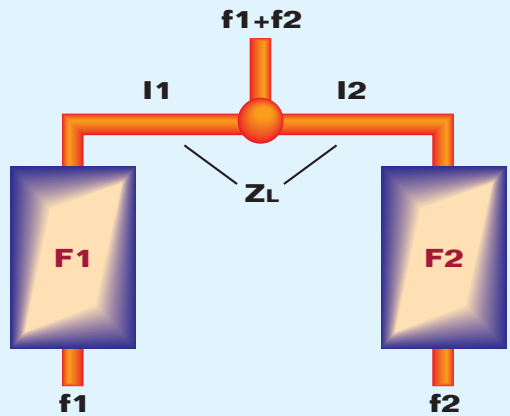
Description of Star-Point Diplexer

A star-point combiner involves connecting two band pass filters tuned to different channels. Care must be taken, however to ensure that the impedance at the junction point is not affected.

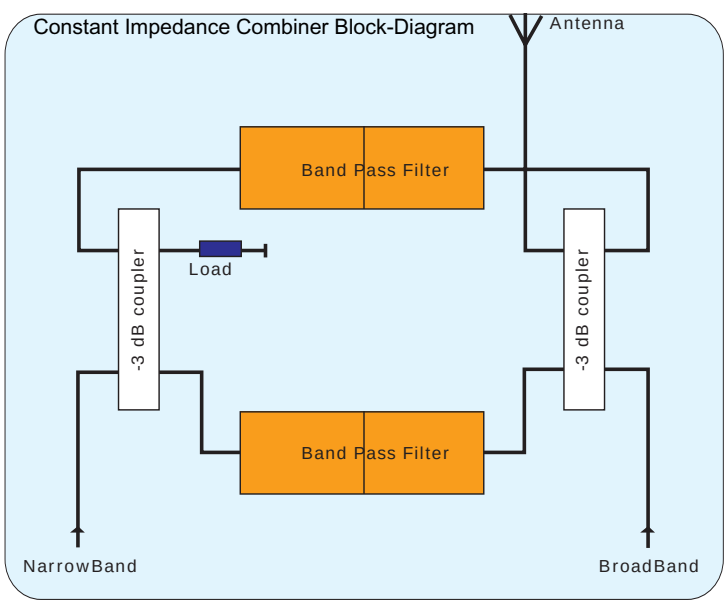


In the diplexer illustrated in Fig, filter F1 permits frequency f1 to pass, whereas filter F2 cuts it off. In relation to frequency 2 f , filter F2 presents a short circuit at its inputs. In contrast, due to the matching of its input impedance for a frequency of f1, filter F1 presents impedance ZL at this point. The filter F2 functions in the analog manner in relation to frequency f2.

Example of rack-mounted combiners.

The combiner, consisting of two filters and a juntion point has two narrow band inputs corresponding to the pass band characteristics of the filters.

Description of Constant Impedance Combiners



Constant impedance combiners consist of two or more band pass filters, two 3dB couplers and a dummy load.

- One or more inputs is/are narrow band, while the remaining input can be broadband.
- Input impedance is not frequency dependent.
- The frequency at the broadband input can be changed without returning the pass-band cavity filters.
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- The broadband input can be used as spare input for expansion without requiring modification of the existing pass-band cavity filters.
- If only narrow band inputs are being used, an extremely high coupling attenuation (coupler attenuation plus filter attenuation) can be achieved for very small frequency spacings.

Constant impedance combiners are factory tuned. When ordering, please specify desired operating channel for the narrow band input. The broadband input, however, accepts any frequency range. The devices can also be tuned by the customer. Detailed instructions and adjustsment tools are supplied with each unit.