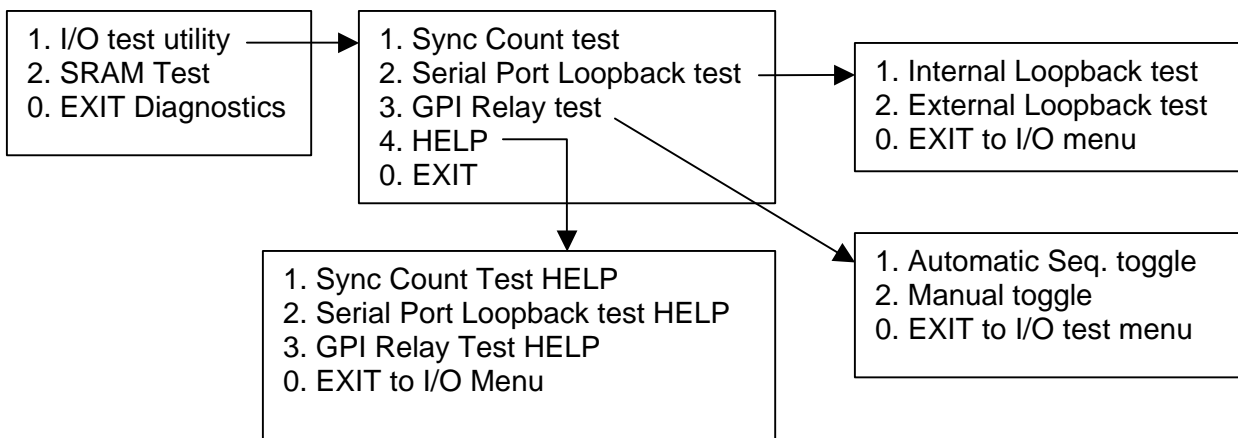# editware
GRASS VALLEY, CALIFORNIA

TECH NOTE
All DPE-5xx systems

DPE DIAGNOSTICS
V1.00 – 12/07/2000

INTRODUCTION

This document describes the various operations and options of the DPE-500 Series editor diagnostics. The diagnostic routines are supplied on a 3.5" high-density floppy disk. Do not copy or transfer these files to your hard disk drive, as these routines run only from the floppy disk. This diagnostics package includes tests for SYNC presence and accuracy, SERIAL PORT continuity, GPI closures, and SRAM.

DPE DIAGNOSTICS UTILITY MAIN MENU FLOW CHART

```
1. I/O test utility          1. Sync Count test
2. SRAM Test                  2. Serial Port Loopback test      1. Internal Loopback test
0. EXIT Diagnostics           3. GPI Relay test                 2. External Loopback test
                              4. HELP                           0. EXIT to I/O menu
                              0. EXIT

                              1. Sync Count Test HELP           1. Automatic Seq. toggle
                              2. Serial Port Loopback test HELP 2. Manual toggle
                              3. GPI Relay Test HELP            0. EXIT to I/O test menu
                              0. EXIT to I/O Menu
```

SETUP PROCEDURE FOR DIAGNOSTIC TESTS

1. **Reboot** the DPE Editor. When the first screen shows up press the "**F2**" key to enter setup. **DO NOT** use advanced settings during setup.

2. In **BOARD SETUP** use the arrow up or arrow down keys to move the cursor to "**Basic Settings**".

3. Press the "**F6**" key until "**DEFAULT**" is highlighted.

4. Using the arrow up or arrow down keys, move the cursor to "**Boot/UMB Options**".

5. Press the "**F6**" key until "**DEFAULT**" is highlighted.

6. Press the "**F10**" key to save settings. A dialog box will acknowledge that the settings have been saved. Press the "**0**" key to continue.

7. Insert the DPE DIAGNOSTICS DISK into the floppy disk drive.

8. Press the "**ESC**" key to exit Board Setup. The system will reboot automatically.

9. Press the "**ESC**" key to bypass the Memory test. The system will access the floppy disk drive.

10. After about 30 seconds, the DPE Diagnostic Utility Main Menu will appear to enable the user to select which diagnostic tests to run.

11. Assure that the "**Num Lock**" light is lit on the keyboard. Press the "**Num Lock**" key to turn ON.

    PERFORM TESTS

12. After testing is completed, at the Diagnostics Main Menu press "**0**" to exit the diagnostic tests.

13. Remove the DPE diagnostics disk from the floppy drive.

SETUP EDITOR TO RETURN TO NORMAL OPERATION

1. Reboot the editor by pressing the "**Ctrl + Alt + Del**" keys all at the same time.

2. When the first screen shows up press the "**F2**" key to enter setup.

3. In **BOARD SETUP** use the arrow up or arrow down keys to move the cursor to "**Basic Settings**"

4. Press the "**F6**" key until "**OPTIMAL**" is highlighted.

5. Using the arrow up or arrow down keys, move the cursor to "**Boot/UMB Options**".

6. Press the "**F6**" key until "**OPTIMAL**" is highlighted.

7. Assure that all settings are set to "**Optimal**".

8. Press the "**F10**" key to save settings. A dialog box will acknowledge settings have been saved. Press the "**0**" key to continue.

9. Press the "**ESC**" key to exit BOARD SETUP. The editor will automatically reboot to Windows NT.

SYNC TEST

This test is designed to test the sync input on the editor by measuring the active sync count and sync interrupts, and to assure that the sync counter is functioning properly. This test displays title "DPE Sync test", how long the test will take, how to exit the test, the CFID (Color Frame ID) status, and the current sync count.

The sync count will increase from 0 to 460 if CFID is present and 0 to 110 if CFID is not present. The sync count will increment in units of 10. The sync test should take about 30 seconds to complete. The user may exit the test at any time by pressing the "0" (zero) key.

When the sync test is completed or the user exits the sync test, the CFID status, the number of errors accumulated, and the sync count when the test was exited will be displayed. Pressing the "0" (zero) key to continue will bring the operator back to the I/O Test menu.

If errors are displayed, run the test again. If after re-running the sync test there are still errors displayed, there is either a problem with the incoming sync signal or the sync circuit in the DPE editor.

Note that if the editor is connected to Black as a sync source, there may be occasional errors because of the low level of the signal.

Removing or adding a CFID signal during the test may also cause errors and the test should be restarted.

SERIAL TEST

The SERIAL TEST is designed to test the serial ports on the DPE editor by sending data out a serial port, looping it back into the receiver of the same port, and then checking the data.

When "Serial Port Loopback Test" is selected, the user is given the choice of two modes of testing, "Internal Loopback" and "External Loopback".

When testing using Internal loopback mode, the looping back is done internal to the serial chip.

When testing using External loopback mode, the looping back is accomplished with an Echo Plug that is attached to the back of the editor or to the end of a cable. The echo plug is an RS422 connector with jumpers connecting the transmitter outputs to the receiver inputs. A pin-out diagram is available on the Editware web site http://www.editware.com.

When the test is started "PRESS 0 KEY TO EXIT" is displayed at the top of the screen followed by the current test mode ("Internal Loopback" or "External Loopback").
The list of available ports is shown along the left side of the screen. If the system is a DPE-531 or DPE-541 the port "JOG IN" and ports 12 through 18 do not apply (DPE-551 only).

If any of the ports are looped back the test will display "OK" in green. If the data that is looped back is bad or if a cable is wired wrong, the word "ERROR" will be displayed. "ERROR" will also be displayed briefly when a connection is added or removed, and possibly when the test is first started.

If a port is not looped back it will display nothing after the port name.

GPI RELAY TEST

This test is designed to test the individual GPI relays on the DPE editor by toggling them ON and OFF. There are two modes of operation for this test, AUTOMATIC and MANUAL.

When in the AUTOMATIC mode the relays will turn ON and OFF one by one, then start over again, looping until the operator exits the test by pressing the "0" (zero) key. While the GPI test is running, the status of each relay, whether it is open or closed, will be displayed.

When in the MANUAL mode the operator can press the 1 through 8 keys to toggle the respective relays ON and OFF, until the operator presses the "0" (zero) key. While the GPI test is running, the status of each relay, whether it is open or closed, will be displayed.

SRAM TEST

The purpose of the SRAM test is to verify that there are no problems reading or writing to any of the memory locations in SRAM. The DPE uses the SRAM to communicate between the SP and the EP processors. When the SRAM test is executed, it displays "SBC-V SRAM tester …" on the screen, followed by dots representing each page of SRAM being tested.

> The test clears the SRAM by writing "0" to every location.
> The test then verifies that all locations are "0".
> The test then changes the SRAM by writing "1" to every location.
> The test then verifies that all locations are "1".

If during the verification process the test finds an incorrect value, it will display

> "data error at xxxx"   (xxxx being the hex location of the error)
> "read xx"   (xx being the hex value)
> "should have been xx" (xx being the value that should have been present)

If all locations pass, the test will exit and bring the operator back to the main diagnostics menu with no errors reported.