Application Note

HOW TO SET A WARNING CONDITION WHEN A SHORT ERROR OCCURS

Dynalab
TEST SYSTEMS

How to set a warning condition when a short error occurs

This document explains how to use the PASS 6.0 software to program the Dynalab Analyzer to enter a warning mode when a short error occurs.

This document contains the following main sections:

a list of assumptions – knowledge required to perform the tasks outlined in this document

an explanation of the problem

an explanation of the solution approach

an overview of the Dynalab solution to the problem

an example Sequence

Assumptions

To successfully use this document, the following knowledge is required:

- basic knowledge of how to enter harness data using PASS 6.0
- knowledge of how to use the Sequence table to create a Sequence

For assistance on how to use features of PASS 6.0, see the PASS 6.0 Help file.

Problem

A method is needed to facilitate the investigation of short errors. Whenever a short error occurs, testing should stop and authorized personnel should be alerted so that the short error can be investigated. Additionally, when a short error occurs the operator should be prevented from proceeding until authorized personnel have had a chance to investigate the problem.

Solution

The Analyzer must do the following when a short error is encountered:

- Stop the test
- Sound a warning.
- Display the short error information
- Allow only an authorized person such as a supervisor to acknowledge the warning condition
- Re-start the test when the warning condition is acknowledged

Solution Overview

The Dynalab solution to this problem is to program the Sequence to enter a warning mode when a short error is encountered. A warning mode causes the following to happen:

- stops the test
- makes a continual sound, indicating a warning condition
- displays the short error information
- requires someone with a key to operate the keyswitch to acknowledge and turn off the warning condition

Although PASS software provides Sequence items such as ALARM, ALARMON and ALARMOFF, they are not appropriate in this case, because they are specifically designed to monitor detection switches to sense when a harness has been prematurely removed.

In this case, a Sequence must be designed to sense a short error, and go into a continuous loop when a short error is encountered. While in the continuous loop, the Analyzer will make an audible sound and display the error information. The continuous loop will be interrupted when the keyswitch is operated.

Example Sequence

This example sequence illustrates how to cause the Analyzer to go into a warning mode when a short error occurs.

Example Sequence illustrating warning condition on short error

Line	Command	Parameter	Application Effect
1	EBRKOFF		A flag which disable breaking out of test on error condition
2	CONTINUITY	MAIN	Performs a continuity scan of all circuits in the MAIN Netlist
3	**EBRK**		**A flag which enables breaking out of test on error condition**
4	SHORT	MAIN	Performs a complete short scan of all circuits in the MAIN Netlist
5	**BSH**	**9**	**Branches to line 9 on short error**
6	REPORT		Displays “Assembly OK” if harness passes all tests, or displays error information
7	KWAIT		Waits for the operator to push the Start button
8	REPEAT		Repeats sequence from first line
9	**SOUND**	**1**	**Plays sound 1 (1 chirp)**
10	**DELAY**	**1**	**Pauses for 1 second**
11	**BKEY**	**1**	**Branches to line 1 if the keyswitch is operated**
12	**GOTO**	**9**	**Goes to line 9 to repeat the warning mode loop**

Line 1 EBRKOFF is a flag that disables the option to abort testing when an error condtion occurs. It is necessary to have this flag at the beginning of the Sequence to ensure that CONTINUITY testing occurs uninterrupted.

Line 2 CONTINUITY instructs the Analyzer to perform a continuity test for all circuits in the MAIN Netlist.

Line 3 EBRK is a flag that enables the option to abort testing when an error condition occurs, and to resume at the next Sequence item.

Line 4 SHORT instructs the Analyzer to perform a short test for all circuits in the MAIN Netlist. During this test, the Analyzer is looking for any short circuits (unwanted continuity) in the MAIN Netlist. Normally, if a short error is encountered, the SHORT Sequence item would cause the Analyzer to stop and wait for the error condition to be cleared or for the operator to press the START button. However, in this case, since EBRK was set in line 2, as soon as a short error is encountered the Analyzer will abort this Sequence item and resume execution at the next Sequence item on Line 4.

Line 5 BSH causes execution to branch to line 8 if a short error was encountered. If no short error was encountered, this Sequence item has no effect, and execution continues with the next Sequence item on Line 5.

Line 6 REPORT displays a summary report.

Line 7 KWAIT waits for the operator to press the START button.

Line 8 REPEAT repeats the Sequence at Line 1.

Line 9 SOUND plays the sound defined by the Parameter. In this case, sound 1 which is a single chirp. This is the beginning of the warning mode loop.

Line 10 DELAY pauses for the number of seconds defined by the Parameter. In this case, it pauses for one second. This delay is used to cause a pause between chirps.

Line 11 BKEY branches to line 1 if the keyswitch is operated. This causes the Analyzer to break out of the warning mode.

Line 12 Goes to line 8 this causes the Analyzer to repeat the warning mode loop.