

# **MUIArc**

Szymon Pura

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**COLLABORATORS**

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**REVISION HISTORY**

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# Chapter 1

## MUIArc

### 1.1 MUIArc 1.1 Guide

MUI Arc

version 1.1

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CARDWARE

1. Copyrights, legal infos [Disclaimer](#)
2. About Cardware [Cardware!!](#)
3. About MUI package [MUI](#)
3. Basic MUIArc concepts [Introduction](#)
4. System requirements [Requirements](#)
5. How to install MUIArc [Installation](#)
6. Main window explanation [Main window](#)
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11. Using MUIArc [Using MUIArc](#)
12. Program history [History](#)
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14. To Do [To Do](#)

### 1.2 disclaimer

DISCLAIMER

=====

I HEREBY REJECT ANY LIABILITY OR RESPONSIBILITY FOR ANY CONSEQUENCES FROM THE USE OF MUIARC WHATSOEVER. THIS INCLUDES, BUT IS NOT LIMITED TO,

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DAMAGE TO YOUR EQUIPMENT, TO YOUR DATA, PERSONAL INJURIES, FINANCIAL LOSS OR ANY OTHER KINDS OF SIDE EFFECTS.

MUIARC IS PROVIDED AS-IS. THIS MEANS I DO NOT GUARANTEE ANY BUG FIXES, UPDATES OR HELP IN ERROR RECOVERY.

I EXPLICITLY REJECT ANY LIABILITY OR RESPONSIBILITY FROM THE CONSEQUENCES OF YOU USING MUIARC.

### 1.3 cardware

#### CARDWARE

=====

This package is released as cardware. This means you can copy it freely as long as you don't ask any money for it, except perhaps a nominal fee for copying.

This package should not be spread in any other form than an LhA (or equivalent) archive and all parts of it should be spread together. The package may not be altered in any way and cannot be used for commercial purposes.

If you find MUIArc useful, please send a postcard to:

Szymon Pura

Witosa 8/57, 42-224 Czestochowa

POLAND

Don't hesitate to send your own ideas or bug reports.

### 1.4 mui

#### About Magic User Interface

=====

MagicUserInterface (also known as MUI) is a complete system to create and maintain graphical user interfaces. The creating GUIs has been a big problem for a very long time. Mainly because the programmer got only a minuscule amount of support from the operating system. Beginning with Kickstart 2.0, the 'gadtools library' was a step in the right direction, however, even using this library to generate complex and flexible interfaces remained difficult and still required a great deal of patience.

Consequently, an MUI application gives the user many important advantages:

- Font sensitivity
- Changeable window sizes
- Flexibility
- Controlling by keyboard
- System integration
- Adjusting to its environment

(c) Copyright 1992-96 by Stefan Stuntz

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## 1.5 introduction

### INTRODUCTION

=====

MUIArc is designed to archive files and directories. Features:

- **MUI** -based user interface
- XPK-compression support
- PowerPacker-compression support
- LHLib-compression support
- asynchronous backup/restore operations
- output either to a file or to a device
- XPK: separate compression mode for every file
- Device output: adjustable track range, bytes per track, unit
- Password protection of archive data

The main archivization process is maintained by three tasks, working simultaneously. This way the archivization process much less depends on devices' speed.

Currently, there are two possible 'outputs' for archived data:

- DOS File - plain DOS file
- DEVICE-Level - data are written directly to the exec device driver

There are four types of compression:

- NONE - no compression
- LH - compression with lh.library
- PowerPacker - compression with powerpacker.library.

(efficiency and buffer size adjustable)

- XPK - compression with XPK crunching libraries

(compression mode and efficiency adjustable

separately for every file)

## 1.6 requirements

### System requirements

=====

Version 2.04 (or greater) of operating system is required.

MagicUserInterface package (version 3.3 or greater) is required.

ReqTools package (version 38 or greater) is required.

At least 1 MB of memory is required.

Hard disk is **STRONGLY** recommended.

Also, something faster than old 68000 is advisable.

---



## 1.7 installation

Installation

=====

Sorry, no installation script has been provided yet.

Manual installation is very simple: just copy the libraries to your LIBS: drawer and copy the main program with this guide to desired directory.

reqtools.library is Copyright (c) Nico François & Magnus Holmgren

powerpacker.library is Copyright (c) Nico François

lh.library is Copyright (c) P. Krekel & Olaf 'Olsen' Barthel

## 1.8 main window

Main window

=====

BACKUP: Here you can set the source directory for Backup and select the files and directories for the operation.

RESTORE: Here you can set the destination directory for Restore and select the files and directories to be restored.

Also the **pull-down menu** is available here.

Explanation of the controls:

1. **Directory Listview**

2. **Control buttons**

In the left upper edge of the window there is a "Directory" textfield.

It displays the name of the current directory which is displayed in the **Directory Listview** gadget.

Below all of the gadgets there is a status bar, which displays some information about current state of MUIArc.

## 1.9 directory listview

Directory Listview

=====

In this listview you select source/destination directories for backup and restore operations. It's also used for selecting files/directories for Backup and Restore.

## 1.10 control buttons

DRIVES

=====

Display list of drives, volumes and assigns present in system.

PARENT

=====

Go to parent directory.

BACKUP

=====

Read contents of selected directory and display them in the **Directory Listview**

You can tag/untag files by selecting them and using "Tag" or "Untag" buttons. Then press "Accept" to go to the **Backup options window** .

RESTORE

=====

The selected directory will become destination directory for unarchived data. After selecting this button the **Restore options window** will be opened.

TAG

=====

Tag all selected files, directories and their contents.

UNTAG

=====

Untag all selected files, directories and their contents.

TAG ALL

=====

Tag all displayed files, directories and their contents.

UNTAG ALL

=====

Untal all displayed files, directories and their contents.

ACCEPT

=====

In Backup mode: Go to **Backup options window** .

In Restore mode: Start restore operation.

CANCEL

=====

Cancel all selections.

---

## 1.11 backup options

Backup options window

=====

Here you can set all options of the backup operation.

1. **Compression**
2. **Password protection**
3. **Device**
4. **Options**

## 1.12 compression

Compression options

=====

1. None - the files will be stored uncompressed
2. **Lh Library**
3. **PowerPacker**
4. **XPK**

## 1.13 lh library

LH Library Compression

=====

Lh was written by Holger P. Krekel & Olaf 'Olsen' Barthel. Copyright 1990 by Holger P. Krekel & Olaf 'Olsen' Barthel. Shareware, all rights reserved. No guarantee of any kind is made that the program(s) described in this document are 100% reliable. You use this material on your own risk.

## 1.14 powerpacker

PowerPacker Library Compression

=====

This library is copyright (c) Nico François.

You can select compression efficiency and size of speedup buffers here.

## 1.15 xpk options

XPk Library Compression

=====

XPk Authors:

U. Dominik Mueller XPk concept, xpkmaster.library, NUKE, RLEN, NONE, ENCO

Bryan Ford XPk concept, xpkmaster.library, BLZW

Peter Struijk Imploder, IMPL

Nico Francois PowerPacker

Kristian Nielsen XFH

Martin A. Blatter xDrop

Christian Schneider XPk concept, xLoadSeg

Christian Weber iff.library adaptation, ShowIFF, MoviePro

Markus Wild GCC interface & examples

Hartmut Goebel Oberon interface & examples

The XPk Options window has following gadgets:

1. Libraries - List of all XPk compressing libraries found.
2. Info - Some basic information about selected library. The slider can be used to select efficiency level.
3. Directory - List of all files tagged to backup.
4. Clear All - Clear compression methods for all files.
5. Set All - Set selected library as compression method for all files.
6. Clear - Clear compression methods for selected files.
7. Set - Set selected library as compression method for selected files.
8. Accept - Go back to Backup options windpw

## 1.16 password protection

Password protection

=====

MUIArc has the ability to garble archive data with given password. This way you can protect your archives.

MUIArc employs a simple, but effective encryption algorithm, which consists of several EOR operations.

Before a password-protected archive is restored, you are prompted for password.

## 1.17 backup device

Backup device

=====

Currently, there are only two outputs available:

1. **DOS FILE**
2. **DEVICE**

## 1.18 dos file

DOS File Backup Device

=====

This one is very simple - all data are written to a plain file.

All setup that you have to do is to set the filename.

## 1.19 device

DEVICE Backup Device

=====

By selecting this output type you can store archive data directly on disks (or other media). Any trackdisk-compatible exec-device can be used.

Device: Enter device name here (default: trackdisk.device)

The gadget to the right displays list of all RAM-resident devices.

You can use any disk-resident device - just type its name !

Examples: diskspare.device, mfm.device, hackdisk.device

Unit: Unit number (default:0 = DF0:)

Bytes/trk: How many bytes fit in a single track.

LoTrk: Number of the first track to use.

HiTrk: Number of the last track to use.

By setting the Lo-Hi range correctly, you can even use partially damaged disks.

GetGeometry: Ask device-driver about correct Bytes/trk value.

Create safety file: If selected, MUIArc will create a special 'safety file' in the specified temporary directory. Data written to disk are also written to this file. If the file is created successfully, it's a great help for MUIArc when some of the disks used for backup are damaged. You can easily insert another one, and contents of the file will be copied to that disk and backup operation will continue.

## 1.20 boptions

Backup options

=====

Buffer Size - This is one of the most important attributes. Larger buffer means faster operation and a little bit smaller archives. On the other hand, restore buffer needs to be about the size of this buffer -his disadvantage may be partially fixed in future versions.

Archive Empty Dirs - When cleared, empty directories will not be archived.

Archive File Comments - Ehen cleared, file comments will not be archived.

This may make the archive a little bit shorter.

Set ARCHIVED Flags - Every archived file/directory will get its A protectino bit set.

## 1.21 restore options

Restore options window

=====

Here you can set all options of the restore operation.

1. [Restore options](#)
2. [Replace options](#)
3. [Restore source](#)

## 1.22 roptions

Restore options

=====

Buffer Size - This is one of the most important attributes. Larger buffer means faster restore.

NOTE: This value must be about the size of backup buffer used to create archive. This disadvantage may be partially removed in future versions.

Restore Empty Drawers - If set, empty directories will be automatically 'untagged'.

Clear ARCHIVED flags - If set, restored files and directories will get their A protection bit cleared.

Set dates to: 1. original - restored dirs/files will get their original dates.

2. current - restored dirs/files' dates will be set to current.

3. archive - restored dirs/files will get their dates set to date of the archive.

## 1.23 replace options

Replace options

=====

### 1. Ask

In this mode, MUIArc will display a requester for every file that already exists in destination directory.

If 'Auto-replace older files' is set, then all files with earlier date will be replaced without the requester.

### 2. Always

In this mode every file that already exists will be replaced.

### 3. Never

In this mode no files will be replaced - files which already exist will be left intact.

## 1.24 progress window

Progress window

=====

This window is opened during Backup and Restor operations.

There are four gauges:

1. Load source progress
2. Compress/Decompress/Encrypt/Decrypt progress
3. Write progress
4. Total percentage of already (un)archived bytes

## 1.25 using muiarc

Using MUIArc

=====

[How to backup](#)

[How to restore](#)

## 1.26 how to backup

How to backup

=====

1. Doubleclick on the name of drive which contains files to backup

( [Directory Listview](#) , [Control buttons](#) )

---

2. Go to the source directory
3. Press the Backup button
4. Tag files to backup. You can enter directories by doubleclicking on their names.
5. Press the Accept button
6. Set all backup options you want
7. Press the Accept button. When the operation finishes, press the Cancel button.

## 1.27 how to restore

How to restore

=====

1. Doubleclick on the name of drive which contains destination directory  
( **Directory Listview** , **Control buttons** )
2. Go to desired directory
3. Press the Restore button
4. Set all restore options you want
5. Press the Accept button. Archive directory will be read
6. Tag files to restore. You can enter directories by doubleclicking on their names
7. Press the Accept button. When the operation finishes, press the Cancel button.

## 1.28 settings menu

Settings menu

=====

This pull-down menu is accesible from the main window.

1. **Subtask priorities**
  2. **Quantum sizes**
  3. **Restore**
  4. **Global settings**
  5. **Last saved**
  6. **Save settings**
-



## 1.29 subtask priorities

Subtask priorities

=====

Here you can set the priorities of MUIArc sub tasks.

Backup subtasks:

1. READ - reading source data (files, directories).

Increase this attribute if source device is slow.

2. COMPRESS - compressing and encrypting source data

Increase it if you use time-consuming compression

3. WRITE - writing archive data

Increase it if destination device is slow.

Restore subtasks:

1. READ - reading archive data

Increase it if source device is slow.

2. DECOMPRESS - decompressing/decrypting archive data

Increase it if you use time-consuming compression

3. WRITE - writing unarchived data

Increase it if destination device is slow.

Default values: all priorities set to zero.

## 1.30 quantum sizes

Quantum sizes

=====

In this version of MUIArc quantum values are not that important, but still they can be changed to do some speed finetuning.

If you aren't sure about this stuff, it's perfectly OK to leave the default values intact.

1. Encode quantum - size of a single quantum of data for encryption

2. Decode quantum - the same for decryption

In general, if you use slower machine, you should set this value low.

3. Write quantum - size of a single quantum of data for writing

The faster the output device, the higher value should be set here.

(The value 16K is just about right for floppy drives)

## 1.31 restore settings

Restore settings

=====

This function will set 'Quantum sizes' and 'Subtask priorities' to default values. This function is probably not very interesting.

The default values are:

- All subtask priorities = 0
- Encode & decode quantums = 4096
- Write quantum = 16384

## 1.32 global settings

Global settings

=====

Currently there's only one option to set:

- Temporary directory - specify where to place temporary files

NOTE: The files stored here may get as large as a single volume. So if you're short on RAM, it's a good idea to place this file on HD.

## 1.33 last saved

Last saved

=====

Reload settings file saved with [Save settings](#)

## 1.34 save settings

Save settings

=====

Save the settings file to ENV: and to ENVARC:

The following attributes are written in the config file"

- subtask priorities
  - quantum sizes
  - temporary directory name
-

## 1.35 history

History

=====

\* Version 1.0

- 11 October 1996

Initial version

- 14 October 1996

Some minor backup optimizations

\* Version 1.1

- 2 November 1996

Now MUI V3.3+ is fully supported (and required).

General cleanup has been done to the source file.

The 'popup' gadgets are added to make devicename selection easier.

XPK Options Window has got a bit better layout.

Now it's possible to set SubTask priorities (SubPri window).

General Settings window added.

Quantums window added.

A 'Safety file' feature added for backup-to-device.

Some minor and major bugfixes.

## 1.36 known bugs

Known bugs

=====

I'd rather pretend there are none... ;)

## 1.37 to do

Things to do

=====

There's still A LOT to be done. Here's a small sample:

1. XFD support
  2. Better performance (backup speedup)
  3. Asynchronous device-level I/O (currently only partially done)
  4. Asynchronous safety-file creation
  5. Localization
  6. Better ARexx support (currently only MUI commands are supported)
  7. CRC checksumming
-