Dialogic®

ACOPY2

User's Guide

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Contents

About This Publication

How to use this online guide
- To view a section, click the corresponding bookmark located on the left.
- To view a topic that contains further information, click on the corresponding blue underlined phrase.
- You may wish to print out the pages describing the ACOPY2 commands.

Structure of the online guide
In this guide, you will find information about the file transfer program ACOPY2.

This guide is structured as follows:

Chapter	Content
Introduction	Information about the general functionality of ACOPY2. It is recommended that you read this chapter before you use ACOPY2, should you choose to do so.
How ACOPY2 Functions	Commonly-used applications for ACOPY2.
Password Protection	Password functionality of the ACOPY2 server.
Application Examples	Application examples to help you use ACOPY2, should you choose to do so.
Solving ACOPY2 Connection Problems	Information on ACOPY2 error messages.
Changing the ISDN service	Here you will find the information you need to change the type of ISDN service when using ACOPY2, should you choose to do so.

Syntax of the guide

The following syntax is used for the description and execution of ACOPY2 commands:

Syntax	Description
Enter	All ACOPY2 commands are in this typeface.
Command	All commands or any characters that must be entered exactly as written are in **bold**.
<Variable>	Variables that must be included with a command are written in angled brackets <>. These are alphanumeric. Variables are explained separately in the guide.
[Options]	Options are written in square brackets [ ]. These might be chains of signs.
a1|a2	Alternative options or variables are represented with a vertical line between them.

The DOS command to copy files would be represented like this:

copy [<source>]<filename> [<destination>][<filename>]

Notes:

- When entering the commands, be sure to enter spaces, slashes "/" and backslashes "\" exactly as indicated.

- Due to space limitations, some commands in this manual are split into two lines. You should enter all commands on a single line, and press "RETURN" or "ENTER" only when you want to execute the command.

CHAPTER 1

Introduction

ACOPY2 is a file transfer program that is based on CAPI (**C**ommon ISDN **A**pplication **P**rogramming **I**nterface). It is installed automatically when you install the drivers needed to use your Dialogic® Diva® ISDN Media Board.

Note: You cannot use ACOPY2 with Dialogic® Diva® Analog Media Boards.

ACOPY2 provides a safe option for simple and quick data transfer of large files at a high speed (about 60 kbps or 7.5 kbps).

Dialogic provides ISDN drivers for Windows® XP, Windows Server® 2003, Windows Vista®, and Windows Server® 2008. You can use ACOPY2 with all these operating systems.

ACOPY2 is a command-line program. To use ACOPY2 you have to open an MS-DOS-Prompt (see figure below).

Note: In general, the path to the Dialogic® Diva® ISDN drivers is set automatically when the drivers are installed. Therefore, you can start ACOPY2 from any directory. If the path is not set automatically, you must start ACOPY2 from the directory in which your Diva ISDN drivers are installed.

Since ACOPY2 uses a proprietary connection protocol, both sides of the connection have to use ACOPY2 for file transfers. One side has to be configured as server and the other as requester (see figure below). The ACOPY2 requester can then access the ACOPY2 server either in or in .

ACOPY2 Server

`acopy2 /serve`

ACOPY2 Requester

`acopy2 /dir #123456789:*.*`
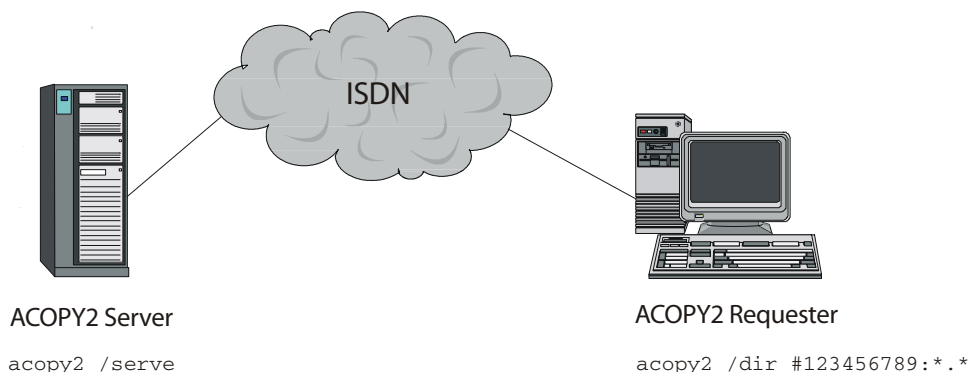
With the command-line mode, the connection is established each time a command is issued. After execution of the command, the connection is closed automatically.

With the online mode, the ISDN connection is established and stays open until it is closed with another command. Thus, you can send commands directly to the ACOPY2 server.

ACOPY2 offers the following functions:

- Copy files to or from the remote server via a command line.
- Remote control of PCs with the commands `dir`, `md`, `rd`, and `del` that are available at the remote PC.

CHAPTER 3

How ACOPY2 Functions

ACOPY2 server

The PC that will function as the ACOPY2 server must be equipped with an Dialogic® Diva® ISDN Media Board and the corresponding software.

To set up an ACOPY2 server, enter the following command:

```
acopy2 /serve [<Options>]
```

A description of the options is given below:

Option	Description
/o<number> or **/o**<number>*****<sub>	This parameter specifies the ISDN number (OAD or **O**rigination **AD**dress) of the ACOPY2 server. The number may have up to 20 digits. Enter the MSN with which the ACOPY2 server can be reached. If you do not enter the MSN, all incoming calls are accepted regardless of the dialed MSN or subaddress. If both sides support subaddressing, you can also indicate the subaddress separated by an asterisk "*".
/c<controller>	This parameter specifies the controller number of the Dialogic® Diva® ISDN Media Board that will run ACOPY2. The controller only needs to be specified if you have installed a Dialogic® Diva® multiport Media Board, e.g., Dialogic® Diva® 4BRI-8 Media Board, or several Diva ISDN Media Boards in the same PC. The first controller loaded is controller 1.
/p<size>	This parameter specifies the packet size. The default packet size is 128 byte. This parameter is needed only in special cases.
/r	This parameter is used to set the data transfer rate to 56 kbps. Some switches in the United States are still using 56 kbps instead of 64 kbps. Use this option if you need to connect at 56 kbps.
/u<config file>	This parameter specifies the file in which aliases and passwords are stored for restricted access to the ACOPY2 server (see Password Protection on page 13).

To stop the ACOPY2 server operation on the PC, enter:

q (q=quit)

Example:

```
c:\isdn\acopy2 /serve[/o<MSN>]
```

When the ACOPY2 server is set up correctly, the following message appears:

```
OAD = <your MSN>
Waiting for request from remote station
Enter 'q' to terminate server operation
```

The PC is now a dedicated ACOPY2 server.

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ACOPY2 requester

With the ACOPY2 requester, any PC with an installed Dialogic® Diva® ISDN Media Board can access a PC set up as ACOPY2 server. The ACOPY2 requester can be used in Command-line mode (see below) or in Online mode (see page 12).

Command-line mode

To issue a command-line mode instruction, use the following syntax:

```
acopy2 [<Options>] <instruction>
```

The following commands are available in command-line mode:

Instruction	Description
`acopy2 /?`	Displays online help.
`acopy2 /num` [<options>] `#`<number>	Indicates local ISDN number.
`acopy2` [<options>] <localfile> `#`<number>`:`[<drive>`:\`][<path>`\`]<remotefile>	Sends files.
`acopy2` [<options>] `#`<number>`:`[<drive>`:\`][<path>`\`]<remotefile> <localfile>	Copies files to local directory.
`acopy2 /dir` [<options>] `#`<number>`:`[<drive>`:\`][<path>`\`]`*.*`	Displays directory on the server.
`acopy2 /md` [<options>] `#`<number>`:`[<drive>`:\`][<path>`\`]<directory>	Creates directory on the server.
`acopy2 /rd` [<options>] `#`<number>`:`[<drive>`:\`][<path>`\`]<directory>	Deletes directory on the server.
`acopy2 /del` [<options>] `#`<number>`:`[<drive>`:\`][<path>`\`][<remotefile>]	Deletes files on the server.

Note: Due to space limitations, some commands in this manual are split into two lines. You should enter all commands on a single line, and press "RETURN" or "ENTER" only when you want to execute the command.

A description of the options is given below:

Option	Description
`/o`<number> or `/o`<number>`*`<sub>	With this parameter, you can indicate the ISDN number (OAD=**O**rigination **AD**dress) of the ACOPY2 requester. The number may have up to 20 digits.
	Enter the MSN of the ACOPY2 requester. If you do not enter the MSN, no MSN will be transferred. This could cause problems when connecting to a PBX which needs the indication of MSNs. If both sides support subaddressing, you can also indicate the subaddress separated by an asterisk "*".
`/c`<controller>	The controller number of the Dialogic® Diva® ISDN Media Board that will run the ACOPY2 requester. The controller only needs to be specified if you have installed a Dialogic® Diva® multiport Media Board, e.g., a Dialogic® Diva® 4BRI-8 Media Board, or several Diva ISDN Media Boards in the same PC. The first controller loaded is controller 1.
`/p`<size>	The default packet size is 128 byte. With the `/p` parameter you can change the size (only needed in special cases). The packet size must be identical to that of the ACOPY2 server.
`/s`<CIP>	With this parameter, you can change the ISDN service.
	Refer to the Changing the ISDN service on page 20 for allowable values for the CIP value.
	This option may be useful to test the connection if no server is available or if ISDN services have to be determined. Thus, a telephone can be called in order to simulate the establishment of a connection (see Connection test without server as remote contact on page 16).

The variables `[<drive>:\][<path>\][<localfile>` or `<remotefile>]` or `[<drive>:\]<directory>` are to be used in the same way as with the corresponding DOS commands `dir`, `md`, `rd`, and `del`.

Online mode

The ACOPY2 requester can also be used in online mode. For the online mode, an ISDN connection is established and maintained until it is cancelled with the **off** command. Thus, you can send commands directly to the ACOPY2 server.

To initiate the online mode, enter the following:

> **acopy2** [<options>] **/on #**<number>[**:**<drive>**:**][<path>****]

For the online mode, you can use the same options as for the command-line mode.

The following commands are available in online mode:

Instruction	Description
copy <localfile> **#:**[<drive>**:**][<path>****]<remotefile>	Sends files.
copy #:[<drive>**:**][<path>****]<remotefile> <localfile>	Copies files.
dir #:[<drive>**:**][<path>****]***.***	Displays directory on server.
md #:[<drive>**:**][<path>****]<directory>	Creates directory on server.
rd #:[<drive>**:**][<path>****]<directory>	Deletes directory on server.
del #:[<drive>**:**][<path>****]<remotefile>	Deletes files on server.
off	Disconnects connection to ACOPY2 server.

Note: If you use the command **acopy2 /on** to choose a subdirectory of the ACOPY2 server, you cannot display or access a higher-level directory. For example, if a requester dials into the directory `c:\public\`, he cannot switch to the directory `c:\`.

Batch mode

ACOPY2 commands can be executed from a command file. This command file can contain any command that you can use in the online mode.

The batch mode is initiated as follows:

> **acopy2 /bat** <commandfile.txt> **#**<number>

In the command file, you specify all the commands you want to be executed on the server.

The command file has the form of the following example:

```
dir #:*.*
del #:*.tmp
md #:test
cp*.* #:test\*.*
```

You need not enter a backslash after "`#:`". It is added automatically.

Individual lines can be commented by placing a period "." at the beginning of the line.

CHAPTER 4

Password Protection

Access to individual directories on the ACOPY2 server can be restricted by the use of aliases and passwords. To do so, aliases and passwords have to be listed in a configuration file on the ACOPY2 server (see Server configuration file below). The ACOPY2 requester must enter the alias and password as part of the request command (see Requester password indication on page 13).

To set up a protected ACOPY2 server, enter the following command:

acopy2 /u<config file> **/serve** [<options>]

A description of the configuration file is given below. You can use the same options as for standard applications.

Server configuration file

Create the configuration file with the MS-DOS editor or a comparable editor. Each line must have the following structure:

<alias> <drive>**:**[<path>****] <password>

- Special characters are not allowed.
- The configuration file may have up to 99 lines.
- The password may have up to 8 characters.

When the user gains access to a restricted directory, he can also access all subdirectories. He only has to know the name of the directories, as he cannot display them with the command **/dir**.

Note: If the first entry has a backslash as alias, the requester can have read-only access to the directory indicated in the path without specifying an alias or password:

acopy2 /dir #<number>**:*.***

This is an example of a configuration file:

```
\                 c:\public\                change

intern            c:\intern\                xy4711

customer1         c:\customer\customer1\    0815

customer2         c:\customer\customer2\    0816
```

Requester password indication

Note: When accessing a protected ACOPY2 server, the requester dials directly into the directory for which access is granted in the server configuration file. If you need to access a known sub-directory, you must indicate the path from this directory to the sub-directory.

The following commands are available when accessing protected directories in command-line mode:

Instruction	Description
acopy2 [<options>] <localfile> **#**<number>**:** <alias>****[<path>****]<remotefile> <password>	Sends files.
acopy2 [<options>] **#**<number>**:**<alias>****[<path>****]<remotefile> <localfile> <password>	Copies files to local directory.
acopy2 /dir [<options>] **#**<number>**:**<alias>****[<path>****]*.* <password>	Displays directory on the server.
acopy2 /md #<number>**:**<alias>****[<path>****]<directory> <password>	Creates directory on the server.

Instruction	Description
acopy2 /rd #<number>**:**<alias>****[<path>****]<directory> <password>	Deletes directory on the server.
acopy2 /del [<options>] **#**<number>**:**<alias>****[<path>****]<remotefile> <password>	Deletes files on the server.

You can use the same options as for the standard <u>Command-line mode</u> (see page 11).

Note: Due to space limitations, some commands in this manual are split into two lines. You should enter all commands on a single line, and press "RETURN" or "ENTER" only when you want to execute the command.

CHAPTER 5

Application Examples

Starting an ACOPY2 server

Your site has the ISDN numbers: 33444-22, -23 and -24. The server is meant to be called at -24.

```
acopy2 /serve /o24
```

When the server is started successfully, you get the following message:

```
OAD = 24
Waiting for request from remote station
Enter 'q' to terminate server operation
```

You can stop the server operation by pressing q.

Starting a protected ACOPY2 server:

Your site has the ISDN numbers: 33444-22, -23 and -24. The server is meant to be called at -24. Suppose that the configuration file aserve.cfg is stored in the directory d:\test.

```
acopy2 /ud:\test\aserve.cfg /serve /o24
```

When the server is started successfully, you get the following message:

```
OAD = 24
user= d:\test\aserve.cfg
Waiting for request from remote station
Enter 'q' to terminate server operation
```

You can stop the server operation by pressing q.

Display your own ISDN number

The example that follows shows you how to call an ACOPY2 server to confirm or display your own ISDN number. Suppose your ISDN site has the numbers: 22516-22, -23 and -24. You call an ACOPY2 server with the OAD (Origination ADdress) 22:

```
acopy2 #<number>: /num /o22
```

You get the following message:

```
OAD = 22
...
calling station: 2251622
```

If you do not know the exact number of your own site, you can try from 0 to 9 for the last digit to find the range of ISDN numbers for which your connection is configured. In most cases, ISDN numbers are differentiated by the last digit.

Your exact number is especially important if your PC is run behind a PBX and if this PBX has allocated the different ISDN services to special OADs. If you are using the Euro-ISDN D-channel protocol and you are directly connected to a basic rate interface (BRI), you should enter the complete OAD (ISDN number + MSN or subaddress without dialing code). If you are connected to a PBX, you need to enter only the MSN or subaddress.

Display the directories of an ACOPY2 server

To call an ACOPY2 server and have the root directory displayed, enter the following:

```
c:\isdn\acopy2 /dir #<number>:*.*
```

Get, send, or delete files

The example that follows describes how to perform several common file-manipulation tasks.

Suppose that on an ACOPY2 server the file `image.txt` is stored in directory `c:\test\draft\`.

1. Check if the file exists.

    ```
    acopy2 /dir #<number>:c:\test\draft\*.*
    ```
2. Get the file.

    ```
    acopy2 #<number>:c:\test\draft\image.txt *.*
    ```
3. After the file has been changed, store it with the name `image.doc` in another directory called `c:\doc\`.

    ```
    acopy2 image.doc #<number>:c:\doc\*.*
    ```
4. If you want to remove the draft of the document, delete the file `image.txt`.

    ```
    acopy2 /del #<number>:c:\test\draft\image.txt
    ```
5. Then delete the directory `\draft`.

    ```
    acopy2 /rd #<number>:c:\test\draft
    ```

Get, send, or delete files on a protected ACOPY2 server

The example that follows describes how to perform several common file-manipulation tasks using password protection.

Suppose that on an ACOPY2 server, there is a file called `image.txt` that is stored in the directory `c:\user\office\draft\`. As the whole directory structure is not to be known by individual users, and each user only may access his path, everything is protected with aliases and passwords.

The contents of the configuration file of the ACOPY2 server are as follows:

```
joe c:\user\office loreena
mickey c:\user\software\ minnie
...
```

The user has the alias `joe`.

1. Check if the file exists.

    ```
    acopy2 /dir #<number>:joe\draft\*.* loreena
    ```
2. Get the file.

    ```
    acopy2 #<number>:joe\draft\image.txt *.* loreena
    ```
3. After the file has been changed, store it with the name `image.doc` in another directory called `c:\user\office\doc\`.

    ```
    acopy2 image.doc #<number>:joe\doc\*.* loreena
    ```
4. If you want to remove the draft of the document, delete the file `image.txt`.

    ```
    acopy2 /del #<number>:joe\draft\image.txt loreena
    ```
5. Then delete the directory `\draft`.

    ```
    acopy2 /rd #<number>:joe\draft loreena
    ```

Connection test without server as remote contact

It is possible to test the functionality of an installed Dialogic® Diva® ISDN Media Board (and the CAPI interface) even if no ACOPY2 server is available. This method uses the ISDN telephone.

Modify the ISDN service to telephony service and use the number of the ISDN telephone to simulate the establishment of a connection. ACOPY2 generates an error message because no ACOPY2 server is available. However, if the telephone rings, the ISDN switch, the Diva Media Board and the CAPI function properly. Cancel the connection by shortly picking up the receiver. If the telephone does not ring, this attempt to establish a connection can be very useful to analyze the functional problem.

Use the following command:

```
acopy2 /dir /s1 #<number>:*.*
```

If the telephone rings, the test was successful.

If the telephone does not ring, there is a problem with the connection.

Using ACOPY2 on more than one controller

When you have installed several Dialogic® Diva® ISDN Media Boards in the same PC or you have installed a Diva multiport Media Board with 2 or 4 controllers, you might need to choose a controller for ACOPY2. This selection is also necessary if only one BRI interface is available but all controllers have to be tested consecutively for functionality.

Note: The controllers are numbered from 1-4. When using several Diva ISDN Media Boards (up to 4), the Diva Media Board that was loaded first is counted as first controller.

The following is an example for a Dialogic® Diva® 4BRI-8 Media Board that is to be tested at an ISDN connection. The top ISDN interface (first controller) is used first. After each ACOPY2 request, plug the cable into the next interface. In this example, ACOPY2 is used, and the controllers are numbered from 1-4.

```
acopy2 /dir /c1 #<number>:*.*
acopy2 /dir /c2 #<number>:*.*
acopy2 /dir /c3 #<number>:*.*
acopy2 /dir /c4 #<number>:*.*
```

CHAPTER 6

Solving ACOPY2 Connection Problems

Calls to an ACOPY2 server may fail with an error such as the following:

```
Layer 1 Error/check cable/NT
```

This is a general error message. It means that the outgoing call cannot be completed. Check the following:

- Is your Dialogic® Diva® ISDN Media Board connected correctly?
- Is your ISDN connection enabled by your ISDN service provider?

There might be multiple causes for error messages. When you get any other message, check also the following:

- Is data service available at your site?

If you are connected to a PBX check the following:

- Is data service available at your site?
- Are you permitted to make calls outside a closed user group?
- Do outgoing calls at your site require prefix routing codes?
- Do you need to indicate your own OAD (Origination ADdress)?

Ask the technician responsible for your PBX.

To check the initialization of a connection, generate a trace with Dialogic® Diva® Diagnostics for your Dialogic® Diva® Media Boards. You can thus check the protocol signals of your ISDN connection. Refer also to the online manuals of the different software solutions.

Error codes

ACOPY2 provides the following error level return codes:

Code	Error type
1	Syntax error
2	CAPI register error Profile error Signal error Controller number error
3	File I/O error
4	Connect error (non ISDN)
5	Server not ready
6	Protocol error / unexpected message
7	Request rejected
8	Disc full
9	CAPI_Get_Message error
10	Layer 1 error
11	Layer 2 error
12	Layer 3 - User busy
13	Layer 3 - No user responding
14	Layer 3 - Call rejected
15	Layer 3 - Wrong number
16	Layer 3 - Other failures

Code	Error type
17	Layer 3 - Channel error (no channel etc.)
18	Layer 3 - Out of order
19	Layer 3 - Network error (network congestion etc.)
20	Layer 3 - Incompatible destination
21	Layer 3 - Local ISDN error (message not implemented etc.)
22 and up	Any unknown error

CHAPTER 7

Changing the ISDN service

If you want to change the ISDN service while working with ACOPY2, you have to specify the corresponding CIP-Value. To do so, use the parameter or **/s**<CIP> as described under <u>ACOPY2 requester</u> on page 11.

CIP-values

Refer to the following table to determine the ISDN services for a specific CIP:

CIP-Value	Service	BC (Europe)	BC (Japan, USA)	HLC
1	Speech	80 90 a3	80 90 a2	
2	Unrestricted digital information	88 90	88 90	
4	3,1 kHz Audio	90 90 a3	90 90 a2	
5	7 kHz Audio	91 90	91 90	
9	Unrestricted digital information with tones	90 a5	90 a5	
16	Telephony (according to CIP1)	80 90 a3	80 90 a2	91 81
17	Facsimile Group 2/3 (according to CIP4)	90 90 a3	90 90 a2	91 84
18	Facsimile Group 4 Class I (according to CIP2)	88 90	88 90	91 a1
19	Facsimile Group 4 Classes II and III (according to CIP2)	88 90	88 90	91 a4
26	7 kHz Telephony (according to CIP9)	90 a5	90 a5	91 81