Receiver Multicouplers

Angle Linear has been producing receiver multicouplers since 1984. We build systems to fit your needs as well as our standard multicoupler product line. Our Multicouplers are assembled from our standard line of PHEMT, Hi level PHEMT, Hi level biploar preamplifiers and receive splitters.We have multicouplers at hundreds of sites and have built several complete interconnected systems covering more than 45 sites in the Southwest United States.

The system approach of other manufacturers to place excessively high gain up front, followed by a large number of splitters, subjects the second preamplifier to hi level signals and a greater potential for intermodulation distortion products. Distribution of gain and splitter attenuation overcomes this problem and improves the dynamic range of the entire multicoupler. Angle Linear places a moderate amount of gain first, then a small amount of loss, then a moderate amount of gain, and a small amount of loss. The result is a higher dynamic range for the same amount of total system gain.

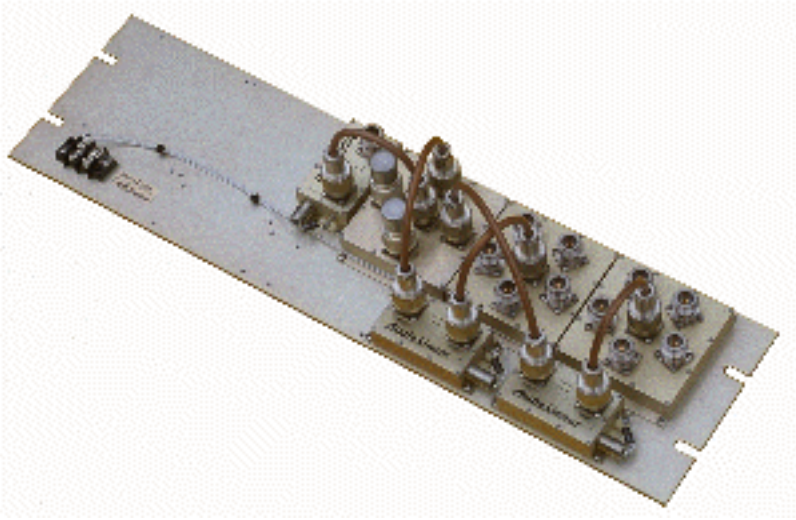
Gain is necessary to achieve better system sensitivity. It is important to keep front end gain only as high as is necessary to achieve the desired sensitivity. Multicoupler gain varies as to the number of outputs. Total system noise figure is dependent on multicoupler noise figure and gain, and on receiver noise figure. In order to improve the over all noise figure of any particular receiver or multicoupler with a low noise preamplifier approximately 10 to 12 db of extra gain is required; splitter loss plus preamplifier gain must be approximately 10 to 12 db overall. Much less than that and the receiver noise figure contribution lowers the overall system noise figure. The "old school" or convention of zero gain for any multicoupler (zero dB) will not improve your overall system sensitivity. Back in the days of 5 db noise figure preamplifiers and 5 db noise figure preamplifiers that was true. Today with 0.4 db noise figure preamplifiers the minimum gain necessary to get the system noise figure down to its limit is about 10 to 12 db. We acheive that with our line of multicouplers. Below is a 16 channel 776 MHz low noise figure multicoupler.

Angle Linear multicouplers have noise figures well under 1.5 dB driving more than a dozen and a half receivers with 5 dB noise figures. Refer to preamplifier data sheets for the actual performance specifications.

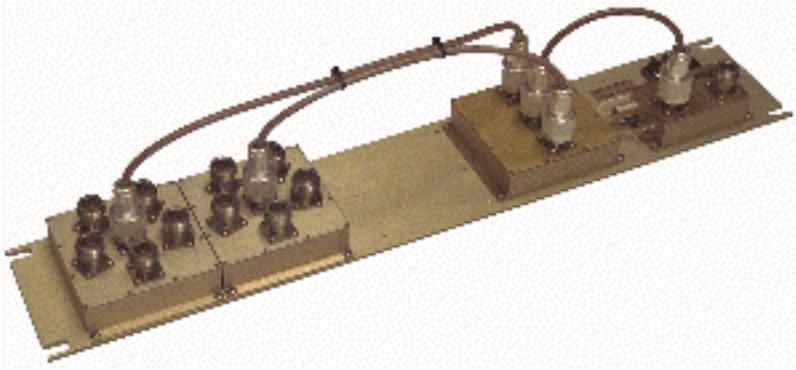
We offer three basic rack panel sizes for our multicouplers: 3.5", 5.25", and 7.0". All rack panels are pre-drilled and tapped to accommodate the maximum number of potential outputs for a given size: 3.5" 12 outputs, 5.25" 24 outputs, and 7.0" 36 outputs. If future expansion is required, merely add the appropriate preamplifiers, splitters and coaxial cables. RG-142 coaxial cable and crimp militray Silver/Gold connectors are used throughout. DC power is applied to

a two terminal power strip.

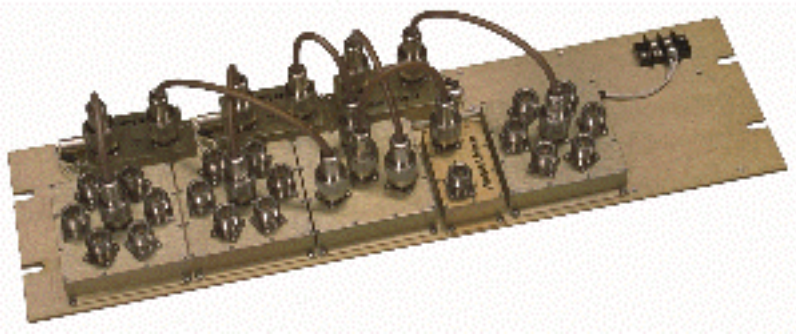
Rx Multicoupler.pdf data sheet (340k)



10 Way 460 MHz

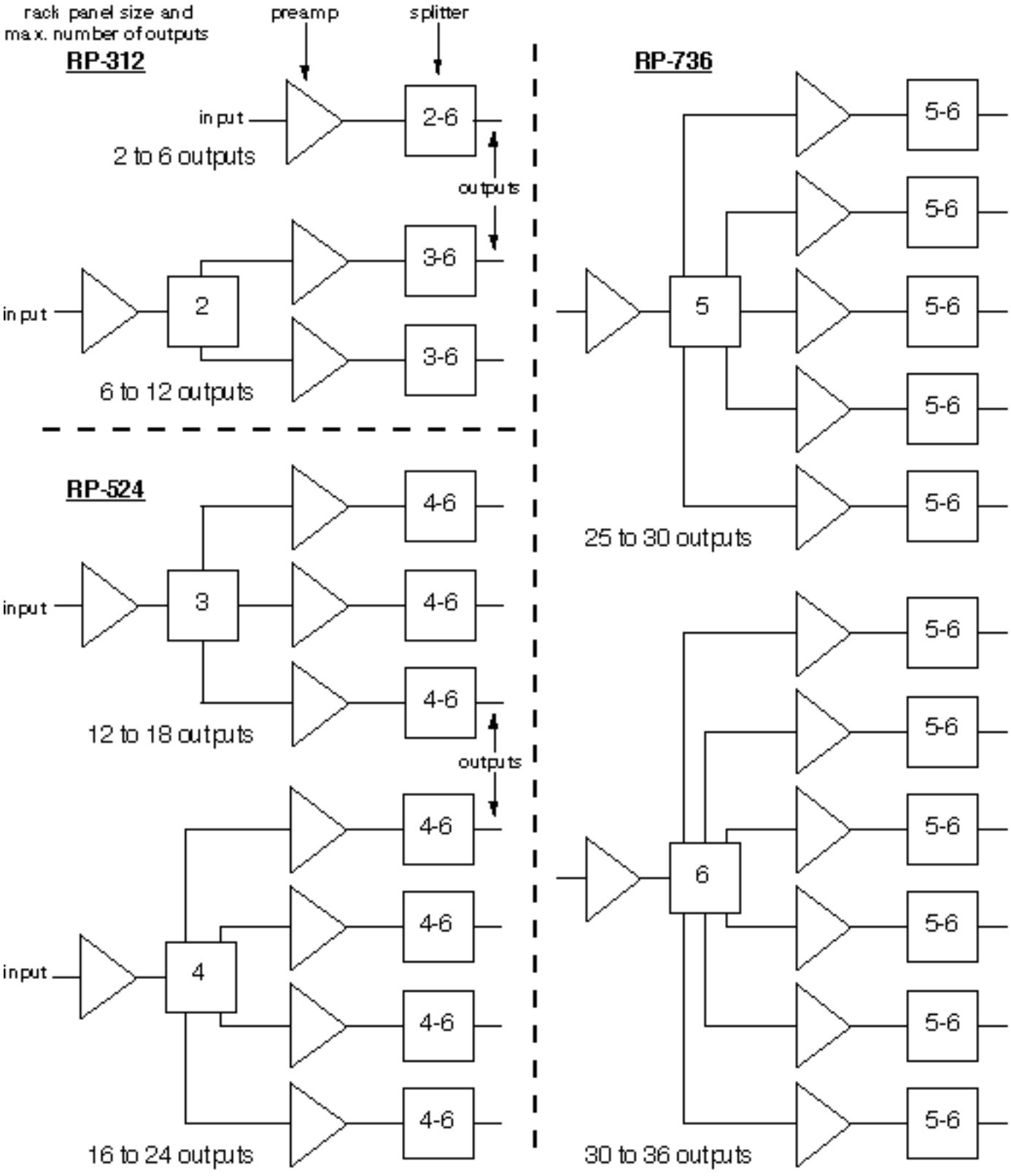


10 Way 220 MHz



18 Way 800 MHz

Receiver Multicoupler Configurations



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