Default

COLLABORATORS

	TITLE : Default		
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Contents

Chapter 1

Default

1.1 AL16 Manual Main Page

```
                          AudioLab16 On-Line Help System
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 NOTE:  THIS IS THE (LIMITED) JUNIOR VERSION.  THE COMPLETE VERSION
 IS PART OF THE AUDIOLAB16 STANDARD PACKAGE.

 This  is  the main page of AudioLab16 On-Line Help System.  To get
 on-line information while using AL16:

 - select an AL16 window clicking on it, then press the HELP key on
   your keyboard...

 or

 - browse this document directly from here.


 The following informations are available in this version:


         Registering
          Getting the Standard package

         Information
          General informations

         Graphic Interface
          Documentation for any gadget

         HowTo...
          Common opeations

         Data Exchange
          Cross-platform compatibility

         Trouble Shooting
          Problems and solutions
```

```
                    Author
                     Contacting the author
```

1.2 Registering

```
Registering.

To  register  and  get  the  AudioLab16  Standard  package see the
OrderForm.txt  and  the ReadMe.txt files included in this archive,
thank you.
```

1.3 Information

```
Information.

AudioLab16  is  an HD based audio editing system.  This means that
any  operation  (such  as editing, processing, recording, playing,
mixing)  is  performed directly on disk, without loading the whole
recording  in ram memory.  Disk access is at DOS level, no special
partitioning  is  needed.   Audio material is stored on disk using
16bit AIFF format files.
Any operation is performed in 16bit resolution (or higher).
For  playback  of 16bit data AudioLab16 supports drivers that hide
the  features  of  the  installed  D/A  convertion  hardware.  The
'SoftMary'  driver  for  the  Paula chip allows near-16bit quality
playback on standard Amigas (other drivers may be available in the
future).
Most  operations are available in realtime direct-from-disk.  This
means  that AudioLab16 can read a signal direct-from-disk, process
it and playback the processed signal simultaneously.
Functions that allow managing material in other that AIFF16 format
are  grouped  in  a single section ('I/O Mapper' enviroment).  You
use them for such tasks as:
- importing a file to AL16
- exporting a file from AL16
- recording digital tracks from an audio CD
- playing files in various formats without convertion
and similar.
Currently  AudioLab16  treats  any  recording  as a single-channel
stream.  Multi-channel (stereo) streams require splitting.
```

1.4 Graphic Interface

```
                  GUI

AL16's Graphic Interface is composed by the following objects:

Main Window
```

```
               'Control Window'
                Main control window

       Misc Windows

               'Clock              Window'
                Clock requester

               'Impulse Response   Window'
                FIR i.r. graph

               'Frequency Response Window'
                FIR f.r. graph

               'Locator Display    Window'
                Locator graphic display

               'Locator Control    Window'
                Locator control

               'Other Prefs        Window'
                Preferences control

               'Performance        Window'
                Speed tests control

       I/O Mapper Envirement

               'Analog (Out)  Window'
                Output to DAC

               'CDAudio (In)  Window'
                Input from audio CDs

               'File (In)     Window'
                Input from audio files

               'File (Out)    Window'
                Output to audio files

               'I/O Mapping   Window'
                I/O mapping main control

               'Parallel (In) Window'
                Input from parallel port

               'Parallel:File Window'
                Parallel:File mapping control

               'Parallel:VU   Window'
                Parallel:VU mapping control

               'TOC           Window'
                Audio CDs control

               'VU (Out)      Window'
                VU-meter display
```

```
Signal Processor Enviroment
'DSP            Window' DSP main control (Please, register)
'Amp Control    Window' DSP operator (Please, register)
'Comb Filter    Window' DSP operator (Please, register)
'Compressor     Window' DSP operator (Please, register)
'Distortion     Window' DSP operator (Please, register)
'Delay-1-Tap    Window' DSP operator (Please, register)
'Delay-N-Tap    Window' DSP operator (Please, register)
'Delay-Recursive Window' DSP operator (Please, register)
'Fir Filter     Window' DSP operator (Please, register)
'Flanger        Window' DSP operator (Please, register)
'MultiFlanger   Window' DSP operator (Please, register)
'Noise Gate     Window' DSP operator (Please, register)
'Phase Inverter Window' DSP operator (Please, register)
'Pitch Shift    Window' DSP operator (Please, register)
'Quantizer      Window' DSP operator (Please, register)
'Room           Window' DSP operator (Please, register)
'Skipper        Window' DSP operator (Please, register)
'Time Inverter  Window' DSP operator (Please, register)
'Time Stretch   Window' DSP operator (Please, register)
'Tone Control   Window' DSP operator (Please, register)


Edit List Manager Enviroment
'ELM                         Window' ELM main control (Please, register)
'Relative Edit List Manager Window' REL builder (Please, register)
'Rel List Item              Window' REL item selector (Please, register)
'Absolute Edit List Manager Window' AEL builder (Please, register)
'Abs List Item              Window' AEL item selector (Please, register)
'PreMixer                   Window' Premixer (Please, register)


Trigger Enviroment
'Triggers  Window' Trigger selector (Please, register)
'Programs  Window' Program list builder (Please, register)
'Keyboard  Window' Keyboard trigger control (Please, register)
'MIDI      Window' MIDI trigger control (Please, register)


Filter Design Enviroment
'Design    Window' Filter design main control (Please, register)
'Windowing Window' Windowing method control (Please, register)


Signal Generator Enviroment
'Signal Generator Window' Generator main control (Please, register)


Great part of AL16's GUI was developed using
     GadToolsBox © Jan van den Baard.
Thank you very much for that fine tool, Jan!
```

1.5 Control Window

```
                 Window:     Control
```

The Control Window is used to access the various enviroments and
to exit from AL16 (shut-down procedure). During shut-down it is

possible to save to disk various informations such as windows
positions, sizes and user preferences.

This window contains the following gadgets:

'Enviroments'

'Main Help'

'Performance'

'Other Prefs'

'About'

'Quit'
 (window close gadget)

1.6 Enviroments

```
Gadget:     Enviroments
Window:     Control
```

This gadget is used to access AL16 enviroments. The current
enviroment is hilited. Any enviroment is composed by one or more
additional windows. Selecting an enviroment in this gadget causes
closing of current enviroment's windows and opening of new
enviroment's windows.

1.7 Main Help

```
Gadget:     Main Help
Window:     Control
```

This gadget is used to recall the main page of the on-line help.

1.8 Performance

```
Gadget:     Performance
Window:     Control
```

This gadget is used to start the speed tests on your machine.

1.9   Other Prefs

```
Gadget:     Other Prefs
Window:     Control
```

This gadget is used to set some user configurable variables.
Other variables are available via icon's tooltypes.

1.10   About

```
Gadget:     About
Window:     Control
```

This gadget shows some information about the AL16 project.

1.11   Quit

```
Gadget:     Quit
Window:     Control
```

This is actually the window close gadget. It's used to exit AL16
and return to AmigaOS. Clicking this gadget starts the shut-down
procedure.
AL16 will ask you if you'll want to:
1) Save current status and quit
2) Quit immediatly
3) Cancel the operation.

Choosing the first option forces AL16 to save to disk:
a) the position and size of any window
b) the user preferences

The next time you'll start AL16 all these values will be restored.

1.12   Other Prefs Window

```
          Window:     Other Prefs
```

The Other Prefs Window is used to set some user configurable
variables. Other variables are available via icon's tooltypes.

This window contains the following gadgets:

        'Reference Clock'
            'Locator XScan'

        'Task Priority'

To save the preferences to disk choose 'save current ↩
status'
during shut-down procedure.

1.13 Reference Clock

```
Gadget:      Reference Clock
Window:      Other Prefs
```

This gadget is used to select the reference clock for your machine.
Select the right value according to your hardware setting (PAL or
NTSC). This value is available to Analog Output drivers for pitch
and timecode calculations; it doesn't affect the hardware setting.

1.14 Locator XScan

```
Gadget:      Locator XScan
Window:      Other Prefs
```

This gadget is used to select the default value for the Locator X
Scan. The default value is used untill you change the value in the
XScan gadget (Locator Control window).
Lower values give high resolution,slow graphs, higher values give
low resolution, fast graphs. You should set an high value as
default and use the XScan gadget (Locator Control window) for fine
tuning.

1.15 Task Priority

```
Gadget:      Task Priority
Window:      Other Prefs
```

This gadget is used to set the AL16 priority.

1.16 Performance Window

```
Window:      Performance
```

The Performance Window is used to test AL16 speed on your current
hardware/software setup. The speed tests are performed without
disabling multitasking to analize different system loadings. This
fact also allows to check how concurrent applications (such as
disk caching software) interact with AL16 performances.

This window contains the following gadgets:

```
               'CPU/MAC'
                   'CPU/Complex'

               'Disk/FileScan'
                   'Disk/FileSwap'
     'StartTest'
```

1.17 CPU/MAC

```
Gadget:     CPU/MAC
Window:     Performance
```

This gadget is used to show how fast AL16 can perform a Multiply
And Accumulate (MAC) operation.   MACs are common DSP operation
mostly used for time-domain FIR filtering.
Higher values mean higher speed.

1.18 CPU/Complex

```
Gadget:     CPU/Complex
Window:     Performance
```

This gadget is used to show how fast AL16 can perform operations
on arrays of complex numbers. Arrays of complex numbers are
commonly used as a description of an audio signal in the frequency
domain.
Higher values mean higher speed.

1.19 Disk/FileScan

```
Gadget:     Disk/FileScan
Window:     Performance
```

This gadget is used to show how fast AL16 can seek into a file.
File seeking is mostly required when building a graphic
description of an audio file (Locator tool does it).
Lower values mean higher speed.

1.20 Disk/FileSwap

```
Gadget:     Disk/FileSwap
Window:     Performance
```

This gadget is used to show how fast AL16 can read and write to

```
disk.  Reading and writing to disk are very important functions in
AL16; they are used in almost any operation.
Higher values mean higher speed.
```

1.21 StartTest

```
Gadget:     StartTest
Window:     Performance
```

```
This  gadget  is  used to start the speed tests.
```

1.22 Clock Window

```
            Window:     Clock
```

```
The Clock Window is used to help you selecting a clock value.
```

```
This window contains the following gadgets:
```

```
        'Presets'
            'Use'

        'Value'

        'OK'

        'Cancel'
```

1.23 Impulse Response Window

```
Window:     Impulse Response
```

```
The  Impulse Response Window is used to display FIR filter impulse
response graph.  The horizontal axis represents time, the vertical
axis represents impulse response amplitude.
```

1.24 Frequency Response Window

```
Window:     Frequency Response
```

```
The  Frequency  Response  Window  is  used  to  display FIR filter
frequency response  graph. This window contains two boxes:
- the upper (bigger) box displays magnitude
- the lower (smaller) box displays phase.
```

```
The upper box.
Values  on the horizontal axis represent normalized frequency (the
frequency/clock ratio).
Values on the vertical axis represent filter gain (in dB).

The lower box.
Values  on the horizontal axis represent normalized frequency (the
frequency/clock ratio).
Values  on  the vertical axis represent phase measured in degrees,
mapped in the [-90,+90] interval.
```

1.25 Clock Window

```
                Window:     Clock
```

The Clock Window is used to help you selecting a clock value.

This window contains the following gadgets:

```
        'Presets'
            'Use'

        'Value'

        'OK'

        'Cancel'
```

1.26 Presets

```
    Gadget:     Presets
    Window:     Clock
```

This gadget is used to select one of the presets. The value
corresponding to each preset is shown on the same row, in the
'Hard' or 'Soft' column depending on the current setting of the
'Use' gadget.

Current presets:

- DATx2: twice the (48KHz) clock of a DAT tape.
- CDAx2: twice the clock of a CDAudio disk.
- AGAx2: twice the (AudioDMA) clock of an OCS/ECS/AGA Amiga.
- DATx1: the (48KHz) clock of a DAT tape.
- CDAx1: the clock of a CDAudio disk.
- AGAx1: the (AudioDMA) clock of an OCS/ECS/AGA Amiga.
- DAT/2: half the (48KHz) clock of a DAT tape.
- CDA/2: half the clock of a CDAudio disk.
- AGA/2: half the (AudioDMA) clock of an OCS/ECS/AGA Amiga.

1.27 Use

```
Gadget:      Use
Window:      Clock
```

This gadget is used to select which one of the values, associated
with each preset, is used.

1.28 Value

```
Gadget:      Value
Window:      Clock
```

This gadget is used to enter a clock value from the Amiga
keyboard.

1.29 OK

```
Gadget:      OK
Window:      Clock
```

This gadget is used to accept the clock value shown in the 'Value'
gadget and quit the clock selection operation.

1.30 Cancel

```
Gadget:      OK
Window:      Clock
```

This gadget is used to cancel the clock selection operation.

1.31 Locator Display Window

```
Window:      Locator Display
```

The Locator Display Window is used to show a graphic descrition of
an audio file.
The window contains two boxes:
- the upper (smaller) box describes the complete recording
- the lower (bigger) box describes a user selectable portion of
  the recording.

Upper box.
The position and size of the area currently displayed on the lower
box (relative to the complete recording) is shown by two dark
bars near the upper and lower borders of the upper box. The
position and size of the currently selected range (if any) is

```
shown   by   a   white   bar.    Clicking   with   the   left mouse button
somewhere inside the upper box causes the lower box to display the
recording  area near that point (results vary depending on current
X zoom factor).

Lower Box.
This   box   shows   the   signal graph.   You can manipulate variables
such   as   zoom   factors,   resolution   and   similar via the Locator
Control  Window.  To select a portion of the complete recording (a
range)  click  once  on the graph with the left mouse button, then
drag  the mouse without releasing the left button (release it when
you   are   done).    The   range is displayed in reversed colors (see
also the description of the upper box).
```

1.32 Locator Control Window

```
               Window:     Locator Control

The   Locator   Control   Window is used to control the Locator tool.
The   Locator   tool is used to graphically navigate a recording and
interactively select and play portions of it (ranges).

This window contains the following gadgets:


        'Show/All'

        'Show/Display'

        'Show/Range'

        'Show/Near Range'

        'Show/Range Start'

        'Show/Range End'

        'Show/In'

        'Show/Out'

        'Show/<<'

        'Show/<'

        'Show/>'

        'Show/>>'

        'Play/All'

        'Play/Display'

        'Play/Range'
```

```
'Play/Before Range'

'Play/Range Start'

'Play/Range End'

'Play/After Range'

'Play/Loop'

'Range/All'

'Range/Display'

'Range/Edit Step'

'Range/S'

'Range/E'

'Range/D'

'Display/X Scan'

'Display/X Zoom'

'Display/Y Zoom'

'Display/S'

'Display/E'

'Display/D'
```

1.33 Show/All

```
Gadget:     Show/All
Window:     Locator Control
```

This gadget is used to force the Locator Display window to show
the complete recording.

1.34 Show/Display

```
Gadget:     Show/Display
Window:     Locator Control
```

This gadget is used to force the Locator Display window to show
the same portion of the recording currently on display. This is
usefull   to   cause   a   file rescan after changing   the
horizontal resolution setting ('Display/X Scan' gadget).

1.35 Show/Range

```
Gadget:      Show/Range
Window:      Locator Control
```

This gadget is used to force the Locator Display window to show
only the ranged area of the recording. This action may change the
current X zoom factor.

1.36 Show/Near Range

```
Gadget:      Show/Near Range
Window:      Locator Control
```

This gadget is used to force the Locator Display window to show
the a portion of the recording surrounding the ranged area. This
is usefull when you are fine-tuning the start/end points of a
range.

1.37 Show/Range Start

```
Gadget:      Show/Range Start
Window:      Locator Control
```

This gadget is used to force the Locator Display window to show
the a portion of the recording surrounding the start of the ranged
area. This is usefull when you are fine-tuning the start point of
a range.

1.38 Show/Range End

```
Gadget:      Show/Range End
Window:      Locator Control
```

This gadget is used to force the Locator Display window to show
the a portion of the recording surrounding the end of the ranged
area. This is usefull when you are fine-tuning the end point of a
range.

1.39 Show/In

```
Gadget:      Show/In
Window:      Locator Control
```

This gadget is used to force the Locator Display window to double
the x zoom factor for the recording currently on display.

1.40 Show/Out

```
Gadget:     Show/Out
Window:     Locator Control
```

This gadget is used to force the Locator Display window to halve
the x zoom factor for the recording currently on display.

1.41 Show/<<

```
Gadget:     Show/<<
Window:     Locator Control
```

This gadget is used to force the Locator Display window to show a
portion of the recording preceding the portion currently on
display. The x zoom factor is not changed. The amount of the
time shift (backward) is equal to the current display duration
('Display/D' gadget).

1.42 Show/<<

```
Gadget:     Show/<<
Window:     Locator Control
```

This gadget is used to force the Locator Display window to show a
portion of the recording preceding the portion currently on
display. The x zoom factor is not changed. The amount of the
time shift (backward) is equal to the current display duration
('Display/D' gadget).

1.43 Show/<

```
Gadget:     Show/<
Window:     Locator Control
```

This gadget is used to force the Locator Display window to show a
portion of the recording preceding the portion currently on
display. The x zoom factor is not changed. The amount of the
time shift (backward) is equal to half of current display duration
('Display/D' gadget).

1.44 Show/>

```
Gadget:     Show/>
Window:     Locator Control
```

This gadget is used to force the Locator Display window to show a

portion of the recording following the portion currently on
display. The x zoom factor is not changed. The amount of the
time shift (forward) is equal to half of current display duration
('Display/D' gadget).

1.45 Show/>>

```
Gadget:      Show/>>
Window:      Locator Control
```

This gadget is used to force the Locator Display window to show a
portion of the recording following the portion currently on
display. The x zoom factor is not changed. The amount of the
time shift (forward) is equal to the current display duration
('Display/D' gadget).

1.46 Play/All

```
Gadget:      Play/All
Window:      Locator Control
```

This gadget is used to play the complete recording.

1.47 Play/Display

```
Gadget:      Play/Display
Window:      Locator Control
```

This gadget is used to play the portion of the recording
currently displayed in the Locator Display window.

1.48 Play/Range

```
Gadget:      Play/Range
Window:      Locator Control
```

This gadget is used to play the ranged area.

1.49 Play/Before Range

```
Gadget:      Play/Before Range
Window:      Locator Control
```

This gadget is used to play a short portion of the recording
preceding the start point of the ranged area. This is usefull
when you are fine-tuning the start point of a range.

1.50 Play/Range Start

```
Gadget:     Play/Range Start
Window:     Locator Control
```

This gadget is used to play a short portion of the recording
following the start point of the ranged area. This is usefull
when you are fine-tuning the start point of a range.

1.51 Play/Range End

```
Gadget:     Play/Range End
Window:     Locator Control
```

This gadget is used to play a short portion of the recording
preceding the end point of the ranged area. This is usefull when
you are fine-tuning the end point of a range.

1.52 Play/After Range

```
Gadget:     Play/After Range
Window:     Locator Control
```

This gadget is used to play a short portion of the recording
following the end point of the ranged area. This is usefull when
you are fine-tuning the end point of a range.

1.53 Play/Loop

```
Gadget:     Play/Loop
Window:     Locator Control
```

This gadget is used to choose if the Locator playback function has
to repeat forever ('Loop') or play only once ('No Loop').

1.54 Range/All

```
Gadget:     Range/All
Window:     Locator Control
```

This gadget is used to set the complete recording as the ranged
area.

1.55   Range/Display

```
Gadget:      Range/Display
Window:      Locator Control
```

This gadget is used to set the portion of the recording currently
displayed in the Locator Display window as the ranged area.

1.56   Range/Edit Step

```
Gadget:      Range/Edit Step
Window:      Locator Control
```

This gadget is used to set the step value for the timecode editing
gadgets ('+' and '-' gadgets).

1.57   Range/S

```
Gadget:      Range/S
Window:      Locator Control
```

This gadget is used to show the timecode value for the range start
point.

1.58   Range/E

```
Gadget:      Range/E
Window:      Locator Control
```

This gadget is used to show the timecode value for the range end
point.

1.59   Range/D

```
Gadget:      Range/D
Window:      Locator Control
```

This gadget is used to show the duration of the ranged area.

1.60   Display/X Scan

```
Gadget:      Display/X Scan
Window:      Locator Control
```

This gadget is used to select a value for the X Scan variable.
Lower values give high resolution,slow graphs, higher values give
low resolution, fast graphs. After changing the X Scan value you
should click on the 'Show/Display' gadget if you want to update
the Locator Display window graph immediatly.
The first time you use the Locator tool the X Scan default value
set in the 'Other Prefs' window is used.

1.61 Display/X Zoom

```
Gadget:      Display/X Zoom
Window:      Locator Control
```

This gadget is used to show the current horizontal zoom factor for
the Locator Display window.

1.62 Display/Y Zoom

```
Gadget:      Display/Y Zoom
Window:      Locator Control
```

This gadget is used to change the vertical zoom factor for the
Locator Display window.

1.63 Display/S

```
Gadget:      Display/S
Window:      Locator Control
```

This gadget is used to show the timecode value for the start point
of the portion of the recording displayed in the Locator Display
window.

1.64 Display/E

```
Gadget:      Display/E
Window:      Locator Control
```

This gadget is used to show the timecode value for the end point
of the portion of the recording displayed in the Locator Display
window.

1.65 Display/D

```
Gadget:      Display/D
Window:      Locator Control
```

This gadget is used to show the duration of the portion of the
recording displayed in the Locator Display window.

1.66 Analog (Out)

```
             Window:      Analog (Out)
```

Actions:

```
         Play a formatted file (AIFF,WAV,...)

         Play a raw or unknown file
            The  Analog (Out)  Window is used to control the hardware  ←
                used to
```

playback the audio signals.   The window layout depends on the
output driver installed.

SoftMary is an output driver for the Amiga built-in audio chip
(Paula). It's window contains the following gadgets:

```
         'Clock'

         'Spatial Image'

         'Loop Sample'

         'LP Filter'
```


1.67 Clock

```
Gadget:      Clock
Window:      Analog (Out)
```

This gadget is used to set the playback clock. You can use the
slide-bar to set the preferred value immediatly or click on the
"?" button to open the clock requester.

1.68 Spatial Image

```
Gadget:      Spatial Image
Window:      Analog (Out)
```

This gadget is used to set the amount of spatial expansion that
SoftMary performs on audio signals. This is a stereo enhancer
that works well with mono signals, producing exciting spatial
sounds.

1.69 Loop Sample

```
Gadget:     Loop Sample
Window:     Analog (Out)
```

This gadget is used to enable/disable playback looping. If this
gadget is not checked the playback stops at the end of the
recording, if it is checked the playback keeps repeating until you
abort the operation.

1.70 LP Filter

```
Gadget:     LP Filter
Window:     Analog (Out)
```

This gadget is used to enable/disable the built-in hardware
low-pass filter.

1.71 CDAudio (In)

```
            Window:     CDAudio (In)
```

Actions:

        Record digital tracks from a CDAudio
            The CDAudio (In) Window is used to access audio data on ←
                audio
compact disks. You need an Apple CD300(+) compatible SCSI CD-ROM
drive.

This window contains the following gadgets:

        'Scsi Device'

        'Unit'

        'Door/Open'

        'Door/Close'

        'TOC/Read'

        'Channel'

```
                        'Clock'
```

1.72 SCSIDevice

```
Gadget:      SCSIDevice
Window:      CDAudio (In)
```

This gadget is used to select the scsidevice for CD-ROM access.
Examples: scsi.device, gvpscsi.device, ...

You can set a default scsidevice via tooltypes accessing AL16 icon
from WorkBench.
Examples:
```
            CDDA_SCSI_DEVICE=scsi.device
            CDDA_SCSI_DEVICE=gvpscsi.device
```

1.73 Unit

```
Gadget:      Unit
Window:      CDAudio (In)
```

These (actually three) gadgets are used to select which SCSI
device is being referred to. You'll usually need only to set the
CD-ROM SCSI ID (ID gadget).

NOTE 1: the ID gadget accepts values upto 9 for compatibily with
some old controllers.
NOTE 2:   the LUN gadget is present for compatibily with some old
controllers.

1.74 Open

```
Gadget:      Door/Open
Window:      CDAudio (In)
```

This gadget is used to open the CD-ROM's door. This operation
will invalid the current TOC. During some operations AL16 doesn't
allow an Open command. In these cases AL16 also asks the CD-ROM
to disable the 'open' button present on the front panel. The Open
gadget and button are enabled again as soon as the operation is
completed/aborted.

1.75 Close

```
Gadget:     Door/Close
Window:     CDAudio (In)
```

This gadget is used to close the CD-ROM's door.

1.76 Read

```
Gadget:     TOC/Read
Window:     CDAudio (In)
```

This gadget is used to read a CDAudio Table Of Contents. An audio
disk must be present into the CD-ROM drive.

1.77 Channel

```
Gadget:     Channel
Window:     CDAudio (In)
```

This gadget is used to select which audio channel is accessed.

1.78 Clock

```
Gadget:     Clock
Window:     CDAudio (In)
```

This gadget is used to select the clock of the audio data. The
standard CDAudio clock is 44.1KHz, you can use it in AL16. Lower
clocks are provided: they require less disk space but reduce
audio quality.
If you want to lower the clock consider these possibilities:

-   for fast preview work reduce the clock using this gadget (the
    rate convertion is performed without digital filtering).

-   to keep the best quality copy the material with 44.1KHz clock,
    then use AL16 DSP tools to rate convert the signal.

1.79 File (In)

```
               Window:     File (In)
```

Actions:

           Play a formatted file (AIFF,WAV,...)

           Play a raw or unknown file

```
                Convert a file format
                    The File (In) Window is used to access audio data contained
        into files.

        This window contains the following gadgets:


                'Name/?'

                'Format'

                'Sample Point Data'

                'Analize'

                'Clock'

                'Stream Limits/Start'

                'Stream Limits/End'

                'Stream Limits/Memo1'

                'Stream Limits/Memo2'

                'Stream Limits/Recall1'

                'Stream Limits/Recall2'
```

1.80 Name/?

```
Gadget:      Name/?
Window:      File (In)
```

This gadget is used to select the file via the file requester.

1.81 Format

```
Gadget:      Format
Window:      File (In)
```

This gadget is used to display the file format (AIFF,WAV,...).
If the 'Analize' gadget is:

−   selected:
    AL16 will display the proper format name or (if the format is
    not recognized or the file is damaged) the string 'RAW'.

−   deselected:
    AL16 will display the string 'RAW'.

1.82 Sample Point Data

```
Gadget:      Sample Point Data
Window:      File (In)
```

This gadget is used to select the audio data type. The data type
is automatically set by AL16 if the 'Analize' gadget is selected
AND the file format is recognized.

You can change the data type at any time.

1.83 Analize

```
Gadget:      Analize
Window:      File (In)
```

This gadget is used to enable/disable the automatic file format
detection function.   If the gadget is enabled every time you
select a new file AL16 will try to recognize the file format.

1.84 Clock

```
Gadget:      Clock
Window:      File (In)
```

This gadget is used to display the file audio data clock. This
information is only valid if AL16 has recognized the file format.

1.85 Start

```
Gadget:      Stream Limits/Start
Window:      File (In)
```

This gadget is used to select the position of the start point of
the audio data. The position is relative to the beginning of the
file and is measured in bytes.   This gadget is automatically
updated when AL16 recognizes the input file format.

1.86 End

```
Gadget:      Stream Limits/End
Window:      File (In)
```

This gadget is used to select the position of the end point of the
audio data. The position is relative to the beginning of the file
and is measured in bytes. This gadget is automatically updated
when AL16 recognizes the input file format.

1.87   Memo1

```
Gadget:     Stream Limits/Memo1
Window:     File (In)
```

This gadget is used to store the current values of the Start and
End gadgets. The values are recalled using the Recall1 gadget.

1.88   Memo2

```
Gadget:     Stream Limits/Memo2
Window:     File (In)
```

This gadget is used to store the current values of the Start and
End gadgets. The values are recalled using the Recall2 gadget.

1.89   Recall1

```
Gadget:     Stream Limits/Recall1
Window:     File (In)
```

This gadget is used to recall values of the Start and End gadgets
previously stored using the Memo1 gadget.

1.90   Recall2

```
Gadget:     Stream Limits/Recall2
Window:     File (In)
```

This gadget is used to recall values of the Start and End gadgets
previously stored using the Memo2 gadget.

1.91   File (Out)

```
              Window:      File (Out)
```

Actions:

```
         Record digital tracks from a CDAudio

         Convert a file format
             The File (Out) Window is used to store audio data into files.
```

This window contains the following gadgets:

```
         'Name/?'
```

```
                    'Format'

                    'Sample Point Data'

                    'Clock'
```

1.92   Name/?

```
Gadget:     Name/?
Window:     File (Out)
```

This gadget is used to select the file via the file requester.

1.93   Format

```
Gadget:     Format
Window:     File (Out)
```

This gadget is used to select the file format (AIFF,WAV,...).
This gadget setting affects the Data gadget setting.

1.94   Sample Point Data

```
Gadget:     Sample Point Data
Window:     File (Out)
```

This gadget is used to select the audio data type. The data type
is automatically set by AL16 if you use the Format gadget. You
can change the data type at any time. If you choose a data type
not compatible with the format type AL16 will report the wrong
setting WHEN YOU CLICK ON EXECUTE GADGET.

1.95   Clock

```
Gadget:     Clock
Window:     File (Out)
```

This gadget is used to set the file audio data clock.
You can:
- type the number directly into the numeric gadget
- use the '?' gadget to open the clock requester
- use the 'Get Clock From Input' gadget to copy the current input
clock value.

1.96 IOM_IOMapping

            Window: I/O Mapping

   Actions:

            Play a formatted file (AIFF,WAV,...)

            Play a raw or unknown file

            Record digital tracks from a CDAudio

            Convert a file format
               The I/O Mapping Window is used to select one of the ←
                  available
   audio stream mappings and start the mapping operation.

   This window contains the following gadgets:

            'Mappings'

            'Execute'

1.97 Mappings

   Gadget: Mappings
   Window: I/O Mapping

   This gadget is used to choose one of the available I/O mappings.

1.98 Execute

   Gadget: Execute
   Window: I/O Mapping

   This gadget is used to start the currently selected I/O mapping.

1.99 Parallel (In)

               Window: Parallel (In)

   The Parallel (In) Window is used to select one of the available
   audio stream mappings and start the mapping operation.

   This window contains the following gadgets:

```
                      'Clock'
```

1.100 Clock

```
Gadget:     Clock
Window:     Parallel (In)
```

This gadget is used to set the input audio data clock.
You can:
- use the '?' gadget to open the clock requester
- use the slider to set the value directly.

Note that Parallel (In) clock range may have a different
granularity than Analog (Out) clock range.

1.101 Parallel:File

```
                 Window:     Parallel:File
```

The Parallel:File Window is used to control the Parallel:File
mapping operation.

This window contains the following gadgets:

```
              'Rec Mode'

              'Memory/Info'

              'StartMode'
```

1.102 Rec Mode

```
Gadget:     Rec Mode
Window:     Parallel:File
```

This gadget is used to choose the recording mode.

'Buffer In Ram' stores the digital data in ram and writes it to
disk only at the end of the process. During recording the video
DMA is turned off, producing a blank display. You can stop the
recording process with a mouse click.   The recording process
automatically stops when there isn't further free ram or free
space on disk.

'Direct To Disk' stores the digital data directly on disk. During
the recording process the elapsed time and the time available
before the disk is full are shown. You can stop the recording
```

```
process  with  a mouse click.  The recording process automatically
stops when there isn't further free space on disk.
```

```
'Buffer In Ram' allows higher clocks but recording time is limited
by available ram.
'Direct  To Disk' allows longer recordings but clock is limited by
CPU and disk speed.
```

1.103 Memory/Info

```
Gadget:     Memory/Info
Window:     Parallel:File
```

```
This  gadget  is  used to show the available free space in ram and
disk.   The  free  space  is shown as recording time (depending on
current parallel clock) and as total number of samplepoints.
```

1.104 Start Mode

```
Gadget:     Start Mode
Window:     Parallel:File
```

```
This gadget is used to choose how to start recording.
```

```
'Mouse Click' starts recording at mouse click.
'Threshold' starts recording when the input level is higher than a
user selectable threshold (use the slider to select a threshold).
```

1.105 Parallel:VU

```
              Window:     Parallel:VU
```

```
The  Parallel:VU Window is used to control the Parallel:VU mapping
operation.
```

```
This window contains the following gadgets:
```

```
        'Clock'
```

1.106 Clock

```
Gadget:     Clock
Window:     Parallel:VU
```

```
This  gadget is used to set the (VU Clock)/(Parallel Clock) ratio.
```

Higher   ratios   cause   higher   audio   quality   and   slower   graphic
refresh in the VU window.
Note   that   this   setting   will   not affect the audio quality when
recording   from   parallel (it only affects monitoring quality when
in Paralle:VU mode).

1.107 TOC

                  Window: TOC

Actions:

              Record digital tracks from a CDAudio
                  The   TOC   Window   is used to access the Table Of Contents (TOC ←
) of
audio compact disks.

This window contains the following gadgets:

              'CDDA Table Of Contents'

              'Range Start'

              'Range Start/Get'

              'Range Start/Sector'

              'Range End'

              'Range End/Get'

              'Range End/Sector'

              'Play/Track'

              'Play/All'

              'Play/Range'

              'Play/Stop'

1.108 CDDA Table Of Contents

Gadget: CDDA Table Of Contents
Window: TOC

This   gadget is used to select an audio track from those available
on   the   currently   mounted   audio   compact   disk.   For each audio
track, the following information is displayed:

```
- the track number
- the track duration
- the number of the first sector (of the track)
- the number of the last sector (of the track)
- the track start time
- the track end time.
```

Selecting a track automatically updates the 'Range Start' and 'Range End' gadgets.

1.109 Range Start

```
Gadget:     Range Start
Window:     TOC
```

This gadget is used to set the start point (mm:ss) of the range used for recording to HD.

Selecting a track automatically updates this gadget to track start.

1.110 Range Start/Get

```
Gadget:     Range Start/Get
Window:     TOC
```

This gadget is used to set the start point of the range used for recording to HD. First, start CD playback, then click on this gadget when playback reaches the preferred starting point.

Selecting a track automatically updates this gadget to track start.

1.111 Range Start/Sector

```
Gadget:     Range Start/Sector
Window:     TOC
```

This gadget is used to set the start point (sector number) of the range used for recording to HD.

Selecting a track automatically updates this gadget to track start.

1.112 Range End

```
Gadget:     Range End
Window:     TOC
```

This gadget is used to set the end point (mm:ss) of the range used for recording to HD.

Selecting a track automatically updates this gadget to track end.

1.113 Range End/Get

```
Gadget:     Range End/Get
Window:     TOC
```

This gadget is used to set the end point of the range used for recording to HD. First, start CD playback, then click on this gadget when playback reaches the preferred ending point.

Selecting a track automatically updates this gadget to track end.

1.114 Range End/Sector

```
Gadget:     Range End/Sector
Window:     TOC
```

This gadget is used to set the end point (sector number) of the range used for recording to HD.

Selecting a track automatically updates this gadget to track end.

1.115 Play/Track

```
Gadget:     Play/Track
Window:     TOC
```

This gadget is used to play, via the CD-ROM drive output, the currently selected track.

1.116 Play/All

```
Gadget:     Play/All
Window:     TOC
```

This gadget is used to play, via the CD-ROM drive output, the complete compact disk, starting from first track.

1.117 Play/Range

```
Gadget:      Play/Range
Window:      TOC
```

This gadget is used to play, via the CD-ROM drive output, the range defined by the 'Range Start','Range End' gadgets.

1.118 Play/Stop

```
Gadget:      Play/Stop
Window:      TOC
```

This gadget is used to stop the compact disk playback.

1.119 VU (Out)

```
Window:      VU (Out)
```

The VU (Out) Window is used to monitor the input signal level before recording from parallel.
Two boxes are shown:

- the upper box displays an analog VU meter
- the lower box displays a scrolling history of the signal levels.

The lower box graph is color coded. When signal level is under the hardware saturation threshold the color is white. If the signal exceeds the threshold for a very short period of time the color turns darker. If the signal exceeds the threshold for a longer period of time the color turns black. (Colors may differ when AL16 is used on a public screen such as the Workbench screen).

1.120 How To...

```
          How to...


          Play a formatted file (AIFF,WAV,...)

          Play a raw or unknown file

          Record digital tracks from a CDAudio

          Convert a file format

          Use the DSP
              A great number of other functions are available with  ←
                  AudioLab16.
```

Please register to get the complete documentation.

1.121   Play a formatted file

How to play a formatted file.

In the 'Control' window, 'Enviroment' gadget, select the I/O
Mapper enviroment.
Now, in the 'I/O Mappings' window, 'Mappings' gadget, select
'File:Analog'. Be sure the 'Analize File Type' gadget is checked.
In the 'File (In)' window, click on the 'Name/?' gadget to open
the file requester. Now choose the file you want to play. If the
file is recognized the 'Format','Data' and 'Clock' gadgets ('File
(In)' window) show the file parameters.
In the 'Analog (Out)' window the 'Clock' gadget is updated to
match the input file clock (when a perfect match is not possible,
the analog driver finds the best value according to hardware
limitations).
In the 'Analog (Out)' window check the 'Loop' gadget if you want
endless repeat during playback.
In the 'I/O Mappings' window click on the 'Execute' gadget to
start playback.

1.122   Play a raw file

How to play a raw file.

In the 'Control' window, 'Enviroment' gadget, select the I/O
Mapper enviroment.
Now, in the 'I/O Mappings' window, 'Mappings' gadget, select
'File:Analog'. Be sure the 'Analize File Type' gadget is not
checked.
In the 'File (In)' window, click on the 'Name/?' gadget to open
the file requester. Now choose the file you want to play.
In the 'File (In)' window, choose a value for the 'Data' gadget.
In the 'Analog (Out)' window check the 'Loop' gadget if you want
endless repeat during playback.
In the 'I/O Mappings' window click on the 'Execute' gadget to
start playback. If the file is not correctly played (noise)
choose a new value for the 'Data' gadget and try again.

1.123   Record digital tracks from a CDAudio

How to record digital tracks from a CDAudio.

In the 'Control' window, 'Enviroment' gadget, select the I/O
Mapper enviroment.
Now, in the 'I/O Mappings' window, 'Mappings' gadget, select
'CDAudio:File'.

In the 'CDAudio (In)' window, check if the 'SCSI Device' gadget and the 'Unit/ID' gadget settings reflect your CD-ROM drive setup. You can set default values for these gadgets using the CDDA_SCSI_DEVICE and CDDA_SCSI_UNIT tooltypes from Workbench. Now click on 'Door/Open' gadget (or use the button on drive front panel), insert an audio CD, click on 'Door/Close' gadget (or use the button on drive front panel). Read the audio CD contents using the 'TOC/Read' gadget.If the CD is a valid audio CD the 'CDDA TOC' window opens. In the 'CDDA TOC' window the 'CDDA Table Of Contents' gadget shows, for each audio track, the following information:

- the track number
- the track duration
- the number of the first sector (of the track)
- the number of the last sector (of the track)
- the track start time
- the track end time.

Select the track you want to record clicking on it (the 'Range Start' gadget and 'Range End' gadget are immediatly updated). Play the range using the 'Play/Range' gadget (you are using the CD-ROM drive output, not the Amiga output. Be sure the drive audio output is connected correctly). Stop playback using the 'Play/Stop' gadget. You can change the range start/end points using the 'Range Start','Range End' gadgets. While the CD is playing you can set the start/end points in realtime, clicking on the 'Range Start/Get','Range End/Get' gadgets. Use the 'Channel' gadget to choose which audio channel is recorded. Use the 'Clock' gadget to choose the clock rate for recording. Now in the 'File (Out)' window click on the 'Name/?' gadget to open the file requester and enter a file name. In the 'Format' gadget select a file format. The 'Sample Point Data' gadget is updated automatically (note that most file formats support more than one data format... you can change the data format as long as the new value is legal for that file format). Use the 'Clock' gadget to set the clock value that is written in the file header (this doesn't affect the recording clock... use the 'Clock' gadget in the 'CDAudio (In)' window to affect the recording clock). In the 'I/O Mapping' window click on the 'Execute' gadget to start recording.

1.124 Convert a file format

How to convert a file format.

In the 'Control' window, 'Enviroment' gadget, select the I/O Mapper enviroment. Now, in the 'I/O Mappings' window, 'Mappings' gadget, select 'File:File'. In the 'File (In)' window, click on the 'Name/?' gadget to open the file requester. Now choose the file you want to convert. If the file is recognized the 'Format','Data' and 'Clock' gadgets ('File (In)' window) show the file parameters (this happens only

if the 'Analize File Type' gadget is checked).
Now in the 'File (Out)' window click on the 'Name/?' gadget to
open the file requester and enter a file name. In the 'Format'
gadget select a file format. The 'Sample Point Data' gadget is
updated automatically (note that most file formats support more
than one data format... you can change the data format as long as
the new value is legal for that file format). Use the 'Clock'
gadget to set the clock value that is written in the file header
(this doesn't affect the recording clock).
In the 'I/O Mapping' window click on the 'Execute' gadget to start
mapping.

1.125   Use the DSP

In this Junior version two DSP operators are available, and only
in realtime direct-from-disk. If you are enought interested in
this program you should have no problem discovering how to use
them... (study the DSP window).

1.126   Data Exchange

Data Exchange.

Using AudioLab16 you should be able to exchange 16bit formatted
audio files with the following hard disk recording software:

Program		Platform	Format
– Audioshop	(Opcode Systems)	MAC	AIFF
– Cubase Audio	(Steinberg)	MAC	AIFF
– Deck II	(OSC)	MAC	AIFF
– Digital Performer	(Mark Of The Unicorn)	MAC	AIFF
– Digitrax	(Alaska Software)	MAC	AIFF
– Logic Audio	(Emagic)	MAC	AIFF
– Pro Tools	(Digidesign)	MAC	AIFF
– Session 8 Mac	(Digidesign)	MAC	AIFF
– SoftSplice	(Digital Expressions)	MAC	AIFF
– Sonic System	(Sonic Solutions)	MAC	AIFF
– Sound Designer II	(Digidesign)	MAC	AIFF/WAV
– SoundEdit16	(Macromedia)	MAC	AIFF/WAV
– Studio Vision	(Opcode Systems)	MAC	AIFF
– Cubase Audio PC	(Steinberg)	PC	AIFF
– FastEddie	(Digital Audio Labs)	PC	WAV
– MicroSound	(Micro Technology)	PC	WAV
– SADiE Disk Editor	(Studio Audio and Video)	PC	WAV
– SAW	(I.Q.S.)	PC	WAV
– Session 8 PC	(Digidesign)	PC	WAV
– SSHDR1 HDRecorder	(Soundscape Digital T.)	PC	WAV
– Techno Lab	(Digital Manager)	PC	WAV/raw16
– The EdDitor Plus	(Digital Audio Labs)	PC	WAV
– Quad	(Turtle Beach)	PC	WAV
– Wave for Windows	(Turtle Beach)	PC	WAV

```
This list is:
- not complete
- unofficial.
```

1.127 Trouble Shooting

```
Trouble Shooting.

P1: The program doesn't start.
S1: If you don't see any message on screen (such as 'Low Memory.')
    be  sure  to  have  a complete installation of the required OS
    version.
    Try  also  removing  from  s:user-startup  and  WBStartup  any
    utility  that  is  not part of the official OS distribution (a
    utility  for  adding  sounds  to system events was reported to
    prevent AL16 from booting).

P2: Can't get on-line help.
S2: You need:
        - the amigaguide.library in your LIBS: directory
        - the AL16.guide file in  the  directory containg the AL16
          executable.

P3: The windows are not well positioned on screen.
S3: If you are running the program for the first time AL16 doesn't
    know your preferred settings.  Please, rearrange any window as
    you  like,  then  quit  the program.  During shut-down you are
    offered the option of saving program's status: do it. The next
    time  you'll  lauch  the  program, any  window  will  position
    according to your preferred settings.

P4: My CD-ROM drive allows digital transfer of audio tracks but it
    isn't CD300(+) compatible (doesn't work with AL16).
S4: Currently  you should use  a  program that supports your drive
    (PD  software  for  most  CD-ROM models has been developed) to
    transfer the audio material to a mono 16bit file on your disk.
    Then you can access that file with AL16. The sample point data
    format for CDAudio tracks is 'PCM16 Lin Signed LSBMSB'.
    NOTE:  the  program  that  you use for transfer may change the
    sample point data format before writing to disk.

P5: The file requesters don't work properly.
S5: This  problem  showed only when using an old (beta) version of
    the asl.library.  Upgrade your asl.library.

P6: AL16  recognizes  an  formatted  audio  file  but plays it low
    pitched (one octave lower than normal) and slowly (duration is
    doubled).
S6: The  file  is  probably  a  two-channel  (stereo)  interleaved
    recording.  AL16  recognizes  the  data  section  but doesn't
    currently  split the channels (splitting is planned for future
    versions). Use the Skipper DSP operator to extract one channel
    at a time.
```

```
P7: AL16 slows down concurrent applications.
P7: Check the 'Task Priority' gadget in the 'Other Prefs' window.

P8: Playback  is  irregular  (backward  and  forward  jumps  are
    audible).
P8: Probably  your HD is too slow.  Try  playing  at lower clocks:
    if  it  works  you  need a faster HD.  If you are performing a
    realtime  processing  (such as a DSP operation or mixing) check
    if  the Ksmp/s value is lower the signal clock.  If it happens
    then  your  CPU  is too slow (the HD may be OK).  Also be sure
    that  your  current  screenmode  doesn't  slowdown  access  to
    chip-ram (800x600 on ECS machines, for example).
```

1.128 Author

```
Author.

Feel free to contact the author:

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FIDONET : 2:332:206.7
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```