

# **QUICKSAMPLER**

Mario Kubek

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**COLLABORATORS**

	<i>TITLE :</i> QUICKSAMPLER		
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# Chapter 1

## QUICKSAMPLER

### 1.1 Table of contents QUICKSAMPLER

QUICKSAMPLER ©

A program for reading digital audio data (CDDA) out  
of CD-ROM drives.

QUICKSAMPLER V1.5 ©~1996/1997 by Mario Kubek

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Version 1.5 July 30 1997

Date of the last change: July 31 1997.

Author: Mario Kubek

This program is Freeware!

#### 1. The program

##### 1.1

~Introduction

- What is QUICKSAMPLER?

##### 1.2

Requirements

- Was is required to run the program?

##### 1.3

Features

- What special abilities does it have?

##### 1.4

Installation

- Where to put it to?

##### 1.5

Functions

- Descriptions of the GUI and the TOOLTYPES

##### 1.6

Compatibility

- Which drives have been tested?

##### 1.7

Errormessages

- Hope you will not see any of them!

##### 1.8

Bugs

- Yes, yes the bugs!

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## 2. History und future

### 2.1

History of QUICKSAMPLER  
- What is new in this version?

### 2.2

TO DO  
- What can be expected in the future?

## 3. Important additional information

### 3.1

Author, Updates, Sourcecode, Registration  
- Get in contact!

### 3.2

COPYRIGHT NOTE and DISCLAIMER  
- Please, read it!

## 4. THANKS

THANKS  
- Thanks go to ...

## 1.2 Introduction

### 1.1 Introduction

QUICKSAMPLER is a program for reading digital audio data (CDDA) out of CD-ROM drives, which are capable of sending digital audio data (16 Bit) over the SCSI bus.

This data can be saved in a file to a disk.

This version works with TOSHIBA drives.

## 1.3 Requirements

### 1.2 Requirements

You need to run the program on an AMIGA (that's clear) with at least a 68020 processor and a SCSI-Controller with CD-ROM drive, which is able of sending digital audio data (16bit) over the SCSI bus.

Most drives do not support this feature. Take a look at the compatibility list

Compatibility  
to get to know, if your

drive has this ability.

I recommend the use of TOSHIBA drives. I own the TOSHIBA XM-5301B and it works great.

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Kickstart 3.0 is required, but it should also work with Kickstart 2.xx (not tested).

## 1.4 Features

### 1.3 Features

QUICKSAMPLER V1.0 can/does...

- ...save CDDA data (whole songs or part of songs) to a file in a very FAST way.
  - ...save the audio data in the fileformats: CDR, RAW, 8SVX
  - ...convert the CDDA data to following samplerates: 44100 (44.1 kHz), 22050 (22.05 kHz), 14700 (14.70 kHz), 11025 (11.025 kHz)
  - ...change the byte order (MSB [Motorola format] at first or LSB [Intel fromat] at first) when saving 16bit data.
  - ...change the audio channels in the file: STEREO, CHANGE STEREO CHANNELSIDE (what you normally hear on the left speaker of the CD is the right channel in the file and what you hear on the right speaker is the left channel in the file), LEFT ON BOTH CHANNELS (what you can hear on the left channel on a CD is what you get on both channels in the file, the right one has no influence), RIGHT ON BOTH CHANNELS (what you hear on the right channel on a CD is what you get on both channels in the file, the left one has no influence), MONO (the left and the right channel are summed up and devided by 2), MONO\_LEFT (you will get only the left channel in the output file), MONO\_RIGHT (you will get only the right channel in the output file).
  - ...offer you a good looking process bar.
  - ...tell you using the GUI how many bytes will have the output file.
  - ...check before writing to disk, if there is still enough place.  
Imagine you want to create a file, which is bigger than the available free space on the disk. Then QUICKSAMPLER creates the audio file, sets it's size, which is calculated with the help of intern routines. During this process it can happen that the end of the disk is reached. In this case QUICKSAMPLER closes and deletes the file, because it does not make sense to write to a file, which wouldn't contain all the data you wanted to have in it. Some other programs do not check the free disk space. They simply write the audio data to the file after they have created it. So it could happen that during the writing process (lets say 1 or 2 minutes later) the end of the disk is reached. What now? The user loses time and audio data, which should be in the file.
  - ...not waste ram-memory. The allocated memory is determined using the WB-tooltype "BUFBLOCKS" or with the CLI-Argument "BUBLOCKS". BUFBLOCKS can be a number between 0 and 65. The smaller the number is, the smaller is the allocated memory and QUICKSAMPLER must read from the CD more often. The bigger the number is, the bigger is the allocated memory and QUICKSAMPLER must read from the CD less often. Default number is 32. There are 3 buffers that have to be allocated. The sizes of them are calculated with the formula  $(BUFBLOCKS * 2352 / a\_number\_between\_1\_and\_17)$  or  $(BUFBLOCKS * 2352 * 2)$  when data in RAW 16bit STEREO 44.1 kHz are changed (CHANNEL processing) and saved. Actually during the reading and writing process only 2 buffers are used. Which buffer is used
-

depends on the fileformat of the output-file.

...offer you a fast reading and writing routine (also for STEREO 8SVX).  
It is not so compulsory to write such a routine as you might think of.

ATTENTION: The best quality 44.1 kHz is waste of disk space, because you normally hear tones (only) until approximately 20 kHz. I suggest the samplingrate 22050.  
A file with 22.05 kHz is half so big as a file with 44.1 kHz.

## 1.5 Installation

### 1.4 Installation

Simply drag the drawer of this program (it is the best if all additional files are in it e.g.: the documentations) where do you want to have it.

## 1.6 Functions

### 1.5 Functions

The program should be controlled by the following tooltypes:

DEVICE=<your\_scsi\_device> Default is squirrelscsi.device.

UNIT=<your\_unit\_number> Default is 2.

BUBLOCKS=<a\_number\_between\_0\_and\_65> Default is 32.

The allocated memory is determined using the WB-tooltype "BUFBLOCKS" or with the CLI-Argument "BUBLOCKS". BUFBLOCKS can be a number between 0 and 65. The smaller the number is, the smaller is the allocated memory and QUICKSAMPLER must read from the CD more often. The bigger the number is, the bigger is the allocated memory and QUICKSAMPLER must read from the CD less often. Default number is 32. There are 3 buffers that have to be allocated. The sizes of them are calculated with the formula  $(BUBLOCKS * 2352 / a\_number\_between\_1\_and\_17)$  or  $(BUBLOCKS * 2352 * 2)$  when data in RAW 16bit STEREO 44.1 kHz are changed (CHANNEL processing) and saved. Actually during the reading and writing process only 2 buffers are used. Which buffer is used depends on the fileformat of the output-file.

THE GUI:

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The all gadgets should be self-explaining.

GADGET	FUNCTION
Sliders: - "TRACK"	Chosing of the audio track on the CD, from which should be sampled.
- "FROM"	Gives the starting position for sampling in minutes and seconds.

- "TO" Gives the ending position for sampling in minutes and seconds.
- String: - "" There you can enter the name of the output file.  
ALWAYS PRESS THE RETURN KEY after you have entered the name of the file or you will not be able to sample. ("DO IT!" Gadget is still ghosted.)
- BUTTONS: - "FILE" A requester will appear in which you can enter the name of your output file with the path.
- "DO IT!" Press it and the sampling process should start.  
THIS BUTTON WILL ONLY BE ENLIGHTENED IF YOU HAVE GIVEN A VALID OUTPUT FILE.  
If your drive does not support the of digital audio data, you will receive an error message.
- "ABORT" Stops the sampling process.
- "ABOUT" Shows information of the program and the author.
- CYCLES: - "CHANNELS" Take a look at the  
~Features  
-list to get to know the ←  
function.
- "FORMAT" Changes the output format: RAW, CDR (data with no loss of quality), 8SVX (IFF-Format 8 bit)
- "BITS" Changes the bit-resolution (8/16bit) when saving in the RAW-format.
- "FREQ" Changes the frequency: 44.1 kHz, 22.05 kHz, 14.7 kHz, 11.025 kHz.
- "MSB/LSB" Changes the byte order when saving in RAW 16bit.

Take a look at

~Bugs  
and

~Compatibility  
and  
History of QUICKSAMPLER

## 1.7 Compatibility

### 1.6 Compatability

CD-ROM drive	works y/n
-----	
-TOSHIBA drives since 3401	y

Others may work, but I haven't tested them! Try it with yours!

## 1.8 Errormessages

### 1.7 Errormessages

There are many and various errormessages in the program. They are easily to understand and must not be explained here. In most cases when an error occures during the reading process, the sampling is stopped (for instance: if your drive does not support the function of reading digital audio data or when it is not compatible with the TOSHIBA drives or the command of reading digital audio is not compatible with your drive.

## 1.9 Bugs

### 1.8 Bugs

Currently none known.

## 1.10 History of QUICKSAMPLER

### 2.1 History of QUICKSAMPLER

Version 1.00 (first release)

Version 1.5 (second release)

It includes...

...a speed increased reading and writing routine.

...a check, in which a routine determines automatically if there is a CD in drive or even not (with the help of the timer.device). In the previous version this check was performed using IntuiMessages. But if your CD drive was not mounted, the program

---

could not receive an IDCMP\_DISKINSERTED or IDCMP\_DISKREMOVED message. And if you have inserted or removed a CD, QUICKSAMPLER could not recognize this diskchange and the display was not updated with the data of another CD or it was not cleared if no CD was inserted. Because of that you had to quit and restart the program to make the diskchange visible. This problem is now fixed. Now every 2 seconds the program checks if there is a CD in drive or not.

...the default-"device"-name "squirrelscsi.device", because in the last version the predefined name "1230scsi.device" caused an error, which was the reason for the little fragment "ice", which appeared, when you wanted to switch to 14700 Hz with the help of the Cycle-Gadget "FREQ". Somehow MaxonC++ has put the last part of the string "1230scsi.device", which is "ice", into textfield of the "FREQ"-Gadget, which should show "14700". This is not a programming-mistake, but surely a compiler-bug, because with the now intern used string "squirrelscsi.device" this error did not appear any longer. This problem is now fixed.

...several intern improvements.

Take a look at

~Bugs  
and

~Compatibility  
.

## 1.11 TO DO

2.2 TO DO

- support for more CD-ROM drives

If you have any wishes or ideas for the development of QUICKSAMPLER it would be nice if you could get in contact with me

~Author  
.

## 1.12 Author, Updates, Sourcecode, Registration

3.1 Author, Updates, Sourcecode, Registration

The program QUICKSAMPLER and this document are written by

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Mario Kubek

Mail to: Mario Kubek  
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D-07318 Saalfeld

Bugreports and ideas for improving this program are welcome.

Where do I get the Updates?

Updates of QUICKSAMPLER you will find in the Aminet (Aminet/disk/cdrom).

The program is written in C. You can get the sourcecode if you send me a disk with your name.

If you find this program good, then you can send me a small fee about 15DM or US\$10 in an envelope. But this is a "can" not a "must", because the program is freeware.

At the same time you will get the newest version of QUICKSAMPLER, when you have put a disk into an envelope, and you become a registered user.

## 1.13 COPYRIGHT NOTE and DISCLAIMER

### 3.2 COPYRIGHT NOTE and DISCLAIMER

The program-packet consists of:

documents: "QUICKSAMPLER\_E.guide", "QUICKSAMPLER\_E.doc"  
              "QUICKSAMPLER\_D.guide" and "QUICKSAMPLER\_D.dok"  
program: "QUICKSAMPLER"

QUICKSAMPLER is Copyright ©~1996/1997 by Mario Kubek  
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QUICKSAMPLER is Freeware. The author has the copyright for the program "QUICKSAMPLER" and for all the documentations to the executable. All rights reserved.

It may be distributed freely as long as no modifications are made to the executable and the documents. A small fee may be asked to cover distribution costs.

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QUICKSAMPLER may not be used for any commercial purposes or included with any commercial product without the written permission of the author.

The author can not guarantee, that the program will function on your computer.

The author takes NO responsibilities for damaged Amigas, CD-ROM drives or any other components or data involved while using QUICKSAMPLER or while using the documentations.

Your are using it at your own risk.

There is no guarantee for further updates. There is also no guarantee, that bugs are removed in them.

The program-packet is also free of rights of third persons.

NOTE: In almost all cases it is NOT legal to copy any CD.

That includes, that no digital audio data are read from a CD.

Though you own the CD you do not own the rights for the CD.

Please do NOT violate existing rights. You are responsible for it.

## 1.14 THANKS

### 4. THANKS

Thanks must go to:

- Thomas Wenzel for his great program Play16!
  - TOSHIBA for the best und fastest CD-ROM drives!!!
  - MAXON for the great C++ Compiler MaxonC++ 4.0 Dev. Professional.  
MaxonC++ is Copyright ©~1996 by MAXON Computer GmbH.
  - Phase 5 for the fastest turboboards and SCSI-Controllers for the AMIGA.
  - Malcolm Harnden for the five great five CDs
-