

“The Premaster CD”

In early 1990, in response to requests we had received from customers, we began working out a way in which the CD-R might be used as a Premastering medium. This led to the development of the PreMaster CD, a special version of recordable CD-DA or CD-ROM.

The PreMaster CD was created because a standard CD does not contain in a convenient place all the information needed to master a Compact Disk. In most conventional CD Mastering recorders, a subcode generator needs first to be loaded with a complete data structure describing subcode placement on the CD before program recording actually starts. This is the function served by the CueSheet data typically encoded as a "tone burst" at the start of the PreMaster tape. In a standard CD, for example, an audio CD, there is no place on the CD which contains a complete description of the subcode, other than the subcode itself. The TOC, at the start of the CD, merely contains track timings with no space for index points, ISRC codes, etc. To read through the entire CD reconstructing the Cue Sheet would be wasteful of precious mastering time. The PreMaster CD format was designed to provide a place to record a complete CueSheet description of the CD.

The PreMaster CD makes use of the fact that not all data-recording surfaces are specified for use in the Red Book or Yellow Book. It uses one of these areas to record all the information needed to describe the subcode placement, plus other information that we thought record labels and mastering engineers would find useful to keep with their PreMaster Disks.

Here is a partial list of the information included in the PreMaster Cue Sheet:

By Disk

- Disk type (CD-DA, CD-ROM, CD-i, CD-ROM/XA)
- UPC/EAN Code

By Track/Index

- Track start, track end, index start
- Control information (#channels, Pre-Emphasis, copy prohibit) (by track)
- ISRC code (by track)
- Pre-gap/Post-gap (for mixed mode CDs)

Extra Information (*see Note 7*)

- Disk name
- Producer name
- Copyright holder name
- Disc Creation Date
- Record Label
- Record Number
- Matrix number

When written by the Sonic System, the premaster information is placed onto the CD-R into its special area at the same time the program and the subcode is recorded onto the CD-R. See Note 8 below.

Note 6:

The PreMaster CD was developed by the Sony CD-ROM division in cooperation with Start Lab, Inc of Tokyo.

Note 7:

Actually, up to 32 kBytes of information can be included. The current specification can be altered if record companies and mastering studios find other or additional information useful to store on the PMCD.

Note 8:

Although the PreMaster CD is not part of the Red Book, Yellow Book or Orange Book specification, it can be considered an *extension* of that specification. Once the concept has been proven in the field, the format will be published, and other CD recorder manufacturers will be invited to adopt the PreMaster approach.