



# **AEDR-COURIER**

**Technical Guide**

**AEDR/EN T/A11**



# CONTENT

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<b>1.</b>	<b>THE AEDR-COURIER PROGRAM</b>	<b>3</b>
1.1	AEDR-Courier Operation	3
1.2	AEDR-Courier Location	3
1.3	Command Line	3
1.4	Disturbance Record Files	4
1.5	AEDR-Courier Log file	4
<hr/>		
<b>2.</b>	<b>THE AEDR-COURIER INI FILE</b>	<b>5</b>
2.1	Section Entries in an AEDR-Courier INI File	5
2.1.1	LogFileName	5
2.1.2	ComtradeName	5
2.1.3	ComtradeDir	6
2.1.4	ComtradeFormat	6
2.1.5	MinAddress	6
2.1.6	MaxAddress	6
2.1.7	CommPort	6
2.1.8	BaudRate	6
2.1.9	ElevenBits	6
2.1.10	BusyHoldoff	6
2.1.11	BusyCount	7
2.1.12	ResetResponse	7
2.1.13	Response	7
2.1.14	TryCount	7
2.1.15	TransmitDelay	7
2.1.16	GlobalTransmit	7
2.1.17	UseModem	7
2.1.18	TAPI_ModemName	7
2.1.19	TAPI_LineAddress	7
2.1.20	TAPI_NumberToDial	8
2.1.21	TAPI_UseCountryAndAreaCodes	8
2.1.22	TAPI_AreaCode	8
2.1.23	TAPI_CountryCode	8

<b>2.2</b>	<b>Minimum INI File</b>	<b>8</b>
<b>2.3</b>	<b>Simple INI File</b>	<b>8</b>
<b>2.4</b>	<b>Directory Setting INI File</b>	<b>9</b>
<b>2.5</b>	<b>Full INI File</b>	<b>9</b>
<b>2.6</b>	<b>Testing of INI Files</b>	<b>10</b>
<b>2.7</b>	<b>Test mode operation</b>	<b>10</b>
2.7.1	How to execute a test	11
<hr/>		
<b>3.</b>	<b>USING THE SCHEDULED TASKS PROGRAM</b>	<b>12</b>

## 1. THE AEDR-COURIER PROGRAM

AEDR-Courier.exe is a command line program that will extract all unextracted disturbance records from all Courier devices within a range of addresses.

It will operate either with a direct connection or a via a modem connection. It uses the low-level functionality of MiCOM S1 S&R Courier and therefore any disturbance record obtainable with MiCOM S1 S&R Courier should be obtainable with AEDR-Courier.

The program may be launched from the Window's Schedule Tasks program. The program executes in hidden mode. The only visible evidence of its execution is the appearance of disturbance record files and/or additions to a log file.

The program may also be manually operated from the command line. This mode of operation is specifically useful for testing a scheme after an INI file has been created.

The configuration of the program is done with an INI file. The INI file specifies the devices to be accessed and the communications parameters to be used. The INI file is passed to the program as a command line parameter.

AEDR-Courier operates on a single communication port or modem. If Courier devices are connected to more than one communication port or modem, AEDR-Courier will need to be run separately for each, with each port or modem using its own INI file.

AEDR-Courier cannot be used with the front port of P\*40 series relays. The front port does not allow extraction of records; it only allows them to be saved.

### 1.1 AEDR-Courier Operation

AEDR-Courier will scan all the Courier device addresses within a specified range. If it does not find a device at an address it will skip over it and go onto the next address. It is only necessary to specify the lowest address and the highest address. It will not matter if there are devices missing in the sequence.

AEDR-Courier does not keep a list of known devices. Each time it runs it scans all addresses in the specified range. You may add new devices, or remove existing devices, and AEDR-Courier will extract disturbance records from all addresses it finds within the range each time it operates.

If a device is found at an address within the specified range and an error is found in the course of attempting to extract a record the error will be reported to a log file.

### 1.2 AEDR-Courier Location

The AEDR-Courier.exe file is located in the following folder.

```
\\Program Files\\AREVA T&D\\MiCOM S1\\Courier\\AEDR-Courier\\
```

### 1.3 Command Line

The command line to launch the program, either manually or from Windows Scheduler, must have the form, AEDR-Courier.exe <INI file name>. For example,

```
AEDR-Courier.exe MyFile.ini
```

The INI file may have any valid filename but if the name contains spaces the name must be enclosed in quotes. For example,

```
AEDR-Courier.exe "My File.ini"
```

The INI file may provide an absolute or relative path. Relative paths are relative to the location of the AEDR-Courier.exe file. For example,

```
AEDR-Courier.exe ".\\MyDir\\My File.ini"
```

An additional /t option may be added for testing the INI file. See the section 'Testing of INI Files'

#### 1.4 Disturbance Record Files

For each disturbance record, a set of two or three files are created in standard COMTRADE format (i.e. \*.CFG, \*.HDR and \*.DAT).

The file name used for each file in the set will be in the following format,

<AAA>\_<ComtradeName>\_<Date and Time>

<AAA> Is the decimal address of the device, always three digits.

<ComtradeName> Is the name specified by the ComtradeName section entry in the INI file.

<Date and Time> Is the date and time of the extraction in the following format,  
YYYY-MM-DD--HH-MM-SS  
Hours (HH) are as the 24 hour clock.

The format is such that a sorted list of file names will be in chronological order for each device address.

#### 1.5 AEDR-Courier Log file

All errors are output to a log file. The log file name is user settable. See the description of the 'LogFileName' entry for the INI file.

Some errors may give rise to more than one error in the log file.

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## 2. THE AEDR-COURIER INI FILE

### 2.1 Section Entries in an AEDR-Courier INI File

The INI file uses a single section-header with a name of [AutoExtract]. All section entries must be listed below this section-header. A minimum INI file will contain only the [AutoExtract] section-header. Without this the program will return an error of "Can't open INI file".

Each section entry in an INI file consists of a key, an equals sign and a value in the form,

```
<key>=<value>
```

The maximum length of the <value> in a section entry is 200 characters.

All section entries in the AEDR-Courier INI file have default values. You only need to include section entries when you need to use values that are not the default values

Of the section entries listed below all items from BusyHoldoff onwards may be considered as identical to the parameters set in communications set-up of MiCOM S1 S&R-Courier. If help is required as to the definition and setting of these parameters look at the online Help for the Communication Setup dialog and the Communications Help that can be accessed from S&R-Courier.

Values are one of two types, integer or string.

#### IMPORTANT NOTE:

When a key using an integer value type exists without a value, e.g. 'ComtradeFormat= ', then the default value is assigned. When a key using a string value type exists without a value, e.g. 'ComtradeName= ', then a blank string is assigned. If the default value is required for a string key, the key must not exist. (When the default value is a blank string it does not matter whether the key exists or not). This is the standard manner in which Windows INI files operate.

#### 2.1.1 LogFileName

Value type - String.

The log file name. The name must include the file extension. The name may contain an absolute drive and directory or a relative directory. If drive or directory information is included the drive and/or directory must exist; the program will not create a directory. The log file itself need not exist. If it does not exist it will be created when AEDR-Courier is run. The name must contain only valid filename characters. The name may contain spaces. Example valid log file names are;

```
MyFile.log  
MyDir\MyFile.txt  
D:\My Dir\My File.log  
..\MyDir\MyFile.abc
```

When LogFileName is set to a blank string the name of the application is used with a .log extension.

Default value: <blank string>.

#### 2.1.2 ComtradeName

Value type - String.

The name for the Comtrade file name. (see section 'Disturbance Record Files' for how this name is used.)

The name must contain only valid filename characters. A blank string will create valid Comtrade files.

Default value (when ComtradeName key name does not exist): DR

### 2.1.3 ComtradeDir

Value type - String.

The directory in which the Comtrade files will be placed. The string may contain an absolute drive and directory or a relative directory. Any drive and directory specified must exist; the program will not create them. A trailing '\ ' is optional.

When LogFileName is set to a blank string the directory containing AEDR-Courier.exe is used.

Default value: <blank string>.

### 2.1.4 ComtradeFormat

Value type - Integer.

Permissible values: 1991 or 1999

Default value: 1999.

Note: When a compressed record is extracted, ComtradeFormat is ignored and the format used is 1991.

### 2.1.5 MinAddress

Value type - Integer.

The first address to be scanned. Permissible values: 1 to 254.

Default value: 1.

### 2.1.6 MaxAddress

Value type - Integer.

The last address to be scanned. Permissible values: 1 to 254.

If MaxAddress is less than MinAddress then the address used for MaxAddress will set to the value of MinAddress.

Default value: 32.

### 2.1.7 CommPort

Value type - String.

Permissible Strings: Any valid communication port string, e.g. COM1.

Default value (when CommPort key name does not exist): COM1.

### 2.1.8 BaudRate

Value type - Integer.

Permissible values: Any valid MiCOM S1 S&R Baud rate, e.g. 19200.

Default value: 9600.

### 2.1.9 ElevenBits

Value type - Integer.

Permissible values: 0 or 1. 1 indicates 11 bits, 0 indicates 10 bits.

Default value: 1.

### 2.1.10 BusyHoldoff

Value type - Integer.

Permissible values: 0 to 65535.

Default value: 50.

#### 2.1.11 BusyCount

Value type - Integer.

Permissible values: 0 to 65535.

Default value: 100.

#### 2.1.12 ResetResponse

Value type - Integer.

Permissible values: 0 to 65535.

Default value: 100.

#### 2.1.13 Response

Value type - Integer.

Permissible values: 0 to 65535.

Default value: 100.

#### 2.1.14 TryCount

Value type - Integer.

Permissible values: 0 to 65535.

Default value: 3.

#### 2.1.15 TransmitDelay

Value type - Integer.

Permissible values: 0 to 65535.

Default value: 5.

#### 2.1.16 GlobalTransmit

Value type - Integer.

Permissible values: 0 to 65535.

Default value: 10.

#### 2.1.17 UseModem

Value type - Integer.

Permissible values: 0 to 1. 1 indicates a modem connection is used. 0 indicates a direct COM port connection.

Default value: 0.

#### 2.1.18 TAPI\_ModemName

Value type - String.

This key entry must be set to the name of the modem. The name should be exactly as it appears in the Windows modem setup dialog.

Default value: <blank string>.

#### 2.1.19 TAPI\_LineAddress

Value type - Integer.

The value required by a specific modem. This parameter is ignored for most modem.

Default value: 0.

#### 2.1.20 TAPI\_NumberToDial

Value type - String.

Permissible values: A valid telephone number. Commas may be used to indicate a one second delay.

Default value: <blank string>.

#### 2.1.21 TAPI\_UseCountryAndAreaCodes

Value type - Integer.

Permissible values: 0 or 1. 1 indicates TAPI\_AreaCode and TAPI\_CountryCode are used. 0 indicates TAPI\_AreaCode and TAPI\_CountryCode are not used.

Default value: 0.

#### 2.1.22 TAPI\_AreaCode

Value type - String.

Permissible values: A valid area code telephone number. Commas may be used to indicate a one second delay.

Default value: <blank string>.

#### 2.1.23 TAPI\_CountryCode

Value type - String.

Permissible values: A valid country code telephone number. Commas may be used to indicate a one second delay.

Default value: <blank string>.

### 2.2 Minimum INI File

If you are using a system that uses the same values as the defaults for each of the section entries in the INI file then your INI file need only contain one line specifying the section-header as shown below,

```
[AutoExtract]
```

### 2.3 Simple INI File

In many situation where a connection modem is not required, the default values for most the section entries in the INI file will default to useable values. It is then only necessary to insert the exceptions. If a KITZ101 was being used with COM2 on your PC an INI file could be created as below. The Baud Rate entry should be set to match the baud rate set on the KITZ101. (This assumes that KITZ101 switch 3 is set to 11 bit).

```
[AutoExtract]
```

```
BaudRate=38400
```

```
CommPort=COM2
```

## 2.4 Directory Setting INI File

If AEDR-Courier is used with the minimum or simple INI file described above, all the disturbance records extracted will be stored in the directory in which AEDR-Courier was installed. It is good practice to separate data files from program files. The data files can then be backed-up and managed without interfering with the installed programs.

A directory can be added anywhere on your computer system and its path can be put in the INI file. The following INI file will direct AEDR-Courier to store records in the specified directory.

```
[AutoExtract]
ComtradeDir=D:\My Dir\My File.log
```

Setting the `ComtradeDir` key is also useful when there is more than one set of Courier devices to extract records from. AEDR-Courier may be used several times, each using a different INI file. Each INI file can contain a separate location to store the records. Other keys can be used to organise the storage of records. Look at; `ComtradeName` and `LogFileName`.

## 2.5 Full INI File

Below is shown an example of an INI file that includes all keys. It is not intended as a usable file. The values are just representative values. Its purpose is to show an example value for each of the section entries.

```
[AutoExtract]
LogFileName=D:\My Dir\My File.log
ComtradeName=Record
ComtradeDir=..\Dist Records
ComtradeFormat=1991
MinAddress=4
MaxAddress=20
CommPort=COM2
BaudRate=38400
ElevenBits=0
BusyHoldoff=150
BusyCount=100
ResetResponse=200
Response=200
TryCount=4
TransmitDelay=10
GlobalTransmit=15
UseModem=1
TAPI_ModemName=Standard 9600bps Modem
TAPI_LineAddress=0
TAPI_NumberToDial=223251
TAPI_UseCountryAndAreaCodes=1
TAPI_AreaCode=01785
TAPI_CountryCode=44
```

## 2.6 Testing of INI Files

INI files should be tested manually from the command line, with test mode active, before being used with the Windows Scheduler. The purpose of test mode is to validate as many of the INI file values as possible. For example it will check that the INI file exists and can be read, and that the directory for the COMTRADE files exists and is writable.

## 2.7 Test mode operation

The purpose of test mode is to provide visual indication of errors in INI file values.

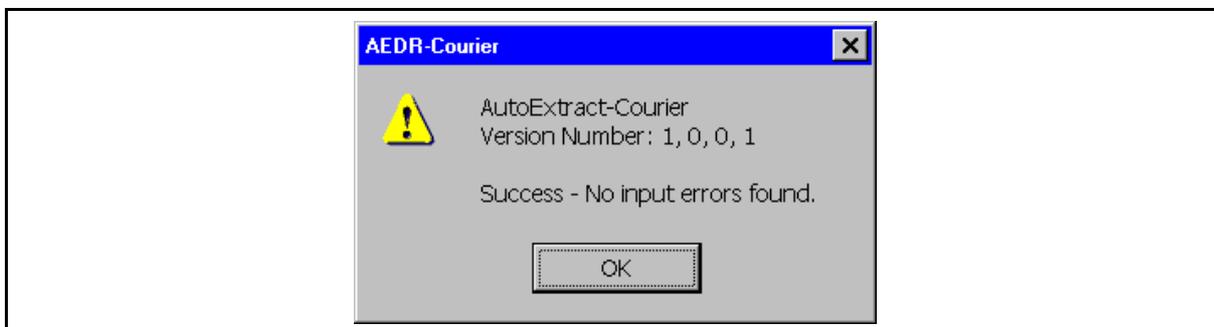
With test mode active AEDR-Courier operation is identical to normal operation but with the addition of a validation message box. The program will extract records in the normal way from whatever devices it finds in the specified range of addresses. However, test mode does not produce validation messages for the operation of the communication connection. Its only purpose is to validate those INI file values that it is able to. Test mode can be done without any device being attached.

It is important to realise that the absence of errors in the log file does not indicate that a system is set correctly. Log file entries are created only when a device is detected, and some aspect of extraction fails. The fact that a device is not found is a normal condition. So if, for example, the baud rate is set incorrectly, no log entry will be created. It is important to test the system positively by extracting records from each known device to verify successful operation in normal running. This can be done with or without the use of test mode.

Test mode is invoked by adding the /t option to the command line as follows.

```
AEDR-Courier.exe "My File.ini" /t
```

The /t option will put the program into test mode. The result of the validation will be displayed in a message box when the program terminates. When no errors are found the message box will appear as below.



Error messages will be displayed if errors are found.

Note that the Success message (as above) only indicates that no errors were found with the input values. It does not indicate that communications was successful or even possible.

If any fatal error is found when the /t option is not in use the error that would be written to the message box is written to the log file instead. That is, of course, if it is possible to do so. Errors that result in the log file not being created or not being accessible will not get written to the log file.

The program does NOT validate the following INI file section entries.

```
ComtradeName (Partially validated - a check is made for illegal file characters).  
CommPort  
TAPI_ModemName;  
TAPI_LineAddress;  
TAPI_NumberToDial;  
TAPI_CountryCode;  
TAPI_AreaCode;
```

### 2.7.1 How to execute a test

This example assumes that AEDR-Courier has been installed in the default location. It also assumes that an INI file has been created and has been located in the same directory as AEDR-Courier.exe.

If you have not used DOS commands before this may be unfamiliar. However, there is only one command that you will need to use. That is the Chdir command that is used to change the directory. The Chdir command can be abbreviated to cd. Use the Help that comes with your version of Windows to learn more about the Chdir and the Command Prompt in general.

Open a Command Prompt window. (The Command Prompt on Win98 and NT4 PCs is called MS-DOS.) To open a Command Prompt window, click **Start**, point to **Programs**, point to **Accessories**, and then click **Command Prompt**.

Navigate to the directory where AEDR-Courier.exe is located using the Chdir command. Note; Using 'chdir ..' goes back a directory.

Type the AEDR-Courier.exe file name. Follow this with a space and then the name of the INI you are testing. Finally add another space and then /t. The complete command should look similar to the line below.

```
AEDR-Courier.exe MyFile.ini /t
```

Note that if your INI file name has spaces in it you must enclose it in inverted commas.

```
AEDR-Courier.exe "My File.ini" /t
```

When the Enter key is pressed AEDR-Courier will execute. On completion the message box will appear.

When testing INI files always check the log file. Some errors will only appear in the log file.

### 3. USING THE SCHEDULED TASKS PROGRAM

The Scheduled Tasks program is a component that is included with Windows. It allows programs to be executed automatically at predetermined times. Other programs are available from independent companies that provide more comprehensive facilities and these may be used as alternatives for executing AEDR-Courier. Below is a mini-tutorial that shows the basics of using the Scheduled Tasks program to operate AEDR-Courier.

During this tutorial you will need to provide the name of an INI file. For the purposes of the tutorial it can be any INI file name. However, when creating a scheduled task for proper use the INI file should be tested first. See section 'Testing of INI Files'.

Click **Start**, point to **Settings**, click **Control Panel**, and then double-click the **Scheduled Tasks** icon. The Scheduled Tasks program will open.

Double click the **Add Scheduled Task** item. This will open the Scheduled Tasks Wizard.

After clicking the **Next** button (then waiting a while) a list of programs will be displayed. Ignore these and click the **Browse** button instead. Navigate to the AEDR-Courier.exe program. If you loaded MiCOM S1 at the default location it will be at,

Program Files\AREVA T&D\MiCOM S1\Courier\AEDR-Courier\AEDR-Courier.exe  
Select AEDR-Courier.exe and click the **Open** button.

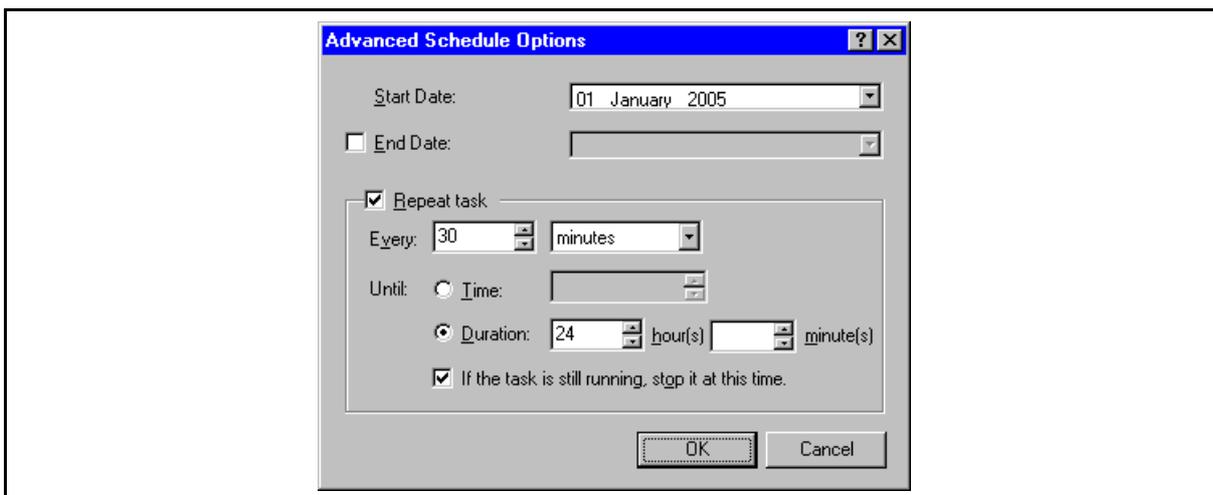
You will now be asked when you want to program to operated. The choices provided don't allow for more frequently than daily. If you want it to operate more frequently than daily you can improve on it later. For now choose **Daily** and click **Next**.

Accept the Start Time and Start Date and click **Next** again.

Enter your user name and password (twice) and click **Next**

Click the **Open advanced properties for this task when I click Finish** box and then click **Finish**.

The properties dialog for the task will open. This allows various options to be changed. In this basic tutorial there are only two things that need be changed. Firstly is setting how frequently AEDR-Courier will operate. Click the **Schedule** tab, then the **Advanced** button. The Advanced Schedule Options dialog is opened. Set this dialog as shown below. This will set Schedule Tasks to operate AEDR-Courier every 30 minutes.



Click the **OK** button.

The second change is to tell the Scheduled Tasks which INI file AEDR-Courier should use. Click the **Task** tab. The **Run** edit box should show the AEDR-Courier.exe as the program to run. The Run edit box represents the command to be executed. The AEDR-Courier.exe must be followed by a space and then the name of the INI file you want it to use. Enclose the INI file in double quotes if it contains spaces. Do NOT add the /t option when running automatically. Click the **OK** button to complete setting up.

If any later modification is required double-click on the item in the Schedule Tasks window and the properties dialog for the task will open. The Schedule Tasks program allows great flexibility in its configuration but does not have a friendly interface. With some perseverance it can be set to do almost anything.

If several INI files are required to cater for Courier devices at various locations, care should be given to the time at which each will operate. Two calls to AEDR-Courier where the two INI files use the same COM port will fail if run at the same time. On the other hand, if the INI files use different COM ports there is no reason why two instances of AEDR-Courier cannot be set to operate at the same time.

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