
Date: October 1st 1998

Project Name: *ORION*

Scope: To provide a data collection interface for the MEK Rub Test Machine.

Overview

The purpose of the Orion project is to provide the end user with a functional program that can,

- a) Collect and store data in a controllable database
- b) Allow user input to be associated with a sample or group of samples
- c) Create simple reporting of a sample
- d) Create export file in a text, comma, or tab-delimited output for import into SPC, Excel or other programs.

Software Components

1. Primary Logon/Splash Screen
2. Main program Window (data screen)
3. Database
4. Interface to MEK Rub Test Machine
5. Reporting Module
6. Data Exchange
7. Signal Monitoring Module

Details

Primary Logon

Primary Logon contains a user window for the operator to logon in either a user or supervisory capacity

Main Program Screen

“Beta Version” Screen layout

The screenshot shows a software window titled "ORION - (Test 1)". The menu bar contains "File", "Edit", "View", "Mode", "Database", and "Help". The main area has several input fields: "Operator:", "Customer:", "Sample ID:", "Location:", "Spec.:", "Test #", "Current Test:", and "Last Test:". To the right of these fields is a "Testing" label. In the center, a large digital display shows "999". At the bottom, there are five buttons: "RESET", "PRESET", "SAVE", "MODE", and "Mode dialog".

Operator- Displays current user logon

Sample ID- Panel ID number

Spec. – Panel specification (number of rubs)

Current Test- Value from current test updates on test completion

Last Test- Value of last test, when a new test begins the current value becomes “Last Test”

Reset Button- Used to reset main counter, depend on mode. (refer to mode for more details)

Save- Used to save data into database (Disabled in AutoSave mode)

Mode- Opens Mode dialog

Mode dialog (radio buttons to select options)

- Manual Count – in this mode user must manually reset, and save data after each test. The Preset button is enabled. If no preset is selected the counter simply counts up until the test is stopped.
- AutoCount – user defines reset delay in seconds default value 10. Save button is active, Preset is enabled.
- Pass/Fail-requires user to input a preset value- returns only a Pass or Fail value to the database. Prompt for time to reset if no value is entered then reset is manual. Default 10. Preset is enabled to allow the operator to modify the number of counts. Preset value is stored with Pass/Fail data.
- AutoSave- this function is only available in the Auto count and Pass fail testing dialogs. If AutoSave is enabled then the program will update the current record with the appropriate value (either a Count or Pass/Fail & preset value) If AutoSave is disabled the user must manually save the data via the save button. Reset, Save and, Preset buttons are disabled in AutoSave Mode.

Mode Dialog – displays current mode of operation, whether operating in, AutoCount, Pass/Fail, or Manual modes.

Preset – allows the operator to work to a preset value. If a preset is entered the counter operates in a count down mode. If a test is ended before the counter reaches 0 then the test is deemed to have failed, an alarm is sounded (system speaker double beep). When operating in the count down mode the program should store both the preset value and the actual count value when the test was stopped. Example 1, the operator is in AutoCount mode and selects a preset of 60 with a reset time of 10 seconds. The program detects the first pulse to the trigger and begins its count down, the operator notices a break-through after 25 rubs and stops the machine. The program after 10 seconds ends the current test double beeps the system speaker and stores the following data to a temporary location. Preset: 60, Counts: 25, Pass/Fail: *fail*. The Save button is now active, the operator will select Save or Reset. If the operator selects Save the data is stored into the database, if the operator selects Reset the data is discarded. The program now resets and is ready to begin the next test. Example 2, the operator is in manual mode and selects a preset of 60. After 40 rubs the operator stops the test, no further action is taken by the program until one of the two following conditions is met. 1, the operator presses the save button. The following data is then stored into the database, Preset: 60, Counts: 40, Pass/Fail: *fail*. The save button is now disabled and the operator must Reset. When the operator press Reset the Screen Counter and the preset are set to 0. (This differs from the AutoCount mode whereby the in AutoCount the counter is not set to 0 but is reset to the Preset value). 2, The operator presses the Reset button. All data is discarded, the screen counter and Preset counter are reset to 0.

Database

Fields. Type and estimated size

File Number: Numeric

Customer name; Character, 30

Panel ID; Character, 20

Date; Date

Coil Location; Character, 20

Operator: Character, 20

Spec.: Numeric 3

Test #: Numeric 3

Count: Numeric 3

Preset: Numeric 3

Pass/Fail: Character 4

Interface

The interface is provided by means of a sensor connected to one of the MEK NOT valves. This will enable the sensor to be triggered once for every double rub. The sensor is connected to the MEK Rub Test Machine via a plug in port that is added to the side of the main box assembly. All new machine built after October 1st 1998 will have the port installed. A connection kit is provided for older machines that do not have this already in place. Due to the volatility of the MEK we cannot place the sensor inside the machine. The sensor is housed in a small instrument box that can be placed up to 3 feet away from the machine. The sensor is then connected to an Interface Card in the host PC.

Reporting

Basic system reporting is provided. The user can sort by customer or panel ID. Individual or group reports based on criteria such as Pass/Fail or Date Ranges.

Data Exchange

Exports in Space, Comma, and Tab Delimited formats. Based on similar search and record criteria's as reporting. Specific Interfaces can be created to suite individual customer requirements. This is available as an option, pricing is based on the individual's requirements and complexity of the interface.

Help

Online help is in the form of Windows Standard Help system format available from the main program menu. Acrobat Portable Document Files (PDF) are also provided for any installation instructions and last minute changes.

System Requirements.

Orion is a 32 bit application that runs under Windows 95/98 or Windows NT. Minimum PC Requirements. Pentium 75, 16mb RAM, CD-ROM Drive, 10mb free disk space, 1 available 16 bit ISA slot for interface card.