



Professional Duplication Analyzer Systems

ShuttlePlex XCDVD

Cross Platform, High Speed Optical Disc Analysis System

Network and Stand Alone Models 10 and 14

For Software Revision 1.0 +/- Manual V4.0

03/12/2005



Table of Contents

Introduction

Description	3
Physical	5
Features	6

Start

Software Startup	7
Page Layout	8
Disc Initialization	10
The Test Status Area	11

Setting up a Test

Test Setup	12
Analysis Setup Tab	14
User Data Tab	18
Post Analysis Options Tab	19

Running and Viewing the Test

Start Test	21
View Test	23

Testing Options

Saving, Exporting and Record Log Files	25
Disc Grading	26
The Auto Run Mode	28
Report Printing	29

Warrantee

Return Policy and Warrantee	31
-----------------------------	----



Description

CONGRATULATIONS on the purchase of your new ShuttlePlex XCDVD Cross Platform Optical Disc Analyzer.

This instrument will provide the user with a full, real-time Optical Disc analysis (no run-time averaging) for CD, CD-R, CD-RW, DVD Video, DVD-ROM, DVD-Audio, DVD-R, DVD-RW, DVD+R, DVD+RW and DVD Dual Layer Recordable discs!

The ShuttlePlex user interface has been designed by a highly experienced team of optical disc engineers to help the user quickly and effectively determine disc product performance and market “playability”. The software contains the features most requested by professional engineers and optical disc investigators. This playability analyzer helps bridge the gap between Optical disc standards and consumer player compatibility by providing a highly configurable measure of disc quality on a market representative platform. A platform that includes a slightly modified, market leading consumer drive with a highly customized firmware design.





Product Design

Many analyzers are designed to compare the performance of an optical disc to an industry standard. Although it is initially calibrated, this instrument is not designed for calibration or reference to a calibration standard. It is, instead, designed to measure the optical disc "Playability" or relative performance in a market standard Drive. The ShuttlePlex Analyzer is a PC based system with a strong system software and drive firmware component. This system design allows for the creation of an attractively priced product with tremendous cross platform capabilities. The software focus and component choices provide a strong path for product upgrade. Many analyzer products use highly customized drives with components that support a high degree of standardized disc quality but they may not always characterize a discs response to a drive used in the consumer marketplace. The ShuttlePlex is not focused by design to be regularly calibrated to a Philips reference standard and it is not intended hold a variable or multi-point calibration. This analyzer utilizes consumer drive components that are common among disc drive manufacturers, providing the user with a strong relative sense of disc quality and disc product playability.

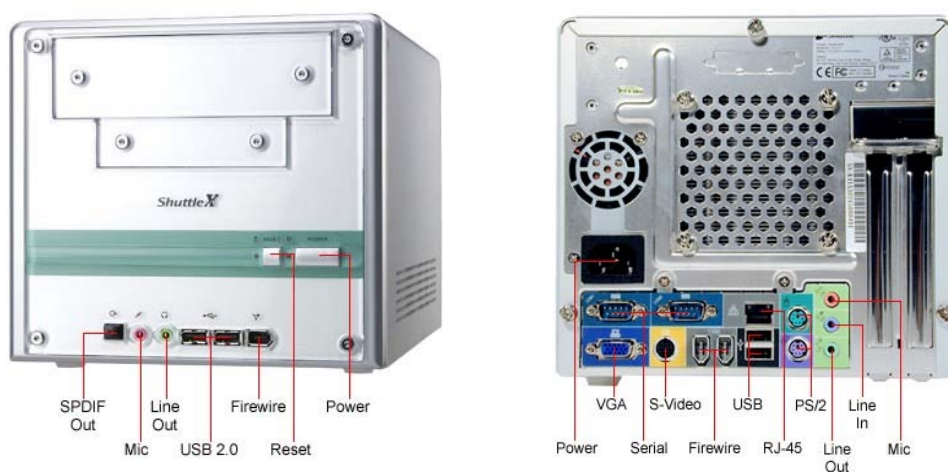
The instrument is PC based and utilizes the MSWindows XP operating system. The system and software allows the user to setup the instrument for many possible uses and for the investigation of many common product environments.



Physical

The ShuttlePlex was designed using components from the Shuttle Computer Company of Taiwan and Shinano Kenshi of Japan. The Shuttle computer is a SFF (small form factor) box with USB and Firewire connections on the front and rear. The front panel has two USB connections, one Firewire (1394) connection, an SPDIF- out connector, an audio out connection and a Mic connection. Firewire, USB and specialized audio and video connectors can also be found on the back of the unit.

The drive is a slightly modified CD/DVD writer with a highly customized firmware load. Adjustments are made to facilitate initial calibrations and the reading of discs that have low reflectivity. A small electronic circuit may have been added to your drive to allow for future expansion of an external analog measurement feature. The drive is adjusted for an acceptable CD Digital Error response using the Philips SBC 444A Playability test CD. The drive should be tested from time to time to make sure that the Error Levels are consistent. A test CD or DVD should be created and kept in proximity of the analyzer to test for response consistency. This response can (and will) change over the life of the drive so a regular test routine should be adopted and the response logged.



- 1 x Floppy interface for 3.5-inch FDD with 720KB, 1.44MB, or 2.88MB format or for 5.25-inch FDD with 360K or 1.2MB format.
- 2 x DB9 serial connectors 16C550 UART compatible.
- 1 x Infrared communication port.
- 1 x DB15 VGA connector.
- 1 x AV & S-Video connector.
- 2 x USB connectors.
- 2 x 1394 connectors.
- 1 x RJ45 LAN connector.
- 1 x PS/2 Mouse connector.
- 1 x PS/2 Keyboard connector.
- 1 x Line-Out (Front-Out) port.
- 1 x Line-In port
- 1 x Bass/Center-Out port



Features

Release Notes and Feature Set for Version 1.0

Current Feature Listing as of -01/01/2005-

- CD Digital Error Response including E11-E22 Error, Uncorrectable Error, Unrecoverable and Recoverable ECC Error. Error Rates Presented in 1sec Max/Average, 10 second Max/Average, Running Standard Deviation, Running Error Totals and Max Value A-time positions
- DVD Digital Error Response including; PI Error, PI 8sum Error, PI Error bytes, PI Failure & PO Failure. Error Rates presented in 1 sec Max/Average values and 8 ECC Sum format
- Extended investigation of Sector Based error recovery with Logical ECC response.
- Adjustable Drive Retry characteristics (external programming of Retries)
- Single Step Mode with None-Abort sequencing ~ allowing for investigation of physically damaged media.
- CD Test Speeds of 4X CLV, 8X CLV & 10-24X CAV
- DVD Test Speeds of 2X CLV, 8X CAV & 5-12X CAV
- Multi-session disc analysis support (OPEN or CLOSED Sessions)
- Raw and Decoded TOC function for Single and Multiple Sessions
- Raw PMA area decoded for CD recordable discs
- Raw ADIP analysis for DVD recordable discs
- Analysis of OPEN CD recordable discs
- Physical Radius calculations for flaw locations (requires some mastering setup knowledge)
- Full Graphical Presentations with a Physical Measurement Axis and data transfer rate
- Interactive/Automated export, print, disc ejection and file saving functions.
- Batch file summary function with configurable field outputs (record files)
- Fully Network capable (automated and manual) export function of all raw data for project work
- Raw file export may be exported in *.csv format.
- Screen capture (to XP clipboard)
- Screen print and screen print summary functions.
- Disc Logic summaries for written, partially written and blank CD media.
- Title and file field programming language for automated export and data storage
- Auto-run and automated options setup
- Pass/Fail and Disc Grading options with adjustable grading setup parameters. The Grading functions also include a current grade and a running final grade view.

Many features are on the list and “in the works” for product expansion. Of course we must “pay the bills” but we love to hear from our customers about their work, their working environment and how we can provide features to help them make our analysis products effective. Please drop us a note with your requests and we will work hard to get it on our list.

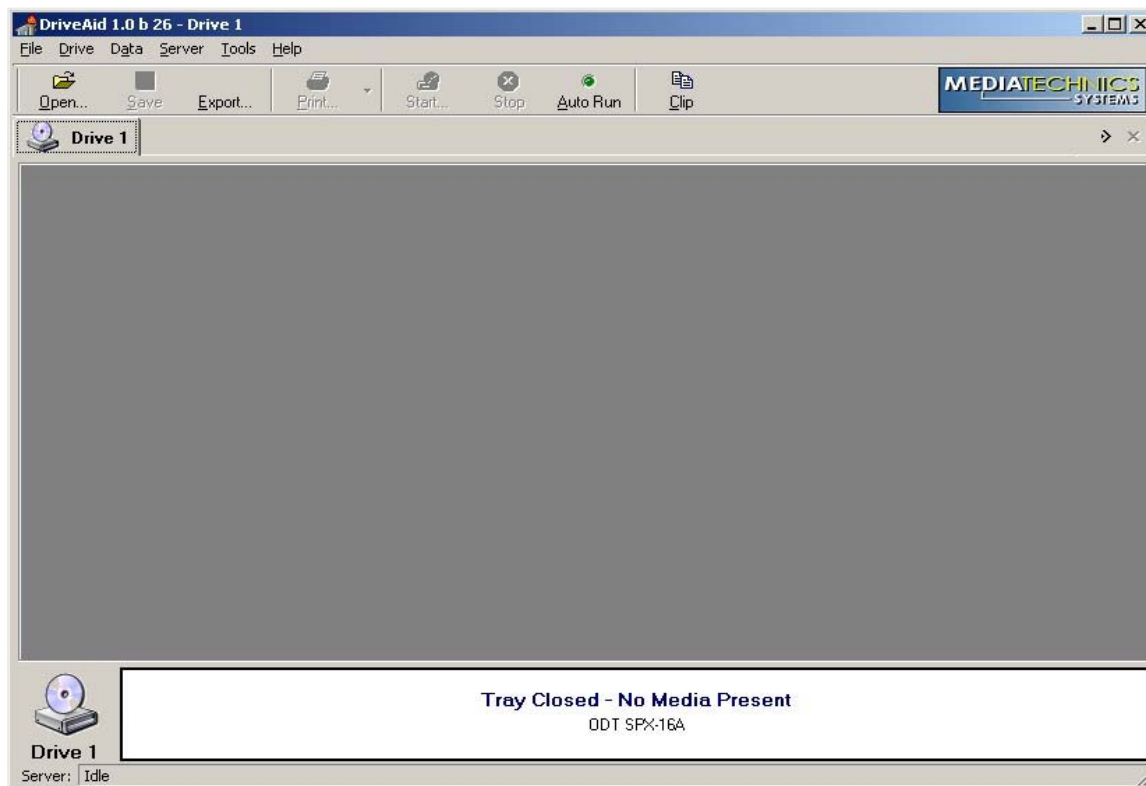


Software Startup

Software Startup

When opening the ShuttlePlex software on the WinXP desktop you should see a screen similar to the one shown below.

At initialization the software validates the drive capabilities, loads the system variables and goes ready for analysis.



Opening Screen

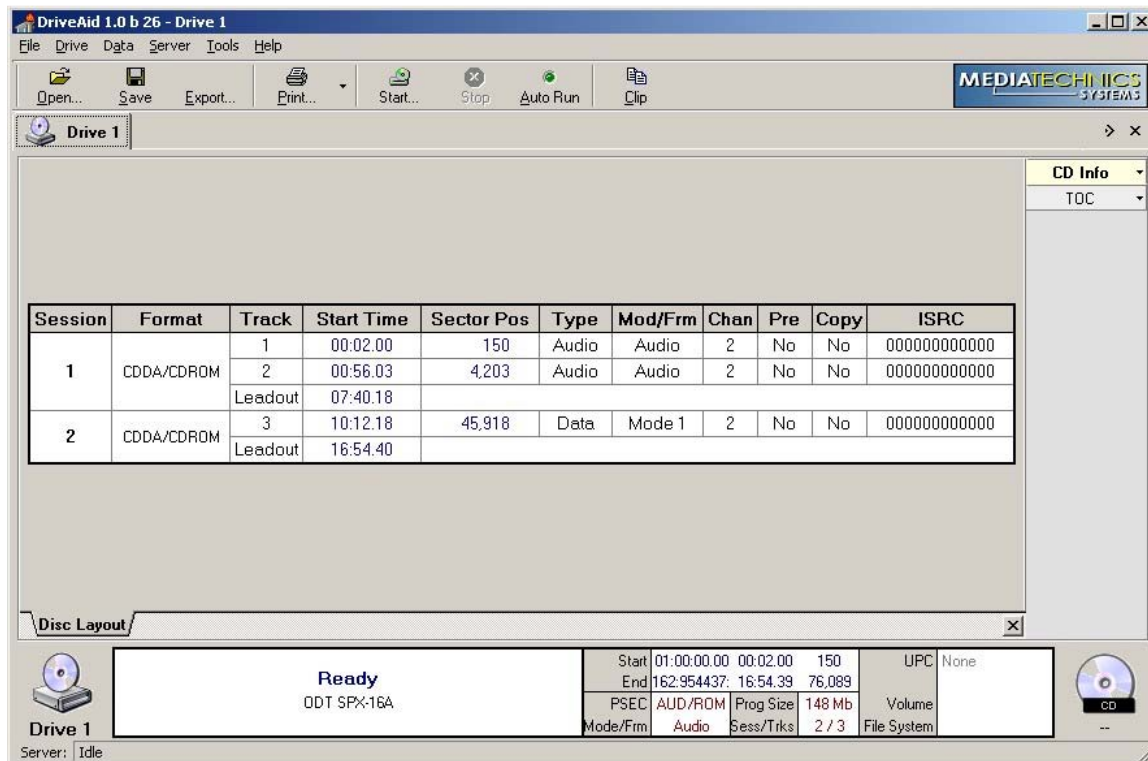
Notice the "Drive 1" icon in the lower left hand corner of the screen . This is an active Icon. By clicking on this icon with the mouse we can open and close the drive tray. The area just right of this icon is called the Test Status Area . This test status area will show the status of the drive, disc and software -before, during and after the analysis cycle. The software routines follow the MSWindows keyboard and mouse strategy as closely as possible.

If this screen does not open then the software or operating system is not correctly interfaced to the drive and the user should contact customer support.



Disc Initialization - Page Layout

Place a disc in the drive, close the drive (manually or using the icon) and wait for the initialization process to complete. The initialization progress can be monitored by watching the Test Status Area -near the bottom of the screen. The length of time it takes to initialize a disc can vary dramatically and is dependent on the number of test features chosen in the program setup group.



CD Mixed Mode Initialization Screen

Initialization Screen - formatted for all analyzer operations and can be separated into 3 distinct areas.

Test Status Area - the area between the two disc icons in the lower part of the screen. It will show the status of the disc and the drive at all times before, during and after an analysis.

Test Information Area - is just above the Test Status Area. The folder tab at the top of this area will initially contain the drive number. This label will change into the test title at the start of an analysis operation other than initialization logic. The information area can contain Error Response, Real-time Graphs and Disc Logic.



Test Operations Area - can be found at the top of the page just below the file functions. There are 8 Operation buttons above the information area in this release of the software. They are Open, Save, Export, Print, Start, Stop, Auto Run and Clip. These are the most common operations in the use of this analyzer. The first letter of each named ICON is underlined signifying a windows “Alt” key or hot key operation. Using the “F5” key on the keyboard can access the Start/Stop operations.



Disc Initialization (Test Information Area)

The initialization screen for CD and CD recordable discs will show the Drive Status, Disc ID, Formatted Disc TOC and Disc Media Type. A blank CD recordable disc will initialize with the Disc ATIP Screen.

The initialization screen for DVD and DVD Recordable discs will show the Drive Status, Disc ID, Media Logic and Media type.

DISC ATIP – the ATIP information on a CD Recordable disc can be shown in formatted or raw mode by clicking on the DiscInfo icon button that will appear in the listing on the right hand side of the screen.

DISC ADIP – the ADIP information on a DVD Recordable disc can be shown in formatted mode by clicking on the ADIP button under the DVDinfo icon button that will appear in the listing on the right hand side of the screen. The initialization of a DVD+R or DVD-R disc will show blank media logic regardless of the information contained in the data field of the disc. If the Media is blank and contains no information in the data field then the Start operation is not highlighted. No blank media analysis is available in this version.

The screenshot shows the DriveAid 1.0 b 26 - Drive 1 software window. The main display area contains a table of ADIP (Advanced Disc Information Protocol) data for a DVD+R disc. The table has three columns: Byte, Content, and Value. The data is organized into sections: General Information, Extended Information Indicators, and Write Strategy. The status bar at the bottom indicates the drive is 'Ready' and provides additional details about the disc and the software.

Byte	Content	Value
General Information		
0	Version Number	1 (ECMA-349)
0	Disc Category	DVD+R
0	Layers	1
1	Maximum Read Transfer Rate	Not Specified
1	Disc Size	120 mm
2	Layer Type	Recordable
2	Track Path	PTP
3	Average Track Density	0.74 um/track
3	Channel Bit Length	0.133 um/bit
4-7	First Physical Sector Number	030000h
8-11	Last Physical Sector Number	26053Fh
12-15	Last Physical Sector Number Layer 0	000000h
17	Disc Application Code	0 (General Purpose)
18	Extended Information Indicators	03h
19-26	Manufacturer ID	SONY
27-29	Media Type ID	D11
30	Product Revision Number	00h
31	Number of ADIP bytes used	56
Write Strategy		
32	Primary Recording Velocity	350 m/s
33	Upper Recording Velocity	840 m/s
34	Wavelength	655 nm
35	Normalize Write Power Dependency on Wavelength	17.068966

ADIP

Ready
ODT SPX-16A

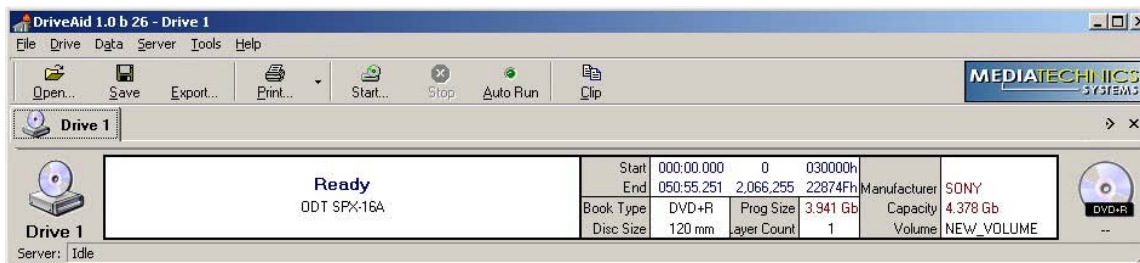
Start: 000:00.000 0 030000h
End: 050:55.251 2.066.255 22874Fh

Book Type: DVD+R Prog Size: 3.941 Gb Manufacturer: SONY
Disc Size: 120 mm Layer Count: 1 Capacity: 4.378 Gb
Volume: NEW_VOLUME

Initialization of a DVD+R Disc - ADIP Information



TEST STATUS AREA



DRIVE STATUS – the icon in the lower left-hand corner will show which drive is being used. The drive status area will show a “Ready” condition after the disc has been successfully initialized. The drive status area also shows the drive Model number at initialization.

DISC ID – the disc ID area will show the start and ending time of the user data area on the disc. It will also show the data size of the file.

CD information includes the subcode PSEC that identifies the disc sub type information for the drive decoder, the Mode/Form of the data Sector, the program size and the number of Sessions and Tracks.

DVD information includes the Book Type, Disc Size (Physical Diameter), Program Size (Image) and the Number of Layers (1 or 2).

DISC MEDIA TYPE – the icon on the lower right hand corner of the screen shows the disc media type and format. Information about the media type may be included. Extended info about the media may be displayed by clicking on the icon.

Media Logic information is included in the Media Type area. This information may include the Media Manufacturer or the manufacturers code, the Disc Capacity and the UDF or ISO Volume Name.

DISC TOC – the disc subcode and table of contents can be shown in the Main screen by clicking on the “toc” tab on the right side of the screen. This data can be shown in formatted or raw mode.

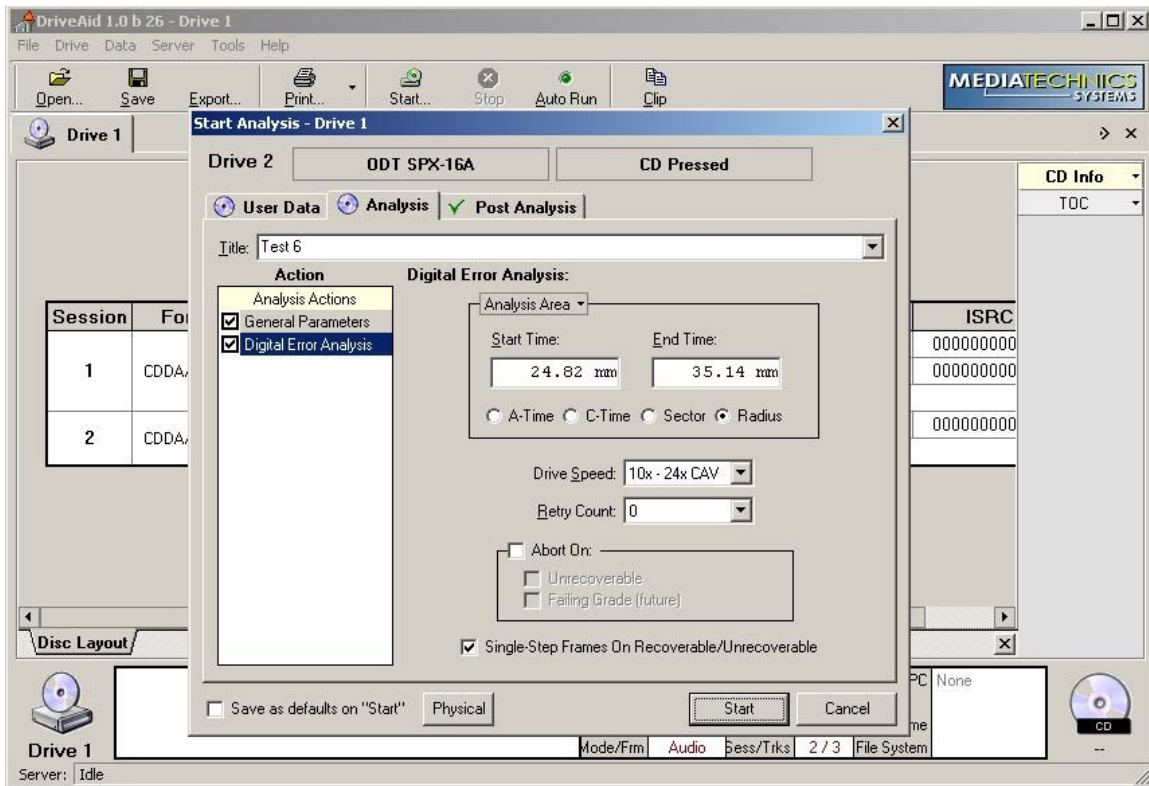


TEST SETUP and START

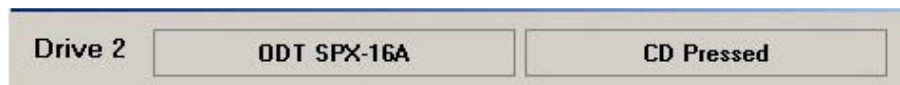


To setup the testing options, start dialog, or test start- click on the 'Start' button at the top of the screen in the Test Operations Area.

You may also use the quick start hotkey - F5 on your keyboard! A start analysis dialog screen similar to the one below should appear.



Startup Screen



Media and Drive Identifier - The Area at the top of the Start Analysis screen shows the Drive #, the Drive Model # and the Media type that has been initialized in that drive. The format of the Start Analysis screen is determined by these three characteristics.



NOTE: There are three tabs/sub-screens in the Start Analysis Dialog and setup screen.



USER DATA screen - far left tab above. It is used to add test title and user information to the save test file.



ANALYSIS screen - center tab, show above. It is used to provide the test setup and running characteristics.



POST ANALYSIS screen - far right tab. This screen is used to setup file paths and functions that will be automatically performed after an analysis has been run.



Analysis Setup Tab



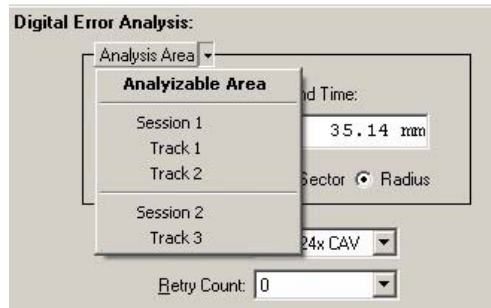
ANALYSIS TAB – the test analysis screen has many options. The first prompt is for the test title. This is not the saved file name but a sub descriptor for the test. This title is limited to 255 characters. The file name and test name can be made the same (see Tools/Options menu) or they may be incremented with the test/file name programming language (see programming functions).

Digital Error Analysis Action

Analysis Area – choose the start and end time of the test. This can be defined by using A-time, Track time or C-Time, Sectors, or Radial position. The radial position mode may be used to monitor the physical position of a flaw. It also adds a third axis to the error graphics.



By moving the Mouse over the Analysis area tab we can select specific Sessions or Tracks.



Selecting Sessions and Tracks

RADIAL POSITION

If we want to add radial position to our graphics screens we can select "Radius" in the Analysis Area. If we select radius we will need to click on the Physical button in the lower left-hand corner of the Analysis Area tab. We should see the following screen.

Note: Radial position requires knowledge of the mastering parameters. To define these parameters click on the Physical button at the bottom of the Analysis screen.



User Defined Inputs for the Radial Position Option

Drive Speed – choose analysis speed. A CD test may be run at 4X CLV, 8X CLV or 10-24X CAV. A DVD test may be run at 2X CLV, 2-5X CAV, 3-8X CAV, and 5-12X CAV.

Retry Count – If a drive loses synchronization during analysis it will normally try to re-synchronize at a lower speed with more available error buffering. There are many different strategies. The number of retries can be set if you wish to use this option.



Abort Sequence – A test may be aborted on a loss of Synchronization or because of a failing analysis grade.

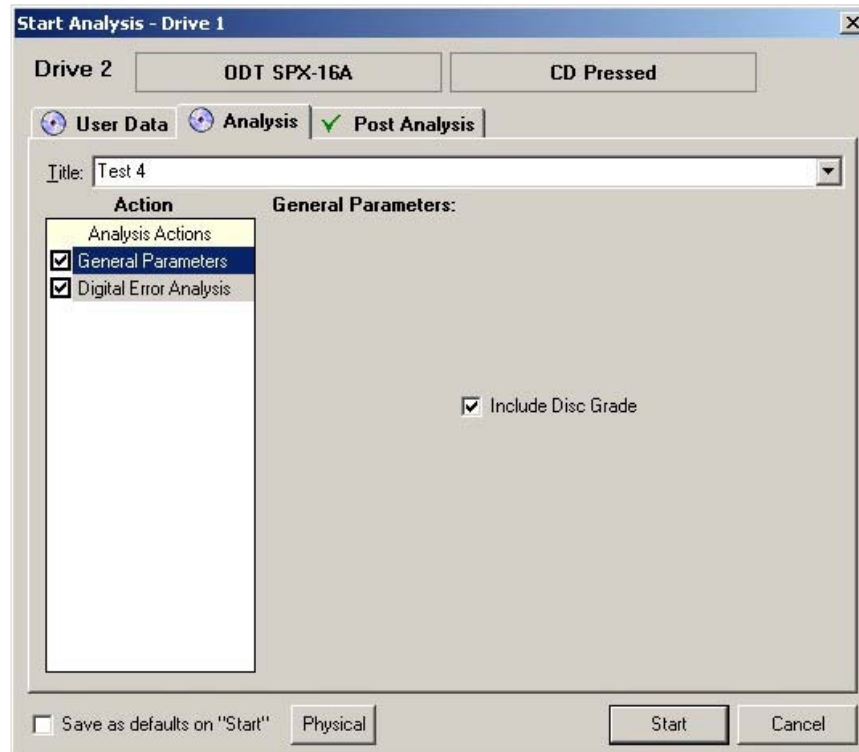
Single Stepping Mode – the drive will single step frames on an unrecoverable or tracking error.

DANGER: the drive can run for long periods of time in this mode. Care should be taken so that the drive is not left unattended when using single stepping mode. Extensive use of this mode can shorten the life of the drive.



General Parameters Action Screen

At this time the General Parameters Screen is only used to add the Disc Grade Function to the running screens.



Save Defaults on “Start” – Make the setting default for automated or quick testing mode. The Defaults are specific to Disc Media type...If you put another type of media in the drive the analyzer will look for a different default setup!

NOTE: If the Save Defaults button is not selected the software will revert back to the previous settings!



User Data Tab



USER DATA screen – can be used to store user comments or to program the analyzer for specific types of usage.

Start Analysis - Drive 1

Drive 2 ODT SPX-16A CD Pressed

User Data Analysis Post Analysis

Title: Test 4

Description / Notes

User Fields

Key	Value

☐ Save as defaults on "Start" Physical Start Cancel

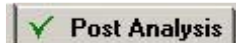
Title – should mirror information from the Analysis screen tab.

Description/Notes – information that is saved with the program.

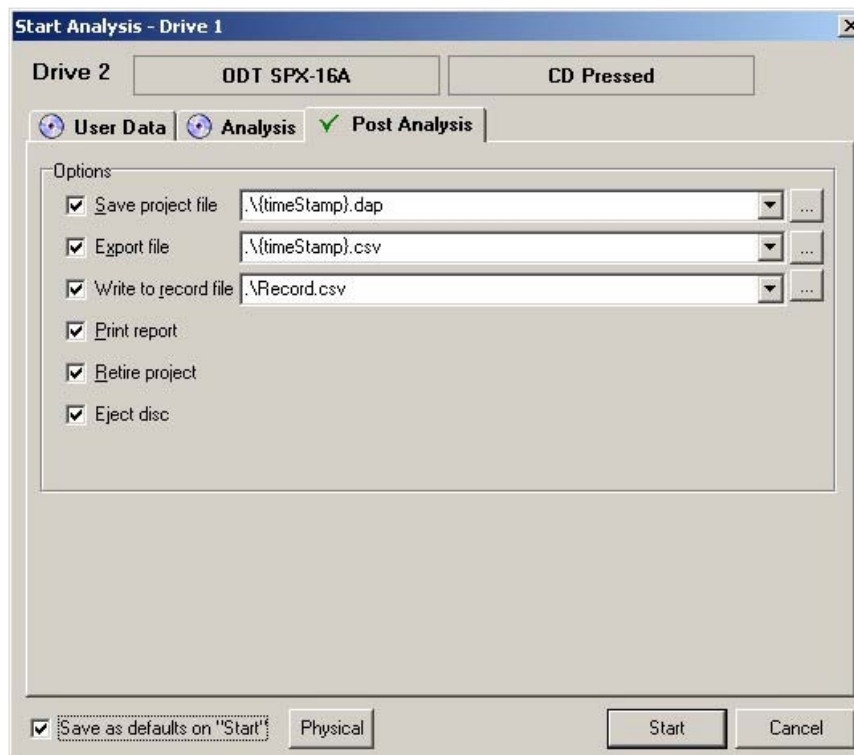
User Fields – TBD.



Post Analysis Options Tab



Post Analysis Options Tab – automated testing options and file saving paths. There are 6 defined operations that can be checked on or off in the Post Analysis Screen.



Post Analysis Tab under Startup Screen

Save project file – file name and path for automated save of a project file or *.dap files.

Export analysis data – file and path for export of a Raw data file. This file may be exported in “*.csv or *.txt” format.

Write to Log file – file and path for single line addition of summarized data to a Log file (CSV format).

Print report – pre-formatted report sent to printer automatically on completion of test.



Retire Project – do not erase data but create a new project tab for this information on the running screen.

Eject Disc – automatically eject the disc after completing the test and the above actions.

Note: be sure and check the “Save as defaults on Start” box in the lower left hand corner of the Post Analysis screen to save the checked options profile. This Post Analysis Options Profile is saved in the registry of the operating system once the test is started.

The Browse buttons * at the end of the first three Post Test options can be used to set the file saving paths for those options.



START TEST

Running an Analysis

DriveAid 1.0 b 26 - Drive 1

Measurement	Value	%	Max	C-Time	Sector	Avg	Total
BLER 1 Sec Val	9	0.12	31	02:02:11.72	14,100	6.4	1,350
10 Sec Avg	13.8	0.19	16.8	02:01:25.72	10,650	6.1	1,289
E-11 1 Sec Val	0	0.00	21	02:02:11.72	14,100	4.3	907
10 Sec Avg	7.0	0.10	11.0	02:02:18.72	14,625	4.2	880
E-21 1 Sec Val	4	0.05	11	02:00:58.72	8,625	1.2	253
10 Sec Avg	2.8	0.04	4.4	02:01:06.72	9,225	1.1	239
E-31 1 Sec Val	5	0.07	8	02:01:24.72	10,575	0.9	190
10 Sec Avg	4.0	0.05	4.2	02:02:15.72	14,400	0.8	171
BERL 1 Sec Val	0	0.00	0			0.0	0
10 Sec Avg	0.0	0.00	0.0			0.0	0
E-12 1 Sec Val	14	0.19	59	02:02:07.72	13,800	5.5	1,158
10 Sec Avg	30.9	0.42	35.3	02:02:32.72	15,675	4.9	1,026
E-22 1 Sec Val	0	0.00	0			0.0	0
10 Sec Avg	0.0	0.00	0.0			0.0	0
Uncr 1 Sec Val	0	0.00	0			0.0	0
10 Sec Avg	0.0	0.00	0.0			0.0	0
Recov 1 Sec Val	0	0.00	0			0.0	0
10 Sec Avg	0.0	0.00	0.0			0.0	0
Unrec 1 Sec Val	0	0.00	0			0.0	0
10 Sec Avg	0.0	0.00	0.0			0.0	0
Retries 1 Sec Val	0	0.00	0			0.0	0
10 Sec Avg	0.0	0.00	0.0			0.0	0

Digital Error Summary

Speed	Start	Current	End	BLER Avg	Disc Grade	Start	End	UPC
4.2X	00:02:00	03:31:00	16:54:39	6.4	BB	01:00:00.00	00:02:00	150
						162:954437	16:54:39	76,089
Analyzing second: 03:31:00						PSEC	AUD/ROM	Prog Size
20%						Mode/Frm	Audio	Less/Tiks
								148 Mb
								2 / 3
								Volume
								File System

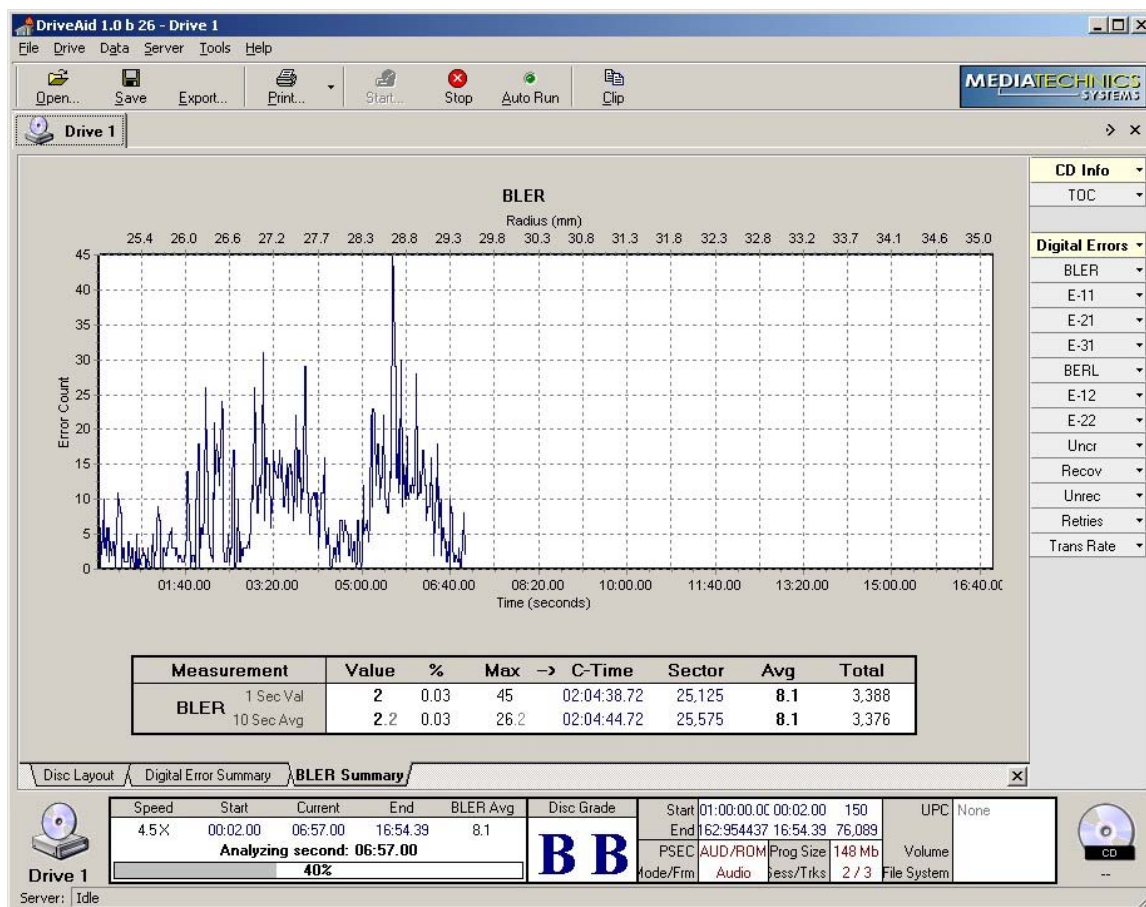
Drive 1 Server: Idle

After starting your test - the test run screen will appear in the Test Status Area and the drive status box on the lower left will monitor the progress of this test.

The start, current A-time position and Chosen ending time will appear along with a test progress bar and test status monitor. The test status monitor will show analysis, single stepping and retries in a near real time capture. This monitor will disappear when the test has completed.



Graphical Response and specific performance information can be selected from the buttons on the right hand side of the Test information Screen.



NOTE: Automated functions may not run if you chose to abort the test early...See the Options menu at the top of the page.

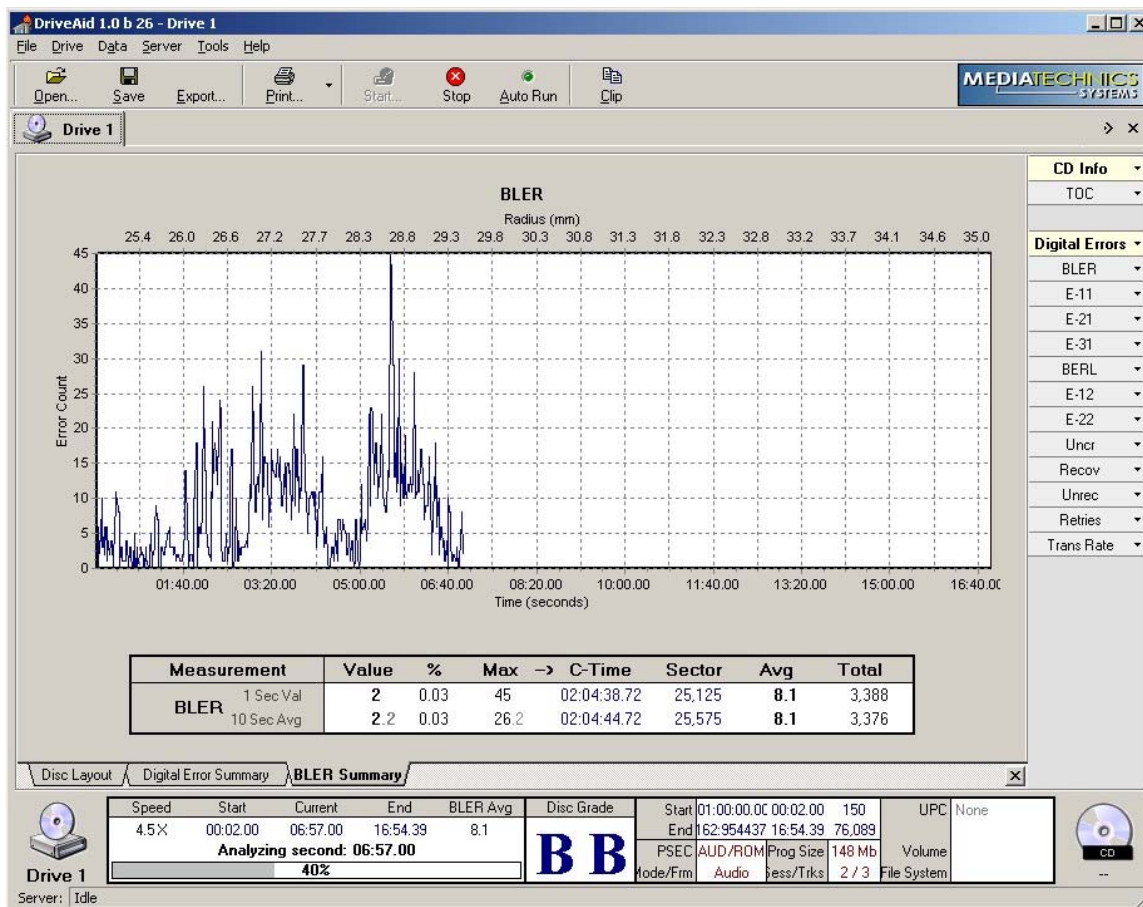


RUNNING and VIEWING A TEST

Tabs on the top of the screen can be used to switch between opened data, previous retired data and a running report. These tabs will show the report titles. Up to ten tabs may be opened without overloading the computer memory.

The sub tabs on the bottom of the information area screen are used to show data sections in each report. You may choose to add graphics or other error reporting screens to your view. To open other data on your view screen use your mouse and click on one of the reporting tabs in the right hand column under the headings CD Info. Or Digital Errors.

Note: The left click and hold on the Mouse can be used to expand or contract graphical information



CD Running Screen

The screen above has 3 lower tabs under the active running upper project tab. These lower tabs are put in the viewing area by clicking on the matching box in the column buttons to the right. The upper tabs represent a project. The lower



tabs represent data views in that project. The tabs that can be viewed in a project are limited by the number of response shown in the far right column under the headings CD Info. and Digital Errors. You may also open other project and investigate them by opening other tabs while the test is running. You can close file tabs by clicking on the X box next on the right hand side of the file tabs.

Measurement	Value	Max	→ Time	Sector	Avg	Total
PI Errors 1 Block Val	0	8	000:14.436	0026b0	0.2	524
PI Errors 8 Block Sum	0.0	24.0	000:23.109	003d30	1.6	4,192
PIF Bytes 1 Block Val	0	174	000:35.074	005cc0	0.2	630
PIF Bytes 8 Block Sum	0.0	456.0	000:35.122	005cf0	1.9	5,040
Error10 1 Block Val	0	0			0.0	0
Error10 8 Block Sum	0.0	0.0			0.0	0
Error12 1 Block Val	0	0			0.0	0
Error12 8 Block Sum	0.0	0.0			0.0	0
PIF 1 Block Val	0	2	000:35.090	005cd0	0.0	11
PIF 1 Block Sum	0.0	0.0	000:00.000	000000	0.0	0
POF 1 Block Val	0	0			0.0	0
POF 1 Block Sum	0.0	0.0			0.0	0
Error18 1 Block Val	0	0			0.0	0
Error18 8 Block Sum	0.0	0.0			0.0	0
POF 20 1 Block Val	0	0			0.0	0
POF 20 1 Block Sum	0.0	0.0			0.0	0

Speed	Start	Current	End	PI Sum 8	Disc Grade	Start	End	Prog Size	Capacity	Volume
0.6X	000000	00a570	1f874f	1.6	AA	000:00.000	0	0300000	4.378 Gb	NEW_VOLUME
Analyzing Sector: 00a570						050:55.251	2,066,255	22874f	1	

DVD Summary Screen with Grade Option Activated

Note: If running the tests in Auto Run mode, try to keep the active projects on the screen at any one time too less than 10. If too many project tabs are left on the running screen the Operating System memory can be compromised.

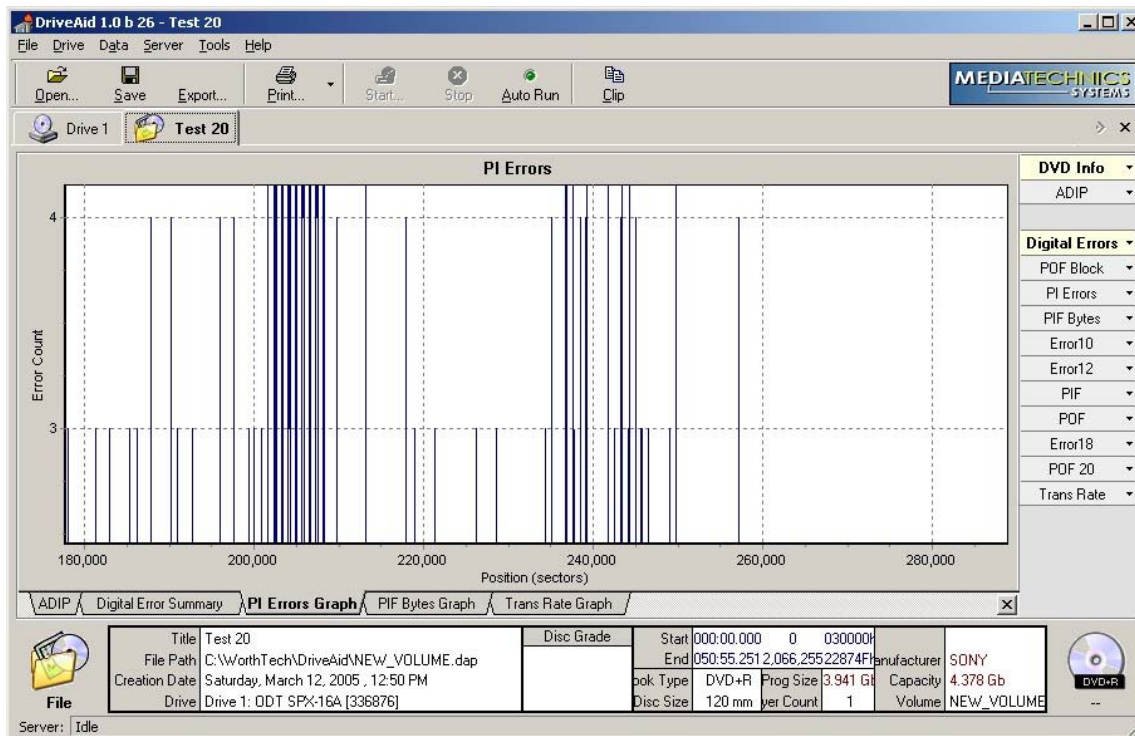


Saving, Exporting and Record Log Files

SAVING, EXPORTING, RECORD FILE ADD

Files may be manually saved by using the Alt S key, highlighting and clicking on the save button, or using the save/save as commands under the file menu. Files are saved in a *.dap format representing the ShuttlePlex binary file structure.

File data may be exported for use in a spreadsheet or database program by using the Alt E key, highlighting and clicking on the Export button, or using the export command under the file menu. Files are exported to the path chosen in the test analysis setup menu. Files are saved in the *.CSV format.

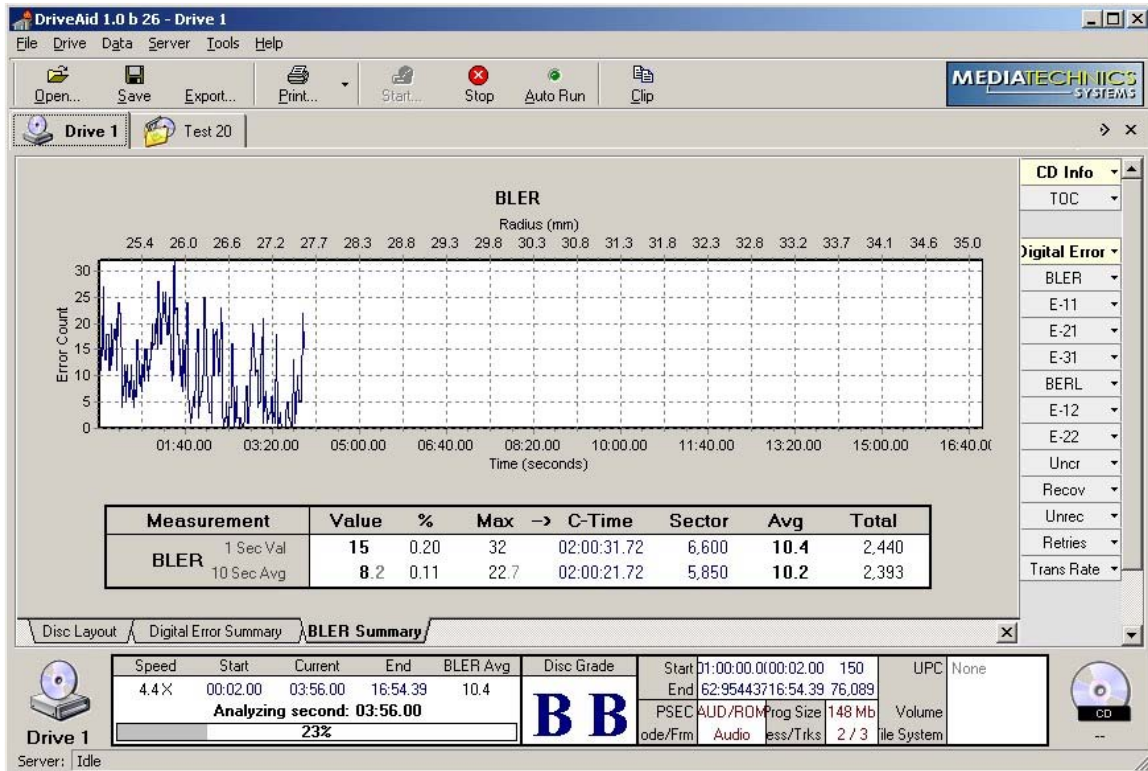


Test results may be manually printed by using the print function under the file menu...Clicking on the print button will also print a report. By moving the mouse over the arrow key to the right of the print button you may chose between a page printout and a print project printout. Using the CLIP functions, which will take any information area page and save it to system memory as a bitmapped image, can create customized reports and e-mail.



Disc Grading Disc Grade Option

The ShuttlePlex software has an optional disc grade function that can be setup to monitor a running disc and final disc evaluation.



Note the two letter B's under the "DISC GRADE" box in the Test Status Area. The letter B to the left is the running grade. The letter B to the right is the cumulative grade.

The values for each disc type are contained in the Tools Menu at the top of the Screen. Under the Tools Menu you will find the Disc Grade Parameters Option.



Sample -CD Pressed Parameters Setup

Disc Grade

ODT SPX-16A CD Pressed

	A	B	C	D
<input checked="" type="checkbox"/> BLER	1 Sec Avg:			
	1 Sec Max:	6	51	101
	10 Sec Avg:	220	220	220
	Total:			
<input type="checkbox"/> E-11	Not included in grading			
<input type="checkbox"/> E-21	Not included in grading			
<input type="checkbox"/> E-31	Not included in grading			
<input type="checkbox"/> BERL	Not included in grading			
<input type="checkbox"/> E-12	Not included in grading			
<input type="checkbox"/> E-22	Not included in grading			
<input checked="" type="checkbox"/> Uncl	1 Sec Avg:			
	1 Sec Max:			
	10 Sec Avg:			
	Total:	0	0	0

OK Cancel

Sample -DVD+R/RW Parameters Setup

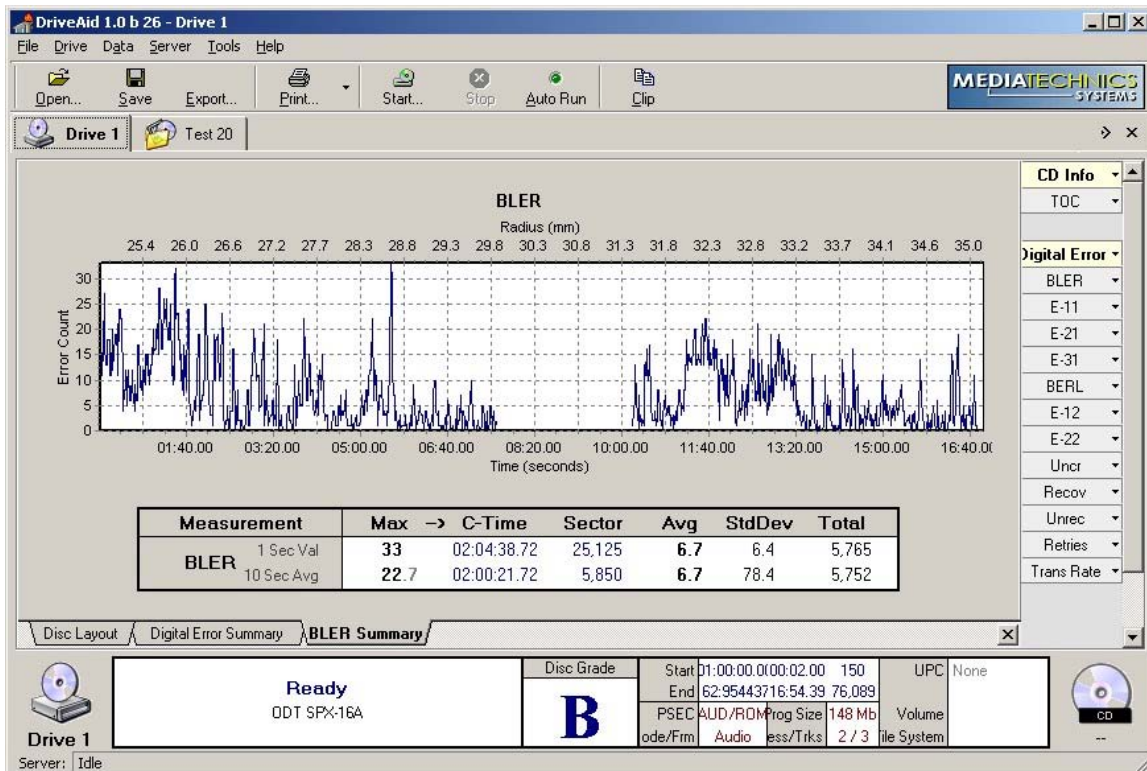
Disc Grade

ODT SPX-16A DVD+R/RW Recorded

	A	B	C	D
<input checked="" type="checkbox"/> PI Errors	1 Block Avg:			
	1 Block Max:	10	35	100
	8 Block Sum:	80	80	280
	Total:			
<input type="checkbox"/> PIF	Not included in grading			
<input checked="" type="checkbox"/> POF	1 Block Avg:			
	1 Block Max:			
	1 Block Sum:			
	Total:			
<input checked="" type="checkbox"/> POF 20	1 Block Avg:			
	1 Block Max:			
	1 Block Sum:			
	Total:			

OK Cancel

At test completion only the Cumulative Grade will be shown

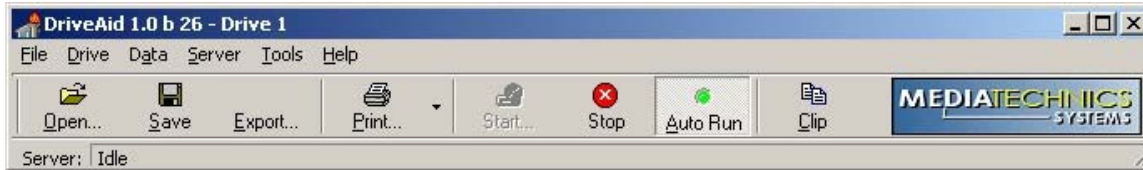




The Auto Run Mode



The Auto Run Mode



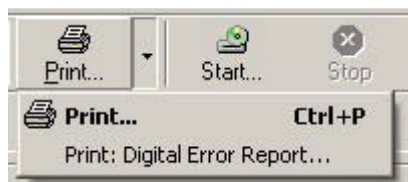
The Auto Run Button can be selected after a test is started to facilitate unattended or repetitive tasks.

When combined with the Post Analysis Options (such as eject), the analyzer can be run in a continuous mode and will start tests based on the last saved setup information in the Test Setup Screens. This is a very popular configuration and facilitates highly repetitive operations.

The number of tests that can remain open in Auto-Run mode is currently around 10. By updating the system memory more tests can be accommodated.



Report Printing



PRINT REPORT WRITER

Measurement	Value	Max	Time	Sector	Avg	StdDev	Total
PI Errors	1 Block Val: 0	27	005:05.329	032700	0.2	1.0	3,072
	8 Block Sum: 0.0	122.0	005:05.345	032710	1.5	6.1	24,576
PIF Bytes	1 Block Val: 0	205	005:56.112	03ace0	0.3	5.3	4,749
	8 Block Sum: 0.0	597.0	005:55.004	03a9d0	2.4	22.6	37,992
Error10	1 Block Val: 0	0			0.0	0.0	0
	8 Block Sum: 0.0	0.0			0.0	0.0	0
Error12	1 Block Val: 0	0			0.0	0.0	0
	8 Block Sum: 0.0	0.0			0.0	0.0	0
PIF	1 Block Val: 0	5	005:03.098	0320d0	0.0	0.1	135
	1 Block Sum: 0.0	0.0	000:00.000	000000	0.0	0.0	0
POF	1 Block Val: 0	0			0.0	0.0	0
	1 Block Sum: 0.0	0.0			0.0	0.0	0
Error18	1 Block Val: 0	0			0.0	0.0	0
	8 Block Sum: 0.0	0.0			0.0	0.0	0

Printouts will always include the file box, disc ID box and Media ID box shown here. They will appear at the top of the page on the first page of any print report.

CD print report - will provide a single page with the file header, the disc ID header, a media header, the test error summary and a BLER graphic.

DVD print report – will provide a single page with the file header, the disc ID header, a media header, the test error summary and a PI error graphic.



CLIP FUNCTION – can be used to build a report from any running or non-running screen. Any page (in the Test Information Area) can be copied to memory for e-mail or report building.



Return Policy and Warrantee

30-Day Satisfaction Guarantee Policy

If you are in anyway dissatisfied with your purchase you may return it within 30 days for a refund*, less shipping costs. All items must be returned in original condition, and postmarked within 30 days from receipt. Contents must be shipped back to us through an insured carrier for the entire amount of the sale. When we receive the undamaged package we will promptly process your refund.

*The refund will not include shipping charges, and may be subject to a 15% restocking fee depending on the condition of the returned items.

90-Day Parts Guarantee, Limited** One-year Warranty (Labor)

The ShuttlePlex is an affordably priced testing system that utilizes consumer grade components. It is not designed for “around the clock usage” in a manufacturing environment. The drive and computer system have a limited lifetime and a rated ‘Mean time between failure’ (MTBF). We will honor the manufacturer warrantee and provide all labor on these parts for 90 days, less shipping costs. We will continue to provide free labor and non-customized software support for 1 year from your sales receipt. In most cases we will work to provide support beyond your warrantee period.

**

Optical Disc Drives have a limited lifetime. The optical disc drive in this device is a modified consumer grade component. It is not designed to hold a calibration* and is intended to provide a relative measure of quality and “playability”. Under normal usage the drive should fail over the lifetime of this product! The lifetime of the drive will depend on the frequency and type of usage. It is considered a consumable and we work very hard to stock direct replacement parts for your product. However, the optical disc drive industry is in a constant state of change. We cannot guarantee the availability of these components (or the software features). However, we will work very hard to provide comparable components and features at a reasonable replacement cost for the lifetime of your product.

Indemnification: Optical Disc Technologies is not responsible for injury or loss of income due to the mis-use or mis-application of this product. The user is fully responsible for the effects of modification or non-intended use.