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RELEASE INFORMATION, DX10 ONLINE DIAGNOSTICS, OBJECT, RELEASE 2.1.1-990

TEXAS INSTRUMENTS INCORPORATED DATA SYSTEMS GROUP	drawing number 2270694-9901		
		REV. *C	SHEET 1 OF 11

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SECTION 1

GENERAL INFORMATION

1.1 General Information

Online Diagnostics 2.1 release was designed to execute under the DX10 3.5.1 operating system. Online Diagnostics release 2.1.1 is a special patch release to enable execution under DX10 3.6. Functionally the 2.1 and 2.1.1 releases are identical, only a patch file (see section 4) has been added to provide for Onlines 2.1 and DX10 3.6 compatibilty.

The information in this document should be used in conjunction with the DX10 Online Diagnostics and System Log Analysis Task User's Guide, (Release 2.1).

1.2 Extended Disk DSR Sysgen

Onlines has a new disk diagnostic. The extended disk tests allow the capability to read or write on the total surface of the disk volume. Also, many specific features of the various disk controllers are tested. However, in order to enable the extended disk tests (Tests 5-11 or the CH verb), you must answer "YES" to the prompt:

"ONLINE DIAGNOSTICS SUPPORT?"

during system generation (sysgen). This ensures that the correct disk DSR (Device Service Routine) is included in the sysgen process.

1.3 Operating System Revision

Online diagnostics 2.1.1 release is fully supported by DX10 3.6. (see para. 1.1)

1.4 Online Installation

You can execute Online Diagnostics directly from the disk version of the Object Installation Kit without actually installing the object. The README file on the Object Installation Kit disk outlines this procedure.

The Online Diagnostics Driver does NOT require that global LUNO >17 be assigned before execution of the XODD command. Additionally, the IS command does not need the AGL command to assign the global LUNO for the program file. The XODD command now assigns this LUNO, and the driver task releases it.

1.5 Disk Space Required For Installation

The SLA and Online Diagnostics tasks require the following amounts of disk ADU storage area:

		Online Diagnostics	
Disk Type	SLA	W Help	W/O Help
WD500	311	1694	1418
WD800	105	683	545
CD1400 (1)	297	1416	1416
CD1400 (2)	51	283	237
DS50	122	416	370

Notes:
(1): 16 MByte removable disk
(2): 80 MByte fixed disk

Be aware that these are approximate figures only, since other factors can affect disk storage area (such as added material on the disk and disk fragmentation).

The System Log Analyzer must be installed on the system disk. However, Online Diagnostics can be executed prior to installation. This can be especially convenient when using easily removed media such as a double-sided, double-density (DSDD) diskette. Instructions on executing Onlines Diagnostics directly from the object media prior to actual installation are found in the README file of the Object Installation Kit disk.

SECTION 2

UNDOCUMENTED ITEMS

2.1 General Information

This section describes useful information that is not yet included in the User or Installation guides. It will be added to the next revisions of the applicable documents.

2.2 Installation Prompt Documentation

The Object Installation Guide does not document all the prompts for the Restore Directory (RD) and Verify Backup (VB) commands. The CONTROL ACCESS NAME and FOREGROUND prompts are omitted. In both cases use the defaults, (press the RETURN key).

The VB documentation also does not inform you to rewind a tape before doing the verify (if you are using that medium). After you perform the RD command, rewind the tape unit. If you are unfamiliar with these commands, refer to Volume II of the DX10 3.5 or 3.6 manuals.

2.3 CT Verb Operation

The Change Termination (CT) verb and the termination on time value are accurate within a minute. If you select a time value of 8 minutes, then the task will terminate within 7 to 9 minutes.

2.4 Additional Mag Tape coverage

The documentation does not inform you that the MT979 diagnostic task also tests the new Cartridge Tape and MT1600 tape drives. These are normal MTxx type devices, and the MT979 magnetic tape diagnostic will properly test both.

2.5 XSLAP Procedure

The Online Diagnostic User's Guide does not explain the XSLAP command. This command purges existing data from the SLA master log file .S$DML when hardware problems have been corrected and the error data needs to be eliminated from the SLA report. The prompts are as follows:

```
PURGE RECORDS IN .S$$DML FILE - VERSION 2.1.0
    STARTING DATE (MMDD):
      ENDING DATE (MMDD):
             DEVICE NAME:
```

The STARTING DATE prompt requires a 4 digit input, 2 for the month (MM) and 2 for the date (DD). The ENDING DATE prompt requires the same type of input. All records between these 2 dates will be purged where they concern the device you specify to the DEVICE NAME prompt. The DEVICE NAME prompt can be:

* A device class (DS, LP, ST, and so on)
* A specific device (DS01, LP03, and so on)
* ALL (All devices)

2.6 Extended disk test 9 warning message

The following warning message may be misleading:

6901W2TEST 9 CANNOT BE RUN ON THE TARGET DISK BECAUSE ITS CONTROLLER DOES NOT SUPPORT ALL FUNCTIONS NECESSARY TO MODIFY AND /OR RECOVER HEADER ID WORDS.

Although the SP verb indicates that Test 9 is in execution on FD1000, WD500 and WD800 disk drives, it actually is not. The test is initialized, however, once it is determinded that the drive is one of the above mentioned, it immediately aborts. Therefore message #6901 should state that the test WAS NOT run instead of CANNOT BE run on the target disk.

SECTION 3

KNOWN PROBLEMS

3.1 General Information

This section documents problems that exist with the Online Diagnostics 2.1.1 release. These problems should be fixed by next release.

NOTE

Please pay particular attention to the paragraph immediately following in order to properly test your system's memory without overloading your system.

3.2 Number of Memory Tests Determination

One capability of the memory tests is to insure that all of the available system memory is filled. This causes the system to roll memory tasks and provides vigorous system operation that is more likely to provoke error conditions.

Presently, the number of memory tests is a user specified option. If you start an excessively large number of memory tests, the time interval required for completion can be excessively long. This long completion time is aggravated if the Online Diagnostics are running in conjunction with other production operations.

An Online memory test task takes approximately 36 Kbytes. The following method should be used to determine an optimum number of memory tests:

1. Using the Show Memory Map (SMM) command, find the figures (in Kbytes) for both the STATIC MEMORY and the MEMORY SIZE values. STATIC MEMORY refers to the size of the installed operating system whereas MEMORY SIZE is

the total memory installed on the system.

2. Subtract the STATIC MEMORY value from the MEMORY SIZE value.

3. Divide the result by 36 Kbytes and round the difference down to the nearest integer.

When no other tasks are active, this is the approximate number of memory tests needed to fill memory.

The Show Memory Map (SMM) command is used to monitor the memory occupancy by the Online Driver Task and other tasks, while the tests are executing. Use the SMM command from within the driver to check the memory occupancy status only. Use the SMM command activated from another terminal to view the long term progress of the Online Diagnostics, especially noting that the memory test tasks are moved around the memory area.

CAUTION

Do not leave the SMM display active continuously when activated from within the OD driver as it will disallow processing of Online Diagnostic progress messages. The SP verb should be the normal mode of viewing diagnostic progress.

3.3 KD Verb Operation

The Kill Diagnostic (KD) verb does not always cause rapid termination of the specified tests. This is most pronounced if an excessive number of memory tests have been initiated. If it is desired to stop the Memory test operations in this case, the entire diagnostic task operation must be killed by use of the "hard break" exit sequence (Blank orange key followed by control "X"). If any tasks are left over, do an XODD followed by an SS verb. The leftover tasks will terminate.

Also, check to see that the XODD operation has been completely stopped by verifying that the driver and all of it's associated tasks are missing from the STS (Show Task Status) display. In extreme cases, any tasks still in execution must then be stopped using the KT procedure (Kill Task).

3.4 Double ENTER Key Operation

While the XODD driver is in operation, pressing the ENTER key twice has the same effect as the "hard break" exit sequence described above.

3.5 CP Verb Operation

Be careful when using the CP verb to change online diagnostic task priorities. It is recommended that you change all tasks of the same priority level. If selected tasks are different priorities, (such as DS02 = 2, DS01 = 1, ST03 = 3), it is possible that a priority 3 task message service request for the driver could block the message queue to the driver if it is rolled by the operating system for long periods of time. This condition will not occur if all the tasks are the same priority.

3.6 System Table Overflow

Execution of an excessive number of online diagnostics could cause SVC error code >29 (system table area not available). This may also occur for normal production application tasks requesting large amounts of system table resources.

3.7 SP Verb Operation

When using the SP verb, do not follow activation of the SP verb with an SS verb. This will cause status messages to be displayed during the show picture update and cause the show picture to be abnormal. The SS verb is obsolete and will be deleted in subsequent releases.

SECTION 4

PATCHES FOR DX10 3.6 COMPATIBILITY

All the patches included in the Online Patch File are required to provide support for certain devices (see patch descriptions below) when running the 2.1 version of Online Diagnostics under DX10 3.6. Instructions for applying the patches are included in the patch file (pathname: <volumename>.DX0DOBJ.PATCH.ONLINE21)

NOTE: Do not apply the patches if the onlines are to be run under DX10 3.5.1.

PATCH DESCRIPTIONS:

PATCH #2973 Allows the parallel line printer tests (Printronics and Data Products 2230/2260) to run under DX10 3.6.

PATCH #2974 Allows the extended disk tests (tests 5 thru 11) to run under DX10 3.6.

PATCH #3006 Provides for the proper identification of a 940 vdt from the Read Device Characteristics data under DX10 3.6.

PATCH #3026 Defeats the direct cru offline status check on the LP810 line printer in order to provide CIxxx interface support under DX10 3.6.

PATCH #3027 Defeats the direct cru offline status check on the DP2260/2230 line printers in order to provide CIxxx interface support under DX10 3.6.

PATCH #3028 Defeats the direct cru offline status check on the LP840 line printer in order to provide CIxxx interface support under DX10 3.6.

PATCH #3029 Defeats the direct cru offline status check on the LP600/LP300 line printers in order to provide CIxxx interface support under DX10 3.6.

PATCH #3030 Defeats the direct cru offline status check on the 911 VDT in order to provide CIxxx interface support under DX10 3.6.

PATCH #3032 Defeats the direct cru offline status check on the 940 VDT in order to provide CIxxx interface support under DX10 3.6.

PATCH #3033 Corrects the problem of the 940 vdt test #1 displaying subscript 2 characters instead of dash characters under DX10 3.6.