

Customize Your Scope

CustomDSO Files Create Custom Menus And Operations

CustomDSO is a unique feature of LeCroy X-Stream™ oscilloscopes which allows the user to customize the user interface. In its Basic mode, allows you to create a system of DSO setups that can be called by a single, user defined, button press. The called setups can themselves include calls to further setups, enabling you to create setup groups of any degree of complexity. Figure 1 shows an example of the application of CustomDSO to automate the setup of a variety of digital filters. Each of the buttons located at the bottom of the display are created using CustomDSO and setup a specific filters.

Figure 2 shows the CustomDSO setup menu. In the basic mode each of up to eight CustomDSO-buttons is associated with a scope setup file. The root of the file name is assigned as the button label. In the example button 1 will call the setup file named FIR_LPF.lss and the button will be labeled FIR_LPF. Each of these setup files can include additional CustomDSO button definitions so that multiple setups can be called in an infinite variety of topologies.

The Plugin mode is an even more powerful feature of CustomDSO which is described in LAB_WM815.

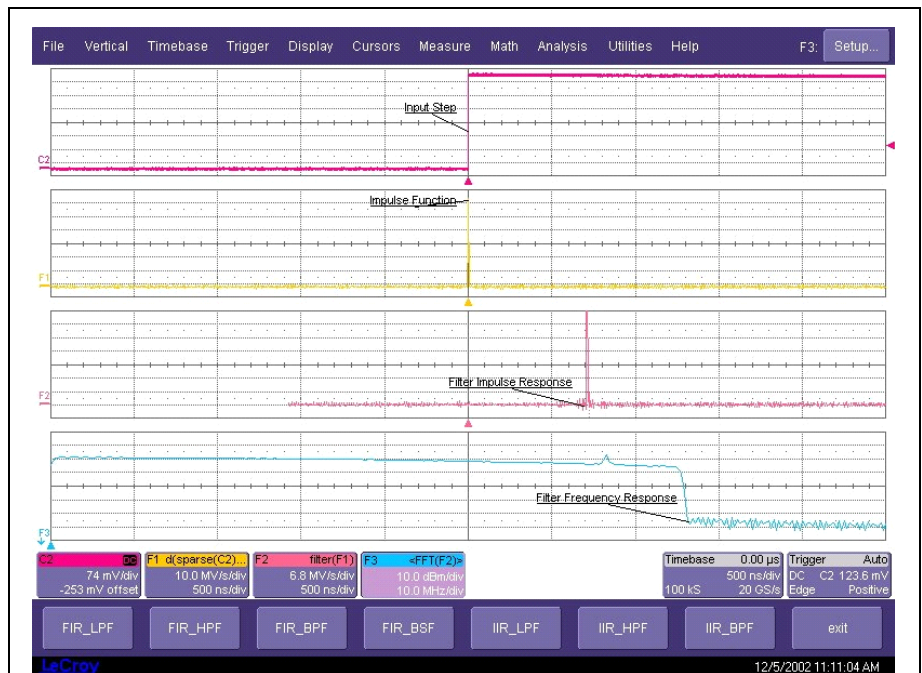


Figure 1 Example of a CustomDSO button bar with a selection of digital filters which can be applied to a signal.

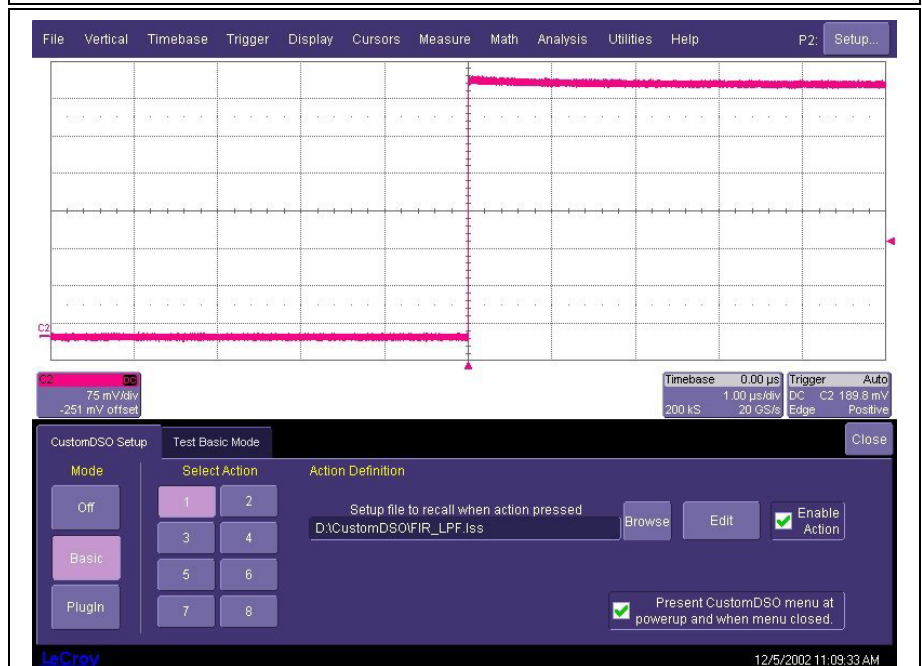


Figure 2 The CustomDSO setup showing the association of the setup file to the button 1

The setup files that are used in the X-Stream are actually Visual Basic (VB) scripts. These files are basically text files which can be viewed and edited in a text editor like "Notepad". The scope commands are standard X-Stream automation commands which describe the setup of the oscilloscope. Detailed descriptions of these commands can be found in the "Automation Manual for X-Stream scopes" available on the LeCroy Website. The use of VB scripts allows the user to incorporate all the power of the programming language including For-Next loops and If-Then-Else branches. This truly differentiates CustomDSO from simple macro command memories

The simplest way to use the basic CustomDSO mode is to setup the scope to perform the measurements you want, then save those setups using the desired button label as the root name of the setup file. Then assign each of the files to a CustomDSO button.

Figure 4 shows the section of the set up file which contains the CustomDSO associations. It is important to incorporate all the button definitions into each of the CustomDSO setup files. This keeps the button definitions from changing as you select different setups.

CustomDSO is a truly powerful tool which allows users to customize the scope to their own specific needs and quickly

```
' AladdinPersona ...
WaveMaster.HideClock = False
WaveMaster.TouchScreenEnable = True

Set Display = WaveMaster.Display
' Display ...
Display.GridMode = "Quad"
Display.TraceStyle = "Line"
Display.GridIntensity = 40
Display.GridOnTop = False
Display.AxisLabels = False
Display.NumSegmentsDisplayed = 1
Display.StartSegment = 1
Display.SegmentMode = "Adjacent"
Display.ScreenSaveEnable = True
Display.ScreenSaveTimeout = 60
Display.LockPersistence = "AllLocked"
Display.PersistenceStyle = "Analog"
Display.Persisted = False
Display.PersistenceMonoChrome = True
Display.Persistence3d = False
Display.Persist3DQuality = "Solid"
Display.AxisXRotation = 45
Display.AxisYRotation = 20
Display.PersistenceSaturation = 50
Display.PersistenceTime = "Infinite"
Display.PersistenceLastTrace = False

Set Acquisition = WaveMaster.Acquisition
' Acquisition ...
Acquisition.TriggerMode = "Auto"
```

Figure 3 An example of an X-Stream scope setup file

```
Set CustomDSO = WaveMaster.CustomDSO
' CustomDSO ...
CustomDSO.ActionScript1 = "D:\CustomDSO\FIR_LPF.1ss"
CustomDSO.ActionEnable1 = True
CustomDSO.ActionScript2 = "D:\CustomDSO\FIR_HPF.1ss"
CustomDSO.ActionEnable2 = True
CustomDSO.ActionScript3 = "D:\CustomDSO\FIR_BPF.1ss"
CustomDSO.ActionEnable3 = True
CustomDSO.ActionScript4 = "D:\CustomDSO\FIR_BSF.1ss"
CustomDSO.ActionEnable4 = True
CustomDSO.ActionScript5 = "D:\CustomDSO\IIR_LPF.1ss"
CustomDSO.ActionEnable5 = True
CustomDSO.ActionScript6 = "D:\CustomDSO\IIR_HPF.1ss"
CustomDSO.ActionEnable6 = True
CustomDSO.ActionScript7 = "D:\CustomDSO\IIR_BPF.1ss"
CustomDSO.ActionEnable7 = True
CustomDSO.ActionScript8 = "D:\CustomDSO\exit.1ss"
CustomDSO.ActionEnable8 = True
CustomDSO.Mode = "Basic"
CustomDSO.PresentAtPowerUp = True
CustomDSO.Plugin1ProgId = "LeCroy.CustomDSODemo.1"
```

Figure 4 The section of a setup file showing the mapping of the CustomDSO buttons to the user selected setup files.

change between the most complex setups.