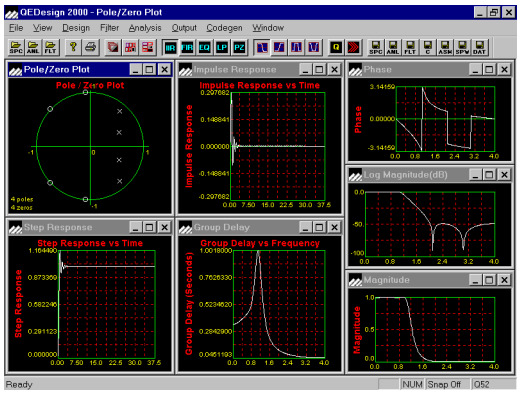
17330 Brookhurst St., Suite 140, Fountain Valley, CA 92708
Phone: 714-378-5805 / Fax: 714-378-5985
email: dsp@mds.com */ web URL:* http://www.mds.com



QEDesign 2000

QEDesign 2000 is an **easy to use** digital filter design package for Microsoft's **Windows 9x and NT**.

It designs **FIR and IIR** filters and has all the features of the QEDesign 1000 package, plus built in code generators and additional features.

A **command line interface** makes repetitive design of many filters easier and faster.

Interfaces to MATLAB, COSSAP and SPW improve integration with other packages.

It has built in DSP assembler and C code generators. It also correctly takes account of **quantization of coefficients** and can model the effects including scaling and grouping to minimise quantisation error.

There is a **graphical zoom capability**.

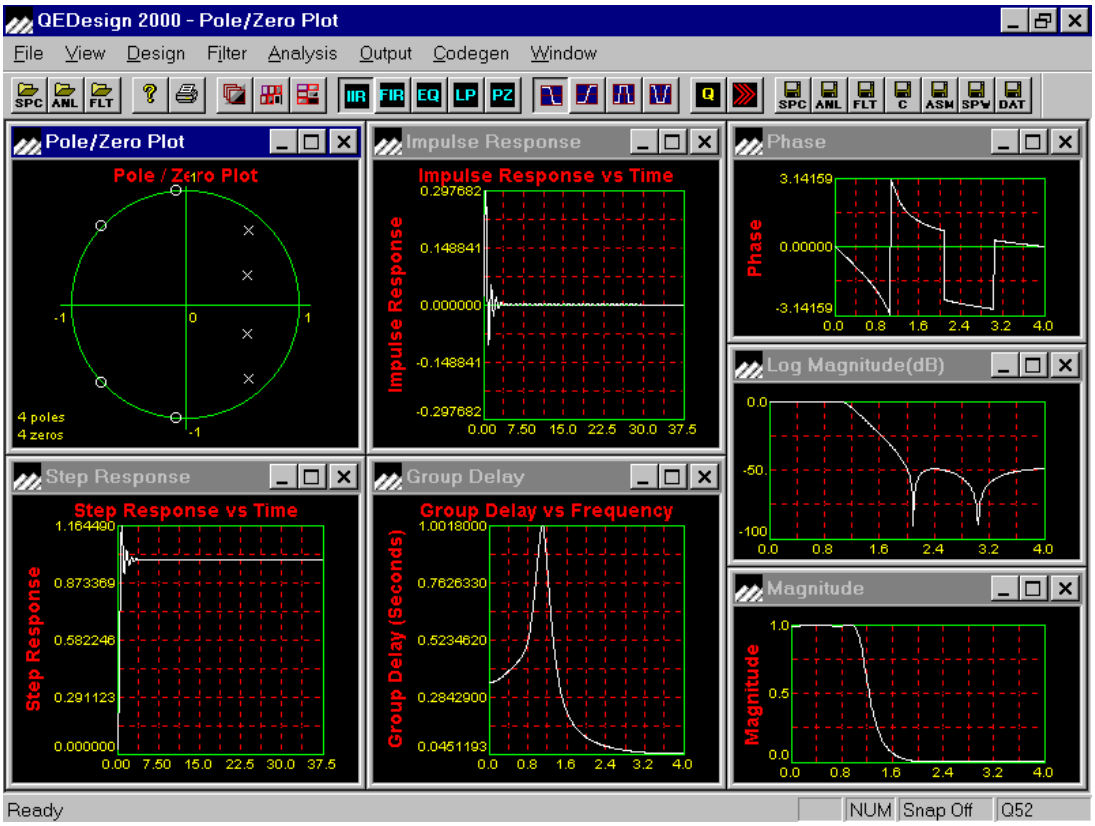
Features:

- FIR and IIR filter design
- cascade and parallel IIR forms
- window and equiripple FIR design
- coefficient quantization and modelling
- **DSP assembler and C code generation**
- **arbitrary magnitude** and group delay designs
- **raised cosine** FIR window designs
- z domain and **s domain filter specification**
- **command line interface**

A detailed **product booklet**, and **free demonstration** software, are available: send email to: gedesign_book@mds.com or phone (714) 378 5805.

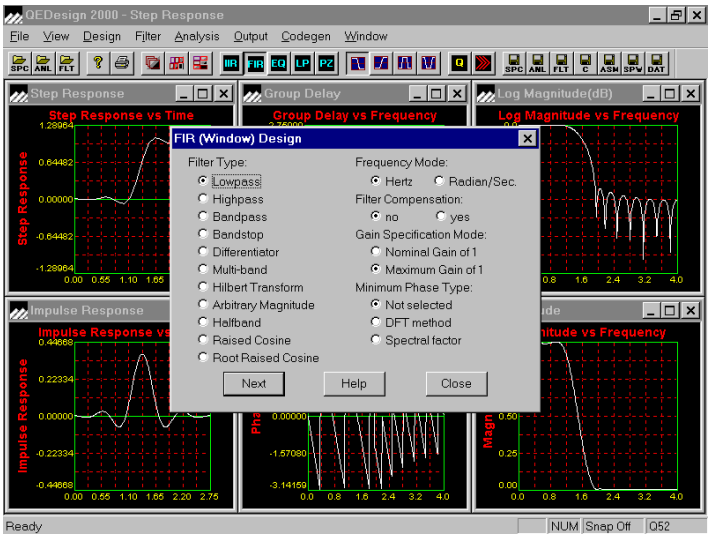
Details and demo software are also available on line:

http://www.mds.com/software/qed2000.htm



QEDesign 2000 data sheet

FIR filter design



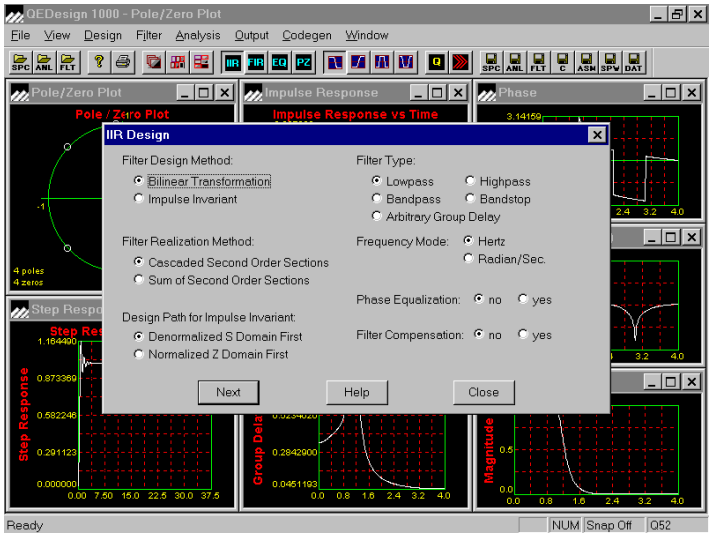
QEDesign 2000 supports FIR filter design by the **window** and **Parks McLellan** (equiripple) methods.

Many window functions are available, and Parks Mclellan designs can be modified from equiripple, and to impose **rolloff**.

Filters **up to 99,999 coefficients** can be designed.

There is a **minimum phase FIR** design, and a new **linear programming FIR** design. FIR designs are **optimized using noise shaping** methods.

FIR code generators for DSP chips are included.



IIR filter design

QEDesign 2000 supports IIR filter designs using the **bilinear** and **impulse invariant** methods, based on **Butterworth, Bessel, Tschbyschev and Elliptic** prototypes. **Matched Z Transform** is also supported.

IIR designs can be **cascade or parallel**, using either **direct form I or direct form II** implementation.

IIR filters can be specified by band attenuations, or through **direct input of z domain or s domain parameters**.

Sinc and comb filter compensation is included.

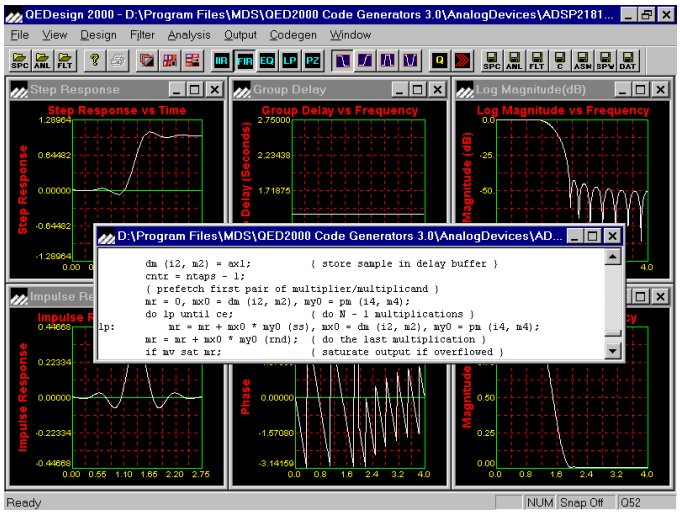
Code generation

QEDesign 2000 has **DSP assembler and C code generators** for most common DSP chips.

The code generation is integrated and allows for production of **complete programs** to run on 'plug in' boards, as well as stand alone programs and **subroutines**.

The code generation produces **easily readable code** that is **ready for integration** into the user's own programs.

Code generators are built in for **Analog Devices**, **Motorola**, **Lucent** and **Texas Instruments** processors.



QED2000 data sheet 271099.fm - preliminary, subject to change

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