

JukeBox

COLLABORATORS

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Chapter 1

JukeBox

1.1 JUKEBOX

J U K E B O X
PRODUCT DOCUMENTATION
by F.J. Reichert, January 1993
(last revision 24.4.95)

JukeBox is a program to play compact digital audio discs by emulating a graphical user interface similar to common CD players. It provides a command line oriented, fully programmable ARexx user interface as well. It will work on CD-ROM players plugged to a scsi-hostadaptor. JukeBox will open its windows on the workbench (or any other public screen with intuition V36+) and do its best to allow a font sensitive layout. The main goal during development was to create a very comprehensive, self-explanatory utility.

Copyright	Quick Setup
Credits	Troubleshooting (FAQ)

SHAREWARE REGISTRATION

Program documentation

User Interface	ARexx Commands
Tooltypes	Catalogs
Keyboard Shortcuts	Error Messages
Supported Drives	Compatibility

Changes

1.2 Changes

CHANGES AND BUGFIXES SINCE 1.2522
=====

- Problem fixed: switching from shuffle mode to stop doesn't clear the playback completion address.

- reworked interface for adding external player modules.
 - Added AmigaGuide® documentation.
 - Added player module for Commodore CDTV and A570.
 - When using CHANGEINT=1 with no disc inserted on program startup, JukeBox incorrectly stated "<no title assigned>" instead of "no disc inserted".
 - Added player module for Matsushita CR-501B (aka Panasonic, Targa).
 - Now uses the screen font instead of the system default font for the user interface layout, if no other font was selected (Suggested by Olaf Barthel).
 - Starting a new project will no longer discard the project's path name and try to save the new project to an empty named file, instead "Save" will bring up the filerequester when the name string is empty.
 - When adding new discs, each label name will contain a four-digit unique identifier appended, thus allowing to distinguish the names.
 - When using real media catalog numbers as read from the disc, zero digits doesn't have any importance when comparising to numbers in the catalog. Some drives turned out to report bad catalog numbers, thus preventing proper recognition of some discs.
 - Pressing the right mouse button while holding the shuttle wheel custom gadget (V36+) now aborts gadget operation without repositioning.
 - Added support for TEXEL DM-xx24 drives.
 - Closing the program window shortly after program startup (while the catalog was read in) could left the info requester. It is now cleared properly.
 - Added new ARexx command 'inquiry firmware', giving byte 36-43 firmware date and 44-55 vendor specific data.
 - Added player module for SONY CDU-541 and CDU-561 (Thanks Heiko Rath!).
 - A generic 'ANSI' player module to be added externally by the 'PLAYER=...' tooltype or command line option. Any drive conforming to 'SCSI-2 draft proposed American National Standard REV 10c' should be useable with this module (note well: *SHOULD*, most CDROM drive's firmware around which claims to be SCSI-2 compliant is simply *BROKEN*).
 - Possible enforcer hits when changing discs with time display operating in remaining or absolute time mode.
 - Added support for CHINON CDS-431 drives.
 - Added support for TEAC CD-50 drives.
 - Possible Semaphore deadlock problem with shuttle wheel custom gadget
-

fixed.

- JukeBox was compiled with SAS/C 6.3.

New features of JukeBox 2.x are:

- Complete software-based audio parameter control. A mixer panel gives control over volume, channel selection, balance, mono, stereo, mute. Suitable for drives supporting the ANSI SCSI-2 command set (audio control parameter page).
 - Track buttons are enabled/disabled in accordance to the current disc inserted.
 - Error requester concatenation (AmigaOS 2.x and up). Only one requester for multiple errors (Tooltype MAXERRORS).
 - Preferences can be saved. Affects title and repeat-mode, sizing and positioning of all windows, time mode (AmigaOS 2.x and up, not in demo).
 - ARexx-scripts can be invoked by asl-requester. Fully asynchronous command and script processing is enabled by a new command »RX«.
 - JukeBox' main window is now sizeable! The title listview, jog shuttle and title name window will adapt itself accordingly to the current window size.
 - Expanded keyboard shortcut capabilities. Using the <ALT>+<arrow key>, one can move to the begin or end of a disc, any listview, or the catalog (not for demo).
 - Track numbers are optionally displayed in the titles listview and catalog (Tooltype TRKNUMS=1).
 - Title text strings in the catalog support formatting, using C-style format »\n«, »\t« and »\"«. They will show up accordingly in the title window while tracks are currently played. A title string may contain up to 512 characters.
 - The driver name (SCSI device) can now be picked from a listview while normal program operation (AmigaOS 2.x and up).
 - »Economy« mode for the catalog. Loads only disc labels, titles of current discs are reloaded as needed, or when double-clicking on the title in the catalog window (Tooltype ECONOMY=1).
 - Switch back to »faked« MCN by tooltype. This has proved to be the most consistent way of disc recognition among all drives, whether they are capable of reading real MCN's or not (Tooltype FAKEDMCN=1).
 - Catalog window now fully scrollable in both horizontal and vertical directions (AmigaOS 2.x and up, not for demo).
 - AmigaGuide® online documentation in english. Extraneous frequently-asked-questions list, which might help to solve common problems related to CDROM-operation in general.
 - Fully localized user interface in english, german, italian, french and
-

dutch language. System-based localization with workbench 2.1, 3.0 and up. Custom catalog parsing involved for workbench 2.04 (set tooltype LANGUAGE=... accordingly).

- Numerous bug-fixes and small enhancements. JukeBox is very stable, reliable and in perfect shape to multitask.
- New player modules. JukeBox supports over 30 drives by various vendors, such as NEC, TOSHIBA, MATSUSHITA/PANASONIC, SONY/APPLE, COMMODORE, MITSUMI, and TEAC.
- JukeBox 2.x was built using SAS/C version 6.51.

1.3 Copyright

Copyright © 1992-94 by F.J. Reichert. All Rights Reserved. This program and all accompanying files are copyrighted by their author

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Freely distributable release

Shareware release

Licensed release

Special note for CDROM vendors

And finnally, this is for the elected audience of lawyers and other sort of somewhat paranoid people. Read carefully and enjoy:

DISCLAIMER

The author disclaims all warranties, express or implied, including, but not limited to, any implied warranties of merchantability and/or fitness for a particular purpose. The author does not warrant, guarantee or make any representations regarding the use of, or the output from, the program. You rely on the program and output solely at your own risk. In no event will the author be liable for any action, including lost profits, incidental or consequential damages arising out of the use or inability to use this software, exceed the possible shareware fee you paid for this software, even if the author or an authorized distributor of this software has been advised of the possibility of such damages.

1.4 Quick Setup

Oh well, you just unpacked the JukeBox archive and want to know how to do a quick setup? You already know how to deal with audio CD player devices and want to play around with that nifty toy without reading first lots of useless documentation :-)? Alright, here we go. Just copy the complete drawer to you harddisk or make a copy of the entire disk. After having a backup copy, we only need to set up a couple of tooltypes to start:

```
DEVICE=<name_of_your_scsi_device>
```

```
e.g.      DEVICE=scsi.device
          DEVICE=gvp SCSI.device
```

```
Default:  scsi.device
```

Note that exec device's names are case sensitive! Commonly, they have to be specified in lowercase letters, but if in doubt, better check out your hostadaptor's documentation.

```
UNIT=<target_ID_of_your_cdrom_player>
```

```
e.g.      UNIT=4
```

```
Default:  3
```

Normally, there is only one single Target ID. Hostadaptors supporting multiple LUN's and Board ID's might need to have a special number composed out of the Board, LUN and Target ID. The 100's digit stands for the Board ID, the 10's digit for the LUN ID, the 1's digit for the unit ID. For example, a target located at board 3, LUN 4, unit 5 might want to have as tooltype UNIT=345 to be specified.

That's all! Alter the appropriate tooltypes, start the program and enjoy!

1.5 Freely distributable release

Sorry, sorry, sorry! But I spent more than one year working on that project, and I simply can't afford to throw away my time for free. There had to be some main program features being disabled to encourage everybody to get a registered owner of this product. For the freely distributable release, the following features are restricted:

- only some ARexx Commands available
- no keyboard shortcuts
- no catalog expansion ability
- copyright requester upon startup
- shuttle wheel not functional

Note well: Even if you got this copy for free, THIS PROGRAM IS NOT IN THE PUBLIC DOMAIN!

It may be USED for any purposes, commercial, personal, public, and private, as long as ALL of this text, all files, copyright, mailing address, and this notice are retained in their entirety. It is provided

without warranty of any kind, so use it at your own risk!

This program may be DISTRIBUTED by any means as long as there are no charges specifically for the program. Charges for downloading from electronic BBS systems, or charges for copying and media for freely redistributable software libraries are certainly permissible. The entire archive has to be left intact and unchanged. You must not distribute any changed or incomplete set of the original archive.

1.6 Licensed release

The following companies licensed my program and are authorized to distribute it. You can buy the full featured shareware release from there as well. Please contact them directly, I can't tell anything about pricing or shipping costs.

Hirsch & Wolf oHG
Mittelstraße 33, D-56564 Neuwied GERMANY
TEL: +49-(0)2631-83990 FAX: +49-(0)2631-839931

Stefan Ossowskis Schatztruhe GmbH
Veronikastraße 33, D-45131 Essen
TEL: +49-(0)201-788778 FAX: +49-(0)201-798447

Would you like to see your company address here?
See License agreement

1.7 Shareware release

If you used this program for a while and feel that it's time to register, the full blown shareware release comes with the following features:

- full ARexx command set
- keyboard shortcuts
- catalog expansion --- add YOUR own audio discs!
- full featured shuttle wheel

The suggested registration fee is US \$35.00, DM 49,95 (see below) or any equivalent amount in worldwide exchangeable foreign currency. Nevertheless, if you feel that being too much, too few or you can't afford that for various reasons, feel free to send me any amount you think this program is worth. Any donation will be gratefully accepted. Bug reports, suggestions and enhancement requests are highly appreciated as well.

Address to send registration requests to

*** A brand new product, »CDDA filesystem« for only additional \$15 ***

this will enable users of TOSHIBA XM-3301BC, XM-3401 and XM-4101, SONY

CDU-561 or APPLE CD-300 drives to access audio tracks via the SCSI bus, as if they were plain AmigaDOS files! You can copy them to your harddisk, convert the raw audio data to anything you like, feed other programs or audio equipment. Really useful. Includes online documentation in german and english, a sample mountlist entry, and the filesystem handler itself.

JukeBox registration order form

Last name: _____

First name: _____

Address: _____

Country: ____ Zip code: _____ City: _____

eMail: _____

Phone: _____ FAX: _____

CDROM drive vendor: _____ Product code: _____

SCSI controller: _____ ROM version: _____

Amiga model: _____ AmigaOS: _____ WB: _____

CPU/FPU/MMU: _____ RAM: _____ MB Chip, _____ MB Fast

CDROM filesystem used: _____

Other expansion devices: _____

____ JukeBox registration for version 2.xxx,
disk containing the shareware release, WITH
german handbook (136 pages), online documentation
in english US\$ 35 DM 49,95

____ JukeBox registration for version 2.xxx,
disk containing the shareware release, WITHOUT
german handbook, online documentation
in english US\$ 30 DM 42,95

____ CDDA filesystem, suitable for
Toshiba XM-3301BC, XM-3401, XM3501,
XM3601 and XM-4101, XM-4100, Sony CDU-561
or Apple CD-300, NEC 2x, 3x, 4x,
Hitachi 6750/1950, Pioneer DRU104x
disk, description in english and german US\$ 15 DM 19,95

<input type="checkbox"/> shipping & handling, german orders	DM 6,50
<input type="checkbox"/> shipping & handling, european orders	US\$ 8 DM 15,--
<input type="checkbox"/> shipping & handling, oversea orders (airmail)	US\$ 10

Total amount: _____

The upgrade fee

<input type="checkbox"/> was added in foreign / local currency, sent as registered letter
<input type="checkbox"/> was transferred to postal bank account No. 152 408 664 at PGiroA Saarbrücken (BLZ 590 100 66)
<input type="checkbox"/> is included as Eurocheque
<input type="checkbox"/> is included as traveller cheques in Deutschmarks

* NO FOREIGN CHECKS, NO CREDIT CARD ORDERS, PLEASE! I CAN'T HANDLE THEM *

Please, don't send me foreign checks! It costs me more to cash them than the suggested amount, so there are actually pretty "worthless" for me. Eurochecks or checks drawn on german banks will be fine, though. Sorry, I'm not prepared to handle credit card payment. People living in europe might want to send me money to a bank account, the number is 152 408 664, Postgiroamt Saarbrücken (BLZ 590 100 66). Otherwise, please send me a 50-DM-bill (any bank should be able to exchange) or foreign bills (no coins, please!) which I can exchange or use for my next holidays. Don't forget to enclose your complete address with your registration request. Thanks for your support!

The shareware release must not be redistributed by no means without the prior written consent of the author.

1.8 Special note to CDROM software/hardware vendors

Yes, you may distribute the freely distributable release along with your product as long as there is no additional fee for the program itself. Surprised? Well, I'll like that, really! Possibly, you may even ask me to do the appropriate adaption work to player hardware not supported yet, providing the necessary information and materials, I will try to do my best for *free*.

On the other hand, you should consider carefully about the possibility of distributing the full featured version instead, which could greatly improve your sales. Please contact me for a license agreement.

1.9 User Interface

User Interface

Time display
Track entry listview

Gadgets

Graphical symbols	Shuttle wheel
1-16	++
A^B	Lock
Macros	Time
Repeat	Shuffle
Edit	Continue
Titles	

Menus

Project	Catalog	SCSI
New	Append...	Board >>
Open...	Display...	Logical Unit >>
Save...	Sort...	Target ID >>
Save as...		
About...		
Shortcuts...		
Quit		

1.10 The time display

User Interface: Time Display

Gives information about track, index, minutes, seconds and frames (1/75s) of the current audio disc. Playing status will show a triangle for play and two sticks for pause, as known from audio player devices. The name of the current disc will be displayed in the window's title bar (casually stripped down to a maximum of 60 characters, followed by '...'), the name of the current track (and/or optionally index) will show up below the time display (see the catalog chapter to learn more about catalogs). Graphic symbols '___V___' and 'o' stand for the meaning of the time display to be track-relative oder disc-relative. 'A<>B' serves to display marked passages (see below).

1.11 The track entry listview

User Interface: Track entry listview

Gives information about all tracks on a disc currently inserted. Only audio tracks will be selectable. Double clicking on a track entry will cause the pickup to be moved to the beginning of that track. The "TITLES" gadget switches between normal entry information (track number, playing time or CTRL value for (unselectable) data tracks and absolute starting time on the discs) or title names. Title names are only available if there is a catalog entry for a given disc in the current catalog file. Otherwise, a dummy name "<no title assigned>" will be displayed.

1.12 Graphical symbols

User Interface: Graphical symbols

Eject, Play/Pause, Stop, TIMESET = fast forward and fast backward, AMS/RMS = move to start of track and end of track, left and right channel enable/disable (speaker symbols).

CDTV remote control:

<< Press short to skip backwards, hold long to move fast backward

>> Press short to skip forward, hold long to move fast forward

>|| Play/Pause

[] Stop

1.13 The shuttle wheel

Gadget: Shuttle wheel

This custom gadget may be used for convenient positioning of the pickup with Intuition V36+. It is a passive information gauge with Intuition V34 and below. It depends on the current time display mode in which way it acts. The needle may be positioned by dragging it with the mouse. Complement mode will show the dial gadget to be the active one, "release verify" operation, as known from standard boolean intuition gadgets is supported as well. The needle appears in plain color for played time (it will move clockwise then), a rastered image will be shown for remaining time (it will then move in the opposite direction) while playback is in progress.

1.14 1 to 16

Gadget: 1-16

(shortcut: numeric keys, CDTV remote control 0...9)

Select a given track. For extended track selection (see below), "10" will act just like "0".

1.15 ++

Gadget: ++

(shortcut: <+>)

Extended track selection. Allows to specify any track number above 16. two minus signs (--) will appear in the track display, e.g. pressing "2" and "4" consecutively will specify track number 24. If input operations are

abandoned for longer than ten seconds or set to an invalid (nonexistent) track, no repositioning will be done at all.

1.16 A^B

Gadget: A^B

(shortcut: <^>)

May be used to mark a desired passage. Pressing this gadget first marks the beginning (A) of the passage, the second press will mark the end of the passage (B). JukeBox will then restart the whole passage from A to B. To play the passage contiguously, the "Repeat" mode needs to be enabled (see below). Pressing "Play/Pause" will restart playing the marked passage, "Continue" (see below) will clear both marks. To mark just the beginning of a passage (only A), just press "A^B" once. This position will be searched for every time "Play" is pressed. Certain players might restrict marked areas to be located inside one single track, currently supported players are not (see below), areas may range over several tracks without restrictions.

1.17 Lock

Gadget: Lock

(shortcut: <L>)

Locks the disc tray. Pressing the eject button on the CDROM player will take no effect. Depends on the drive being used.

1.18 Macros

Gadget: Macros

(shortcut: <X>)

Invokes the ARexx command shell (ARexx is required to take advantage of this). Commands may be issued asynchronously to normal program operation. Editing capabilities on the command line depends heavily on the console handler currently used. See below how to specify a console handler (CONSOLE tooltype).

1.19 Time

Gadget: Time

(shortcut: <T>)

Switches between four different display modes specifying playing time. First mode describes played time relative to the beginning of the current track, second mode remaining time of the current track, third mode played time relative to the whole disc and fourth mode remaining time of the whole disc.

1.20 Repeat

Gadget: Repeat

(shortcut: <R>)

Toggles between repeat mode and normal mode. In normal mode, playback stops if a disc is completed. In repeat mode, playback of a completed disc (or a completed passage, see "A^B") will restart at the first track or the beginning of the passage, respectively.

1.21 Shuffle

Gadget: Shuffle

(shortcut: <S>)

Toogles between shuffle mode and normal play mode. In shuffle mode, JukeBox will play tracks on a disc randomly. Particular tracks may be enabled or disabled (by clicking on them in the track's listview or pressing appropriate track number gadgets/keys). Note: If you quit the program while in shuffle mode, audio playback may continue even if it had been currently in pause mode. This is due to the playback completion address, which must be cleared to get the player to a known state before exiting.

1.22 Edit

Gadget: Edit

(shortcut: <E>)

Allows the pickup to be positioned by specifying an absolute time value (relative to the start of the current disc). Four minus signs '---:--' will appear in the display until the input is completed. If input operation is abandoned for longer than twenty seconds (or set to a non existing value), no repositioning will be done.

1.23 Continue

Gadget: Continue

(shortcut: <C>)

Suspends "SHUFFLE" mode or passage playback (see "A^B") and switches back to normal playback.

1.24 Titles

Gadget: Titles

(shortcut: <I>)

Toggles the display mode for the track's listview. Either the format "<track number> <time> <starting time>" or the title name as specified in the catalog may be chosen.

1.25 Project

Menu: Project

The current project is always a selected catalog file (see also tooltypes, CATALOG) which allows the program to find and display the label and title names for the current disc and the track currently playing.

1.26 Project, New

Menuitem: New

(shortcut: <R-AMIGA>+<N>)

Clears the current catalog file, leaves the catalog window empty.

1.27 Project, Open

Menuitem: Open

(shortcut: <R-AMIGA>+<O>)

Brings up a file requester to select a new catalog file. Uses standard system ASL requester for AmigaOS 2.x and up, tries to open the public domain ARP-filerequester for AmigaOS 1.3 and below. If neither asl- or arp.library is available, brings up a simple string requester to specify the desired file name after informing the user once that none of those libraries is available.

1.28 Project, Save

Menuitem: Save

(shortcut: <R-AMIGA>+<S>)

Saves the current project. Not accessible for freely distributable release.

1.29 Project, Save as

Menuitem: Save as

(shortcut: <R-AMIGA>+<A>)

Brings up a file requester (see above) to specify the file name to save the current project. Not accessible for freely distributable release.

1.30 Project, About

Menuitem: About

(shortcut: <R-AMIGA>+<I>)

Gives program information. Provides a vendor-specific graphics image for the cdrom player device currently used.

1.31 Project, Shortcuts

Menuitem: Shortcuts

(shortcut: <R-AMIGA>+<K>)

Brings up a requester which shows the keyboard shortcuts available. Note: For the freely distributable release, those are all unavailable regardless whether they are shown or not.

1.32 Project, Quit

Menuitem: Quit

(shortcut: <R-AMIGA>+<Q>)

Quits the program. Any opened window (catalog, ARexx console, requesters) will be closed first, waiting ARexx commands will be suspended to return immediately. If there were changes made to the current project, this command will first bring up a file requester to give the user a chance to save changes.

1.33 Catalog, Show

Menuitem: Show

(shortcut: <R-AMIGA>+<D>)

Brings up the catalog window. If already opened, will force the catalog window to be the topmost window. Disc label entries are highlighted and non-selectable, title entries will appear as plain text and are selectable. Selecting a title entry inside the catalog window will show the name of the disc this track belongs to in the window's title bar. Double clicking on an entry will either reposition the pickup to that track immediately (if the matching disc is inserted), or bring up an asynchronously requester to prompt the user to insert this disc. If the request is satisfied, it will disappear automatically and the selected track will be played. There may be only one pending play operation per disc JukeBox is waiting for, so "older" requests will disappear with "newer" to come up. Requesters may be cancelled any time by pressing the "Forget" gadget.

1.34 Catalog, Append

Menuitem: Append

(shortcut: <R-AMIGA>+<+>)

Appends the catalog "dummy" entry (provides "<no title assigned>" for each entry) of a currently unknown disc to the current catalog. After saving, label and title names may be edited by hand. This item is disabled for the freely distributable release, you cannot expand the catalog.

1.35 Catalog, Sort

Menuitem: Sort

(shortcut: <R-AMIGA>+<T>)

Sorts the catalog. Initially (mode 1), catalog will be sorted by discs (i.e.: in the same order as there are stored in the catalog file). Issuing the sort command first will display each entry (labels and titles) to be sorted alphabetically (mode 2). Issuing the sort command a second time, the unselectable disc labels will be shown at the end of the file (mode 3). Issuing the sort command another time will switch back to mode 2 and so on. Closing and reopening the window will switch back to mode 1. Sorting supports foreign language methods, as provided by the locale.library for AmigaOS 2.1 and up. Below that, standard ASCII sorting will be performed.

1.36 SCSI

Menu: SCSI

Selects the current host address. Multiple items selection supported. Any change will take place after releasing the menu selection button, i.e. you should browse through all three submenus to select a given host address. JukeBox will then try to open the specified host device and issue a inquiry command to figure out the matching player module, if any. If anything fails, the user will be informed by requesters. There is a "dummy" default player provided which just does nothing at all, and will do no harm to any scsi target device.

1.37 SCSI, Board

Menuitem: Board

Subitems allow to specify the ID number of the adapter board to be used (the 100's digit).

1.38 SCSI, Logical Unit

Menuitem: Logical Unit

Subitems allow to specify the logical unit number (the 10's digit).

1.39 SCSI, Target ID

Menuitem: Target ID

(shortcut: <R-AMIGA>+<0...7>)

Subitems allow to specify the target ID (the 1's digit).

1.40 Catalog

Note: Using the freely distributable release, you cannot expand the catalog file with your own discs. Only the default demo catalog file, which comes along with the distribution archive, might give you a chance to recognize some of your discs. To take full advantage of the catalog ability, please register for the shareware release.

The catalog file is a normal ASCII text file, which may be edited by any word processor or editor. Default postfix for catalog files should be #?.cat, since the ASL-filerequester will be invoked with that pattern definition to filter otherwise named files.

Every time an unknown disc is inserted, JukeBox creates a "dummy" catalog entry, which looks like:

```

<04B0A043FB0522D05A8A04FFD3AA25/240165;53:22>="<no title assigned>"
    <01/00/000000;04:33>="<no title assigned>"
    <02/00/020477;05:09>="<no title assigned>"
    <03/00/043655;04:41>="<no title assigned>"
    <04/00/064692;03:52>="<no title assigned>"
    <05/00/082095;04:16>="<no title assigned>"
    <06/00/101305;04:57>="<no title assigned>"
    <07/00/123562;04:06>="<no title assigned>"
    <08/00/142010;05:02>="<no title assigned>"
    <09/00/164625;05:18>="<no title assigned>"
    <10/00/188477;03:15>="<no title assigned>"
    <11/00/203135;03:33>="<no title assigned>"
    <12/00/219102;04:41>="<no title assigned>"
#

```

First line describes the disc ID and label name. Between '<' and '>', there are 15 bytes of a media catalog number (MCN) stored, which serves to give an unique identification for this disc. Depending on the player device currently used, this may be a "real" media catalog number (UPC/EARN barcode) as defined by the ANSI specifications for cdrom player devices, read directly from the disc. If there are no commands (as for current NEC drives) to read such a number, or the number on a given disc is invalid, then a "faked" MCN will be composed out of the track starting times of the disc. Separated by a slash, the total block number count follows the MCN, after a semicolon comes the total disc time. Then, the label name follows, encapsulated by '"'. "Escaping" is supported for two special characters so far, '"' and '\' must be written as '\"' and '\\' respectively inside the name definition.

For each track on the disc, there is a separate track entry in the catalog entry. The identification is composed by the track number, index number, starting block address and (optionally) the play time of this track, followed by the title name string. There are two different means to specify title string for indexes:

Hierarchical indexing

Non-hierarchical indexing

In addition, there is one mean to alias a disc layout from one disc to another:

Aliasing

A catalog entry is terminated by a hash sign in the first column. Anything between square brackets, but after the ';' is ignored and considered to be a comment. Anything outside <> or '"' is ignored, and is not written back (i.e. will be lost) when the catalog file is resaved.

1.41 Hierarchical indexing

Let's say, track five (named "foo") contains four different indexed areas, named "bar1", "bar2"... "bar4". Thus, the track entry would look like:

```

<05/00/082095;04:16>="foo"
<05/01>="bar1"
<05/02>="bar2"
<05/03>="bar3"
<05/04>="bar4"

```

When playing track five, JukeBox will display "foo; bar1", "foo; bar2",... "foo; bar4" as title names. Hierarchical index names are always appended to their parent's track name this way, delimited by a semicolon.

1.42 Non-hierarchical indexing

Let's assume the same as above, but track five inherits no "hierarchical" meaning, each of the four indexed titles are of the same importance. So our track entry will look like:

```

<05/01/082095;04:16>="bar1"
<05/02>="bar2"
<05/03>="bar3"
<05/04>="bar4"

```

Note that "bar1" is *not* the null indexed entry, thus any following index titles are considered to be of same importance.

General note: In fact, cdrom player devices are not able to read indexing information from the table of contents stored on the disc. Thus, indexing of catalogs always needs to be done by hand, otherwise no index distinguishing can be done by the program. Indexing is an optional feature. And, it is not possible to position the pickup on a given index directly, since the player device doesn't know at all where they are located inside the track. So, positionning to an index entry (e.g. by double clicking on an index name in the listview) will always position the pickup to the beginning of the index's parent track.

1.43 Aliasing

Another feature for catalog entries is aliasing entries to another disc's layout. Let's say, you have two different discs which produces different MCN's, but actually have the same layout. An excellent example are certain data discs of different release versions, as the hypermedia fish CDROM. Both discs may be recognized as the same disc, by specifying a parent entry and an alias to that entry consecutively:

The first entry to appear has to be a normal catalog entry representing one of the discs:

```

<0000000000000000000000000000000000B99DB399DB/235995;52:27>="The Fred Fish Collection on CDROM"

```

```

<01>="Fish disk data track"

```

```

#

```

If in doubt, consult your hostadaptor's documentation about the correct spelling of the device name. Also take care that there are no unwanted blank characters, spaces, tabs and so on, before or after the name.

1.46 UNIT

Tooltype: UNIT=<NUMBER>

Specifies the unit number to be used. Default is 3.

1.47 PUBSCREEN

Tooltype: PUBSCREEN=<NAME>

For Intuition V36+, JukeBox will try to open its window on the public screen of this given name. If open fails, it will fall back to the default public screen (almost the workbench screen). Note that it depends on the console handler device (see also CONSOLE) if the ARexx macro shell might be opened on a public screen or not.

1.48 FONTHEIGHT

Tooltype: FONTHEIGHT=<NUMBER>

JukeBox tries to use that font for rendering the texts of its graphical user interface. Otherwise, the system default text font, as specified by the preferences font editor for workbench 2.0 and above (workbench 1.3 and below will allow topaz eight or nine) will be used. If strings don't fit (will be calculated on every item), it will fall back to topaz eight.

1.49 FONTNAME

Tooltype: FONTNAME=<NAME>

JukeBox tries to use that font for rendering the texts of its graphical user interface. Otherwise, the system default text font, as specified by the preferences font editor for workbench 2.0 and above (workbench 1.3 and below will allow topaz eight or nine) will be used. If strings don't fit (will be calculated on every item), it will fall back to topaz eight.

1.50 CONSOLE

Tooltype: CONSOLE=<DESCRIPTION>

Specifies the console name for the ARexx macro shell. Default is 'CON:0/0/320/100'. A '/' and the name of the ARexx port (see PORTNAME) will be postponed, acting (hopefully!) as titlename for the new window. As well, (for Intuition V36+) '/SCREEN ' and the name of the desired public screen (see PUBSCREEN) are appended to the stream name, which will (hopefully, at least Amiga Shell and WShell will do fine) force the window to be opened on the preferred public screen.

But nearly any other interactive, line-oriented console handler may be used, for example CONSOLE=CNX: (for WShell, AUX: should do just the same for Amiga Shell) will open a command shell via the serial port to another terminal.

1.51 UPDATE

Tooltype: UPDATE=<NUMBER>

Specifies the time interval for updating the display in microseconds. Default is 250000, so the display will be updated every 1/4 second. Note that several program functions depend on this update ratio, e.g. repeating discs after completion, recognizing disc changes and so on.

1.52 NASTY

Tooltype: NASTY=<BOOLEAN>

If set to a value greater than zero, updates the display contiguously even if the application's window is not the active one. Otherwise, the display is only updated if the window is the active one. Defaults to one.

1.53 PORTNAME

Tooltype: PORTNAME=<NAME>

Specifies the name to use for the public ARexx port. Defaults to 'JUKEBOX'. External programs may use this port to communicate with the active ARexx host of JukeBox.

There is a slot numbering mechanism which will provide unique names for each port even if JukeBox was launched several times. Starting with "<portname>.0", every subsequent port will have the next available slot number, "<portname>.1", "<portname>.2" and so on.

1.54 STOP

Tooltype: STOP=<BOOLEAN>

If set to a value greater than zero, forces the program to suspend any audio playback on program startup or exit. Otherwise, the current playing status is not affected. Defaults to zero.

1.55 REXXSHELL

Tooltype: REXXSHELL=<BOOLEAN>

If set to a value greater than zero, a ARexx macro shell will be opened upon program startup automatically. Defaults to zero.

1.56 KEYREPEAT

Tooltype: KEYREPEAT=<NUMBER>

If set to zero, repeated key events from the keyboard will be discarded. Otherwise, they will be treaded as valid command keys up to the given maximum number. Defaults to one.

1.57 MACRO_1...5

Tooltype: MACRO_1=<COMMANDSTRING>
MACRO_2=<COMMANDSTRING>
MACRO_3=<COMMANDSTRING>
MACRO_4=<COMMANDSTRING>
MACRO_5=<COMMANDSTRING>

Define ARexx macros. Those may be inline-stringfiles as well as filenames (default postfix #?.np) containing complete scripts. They will be invoked by pressing the function keys F1, F2,... F5 respectively. Not available for the freely distributable release.

1.58 STARTUP

Tooltype: STARTUP=<COMMANDSTRING>

Defines an ARexx macro (same conventions as macro) which will be executed upon program startup.

1.59 CATALOG

Tooltype: CATALOG=<FILENAME>

Defines the name of the initial catalog file to be used.

1.60 CHANGEINT

Tooltype: CHANGEINT=<BOOLEAN>

If set to a value other than zero, tries to install a TD_CHANGEINT to recognize disc changes. If that mechanism is not supported by a particular driver, JukeBox will bring up a requester. When using changeint's, JukeBox will no longer "poll" the drive as long as there is no disc inserted. Defaults to zero.

1.61 ARexx Command Interface

There are 26 ARexx commands supported so far, implemented by an active ARexx host interface. The host interface may be used via the builtin command line interpreter (invoked with the MACRO-gadget), or any other external program using the application's public ARexx message port, named 'JUKEBOX.n' by default (other names may be specified by the PORTNAME -tooltype as well, see above).

Note: Commands marked '*' will not work for the freely distributable release.

Syntax is similar to standard AmigaDOS conventions:

/A: Always required. This argument always needs to be given.

/K: Keyword required. The argument's keyword needs to be included along with the argument itself. Keywords are not required by default.

/M: Multiple Arguments of the same type are accepted. Up to 14 Arguments may be specified in general to any command supported by JukeBox.

/S: The argument works as a switch. Simply type the keyword in the command line to turn the switch on.

/N: Number. The argument is numeric.

KEYWORD={...}: Describes the expected format of an argument. If there are several, mutually exclusive options for an argument, they are separated by "|". E.g., EXAMPLE={BLACK|WHITE} means that "EXAMPLE" may be either "BLACK" or "WHITE", TIME={HH:MM:SS} means that "TIME" should be specified as two-digit hours, minutes and seconds, separated by colons.

* ADDTIME	* CATALOG	* CHANNEL
* CMPTIME	* CURRENT	EJECT
GETATTR	INQUIRY	* LOCK
* LOCKGUI	MOVEWINDOW	* NEW
* OPEN	PAUSE	PLAY
REQUESTRESPONSE	* SAVE	* SAVEAS
* SET	STOP	* SUBTIME
* TOC	* UNLOCKGUI	* WAIT
WINDOWTOBACK	WINDOWTOFRONT	ARexx scripts

1.62 ADDTIME

```
ADDTIME TO={MM:SS:FF}/A
        FROM={MM:SS:FF}/M
```

Simple time arithmetics. Adds several time descriptions of the format MM:SS:FF (M=minutes up to 99, S=seconds up to 59, F=1/75s up to 74) to each other and returns the result. Ambiguous values, e.g. 0:2:105, will be corrected to 00:03:30. Note: Time descriptions need to be enclosed in ' or " for ARexx command parsing rules to detect them correctly.

See also: SUBTIME , CMPTIME .

1.63 CATALOG

```
CATALOG SHOW/S,
        APPEND/S,
        MCN/S
```

Manipulation for catalog entry of the current disc. SHOW shows the template, APPEND adds it to the global media catalog, MCN returns the disc identification given by the media catalog number stored on the cdrom, or a "faked" number computed from several start times of the cdrom's tracks, if there is no valid MCN or reading this number is not supported by a particular drive/firmware.

See also: catalogs.

1.64 CHANNEL

```
CHANNEL STATUS={LEFT|RIGHT|BOTH|NONE}/A
```

Choosing the output mode. LEFT or RIGHT play only one channel on both outputs, BOTH plays both channels in stereo mode, NONE plays no channel at all.

1.65 CMPTIME

```
CMPTIME DEST={MM:SS:FF}/A,
        SRC={MM:SS:FF}/A
```

Simple time arithmetics. Returns 1 if destination time is below source time, -1 if above, 0 if both times are equal. Times have to be given as MM:SS:FF (M=minutes up to 99, S=seconds up to 59, F=1/75s up to 74).

See also: ADDTIME , SUBTIME .

1.66 CURRENT

```
CURRENT TRACK/S,
        INDEX/S,
        BLOCK/S,
        RELTIME/S,
        TIME/S,
        TRKTIME/S,
        CDTIME/S,
        STATUS/S,
        CONTROL/S,
        PLAYBACK/S,
        LABEL/S,
        TITLE/S,
        BREAK/S
```

Returns the number of the current TRACK, INDEX, BLOCK number, time relative to the start of the current track (RELTIME), absolute time (TIME), whole time of the track currently playing (TRKTIME), playing time of the whole disc (CDTIME), current playing status (STATUS) given as "PLAY", "NODISC", "PAUSE" or "COMPLETE", contents of the control nibble for the current track given as:

Bit	equals zero	equals one
0	Audio without pre-emphasis	Audio with pre-emphasis
1	Digital copy prohibited	Digital copy permitted
2	Audio track	Data track
3	Two channel audio	Four channel audio

the current playback status (PLAYBACK) given as:

```
0 = playing
2 = pause
3 = disc completed
```

the disc's label name (LABEL), the current track's name (TITLE) and the BREAK status (issued by the escape key) of zero or one.

1.67 EJECT

```
EJECT
```

Stops playing, turns motor and laser beam off and ejects the cartridge, if supported by the particular drive. If cartridge ejection is not supported, the disc tray is now safe to be opened manually and a cdrom may be removed.

1.68 GETATTR

```
GETATTR    VERSION={FULL|DATE|VER|REV}/K,PLAYER/S,  
           WINDOW={TITLE|LEFT|TOP|PUBSCREEN|GUILOCKS}/K,  
           PROJECT={FILENAME|PATH|FILE|CHANGES}/K,  
           PORTNAME/S
```

Returns program information. VERSION FULL/DATE/VER/REV gives different version strings, PLAYER identifies the player module used currently, WINDOW gives information about the window position (LEFT/TOP), its TITLE, the underlying PUBSCREEN (if supported by the current operation system), the nesting count of GUILOCKS. PROJECT FILENAME gives the complete path- and filename of the current catalog, PATH only gives the path part, FILE gives the filename part, CHANGES reports the changes made to the catalog. PORTNAME returns the name of the public ARexx-Port.

1.69 INQUIRY

INQUIRY

This command will send an Inquiry command to the current drive and return 36 bytes of data.

Example: options results; inquiry; say c2x(result)

1.70 LOCK

LOCK STATUS={0|1}/N

Looks or unlocks (depending on status) the disc tray, if supported by the current drive. With a locked tray, cartridges may only be ejected by pressing the eject gadget within JukeBox, but not by the button on the drive.

1.71 LOCKGUI

LOCKGUI

Inhibits the graphical user interface. This call may be nested. See also: UNLOCKGUI .

1.72 MOVEWINDOW

MOVEWINDOW LEFT/N,
 TOP/N

Moves the user interface window to the absolute position given by LEFT and TOP. They may not exceed the dimensions of the current screen, the command will take care of this.

1.73 NEW

NEW FORCE/S

Abandon the current catalog, FORCE prevents a prompt requester to appear if the current catalog was altered.

1.74 OPEN

OPEN FORCE/S,
 NAME

Open a new catalog, either by bringing up a file requester, or by the NAME given with this command. FORCE prevents a prompt requester to appear if the current catalog was altered.

1.75 PAUSE

PAUSE

Switches to pause mode. Current playing is interrupted and the pickup will stay at the same position.

1.76 PLAY

PLAY

Starts (continues) playing from the current position. If there is a range marked by A and/or B, starts from the beginning of this range (the A position).

1.77 REQUESTRESPONSE

REQUESTRESPONSE PROMPT

Brings up a requester, prompting with PROMPT string for a psotive or negative answer. The user's choice will be reported to the caller.

Example:

```
requestresponse 'And the answer is...'
```

1.78 SAVE

SAVE

Saves the current catalog.

See also: catalogs.

1.79 SAVEAS

SAVEAS NAME

Saves the current catalog under the name given by NAME.

See also: catalogs.

1.80 SET

SET TRACK=NUM/N/K,
BLOCK=NUM/N/K,
TIME={MM:SS:FF}/K

Moves the pickup to a given TRACK, BLOCK (frame) number or an absolute TIME position on the disc given as MM:SS:FF (M=minutes up to 99, S=seconds up to 59, F=1/75s up to 74).

1.81 STOP

STOP

Stops playing and moves the pickup to the first audio track.

1.82 SUBTIME

SUBTIME TO={MM:SS:FF}/A,
FROM={MM:SS:FF}/M

Simple time arithmetics. Subtracts several time descriptions of the format MM:SS:FF (M=minutes up to 99, S=seconds up to 59, F=1/75s up to 74) from destination (TO) and returns the result.

See also: ADDTIME , CMPTIME .

1.83 TOC

TOC NUM/N,
 STEM=NAME/K

- Without any arguments, returns the current table of contents given as (example):

```
TDT 53:22:15 (53:24:15)
#01 04:33:02 (00:02:00)
#02 05:09:03 (04:35:02)
#03 04:40:37 (09:44:05)
#04 03:52:03 (14:24:42)
#05 04:16:10 (18:16:45)
#06 04:56:57 (22:32:55)
#07 04:05:73 (27:29:37)
#08 05:01:40 (31:35:35)
#09 05:18:02 (36:37:00)
#10 03:15:33 (41:55:02)
#11 03:32:67 (45:10:35)
#12 04:40:63 (48:43:27)
```

Values in parantheses describes starting time of particular tracks and (TDT) ending time of disc respectively.

- Given a track number as argument, returns information about the particular track, e.g. TOC 4 will give:

```
03:52:03 (14:24:42-18:16:45) $10 "If I Were (In Your Shoes)"
```

which describes the track duration, starting and ending time in parantheses, the ADR and CTRL nibble and the track's name.

- STEM will put the table of contents (as given above) in an ARexx stem of the given name, storing the number of lines in element zero of the stem, e.g.

```
TOC STEM a.
DO i=0 TO a.0
    SAY a.i
END
```

1.84 UNLOCKGUI

UNLOCKGUI

Enables the user interface for normal gadget/menu processing. This call may be nested as well. See also: LOCKGUI .

1.85 WAIT

```
WAIT      COMPLETE/S,  
          TRACK=NUM/N/K,  
          ABSOLUTE={MM:SS:FF}/K,  
          FKEY NUM={6|7|8|9|10}/N/K
```

Waits until current disc is COMPLETE, a particular TRACK is reached, an ABSOLUTE time expired, or a function key given by FKEY is pressed. The script doesn't proceed as long as the particular event doesn't occur. Note: function keys have to be pressed in the application's (or catalog's) window, not the window of the command interpreter, which would be hard for JukeBox to discover :-).

Warning: if a particular event doesn't occur, this command will never return. By pressing the escape key or the close gadget of the application's window, all hanging waits are devoted to return immediately.

1.86 WINDOWTOBACK

WINDOWTOBACK

Switches the user interface window to the background.

See also: WINDOWTOFRONT .

1.87 WINDOWTOFRONT

WINDOWTOFRONT

Switches the user interface window to the top of any other window.

See also: WINDOWTOBACK .

1.88 ARexx scripts

The default postfix for ARexx-Scripts is "#?.jb". You can start a script by simply typing its name to the ARexx console, e.g. "fwd" will search for the script "fwd.jb". You may type "inline"-scripts to the ARexx console as well. Example:

```
do i=1 to 10; say 'hello, world'; end;
```

And you may type any command supported by JukeBox directly to the console, e.g. "play" or "pause".

There are several ARexx scripts in the distribution archive which serve as examples how to discover the full programming abilities of JukeBox. People comfortable in ARexx programming will be able to do nearly everything. Enjoy.

For the freely distributable release, most of the example scripts don't work because the full ARexx command set is only available for the shareware release. Please get registered!

1.89 Keyboard Shortcuts

For the shareware release, the following keyboard shortcuts are accessible. They will not work for the freely distributable release.

F1...F5	Invokes ARexx MACRO_1,...MACRO_5. See also: MACRO .
F6...F10	User definable command keys for ARexx macro definition 'wait fkey 6' ... 'wait fkey 10'. See also: WAIT .
ESC	Suspends any waiting ARexx command. See also: WAIT .
SPACE CDTV = >	Play/Pause
SHIFT-SPACE CDTV = []	Stop
SHIFT-TAB	Eject
+	Extended track selection. See also: ++ .
E,e	Edit See also: Edit .
T,t	Time See also: Time .
^	mark passage 'A^B' See also: A^B .
C,c	Continue See also: Continue .
X,x	

Invoke ARexx command interpreter
See also: Macros .

R, r

Repeat (toggle)
See also: Repeat .

S, s

Shuffle (toggle)
See also: Shuffle .

L, l

Lock (toggle)
See also: Lock .

<

Left channel

>

Right channel
See also: Channel .

I, i

Titles
See also: Titles .

Arrow keys

UP

Scroll up

DOWN

Scroll down

LEFT

CDTV = << (long)

Time Set <<

RIGHT

CDTV = >> (long)

Time Set >>

See also: Time Set .

SHIFT-UP

Page up

SHIFT-DOWN

Page down

SHIFT-LEFT

CDTV = << (short)

AMS/RMS |<<

SHIFT-RIGHT

CDTV = >> (short)

AMS/RMS >>|

See also: AMS/RMS .

Numeric keys (also NKP and CDTV remote control)

0,1...9

Same as gadgets 10,1...9
See also: 1-16 .

1.90 Error Messages

++ Error 0 Unspecified error

Should never show up.

++ Error 1 Target is no CD-ROM

The specified scsi-target wasn't recognized as a CD-ROM player device.

++ Error 2 Can't create menu

The menu couldn't be created. This one might only occur if one of the following calls to system libraries, `GetVisualInfo()`, `GetScreenDrawInfo()`, `CreateMenus()`, `LayoutMenus()` or `SetMenuStrip()` fails for various reasons.

++ Error 3 Can't open timer.device

The timer.device couldn't be opened. This should never occur and is only there for the sake of consistency.

++ Error 4 Can't create timer request

The timerequest structure needed for timer I/O couldn't be allocated, probably due to the lack of memory.

++ Error 5 Can't create timer port

The messageport for doing timer I/O couldn't be allocated, probably due to the lack of memory.

++ Error 6 Player module "<name string>" not found

Searching for a matching player module failed. Might occur if there is no player module for a particular CD-ROM player device available. <name string> represents the vendor identification, as read from the drive's inquiry data.

++ Error 7 Can't open "<scsi.device>" unit <number>

Attempt to open the given device and/or unit number failed. Mostly caused by a request to open nonexistant drivers/target addresses.

++ Error 8 Can't create SCSI request

The IORequest structure needed for scsi I/O couldn't be allocated, probably due to the lack of memory.

++ Error 9 Can't create SCSI port

The messageport for doing scsi I/O couldn't be allocated, probably due to the lack of memory.

++ Error 10 Can't open font

The desired font, specified as

FONTNAME=...

and

FONTHEIGHT=...

isn't available to be opened via OpenDiskFont().

++ Error 11 Can't open window

The window couldn't be opened. Might be due to the lack of memory, or at least the default public screen (almost workbench) isn't big enough (584x200 pixel minimum). Bigger fonts might require bigger workbench screen heights, e.g. when there are only 200 lines, you can't use any font higher than nine pixels or so. Try a smaller font when you see this error.

++ Error 12 Can't open diskfont.library

Standard system LIBS: device or exec libraries list lacks diskfont.library. Otherwise, the version found is older than 33.

++ Error 13 Can't open graphics.library

There's no graphics.library available. Should never occur and is only there for the sake of consistency. Otherwise, the version found is older than 33.

++ Error 14 Can't open mathtrans.library

Standard system LIBS: device or exec libraries list lacks mathtrans.library. Otherwise, the version found is older than 33.

++ Error 15 Can't open mathffp.library

There's no mathffp.library available. Should never occur and is only

there for the sake of consistency. Otherwise, the version found is older than 33.

++ Error 16 Can't open icon.library

Standard system LIBS: device or exec libraries list lacks icon.library. Otherwise, the version found is older than 33.

++ Error 17 Can't open layers.library

There's no layers.library available. Should never occur and is only there for the sake of consistency. Otherwise, the version found is older than 33.

++ Error 18 Can't open intuition.library

There's no intuition.library available. Should never occur and is only there for the sake of consistency. Otherwise, the version found is older than 33.

++ Error 19 Can't open console.device

There's no console.device available. Should never occur and is only there for the sake of consistency.

++ Error 40 SCSI error: HFERR_SelfUnit
++ Error 41 SCSI error: HFERR_DMA
++ Error 42 SCSI error: HFERR_Phase
++ Error 43 SCSI error: HFERR_Parity
++ Error 44 SCSI error: HFERR_SelTimeout
++ Error 45 SCSI error: HFERR_BadStatus

These are specific SCSI-error numbers returned by the device driver upon startup. Possibly, the drive is connected/terminated the wrong way to the host adaptor or the driver software doesn't respond correctly to the HD_SCASICMD protocol. During normal program operation, SCSI errors are displayed on the main display and the title name field (no requesters, since they might occur heavily).

NOTE: You really should never see this error message under normal circumstances. If it shows up, there's something wrong with your SCSI setup, which can't be fixed from JukeBox's point of view. Check termination, cabling, hostadaptor's firmware, drive's firmware, SCSI-ID and so on. You'll probably not be able to run JukeBox successfully as long as your specific problem, which is undoubtedly NOT related to JukeBox, remains unresolved.

++ Error 100 Out of memory

Not enough memory available. JukeBox allocates its memory dynamically. So, there might be no memory for a given operation, while there is enough memory for another.

++ Error 101 Not added, label already exists (line #<number>)

A disc ID number (MCN) already exists. One ID may be added only once to the catalog by issuing the "Append" command.

++ Error 102 ASL- or ARP-library not available

There's no arp.library (AmigaOS 1.3 and below) or asl.library (AmigaOS 2.0 and above) available to bring up a file requester. The requester will show up once, and the file name is prompted by a simple string-requester furthermore.

++ Error 103 No parent entry found for link (line #<number>)

Attempt to link a disc ID to a nonexistant catalog entry failed because there's no such catalog entry in the catalog file. (See

aliasing

in the catalog format description above). JukeBox will ignore catalog links who have no parent. You can't "forward declare" a link, the parent entry needs to occur first.

++ Error 104 Media change interrupts not supported

The selected device driver (#?.device) doesn't implement TD_CHANGEINT and (gratefully!) responds with a value other than zero to the appropriate I/O operation. Thus, changeints can't be used and shouldn't be requested furthermore (just change the

CHANGEINT

tooltype to zero). Warning: Some device drivers might actually claim to understand changeints, but can't really handle them correctly. Be aware of this, it may cause severe problems!

1.91 Supported drives

As of this writing, this program was developed for and tested with the following drives. Other devices might be easily adapted as well. There is an internal communication protocol (a vendor specific player "module" concept) provided to archive this, as well as there are means to add new player modules externally. If your drive is not in this list, don't worry. Try it, and if it doesn't work, just give me the chance to have a test unit and the appropriate scsi docs for a few days, and there's no reason why we shouldn't be able to support it.

NEC	CDR-25,36,55,72/82,73/83,74/84,210,3x(e/i/p),2xi,4x(e/i/p ↵
)	
NAKAMICHI	MBR-7
TOSHIBA (SCSI-2)	XM-3301,3401,4101,4100,3501

TOSHIBA (SCSI-1)	XM-3332,3201
MATSUSHITA	CR-501B
TEXEL	DM-3024,5024,3028,5028
PLEXTOR	PX-43CS
Commodore CDTV	CDTV,A570
SONY (NeXT/Apple)	CDU-541,561; CD-150,300; PowerCD; CDU-55E
Apple CD-150	
PIONEER	DRU-104x,DRM-1804x
HITACHI	CDR-1950,6750
SANYO	CRD-400I,H94S
CHINON	CDS-431,535,525I
TEAC	CD-50
Tandem CD+IDE	Mitsumi FX-001(D), LU-005
Mitsumi ATAPI	Mitsumi FX-300,400
VOB Breitfeld	Mitsumi FX-001(D)
Archos Overdrive	Mitsumi FX-001(D),ATAPI
ANSI (other)	

1.92 Archos Overdrive

Tested: cd.device 11.2
 Mitsumi FX-001D

Exceptions: Mitsumi FX-300 (use atapi driver)
 Mitsumi FX-400 (use atapi driver)

Special notes:

- There are several versions, non-ATAPI-drives are required to use the 'archos.player', newer ATAPI drives (Mitsumi FX-300 and -400) are required to use the 'atapi.player'. In any case, set the following tooltypes:

```
DEVICE=cd.device
UNIT=0
```

Note: At least version 11.2 of cd.device is required! Ask your Archos-dealer for an update! The volume node (L:Overcd-handler) has to be mounted for the 'cd.device' to be present, otherwise JukeBox won't find the driver.

- The required player module is not built-in. It has to be added on top of any other player. Thus, add the following string to your command line or icon tooltype:

```
PLAYER=archos.player
```

Make sure that the player module named 'archos.player' is in the current directory, or specify an absolute path name.

- You shouldn't use this player module with newer (ATAPI) drives.

- These drives use NO real media catalog numbers.

- You can't control volume or channels selection.

1.93 VOB Breitfeld

The "Breitfeld Lösung" is a special hostadaptor solution sold by VOB Breitfeld, Dortmund. It enables you to use one of those PC-people-most-wanted IDE-CDROM with your amiga, with a special adaptor for various amiga models. There are serveral types and bundles of this product available for any amiga, ask your local distributor about details. I am not affiliated with VOB, nor can I answer any questions regarding availability, pricing or shipping.

To make use of the built-in ANSI command emulation of this product, you need to set the following tooltypes accordingly:

```
DEVICE=vobscsi.device  
UNIT=0  
PLAYER=ansi.player
```

Please make sure that the executable named 'ansi.player' is located in the same directory.

1.94 Tandem CD+IDE

Tested: tandemcd.device 37.16
 tandemcd.device 38.2
 Mitsumi FX-001D
 Mitsumi LU-005

Exceptions: None known

"Tandem CD+IDE" is a special hostadaptor solution sold by bsc Büroautomation, Munich. It enables you to use one of those PC-people-most-wanted IDE-CDROM with your amiga, with a special hostadaptor for various amiga models. There are serveral types and bundles of this product available for any amiga, ask your local distributor about details. I am not affiliated with bsc, nor can I answer any questions regarding availability, pricing or shipping, I just wrote a player module for their product because they let me have a test unit and asked me to do so. If you want to know more about their products, write to:

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D-94447 Plattling
FON: +49-9931-9175-0
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Benelux: AlfaData Benelux S.A./N.V.

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Sweden/Norway: Elda Electronic AB
P.O. Box 37
45047 Sweden

Italy: KB srl.
Via B. Buozzi 6
40057 Cadriano

North America: Alfa Data US
P.O. Box 6990
Champaign, IL 61826

New Zealand: Micro Dealer N.Z. Ltd.
P.O. Box 23-678, Papatoetoe
Auckland

Other Countries: Alfa Data Computer
3F, No. 8, Lane 263, Chung Yang Rd.
Nan Kang, Taipei, Taiwan R.O.C.

Special notes:

- Those drives use NO real media catalog number.
- Volume control ranges from 0-254. This is due to the fact that the level needs to be transposed by one step, since the drive interprets level 0 as "no channel connected to this output". A minor side effect is, that level 0 doesn't lead to complete silence on that channel.
- You can't set independant volume for both channels. You can't control the volume at all, using the LU-005.
- You can't connect the right channel to the left output, and vice versa. I didn't disable the buttons to do so, but trying that may lead to unpredictable results. As of this writing, valid combinations are:

Left Output	Right Output
-----	-----
-	-
L	R
L	-
-	R
L+R	L+R

Maybe future drive models or firmware will offer more consistent channel selection schemes, thus I leave the player unchanged for the day they'll fix that.

1.95 Mitsumi ATAPI

Tested: tandemat.device 3.2
 Mitsumi FX-300
 Mitsumi FX-400
 Sony CDU-55E
 Chinon CDS-525I

Exceptions: None known

Special notes:

- Those drives use a real media catalog number. Well, at least while the table of contents is read when audio playback is paused. Otherwise, the drives are not able to recover the number. If you want to avoid confusion caused by this strange behaviour, just set the tooltype FAKEDMCN=1 in the JukeBox's program icon. I leave the player unchanged for the day this will change, if ever.
- You can't set independant volume for both channels, only master.
- You can't connect the right channel to the left output, and vice versa. I didn't disable the buttons to do so, but trying that may lead to unpredictable results. As of this writing, valid combinations are:

Left Output	Right Output
-----	-----
-	-
L	R
L	-
-	R
L+R	L+R

Maybe future drive models or firmware will offer more consistent channel selection schemes, thus I leave the player unchanged for the day they'll fix that.

1.96 Nakamichi

Tested: Nakamichi MBR-7 110

Exceptions: None known

Special notes:

- This is a CDROM changer enabling you to use 7 discs on LUN 0-6.
- Those drives use a real media catalog number. Sometimes they get them wrong from CDROM data discs. If you want to avoid confusion caused by this strange behaviour, just set the tooltype FAKEDMCN=1 in the JukeBox's program icon.
I leave the player unchanged for the day this will change, if ever.
- You can't set independant volume for both channels, only master.
- You can't connect the right channel to the left output, and vice versa. I didn't disable the buttons to do so, but trying that may lead to unpredictable results. As of this writing, valid combinations are:

Left Output	Right Output
-----	-----
-	-
L	R
L	-
-	R

Having one channel (L or R) per output means to hear it on both outputs.

Maybe future drive models or firmware will offer more consistent channel selection schemes, thus I leave the player unchanged for the day they'll fix that.

1.97 TEAC

Tested: CD-50 1.00 (firmware: Mon Feb 22 10:29:00)

Exceptions: None known

Special notes:

- Channel control: choosing the left OR right channel will connect the particular audio channel to BOTH outputs, so you will hear it on both speakers (mono sound).
- TEAC drives uses real media catalog numbers.
- TEAC/TEXEL drives are quite the same, from the viewpoint of firmware. There is a reselection bug in older releases which may cause the drive refuse to work with hostadaptors used on the amiga. Texel already fixed that problem in their current firmware, can't say if TEAC will ever do so. Best solution found so far is to disable reselection for ALL drives on the bus, but even then they work sometimes unreliable (certain commands will "hang", block the entire bus and never come back).

Anybody going to buy this drive should carefully prove that the current firmware fits all needs. Remember, "working well on any IBM-PC" doesn't necessarily mean "flawless operation on any amiga".

- Make sure to get a recent firmware release! Older ROM's are known to cause trouble. Advice: Test extensively before buy!

- GVP Series-II hostadaptor users might want to issue the command "gvp SCSIctrl <unit> DCOFF" for ALL drives before the first access to the drive, thus avoiding protocol failures with the drive's firmware.

1.98 CHINON

Tested: CDS-431 (ROM H40)
 CDS-535
 CDS-525I (use atapi driver)

Exceptions: None known

Special notes:

- Chinon drives use real media catalog numbers.
- Starting the program (or changing the unit) interrupts audio playback for a short period of time, then continues.
- CHANGEINT's might be a problem with certain hostadaptors and the -431 drive! There is a bug in the firmware which may turn out to be a problem causing a NOT READY status each time the command 0xC6 (10) is issued (and JukeBox does this quite often), forcing the device driver to detect a media change. Typically, you will notice a "flashing" title listview, caused by repeatedly diskchange events. Just set

CHANGEINT

to zero.

1.99 ANSI SCSI-2 command set

If your drive is not in the list of the vendors supported, don't worry. There's a good chance that a particular drive is able to understand the ANSI command set for CDROM drives.

To add the ANSI-player as default player module, just add the following text to the command line or the tooltypes list:

PLAYER=ansi.player

Make sure that the executable 'ansi.player' is located in

the current directory, or specify an absolute path name.

1.100 NEC

Tested: CDR-25 1.0
CDR-36
CDR-55
CDR-72/82
CDR-73/83
CDR-74/84 (*)
CDR-210
MultiSpin 3X(e/i/p) 500 1.0 (*)
MultiSpin 2X (CDR-211) 1.0 (*)

Exceptions: None known

Special notes:

- Most of NEC's firmware doesn't support to read a media catalog number from the disc. Thus, "faked" MCN's, composed out of the track's starting addresses are used.
- Channel control: choosing the left OR right channel will connect the particular audio channel to BOTH outputs, so you will hear it on both speakers (mono sound).
- Starting with somehow SCSI2-compliant firmware (*), there are extended channel/volume selection capabilities. Channel selection doesn't work as expected, though. See above, and have fun figuring it out! I leave the player unchanged for the day they'll fix it. If ever.
- Starting with NEC player module 2.1, pressing the eject button also loads the medium, if the disc tray is open (useful for the caddyless MultiSpin 2x series drives).

1.101 TOSHIBA

Tested: XM-3301 (firmware 5.1)
XM-3401TA 0283 (firmware date 01/28/93)
XM-4101TA 2483 (firmware date 09/05/93)

Exceptions: XM-3201 (use old toshiba driver)
XM-3332 (use old toshiba driver)

Special notes:

- Toshiba drives use real media catalog numbers.
 - Some people might want to use the
-

ANSI-player module

instead, as all those drives are good examples for ANSI-compliant SCSI implementations.

1.102 Old TOSHIBA

Tested: XM-3332 (01/26/90)

Special notes:

- Those are very old drives. They can often be found OEM't by other computer manufacturers, which sell them under their own label. They don't understand the SCSI-2 command set, you can't use neither the default (built-in) toshiba player, nor the loadable ANSI player module in conjunction with them.

- The required player module is not built-in. It has to be added on top of any other player able to deal with Toshiba drives, or JukeBox will use its build-in Toshiba (SCSI-2) player. This will not work, since these drives don't understand SCSI-2 commands. Thus, add the following string to your command line or icon tooltip:

PLAYER=oldtoshi.player

Make sure that the player module named 'oldtoshi.player' is in the current directory, or specify an absolute path name.

- You shouldn't use this player module with newer (SCSI-2) drives.
- These Toshiba drives use NO real media catalog numbers.
- Channel control: chosing the left OR right channel will connect the particular audio channel to BOTH outputs, so you will hear it on both speakers (mono sound).

1.103 SONY / NeXT

Tested: CDU-541 (a.k.a. Apple CD-150, firmware 2.6a)
CDU-561 (a.k.a. Apple CD-300, ROM sony 8003A 1.8f)
CDU-561 (a.k.a. Apple CD-300, ROM sony 8003A 1.9a)
PowerCD (PHILIPS CDF080 1.5) (use ansi.player)
Sony CDU-55E (use atapi.player)

Exceptions: None known

Special notes:

- Sony drives use real media catalog numbers.
-

- Starting the program (or changing the unit) causes audio playback to stop.
- GVP Series-II hostadaptor users might want to issue the command "gvpsictrl <unit> DCOFF" before the first access to the drive, thus avoiding protocol failures with the drive's firmware. Newer firmware might fix this bug.

1.104 SANYO

Tested: CDR-400I (firmware 1.41)
CDR-H94S

Exceptions: None known

Special notes:

- Sanyo drives use real media catalog numbers, where available.
- Starting the program (or changing the unit) causes audio playback to be interrupted for a short period of time.
- Ejecting media REQUIRES a medium to be present in the load tray. If you close an empty tray, you might notice that the eject button in JukeBox remains non-functional. You have to open then the tray manually by pressing the button on the front panel.
- Channel control works somewhat ambiguous. Don't try any other combination than left to left, right to right, one to both or none at all. It might lead to unpredictable results.
- Volume control is non-functional on this drive, thus it is disabled. Sorry.

1.105 PIONEER

Tested: DRU-104x 0022 1994/05/20
DRM-1804x 0101 1994/04/01

Exceptions: Older Pioneer drives with non-SCSI-2 compliant firmware

Special notes:

- Pioneer drives use real media catalog numbers.

1.106 HITACHI

Tested: CDR-6750 0003 93/11/ 81.84

Exceptions: None known

Special notes:

- Hitachi drives use real media catalog numbers.
- Channel selection: Only the following combination are allowed, other might lead to unpredictable results.

raw code	left out	right out
0x00	-	-
0x01	L	-
0x02	-	R
0x03	L	R
0x04	-	L
0x05	L	L
0x08	R	-
0x0A	R	R
0x0C	R	L

- Volume control: only master volume, no independent control allowable.

1.107 Apple CD-150

Tested: Apple CD-150, firmware 1.8g (a.k.a. Sony CDU-8002)

Exceptions: None known

Special notes:

- This is the SCSI-1 version of the Sony CDU-541. It doesn't conform to SCSI-2. As all older Apple/Sony drives, it doesn't support reselection well. Depending on your hostadaptor and other drives, it might not be integrated very well in existing systems (read: may cause nasty problems!). Advice: Test extensively before buy!
 - This drive uses NO real media catalog numbers (at least, I couldn't figure out how to read it :-)
 - Starting the program (or changing the unit) causes audio playback to be interrupted for a short period of time.
 - You can't eject a caddy, neither by pressing the eject button on the drive, nor by JukeBox gadget or ARexx command, if ejection is software-locked. First unlock it by the "Lock" gadget.
 - GVP Series-II hostadaptor users MUST issue the command "gvpscsictl <unit> DCOFF" before the first access to
-

the drive, thus avoiding protocol failures with the drive's firmware. A3000/A2091 users need to replace their WD33C93-04 PROTO chip by the newer -08 version.

1.108 MATSUSHITA

Tested: CR-501B 1.0b
Conrad 977969 CDROM-Kit (firmware 1.0c)
TARGA TCD-320

Exceptions: None known

Special notes:

- Matsushita drives use real media catalog numbers.
- Starting or leaving the program (or changing the unit) causes audio playback to stop.
- GVP Series-II hostadaptor users might want to issue the command "gvpscsictl <unit> DCOFF" before the first access to the drive, thus avoiding protocol failures with the drive's firmware 1.0b. firmware version 1.0c doesn't show this bug.

1.109 TEXEL

Tested: DM-3024 K 1.0
DM-5024 K 1.0
DM-5028 K 3.5 6/Aug./1993 09:50

Exceptions: None known

Special notes:

- Make sure to get a recent firmware release! Older ROM's are known to cause problems. Advice: Test extensively before buy!
- Texel drives use real media catalog numbers. Unfortunately, they sometimes miss to read the last digit, which other drives will recognize. This might result in two different MCN's for the same disc, depending on the player device actually used.

Example:

7-3145123632-7 (barcode on the disc)

will result in

000703010405010203060302000000 (Texel)

^^

000703010405010203060302070000 (any other drive)

^^

In order not to miss the matching catalog entry, any digit not recognized (i.e. '00') will be set to '0*', thus matching any digit read by a different player device from the same disc. The result will be:

0*07030104050102030603020*0*0*

- Channel control: choosing the left OR right channel will connect the particular audio channel to BOTH outputs, so you will hear it on both speakers (mono sound).
- New for JukeBox V2 player: Channel control works ambiguous, and volume control doesn't seem to work consistent. I'm not sure whether this is a subject to change, since looking at the current docs, it should work as usual. I leave the player unchanged for the day it will be fixed. Have fun figuring out how it works :-)!

1.110 Commodore CDTV

Tested: CDTV, AmigaOS 1.3, cdtv.device 35.7 (6.3.91)

Exceptions: None known

Special notes:

- Channel (speaker symbols) control has a different meaning

```

none:      audio output muted
only left: quarter volume
only right: half volume
both:      full volume

```

**** NEW for V2 player module ****

(when used with AmigaOS 2.x and above)

master volume control available.

- Leaving the program (or changing the unit, which is actually useless, since there's only ONE CDTV-Unit) causes audio playback to stop.
- Leaving shuffle mode causes the pickup to be repositioned at the beginning of the current track.
- The front panel is under JukeBox's control while the program is up. The keys act as usual.
- CHANGEINT=1 should always be used.

1.111 Compatibility

This program was developed on an A3000 using SAS/C 6.3. Much efforts had been taken to ensure compatibility to any version of AmigaOS. It was tested for 1.2 (33.180), 1.3 (34.5), A2024 Jumpstart disk, 2.04 (37.175 ROM, workbench 2.1 and locale.library) and AmigaOS 3.0 (V39). It should run on any amiga equipped with at least 1.2 ROM, 512K of chip memory (when using 1.3 and below, 2.0 requires 1M of chip memory), a scsi host adapter able to deal with HD_SCSICMD and a CD-ROM player device, of course. ARexx version 1.15 is required to make use of the macro capabilities provided by the built-in ARexx command interpreter. It was tested on A1000, A2000, A3000 and A4000.

New for JukeBox V2.xxx: This program requires at least 1MB of memory. Suggested are 2MB or more, especially when using big catalog files. JukeBox was compiled using SAS/C 6.51.

1.112 Credits

Thanks to all people who helped me developing this program!

* Beta Testing:

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Richard L. Dyson, Oliver Kastl, Martin Schulze,
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* Test drives:

Amiga Plus Magazin, Pius Nippgen, Burkhard
Lilienbecker, Wallasch & Witte GmbH, Toshiba
Europe GmbH, NEC Deutschland GmbH, Starline
Computer GmbH, Conrad Electronic GmbH,
Andreas Wittkemper, Commodore Büromaschinen
GmbH, Ralf Deifel, bsc Büroautomation AG,
Dirk M. Oppelt.

* Documentation:

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Wallasch & Witte GmbH, Commodore Büromaschinen
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Ove Kaufeldt (swedish)

* Additional programming:

Heiko Rath (Apple CD-300 player module)
Michael W. 'Mick' Hohmann - the final icon
Christian Schulte (Archos player module)

1.113 Troubleshooting (FAQ)

There had been some questions from program users why JukeBox might refuse to work in the past. They are listed here in order to help other people with similar problems. In general, I'm always trying to be as much of help as I'm able to, regarding any problems with JukeBox. But, before writing letters or dropping emails and FAX's, please make sure to have carefully read and made sure that the following well-known issues don't apply to you.

[A word about giving me a phone call if in trouble with JukeBox... Yes, I know that people have phones for no other reason than to call and to get called, that there are phonebooks around everywhere, and that it's not hard to figure out my private phone number. Though I'm really NOT planning to run a JukeBox-hotline-service-seven-days-a-week-24-hours-a-day. And see, I disclosed my mail and email address, even my FAX number, but NOT MY PHONE NUMBER! Yes, I didn't just omit it, I did that intentionally! I beg, if somehow possible, to leave that little piece of privacy to me, and especially to people living with me and who will pick up the phone if I'm not there, but who can't tell you a single word about JukeBox. I hope most people will understand and obey (!) that. No offense meant.]

*** getting started / how to set up minimal required tooltypes ***

Q: I just bought JukeBox from my local software distributor. Sad enough, it doesn't work at all. I double-click on the icon, and all it gives me are error codes #7, #1 and #6, then exits. I own an Amiga 500 (KS 1.3, 1M Chip RAM), an A570 add-on CD(TV) drive. How can I get this to work?

A: Read the docs! You need to setup at least two tooltypes, named DEVICE and UNIT. In your special case (CDTV and A570 users), the tooltypes need to be filled by DEVICE=cdtv.device and UNIT=0. Of course, if you are trying to load that piece of software from a CDROM (read-only) medium, you can hardly save those changes to the icon. Either copy the program from the CDROM to a writeable disc, or start JukeBox from a command line specifying the appropriate values, e.g. "JUKEBOX DEVICE=cdtv.device UNIT=0". [BTW, to clarify some things: You really can't *BUY* the freely distributable demo release. Maybe some people charged you a copying fee (and that's OK, read above), but you won't *own* a copy of JukeBox as long as you won't get registered for the licensed or shareware release.]

Q: JukeBox claims that it can't open the SCSI-Device. I'm absolutely sure that I've filled the tooltypes DEVICE and UNIT correctly.

A: Check the spelling of the contents of DEVICE! Exec device names are case sensitive, so there *is* a difference between SCSI.DEVICE and scsi.device! While the latter may be correct, the first might cause JukeBox not being able to speak to your cdrom drive. Also check if there are some unwanted blank characters before or after the name. If you managed to create a working mountlist entry for a CDROM filesystem, you already found the correct spelling of the device name. Copy this one verbatim!

Q: I can't even start JukeBox. It takes a looong time before anything happens. Then, there are lots of error requesters, most of them say "Error 100: Out of memory". My setup is an A2000-HD with KS 2.04, 1M chip RAM, one disk drive, A2091 and a Prodrive Q40, Toshiba XM-3401 CDROM player.

A: Come on, let's get serious! You need a little extra RAM to use your system successfully, anyway. Just go out and buy some RAM chips! Recommended memory available when using JukeBox is at least one megabyte chip RAM, one megabyte fast RAM. There is a huge catalog file (app. 250K+), which will be loaded upon program startup. This will take some time, especially on unaccelerated systems. Take it easy, or if you don't like that, strip the catalog size down to an amount your system can stand.

*** general questions regarding SCSI setup ***

Q: I just hooked a single speed CDROM to my A3000 Externaly, when I boot it sits with a white screen and the HD light blinks, thats it. I have a 52 meg HD (6) and a 105 meg (5). Anyone have any idea how I can get this thing to boot with the CDROM DRIVE ON?

A: If everything else in your setup is correct, it will boot from one of your harddisks, as it always did before connecting the CDROM drive! Sooner or later, but for sure. But depending on your setup, it may take a LOOOONG time looking for media, LUN's and bootable partitions on your CDROM, which will never be found, of course. A few things you might want to try are:

(1) Insert a CDROM (data, not audio) while booting, thus scsi.device can see that there are no bootable partitions on it immediately.

(2) Change your CDROM to a higher SCSI ID than the device containing your boot partition, and set the "Last Disk" flag on that unit (consult your harddrive preparation software manual to learn how to do that).

(3) Set the "No LUN's" battmem bit accordingly. There are various utilities in the freeware pool which enables you to do that job.

If it won't boot **AT ALL**, even not after five minutes or so, there seems to be rather a severe problem regarding cabeling/termination/ID selection, which might cause your SCSI system to look up and not to work at all.

*** window couldn't be opened ***

Q: JukeBox states that it can't open the window, then exits.

A: Check your screen size! You need as least 200 points height, as long as you are using no bigger font than topaz eight or nine. When you use taller fonts, you need to add some more pixels to your screen height. Either expand the overscan area, use an interlaced or VGA-style view, or chose a smaller font. Using AmigaOS 2.0 and above, setting AUTOADJUST=1 will force the windows to open on screens of any size, but you may lose parts of the user interface.

*** general program operation ***

Q: I just managed to start JukeBox the first time. Nice, the digit counters fall, the jog shuttle moves, I can do mostly everything, but I do not hear the sound, regardless how I adjust the volume sliders. Where is the sound?

A: To have the ability to hear the sound from your CDROM drive, you first need to connect (!) it to your favourite audio equipment! SCSI connections are not suited to transmit an audio signal to your amiga or wherever, this is only a pure data connection. In the simpliest case, you might want to use a headphone set, which plugs into the CDROM drive's front jack. Bring the volume control to a middle position, and you undoubtly should be able to hear the sound from CD when JukeBox operates. Next step might be that you are going to connect your CDROM drive directly to an audio amplifier or receiver. You can use the audio jacks most external drives provide and a standard cable to make the connection. If you own an internal drive, it's somewhat more complicated. There is a three-pin-connector at the backside of the drive, in most cases the assignment is Left-Gnd-Right. It might be hard to find a fitting cable for this, ask your dealer.

Q: After a system reboot, JukeBox won't play specific tracks by choosing their number buttons. I have to press play/pause twice to get audio playback to start. What's wrong?

A: Well, some drives need to be brought to a known state first. After system startup, all is uninitialized (even your CDROM drive). Pressing the STOP button once should cure all problems related to this. JukeBox won't do this on program startup, since this will disturb audio playback all time you start it. Most people like to launch and quit JukeBox without having bad interaction with current audio playback being in progress. Since there is no system defined arbitration protocol regarding audio playback, JukeBox (and hopefully any other well behaving program) must obey the simple "do not disturb me unless necessary" rule.

Q: When enabling the "Repeat" gadget, the current track won't get restarted.

A: The behaviour of "Repeat" isn't common among all audio players. For JukeBox, it means to restart a completed disc at the first playable track, or if A^B-cuts are in progress, to play this marked passage continuously. If you want a specific track to be played over and over again, please use A^B-cuts. Move to the beginning, press A^B, move to the end, press A^B.

Then enable "Repeat" and start audio playback.

*** discs from catalog not recognized ***

Q: I inserted my AC/DC Back in Black CD and it didn't recognize it as one from the catalog... any ideas there?

A: Yes, this might well happen, but not due to a possible bug in JukeBox. Different countries mean different CD manufacturers, which will result in different "fingerprints" (e.g. slightly different track starting time and duration, possible different barcode numbers) extracted from the disc. Sorry, can't do anything about that from my viewpoint, either. Even different copies from the same title and manufacturer are possible. Get the registered shareware release to become able to catalogize **your** own discs. Catalogization is a feature of the shareware release. Any disc catalogized by yourself will be furthermore recognized for sure. Read the chapter about MCN's! If the disc is already in the catalog, but won't get recognized, you can create an alias to the MCN which your proper disc delivers. If you like to use faked-MCN's all time, even if your drive can deliver real UPC codes, set the tooltype FAKEDMCN (JukeBox V2 and up) to one.

*** unwanted interaction by nasty filesystem ***

Q: JukeBox starts to play for some seconds, then unexpectedly stops and switches to pause or completion ("disc completed") state.

A: You probably run a filesystem simultaneously, which doesn't handle your cdrom drive correctly. For example, the freely distributable AmiNet-CDROM-Filesystem (1.0) checks for disc changes every three seconds or so, using a CMD_READ (!). This will cause any audio playback to stop immediately, no way to do anything about that from JukeBox. Some of these bugs seem to be fixed in the meanwhile, the last tested AmiCDROMFS 1.4 didn't show it. Users of older releases should upgrade. If in doubt, remove your filesystem (you need to remove the mount-command from your startup-sequence, or the icon from devs/dosdrivers, and to perform a reboot to really get rid of the filesystem), then check again.

*** file requester doesn't work ***

Q: The filerequester doesn't work. No files will show up, regardless which settings, directories or pattern are chosen. I use MFR 2.0e.

A: MFR doesn't work with JukeBox for some unknown reason. Any other ASL-replacement seems to work fine, though. Since there's nothing to be done about from the JukeBox' programmers viewpoint, don't use MFR until those bugs in MFR are fixed! As of this writing, the following tags need to be supported by any ASL-replacement candidate which claims to work with JukeBox:

```
ASLFR_Window
ASLFR_InitialFile
ASLFR_InitialDrawer
ASLFR_TitleText
ASLFR_Flags1 = FILE_PATGAD | FRF_INTUIFUNC | [FRF_DOSAVEMODE]
```

ASLFR_HookFunc
ASLFR_InitialPattern

*** degraded overall system performance ***

Q: JukeBox eats lots of system performance.

A: No, it doesn't! Maybe your hostadaptor eats it all? Using reasonable equipment, you can't even measure the amount of cpu-time JukeBox uses for its own purposes. There are bad BAD *BAD* designed hostadaptors around which will waste totally irrational amounts of system performance. All you can do about this is to degrade the UPDATE and/or NASTY tooltypes, causing JukeBox to do its playing time inquiries less often, and considering to buy a better hostadaptor one day.

*** ambiguous error messages ***

Q: My setup is a GVP Series II controller, NEC CDR-55JD drive, and AsimCDFS. I am running KS2.04, Amiga 2000, with 68030 installed. My GVP ROMS are pretty old, 3.0x (Can't remember the exact version). It seems to recognise the drive, but keeps returning "SCSI error: HFERR_DMA".

A: Any "HFERR..."-like error message means that the driver software has problems dealing with the hardware. JukeBox operates one level higher and can't do anything about that. Check termination and cabling! You need a ROM update for the GVP Series-II hostadaptor. At least v3.15 ROM is required to use CDRom drives successfully, outdated v3.07 and older ROM are no good for this purpose.

*** media changes not recognized ***

Q: JukeBox doesn't recognize media changes. I'm using a Sony CD-300 drive and the Fastlane Z3 SCSI hostadaptor on my A4000/040. I know for sure that there is no disc in the drive, but the title listview stills holds the contents of the last inserted disc.

A: Turn to CHANGEINT=1. Since current fastlane's firmware doesn't seem to support SCsIF_AUTONSENSE, important information about error conditions regarding the commands being sent aren't delivered to JukeBox (no sense data received, no error condition recognized). On the other hand, the device driver based media change recognition (TD_ADDCHANGEINT) seems to work reliable. So just use it, as you should do wherever possible. In older driver software (Dec '93 and ealier), there was a bug when doing TD_REMCHANGEINT, thus the Fastlane's driver software might guru when closing down the unit (quitting JukeBox or changing the unit). Contact the manufacturer to get a ROM update.

Another workaround, which should apply to any hostadaptor not supporting SCsIF_AUTONSENSE: Use the ansi.player module! It doesn't rely on sense data, just checks for Ready/Not Ready conditions and transitions. You need a CDRom drive supporting the ANSI command set quite well, so this solution might not be satisfying with some drives. Read below.

Q: JukeBox doesn't recognize media changes. I'm using a brand <censored> hostadaptor. Regardless whether I turn to CHANGEINT=0 or CHANGEINT=1, all it gives me are funny results, sometimes crashes or hangs. But finally, I decided to leave CHANGEINT=0 while I encountered less system crashes doing so. What's wrong with JukeBox?

A: There's nothing wrong with JukeBox. But some hostadaptors are known to have serious problems when dealing with changeable media. This is due to the fact that most of them were designed with only non-changeable (harddisk) media in mind, or they are reacting only on a few specific error messages from a small number of known and tested devices. This is bad, and there is nothing to be done about from JukeBox's point of view. JukeBox expects at least an error code when trying to access non-existent media. If the hostadaptor's firmware can't even deliver that, it's *BROKEN*. My advice is to get a working and reliable hostadaptor, and don't buy this sh*t again! Perhaps a ROM update might help, if available. Ask the dealer you bought it from. If you are not able to recognize media changes, but nevertheless you managed to get JukeBox to work somewhat reliable, there's a workaround which might help in some situations. Just close and re-open the device to force JukeBox to reorganize its internal states. E.g., if your CDRom device is connected to unit 2, press <right-amiga>+<2> any time you change the media.

Once again: JukeBox can't cure defective hostadaptors, nor can I repair them, neither can sending me the shareware fee do anything about that! If the freely distributable evaluation release of JukeBox doesn't work with particular hostadaptor's hardware, the shareware release won't either. I'm trying to be of help as much as I'm able to, but please don't sue me the way "Gimme back the shareware fee, it's useless as it doesn't recognize media changes".

*** (New for JukeBox V2) Enough is enough! ***

If all that doesn't cure your problems, that's for you: There was a new menu item added to the SCSI menu (only accessible using AmigaOS 2.0 and up): Force media change. Yeah, right! That's the way all those hostadaptor's firmware programmers obviously want you to do it: manually! Make this silly piece of software named JukeBox *finally* believe that there was a media change, isn't that a *great* ultimate solution? Regarding the complaints I earned for my stupid believing that any hostadaptor should be able to recognize media change, and let other programs know that the way commodore outlined since the first kickstart release, this is probably the most useful feature ever added to JukeBox. Whenever you change a disc, select this item to force JukeBox to rethink its internal states.

*** problems with certain hostadaptors ***

Q: I'm using MacroSystems Evolution Card, version 3.1 and a toshiba XM-4101 drive. Data mode works, but I was not very lucky trying to use JukeBox. What's the problem?

A: Several problems. First, there's a problem with TD_ADDCHANGEINT / TD_REMCHANGEINT. It is wise to disable this feature completely, otherwise you might get a visit from the guru quickly. Turn to CHANGEINT=0, and JukeBox won't ask for changeints anymore. Next problem is with SCSIF_AUTONSENSE. The hostadaptor's driver software isn't able to deliver

sense data correctly, thus you'd better use the ansi.player module, which doesn't rely on SCSIIF_AUTOSENSE to be working. Turn to PLAYER=ansi.player (you need a SCSI-2 compliant drive to be able to use this player module, the XM-4101 has a quite good SCSI-2 command implementation). Another problem is that the Evolution needs rather huge amounts of system performance to operate. Set the UPDATE tooltype to a higher value, e.g. 500000, which means playing time inquires each 1/2 second. Another caveat is the hostadaptor not recognizing media changes. You can force the player module to rethink its internal states by just choosing the menu item "Media change" or simply pressing <right-Amiga>+<C>.

Q: I tried in vain to update my controller card's firmware to a level which permits me to use CDROM. It's a mess, can't get it to work as it should. Enough trouble, I'm planning to get another one. Which hostadaptor should I buy?

A: It's hard to make a recommendation for various reasons. There are tons of useless, unreliable, broken and bad designed "so-called" SCSI-hostadaptors on the market. So be VERY, VERY careful before buying one of them! I've been told about so many problems in the past. Reporting bugs to various companies mostly results in that certain people became upset, rather than fixing it or even admitting that there was a bug. So I became a little bit tired tracking down and reporting bugs. As I suppose, they'll never get fixed as long as only a few (CDROM-) users have problems with them. Most people seems to be satisfied if their hostadaptor accepts their favourite harddrive, nothing else. Sad, but that's their main business. My advice is to get a working, reliable combination of software and hardware, manufactured by a well known company. Chose one which is in the amiga market for years. Chose one which provides continued support, ROM updates, service hotline. Chose one which has already proved being able to design and market first-quality amiga products. Thats all. Don't blame me if JukeBox refuses to work with certain el-cheapo-hostadaptors, which:

- can't return error codes if there is no medium in drive
- can't do SCSIIF_AUTOSENSE for obscured "various reasons"
- can't do TD_ADDCHANGEINT / TD_REMCHANGEINT
- can't understand HD_SCSICMD command format
- [to be continued]

*** problems regarding system software (WB/Kickstart) ***

Q: I can't manage to get JukeBox to work flawless. It gives me some recoverable alerts upon startup, a garbled display during program execution, menus without text, sometimes crashes or hangs. I'm using a rather old A3000 1C/1F with bootroms, last time I checked my workbench version it was v36.anything, don't remember exactly. Surprising, when booting into Kickstart 1.3, it works a bit better (well, not really, since I'm missing some 2.0-features I'd really like to use).

A: Finally, this might be a good reason to get your A3000 updated to a more recent official system software release NOW! Unfortunately, some early machines shipped with preliminary (beta) kickstarts, which really shouldn't be used anymore. Especially those outdated V36 kickstart images and workbench disks are obsolete and sometimes dangerous to use. Here are some examples for major system software releases which are known to work with

JukeBox:

Workbench 1.2 (33.61), Kickstart 1.2 (33.180)
Workbench 1.3 (34.20), Kickstart 1.3 (34.5)
Workbench 2.04 (37.67), AmigaOS 2.04 (37.175)
Workbench 2.1 (38.35), AmigaOS 2.04 (37.175)
Workbench 3.0 (39.29), AmigaOS 3.0 (39.106)
Workbench 3.1 (40.x), AmigaOS 3.1 (40.x)

Some of them are available as upgrade kits for older machines. Ask your dealer. Don't use anything labeled less than V33, V35 or V36, those interim releases are known to have bugs! Since there is at least V37 available for any current Amiga by now, please get your upgrade kit. Don't waste your time trying to use obsolete or even beta system software. It's not worth it.

Q: After startup, JukeBox immediately guru's without reasonable comments about a problem which might have been occurred.

A: JukeBox needs exactly one transcendental mathematics function to calculate the position of the jog shuttle. It uses mathtrans.library, thus you can't run it without being able to load this library from disk. Check out your LIBS:mathtrans.library! There are some bad programming exercises around, which don't implement the SPSinCos() call correctly under any possible coprocessor configuration. STAY AWAY FROM THOSE HACKER'S KLUDGES, EVEN IF THEY PROMISE YOU *INCREDIBLE* SPEED INCREASES, SOME OF THEM ARE SEVERELY *BROKEN*! Use mathtrans.library shipping with original commodore system software kits, these are tested and are known to work. I'm not planning to care about hacker's versions flying around, if they don't work, throw them away! Enough... The following original commodore distributions of mathtrans.library, and probably any subsequent update in the near future, are known to work under any possible configuration:

- Workbench 1.2, 1.3: mathtrans.library 33.8 (11 Sep 1986)
- Workbench 2.04, 2.1, 3.0: mathtrans.library 37.1 (22.1.91)

*** how to send in the shareware fee ***

Q: I would like to send you the shareware fee by an international draft, it will cost \$8 at the bank on top of this to get a foreign currency cheque made. Then I will send this cheque in a registered letter to you, which will cost another \$8. Do you like that?

A: No, please don't! Last time I asked my bank, caching a DM-50 "international draft" would have charged me DM 35,-- processing fee! No joke! That doesn't buy you anything, nor does it for me. I usually will send those expensive pieces of paper back to the people who sent them to me, and beg them to enclose a 50-DM-bill in an envelope to send it as a registered letter. In germany, registered letters are insured up to DM 60,--, so I think the rules for other countries must nearly be the same. The risk of such a letter getting lost or robbed seems to be covered well. Remember: This is no advice that you should send the shareware fee always and only this way. There might be better solutions from your point of view, so it's up to you to chose the best. Especially for people living in europe, some sort of "postal money order to a giro account" may offer

rather safe and low charged ways to transfer the fee. My account number listed above is a post office giro account. Consult your post office!