
Remote Commands

DEFINE COMMAND

The DFP option adds one new <equation> to the existing DEFINE remote command. The new function available with the DFP option is FIR(<source>).

Several parameters are added to support the FIR math function. They are:

FTYPE,<ftype>

FREQ, <lfreq>

UFREQ,<ufreq>

FWIDTH,<fwidth>

FBETA,<fbeta>

MCOEFF,<memory>

Values associated with the above parameters are:

<ftype>:=[LOWPASS | HIPASS | BANDPASS | BANDSTOP | RAISED COS | RSDROOTCOS | GAUSSIAN | CUSTOM]

<lfreq> := lower corner or only corner frequency, in Hz

<ufreq>:=upper corner frequency, in Hz. Must be greater than or equal to <lfreq>

<fwidth>:=transition region width in Hz. Must be >0.3% of sample rate. <lfreq> - <fwidth> must be greater than 0.1% of sample rate.

<fbeta>:= 0 to 100 percent. For raised cos and raise root cos, this is the % of <lfreq> + and - over which the transition region extends. For Gaussian, this is BT, the % of <lfreq> at which the response is 3dB down from DC response.

<memory>:=[M1 | M2 | M3 | M4]

LeCroy Digital Filter Package

Examples

Not all of these need to be set for any <ftype>. Here is an example of those that are actually needed:

Low Pass filter: TA:DEF EQN,"FIR(C1)",FTYPE,LOWPASS,LFREQ,71.5E+6
HZ,FWIDTH,40E+6 HZ

High Pass filter: TA:DEF EQN,"FIR(C1)",FTYPE,HIPASS,LFREQ,71.5E+6
HZ,FWIDTH,40E+6 HZ

Band Pass filter: TA:DEF EQN,"FIR(C1)",FTYPE,BANDPASS,LFREQ,60E+6
HZ,UFREQ,70E+6 HZ,FWIDTH,40E+6 HZ

Band Stop filter: TA:DEF EQN,"FIR(C1)",FTYPE,BANDSTOP,LFREQ,60E+6
HZ,UFREQ,70E+6 HZ,FWIDTH,40E+6 HZ

Raised Cosine filter: TA:DEF EQN,"FIR(C1)",FTYPE,RAISED COS,LFREQ,60E+6
HZ,FBETA,30 PCT

Raised Root Cosine filter :

TA:DEF EQN,"FIR(C1)",FTYPE,RSDROOTCOS,LFREQ,60E+6 HZ,FBETA,30 PCT

Gaussian filter: TA:DEF EQN,"FIR(C1)",FTYPE,GAUSSIAN,LFREQ,60E+6 HZ,70E+6
HZ,FBETA,30 PCT

Custom filter: TA:DEF EQN,"FIR(C1)",FTYPE,CUSTOM,MCOEFF,M2

§ § §