



Painless Extraction Scriptor User Manual

1001 Broad Street, Suite 450 • Utica, NY 13501 • Voice:(315) 735-4217 • Fax:(315) 735-4328
RAWood@rawood.com • www.rawood.com



Table of Contents

- Overview
 - Trial Version Limitations and System Requirements
 - Changes by Version
 - Installing Painless Extraction Scriptor
 - Program Operation
 - The Script File
 - Creating a Script File
 - Painless Extraction: Settings File
 - Painless Extraction Noise Figure: Settings File
 - Painless Extraction: Script File & Test Results File
 - Painless Extraction Noise Figure: Script File & Test Results File
 - Sample Script File
 - Running a Script File
 - Custom Dialog Utility
 - Printing
 - Help Menu
 - Purchasing Information
 - Contact Us
-



Overview

- Painless Extraction Scriptor combines the data extraction and analysis capabilities of Painless Extraction & Painless Extraction Noise Figure with a new Custom Dialog Utility and an External Program Caller in an easy to use interface to automate testing through scripting.
- Create custom script files to automate testing.
 - Call Painless Extraction and Painless Extraction Noise Figure in one convenient and easy to use interface.
 - Utilize the Custom Dialog Creation Utility to make custom prompts that alert the tester.
 - Generate notifications whenever tested parts fail the specified criteria.
- View automated testing results in a clear and concise manner.
 - A Summary of Results table displays the pass/fail results for all parts tested.
 - Include comments in the summary file to clarify the report.



Trial Version Limitations and System Requirements

- Trial Version
 - The trial version of Painless Extraction Scriptor has all the features of the full version with a few limitations:
 - The Save and Load script file features are disabled.
 - Script files may be created and run, but not saved or loaded.
 - The full version is available for purchase for (\$ 79 US Dollars). Buy now to unlock all program features.
- System Requirements
 - Painless Extraction and/or Painless Extraction Noise Figure must be installed on the system. Download Trial Versions of these programs on our Software Download Page.
 - Painless Extraction Scriptor was designed to operate in the Windows XP, Vista, and Windows 7 environments.



Changes by Version

Thank you for choosing Painless Extraction Scriptor!

__ Current Version: 1.0 __

__ Changes in Version 1.0 __

Painless Extraction Scriptor combines the data extraction and analysis capabilities of Painless Extraction with a new Custom Dialog Utility and an External Program Caller in an easy to use interface to automate testing through scripting.

This program enables the user to construct script files that will call Painless Extraction, Painless Extraction Noise Figure, Custom Dialog Boxes, and External Programs. Use these capabilities in combination to create customized automated testing procedures.

As always, we appreciate your feedback. We continually strive to improve our software packages based on your suggestions.

We would like to thank you for choosing our product and for your continued support.

Enjoy Painless Extraction Scriptor!

Bob Wood
President
R. A. Wood Associates
1001 Broad St. Suite 450
Utica, NY 13501
Voice: (315)735-4217
Fax: (315)735-4328
www.rawood.com
rawood@rawood.com



Installing Painless Extraction Scriptor

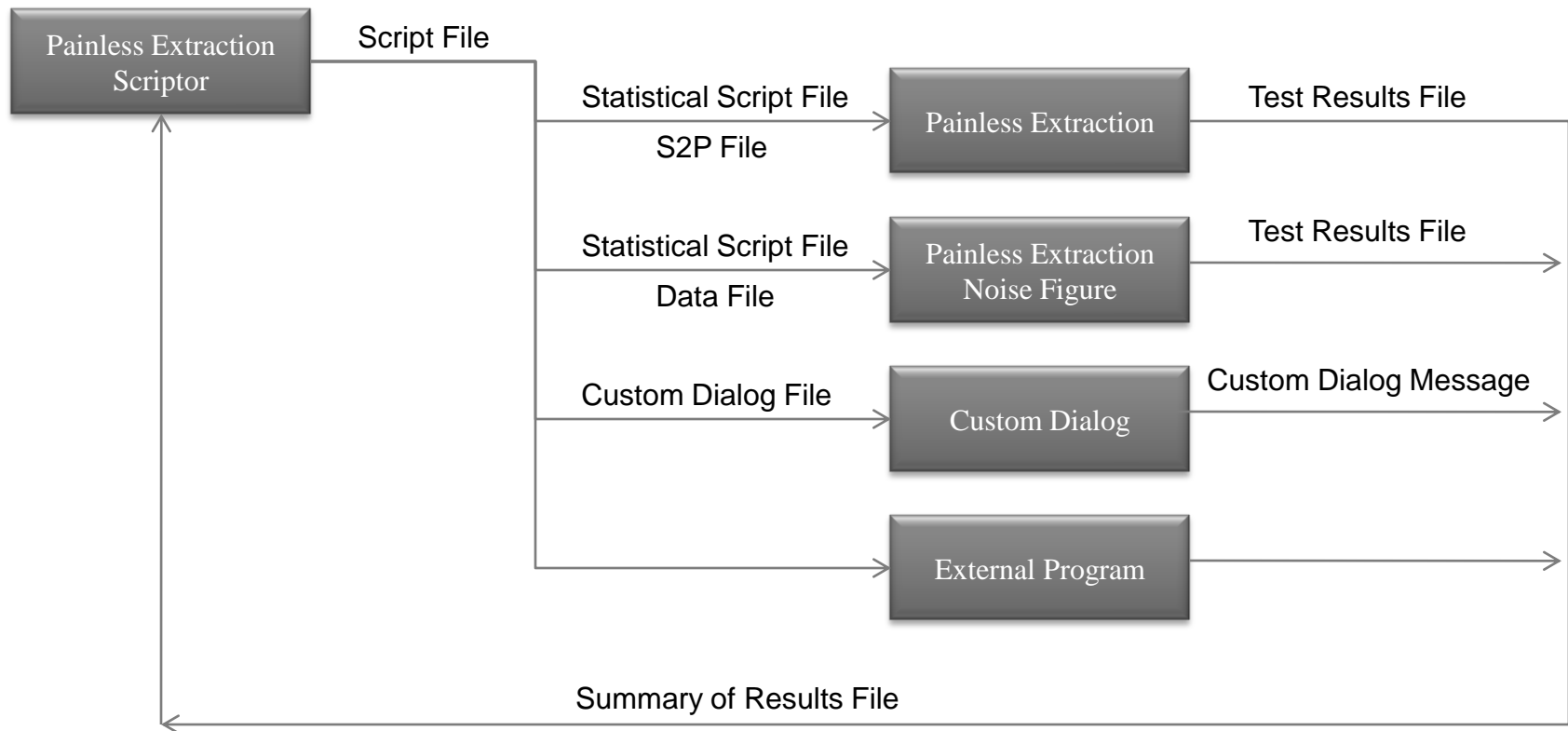
- To check out Painless Extraction Scriptor for yourself, visit the R.A. Wood software download page.
 - Select Download Now! next to the Painless Extraction Scriptor Installer_1_0_0_.exe
 - Click *Save File* to save the installer.
- After the installer download is complete, double click on the Painless Extraction Scriptor Installer icon to start the installation process.
- Work through the prompts of the Installation Wizard until you see the screen that says “Installation Complete.”

- To run Painless Extraction Scriptor for the First Time:
 - Go to Start>>All Programs>>Painless Extraction Scriptor to load the program.
 - On the Welcome Screen, create a user name and then select Continue. This name will be used for registration purposes.
 - Select Register to pay for the full version of Painless Extraction Scriptor. You may pay through paypal or contact us with other arrangements.
 - Select Continue to use the trial version. Each time you open the trial version you will have the opportunity to register for the full version. In the trial version you are unable to save or load script files.



Program Operation

- Painless Extraction Scriptor combines the data extraction and analysis capabilities of Painless Extraction & Painless Extraction Noise Figure with a new Custom Dialog Utility and an External Program Caller in an easy to use interface to automate testing through scripting.
- This program enables the user to construct script files that will call Painless Extraction, Painless Extraction Noise Figure, Custom Dialog Boxes, and External Programs. Use these capabilities in combination to create customized automated testing procedures.
- See the following pages for detailed information on the features and capabilities of Painless Extraction Scriptor as well as a sample script file.





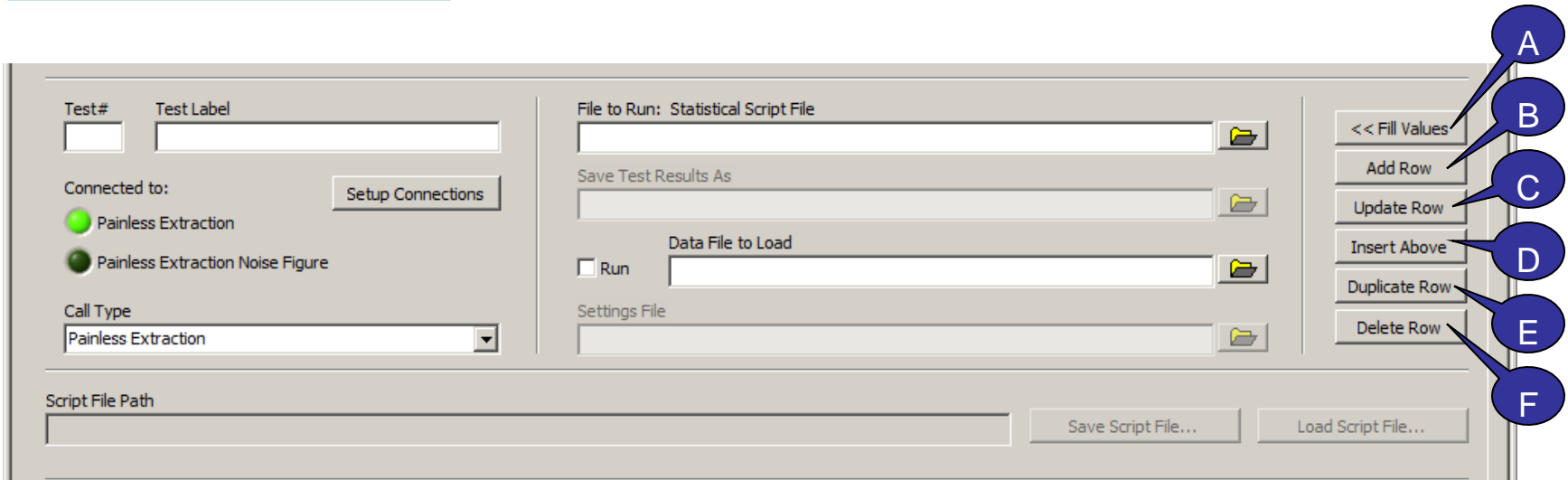
Program Operation

For Painless Extraction Scriptor to interface with Painless Extraction and/or Painless Extraction NF, a connection must be set up. To setup this connection:

- A. Click on **Setup Connections**. A dialog box will open.
- B. If a **Default Connection** is available, it will automatically appear. Simply select **Save and Exit** to use this default.
- C. If the default connection is unavailable or not connected properly, click on the **Browse Button** to manually search for Painless Extraction.exe or Painless Extraction Noise Figure.exe. This option may also be used to select an alternate version of these programs.
- D. Select this **Check Box** to return to the default connection.
- E. These **LEDs** will turn bright green if the connection is valid.
- F. To use the current configuration, select **Save and Exit**.
- G. To return to the previous configuration, select **Cancel**.

The screenshot shows the main interface of Painless Extraction Scriptor 1.0.0. At the top, there is a menu bar with 'File', 'Edit', 'Operate', and 'Help'. Below the menu is a 'Top Level Directory' field. A table with columns '#', 'Test Label', 'Call Type', and 'File t' is visible. Below the table are two checked options: 'Replace Existing Files Without Prompt' and 'Prompt For Action O'. There are input fields for 'Test#' and 'Test Label', and a 'Setup Connections' button. Under 'Connected to:', there are two entries: 'Painless Extraction' with a green LED and 'Painless Extraction Noise Figure' with a grey LED. A 'Browse' button is next to the 'Painless Extraction' entry. The 'Setup Connections' dialog box is open, showing two sections: 'Painless Extraction Path' with a checked 'Use Default Path' checkbox and a file path 'C:\Program Files\Painless Extraction\Painless Extraction.exe', and 'Painless Extraction Noise Figure Path' with an unchecked 'Use Default Path' checkbox and an empty path field. Both sections have 'Browse' buttons. At the bottom of the dialog are 'Save and Exit' and 'Cancel' buttons. Callouts A through G point to the 'Setup Connections' button, the LEDs, the 'Browse' button, the 'Use Default Path' checkboxes, and the 'Save and Exit' and 'Cancel' buttons respectively.

Creating A Script File



Use these buttons in the center of the panel to edit the rows of the Script File.

- A. << Fill Values** - Click here to fill the parameters to the left with the values from the highlighted row of the Script File.
- B. Add Row** - Click here to add a row to the bottom of the Script File. The row will be filled with the values in the parameters to the left.
- C. Update Row** - Click here to edit the highlighted row in the Script File table by replacing its contents with the current parameters displayed to the left.
- D. Insert Above** - Click here to insert a row above the highlighted row in the Script File table with the current parameters displayed to the left.
- E. Duplicate Row** - Click here to create a duplicate copy of the highlighted row in the Script File table. The duplicated row will be inserted directly above the highlighted row.
- F. Delete Row** - Click here to delete the highlighted row from the Script File.



The Script File

The screenshot shows the Painless Extraction Scriptor 1.0.0 interface. At the top, there is a menu bar (File, Edit, Operate, Help) and a 'Run Script' button. Below this is a 'Top Level Directory' field. The main area is a table with columns: #, Test Label, Call Type, File to Run, Save Test Results As, Run, Data File, and Settings File. Below the table are three checkboxes: 'Replace Existing Files Without Prompt' (checked), 'Prompt For Action On Failure' (checked), and 'Run Minimized' (unchecked). There are several input fields and buttons: 'Test#' and 'Test Label' fields; 'Connected to:' section with 'Painless Extraction' and 'Painless Extraction Noise Figure' options and a 'Setup Connections' button; 'File to Run: Statistical Script File' field with a folder icon; 'Save Test Results As' field with a folder icon; 'Data File to Load' field with a folder icon and a 'Run' checkbox; 'Settings File' field with a folder icon; 'Script File Path' field with 'Save Script File...' and 'Load Script File...' buttons; and a 'Summary of Results' table with columns: #, Test Label, Measured, Limit Min, Limit Max, Units, Pass/Fail. To the right of the 'Summary of Results' table is a 'Status' field and a 'Save Summary File' button. At the bottom right, there is a 'Summary File Path' field. Callouts A through K point to various elements: A (Run Minimized checkbox), B (Prompt For Action On Failure checkbox), C (Replace Existing Files Without Prompt checkbox), D (Test# field), E (Painless Extraction radio button), F (Painless Extraction Noise Figure radio button), G (File to Run field), H (Save Test Results As field), I (Script File Path field), J (Data File to Load field), K (Run checkbox), and G, H, J, K also point to folder icons for file selection.

Script files may be created directly within Painless Extraction Scriptor. Use the controls in the middle of the panel to edit the entries of an individual line.

- A. Run Minimized** – Check this box to keep Painless Extraction and Painless Extraction Noise Figure minimized during the automated call. Dialog Boxes and External Programs will not be minimized.
- B. Prompt for Action on Failure** – Check this box to prompt the user with a dialog box whenever a test fails. The user will be given the option to continue with the script, rerun the failed line, or abort the script.
- C. Replace Existing Files Without Prompt** – Check this box to automatically replace all existing Test Results Files, Data Files, and Image Files that are saved as part of the Script run.



The Script File Continued

- D. Test #** - Enter the test number of the row being modified in the Script File.
- E. Test Label** - Enter a descriptive title or reference memo for the row being edited in the Script File.
- F. Call Type** - From the drop-down menu, select the call type for the row being edited in the Script File. The following options are available:
- **Painless Extraction** – This option automatically calls Painless Extraction, and runs the parameters indicated in the File to Run, Save Test Results As, Data File, Settings File, and Run fields. Painless Extraction must be installed on the computer for this Call Type to work. See Connect Now for details on how to connect to Painless Extraction.
 - **Painless Extraction Noise Figure** – This option automatically calls Painless Extraction Noise Figure, and runs the parameters indicated in the File to Run, Save Test Results As, Data File, Settings File, and Run fields. Painless Extraction Noise Figure must be installed on the computer for this Call Type to work. See Connect Now for details on how to connect to Painless Extraction Noise Figure.
 - **Dialog Box** - This option automatically calls the user defined custom dialog box indicated in the File to Run field.
 - **External Program** - This option automatically calls an external program indicated in the File to Run field.
 - **Comment** - This option should be used to create a comment line in the Summary of Results table. This call type does not run tests nor does it call external programs.
- G. File to Run** - This field displays the path to the location of the file that will be run for the given row of the Script File after the Run Script button has been selected. The contents of this file depend on the selected Call Type for the given row. To select a new File to Run, click the file folder icon to the right and browse for the desired file. All files must be located within the Script File Directory or one of its subdirectories.
- **Painless Extraction** - The File to Run may be left blank to not run a file, or it may be a Statistical Script File that will perform a pass/fail analysis on the selected Data File. This Statistical Script File may be created in Painless Extraction on the Statistical Analysis tab. For more details on this file, see the context help in Painless Extraction.



The Script File Continued

- **Painless Extraction Noise Figure** – This Call Type requires the same input parameters as the Painless Extraction Call Type.
 - **Dialog** - The File to Run should be a custom dialog file created using the Create Dialog Utility. To use this utility, Select Dialog from the Call Type menu. A Create Custom Dialog Utility button will appear in the center of the screen. Click this button to open a dialog to create a file.
 - **External Program** - The File to Run should be the exe of the desired program.
 - **Comment** - This field is left blank for a Comment Call Type.
- H. Save Test Results As** - This field displays the path to the location in which the Test Results file will be saved after the data has been statistically analyzed. The Test Results file is generated from the Statistical Script File. Thus, a Statistical Script File must be entered in the File to Run field to the left for the Test Results file to be saved. To select a new save location, click the file folder icon to the right and browse for the desired path. This file may be saved in a new or existing location, but it must be located within the Script File Directory or one of its subdirectories.
- I. Run** - Select the Run option to extract data from the Analyzer or Power Meter Series specified in the Settings File for the given row of the Script File. To save this Data File after extraction, enter a file in the Data File field to the right. If the Data File field is left blank, the data will not be saved. Deselect the Run option to load the file specified in the Data File field.
- J. Data File** - This field displays the path to the location of the Data File that will be loaded or saved. If the Run box to the left is checked, new data will be extracted from the selected Analyzer or Power Meter Series and saved to the Data File location. If the Run box is unchecked, the Data File location should be the path to an existing data file that will be opened and analyzed based on the Statistical Script File selected in the File to Run field. To change the path to the Data File, click the file folder icon to the left and browse for the desired file. This file must be located within the Script File Directory or one of its subdirectories.
- K. Settings File** - This field displays the path to the Settings File that will be used to setup the Analyzer or Power Meter Series for data extraction. If the Run field above is unchecked, this field will be disabled as a Settings File is not required to open an existing data file. Settings files have an extension of *.ini. A new settings file may be created on the Setup tab of Painless Extraction or Painless Extraction Noise Figure. If no file is specified, the settings stored in the default ini file will be used. It is important to make sure these settings accurately match the Analyzer or Power Meter Series in use to assure proper data extraction. To select a different Settings File, click the file folder icon to the left and browse for the desired file. This file must be located within the Script File Directory or one of its subdirectories.
-



Sample Script File

On the following page is a sample Script File, and resulting Summary of Results table. After the *Run Script* button has been selected, the following actions will occur in the given order:

1. A comment row will be added to the Summary of Results table.
 - 1.1 A pass/fail dialog box will prompt the user to determine if the indicator lights on the Device Under Test (DUT) are in working order. This custom dialog will load from C:\Painless Extraction Scriptor\Dialog Files\Indicator Lights Dialog.txt. The results of this test will be added to the Summary of Results table.
 2. A comment row will be added to the Summary of Results table.
 - 2.1 A two button dialog box will prompt the user to prepare the equipment for Gain test 2. This custom dialog will load from C:\Painless Extraction Scriptor\Dialog Files\Gain Dialog.txt
 - 2.2 Painless Extraction will open, but remain minimized. Data will be extracted from the DUT and saved in the file C:\Painless Extraction Scriptor\Gain.s2p. This data will be tested using the Statistical Script file C:\Painless Extraction Scriptor\Script Files\Gain Statistical Script File.txt. The results of this test will be saved in C:\Painless Extraction Scriptor\Gain Results.txt. Painless Extraction will then close and return to Painless Extraction Scriptor. The Gain Results.txt file will be added to the Summary of Results table.
 3. A comment row will be added to the Summary of Results table.
 - 3.1 Painless Extraction will open, but remain minimized. Data will be loaded from C:\Painless Extraction Scriptor\Return Loss.s2p. This data will be tested using the Statistical Script file C:\Painless Extraction Scriptor\Script Files\Return Loss Statistical Script File.txt. The results of this text will be saved in C:\Painless Extraction Scriptor\Return Loss Results.txt. Painless Extraction will then close and return to Painless Extraction Scriptor. The Return Loss Results.txt file will be added to the Summary of Results table.
-



Sample Script File Continued

Script File:

#	Automated Script File Directory:	Call Type	File to Run	Replace Existing Files	Save Test Results As	Run	Data File	Run Minimized:	Settings File
1	Inspection Tests	Comment		Y				Y	
1.1	With the power on, test the indicator lights.	Dialog	Dialog Files\Indicator Lights Dialog.txt						
2	Gain Test 2	Comment							
2.1	Prepare the equipment for Gain test 2.	Dialog	Dialog Files\Gain Dialog.txt						
2.2	Gain Test 2	Painless Extraction	Script Files\Gain Statistical Script File.txt		Gain Results.txt	Y	Gain.s2p		Settings Files\Analyzer Settings.ini
3	Return Loss Test 3	Comment							
3.1	Return Loss Test 3	Painless Extraction	Script Files\Return Loss Statistical Script File.txt		Return Loss Results.txt	N	Return Loss.s2p		

Summary of Results Table:

#	Test Label	Measured	Limit Min	Limit Max	Units	Pass/Fail
1	Inspection Tests					
1.1	With the power on, test the indicator lights.	On	On	On	On/Off	Pass
2	Gain Test 2					
2.2.1	Average Gain	1056	1000	1060	dB	Pass
2.2.2	Max Gain	2109	2000	2100	dB	*Fail*
3	Return Loss Test 3					
3.2.1	Min Return Loss	6.7	5.3	6.8	dB	Pass
3.2.2	Max Return Loss	9.1	8.6	9.6	dB	Pass



Running a Script File Continued

- A. Top Level Directory** - This is the top level directory for all Files to Run, Test Results Files, Data Files, and Settings Files in the Script File. All of these files must be located with this top level directory or one of its subdirectories. Be careful when changing this directory midway through creating a script file as it will automatically change all file paths to be relative to the new directory.
 - B. Run Script** - Click here to run the Script File. The script will run row by row and automatically call Painless Extraction, Painless Extraction Noise Figure, Custom Dialog Files, Comments, and/or External Programs as specified.
 - C. Script File** - This table displays the current Script File. Edit this file by entering the desired values in the parameters below. Use the Add Row, Update Row, or Insert Above buttons to add these parameters to a row in the script file. Drag and drop the highlighted row to reorder the rows in the Script File.
 - D. Script File Path** - This field displays the path to the location that the Script File was saved to or loaded from. It is recommended that this file be located within the Script File Directory or one of its subdirectories.
 - E. Save Script File** - Click here to save the Script File. This file may be opened in Painless Extraction Scriptor, Excel, Notepad, or WordPad.
 - F. Load Script File** - Click here to open an existing Script File .
 - G. Summary of Results** - This table will display all Test Results files for a given Script after the call is complete. To save the Summary of Results file, click the Save Summary File button to the right.
 - H. Status** - This field displays the status of the script. As each line runs, the Status box will report if the call was successful, or if errors were incurred.
 - I. Save Summary File** - Click here to save the Summary of Results to a file. This file will open in Excel, WordPad or Notepad.
 - J. Summary File Path** - This field displays the path to the location that the Summary of Results file was saved. It is recommended that this file be located within the Script File Directory or one of its subdirectories.
-



Custom Dialog Box

The image shows two overlapping windows from the software 'Painless Extraction Scriptor 1.0.0'. The background window is the main application interface, and the foreground window is the 'Dialog Creation Utility'. Callouts A through F point to specific features in both windows.

Dialog Creation Utility Window:

- Callout A:** Points to the 'Create Custom Dialog Utility' button in the main application window.
- Callout B:** Points to the 'Script File Directory' text box in the utility window.
- Callout C:** Points to the 'Preview' button in the utility window.
- Callout D:** Points to the 'Save As...' button in the utility window.
- Callout E:** Points to the 'Open...' button in the utility window.
- Callout F:** Points to the 'EXIT' button in the utility window.

Main Application Window (Painless Extraction Scriptor 1.0.0):

- Callout A:** Points to the 'Create Custom Dialog Utility' button.
- Callout B:** Points to the 'Script File Path' text box.

Dialog Creation Utility Content:

Use this utility to create a custom one or two button dialog box. If the "OK" button is selected, the program will continue normally. In the case of a two button dialog, if the "Cancel" button is selected, the script file will terminate.

Script File Directory

Two Button Dialog One Button Dialog

Dialog Message
Select "OK" to continue.

"OK" Button Label: OK "Cancel" Button Label: Cancel

Include Image
Image File

Pass/Fail Dialog
Measurement Type: Numeric Measurement Label: Number Units:

Buttons: Preview, Save As..., Open..., EXIT

The Dialog Creation Utility may be used to create one and two button dialog boxes with a custom message. These dialog boxes may also include an image and/or a prompt for the user to enter numeric, text, or check box data.



Custom Dialog Box

- A. Create Custom Dialog Utility** – With the Call Type Set to Dialog, click this button to open the Dialog Creation Utility. Alternatively, you may go through the menu option Operate>>Dialog Creation Utility.
- B. Script File Directory** – This is the top level directory in which all files associated with the current Script File must be stored. All file paths, including the Image File path, and the Custom Dialog File path are relative to this directory. To change this directory, edit the control on the Painless Extraction Scriptor panel. Be careful when changing this directory midway through creating a script file as it will automatically change all file paths to be relative to the new directory.
- C. Preview** - Click here to view the custom dialog box. In the preview, the dialog box buttons do not function. To close the preview, simply click any of the buttons.
- D. Save As...** - Click here to save the custom dialog box file. This file may be used in the Script File whenever the Call Type is Dialog. This should be loaded in the File to Run field.
- E. Open** - Click here to open an existing custom dialog box file for editing.
- F. Exit** - Click here to exit the Create Dialog Utility and return to Painless Extraction Scriptor.



Creating a Custom Dialog File

The screenshot shows the 'Dialog Creation Utility' window. It contains the following elements:

- A:** A toggle switch labeled 'Two Button Dialog' (checked) and 'One Button Dialog'.
- B:** A text field for 'Dialog Message' containing 'Select "OK" to continue.' with a 'Preview' button to its right.
- C:** A 'Save As...' button.
- D:** Two text fields for button labels: '"OK" Button Label' (containing 'OK') and '"Cancel" Button Label' (containing 'Cancel').
- E:** A checkbox labeled 'Include Image'.
- F:** An 'Image File' text field with a folder icon to its right.
- G:** A checkbox labeled 'Pass/Fail Dialog'.
- H:** A 'Measurement Type' dropdown menu set to 'Numeric'.
- I:** A 'Measurement Label' text field containing 'Number'.
- J:** A 'Units' text field.
- An 'Open...' button is located between the button label fields and the 'Include Image' checkbox.
- An 'EXIT' button is at the bottom center.

Use the controls on this panel to create a custom dialog box. See the descriptions below for details.

- A. Two Button Dialog** - Use this toggle switch to select between a Two Button Dialog box and a One Button Dialog. With the One Button Dialog, the user must select "OK" to continue. For the Two Button Dialog box, the user may select "OK" to continue or "Cancel" to terminate the Script File.
- B. Dialog Message** - By default the dialog message says, "Select "OK" to continue." To change this message, type a new one.
- C. "Cancel" Button Label** - By default the dialog button to terminate normal program operation is labeled "Cancel." To change this label, type a new label here.
- D. "OK" Button Label** - By default, the dialog button to continue normal program operation is labeled "OK." To change this default label, type the desired label here.
- E. Include Image** - Select this option to include a user defined image in the custom dialog box. Specify the image below in the Image File field.

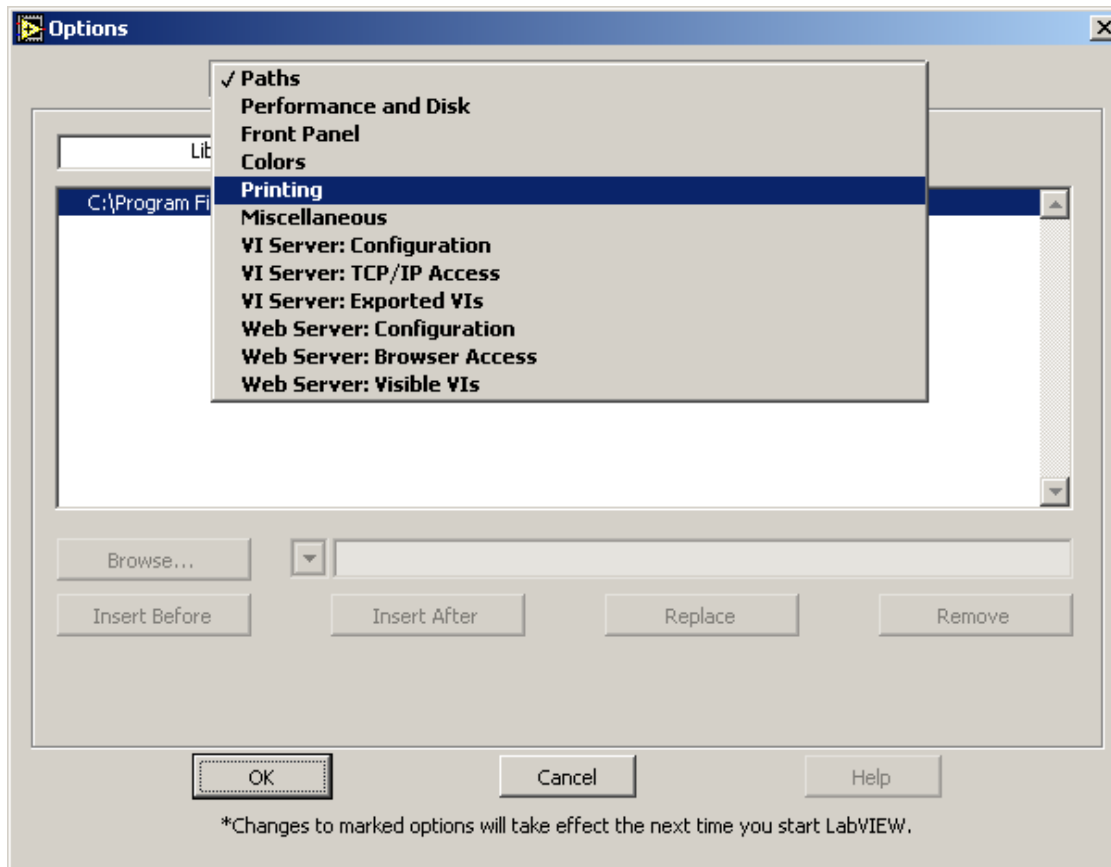


Creating a Custom Dialog File Cont.

- F. Image File** - This field displays the location of the selected image file. To select a different image file, click on the file folder icon to the right and browse for the desired file.
 - G. Pass\Fail Dialog** - Check this option to create a pass/fail dialog box. In the pass/fail dialog box, the user will be prompted to enter a numerical measurement, a string of text, or select a check box entry. The result of this user entered data will be compared against pass/fail limits and recorded in the Summary of Results table.
 - H. Measurement Type** – This option is only available if the Pass/Fail Dialog option has been selected. Select the measurement type that will be used for the pass/fail dialog box. Options include Numeric, Text, and Check Box.
 - I. Measurement Label** – This option is only available if the Pass/Fail Dialog option has been selected. Enter a label that will identify the measured data in which the user will be asked to enter.
 - J. Units** – This option is only available if the Pass/Fail Dialog option has been selected. Enter the units of measure to be used for the user entered data.
-

Printing

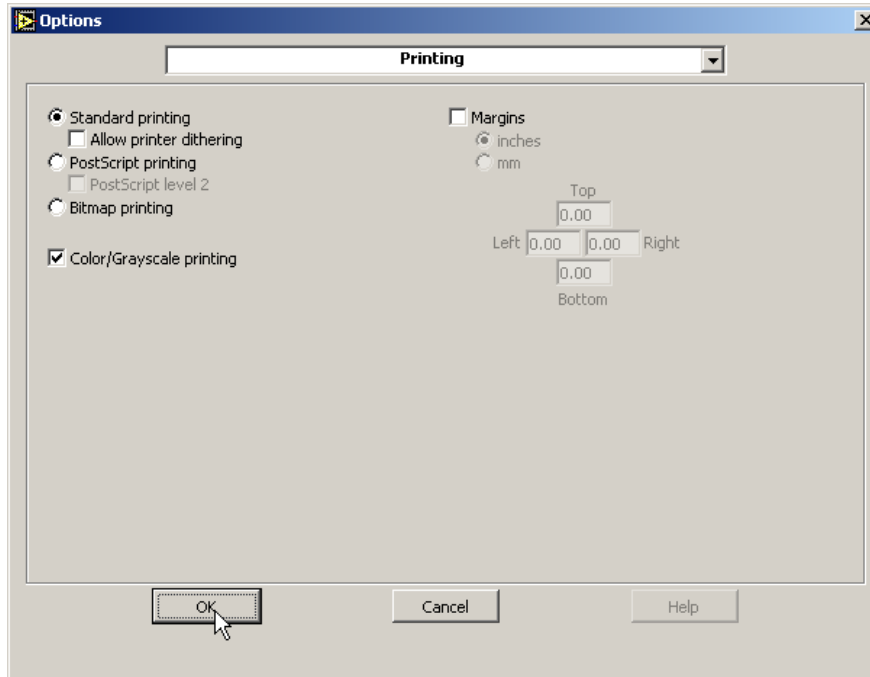
- The default printer is set for a postscript type printer.
- To print on an ink jet printer go to Tools>>Options. In the pop up window, click on the arrow next to Paths and select Printing.



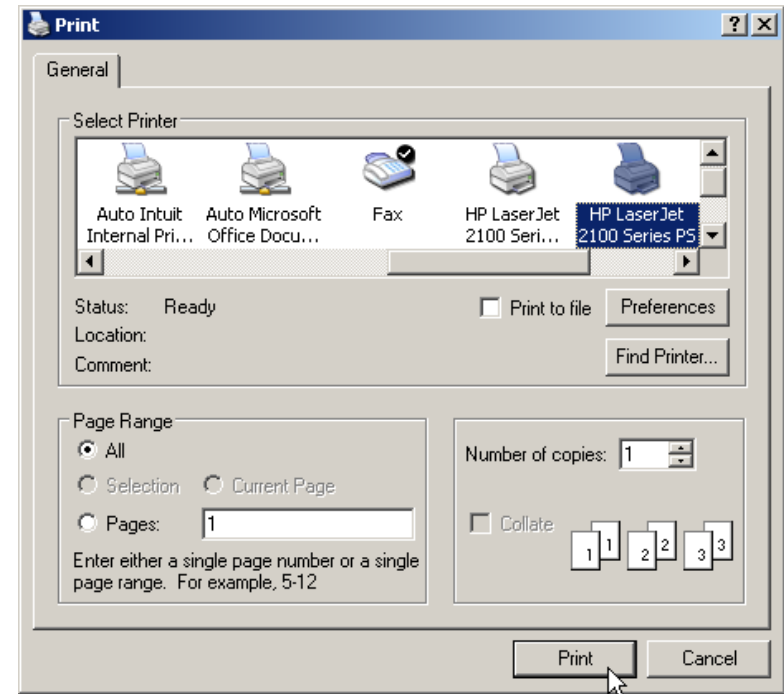


Printing Cont.

- Set the printing options to Standard Printing and click OK.



- On the panel that you want to print, go to **File>>Print Window....** In the dialog box select the ink jet printer and click **Print**





Help Menu

- For help on functions while Painless Extraction Scriptor is running, go to Help >> Show Context Help. This will bring up a window with helpful tips that change according to the location of your mouse. Drag your mouse over buttons or tables to view detailed descriptions of their functions.
- For additional Help resources please visit our Software Support Forum at: <http://rawood.com/support3/index.php>
- As always, if you run into problems, don't hesitate contact us any time at 315-735-4217 or rawood@rawood.com



Purchasing Information

- We currently offer several methods for purchasing our software products:
 - Select the desired method from within the program itself (recommended for single purchases)
 - Use the PayPal Forms on our software download page : http://rawood.com/software_products/purchase_software.html (useful for purchasing multiple programs)
 - Fill out the WWW form
 - Contact us directly so we can contact you for payment arrangements
- When purchasing, please double check that both your User Name and Registration Key are correct.

