Rode Manipulation Toolkit

Troika International Limited

Maxim-UserGuide

Version 3.0.0

TROIKA INTERNATIONAL

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Document History

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Product	Maxim

Authored By

Author	Role
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Version	Date	Author	Revision Change Description
3.0	26th February 2022	Technical Author	Initial for reworked single maxim executable

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CHAPTER 1

Introduction

Maxim is implemented as a command line utility which can be used to Examine Metadata and Restore from RODE files.

RODE (Record Oriented Data Encapsulation) is a Society of Exploration Geophysicists (SEG) format Standard that is used for the encapsulation of Record Oriented Tape Data to produce media neutral datasets that can reside on disk or tape and can be transported across networks whilst maintaining the inherent record orientation.

Please refer to the Technical Standards section of the SEG web site (http://seg.org/) for detailed information of RODE format definition.

At the date of writing this guide an index to the standards could be found at:

http://seg.org/Publications/SEG-Technical-Standards

> Maxim is in the process of a re-write. Version 2.1.0 does not support Tape Operations and RODE Creation but these will be re-introduced soon.

Supported Operating Systems

Midi is supported on the following Operating Systems:

Operating System	Arch	Installer
Redhat® 7//Centos 7	64-bit	Maxim-3.0.0-rhel7-x86_64-linux-installer.run
Microsoft® 10	64-bit	Maxim-3.0.0-win64-windows-installer.exe

Other flavours of Linux may be supported; please contact your local support office to discuss.

Pre-Requisites

Midi is licensed via the FlexLM licensing software. You will be supplied with a flex license file which needs to be served from a flex license manager. If your site already has a server running flex licenses, then the troika license can also be served via the existing Flex server. Alternatively, Troika can supply the installers for the flex license manager on Windows or Linux. Please refer to “Troika_FlexNetPublisher_Guide.pdf” if using the Troika Flex distribution.

Training

Troika offer training courses that will ensure that you take the maximum advantage of Troika’s products. These training courses can be configured to address your specific requirements.

Services

Troika can work with you to design workflows to give:

Optimum efficiency + maximum confidence in media and data + maximum media information

Please contact us at info@troika-int.com for more information on training and services.

Support

Please contact support@troika-int.com for any support enquiries.

CHAPTER 2

Installation

The distribution is normally obtained by logging into the Troika website and going to the download area. If you need an account, please contact support@troika-int.com .

Alternatively, you may be sent a link to an ftp download.

Linux Installation

Make the downloaded program executable if necessary.

```
% chmod 755 Maxim-2.1.3-rhel5-x86_64-linux-installer.run
```

Adding Maxim to your Linux path.

Use the methods appropriate to your login shell and Site conventions to add the Maxim installation path to your PATH. Alternatively, always execute Maxim using the full path to the executable.

Windows Installation:

Run the installer executable and install it as any normal Windows application, following the installation wizard.

Adding Maxim to your Windows path

Use the methods appropriate to your windows version and Site conventions to add the Maxim installation path to your PATH. Alternatively, always execute Maxim using the full path to the executable. Typically, you can add the path via The Environment Variable dialogue in System properties.

Checking that maxim executable is in your path

Open a terminal console (in Windows; CMD or COMMAND) and type…

```
% maxim -v
```

This should return…

Maxim: 2.1.2

CHAPTER 3

Operations

Command Line Options

Long Form	Short Form	Arguments	Description
--input-file	-I	Input file name path	Specifies the input file(s)
--config	-c	Config filename	
--restore	-R		
--list	-L		Directive to produce a RP66/RODE Metadata listing to Standard Output.
--data-output-directory	-D	Output Directory Path	Specifies the output directory
--logfile		Logfile name	Specify the name of Maxim listing file. The default is maxim.lst in the current working directory.
--help	-h		Display command line options
--debug	-d		Produce debug output for support
--version	-v		Display the program version and any external program compatibilities.
--raw-version			Displays the program version without a header and external programs compatibilities.

Maxim Restore

> Maxiim will restore SEGY and Tar files as bytestream files, all other formats will be restored in Tape Image Format(tif) with the file extension **.tap** appended. This ensures that the record structure is maintained.

To restore the components files back to a tree in a given directory (.) use the following command syntax:

```
% maxim –I {input file} –R –data-output-directory {output directory}
```

The following example shows a Restore of 2 SEGY files

```
[petec@tractor Maxim]$ maxim -I /qdata1/TESTHARNESS/RUNAREA/Maxim/JobForMaxim.rode -R --data-output-directory .
Job started
RODE file-id:000024.segy file-set-name:JobForMaxim object-file:./JobForMaxim/000024.segy.segy
RODE file-id:000026.segy file-set-name:JobForMaxim object-file:./JobForMaxim/000026.segy.segy
Completion: Normal
```

The Restore will also produce an xml file containing metadata for each component file.

```
[petec@tractor Maxim]$ more out.xml
<?xml version="1.0" encoding="utf-8"?>
<RP66-file vsn="JobForMaxim" storage-set-identifier="JobForMaxim" visreclen="65536">
        <RODE-file file-id="000024.segy" file-set-name="JobForMaxim">
                <object-file encaps="segy"/>
                <internal-format>SEGY</internal-format>
                <producer-name>TROIKA</producer-name>
                <client-company>TNEIC</client-company>
                <ancillary-info designation="country">United Kingdom</ancillary-info>
                <ancillary-info designation="region">North Sea</ancillary-info>
                <ancillary-info designation="owner">Troika International</ancillary-info>
                <ancillary-info designation="operator">support@troika-int.com</ancillary-info>
        </RODE-file>
        <RODE-file file-id="000026.segy" file-set-name="JobForMaxim">
                <object-file encaps="segy"/>
                <internal-format>SEGY</internal-format>
                <producer-name>TROIKA</producer-name>
                <client-company>TNEIC</client-company>
                <ancillary-info designation="country">United Kingdom</ancillary-info>
                <ancillary-info designation="region">North Sea</ancillary-info>
                <ancillary-info designation="owner">Troika International</ancillary-info>
                <ancillary-info designation="operator">support@troika-int.com</ancillary-info>
        </RODE-file>
</RP66-file>
```

File Naming on Restore

Output files will be named using the RODE-CONTEXT information and will be in the format…

`{data-output-directory}/{File Set Name}/{File Id}.{extension}`

The extension name is determined by the given Internal Format, as follows.

Internal Format	Extension	Description
SEGY	.segy	This will be a SEGY on disk file. The Structure of the RODE file will be checked for SEGY format duting the restore.
TAR	.tar	The output file will be a bytestream tar file
Other value	.tap	The output will be a TIF encapsulated, i.e.they maintain the record structure of the original tape.

Hence for the example file 000026.segy that was listed above…

```
File Id: 000024.segy
File Set Name: JobForMaxim
Internal Format: SEGY
```

The following file will be created if –data-output-directory (-D) = /data…

`/data/JobForMaxim/000024.segy.segy`

Note: Version 2.1.0 does not support the restore of files where File Id contains a path e.g.

`File Id: /data/project/000024.segy`

Maxim List

This will produce a RP66/RODE Metadata listing for the input file(s). By default, the listing goes to Standard Output, you can redirect this to an output file if required.

Example

The input file contains 2 SEGY files 000024.segy and 000026.segy in the File Set Name JobForMaxim. Each file has RODE Metadata and Ancillary Info associated with it.

```
% maxim -I /data/RODE/JobForMaxim.rode -L
Job started
---RP66 Storage Unit Label---
Storage Unit Type: RP66 V2
Format Edition: 1
Binding Edition: 1
Storage Set Identifier: JobForMaxim
Storage Unit Sequence: 1
Storage Unit Structure: RECORD
Maximum Visible Record Length: 65536
Volume Serial Number: JobForMaxim
Creation Date: 31-JAN-2017

---RODE File 1---
File Id: 000024.segy
File Sequence Number: 1
File Set Name: JobForMaxim
File Set Number: 989799180
File Number: 1
Creation Time: 2017/01/31 11:18:45.000 GMT
Internal Format: SEGY
Operating System: Linux x86_64 2.6.18-348.el5
Program: Magma
Program Version: 5.4.0
Author Code: 475
Author Name: Troika International
Producer Name: TROIKA
```

```
Producer System: tractor
Client Company: TNEIC
Source Company: ECRUOS
Source Producer Name: Magma
Ancillary Info:
  country=United Kingdom
  region=North Sea
  owner=Troika International
  operator=support@troika-int.com

---RODE File 2---
File Id: 000026.segy
File Sequence Number: 2
File Set Name: JobForMaxim
File Set Number: 989799180
File Number: 2
Creation Time: 2017/01/31 11:18:46.000 GMT
Internal Format: SEGY
Operating System: Linux x86_64 2.6.18-348.el5
Program: Magma
Program Version: 5.4.0.beta8
Author Code: 475
Author Name: Troika International
Producer Name: TROIKA
Producer System: tractor
Client Company: TNEIC
Source Company: ECRUOS
Source Producer Name: Magma
Ancillary Info:
  country=United Kingdom
  region=North Sea
  owner=Troika International
  operator=support@troika-int.com
Completion: Normal
```


Redirecting Listing Output

Use the > to redirect Standard Output to a text file. Standard Error will still be displayed on the console.

```
[petec@tractor Maxim]$ maxim -I /qdata1/TESTHARNESS/RUNAREA/Maxim/JobForMaxim.rode -L > JobForMaxim.txt
```

Multiple Inputs and Using Wildcards

Multiple input files can be read in a single maxim execution

```
% maxim -I file1.rode,file2.rode -R
```

or with wildcards…

```
% maxim -I *.rode -R
```

Using config files

The commands and input files lists can be entered into a text configuration file so that this can be supplied a command input to Maxim. Create a text file and insert the commands (see example in above) using = signs to delimit the option and values.

```
list=true
input-file=/qdata1/RODE/file1.rode
input-file=/qdata1/RODE/file2.rode
input-file=/qdata1/RODE/file3.rode
```

Figure 3-1 *Config File Example*

Use this with the `--config (-c)` command option thus…

```
% maxim -c example.cfg
```

Troubleshooting

Unable to check out license MAXIM_EXE

Check that you have setup the environment so that maxim is attempting to checkout a license from a valid license server that has a valid Maxim license.

Exception: Unable to open file or device

Ensure that the file(s) specified with the --input-file (–I) option exist. Prepend the directory path if the file(s) are not in the current working directory.