

Peak Communications Ltd.

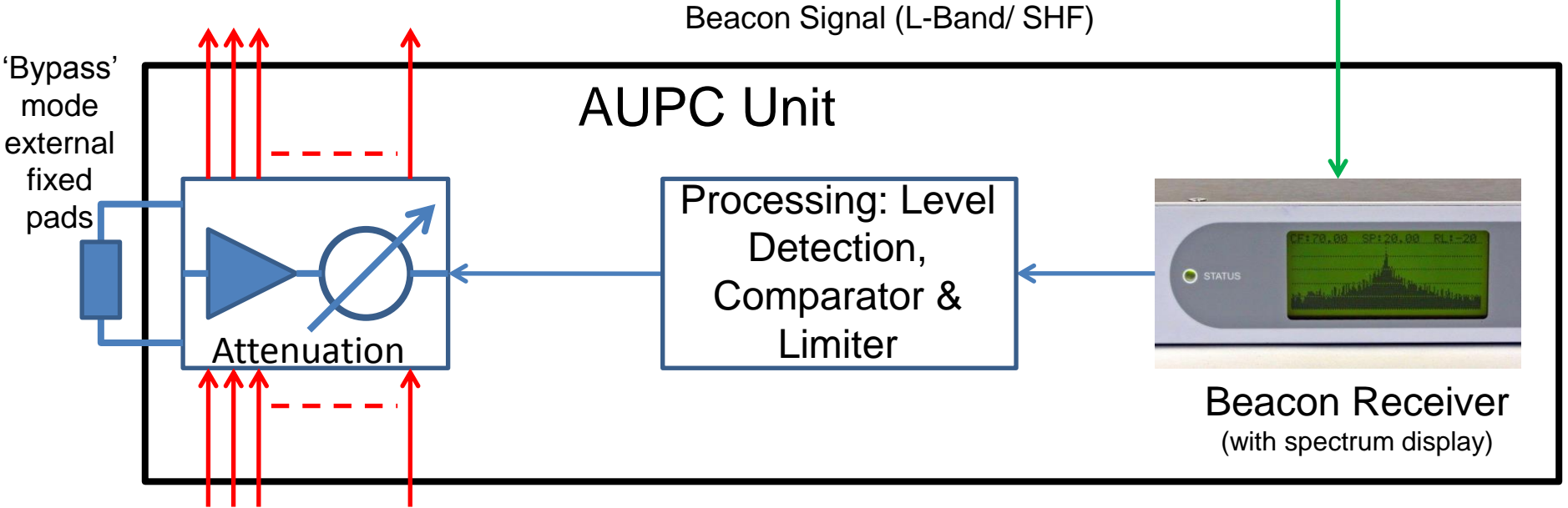
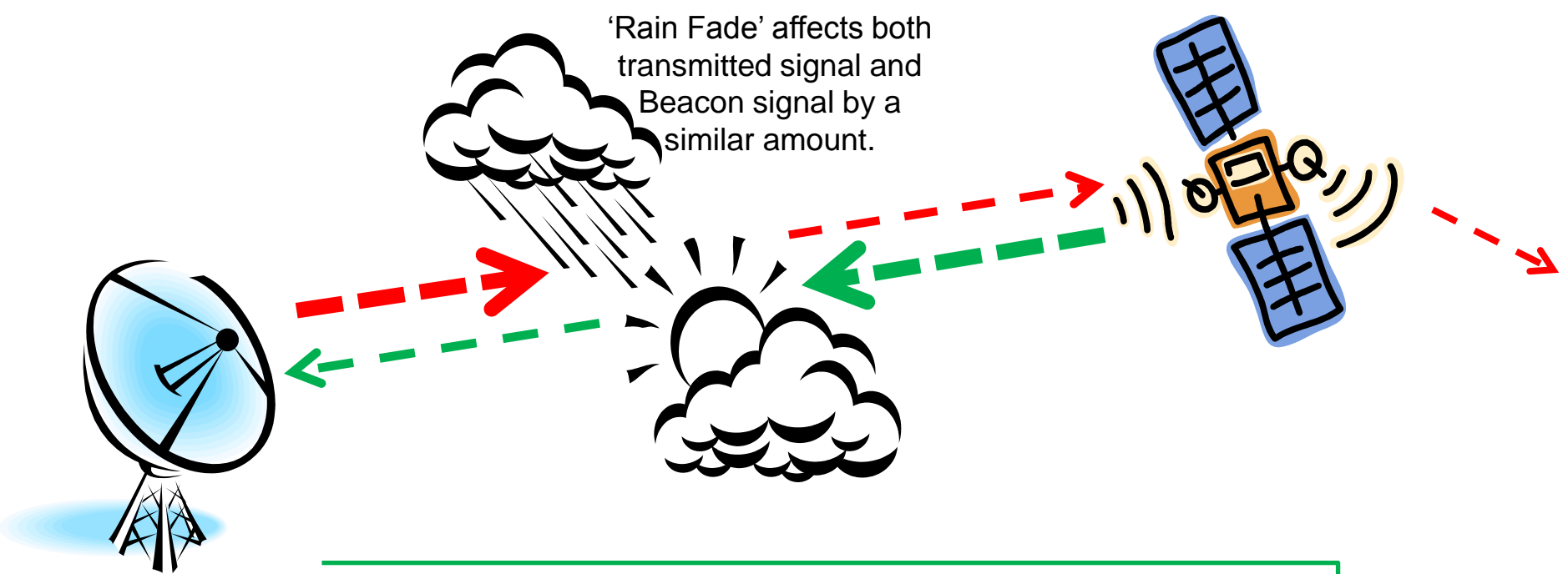
Automatic UpLink Power Control

AN0022 - Application Note UPC7000 series

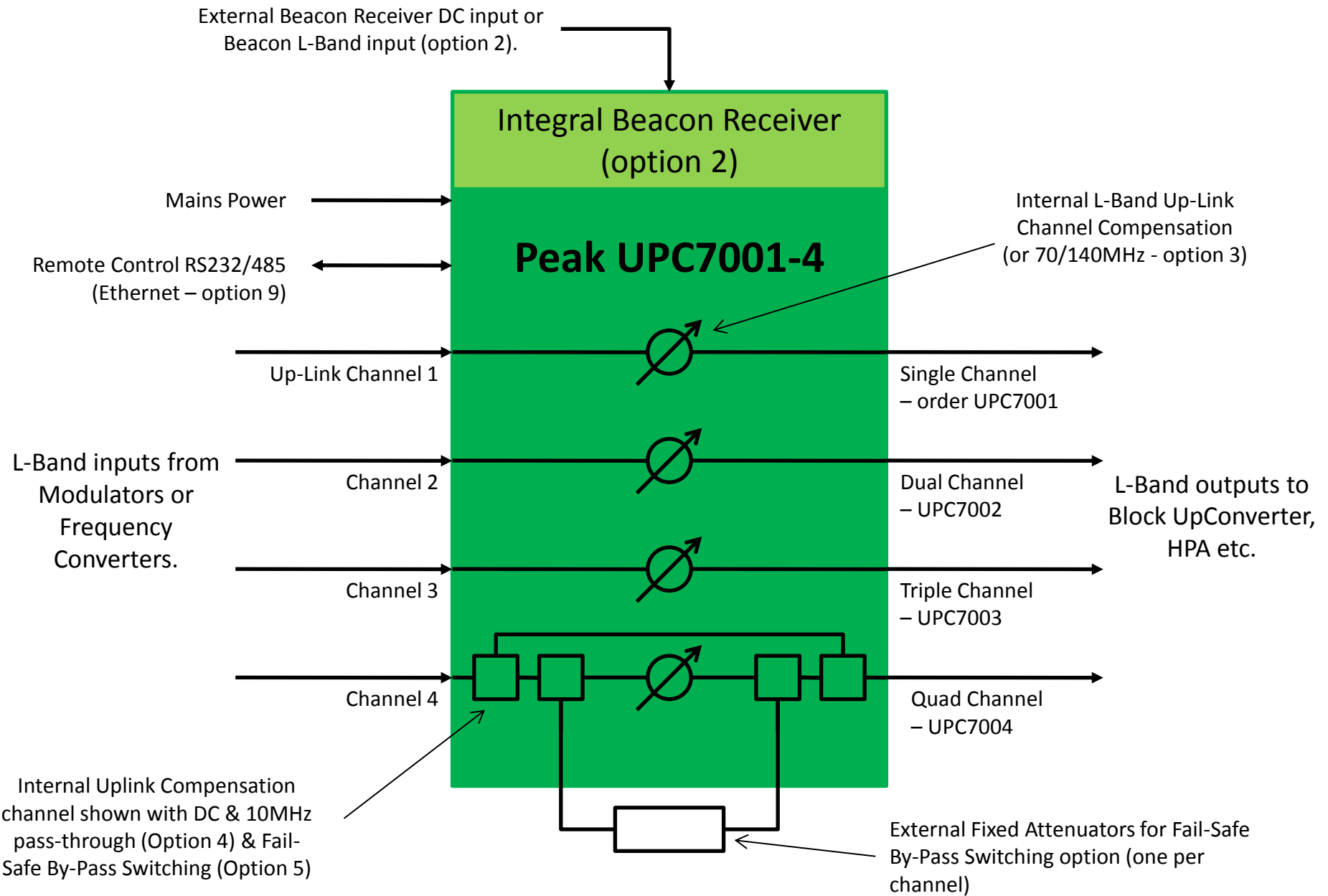
Issue 1.01, 1st September 2011

The signal transmitted from a satellite earth station is subjected to unwanted signal level variations caused by the natural effects of atmospheric weather conditions (commonly and generally referred to as 'rain fade'), this can be severe in some cases with up to 20dB of variation seen. In order to maintain a constant 'link' power level, this automatic uplink power control unit uses the internal power detection from the beacon receiver, operating on the downlink from the same geostationary satellite as the uplink, to derive 'compensation' settings of the P7002 variable gain stages. The Beacon receiver signal is affected in a similar way to the transmitted signal, apart from frequency propagation differences for which the user can make compensation adjustments by adjusting the ratio control.

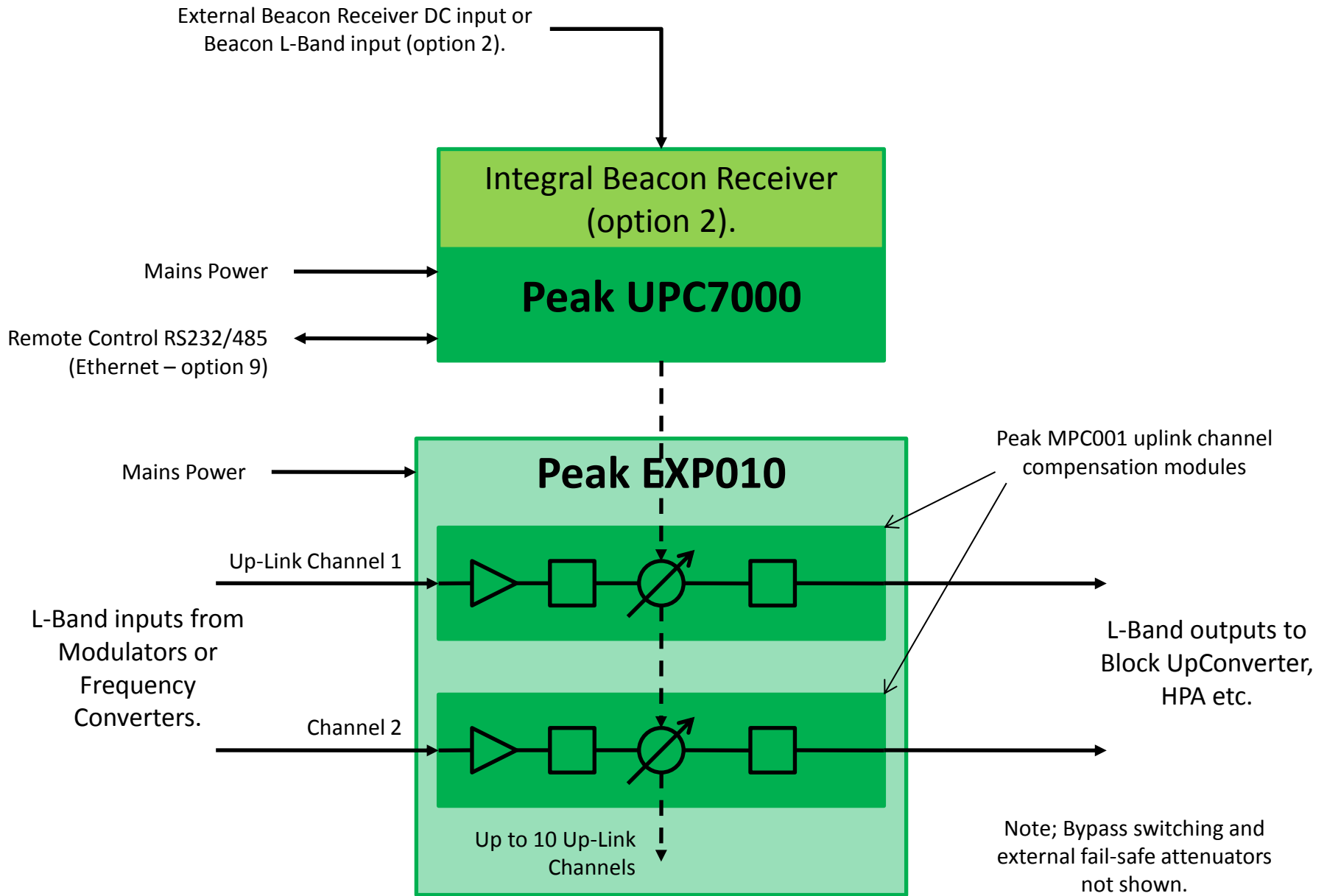




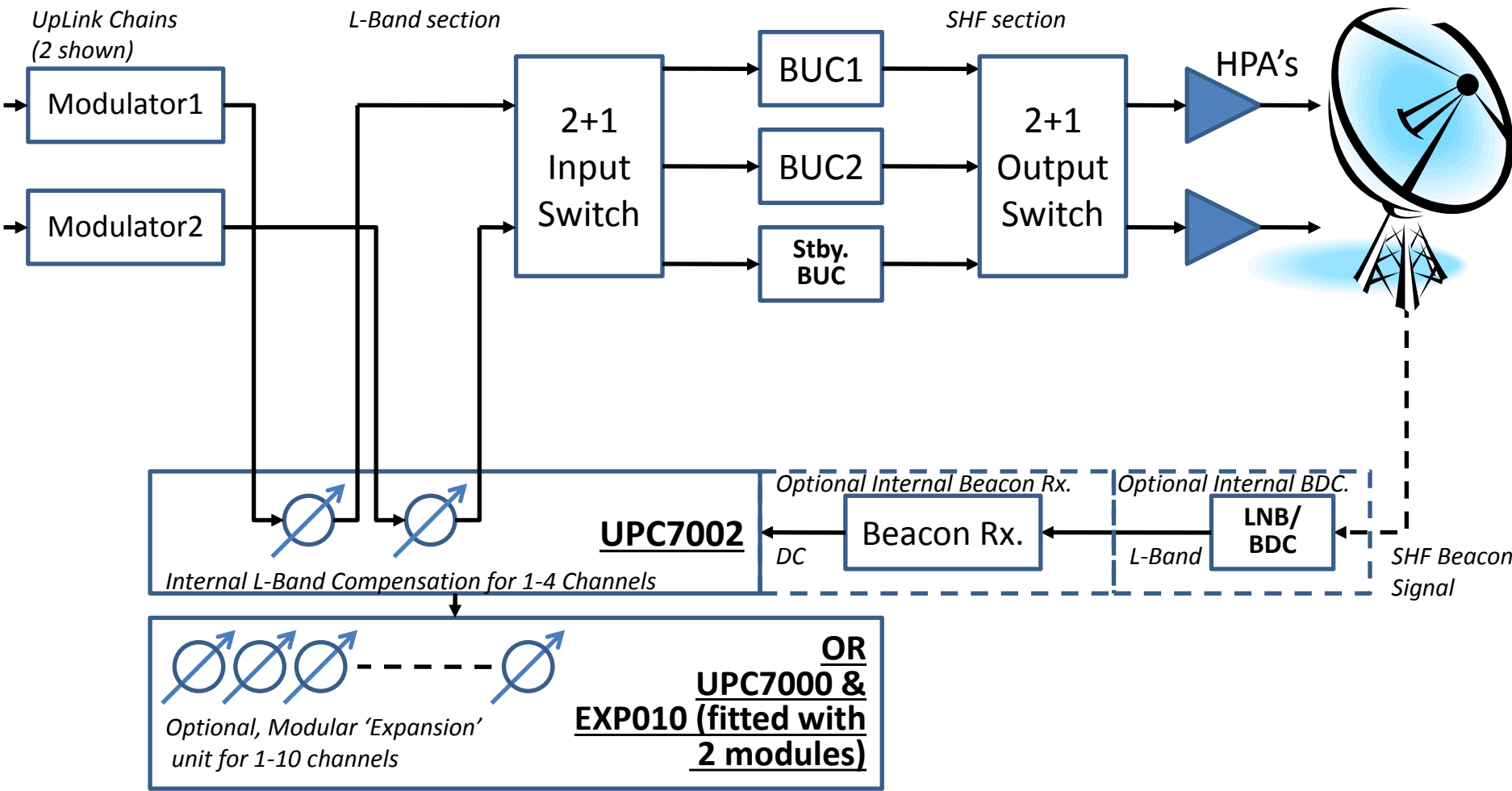
Conceptual Overview



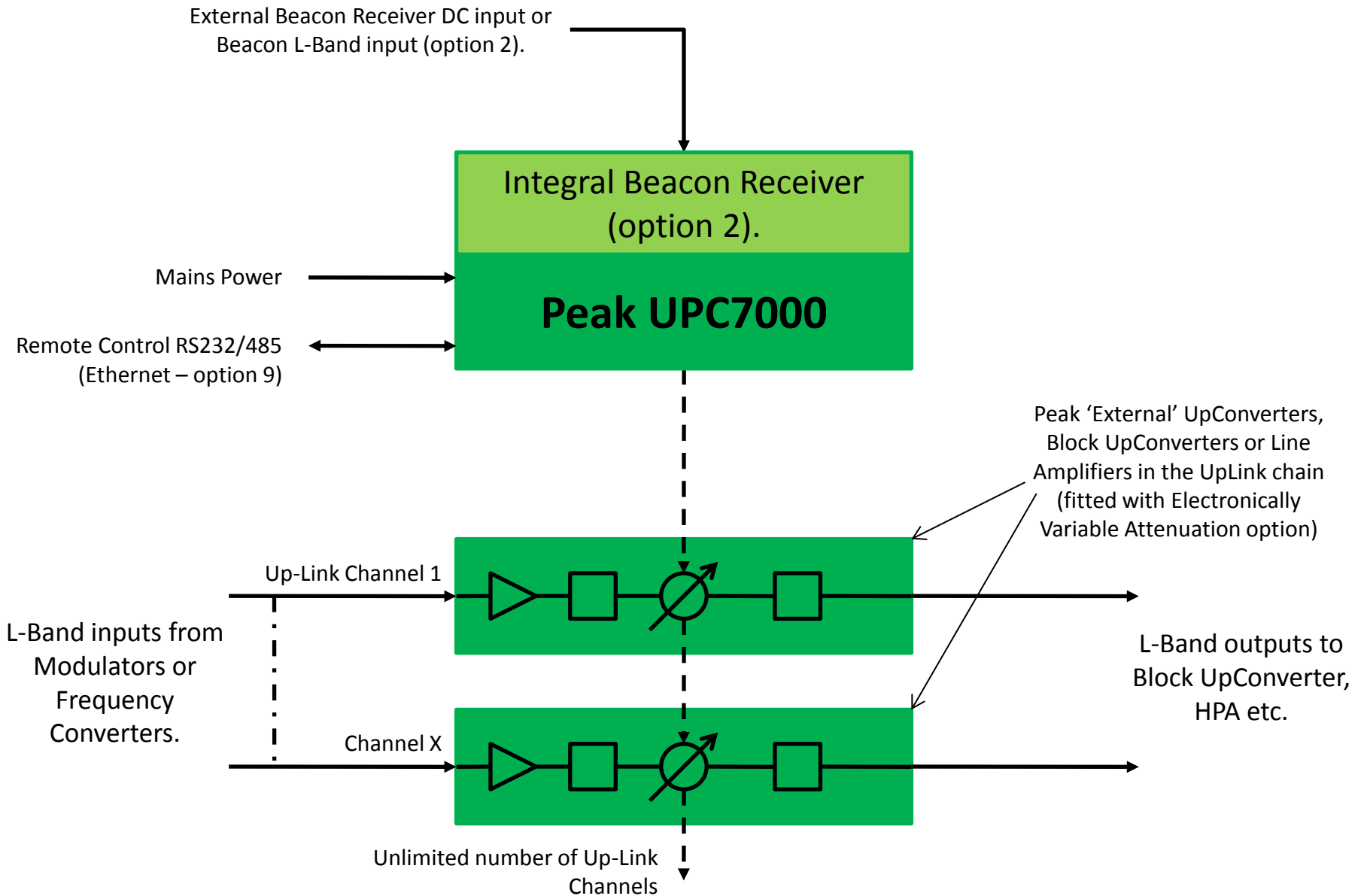
Configuration with Internal Compensation Channels (1-4). 3 of 7



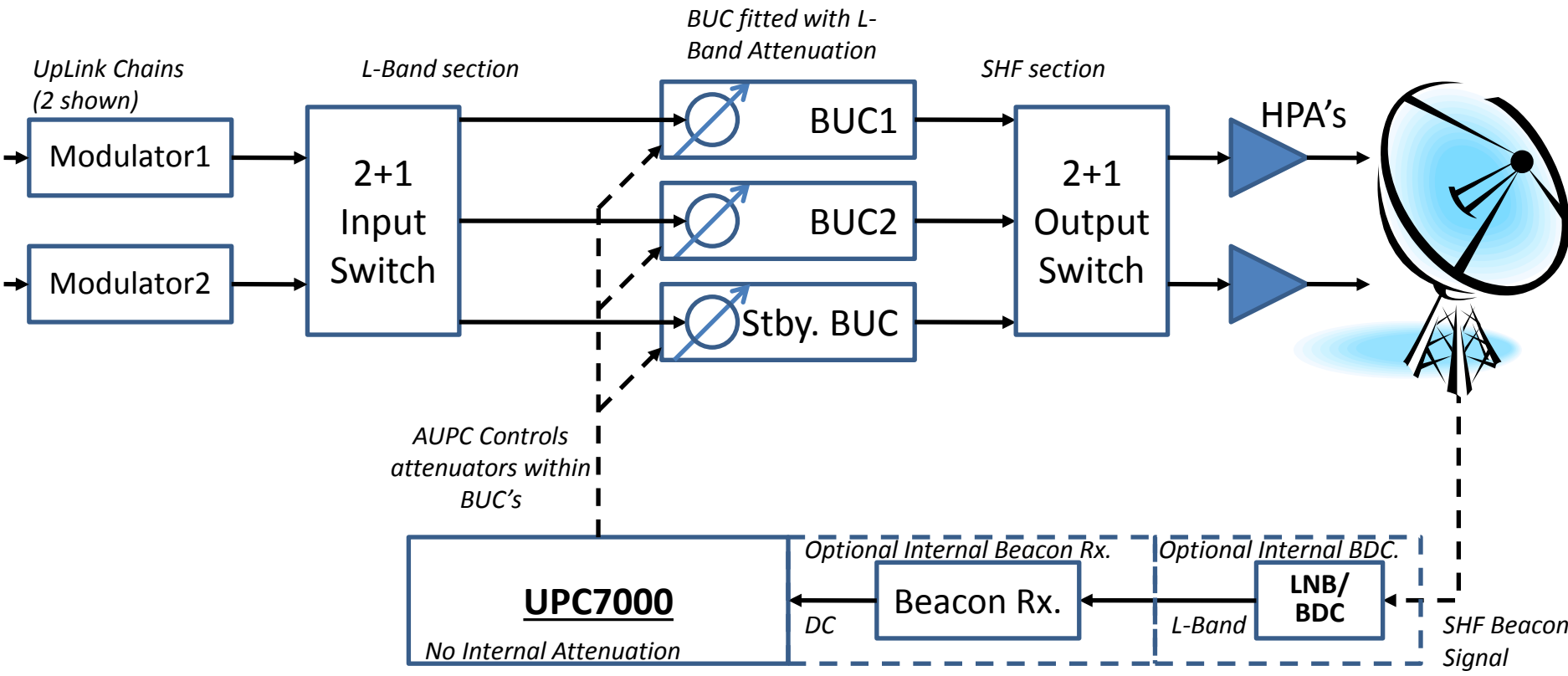
Expandable 'modular' Configuration.



Example of AUPC with internal Compensation, fitted within a 2-Chain UpLink system.



Configuration with External Peak UpLink Equipment.



Example of AUPC configured to operate with external Peak BUC's, within a 2-Chain UpLink system.