# Conversion Program Return Codes and Information

## Overview

The aim is to make it easy for a calling application to:

1. determine successful processing from unsuccessful processing, and
2. confirm certain parameters about the process or data are as expected.

This will be done by:

1. using a standard process exit code to determine the reason the application terminated, and
2. generating easily-consumed metadata about the conversion process and the data.

From an application, you will be able to do this in three steps:

1. Run the conversion process: (there is a default "-calibrate 1" for auto-calibration)

omconvert input.cwa -out output.wav -info information.txt

1. Check for a zero return code from the process to indicate successfully completed the conversion and writing of the information file.
2. Check the values in the information file match expectations (e.g. the sample rate is 100Hz and +/-8g range, the requested recording duration is 7 days, start/stop times are 10am, the number of erroneous sectors is very low, the total output is 7 days, whether the auto-calibration was successful)

## Return code

Return codes (values based on Linux’s sysexits.h EX\_ constants):

|  |  |  |
| --- | --- | --- |
| **Return code** | **Value** | **Description** |
| EXIT\_OK | 0 | Successfully converted (information file and output file written) |
| EXIT\_USAGE | 64 | Command line usage error |
| EXIT\_DATAERR | 65 | Data format error (input file cannot be parsed) |
| EXIT\_NOINPUT | 66 | Cannot open input |
| EXIT\_SOFTWARE | 70 | Internal software error |
| EXIT\_OSERR | 71 | System error |
| EXIT\_CANTCREAT | 73 | Can't create output file |
| EXIT\_IOERR | 74 | Input/output error (an individual read/write failed) |
| EXIT\_CONFIG | 78 | Configuration error |

## Information File

In a standard ‘properties’ format (like HTML/SMTP headers, YAML subset, etc.), this is some information from the calibration process, concatenated with the existing header data from the WAV file.

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::: Data about the conversion process

Result-file-version: 1

Convert-version: 1

Processed: 2015-01-01 12:00:00

File-input: /path/filename.cwa

File-output: /path/filename.wav

Results-output: /path/filename.txt

Auto-calibration: 1

Calibration-Result: 0

Calibration: 1.00,1.00,1.00,0.00,0.00,0.00,0.00,0.00,0.00,20

Input-sectors-total: 504002

Input-sectors-data: 504000

Input-sectors-bad: 0

Output-rate: 100

Output-channels: 4

Output-duration: 604800

Output-samples: 60480000

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::: Data about the device that made the recording

Id: 1234  
Device: CWA  
Revision: 17  
Firmware: 44

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::: Data about the recording itself

Session: 123456  
Start: 2014-08-01 10:00:00  
Stop: 2014-12-08 10:00:00  
Config-A: 100,8  
Metadata:

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::: Data about this file representation

Time: 2014-08-01 10:00:00.000  
Channel-1: Accel-X  
Scale-1: 8  
Channel-2: Accel-Y  
Scale-2: 8  
Channel-3: Accel-Z  
Scale-3: 8  
Channel-4: Aux

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::: Data about the final state

Exit: 0