



FDK - FILTER DIPLEXER KIT

Manual

The Ritec Filter Diplexer Kit (FDK) is specifically designed for harmonic generation measurements. The standard model is made up of 5 sections, stages 1-4 and stage A. In some cases stages 3 and 4 may be combined.

Stages 1 and 2 form a high power 10 element Butterworth low pass filter with a corner frequency of f (frequency f is the fundamental driving frequency of the experiment). The purpose of this filter is to reject any higher harmonic frequencies coming from the driving source. There is also a monitor point on stage 2 (-40 dB into 50 Ohms) to view the driving signal after the filter.

Stages 3 and 4 form a high power 10 element Chebyshev high pass filter with a corner frequency of $3f$. The purpose of this filter is to reject the driving frequency f while allowing $3f$ and higher frequencies to pass on to a preamplifier.

Stage A is made up of a low power 5th order band pass filter with a frequency of $2f$ and a built in preamplifier with a gain of 20 dB. The purpose of this filter is to reject the driving frequency f while allowing $2f$ to pass to the receiver.

Below is a diagram of a typical Filter Diplexer setup.

Block Diagram for Measurement of the Second and/or Third Harmonics

