

User Guide

VirOp for ARCserve on Windows NT

Virtual

Operator

for

ARCserve

1 Before You Begin Working with this Manual

1.1	Explanation of Symbols and Notes	1-1
1.2	Hazard Alert Messages	1-2
1.3	Assistance	1-3
1.4	About This Manual	1-4
1.4.1	Purpose	1-4
1.4.2	Audience	1-4
1.4.3	Related Publications	1-4
1.5	Copyright	1-5
1.6	Product Observation	1-6

2 Product Description

2.1	About VirOp for ARCserve on Windows NT	2-1
2.2	VirOp for ARCserve Features	2-2
2.3	Hardware Requirements	2-2
2.4	Compatibility	2-2
2.4.1	Software	2-2
2.4.2	Drives	2-2

3 Installing and Configuring

3.1	Installation VirOp on Windows NT	3-1
3.2	Configuration DAS Client on the OS/2 PC	3-2
3.3	Configuration ARCserve for the VirOp for ARCserve	3-4
3.3.1	Media Names	3-4
3.3.2	Telnet in VirOp for ARCserve	3-4
3.3.3	First Start of VirOp for ARCServe	3-5

4 Administration

4.1	Program Start	4-1
-----	---------------------	-----

4.2	Administration Menu	4-1
4.3	Interactive Mode	4-5
4.4	Log File	4-8
4.5	Telnet	4-9
4.6	Browser	4-10

5 Appendix

5.1	Configuration File "ACIARC.INI"	6-1
5.2	Configuration File "ACIMEDIA.INI"	6-2
5.3	Configuration File "LANGUAGE.INI"	6-3

6 Index

1 Before You Begin Working with this Manual

1.1 Explanation of Symbols and Notes

The following symbols and highlighted passages draw attention to important information.



Explanation of these symbols (☞ “Hazard Alert Messages” from page 1 - 2)






Information/Advice

Information important for understanding this introduction.

- “abcd” Headline e.g. section 2 “Configuration”
File name or directory names e.g. “etc/config”
- ABCD Information displayed on screen
- Software messages displayed on screen
 - Commands
 - User (root)
 - Variable names, including environment variables
- [abc] Parameters which are optional are shown enclosed in square brackets []
- ☞ Reference to a description
- either on another page (☞ page 1 - 1)
 - or another manual (☞ DAS message manual)
- abcd* Variable
- Variable command parameters
 - Variable values referenced in software

1.2 Hazard Alert Messages

We classify the hazards in several categories. The following table shows the relation of symbols, signal words, the actual hazard, and its possible consequences.

Symbol	Damage to ...	Signal word	Definition	Consequences
	Material	ATTENTION!	potentially damaging situation	possibly damaging to: <ul style="list-style-type: none"> • the product • its environment
		Information	tips for users and other important/useful information and notes	no hazardous or damaging consequences for persons or property
		-	identifies the address of your contact person	no hazardous or damaging consequences for persons or property

1.3 Assistance



ArcServ If you cannot solve problems using this Manual, please contact your contract partner:

For Europe and Africa:

EMASS-GRAU Storage Systems GmbH
Eschenstrasse 3
89556 Boehmenkirch
Germany

For all other countries:

EMASS Inc.
10949 East Peakview avenue
Englewood, CO 80112
U.S.A.

We will be pleased to help you.

United States

emass Technical Assistance Center (ETAC) 1-800-827-3822

Europe and Africa

Weekdays between 07.00 and 19.00

CUSTOMER HELPDESK

Telephone:	+(49) 73 32 - 8 3-360
Telefax:	+(49) 73 32 - 8 3-3 67
CompuServe:	100142,3011
E-Mail:	CHD@CCMGATE.GRAU.DE

At all other times - weekends, night-time etc.

Central hotline:	+(49) 69 - 75 90 92 46
Mobile telephone:	+(49) 1 72 - 2 00 89 88

1.4 About This Manual

1.4.1 Purpose

This guide presents the program VirOp for ARCserve (the DAS Client on Windows-NT for ARCserve Software).

1.4.2 Audience

This guide is intended for DAS Administrators using the VirOp for ARCserve.

If you cannot solve a problem,

- call a specialist
- ask for information from your service partner or EMASS-Grau Storage Systems or EMASS Inc.

1.4.3 Related Publications

You may wish to reference the following documents:

- | | |
|-----------------------------------|-------------|
| • AMU Installation Guide | DOC E00 003 |
| • AMU Problem Determination Guide | DOC E00 007 |
| • AMU Reference Guide | DOC E00 005 |
| • DAS Administration Guide | DOC F00 010 |
| • DAS Interfacing Guide | DOC F00 011 |

1.5 Copyright

This document is copyrighted and may not, without written permission from EMASS-Grau Storage Systems GmbH and EMASS, Inc., be copied either in whole or in part, duplicated, translated or held on any electronic medium or in machine readable form.

The AML software (mechanics, hard- and software) described in this document is supplied on the basis of a general license agreement or single license (entailing the commitment not to pass it on to third parties). The software may only be used and copied as authorized by the agreement. The same applies without restriction to the entire documentation of the AML system. Who copies the software (DAS, AMU, robot control) without authority onto cassettes, disks or any other storage medium is liable to prosecution.

EMASS-Grau Storage Systems reserves the right to change or adapt the functions described in this manual without stating reasons.

AML	registered trademark of EMASS- GRAU Storage Systems - Germany
DAS	registered trademark of EMASS-GRAU Storage Systems - Germany
IBM	registered trademark of IBM
OS/2	registered trademark of IBM
Windows NT	registered trademark of Microsoft
ARCserve	registered trademark of Cheyenne Software Inc.

1.6 Product Observation

We are obliged by law to monitor our products even **after** delivery to the customer.

Therefore please communicate every point of interest.

- modified set-up data
- experiences with the product
- repetitive faults
- difficulties with this manual

For Europe and Africa:

For all other countries:



EMASS-Grau Storage Systems GmbH & Co.
Eschenstrasse 3
89556 Boehmenkirch
Germany

Telephone: + 49 / 73 32 / 83-0
Telefax: + 49 / 73 32 / 83-1 48

EMASS Inc.
10949 East Peakview avenue
Englewood, CO 80112
U.S.A.

001 / 303 / 792 / 9700
001 / 303 / 792 / 2465

2 Product Description

2.1 About VirOp for ARCserve on Windows NT

VirOp (Virtual Operator) for ARCserve is the interface between the Software ARCserve from Cheyenne Software, Inc. and the DAS Software from GRAU Storage Systems.

All ARCserve requests relating the operation of the drives will piped trough the VirOp to the DAS Software. The DAS Software managed the commands for the connected library. The interface is working like an operator ("the virtual operator").

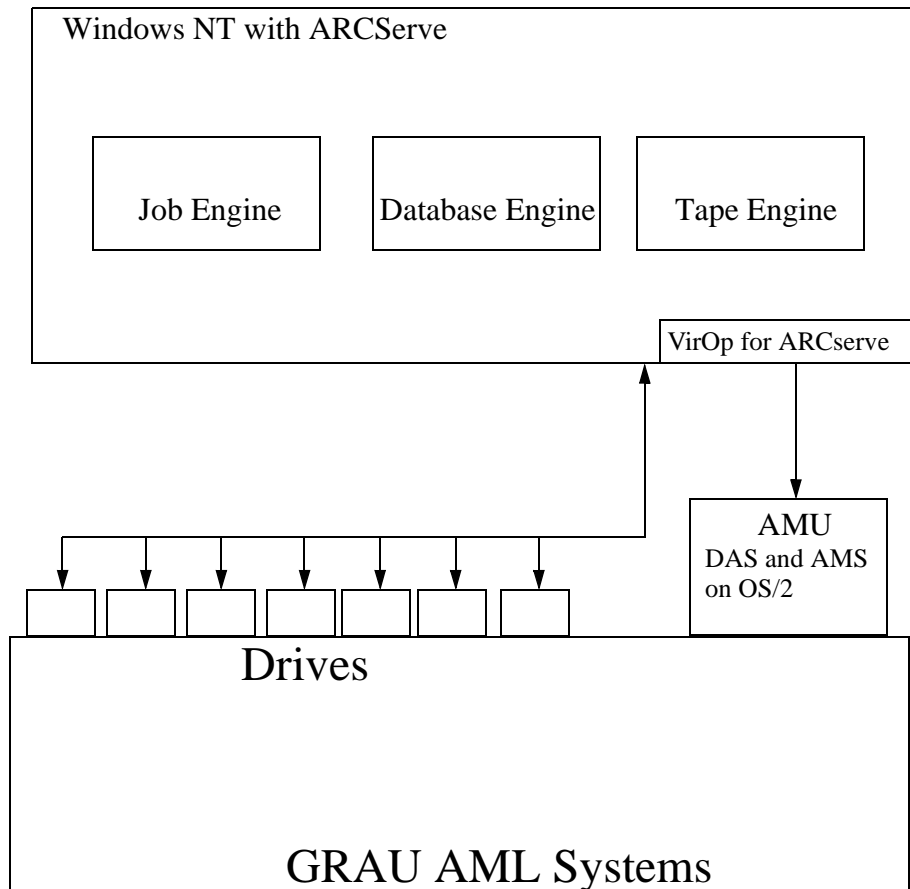


Fig. 2-1: Cheyenne Software Inc. ARCserve - Integration

2.2 VirOp for ARCserve Features

- Program code is completely in 32 bit Microsoft Windows NT architecture
- Distributed with an easy installation and configuration program
- Program includes an administration tool
- Software provides an interactive mode with build in DAS functions
- Program runs normally in an automatic mode for unattended operations
- Program provides a graphical user interface
- Program supports all ARCserve agents and options

2.3 Hardware Requirements

You need for operating the following hardware (minimum):

- Pentium 100 MHz (120 MHz recommended)
- 24 MB RAM (32 MB recommended)
- 2 MB Harddisk Space

2.4 Compatibility

2.4.1 Software

The program is tested with the following releases:

- Microsoft Windows NT 3.51 and 4.0
- Cheyenne Software Inc. ARCserve for Windows NT 6.0 (English version)
- GRAU Storage Systems DAS 1.30

2.4.2 Drives

All 4mm, 8mm and DLT drives which are

- supported by ARCserve for Windows NT 6.0
- supported by DAS 1.30

are supported also by VirOp for ARCserve

3 Installing and Configuring

3.1 Installation VirOp on Windows NT

- Step 1 Close all running applications
- Step 2 Insert the disk "Virtual Operator for ARCserve" in drive a:
- Step 3 Select via Start and Execute the File A:\setup.exe

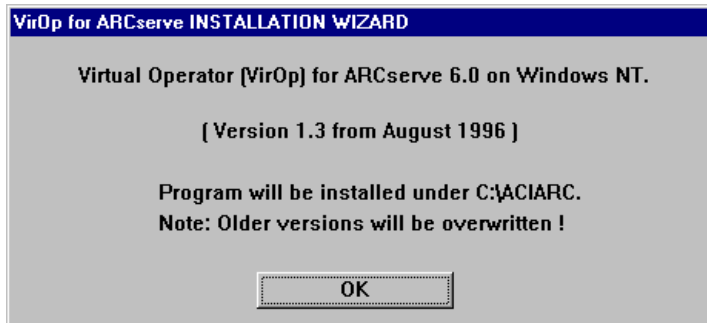


Fig. 3-1: Window "Installation Wizard- welcome"

- Step 4 Following the installation procedure:

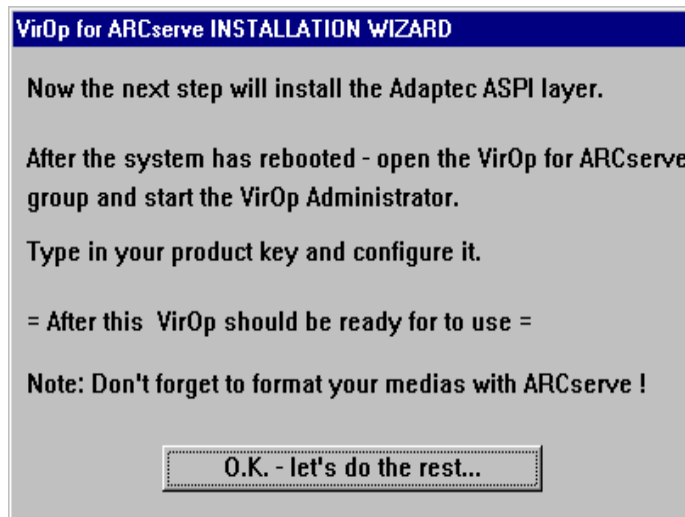


Fig. 3-2: Window "Installation Wizard- installation procedure"

Step 5 Following the ASPI layer installation procedure

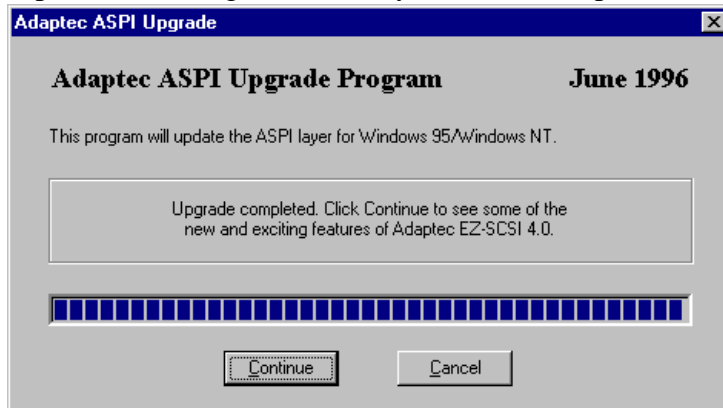


Fig. 3-3: Window "Adaptec ASPI Upgrade"

Step 6 Remove the disk drive a:

Step 7 Reboot the Windows NT Server

3.2 Configuration DAS Client on the OS/2 PC

Step 1 Insert the disk in the drive a: of the AMU-PC

Step 2 Open an OS/2 window and enter:

```
C:> a:\os2setup
```

Step 3 Login the Service menu of the AMS software
(☞ AMU Reference Guide)

Step 4 Open the AMU Graphical Configuration and select the ARCserve related drives

Step 5 Change in the Configuration dialog in the field Description the drive name to 00x (x stays for the SCSI ID of the drive)
e.g. 001, 002, ..

Step 6 Save the changed configuration.

Step 7 Edit the file C:\DAS\ETC\CONFIG by entering:

```
C:> epm c:\das\etc\config
```

Step 8 Add a new client to the list of DAS clients

(Details  DAS Administration Guide)

- client_name: arcserve
- ip_adress or hostname: TCP/IP identification of OS/2 PC (AMU)
- requests: complete
- options: (avc, dismount)
- volumes: up to 10 ranges of media names
- drives: 001 .. 00F equal to the Description in the Graphical Configuration in the AMU

Example:

```
client  client_name = arcserve,  
#      ip_address = 192.63.193.60,  
      hostname = AMU,  
      requests = complete,  
      options = (avc,dismount),  
      volumes = ((OD0001 - OD9999)),  
      drives = ((001 - 00F))
```

Step 9 Select TCP/IP and TCP/IP Configuration Icon
to open the Window TCP/IP Configuration

Step 10 Configure and Start the RSH daemon on the AMU PC

Step 11 Configure the Security for the RSH (Add the HOST-Name of the Windows-NT machine in the list "HOST authorized to use RSH")

Step 12 Configure and Start an Telnet Deamon on the AMU PC (optional for VirOp Administrator menu)

Step 13 Save the CONFIG file on a floppy for print out.

Step 14 Close all applications on the AMU PC and restart the PC

3.3 Configuration ARCserve for the VirOp for ARCserve

3.3.1 Media Names

The media names on ARCserve are similar to the Volser (Volume Serial Number) in the archive (Barcode label). Define all Volsers for VirOp for ARCserve in the file "acimedia.ini" (☞ "Configuration File "ACIMEDIA.INI"" from page 5 - 2)

3.3.2 Telnet in VirOp for ARCserve

The VirOp Administrator menu used the standard telnet programm from Microsoft Windows NT for an optional telnet session to the OS/2 PC.

You have to configure the related deamons one the OS/2 PC for activate this feature.

If you want use a other telnet program, please set the environment variable TELNET with drive and path of the favorite programm.

Example:

```
set TELNET=C:\Programme\TCPIP\Telnet.exe
```



Information

Start the environment variable on the startup with AUTOEXEC.BAT or your on login script.

3.3.3 First Start of VirOp for ARCServe

Information

Make sure, that TCP/IP can resolve you configured hostname.

Step 1 Click on Start

Step 2 Selected the menu "Virtual Operator for ARCServe "

Step 3 Click on the Function "Virtual Operator for ARCServe Administration"



Fig. 3-4: Window "Program Registration"

Step 4 Enter the registration number of the product. You get the registration number from the Support

Step 5 Confirm or Enter to the configuration parameters
(☞ "Administration Menu" from page 4 - 1)

Step 6 Click on Function "Virtual Operator for ARCServe Daemon" for normal Operation

4 Administration

4.1 Program Start



Information

Make sure, that TCP/IP can resolve you configured hostname.

- Step 1 Click on Start
- Step 2 Selected the menu "Virtual Operator for ARCServe"
- Step 3 Click for normal operation on the Function "Virtual Operator for ARCServe DAEMON"
- Step 4 Click for administration and configuration on the Function "Virtual Operator for ARCServe ADMINISTRATION"
- Step 5 Confirm or Enter the to configuration parameters (→ "Administration Menu" from page 4 - 1)

4.2 Administration Menu

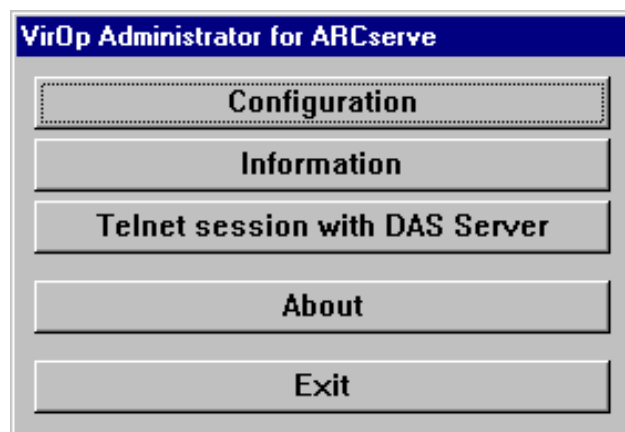


Fig. 4-1: Menu "Virtual Operator for ARCServe"

Command	Field	Explanation
Configuration	Open the Configuration dialog for VirOp for ARCserve.	

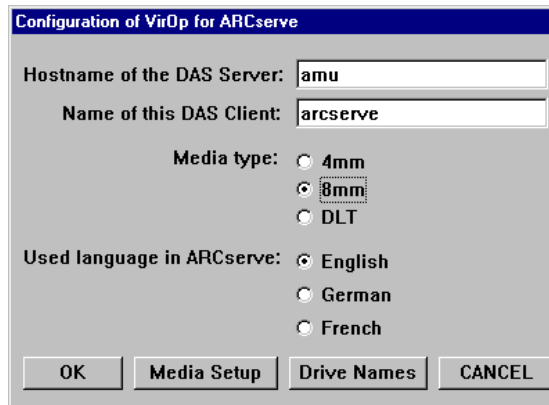


Abb. 4-2: Window "Configuration of VirOp for ARCserve"

Hostname of the DAS Server:	TCP/IP Identification of the AMU (OS/2 PC with DAS and AMS)
Name of this DAS Client:	alphanumeric string to identify the ARCserve requests on the AML-system (DAS) er (e.g. arcserve)
Media type:	Select the type of medias for using with ARCserve (4mm DDS, 8mm DDS or DLT CompacTape)
Used language in ARCserve:	Language-Version of ARCserve. Only the English version is actual implemented.
OK	Accept the selected parameters. The parameters will saved in the file aciarc.ini in the subdirectory system32 in the Windows NT system directory (☞ "Configuration File "ACIARC.INI"" from page 5 - 1)
Media Setup	Open the file ACIMEDIA.INI in an editor for configuration of the volsers for ARCserve.(☞ page 5 - 2)
Drive Names	Show the drive ID's of the connected drives together with the name for VirOp for ARCserve. (☞ "Configuration DAS Client on the OS/2 PC" from page 3 - 2)
CANCEL	Abort the configuration without save data

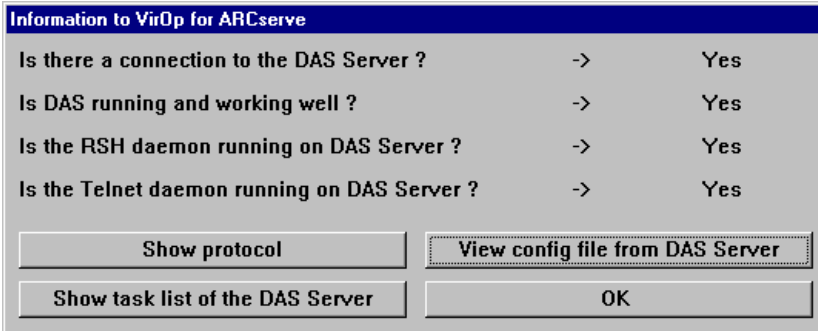
Command	Field	Explanation
Information	Open the menu for Status Informations of the VirOp for ARCServe. Same status informations will automatic collected by the program and the following window displayed the result.	
		

Abb. 4-3: Window "Information to VirOp for ARCServe"

Is there a connection to the DAS Server?	Check about the TCP/IP Communication to the AMU (OS/2 PC) (ping command worked well)
Is DAS running and working well?	Check of the DAS via the dasadmin command qversion. (☞ DAS Administration Guide)
Is the RSH daemon running on DAS Server?	Check about the TCP/IP program RSHD on the OS/2 PC
Is the Telnet daemon running on DAS Server?	Check about the TCP/IP program telnetd on the OS/2 PC (optional)
Show protocol	Display in a browser a protocol file with the executed commands
Show task list of the DAS Server	Show all threads on the OS/2 PC (OS/2 command pstat)
View config File from DAS Server	Display the Configuration file config in the AMU-PC

Command	Field	Explanation
Telnet Session with DAS Server		Activate a TELNET session to the OS/2 PC Use this feature for advanced diagnostic on the AMU-PC
About		Informations about the program and release of the program
Exit		Cancel the program VirOp for ARCserve

4.3 Interactive Mode

For test and diagnosis, and also for set up of the system is the interactive mode available. This mode started from the running "automatic mode" (Virtuell Operator for ARCserve DEAMON) with the hot keys <Ctrl> + <Shift>.

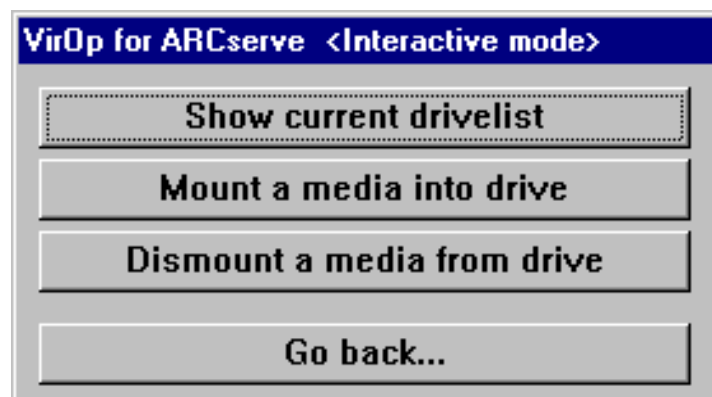


Fig. 4-4: Window " VirOp for ARCServe <Interactive mode>"

Command	Field	Explanation
Show current drivelist	Open the information window about the drives in the library.	
	The window shows the first 12 drives in the library.	

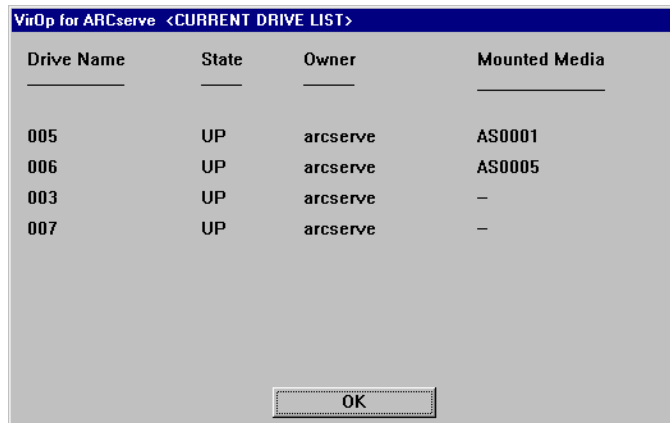
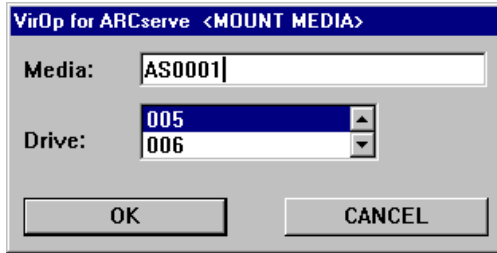
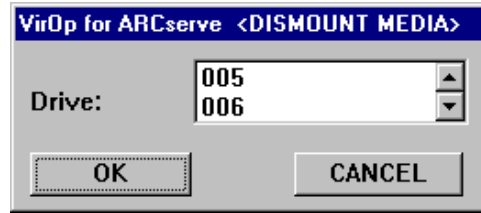


Abb. 4-5: Window " VirOp for ARCServe <CURRENT DRIVE LIST>

Drive Name	In DAS configured name of the drive (AMU Description)
State	<p>UP drive are in the moment allocated by a owner (☞ Owner). The VirOp for ARCServe allocated with a mount request automatic the drive and disallocated empty drives.</p> <p>DOWN drive are not allocated by a owner.A client have to allocate a drive, before the mount is possible.</p>
Owner	Client which has allocated the drive. The Clients are configured with a Client_name in the DAS
Mounted Media	Media name (Volser) wich actual is in the drive

Command	Field	Explanation
Mount a Media into drive	Open a Window for a mount dialog for ARCserve drives in the library.	
		
	<i>Abb. 4-6: Window VirOp for ARCserve <MOUNT MEDIA></i>	
	Media:	Field for the media name (Volser) which to be mount
	Drive:	Listbox for select the drive where the media should be mounted.
	OK	Proceed the selected mount action.
Dismount a media from drive	Open a window for the dismount (keep) dialog.	
		
	<i>Abb. 4-7: Window "VirOp for ARCserve <DISMOUNT MEDIA></i>	
	Drive:	Listbox for select the drive where the media should be dismounted.
	OK	Proceed the selected dismount action.
Go Back...	Close the window "VirOp interactive mode" and activate the Deamon in the background	

4.4 Log File

The following Example shows a part of the Logfile for the VirOp for ARCserv.

```

PROTOCOL - VirOp for ARCServ
=====
.....
DATE / TIME...: Tue 28.01.97 11:04:29
OSAR.....: -
ARCServ SAID..: -
ACI DETERMINED: VOLSER: -      DAS-DRIVE: -
DAS REPLYED...: -
REMARK.....: Automatic mode was STARTED !
.....

```

The Logfile is in the directory C:\ACIARC\ and has the name aciarc.log

Field	Explanation
DATE/TIME	Show date an time stamp of this log entrance
OSAR	The OSAR which was the creator of the command
ARCServ SAID	The message from ARCServ for the command
ACI DETRMI- NED	VOLSER: Media name for the command detected by VirOP
	DAS-DRIVE: Drive name for the command detected by VirOP
DAS REPLYED	The answer message from DAS (also error message)
REMARK	Other internal activity or comment

4.5 Telnet

The Telnet feature is for remote diagnostic on the OS/2 PC.

For details about the programs on this PC and OS/2 commands (☞ AMU Reference Guide and OS/2 manuals).

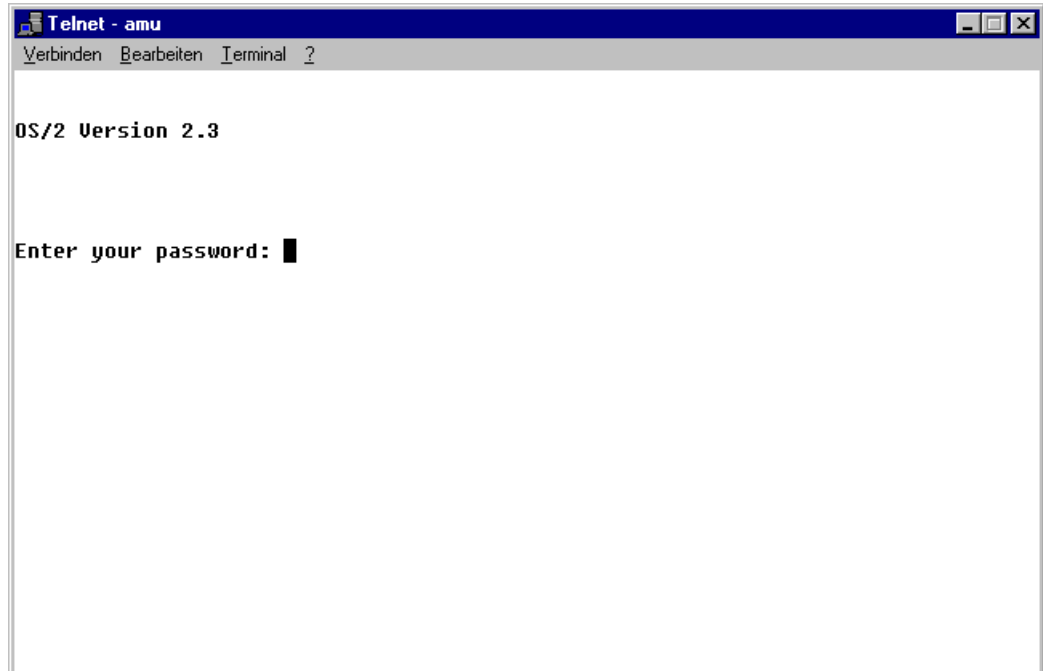


Fig. 4-8: Window "Telnet amu"

4.6 Browser

With the browser will displayed the file "config" and the logfile "aciARCServe.log"

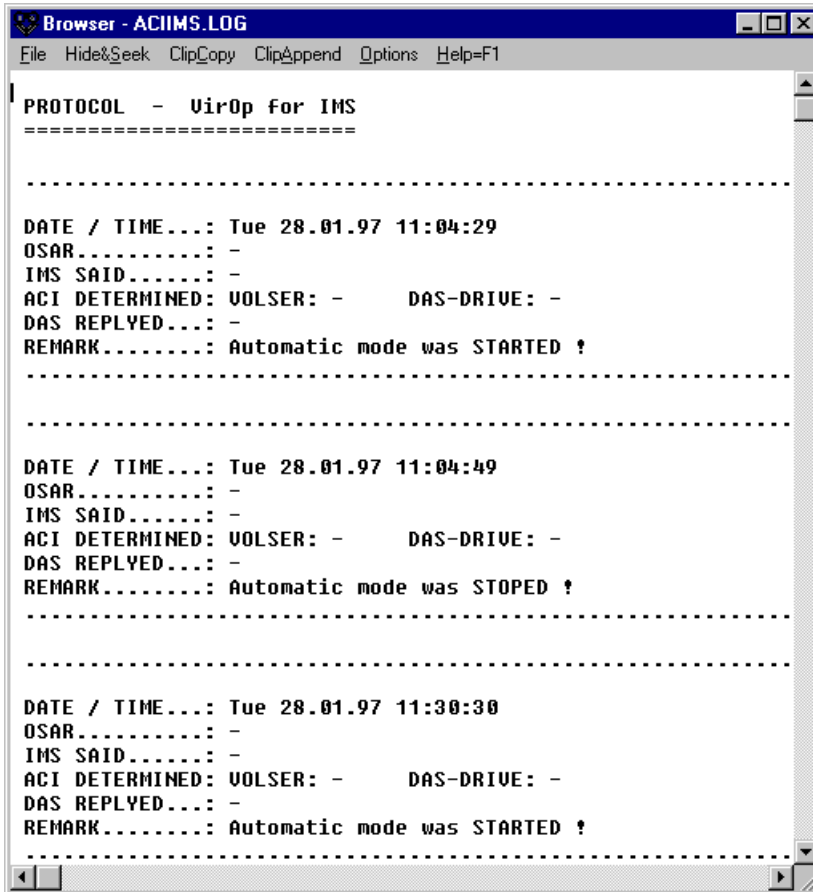


Fig. 4-9: Window "Browser ACIARCServe.LOG"

5 Appendix

5.1 Configuration File "ACIARC.INI"

The configuration will be saved in the file "aciarc.ini" in the subdirectory system32 in the Windows NT system directory.

Example:

```
[ACIARC]
dasserver=eybach
clientname=arcserve
mediatype=1
language=ENGLISH
```

Field	Explanation
[ACIARC]	headline for ini file
dasserver	keyword for the configured hostname or IP address of the AMU (→ page 4 - 2)
mediatype	possible media types for VirOp for ArcServ <ul style="list-style-type: none"> • 1: 4mm • 2: 8mm • 3: DLT
language	Language-version of ArcServ (actual is only English implemented) possible values: <ul style="list-style-type: none"> • ENGLISH • GERMAN • FRENCH

5.2 Configuration File "ACIMEDIA.INI"

The configuration will be saved in the file "aciarc.ini" in the subdirectory aciarc on the drive c:. All used volumes must be registered in this file. Each line for a volume starts at column one with a point.

Example:

```
; =====  
;  
; MEDIA - SETUP for VirOp for ARCserve  
; -----  
;  
; Please define all available ARCserve backup medias.  
; Start at column 1 with a point, followed by the  
; volume serial number.  
;  
; Example:      .AB00001  
;              .AB00002  
;              .AB00003  
;  
; =====  
.AS0001  
.AS0002  
.AS0003  
.AS4000  
.AS4001  
  
[NEXT-MEDIA]  
id=
```

5.3 Configuration File "LANGUAGE.INI"

The associated messages and positions for the VirOp are saved in the file "language.ini" for the English version of ARCserv. For German and French You can configure this file.

Example:

```
[ ENGLISH ]
category_backup=Backup -
category_restore=Restore -
resource_backup=Please
resource_restore=tape
finish_correct=Operation
finish_not_correct=Failed
backup_group=4
backup_jid=6
restore_media=4
restore_jid=4
[ GERMAN ]
category_backup=Backup -
category_restore=Restore -
...

[ FRENCH ]
category_backup=Backup -
...
```


6 Index

A

Administration 4-1

B

Browser 4-10

C

Client name 4-2

Compatibility

drives 2-2

Software 2-2

Configuration 4-1

ArcServ 3-4

DAS 3-2

Media names 3-4

OS/2 PC 3-2

Telnet 3-4

Windows NT 3-4

copyright 1-5

Customer Helpdesk 1-3

D

DAS

trademark 1-5

Dismount 4-7

drive list 4-6

E

EMASS

ETAC 1-3

EMASS-GRAU Storage Systems

Customer Helpdesk 1-3

Error Messages 4-8

DAS 4-8

F

Features VirOp 2-2

H

Hardware

requirements 2-2

hazard alert messages 1-2

Hostname 4-2

I

IBM

trademark 1-5

Installation 3-1

Installation and Configuration 3-1

K

Keep 4-7

L

Log File 4-8

M

Media names 3-4

Media type 4-2

Mount 4-7

O

OS/2 1-5

P

product observation 1-6

Program Start 4-1

R

Related Publications 1-4

S

symbols

 formats 1-1

 hazard alert messages 1-2

 information/note 1-1

T

technical data 1-6

Telnet 4-9

V

VirOp for ArcServ 2-2