

Combining DDS and IF alignment circuits

After reading the article on Dead Simple Radio IF Alignment with DDS in the September 2017 issue (siliconchip.com.au/Article/10799), it occurred to me that it would be possible to build it and still retain all the functions of the DDS Signal Generator that it was based on (April 2017; siliconchip.com.au/Article/10616).

Essentially, the only differences between the two circuits are the way that the output of the DDS module is coupled to the output connector, and

how the incoming signal is routed to the Micromite's pins.

So by adding a 3PDT or 4PDT switch, we can keep all the components needed for both functions and switch between them.

There isn't much more to it than that; in the positions marked "IF", the IF alignment components are in-circuit, including the 10kΩ series resistor to the signal output and the 4.7MΩ/1MΩ feedback divider. In the positions marked "GEN", those

components are switched out, and the low-impedance generator output is connected instead, along with the direct feedback connection for triggering.

Note that the SIGNAL X0.1 output, which was only used in the DDS Signal Generator project, is always connected to the 10:1 output divider so it can be used the same way regardless of the position of switch S1.

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