

## **PRESS RELEASE**

For immediate release

ProTelevision Technologies  
IBC Stand 8.B41

### **NEWS AT IBC 2008**

ProTelevision present a generic platform for broadcasting technologies, the Terrestrial Gateway Platform

A new Products Family based on the Terrestrial Gateway platform is released at IBC:

- ❖ DVB-T/H-Modulator
- ❖ Digital Repeater, also capable of handling analogue TV-signals.
- ❖ DVB-T/H Transceiver
- ❖ DVB-T/H Remodulator
- ❖ TERRESTRIAL GATEWAY: includes ALL functionalities offered by Protelevision, -ALL in one box!
- ❖ DVB-T2 functionality, based on the Terrestrial Gateway Platform, is shown at ProTelevision, booth 8.B41.

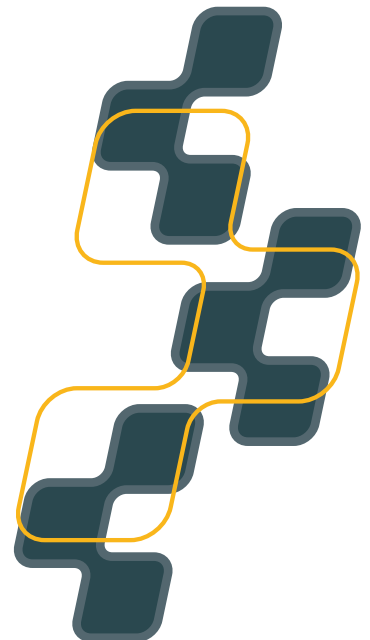
All products from ProTelevision are available as stand alone units as well as OEM kit.

Please find below description for all new products introduced by ProTelevision Technologies at IBC 2008. The following pages are individual press releases for these products. At our stand, 8.B41 you can find all relevant material as datasheets and a Public Relations CD.

Please don't hesitate to contact me if you should have any questions!

Best Regards

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## **Terrestrial Gateway OEM PT2000**

The Terrestrial Gateway OEM PT2000 is a state-of-the-art HW platform on which all of the standard products supplied by ProTelevision Technologies (modulators, repeaters, transposers and transceivers) can be mounted in original or customized format. The platform is furthermore capable of hosting other transmission formats through mounting of firmware that implements the required format. The Terrestrial Gateway OEM platform PT2000 elevates ProTelevision's already popular OEM program to the highest possible level with regards to technical performance, available functionality, ease of implementation and hitherto unseen flexibility in combination with a very low implementation cost. By using ProTelevision Technologies' OEM products you get immediate access to proven and market accepted state-of-the-art technology without any significant development cost on your part. All functionality and performance available with the standard products from ProTelevision Technologies is readily available right out of the box' to you as an OEM customer. Customization of the products in accordance with your requirements is of course possible. The customization may range from a simple change of the appearance of the GUI interface to match your corporate identity to a level of customization under which the OEM module becomes the controlling core part of your complete transmitter system.

The new Terrestrial Gateway OEM program from ProTelevision Technologies is based on one Euro-card sized circuit board (100x220mm) that universally supports any single or any combination of the following applications:

- DVB-T/H Modulator
- DVB-T/H Remodulator
- Digital Repeater
- Digital Transposer
- Digital Transceiver

Solutions based on the Terrestrial Gateway OEM are offered in two logistically different packages:

- Complete OEM products (HW and FW)
- Terrestrial Gateway OEM for configuration-as-required

Several management and control methods are supported as standard:

On-board Ethernet Web interface (user friendly GUI for local and remote control)

On-board Ethernet SNMP client function (set/get and traps)

Serial interface port (RS232/RS485) featuring simple SCPI structured text string commands.

To facilitate easy integration with a transmitter backplane all input, control, and monitoring connections are provided in a single Euro connector featuring 60 signal pins and four coaxial feed-through connections. RF output, RF input (where applicable) and the RF sense input connections for the (optional) adaptive pre-corrector function are implemented in separate coaxial connectors. The Euro connector includes a number of programmable control lines for data I/O in the form of logic inputs/outputs as well as several A/D converter and D/A converter lines. The A/D and D/A converter lines makes it for example possible in a customized solution to manage an AGC loop and to monitor parameters such as direct and reflected power.

# PT2000 Terrestrial Gateway OEM



## PT2000, the Terrestrial Gateway

ProTelevision Technologies A/S is proud to present PT2000, the Terrestrial Gateway to the market. It can best be described as generic platform for digital broadcasting, in which all functionality related to DVB-T/H is integrated.

Although the Terrestrial Gateway platform strongly builds on the experience gained by ProTelevision related to two previous generations of modulators (PT5775 & PT57XX), the Terrestrial Gateway platform represents a quantum leap representing an "open innovation" approach that will pave the way for a variety of future expansion opportunities through the open platform architecture design.

By using the in-built web-based management system, just simply by a "click" the PT2000 can be a DVB-T/H modulator, a DVB-T/H-remodulator, a digital repeater or a transceiver. The PT2000 is designed using the Terrestrial Gateway platform and the PT2000 is the jewel of the new product family, a product offering the whole to the user.

The main objective of the PT2000 is to work with any third party amplifier and provide a high quality RF-signal in a DVB-T/H network.

The PT2000 offers a product with extremely flexibility, it can work as:

- A DVB-T/H modulator, corresponding to the PT2080
- A DVB-T/H remodulator, corresponding to the PT2088
- A DVB-T/H digital on-channel repeater, corresponding to standard PT2090
- A DVB-T/H digital on-channel repeater with digital echo cancellation, corresponding to PT2090 with suitable options
- A DVB-T/H digital transposer, corresponding to PT2090 with suitable options
- A analogue transposer, corresponding to PT2090 with suitable options
- A DVB-T/H transceiver, corresponding to PT2077

The PT2000 is available with an active or blank front panel.



## PT2080 DVB-T/H Modulator

ProTelevision Technologies A/S is proud to present to the market the PT2080 DVB-T/H Modulator for transmission in DVB-T/H format of a MPEG-2 TS feed by an ASI-input. PT2080 is the successor of the well-known Modulator PT5780 and the concept of the PT5780 has been refined to an even higher level. We are confident that you will agree with us that the new Modulator PT2080 offers the same excellent reliability, high performance and ease of operation as the PT5780 and in addition also a lot more.

Being a DVB-T/H Modulator, the core function of the PT2080 is to receive a MPEG-2 TS signal by a Asynchronous Serial Interface, ASI, for transmission on a DVB-T/H compliant COFDM spectrum in accordance with the rules for channel coding and modulation specified in the DVB-T/H standards ETSI EN 300 744/302 304. The output of PT2080 is delivered on a user selectable frequency in the range from 30MHz to 1000MHz with selectable spectrum bandwidths of 8, 7, 6 and 5MHz included as standard. The unit supports furthermore non-hierarchical and hierarchical modulation format and it may be user configured for MFN and SFN network operation as required.

The PT2080 is capable of handling DVB-T as well as DVB-H in 8, 7, 6 and 5MHz with standard configuration no options required. The standard version of the PT2080 also offers full hierarchical support (also in SFN), superior MER-performance, seamless switching between inputs and integrated web browser and SNMP remote control capability.

The typical application for the PT2080 DVB-T/H Modulator is to work in combination with any third party RF power amplifier and provide a high quality RF-signal in a DVB-T/H network. The PT2080 constitutes in itself a state-of-the-art product with market leading RF-performance.

The built-in linear and non-linear pre-corrector function (IMD Buster McTwo SoftClip) included as standard with PT2080 facilitates furthermore easy and efficient optimization of the overall transmitter system performance (Modulator plus RF power amplifier and channel/combiner filter) by allowing manual compensation of the nonlinearities usually encountered with any RF power amplifier and analogue RF filter. Addition of the optional adaptive pre-corrector solution PT2754 will enhance the ease of operation further by providing continuous automatic optimization of the transmitter performance (remodulator plus RF power amplifier). The automatic optimization includes the RF power amplifier non-linearities (phase and gain response vs. power) as well as non linearities in the channel/combiner filter following the power amplifier (amplitude and group delay vs. frequency).

The PT2080 is available with an active or blank front panel.

## PT2080 DVB-T/H Modulator



## PT2090 Digital Repeater

ProTelevision Technologies A/S is proud to present to the market the PT2090 Digital Repeater for re-transmission of a signal received on air. PT2090 Digital Repeater is the result of both theoretical fundamental work in the laboratory and extensive testing in the field on various locations. Especially the field testing has ensured that the algorithms handling signal processing is optimized to handle the unpredictable conditions that often exist outside the controlled conditions of a laboratory.

We are confident that you will agree with us that the new Digital Repeater PT2090 offers the same excellent reliability, high performance and ease of operation as known from the other members of the ProTelevision product family.

PT2090 Digital Repeater is equally suitable for on-channel (iso frequency) signal repetition in SFN networks as for transposer operation with different input/output frequencies in MFN networks (transposer operation require only installation of the optional synthesizer module PT2762/00).

The typical application for the PT2090 Digital Repeater is to work in combination with any third party RFpower amplifier and provide a high quality RF-signal in a DVB-T/H network.

The PT2090 constitutes in itself a state-of-the-art product with market leading RF-performance. The builtin linear and non-linear pre-corrector function (IMD Buster McTwo SoftClip) included as standard with PT2090 facilitates furthermore easy and efficient optimization of the overall transmitter system performance (repeater plus RF power amplifier and channel/combiner filter) by allowing manual compensation of the non-linearities usually encountered with any RF power amplifier and analogue RF filter. Addition of the optional adaptive pre-corrector solution PT2754 will enhance the ease of operation further by providing continuous automatic optimization of the transmitter performance (repeater plus RF power amplifier).

The automatic optimization includes the RF power amplifier non-linearities (phase and gain response vs. power) as well as non linearities in the channel/combiner filter following the power amplifier (amplitude and group delay vs. frequency).

The PT2090 supports frequencies in the range from 30MHz to 1000MHz in steps of 1Hz. The frequency agile analogue pre-filtering provided in the specially designed high performance tuner (tracking filters) combined with sophisticated digital filtering in the actual signal processing path provides a superior selectivity which means that in most installations it will not be necessary to add any channel filtering between the receiving antenna and the PT2090 input.

The PT2090 is available with an active or blank front panel.



# PT2090 Digital Repeater



## **PT2077 Digital Transceiver**

ProTelevision Technologies A/S is proud to present to the market the PT2077 Digital Transceiver for re-transmission in DVB-T/H format of a MPEG-2 TS feed received in DVB-S/S2 format via satellite.

PT2077 is the result of both theoretical fundamental work in the laboratory and extensive testing in the field on various locations. Especially the field testing has ensured that the satellite reception and demodulation scheme is optimized to handle the unpredictable conditions that often exist outside the controlled conditions of a laboratory.

We are confident that you will agree with us that the new transposer PT2077 offers the same excellent reliability, high performance and ease of operation as known from the other members of the ProTelevision product family.

Being a DVB-S/S2 to DVB-T/H transceiver the core function of the PT2077 is to receive a DVB-S/S2 signal from a satellite service, demodulate the signal completely to MPEG2-Transport Stream level, thereby utilizing the built-in error correction of the DVB-S/S2 signal to provide an error free MPEG-2 TS signal for transmission on a DVB-T/H compliant COFDM spectrum in accordance with the rules for channel coding and modulation specified in the DVB-T/H standards ETSI EN 300 744/302 304 (same state-of-the-art modulator as used in PT2080). The output of PT2077 is delivered on a user selectable frequency in the range from 30MHz to 1000MHz with selectable spectrum bandwidths of 8, 7, 6 and 5MHz included as standard. The unit supports furthermore non-hierarchical and hierarchical modulation format and it may be user configured for MFN and SFN network operation as required.

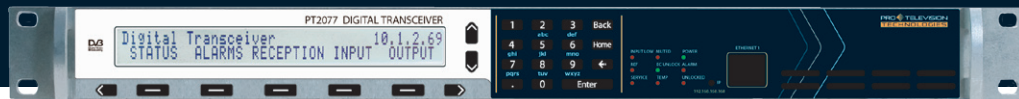
The receiver part of the PT2077 Digital Transceiver features a special high performance DVB-S/S2-tuner for optimal reception of the satellite signal. PT2077 supports control of the receiving antenna disc(s) in accordance with the DiSEqC protocol.

The typical application for the PT2077 Digital Transceiver is to work in combination with any third party RF power amplifier and provide a high quality RF-signal in a DVB-T/H network. The PT2077 constitutes in itself a state-of-the-art product with market leading RF-performance. The built-in linear and non-linear pre-corrector function (IMD Buster McTwo SoftClip) included as standard with PT2077 facilitates furthermore easy and efficient optimization of the overall transmitter system performance (transceiver plus RF power amplifier and channel/combiner filter) by allowing manual compensation of the nonlinearities usually encountered with any RF power amplifier and analogue RF filter.

Addition of the optional adaptive pre-corrector solution PT2754 will enhance the ease of operation further by providing continuous automatic optimization of the transmitter performance (transceiver plus RF power amplifier). The automatic optimization includes the RF power amplifier non-linearities (phase and gain response vs. power) as well as non linearities in the channel/combiner filter following the power amplifier (amplitude and group delay vs. frequency).

The PT2077 is available with an active or blank front panel.

# PT2077 Digital Transceiver



## **PT2088 DVB-T/H Re-Modulator**

ProTelevision Technologies A/S is proud to present to the market the PT2088 DVB-T/H Re-Modulator for re-transmission in DVB-T/H format of a MPEG-2 TS feed received in a terrestrial DVB-T/H RF-signal. PT2088 is the successor of the well-known re-modulator PT5788 and the concept of the PT5788 has been refined to a even higher level. We are confident that you will agree with us that the new re-modulator PT2088 offers the same excellent reliability, high performance and ease of operation as the PT5788 and in addition also a lot more.

Being a DVB-T/H to DVB-T/H Re-Modulator, the core function of the PT2088 is to receive a DVB-T/H signal on a VHF/UHF-channel, demodulate the signal completely to MPEG2-Transport Stream level, thereby utilizing the built-in error correction of the DVB-T/H signal to provide an error free MPEG-2 TS signal for transmission on a DVB-T/H compliant COFDM spectrum in accordance with the rules for channel coding and modulation specified in the DVB-T/H standards ETSI EN 300 744/302 304 (same state-of-the-art modulator used in PT2080). The output of PT2088 is delivered on a user selectable frequency in the range from 30MHz to 1000MHz with selectable spectrum bandwidths of 8, 7, 6 and 5MHz included as standard. The unit supports furthermore non-hierarchical and hierarchical modulation format and it may be user configured for MFN and SFN network operation as required. The receiver part of the PT2088 DVB-T/H Re-Modulator features a special high performance DVB-T/H tuner for optimal reception of the VHF/UHF signal.

The typical application for the PT2088 DVB-T/H Re-Modulator is to work in combination with any third party RF power amplifier and provide a high quality RF-signal in a DVB-T/H network. The PT2088 constitutes in itself a state-of-the-art product with market leading RF-performance. The built-in linear and non-linear pre-corrector function (IMD Buster McTwo SoftClip) included as standard with PT2088 facilitates furthermore easy and efficient optimization of the overall transmitter system performance (re-modulator plus RF power amplifier and channel/combiner filter) by allowing manual compensation of the nonlinearities usually encountered with any RF power amplifier and analogue RF filter. Addition of the optional adaptive pre-corrector solution PT2754 will enhance the ease of operation further by providing continuous automatic optimization of the transmitter performance (remodulator plus RF power amplifier). The automatic optimization includes the RF power amplifier non-linearities (phase and gain response vs. power) as well as non linearities in the channel/combiner filter following the power amplifier (amplitude and group delay vs. frequency).

The PT2088 is available with an active or blank front panel.



# PT2088 DVB-T/H Re-Modulator



Anders Kjempff, Head of sales and marketing, explains, "We are extremely proud of being able to release the new products based on the Terrestrial Gateway Platform at IBC 2008. The idea of the concept of a general hardware platform, being able to host the various digital broadcasting standards from all over the world can up numerous year ago. It is a big relief being able to release the first products based on the Terrestrial Gateway Platform but also a having a awareness of the known and unknown challenges laying in front of us.

Herlev, Denmark /Protelevision Technologies. -At ProTelevision everything is developed in-house from a clean sheet of paper. As a fab-less semiconductor company our innovative ASIC design offers digital signal processing quality and signal integrity unparalleled by any other C-OFDM engine in the market. This dedication to research and development, together with our commitment to customer satisfaction is why ProTelevision is the leading manufacturer of C-OFDM Modulators for DVB-T/H in the market today – as verified by the installed base of several thousands of modulators bringing digital TV to viewers all over the world in this very minute.



**TERRESTRIAL GATEWAY**

**PRO TELEVISION  
TECHNOLOGIES**

TECHNOLOGIES

PRO TELEVISION

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