NAME

cue2ddp − create a DDP 2.00 master from an audio CD cue sheet

SYNOPSIS

cue2ddp [**−ct**] [**−m** *master−id*] *cuesheet* [*ddpdirectory*]
cue2ddp [**−−help** | **−−version**]

DESCRIPTION

The cue2ddp command acts as an audio CD image converter, parsing a *cuesheet* and writing a DDP 2.0 fileset to *ddpdirectory*. This directory must exist and files therin will be overwritten whithout further notice, if necessary. With no *ddpdirectory* specified, the program exits after parsing the cue sheet and printing a summary of the infromation found, this can be used as syntax check. When *cuesheet* is set to "−" **cue2ddp** reads from standard input.

Parsing is done with the intention to rather exit with an error than end up with a DDP that´s based on guesses about the exact meaning of the input file. Parser warnings will be isseud in non−fatal situations to give as detailed a feedback as possible.

CD text is supported with the standard TITLE, PERFORMER, and SONGWRITER cue sheet commands. In that case all CD Text fields are expected to be encoded as IS0 8859−1 (Latin1), and the language will be set to English. When using the CDTEXTFILE cue sheet command to link a binary CD Text file **cue2ddp** will uses the CD Text data exactly as found.

Although not part of the DDP format **cue2ddp** will also add MD5 and CRC32 checksum files, which can be used to verify data integrity, e.g. after the DDP fileset has been transferred to a different location or media.

OPTIONS

−c, **−−add−cuesheet**
: Embedd a cue sheet within the DDP fileset. The DDP specification allows for inclusion of text files with arbitrary content, which will not affect the disc replication but can be used to store commentary notes on a project. Cue2ddp uses such a file to embed a cue sheet in the DDP fileset; together with the main data file (IMAGE.DAT) it makes up a cue/bin image, which can be read by a variety of software to write CDs or play back the audio content.

−m *master−id*, **−−master−id**=*master−id*
: Set the master identifier, an ASCII string of 48 characters maximum, which can be used to give the master a unique name, but does not end up on the manufactured CD. Note that this is the only way to reliably name a DDP fileset, since the file names of all DDP files are fix.

−t, **−−add−cdtext**
: Include CD Text in the DDP fileset; cue2ddp will place a binary CD text file within the DDP fileset, which will result in a replicated CD with CD text information written into the R through W subcode of the lead−in ("Sony style" CD text). When this flag is set but no CD text fields and no binary CD text file are found in the cue sheet, a warning will be issued. By default cue2ddp does not write CD text, because the cuesheet´s TITLE command is often simply used to name tracks without the intention to actually include CD text.

−−help Print short help and exit.

−−version
: Print version information and exit.

DISC DESCRIPTION PROTOCOL (DDP)

The DDP format was invented by Doug Carson (DCA, Inc.) as a complete description of the input media for glass mastering of CD and DVD. The program and the following notes only refer to DDP as used for Red Book audio CD.

DDP is used by many audio mastering engineers for sending their projects out to CD manufacturers. For a long time 8mm Exabyte tape has been the preferred media, but hard disk, DVD−R, and FTP dominate todays workflow. Some people in the audio world refer to DDP as DDPi, when it´s written to random−access media.

DDP for Red Book audio CD is available in version 1.00, 1.01, and 2.00 with the only relevant difference being that version 2.00 can include CD text, which earlier versions can not.

A DDP 2.0 written by cue2ddp includes the following files:

DDPID, **DDPMS**
: Some general metadata and a list of files making up this DDP.

SD PQ subcode data, i.e. track and index positions, ISRCs, UPC/EAN, and track flags.

IMAGE.DAT
: Audio data in raw format, 44.1 kHz, 16 bit little endian, stereo with interleaved samples.

CDTEXT.BIN (optional)
: CD text information in a pre−encoded binary format with embedded checksums.

IMAGE.CUE (optional)
: A cue sheet to accompany the data file.

CHECKSUM.MD5
: MD5 checksums of all DDP files, while not part of the DDP itself, this can be used to verify data integrity later.

CHECKSUM.TXT
: CRC32 checksums of all DDP files, while not part of the DDP itself, this can be used to verify data integrity later.

CUE SHEET COMMANDS

Cue sheets were introduced by Golden Hawk Technology for their CDRwin CD burning software, the "official" description is found in the appendix of CDRwin´s user manual ("CDRwin.pdf"). Cue2ddp supports the following commands:

REM A comment, the rest of the line will be ignored.

CDTEXTFILE
: Specifies a binary CD text file. If the filename includes spaces it must be enclosed in double quotes. If this file is given all other CD text commands like TITLE, PERFORMER, etc. are ignored. Cue2ddp will only roughly check the format of the file and copy it verbatim into the DDP. The correctness of the resulting DDP will thus not depend on cue2ddp but the software which created the binary CD text file.

CATALOG
: Only in the global section, assigns the catalog number. This is a European Aricle Number (EAN13), which 13 digits. In the U.S. the Unified Prodcut Code (UPC-A) with 12 digits is used, and you need to add a leading Zero to make 13 digits. Both codes use the last digit as checksum and cue2ddp will always validate them.

FILE Cue2ddp only supports one audio file per cue sheet, which must contain the whole audio program, including pre−gaps. It may or may not include the first pre−gap at the start of track 1; if this pre−gap is not included the the mandatory two seconds of silence will be added when writing the DDP. Cue2ddp only supports file types ´WAVE´, ´BINARY´ and ´MOTOROLA´. In all cases the audio must be 44.1 kHz, 16 bit, little endian, stereo with interleaved channels. The length of the audio file determines the end of the CD. If it does not end at a CD sector boundary (1/75th of a second i.e. 2352 bytes) cue2ddp fills up the last sector with digital silence.

File names may include relative or absolute paths, where relative paths will be resolved relative to the cue sheet´s location, not the current directory. If file names include space characters they must be enclosed in double quotes.

TRACK
: Start a track section, the only track type supported is "AUDIO".

ISRC The International Standard Recording Code.

FLAGS
Track flags supported are: ´PRE´, ´DCP´, ´4CH´, ´SCMS´. Use flags only if you know exactly, what you are doing, they are very rarely used these days. ´DCP´ and ´SCMS´ are mutually exclusive.

INDEX
Set the position of a pre−gap start (INDEX 00), a track start (INDEX 01), or further sub−indexes (INDEX 01−99). INDEX 01 is required for each track.

TITLE, **PERFORMER**, **SONGWRITER**
Set a CD text field, either in the global section for the whole disc or within a track section. When the text contains spaces it has to be enclosed in double quotes. Cue2ddp stops reading a CD text field at the last double quote in that line, so the text iteslf can contain (unsecaped) double qotes. The encoding is assumed to be IS0\ 8859−1 (Latin1), multi−byte character sets are not supported.

PRE−GAP, **POST−GAP**
These commands are not supported.

SEE ALSO
ddpinfo(1), cdtinfo(1), dvdtape(1)

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