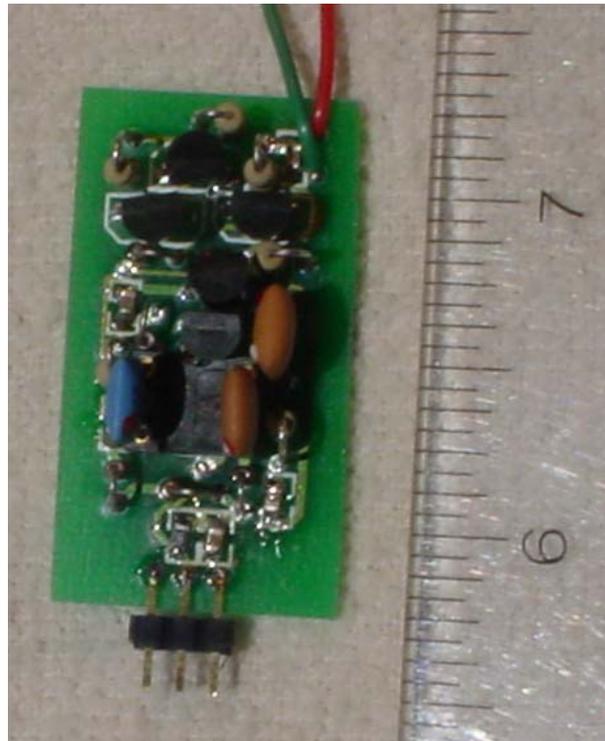


Switchable IF FILTER ADDER PCB™

The Switchable IF FILTER ADDER PCB™ allows you to convert a single IF band tuner or receiver into a multiple bandwidth one. This innovatively designed PCB plugs in place of a standard 3 pin ceramic filter. The PCB has sockets for (3) ceramic filters and a FET amplifier stage.

The PCB operates on +11 to +16 VDC and takes about 13 mA of current. The switching mode is controlled by a wire coming from the PCB. When it is grounded the PCB switches from a passive to an active or ON mode.

The PCB measures 1.6 inches (40.6 mm) high by 0.8 inches (20.3 mm) wide. A 3 pin connector solders in place of the ceramic filter that was removed.



PCB Operation and Signal Flow

The Switchable IF FILTER ADDER PCB™ has two operation modes. In the OFF or bypass mode the signal is routed through the input (or first) ceramic filter. A diode matrix routes the signal to the output with no amplification. In the ON or operate mode the signal is routed through the input ceramic filter and routed by a diode matrix to a FET amplifier. The amplifier then feeds two additional ceramic filters in series. The output of the last ceramic filter is routed via a diode matrix to the output pin. A wire controls the PCB, which when grounded will switch the PCB from the bypass mode to the active or ON mode. With 3 standard ceramic filters the gain of the PCB is about unity when in the ON mode. A simplified block diagram of the PCB is on the other side

Building a multiple IF bandwidth Tuner with the PCB

By using a wider bandwidth ceramic filter in the input position of the PCB and narrower ceramic filters following the amplifier, you can create a multiple IF bandwidth tuner out of a single bandwidth one. In most cases you would use a 280 kHz filter in the first filter position. When the PCB is in bypass that would give you the same filter count as the tuner had in stock form.

The two filter positions following the amplifier are then filled with narrower bandwidth filters in the 230 kHz to 110 kHz range. When the PCB is switched ON, all three filters will be in the signal path. A second PCB can be also used to create a third IF bandwidth by installing it in place of another stock ceramic.

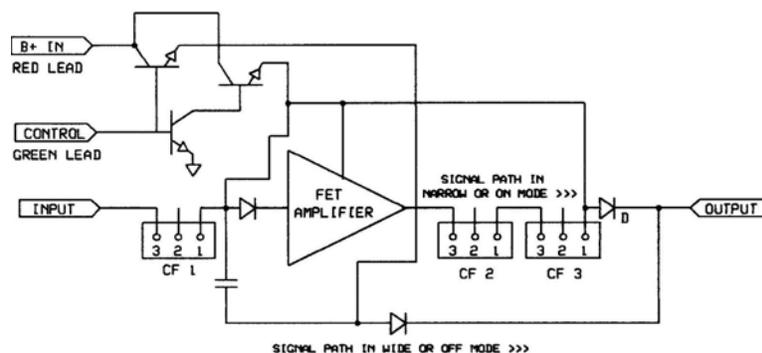
Here is a practical example in a single bandwidth tuner that has 3 ceramic filters in the IF chain (a Kenwood KT-6500 for example):

The first switchable IF FILTER ADDER PCB would be installed in the input (first ceramic filter in the IF strip). The wide filter would be a 280 kHz part. The other two filters would be 230 kHz. Using one PCB the filters would line up like this when the PCB is in bypass 280- 280 –280 kHz. In the operate mode the signal path would be 280 –230 – 230 –280 – 280 kHz filters.

A second Switchable IF FILTER ADDER PCB™ is installed in the second ceramic filter position in the IF chain. A 280 kHz part is used in the input or wide mode. Two 150 kHz filters are used on the output. When this PCB is turned on (but the first on is off) the signal path would be 280- 280 –150 –150 – 280 kHz filters

If both PCB's are turned on the signal flow would be through 280 – 230 –230 –280 –150 –150 – 280 kHz filters.

PCB BLOCK DIAGRAM



The PCB can also be used with one bandwidth of filter to give a little extra selectivity when in the ON mode.

There are no tuning controls on the PCB. A full set of instructions comes with the PCB, Ceramic filters are not included with the PCB.

For more information or to order the PCB contact:

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