

Eclipse Data Technologies

EclipseSuite 1.21

Release Notes

September 15, 1998

The following are the new enhancements and fixes that have been made in the new release of EclipseSuite Version 1.21:

New Features/Enhancements

ImageCopy

➤Track Consolidation

If the output is to DDP (Tape or File), this feature allows for the consolidation of consecutive tracks of the same mode into one mapstream file. Normally, ImageCopy will create one file for each track on the CD. However, RW files will be unaffected by this setting and are always split one file per track.

➤Split File

If the output is to DDP (Tape or File) and the input is from a consolidated DDP source, this feature will split the consolidated mapstream file to one file per track.

➤Disabling of CDR4VSD.SYS Driver

Adaptec's CD writer software includes a driver named CDR4VSD.SYS. If enabled, Windows NT will crash at the completion of a CD-R output using ImageCopy. To smoothly avoid this problem ImageCopy now checks to see if the Adaptec CDR4VSD.SYS driver is loaded and if so, it will disable the driver before starting the copy. If the driver cannot be disabled, an error message will be displayed and the job will abort. At the end of the job, the driver will be re-started again.

➤Locking of Devices in Same Bus during Copy Operation

Previous versions of ImageCopy locked all SCSI devices on the system to prevent their concurrent usage, which could result in CD-R buffer underruns. This situation is the result of poor SCSI implementations on many of the SCSI peripherals. Certain error and retry conditions may leave the bus in a busy state for extended periods of time, which is not compatible with the real-time requirements of outputting to a CD writer.

Now, when ImageCopy uses a CD writer, it will lock only those devices that reside on the same SCSI bus as the CD writer. Devices attached to other SCSI

busses will be available for use. If you'd like to perform concurrent operations while writing to a CD writer, that is now possible by isolating the writer to it's own private SCSI bus.

➤ **Optionally continue despite unreadable sectors**

By popular request, ImageCopy has been changed to not abort when unreadable sectors are encountered on the source image. Now ImageCopy uses the severity setting for the Main Channel rule "Unreadable sector." If not set to abort, then ImageCopy will insert zero filled sectors in place of the missing unreadable sectors. **Use this feature with caution!**

➤ **DVD Mapstream file is now named IC01.TRK**

When copying to Tape or File, the track file that is created is now named **MAIN.DAT** instead of **IC01.TRK**. This only applies to DVD images.

ImageVerify

➤ **Reorganized Analysis Screen info: Source, Target and Verify buttons**

The Analysis screen of ImageVerify has been enhanced to make recognizing verification errors much simpler. There are now three buttons, **Source**, **Target** and **Verify**. The Source and Target buttons display the analysis information specifically for the Source or Target. The Verify button will display any differences between the Source and target

➤ **Compare the 12 bytes of the A0 and A1 points in the TOC**

There are two new rules specifically for verifying the 12 bytes for the TOC A0 and A1 points.

➤ **DVD**

If a File or Tape has been padded with zero data in order to make the data length a multiple of 16, ImageVerify will ignore the padded sectors during a verify job. These padded areas are not part of the image and can safely be ignored.

➤ **Comparison of Mode 2 Form 1 and Form 2 in Pause Area**

Certain mastering systems may convert the Pause of a CD input from Form 1 to Form 2. This would normally cause a mis-comparison between the original source CD and a replicate. ImageAnalysis has been enhanced so that when this condition occurs it will not consider this as a mis-comparison. This will happen only if the Pause on the source and target is zero data.

Support for DVD-9

ImageVerify now supports verification of DVD-9 (dual layer) discs. Prior versions of EclipseSuite only supported single-layer DVD discs. EclipseSuite has been enhanced to fully support Opposite Track or Parallel Track Path DVDs (DVD-9).

ImageUtilities

➤ Subchannel Viewer now displays RW

The Subchannel Viewer now also displays the RW information. It allows viewing of the four RW packets per Q-Subchannel frame.

➤ Subchannel Viewer now displays P Flag

The Subchannel Viewer includes a field for the state of the P Flag. The P Flag is a bit flag that indicates the start of a track (index 1 point). There are 96 bits per frame. The P Flag column will show either a 1 or a 0 to indicate the state of the P Flag. If not all 96 bits are the same, the viewer will display a 1 or a 0 based on which is more prevalent and follow it with the total count of 1's or 0's in parentheses.

➤ Launching the Main Channel and Subchannel Viewers

The Viewers can be launched even if no Location is selected in the Analysis screen by performing a right click anywhere on the analysis screen (when no operation is currently in progress).

➤ Viewing Audio Comparison Errors in Main Channel Viewer

When verifying audio, ImageVerify handles the offsets caused by cumulative skew between copies. However, when a comparison error occurred, the Main Channel Viewer did not apply the skew correction when displaying the side-by-side sector data for the Source and Target. The data is now aligned so that viewing and comprehending the comparison errors is much easier.

➤ XA to Mode 1 Converter

Occasionally discs are inadvertently created as mode 2 when the user in fact had intended to create a mode 1 disc. This new utility allows you to convert a CD-XA track (Mode 2 Form 1 only) to a Mode 1 track. This is accomplished by using ImageCopy to place the image into a hard disc file, then using XatoM1 to convert that disc file into a new mode 1 disc file. The resulting disc file can then be output to a CD writer with ImageCopy.

All Programs

➤ RW Correction

If the RW data in the Subchannel is corrupt, EclipseSuite will now attempt to recover the data using the ECC correction. There is also a rule that reports when correction was applied to the RW data.

➤ Font Support

This new version of EclipseSuite allows you to customize the font for each screen. The font can be set by selecting **File|Font**.

➤ Most Recently used log files List

Each program will now keep a list of the four most recently used log files. The files will be listed in the **File** menu. Selecting one of these log files automatically opens the log and displays all the information.

➤ **Audio is Shifted due to ROM Spill**

On mixed mode discs (i.e. ROM and Audio), the Subchannel to Main Channel skew is measured on the ROM track(s), and is applied as a corrective offset when reading audio track(s). This accomplishes two things: 1) the "ROM Spill" that is typically present at the beginning of the audio track (following the ROM track) is eliminated, which in turn removes a source of audio clicks and pops, and 2) the accumulation of skew on each generation copy is eliminated.

➤ **ETOC Display**

The **Control** column heading in the ETOC has been changed to **Subchannel** since it now represents the actual CONTROL and ADR fields read from the Subchannel.

➤ **Performance Charts**

The Performance chart shows a red or yellow icon in the Main Channel or Subchannel Analysis fields if a warning or error occurs. The previous version drew a red or yellow vertical line representing the error or warning, which was difficult to see. This larger icon is easier to recognize.

➤ **Support for New Devices**

Pioneer DVD-U02 and DVD-U03 drives. The U02 is a 2X reader.

Yamaha CRW4260: This can be used as a CD-R writer in place of the earlier CDR-400 drive.

Sony SDX-300C AIT Tape is now supported and performs at speeds up to 3MB per second.

➤ **Help System**

The Help system has been updated to include information for the new Rules and Behaviors that have been added to EclipseSuite. All help information has also been updated to include more detail information about each message that appears in the Analysis screen (including graphic examples.)

➤ **Check for invalid ATIME and RTIME fields in the Subchannel**

The EclipseSuite tools will now check for invalid minutes, seconds and frame numbers in the ATIME and RTIME fields in the Subchannel.

➤ **Rules & Behaviors**

- EclipseSuite contains over 50 new Rules, Exclusions and Behaviors.

- The dialog windows for the Rules and Behaviors are now sizeable.

- Clicking on the **Use Default** button in the Rules and Behaviors dialog windows reverts to the original factory settings without asking user to save to file.

- In addition to errors, warnings, info, etc., a new severity has been created: Flag. This allows more flexibility in tagging a disc that needs special handling. For instance, you might have special handling requirements for multisession discs. In this case, you could set the exclusion for multisession to "Flag."

- There are three new icons for the Rules. A "Trash" icon is displayed for rules that are **Ignored**. A magenta Flag icon represents the **Flag** severity. A Notepad icon is used to indicate a **Note**.

➤ Postgap Detection

Better Postgap detection has been added to the EclipseSuite tools when dealing with CD-XA tracks.

➤ More Robust CD-XA Read Algorithm

EclipseSuite has a greatly improved method of reading, retrying, and correcting CD-XA sectors. At the same time, the CPU demands for this type of sector have been greatly reduced.

➤ DVD

- The data in a tape or file is now padded with zeros so that the data length is a multiple of 16. Although this is unnecessary in the ANSI labeled tape format, DDP has this requirement.

- Added support for DVD-9 to ImageAnalysis and ImageVerify. The programs will prompt for the correct layer tape when required.

- There are two new Rules that will be invoked if CSS encryption is detected on a DVD. Note that encrypted sectors are not readable with EclipseSuite. If a sector is encrypted, the program will not abort but will continue reading sectors and keep a count of the number of encrypted sectors.

- The EclipseSuite tools will now detect and display ISO9660, Control data and DDP information in the **Info** tab display for DVD images.

- The Performance graph for DVD images now starts at sector 30000h.

- When copying from a DVD disc to Tape or File, the sector size for the control data is set to 2054 in preparation for putting in the copyright and region code information.

- DDPID and DDPMS are merged to one file called DDPID when copying to Tape or File.

➤ Leadout Detection

- When examining the Leadout Main Channel, if all 16-bit words in a 2352-byte sector are between the values of +/-5 (meaning very low amplitude), then the sector will be considered audio.

- ROM sectors in Leadout following a track of audio is a source for pop and clicks. EclipseSuite now examines both the Main and Subchannel Channel to determine if this situation occurs.

➤ Miscellaneous

- Support for different revisions of Adaptec's ASPI SCSI drivers has been added to EclipseSuite.

- If the ROM skew changes within a disc, a rule is triggered. The Plextor 12/20 firmware occasionally has audio seams that appear as 24-byte shifts in Main Channel data during the ROM skew measurement. This results in extraneous "ROM skew changed" messages. To desensitize this situation, a ROM skew change of 0.01 will not be reported.

- Implement more rigorous checking between TOC, Subchannel, and Main Channel information. The mode, copy, and emphasis bits are all cross-checked.

- All of the TOC information contained in the A0, A1 and A2 points is all cross-checked.

➤ Track Incremental Support

- Previous version only partially supported Track Incremental (or Packet Written) Discs. Now, they are fully supported. This allows for converting a Track Incrementally written disc into a non Track Incremental discs, which is what most encoders require for mastering.

Fixes

➤ DVD

- The Main channel Viewer now has support for DVD discs.

- The Subchannel Viewer is disabled for DVD since there is no Subchannel in DVD.

- The File/Tape Output option **User Data Only** behaves like **As is** so as to retain any copyright and region code information in the control data.

- The sector size of the control data on a tape will be retained when copying to another tape or file (i.e. 2054 bytes will not be truncated to 2048.)

- ISRC/MID/UPC Editor will not be invoked for DVD images.
- Fixed the direction of translation in DDP, **I** (the letter I) for inner to outer and **O** (the letter o) for outer to inner.
- A Fully Processed and Scrambled DVD DDP image may now be compared successfully against DVD replicates or DVD DDP images that are not Fully Processed and Scrambled.

➤ **The EclipseSuite tools will not abort if the files defined in the DDPMS are not found in the same order that they are defined in the DDPMS file.**

Some premastering tools write DDP tape files in a different order than indicated by the DDPMS file. While this is incorrect, they occur commonly. As a result EclipseSuite now tolerates this situation.

➤ **Link Block Detection in Audio CDs**

There is a new method for detecting link blocks on Audio CDs. Previously, large corrupt regions caused misidentification of the start of a link region, which in turn resulted in unreadable sectors during the media scan. The new heuristic algorithm weighs several "gray" variables to make precise determinations of the link block locations.

➤ **Scanning for Index points**

When index points are not sequential, the search algorithm could cause the program to hang. This has been resolved.

➤ **Applying Passwords**

The EclipseSuite tools will now accept the E2 stage password if entered before the E1 stage has expired. Any remaining counts for the E1 stage will be lost.

➤ **"Not enough capacity" Error in ImageCopy**

When copying to CD-R, ImageCopy incorrectly included the RW space requirements when checking whether an image would fit on a piece of CD-R media. This has been corrected.

➤ **Editing the Target File Location in ImageVerify**

When making a change in the File Location field for the Target in the Media Selection tab, the change affected the RW Location rather than the File Location itself. This has been fixed in this version.

➤ **Printing summary of a DVD job will not crash ImageVerify**

Previously, printing the Summary information for a DVD verify job would crash the program.