

FGen for Windows 1.00

Analog inputs often contain unwanted frequency components. All unwanted frequencies below the Nyquist frequency can be removed by digital filters. The DAPL operating system has built-in commands to perform filtering on acquired data. The DAPL filtering commands implement Finite Impulse Response (FIR) filters by applying vectors of coefficients, called filter vectors, to acquired data.

FGen for Windows is a filter design program that can be used to generate DAPL filter vectors for use with DAPL filtering commands.

FGen for Windows can produce several filter types: lowpass, highpass, bandpass, and bandstop. The types of Window vectors that are available are Blackman, Hamming, and Hanning. FGen for Windows also provides plots of filter response as dB vs. frequency and as amplitude vs. frequency.

Installation

FGen for Windows 1.00 is delivered as part of the DAPtools Basic, DAPtools Standard and DAPtools Professional package on CD-ROM. You can use Explorer or Run to browse for the **FGen100** folder. Find the **SETUP.EXE** program in this folder and run it.

By default, all files will be installed in the **C:\Program Files\Microstar Laboratories\FGen** directory unless otherwise specified.

Copying Filter Vectors into DAPL

The following two methods may be used to copy filter vectors from FGen for Windows to the Windows clipboard:

1. Select **File | Copy** from the File menu.
2. Select **File | View** from the File menu and then **Copy to Clipboard**.

From the clipboard, the filter vectors may be pasted into DAPL programs. The following example uses **VECTOR FV** to display where vector information should appear in a DAPL command list.

RESET

```
; vector FV: Taps = 49, Type = Lowpass, Window = Blackman
; vector FV: Actual Taps = 51 (before zero stripping)
; vector FV: Edges = 0.20, 0.25
; vector FV: Scale = 4
vector FV = (-2, -4, 3, 28, 65, 80, 25, -126,
            -329, -448, -301, 208, 956, 1540, 1413, 201,
            -1926, -4069, -4784, -2670, 2876, 11122, 20027, 26904,
            29491, 26904, 20027, 11122, 2876, -2670, -4784, -4069,
            -1926, 201, 1413, 1540, 956, 208, -301, -448,
            -329, -126, 25, 80, 65, 28, 3, -4,
            -2)
```

```
I DEF A 1
  SET I PIPEO SO
  TIME 1000
END

PDEF B
  FIRFILTER (I PIPEO, FV, 0, 4, 0, 0, $BINOUT)
END

START A, B
```