

ProTelevision Vision note

Subject: Self monitoring DVB-T transmitter

General

The DVB-T Re-Modulator PT 5788 from ProTelevision Technologies, originally intended specifically for use in re-generative DVB-T transposers, can due to its high level of flexibility also be used as a combined DVB-T Modulator and DVB-T monitor. The integration of the modulator and monitor function provides a significant cost and space saving compared to solutions based on a separate DVB-T monitor without sacrificing performance and flexibility. The front-end (tuner and demodulator) supports measurement and display of a number of parameters that quantify the quality of the received signal (e.g. RF level and BER). The input for the DVB-T modulator can be obtained either from the front-end (re-modulator application) or from one of the external ASI inputs. In the latter case the front-end is available for monitoring the performance of the transmitter itself.

Self monitoring DVB-T transmitter

The principle is outlined in the drawing below. An MPEG-2 DVB-T transport stream is modulated onto a RF carrier by means of the DVB-T modulator part of the PT 5788. The output from the modulator is amplified to the required level by an external power amplifier before being radiated from the transmitting antenna. A sample of the transmitted signal is via a coupler applied to the RF input of the PT 5788 in order to provide constant monitoring of RF level and BER for the actual signal applied to the transmitting antenna. If desired an MPEG-2 decoder/analyser can be connected to the MPEG-2 output provided from the COFDM demodulator.

