

Distribution of signals in Headends or for Digital Audio receive racks

The distribution of LBand signals in headends and to a Comstream ABR receive rack demands exacting performance from all components concerned.

The critical component in a multi channel ABR receive network is the physical distribution of the IF to all of the receivers and the supply of power to the LNB [DC Bias]. The Comstream ABR200 offered a loop through which supplied the DC Bias to the LNB from the first receiver with all others being fed IF in a chain. If the first ABR failed then the “chained” others also lost signal and all of the channels were lost. In some cases a splitter was used to distribute the IF the choice of splitter is crucial to the integrity of the received signal and some types were causing problems, typically some cheaper resistive splitters were causing excessive current drain on the ABR power supplies and inserting noise into the received digitised radio signal which in extreme cases was causing the ABR200's to fail.

With the introduction of a new ABR202, which does not have an IF loop-through connector, the only way to provide an IF signal to several receivers is with a splitter. **S+AS Limited** have a range of equipment that should satisfy the most exacting requirements. The range includes, but is not limited to, passive and amplified splitters and directional couplers. Amplifiers are available to compensate for both cable loss, cable slope and splitter loss if passive splitters are used. There are also complementing products including filters. All of these components have been tested to ensure compatibility with the Comstream ABR202 and older 200 model.

The simplest solution is to use a multi-output LBand [IF] splitter to share the incoming signal equally between the ABR receivers. Passive splitters are available with 2 4 or 8 outputs and active splitters are available with 4 or 8 outputs. All units pass the standard **European LBand 700 to 2150MHz**. The DC Bias from all the receivers is diode steered to the LNB so that the DC load is shared equally between all the receivers or alternatively the LNB can be fed from a dedicated PSU via a Bias Tee. The (A)amplified splitters ensure that the received [input] signal is supplied to each output port without loss, the 4 way draws 30mA and the 8way 100mA to achieve this amplification. The (P)passive splitter through loss is; 2 way -4dB, 4 way -8dB and 8 way -11dB per port. The splitters are based on an implementation of the Wilkinson power divider that has high port to port isolation to prevent interaction between receivers. The splitters have the elements constructed from printed microstrip inductors for high performance and increased stability. The 4 way active and passive units are supplied with 2 * 75Ω terminators which allow two or three way operation.

Part numbers are **SAS.S(2,4 or 8)(F)(P or A)**

ie. # **SAS.S4FA** is a 4 way amplified splitter with `F' connectors. [pictured below]

A convenient implementation of the above is the **SAS Splitter shelf**; this is a 1U 19inch rack mounted unit which combines the splitting function with a dual, redundant, power supply and current monitoring. Clean contact Alarm outputs are also fitted for over and under current.

Front panel signal monitor output and a loop output are also available; as are tone generators and a high pass filter. The shelves are also available in 16 way 2U form or 32 way in 3U. Please contact **S+AS Limited** for more details, pricing and availability.

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