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Description - Confidence Diagnostics are similar to, and therefore, are an extension of, Power-up Diagnostics. Confidence Diagnostics, which are all disk-based, can be run by anyone, either overnight, or whenever the system is not in use. Confidence software is operated from the operator work space by clicking on **[Diagnostics]** on the Service Desktop Manager. The software reports errors to the message log.

1- OVERVIEW

1-1 Hardware Tested

The diagnostics verify the proper operation of the following subsystems:

- Host Computer
- TPS/ISE Subsystem
- Peripherals (patient handling, gradient, RF subsystems)

1-2 Software Process

Confidence Diagnostics are supported by a process called TPS/ISE Host Diagnostics (diags). The diags are responsible for invoking user-requested board level, data path, and system level exerciser diagnostic tests on the TPS/ISE chassis. Diags monitor their progress, and report the results to the error log. The diagnostics can be either manual or automated. An automated diagnostic must be terminated by operator intervention. The user interface for the automated diagnostics is provided by selecting the Main Diags Menu, which passes test information to the Results Menu. When a manual diagnostic is invoked, it continues until terminated by operator intervention. The user interface for the manual tests are provided also by the Main Diags Menu.

The diags monitor progress of all automated diagnostic tests in order to detect catastrophic failures as early as possible. If a test fails to execute, an error is recorded and the next group of tests is started. When all tests for a board or subsystem are finished, the diags log any errors and update the Results Summary screen. A diagnostic session ends if all tests are completed, more than 25 errors are logged, the reset command fails, or if the operator stops the tests.

System Check Diagnostics is another automated version of diags. When System Check is started, a collection of tests is selected and run in less than five minutes. Refer to Section 3-4 System Check for more details.

2- SPECIAL STATUS MESSAGES AND ERROR LOGGING

IMPORTANT

During a TPS reset, incoming messages (errors, status, etc.) from Tardis are not displayed. After the reset is complete, any messages that were generated during the reset period are displayed in the order in which they occurred.

2-1 Diags Status Messages

The following paragraphs describe the status messages from diagnostics that are displayed in the Results Menu, which appears after diags are invoked.

RESETTING TPS/IPG The TPS/ISE chassis is reset by the diags process before downloading the first diagnostic test. This is done to return the TPS/ISE to a known state. The TPS/ISE is also reset when all selected tests have been completed and the TPS/ISE Subsystem is downloaded with application code.

DIAGS FAILURE This message occurs when any diagnostic test failures occur.

DIAGS RUNNING This message occurs while diagnostic tests are executing.

3- USER INTERFACE

3-1 General

To interface Diagnostics with the Service Desktop Manager, the system must be fully up (i.e., a warm or cold start has been performed). Access to the diagnostics is via the **[Tools Icon]** on the Service Desktop. After the **[Tools Icon]** has been selected, click on the **[Diags]** icon and then select the main diagnostic menu. This screen allows you to choose which subsystem(s) to test.

If the message DIAGS RUNNING or TPS/IPG DOWNLOAD is displayed on the Results Menu on the Service Desktop Manager, you will not be able to execute diagnostics.

Note that if the message in the Results screen is a failure type, you will still be able to select diagnostics. For more information on failure messages, refer to Section 2-1 Diags Status Messages.

3-2 Selecting Subsystems for Testing

For a subsystem to be tested, its associated box must be selected, (a check mark is displayed in the box after it is selected).

3-3 Selecting Loop Count

Iteration Count is the count that controls the number of times the entire set of tests is repeated. *Loop count* controls repeated executions of the individual tests.
The default loop count is 1. The Iteration Count runs the enabled tests the selected number of executions, and then stops.

Continuous **[Duration]** testing normally executes the selected diagnostics until **[Cancel]** is selected. If, however, fail count reaches 25 for any subsystem, all tests for the subsystem are stopped. After completing your selections on this screen, click the keys on the lower half of the screen for further selections or **[Run Diags]** to begin testing.

3-4 System Check

System **[Quick check]** runs a collection of basic diagnostics (Host and TPS/ISE Board Level and Data Path diag groups). These tests execute in about five minutes, and check much of the system hardware. See Procedure Quick Check for a list of tests that run with System Check. To start Quick Check tests, select **[Quick Check]** at the top of the Main Diags Menu, then **[Run Diags]**.

3-5 Starting Diagnostics

The diagnostic process is initiated from the Service Desktop Manager at the operator work space by selecting the **[Tools Icon]**, **[Diags icon]** and then selecting the Diagnostic Main Menu. From the diagnostics menu, any combination of subsystems can be selected for the diagnostics to test. Select the number of desired test executions. If the Service Key is loaded, additional menus are available from which you can select individual tests for TPS/ISE Board Level, TPS/ISE Data Path, TPS/ISE System Exerciser, and Peripherals.

3-6 Diagnostic Test Status

The Diagnostic Results screen is displayed while any selected subsystem tests are executing

The following paragraphs describe the columns that appear on the status screen:

`Subsystem` For host computer, the circuit boards or peripherals available for testing are listed. For TPS/ISE and peripherals, the type of diagnostics available for testing are listed. Selected circuit boards, peripherals, or diagnostics type are highlighted.

`Pass Count` The pass count is the number of completed iterations of the circuit boards, peripherals, or diagnostics type test(s) that occurred with no failures.

`Fail Count` The fail count is the number of completed iterations of the circuit boards, peripherals, or diagnostics type test(s) that occurred with failures. Adding pass count and fail count gives the total number of iterations that have been completed. Some tests execute faster than others; therefore, the pass/fail counts will not be equal for all circuit boards, peripherals, and diagnostics types.

The maximum fail count allowed per circuit boards, peripherals, or diagnostics type is 25. If this maximum count is reached, the applicable subsystem is automatically removed from further testing (the asterisk [*] in front of the subsystem is removed).

`Error Count` Error count represents the total number of errors that have occurred. Note that multiple errors can occur for a single fail count.

REVISION HISTORY

REV	DATE	AUTHOR	PRIMARY REASONS FOR CHANGE
0	July 28, 1998	M. Whitlow	Initial conversion from Toolbook to Word.
1	Oct 13, 1999	M. Keber	Added correct proprietary heading to document.