DISPLAY



The Block display of a track is designed to easily arrange the different audio objects to a MultiTrack project, to trim elements, and to change the elements' volumes.

12.1 Handling Audio Objects

12.1.1 Inserting a Clip into a Track **NEW**

1. Drag the desired Clip to the desired position in the Overview Bar or in one of the tracks.
2. By holding the SHIFT key, objects can be dragged into the end of another object to create a Crossfade between the two objects within one track (see chapter "Crossfade" below).
3. **NEW**: By holding the CTRL key, objects can be inserted within other objects.
4. **NEW**: With CTRL+SHIFT, objects on the other tracks will also be modified (i.e. cut and shifted to the right for the length of the inserted clip).
5. **NEW**: Without using Drag&Drop, a clip can be inserted by CTRL + Click at the current play head position on the next free track.

12.1.2 Marking audio objects

Taking different actions with audio objects (like deleting, grouping etc.) often needs to first mark these audio objects:



1. Click the required object with the left mouse button. The background of the waveform curve turns black. If you want to select more than one object hold the Ctrl key down while clicking all the objects you require.

Or

2. Click the desired audio object with the right mouse button, the context menu appears with the following



Digital



Audio



Video

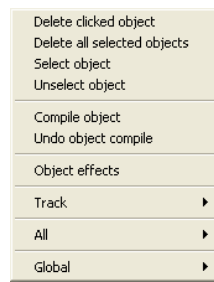


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commands:



3. Chose the **SELECT OBJECT** command

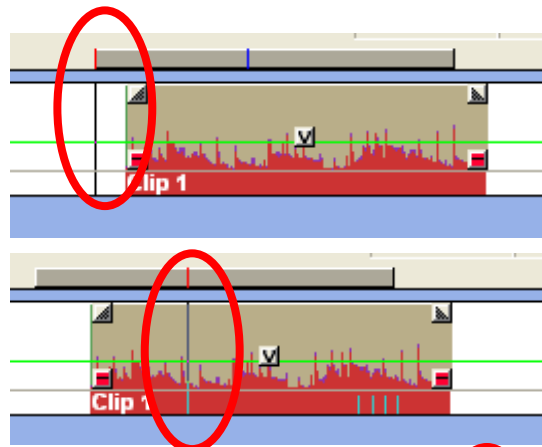
12.1.3 Removing the marking for an object

1. Click the required object with the right mouse button.
The context menu as shown above appears.
2. Select the option **UNSELECT OBJECT**.

12.1.4 Moving

To move an object manually and to synchronize it with the others proceed as follows:

Click and hold the left mouse button and move the object left or right until the required position is reached. If you only want to move the object by a small amount first move it a little further than required in order to activate the move function. This is a safety mechanism to avoid accidentally moving an object (by for example, the mouse clicking on an object). The marking shows you the position at which the take is to be positioned.



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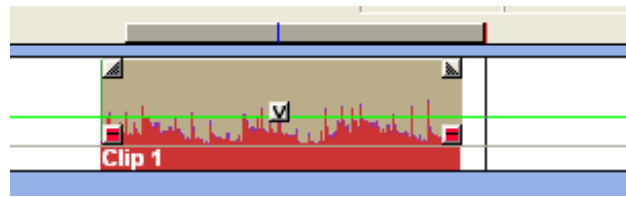
Video



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Depending on whether you "grabbed" an audio object in the front or rear half, the mouse pointer indicates to either the beginning or the end of the object. When dragging the mouse to the left / right, the mouse pointer also shows the position of the marking.

12.1.5 Move / copy to another track

To move an object to another track proceed as follows:

1. Hold the take with the left mouse key pressed and move the object to the required track.

If you do not want to move it forwards or backwards in time:



2. Hold the Alt key pressed during the process. The object will not be moved in time.

In order to copy an audio object to another track:



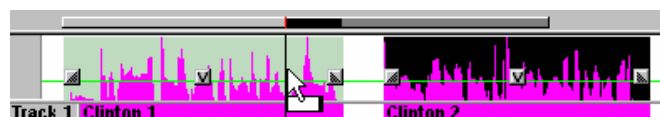
3. Hold the Ctrl key pressed during the process.

12.1.6 Cross Fade

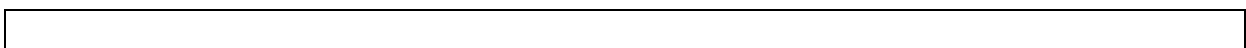
To make a cross-fade of two audio objects within one track:



1. Hold the shift key pressed.
2. Drag the desired Clip or audio object over an audio object within the track.



After releasing the key, the following dialog appears:



Digital



Audio



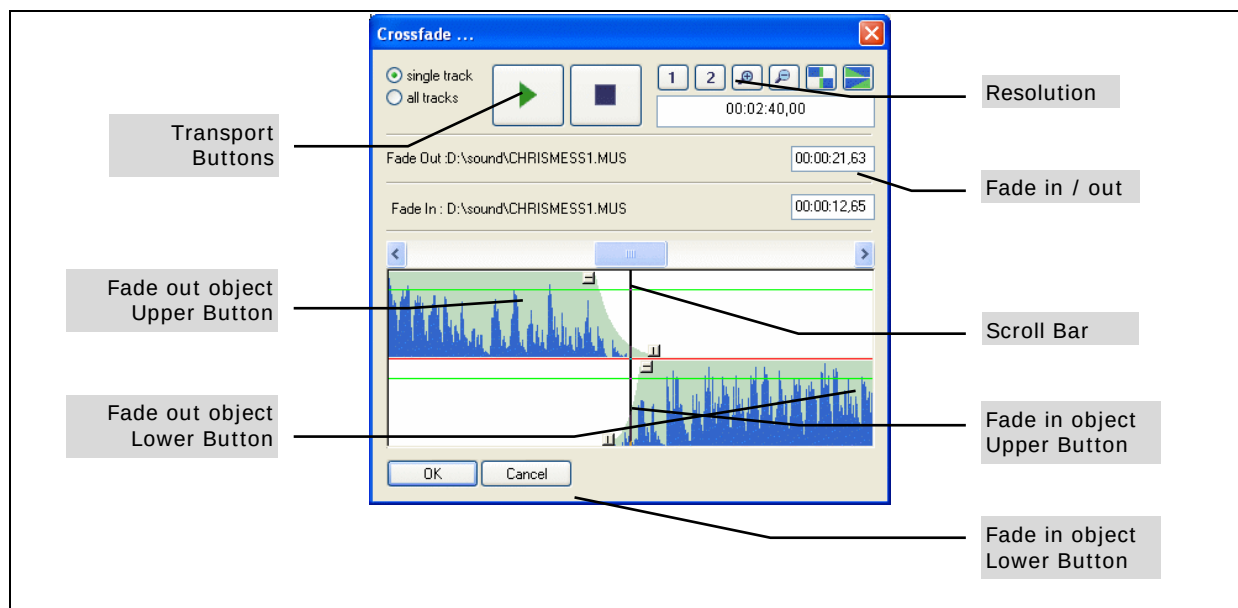
Video



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Development



Resolution of the crossfade waveforms. The resolution of the buttons **1** **2** can be defined in the menu OPTIONS – SETTINGS – TRACK.

The  button shows the whole length of the two crossfade objects.

The  button shows the crossfade area in detail.



Playing the displayed region starting with the current head position.

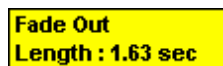


Move the replay head position with the elements of the scroll bar, or simply middle-click into the waveform.

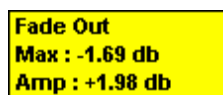


Define the time and volume data of both objects with these fade buttons. These buttons can be switched from horizontal to vertical movement by using the right mouse button.

Upper Fade Button of the Fade-out object



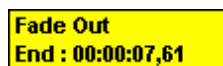
 Moving horizontally, the button marks the beginning of the Fade out area. When moving the button, the mouse info shown left appears.



 Moving vertically, the button marks the total volume of the fade-out object. When moving the button, the mouse info shown left appears.



Lower Fade Button of the Fade-out object



 Moving horizontally, the button marks the end of the Fade out object. When moving the button, the mouse



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Fade Out
Fade : -5.74 db

info shown left appears.

 Moving vertically, the button marks the end volume of the fade-out object. When moving the button, the mouse info shown left appears.



Fade In
Length : 0.96 sec

Upper Fade Button of the Fade-in object

 Moving horizontally, the button marks the end of the Fade in area. When moving the button, the mouse info shown left appears.

Fade In
Max : +0.00 db
Amp : +0.00 db

 Moving vertically, the button marks the total volume of the fade-in object. When moving the button, the mouse info shown left appears.



Fade In
Start : 00:00:05,32

Lower Fade Button of the Fade-in object

 Moving horizontally, the button marks the beginning of the Fade in object. When moving the button, the mouse info shown left appears.

Fade In
Length : 1.42 sec

 Moving vertically, the button marks the beginning volume of the fade-in object. When moving the button, the mouse info shown left appears.

1. Click the fade buttons in order to define the time and volume data for the objects, (see fade button definitions above). These buttons can be switched from horizontal to vertical movement by using the right mouse button.
2. Prelisten the fading with the **PLAY CROSS FADE** button.
3. Confirm the cross fade with OK. The cross fade is shown in the track like this:

Song1
Crossfade Out
Length : 1.59 sec



The cross fade markers  indicate the cross fade region. The mouse info of the cross fade buttons informs about its data.

Subsequent corrections of the cross fade:

Right-click on one of the cross fade markers . The cross fade dialog opens to correct the fading.



Digital



Audio



Video



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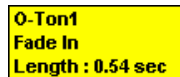
Development

12.1.7 Fading in/out

To fade an object in or out proceed as follows:



1. Click the **FADING** button of an object. The fading buttons are to be found at the upper left and upper right. The mouse information for this object is displayed.

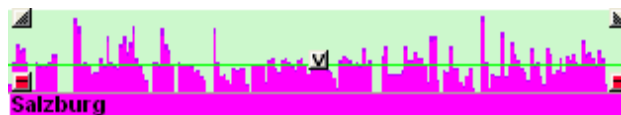


It shows the name and length of the fade. In this example the fade is a fade-in with a length of 0.54 seconds for the fade O-Ton1.

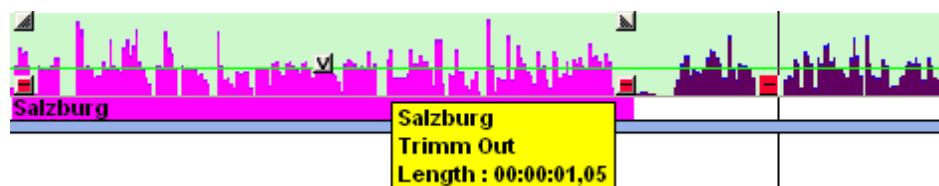
2. Drag the button to the left or right to change the length of the fade.

12.1.8 Trimming

Trim buttons are displayed at the bottom of the start and end point of each audio object. These buttons are used for trimming audio object directly inside the track.



1. Hold the mouse pressed on one of the Trim buttons. The original take outside the audio object is displayed in a neighbor color.



2. Drag the Trim button to the left or to the right to find the right start / end point of the audio object.

12.1.9 Time Stretching Directly on Audio Objects **NEW**

The Trim buttons are also used to time-stretch an object. The time stretch range is 50% – 200%. However, grouped objects can not be stretched.



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This function can be deactivated with the parameter:

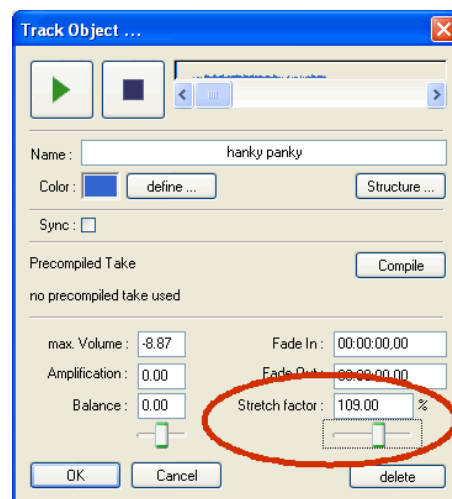
[Settings] UseObjectTimeStretch=0 (default=1)



1. Hold the CTRL key pressed. The Trim buttons now function as stretch buttons.
2. Drag the Trim buttons to the left or to the right to time-stretch the audio object.



3. In order to reset the object to its original length, drag the stretch button back or double-click the object to enter the numerical value in the object dialog.



12.1.10 Changing the volume

Each object can be real-time processed in terms of volume, Stereo balance (panning) and effect parameters. To change an object's volume proceed as follows:



1. Move the mouse cursor over the **VOLUME** button of the block. This is in the middle at the top of the block. The mouse information for this object is displayed.

O-Ton1
Max : -2.78 db
Amp : +2.04 db

It shows the name, the maximum deviation and the relative volume change for the object. In this example



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Video



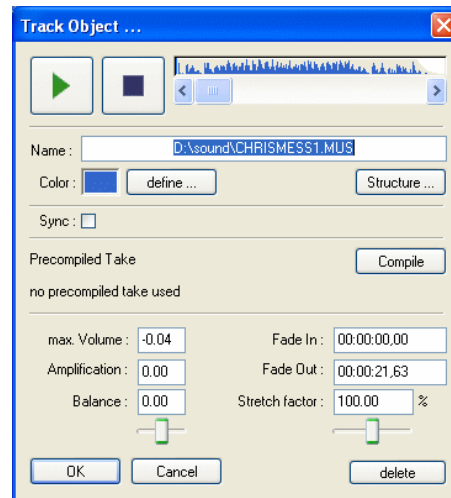
Integration



Development

the mouse information shows a maximum level of -2.78 dB for the O-Ton1 object, and the object has already been increased by 2.04 dB.

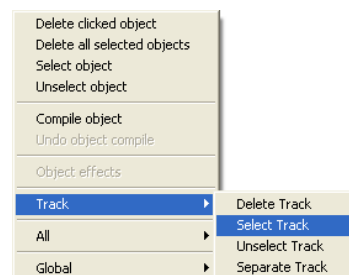
2. Double-click on the object to open its properties dialog, and enter the maximum amplitude in "Max. Volume".



12.1.11 Grouping Objects / Tracks

Several objects or tracks, which are produced and synchronized ready, can be grouped. This means that audio objects / tracks appear as one object afterwards and can be synchronized as one unit later on.

1. Mark the desired objects by clicking them while holding the ctrl key pressed. The waveforms of the marked objects appear with a black background. You can mark whole tracks via the context menu's command Track – Select Track.



2. Click the Group button in the button bar.

12.1.12 Separating a group

At any time, a group can be separated again to be able to work on the



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group elements.

1. Mark the desired group by clicking it. It appears with a black background and the **SEPARATE GROUP** button is activated.



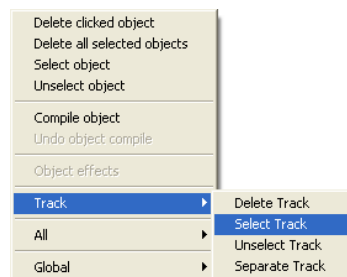
2. Click the **SEPARATE GROUP** button. The group is separated to its elements again.

12.2 Handling Tracks

12.2.1 Marking a track

In order to, for example, delete a track you must first mark it. Proceed as follows:

1. Click with the right mouse button on the required track. The context menu appears.
2. Select the sub-menu **TRACK**.



3. Select the option **SELECT TRACK**.



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Audio



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12.2.2 Removing the marking for a track

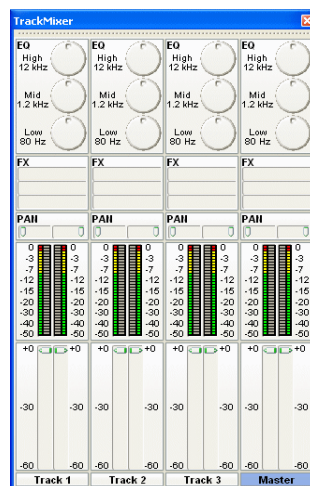
1. Click with the right mouse button on the required track. The context menu appears.
2. Select the sub-menu **TRACK**.
3. Select the option **UNSELECT TRACK**.

12.2.3 Changing the Volume / Stereo Panning **NEW**

Both the volume of a track and the panorama of a whole track can be changed. Proceed as follows:



1. Click the **SHOW TRACK MIXER** button in the button bar.



2. Move the Volume / PAN slider of the required track.

12.3 Global Commands

12.3.1 Marking all tracks

To mark all tracks proceed as follows:

1. Click with the right mouse button in a track. The context menu appears.
2. Select the sub-menu **ALL**.



Digital



Audio



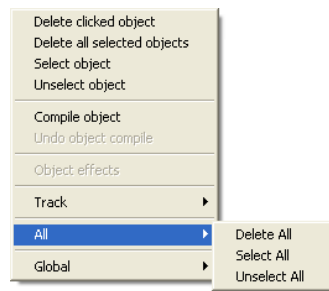
Video



Integration



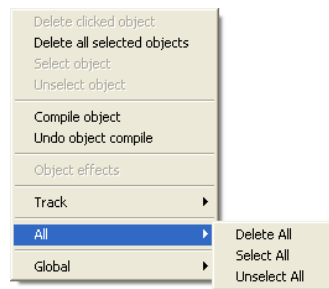
Development



3. Select the option **SELECT ALL**.

12.3.2 Removing the marking for all tracks

1. Click with the right mouse button in a track. The context menu appears.
2. Select the sub-menu **ALL**.



3. Select the option **UNSELECT ALL**.

12.3.3 Global Removing

1. Place the in and out markers to set up a region, at whose position a pause should be inserted globally. (For more information about this step see the chapter below: 9.3.1 Setting in/out markers).
2. Click with the right mouse button in a track. The context menu appears.
3. Select the Submenu **GLOBAL**.



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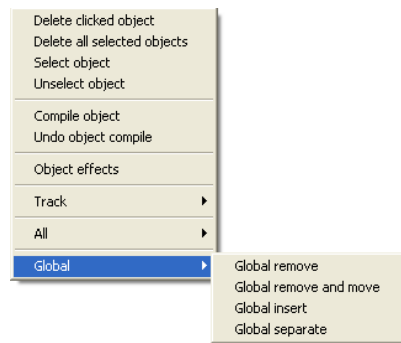
Video



Integration



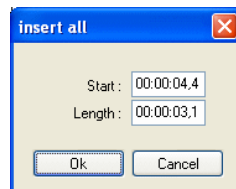
Development



4. Select the Command **GLOBAL REMOVE**.

12.3.4 Global Inserting

1. Place the in and out markers to set up a region, at whose position a pause should be inserted globally. (For more information about this step see the chapter below: 9.3.1 Setting in/out markers).
2. Click with the right mouse button in a track. The context menu appears.
3. Select the Submenu **GLOBAL**.
4. Select the Command **GLOBAL INSERT**. The following dialog box appears. This dialog box shows the region which has already been set up by the in and out markers. You can now correct the time data.



12.3.5 Global Separating

1. Place the replay head at the desired position.
2. Click with the right mouse button in a track. The context menu appears.
3. Select the Submenu **GLOBAL**.
4. Select the Command **GLOBAL SEPARATE**.

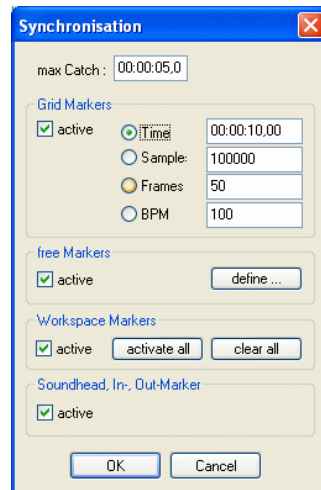


12.4 Synchronization points

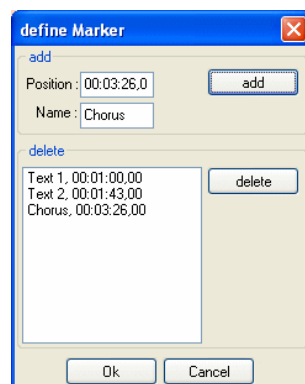
12.4.1 Settings sync points

To position objects accurately at specific positions sync points are set. There are a number of ways to set sync points:

Click the menu **OPTIONS - DEFINE SYNC POINTS** to open the synchronization dialog:



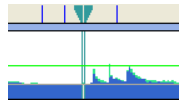
- Max catch** The entry in this field determines the time span within which the cursor jumps to the next sync point when synchronizing an object.
- Grid markers** These sync points repeat, beginning with a count of 0, depending on which option is selected: Time(hh:mm:ss,00), Sample (linear ...), Frames (Musicam resolution), or BPM (Beats per Minute). These sync points are displayed in black.
- Free markers** This option allows you to freely define sync points by selecting the option **ACTIVE** and then the **DEFINE** button.



1. Enter the sync-point information in the fields Position and Name,

2. Add this point to the list by clicking the button **ADD**.
3. Individual points can be deleted by first marking them and then clicking the **DELETE** button.

Sync points can as well be set directly in the sync line above the tracks.



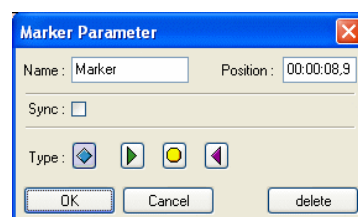
1. Activate the option Free Markers, and confirm with **OK**.
2. Click into the sync point line at the desired position. The sync point appears in a dark blue color, and is been entered in the list.

Workspace markers

By activating this option all the markers which belong to particular object will be displayed as sync-points. These are the sync-points from the object edges (start and end of an object) in a red color and the markers within the object in a pink color. The sync-points created from workspace markers can be activated and deactivated all at once by means of the **ACTIVATE ALL** and **CLEAR ALL** buttons. To activate or deactivate single markers or elements as sync-points proceed as follows:

Define single markers as sync-points

1. Switch to the **EDIT** display of the relevant track.
2. Click with the right mouse button on the markers. The following dialog appears:



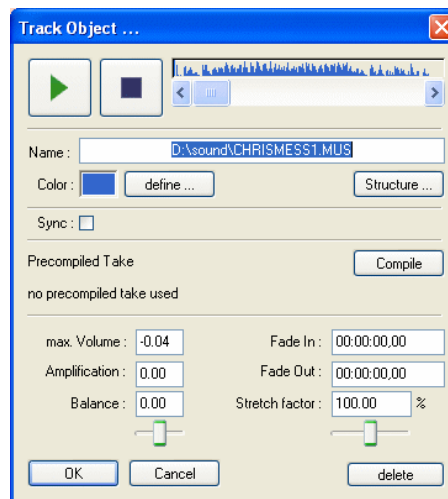
3. Select the **SYNC** check box and then confirm with **OK**. After closing the dialog the sync point of this marker is shown in the sync point line as a light blue marker.

Define single audio objects as sync-points

1. Double-Click the audio object (in block view mode).



The following dialog appears:

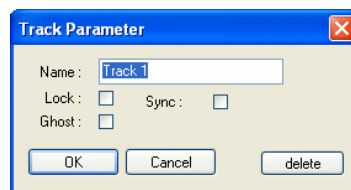


2. Check the option Sync. After closing the dialog the sync points of the audio object (beginning, end, markers in this audio object) are shown in the sync point line.

Define single tracks as sync points



1. Click the Track Info button of the desired track. The following dialog appears:



2. Check the option Sync. After closing the dialog the sync points of the whole track are shown in the sync point line.

Sound-head,
in/out
marker

This option activates the sound-head and in/out marker sync points. The sync-point for the sound-head is not displayed since it is already represented by the sound-head symbol. However, any object being synchronized will be "captured" by this sync-point if it comes within the defined time range. The sync-points of the in/out markers are displayed in red.

12.4.2 Using Markers as Sync Points

In order to sync a object's marker to a marker on another object:

1. The markers are shown in the tracks' overview.



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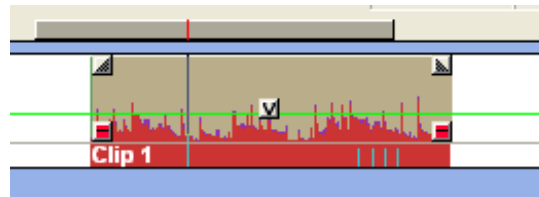
Integration



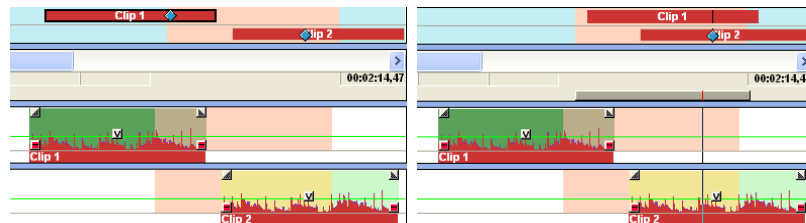
Development



2. Now, grab the source object at the position of its marker.



3. Drag the object to the destination object, viewing the track overview. The orientation line will be shown both in the tracks' screen as well as in the tracks' overview.



4. Drag the clip till the orientation line of the source object has reached the marker of the destination object, and release the mouse button.



13 PROCEDURES IN MULTITRACK PAGE, EDIT DISPLAY



The Edit display of a track is designed to easily edit audio objects in a multi-track environment, trim elements and change the elements' volumes/stereo balance.

13.1 Markers

Markers can be set in the MultiTrack Editor in a similar way to that in the full Edit Station application. Four types of markers are available. All the markers can be set as often as required during a running or halted playback. The blue marker can be freely named.

13.1.1 Setting a Marker

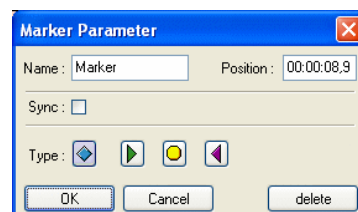


1. Position the sound-head to the required position or play the take back by pressing the **PLAY** button.
2. Click the required marker button.

13.1.2 Naming a Marker

All markers can be freely named. Set the marker at the required position (see above) and:

1. Click with the right mouse button on the required marker. The following dialog appears:



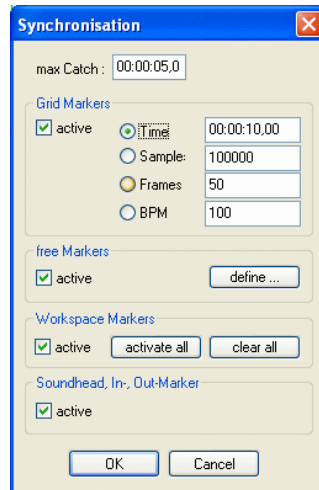
2. Enter the required name for this marker. Also, you can manual adjust the position, define the marker as a sync-point, change the type, or delete the marker.
3. Confirm your changes with OK.



13.1.3 Define a Marker as Sync Point

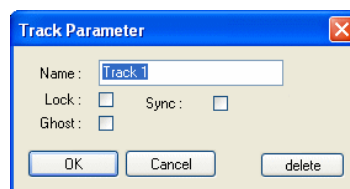
Markers can be defined as Sync points for synchronizing audio objects exactly on the marker positions (see "Synchronization Points").

1. In the Synchronization dialog (menu **OPTIONS – DEFINE SYNC POINTS**), activate the **WORKSPACE MARKERS** option.

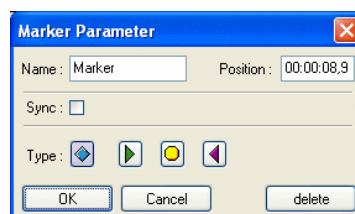


2. For displaying all markers as sync points, click the **ACTIVATE ALL** option.

In order to display the sync point of a track only, activate the **SYNC** option within the track dialog =  Button



In order to define a single marker as sync point, right-click the marker and activate the **SYNC** option.



In the Sync bar directly above the tracks, the sync points appear as a light blue marker.



13.1.4 Deleting a Marker

To delete a marker proceed as follows:

5. Click the required marker with the right mouse button. The following dialog appears.



6. Click the **DELETE** button.

To delete all markers of a track while being in edit view, do as follows:



1. Click the button **DELETE ALL**.



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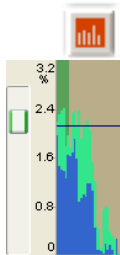
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13.2 Vertical Zoom **NEW**

For a better view on the waveform during low volumes, the waveform can be zoomed in vertically. Proceed as follows:



3. Click the **EDIT DISPLAY** button. The Volume Offset Slider appears which contains a volume slider and a numerical display for the relative offset.

4. Drag the slider up or down to change the view.

13.3 Selecting Regions Visually

1. Move the Play Head, if necessary, to the approximate position at which you want to place a Marker.
2. Move the mouse pointer to the desired point in the waveform display.



3. Hold down the left mouse button if you want to place a Start Marker, the right mouse button for an End Marker. In both cases, a thin vertical line appears at the tip of the mouse pointer, indicating the position of the corresponding Marker.

4. Drag the Marker to the left or right until the exact position is reached.



5. Release the mouse button to place the desired Marker at the current mouse position.

6. Check the exact position of the Markers utilizing The **PLAY INSIDE MARKERS / PLAY OUTSIDE MARKERS** buttons.

13.4 Selecting Regions with Scrub Mode

The Scrub mode emulates a "reel-rocking" method of acoustically localizing Edit Points, traditionally performed on analogue tape machines:



1. Activate the Scrub mode by clicking the **SCRUB** button below the transport buttons. Activating the Scrub button changes the function of the scroll bar (situated on the bottom of the track). The position of the slider in the scroll bar corresponds to the



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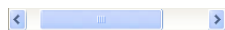
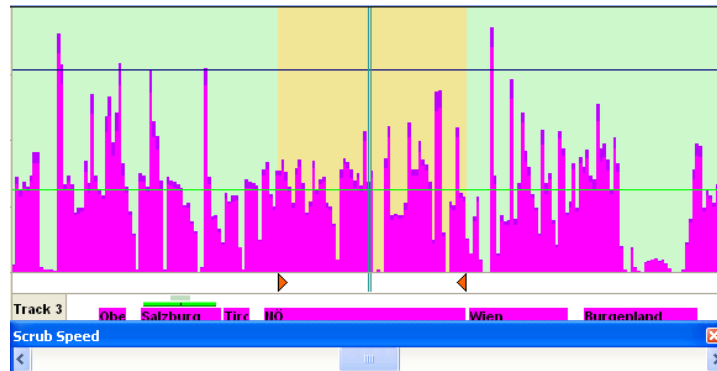


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speed at which audio material can be "scrubbed" forwards or backwards. Initially, the scroll bar's slider jumps to a position directly beneath the Play Head, representing the zero setting.



2. Hold down the left mouse button on the scroll bar's slider.
3. Drag the slider to the right or left until the desired position is reached.
4. Move the scroll slider quickly back and forth over the chosen position to produce an audible effect comparable to "reel-rocking".
5. Move the slider more slowly to localize the exact position, and then release the mouse button when the precise point is reached.
6. Click the start mark / end mark button below the transport buttons to place the start or end mark exactly at the play head position.



13.5 Selecting Regions with Loop-Play

The different loop functions are activated by the two Transport buttons situated to the left of the **STOP** button. The vertical bar on these buttons symbolizes the Play Head.



PLAY LEFT OF HEAD

Activating this button plays the portion of audio material which is currently seen to the left of the Play Head (see the diagram below). The Audio Item is rolled back x sec. (pre-defined in the "Adjustable Parameters" dialog box), then played back to the initial Play Head position, where playback stops.

By clicking the loop button below, the same portion of audio material is repeatedly played back until the Stop



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button is pressed, the Play Head returning to its initial position. This effect is known as Looping.



PLAY RIGHT OF HEAD

Activating this button plays the portion of audio material which is currently after the Play Head (see the diagram below). The Audio Item is played for x sec. (pre-defined in the "Adjustable Parameters" dialog box), starting from the initial Play Head position, then playback stops.

By clicking the loop button below, the same portion of audio material is repeatedly played back (looping mode) until the Stop button is pressed, the Play Head returning to its initial position (which may have been trimmed).

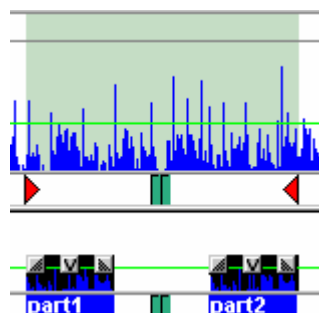


1. Double-Click the **LOOP BUTTON** below the appropriate **TRANSPORT** button.
2. While the portion of audio material is being looped, click the appropriate **TRIM** buttons (situated in the **SHIFT INDEX TAB**) to finely adjust either the Start or End Marker position.
3. When the desired position is reached, press the Stop button.

13.6 Moving Audio Objects in Loop Mode

To move one or more objects in loop mode and to synchronize with other tracks proceed as follows:

1. Select the object by clicking it. The background of the waveform curve turns black. If you want to select more than one object hold the shift key down while clicking all the objects you require. Selecting multiple objects also affects the other tracks:



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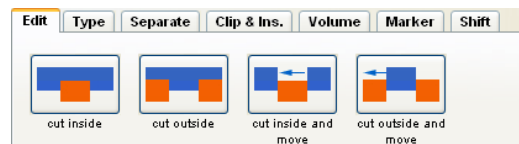


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2. Now Click the **LOOP** button underneath the **PLAY SELECTED REGION** button.
3. Next Click the **PLAY INSIDE MARKERS** button itself. The symbol on the middle **CORRECTION** button changes to the following function: block synchronization correction.
4. Then Click these buttons. The selected objects will be moved respectively 1 or 10 frames left or right during the loop playback.

13.7 Editing functions



1. Mark a region (see above).
2. Click the **CUT INSIDE** button in the **EDIT** tab of the **EDIT TOOLS** bar to remove the marked region. This leaves a pause with the length of the cut region. Or
3. Click the **CUT INSIDE AND MOVE** button to remove the marked region. The part remaining to the right of the cut region is moved up to the cut point. Or
4. Click the **CUT AND SEPARATE** button in the **SEPARATE** tab of the **EDIT TOOLS** bar to remove the marked region. This leaves a pause with the length of the cut region and, in addition, the 2 remain parts are separated into 2 objects so that they can be independently synchronized.
5. Click the **CUT OUTSIDE** button in the **EDIT** tab of the **EDIT TOOLS** bar to remove all of the parts outside of the marked region. Or
6. Click the **CUT OUTSIDE AND MOVE** button to remove all of the parts outside of the marked region. The marked region is then moved to the beginning.



13.8 Separating objects

In order to separately synchronize two parts of an object they must first



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be separated. To do this proceed as follows:

1. Position the sound-head at the position at which the object is to be separated.



2. Click the **SEPARATE** button.

3. If you want to cut out a part of the object at the same time as it is being separated then proceed as follows:



4. Mark the required region (see above)

5. Click the **CUT AND SEPARATE** button to remove the marked region. A pause remains with the length of the cut region. In addition, the two remaining parts are separated into two different objects so that they can be independently synchronized.



- 6.

13.9 Inserting a pause

13.9.1 Into an object

To insert a pause into an object proceed as follows:

1. Mark a region with the length of the required pause starting from the insert position by placing the start mark where the pause to begin and then placing the end mark where the pause should end.



2. Click the **INSERT** button.

13.9.2 Globally

To insert a global pause, i.e. in all tracks, proceed as follows:

1. Mark a region with the length of the required pause starting from the insert position by placing the start mark at the position where the pause to begin and then placing the end mark at the position where the pause should end.



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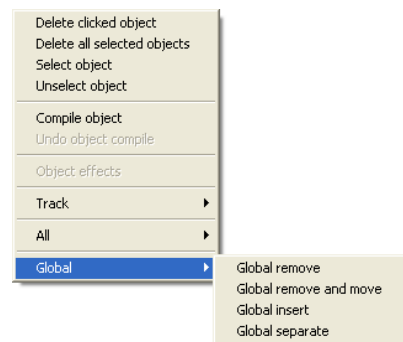


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2. Click on any track with the right mouse button. The context menu appears.

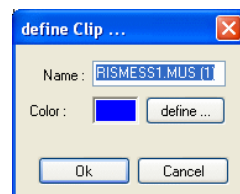


3. Select the sub-menu GLOBAL.
4. Select the option GLOBAL INSERT.

13.10 Create a Clip

In order to copy a region of a track's object as a new clip to the clipboard proceed as follows:

1. Mark the required region (see above).
2. Click the **CREATE CLIP** button and the following dialog appears:



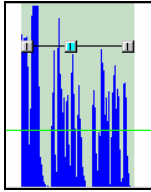
3. Enter the desired name and change the color if required.
4. Confirm your changes with OK. The clip will be placed in the clipboard in accordance with the defined sequence in the respective position.

13.11 Volume Fading

13.11.1 Handling Fading-Points

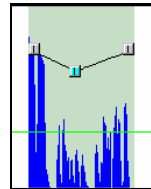
Fading points can be placed to change the volume curve.



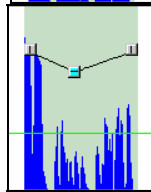


1. Click on the desired position within the audio object with your right mouse button. An additional fading button appears.

This fading button contains a vertical line. This line symbolizes the direction, in which to drag the button.

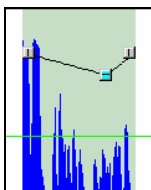


2. Now drag the button down or up in order to determine the volume on this point.

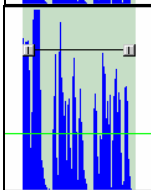


3. Right-click on the fading button in order to change the direction of the motion of the button from vertical to horizontal.

The button now contains a horizontal line to symbolize the new direction, in which the button can be moved now.



4. Now drag the button to the left or to the right.



5. In order to delete a fading point, hold the CTRL (Strg) key pressed and click on the desired fading button.

This button is deleted; the neighbor buttons are connected by the line.

13.11.2 Duck Fade

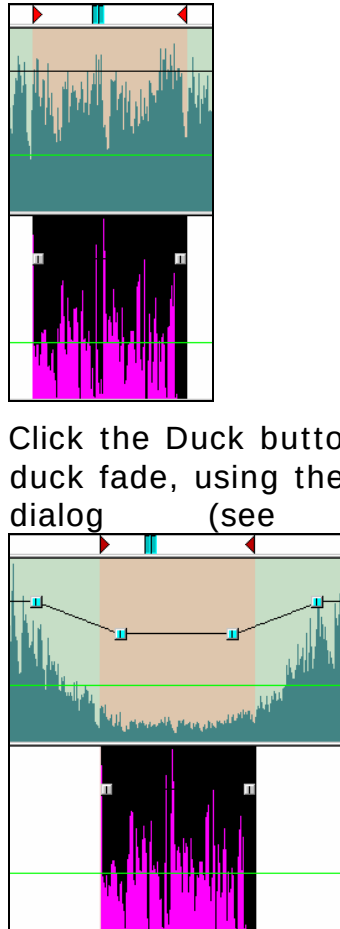
An audio object can temporarily be ducked down any time, e.g. during a different one is playing on a different track (overvoicing):

1. Mark the area, within which you want to duck the desired track, either by setting the start and end markers, or by simply clicking an object in one of the tracks in block display mode.





2. Click the Duck button inside the Volume tab to add a duck fade, using the parameters set in the Auto-duck dialog (see next chapter below).



13.11.3 Deleting Fading

In order to delete a single Fading button:

1. Hold the CTRL key pressed and click on the desired fading button. This button is deleted; the neighbor buttons are connected by the line.

In order to delete Fading points within a certain region:



4. Mark the desired region by setting the start and end marker.
5. Open up the "Volume" index card by clicking the corresponding card heading.
6. Click the "Remove Fadelist" button to delete the Fade.



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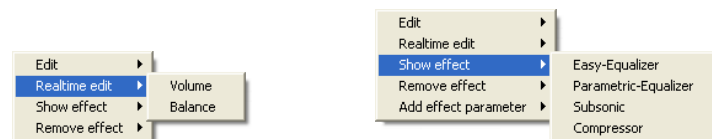
13.11.4 Volume adjustments should not change waveform **NEW**

If you would like to be able to make changes to the volume of an object without it's waveform changing it's appearance, set the parameter "UseFadelistForWaveform=0" (Settings).

13.12 Real-time processing **NEW**

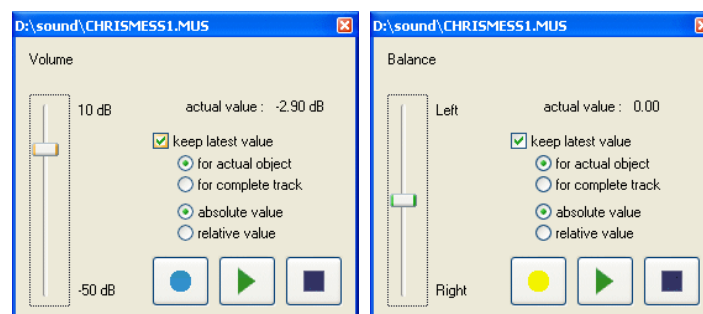
Volume, balance as well as individual effect parameters can be implemented in the track view during playback of the current object. In order to enable Real-time processing:

1. Open the Edit mode of the desired track.
2. Press Ctrl and right-click on the waveform. The following context menu will be opened:



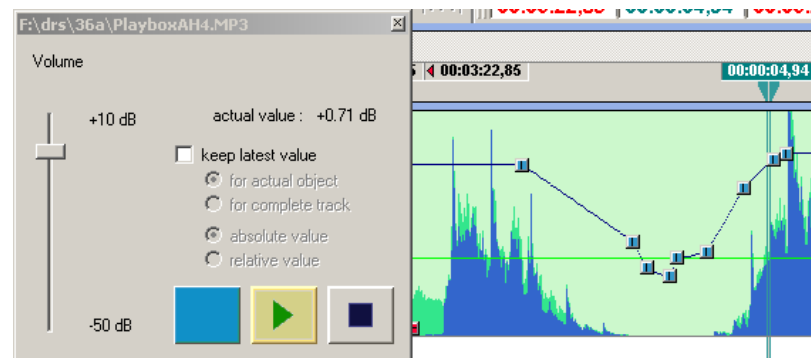
13.12.1 Volume / Balance Processing

1. For volume or balance processing, select the appropriate command under the "realtime edit" command. The appropriate window will be opened:



- In order to change the volume/balance for a certain region, select the desired value using the slider on the left. Select the desired destination (for actual object / for complete track) and define the handling of the value (absolute / relative). The results will be immediately audible.
- In order to record changes while playback, click the record button and start with "Play", then move the

slider to the desired position. The recorded changes will be displayed with fade buttons to be modified subsequently:



Here, volume fade buttons are colored in blue, balance fade buttons are yellow.

Keep last value: The value of the last fade point is taken over to the rest of the current object or of the whole track.

Absolute value: The value of the last fade point is taken over (to the object or the track) as absolute dB value. Here, all previous fadings are overwritten and therefore deleted.

Relative value: Like before, previous fadings are undone during holding down or moving the slider, however after releasing the mouse button, previous fading markers of the rest of the object (track) stay and are moved up / down corresponding to the last slider position / value of the last fading point.

13.12.2 Effects Processing

1. For effect processing, select the appropriate effect. The control-window of the selected effect will be opened, e.g.:





2. Changing the settings will apply to the audio object from which you called the context menu, and will be immediately audible.



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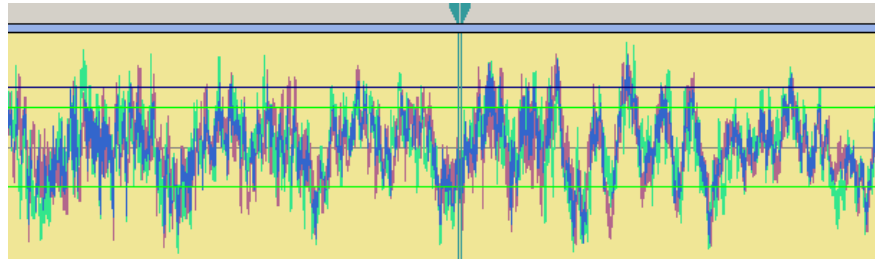
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13.13 Linear audio processing at the sample level **NEW**

With a zoom resolution of 2.5 seconds or smaller, the view changes from 'frame' to 'sample' presentation.



For editing at the sample level, four editing possibilities are available:

1. Select the desired editing possibility from the Type tab:



2. Start editing as usual.

Tipp for administrators:

The switch to waveform display inside MultiTrack Page can be configured with the parameter "MultiTrack\Settings\TrackEditMaxWaveformTimePerPixel". Default value is 0.004. Change this value to 0.008 for an earlier switch or to 0.002 for a later switch.

The SingleTrack-Page uses the parameter:
"MultiTrack\Settings\SingleTrackMaxWaveformTimePerPixel".



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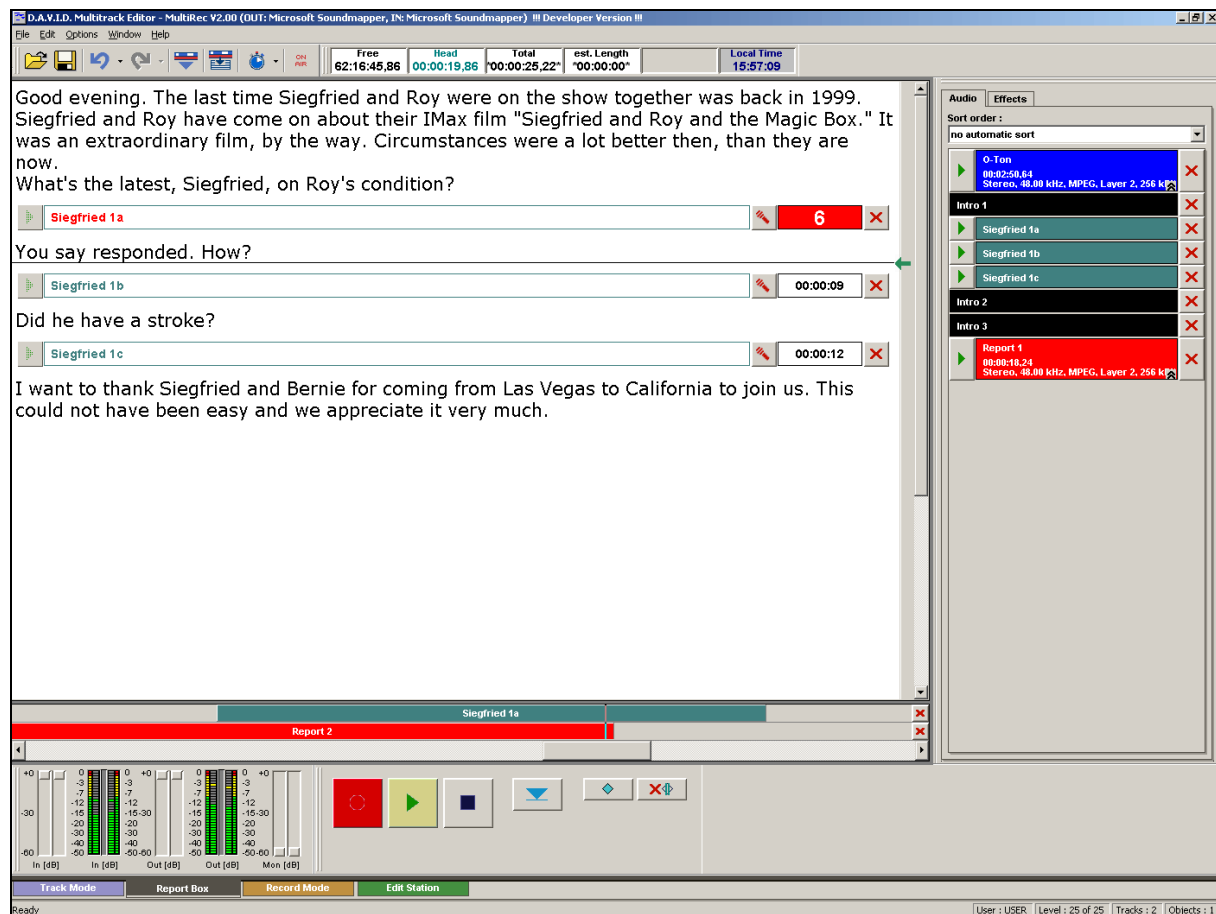


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14 PROCEDURES IN REPORTER BOX PAGE



14.1 Preparing the production sequence

1. Drag the desired clips into the sequence window. You can correct the production elements by writing or deleting text, deleting audio items.



2. Via the Mic on / off button, you can define whether the Microphone stay switched on during the replay of an audio item (overvoicing), is been switched off.

14.2 Calculation of the Production Length

When calculating the Production length, the written text is been calculated into time, depending on the speech speed, and the length of all audio elements is added.



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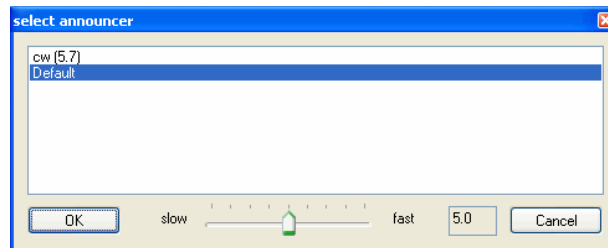
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1. Click the Arrow button of the “Estimate Length” button to open the dialog box.
2. Adjust the arrow within the speech speed field to your personal position, or chose the desired speaker out of the list:



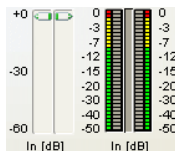
3. Click on the **ESTIMATE LENGTH** button. The length is been displayed in the appropriate time window.



14.3 Online production



1. Click the RECORD button to prepare recording and thus the start of the online production.



2. Adjust the input signal to an optimal level with the IN level slider.



3. Click the PLAY button. The recording starts. Record the first text by reading it out of the prompt window.



4. If you want to start by playing-back the first audio clip then Click the INSERT CLIP button. The first audio clip will be played-back. Recording is still on, which means that you can interject or respond to the person being interviewed, etc., while the recording is being played-back.

5. Read the second text from the prompt window.



6. Start the play-back of the second audio clip by clicking the den INSERT CLIP button, and so on.



7. At the end of the production, click on Stop.



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14.4 Correcting the production list

You can make changes to the production list in the Reporter Box Page:



1. Click the delete button of the desired audio clip to delete it.
2. First mark and then Drag&Drop desired elements to a different position.
3. Enter Text at any position.

14.5 Post-editing of ready production

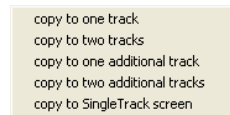
When your production is complete you can perform the following additional steps:



- Click the CREATE CLIP button to mix down the production and copy it to a clip. The original two tracks cannot be modified independently from one another after this command.



- Click the COPY TO OTHER SCREEN button to transfer the production into the EasyTrack or SingleTrack Page. All previous tracks within the destination page will be deleted. The following submenu opens:



- Click the COPY TO ONE TRACK command to transfer the production onto **one** track within the EasyTrack. All tracks currently in the EasyTrack page are removed. The original two tracks cannot be modified independently from one another after this command.
- Click the COPY TO TWO TRACKS command to transfer the production onto **two** tracks in the MultiTrack Page. All tracks currently in the EasyTrack page are removed. The original two tracks can subsequently be modified independently from one another (edited, synchronized).
- Click the COPY TO ONE ADDITIONAL TRACK command to transfer the production onto **one** new track within the EasyTrack. The original two tracks cannot be modified independently from one another after this command.
- Click the COPY TO TWO ADDITIONAL TRACKS command to transfer the production onto **two** new tracks in the



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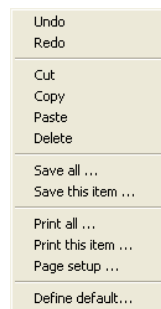
MultiTrack Page. The original two tracks can subsequently be modified independently from one another (edited, synchronized).

- Click the COPY TO SINGLETRACK PAGE command to transfer the production onto **one** track in the SingleTrack Page. The original two tracks cannot be modified independently from one another after this command.

14.6 Printing function **NEW**

For having the run-down on a sheet of paper, just print out the list as follows:

1. Right-click on the run-down list. The context menu appears:



2. Select the desired print command. The Windows printer dialog box appears.

NEW Tipp:

"UsePrint=0" (Settings) will deactivate the appearance of the print function that normally appears in the context menu of the storyboard.



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14.7 Save Text

A text written in the Reporter Box can be saved as a RTF File as follows:

1. Click the menu **FILE – SAVE RTF TEXT**. The Windows Selection Box appears.
2. Enter a name and confirm with **OK**.

14.8 Using DigaStudio within the Reporter Box

Here are a few notes about using the controller desk DigaStudio within the Reporter Box:

14.8.1 Edit Controller



The INSERT CLIP button is remote controlled by the INSERT key of the DigaStudio.



14.8.2 Audio Settings

Referring to the fader position during the production, there are two basic ways. Those result from two different production approaches:

14.8.3 Production environment for expanded postproduction

Within a typical production environment, you should be able to subsequently edit single tracks. For this way of working, the following settings are appropriate:

DigaStudio

Channel 1: Micro ON, Fader on optimal volume. The system records volume changes during a production.

Channel 2 and 3: other sources where appropriate

Monitoring channel: In order to monitor all sources, select the AWS (Audio Work Station) source. So, all sources (microphone and other



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sources) are monitored via the headphones.

MultiTrack

The MONITOR fader of the MTE should be opened fully. It enables you to prelisten microphone and inserted audio clips.

14.8.4 Classic Production environment (OnAir-Mode)

Within a typical live production environment, the different sources are immediately mixed down to one track. Here, volume changes of the source signal are possible during the replay of a source, as the complete output signal is recorded directly on one track again. Therefore, the single tracks of the production (Record and Playback track) can not be post-produced separately. The On-Air Mode is activated by the On Air button. For this way of working, the following settings are appropriate:

DigaStudio:

- Channel 1: MICRO ON, Fader on optimal volume. The system records volume changes during a production.
- Channel 2 and 3: Select AWS on one channel. Changing fader position (e.g. music bed, athmo etc.) are recorded by the system.
- Monitoring channel: To prelisten the ready mixdown, select Σ (Sum). So, both sources (i.e. Microphone and inserted audio clips) are prelistened via the headphones.

MultiTrack:

- The OnAir button in the button bar needs to be activated.
- The MONITOR fader of the MTE should be closed fully, as there would be a loop, because the Monitor Signal of the PCX board would be re-recorded.



14.8.5 Fader Start with DigaStudio

A DigaStudio fader can trigger MTE's PLAY/STOP commands as well as the inserting of clips in the Reporter Box. The corresponding parameters are at hand and need only to be activated.

The first value of all "DigaStudioFaderCommand_..." parameters in the section "Settings" must be set from "0" to "1".



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The first fader will then activate the PLAY/STOP. For the Reporter Box there are additional PLAY+STOP commands, which are described in our parameter info database. There you will also find essential information such as; when another fader should be used.

14.8.6 Fader Start with a relay card

A relay contact can also trigger MTE's PLAY/STOP commands as well as the inserting of clips in the Reporterbox. The corresponding parameters are at hand and need only to be activated.

Set the parameter "RelaisCardNumber=0" (Settings), in order to activate the first installed relay card. The corresponding "RelaisCardCommand_..." parameters in the section "Settings" are already activated, here Bit 0 is set for Play+STOP. For the Reporter Box there are additional PLAY+STOP commands, which are described in our parameter info database. There you will also find essential information such as when another fader should be used.



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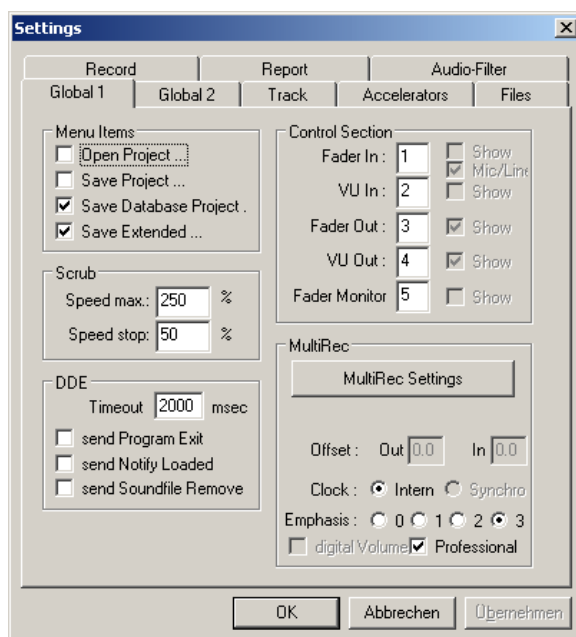
15 GENERAL SETTINGS

The General Settings of the MultiTrack Editor are based on a user rights management, which is done by the DigaSystem Administrator (only when the file called digasql.dll is installed on your system, which is commonly the case when Database Manager SQL v2.x is installed. If the DLL is missing, all rights are available). Therefore the changing of the General Settings is depending on the user rights managed within the DigaSystem Administrator. The DigaSystem Administrator management is documented in the DigaSystem Technical Documentation.

The general settings of the MultiTrack Editor can be modified as follows:

Click the menu Options - Settings. The following dialog with different tabs appears:

15.1 Global 1 Tab



In **MENU ITEMS** you can activate or deactivate menu options which concern the opening and saving of projects. This effects the display of the respective options in the File menu.

In **CONTROL SECTION** the order of the fader and level meter at the bottom of the screen can be adjusted.

In **EXIT** you can determine whether the MultiTrack Editor is automatically closed when DigaSystem is shut down (when this option is selected) or continues to run as a stand-alone application.



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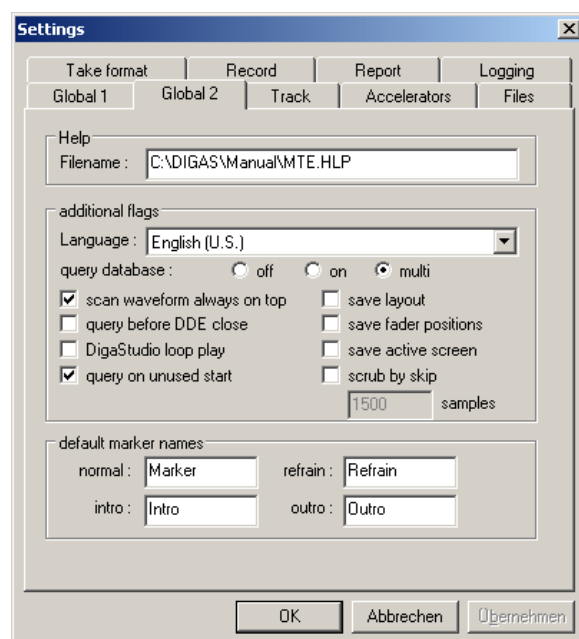
Development

In **SCRUB**, the maximum replay speed for the scrub option is defined (Speed max). Besides, the point to which the replay of the audio automatically stops when releasing the mouse button (Speed Stop). Outside this area the replay carries on even after releasing the mouse button, and can be stopped only by the stop button or by dragging the scroll button into the defined region and the releasing it.

Under the **MULTIREC** section, the audio board to use is defined as well as the Volume Fader function. Besides, the options for clock and different board data (Pre-Emphasis, Professional, dig Volume) can be defined. **All these definitions should only be made / altered by system administrators!**

Under **DDE** the connections to the Database Manager are defined. If both options are activated, the MTE is put in the background when exiting (not really closed, then behaving like Edigas). In this case, the project stays in the MTE as long as DigaSystem hasn't been exited completely.

15.2 Global 2 Tab



Under **Help**, the path and file of the MTE help file is defined.

Under **Language**, the user interface language can be defined.

Additional flags:

SCAN WAVEFORM ALWAYS ON TOP - The dialog box of the loading process stays in display, even if you change to a different application during loading process.



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QUERY ON UNUSED START - If there is a pause (no existing audio at the beginning), there is a information dialog displayed before saving the file.

QUERY BEFORE DDE CLOSE - A confirmation dialog appears before closing MTE in DDE mode.

DIGASTUDIO LOOP PLAY - The DigaStudio keys for the play to / from commands are working in loop mode automatically.

SAVE LAYOUT - saves and (by the next start) loads the current screen layout.

SAVE FADER POSITIONS - saves and (by the next start) loads all fader positions.

SAVE ACTIVE SCREEN - saves and (by the next start) loads a page to be defined. To achieve this, activate this option and switch to the desired page. Then exit the MTE, the setting is saved. When starting MTE again, please deactivate this option again. From now on, MTE will start up with this same page.

SCRUB BY SKIP: Replaying in Scrub mode normally uses variable pitches, just like manually handling a tape machine. By using "Scrub by Skip", the pitch stays, but the frames are doubled / skipped, depending on the replay speed.

DEFAULT MARKER NAMES - Here the different marker types can be assigned with predefined names.



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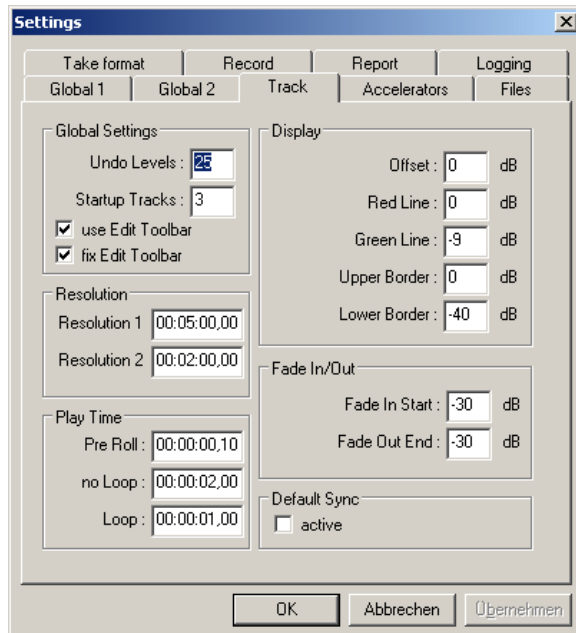


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15.3 Track Tab



In **GLOBAL SETTINGS** you can set the maximum number of undo steps and define the number of tracks shown when starting the MultiTrack Editor.

The second option regarding the Edit Toolbar allows fixing the current position of the toolbar, so it will be opened at the same position after restarting MTE.

In **RESOLUTION** you set the resolution of the individual  buttons.

In **PLAY TIME** you adjust the Play Time of different Play commands:

Pre Roll – when double-clicking on Play, the sound head will be position for x sec. to the left before starting to play.

No Loop – when using the "play to / from sound head" commands, there will be playing x sec. before / after the sound head. Then, the head jumps back to the starting position.

Loop – when using the loop mode of the "play to / from sound head" commands, there will be playing x sec. before / after the sound head, which will be continuously repeated.

In **DISPLAY** you can set select linear or Musicam display when using a linear filter (not yet implemented). The following windows allow for the setting of:

OFFSET - vertical offset of the waveform curve

RED LINE - clip limit display



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GREEN LINE - optimum drive display

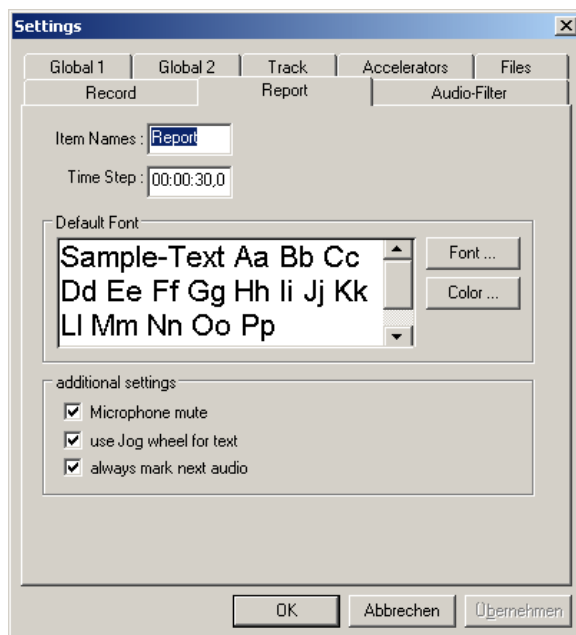
UPPER BORDER - upper display limit of the window

LOWER BORDER - lower display limit of the window.

In **FADE IN/OUT** you can determine the start level of a Fade-in or the end level of a Fade-out.

In **DEFAULT SYNC** you can determine whether new objects have sync points assigned from the start

15.4 Report Tab



ITEM NAMES - The name for the recording track in the Reporter Box can be assigned here.

TIME STEP - The time frame for the display of the production tracks is assigned.

In **DEFAULT FONT** you can determine the defaults for the fonts, text and background colors for clips.

Additional Settings:

MICROPHONE MUTE - The microphone is default muted when replaying an audio item.

USE JOG WHEEL FOR TEXT - Scrolling of text passages can be carried out with the DigaStudio's jog wheel

ALWAYS MARK NEXT AUDIO - The orientation arrow automatically jumps to the next audio item.



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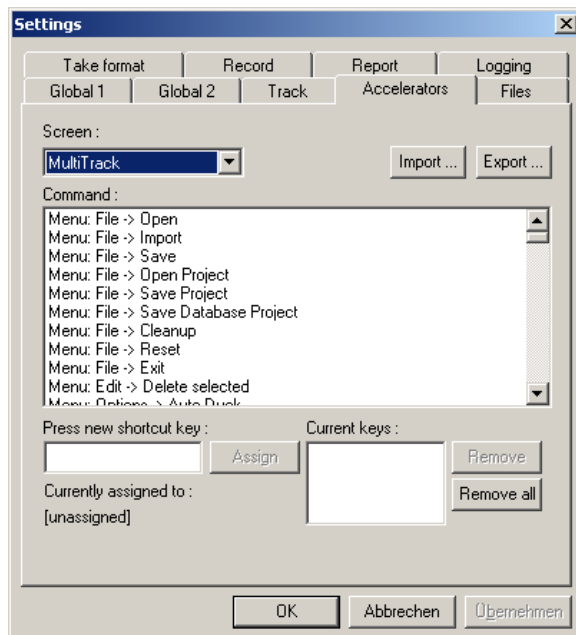


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15.5 Accelerators Tab



In this dialog page keyboard-shortcuts can be defined for all available functions.

In **SCREEN** you can select the page for which shortcuts are to be defined.

In **COMMAND** you select the desired command.

Click into the field **PRESS NEW SHORTCUT** and then press the desired key combination.

Click the button **ASSIGN** to transfer the shortcut to the **CURRENT** list.

To delete an entry, select it in the current list then click the **REMOVE** button.

To delete all entries, click the **REMOVE ALL** button.



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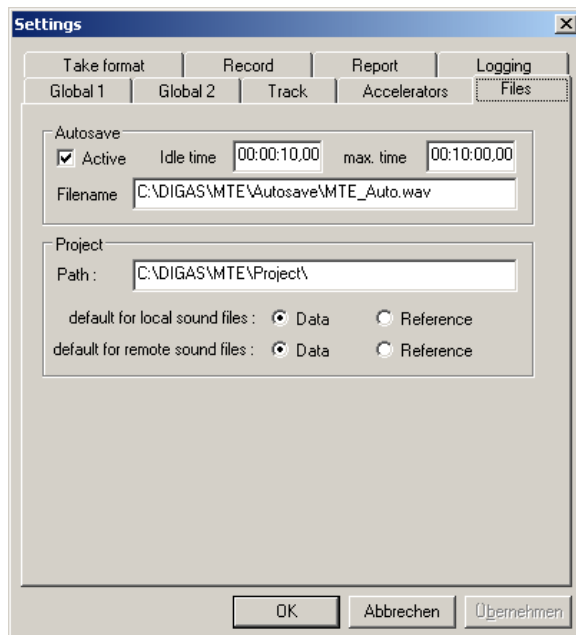


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15.6 Files Tab **NEW**



In this dialog page settings for audio files are determined.

In **AUTOSAVE** an automatic backup function can be activated which, before each major stage of the project, saves the current project in the file specified in the Filename field. The restoring of an auto saved project is then possible only after an unforeseen program termination but not if the program has been shut-down normally.

NEW: MTE's AutoSave, which is activated under Options/Settings/Files", can be set for a certain number of backup copies. These files, in contrast to standard autosave files, will not be deleted upon normal closing of the MTE, and can be again imported into MTE as needed.

In **PROJECT** the path where the project is stored can be entered. Below this you can select whether project files should include the sound files or only contain references to the original files, both for local and non-local projects (on a server drive or the DigaSystem database).



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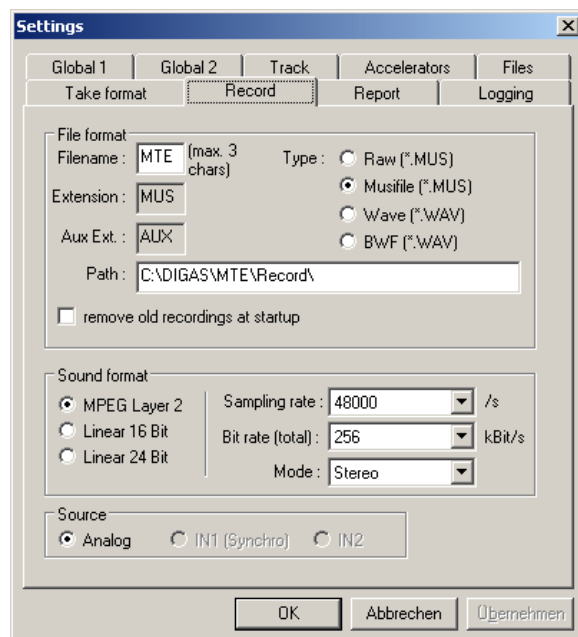


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15.7 Record Tab



In this dialog the file format settings for recording functions are specified.

In **FILE FORMAT** the workstation definition is entered in the Filename field, as well as the extension for Musicam files and auxiliary files. Then the file type can be selected.

REMOVE OLD RECORDING AT STARTUP: All old temporary audio files are deleted automatically when starting the MultiTrack Editor.

In **SOUND FORMAT** the sampling rate, bit rate, as well as the mode for the recording of files can be determined.

In **SOURCE** the audio board card recording input is specified.



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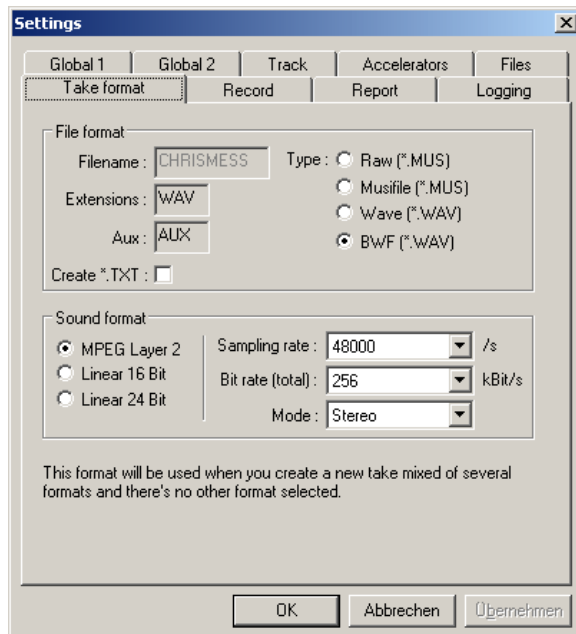


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15.8 Take format Tab



In this dialog the file format settings for saving functions are specified.

In **FILE FORMAT** the root name of the created file is entered in Filename, as well as the file extension and the auxiliary file extension. Then the file type can be selected:

RAW: Raw MPEG, Audio file without any additions with
*.mus ending.

RAW + AUX: Raw MPEG file with separate auxiliary file containing volume and waveform data.

MUSIFile: MPEG file containing volume and waveform data.

WAVE: audio file in linear format

BWF: Broadcast Wave: MPEG Sound file incl. a header containing addl. information.

In **SOUND FORMAT** the sampling rate, bit rate, as well as the mode for the recording of files can be determined.



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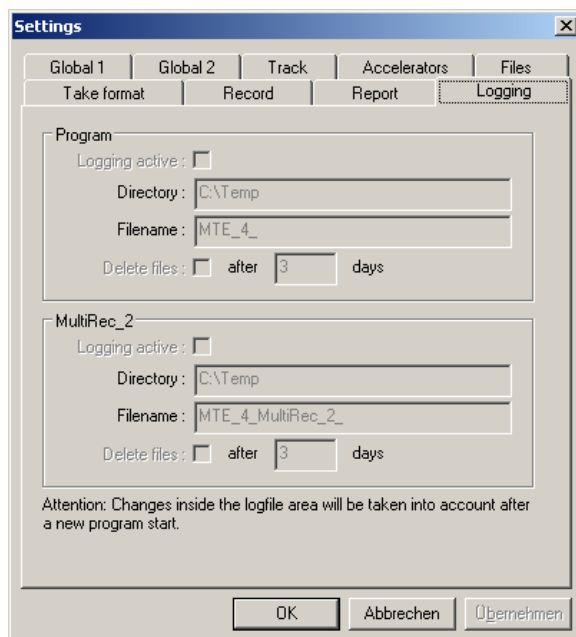


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15.9 Logging Tab



For debugging reasons, there are logging settings which can be activated and used by system administrators only.



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