

# Questions about broadcasting? CTE Digital Broadcast is the answer!

Any good news in broadcast? The challenge has been won! Despite these hard times of economic recession, CTE Digital Broadcast, the first Italian industrial consortium totally committed to radio and television transmitters, continues to grow! Last year, the three following brand names CTE, ELIT and Teko Telekom merged under the new name "CTE Digital Broadcast".

At the time, the challenge for CTE Digital Broadcast was that of confirming its position as a major player in the transition of radio-television from analog to digital transmission and, in the new mobile television market, providing customers with state-of-the-art solutions. Besides achieving and going beyond the expected results, CTE Digital Broadcast has now reinforced its solidity and productive capacity; in fact, in addition to the impressive technological know-how, being part of the Meta System Group assures full control and management of the quality system throughout the entire production process. The synergy among technical staff, system designers and sales engineers, all of them with many years of experience in broadcast, is the added value which has been confirming the leading position of CTE Digital Broadcast as a manufacturer of radio and television transmitters with a high level of technology.

## Line of products

- FM transmitters up to 20 kW, repeaters and links;
- DAB-DMB transmitters up to 5 kW rms and repeaters/gap fillers and links;
- VHF-UHF TV transmitters up to 20 kW p.sync and repeaters/gap fillers and links;
- DVB-T/H transmitters up to 5

kW rms, repeaters/gap fillers and links;

- antennas, filters, combiners, passive components.

Recently, important contracts awarded to CTE Digital Broadcast by public corporations, testify to and confirm its leading position in the broadcast industry. A good



example of the ultimate design skills of CTE Digital Broadcast is the new DVB-T digital re-transmission unit, a versatile platform that, depending on the end-user needs, can be set as:

- DVB-T/H digital transmitter
- DVB-T/H digital transposer with high adjacent channel selectivity
- DVB-T/H digital gap filler with digital echo canceller
- analog transposer with high adjacent channel selectivity
- DVB-T/H regenerative transposer

By combining top performance with an extensive number of features, this agile VHF/UHF dual-cast digital transposer/digital transmitter sets a new standard in analog (ATV) and DVB-T/H technology; in fact, the equipment is characterized by an advanced FPGA digital board, able to satisfy any functionality in DVB-T networks. When used as a gap-filler, the built-in digital echo canceller increases the

potential output power of the gap filler by automatically suppressing feedback proceeding from transmitting toward receiving antenna. Basically, the excellence of this echo canceller is due to its operation on multi-path content in the primary input. By using the web-interface management system, any functions can be set and monitored.

The RF signal, coming from the digital board, is amplified by an internal stage, specifically designed for outstanding performance, both in digital and analog broadcast applications. The equipment is able to operate in VHF and UHF IV and V band. Weight and sizes have been reduced to obtain a compact unit.

The improved performance has been achieved by means of an advanced approach in the design, focusing on low power consumption and on excellent linearity over the entire operational band. High reliability is mainly achieved by means of a limited number of transistors for a given power target, and by using over-dimensioned cooling devices: broadcasters can thus significantly reduce their medium and long-term system running costs.

## Features

- full compatibility with all modes of the DVB-T and DVB-H standards and bandwidths (5, 6, 7 and 8 MHz) without any hw

- changes;
- a powerful power PC microcontroller running an open source Linux operating system;
- a secondary, efficient microcontroller guaranteeing "hard real-time" responsiveness of the software system;
- a built-in GPS system capable of working with passive and active-antennas, always included in all versions;
- a powerful digital signal processor;
- a large field programmable gate array, FPGA;
- several up- and down-converters for conversion to/from IF and RF;
- real-time clock for availability of clock and date for use with event log etc.;
- built-in digital linear/non linear pre-corrector;
- best-in-class echo canceller;
- scalable digital filtering for optimisation of selectivity vs. latency;
- optional adaptive pre-corrector for linear/non-linear correction (seamlessly integrated);
- high linearity over the entire band;
- VSWR and input over-drive amplifier protection functions;
- RJ45 Ethernet connection with web monitoring/ programming and SNMP for remote control;
- power supply with active PFC.

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