

# 4T2-Rack Transmitter Monitoring System



- COFDM analyser with MER performance  $>40$  dB in real-time
- Spectrum, impulse response, group delay, and CCDF
- Simultaneous monitoring of the MPEG transport stream fed into the transmitter, and the one demodulated from the RF output
- IP-content streaming, analysis, and decoding with XTASI, and 4T2 Content-Analyser application
- Relay contacts for local alarming
- DVB-SNMP interface



1b

# 4T2-Rack 2010 model Front panel features / connectors



| wideband                                      | ASI IN  | ASI OUT   | 10 MHz ref  |
|---|---|---|---|
| Non-selective RF-input to the down-converter. | DVB-ASI input to the analyser and decoder circuits. | DVB-ASI output derived from demodulated RF applied to the wideband input. | Reference input for frequency offset measurements of DVB-T signals. |

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1c

# 4T2-Rack 2010 model Rear panel features / connectors



PC motherboard

PCI expansion

mains



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- The system utilises ABC's unique hybrid demodulator technology, resulting in better than 40dB MER values without the need for calibration.
- Level, and frequency readings, constellation, CCDF, Impulse Response, and Spectrum displays are processed by the 4T2 RF-Analyser application.
- The MPEG-2 Transport Stream is demodulated by a state-of-the-art demodulator chip-set.
- Base-band information is streamed into the system main memory and converted to IP-data using the XTASI hardware-module and software server-application.

- The 4T2-Rack has the capability to run two 4T2 Content-Analyser instances in parallel to simultaneously monitor the MPEG transport stream fed into the transmitter, and the one demodulated from the RF output.
- Remote Control is achieved by implementing the DVB-SNMP interface to ensure seamless operation with third party network management software. The instruments are prepared to be integrated into a network with a Gbit-ethernet interface. Relay contacts are available for local alarming.
- Comprehensive alarm and warning logs are available. The system is highly configurable and can be adjusted to be kept up to date to meet future measurement, and monitoring requirements.

- TR.101.290 1st, 2nd and 3rd priority error analysis
- Service information hierarchy tree-view
- SI, SDT, NIT, PID, stuffing visualisation
- bit-rate analysis with pie-chart and trend-line
- PCR jitter analysis
- black and freeze detection
- content decoding of SD, and HD services

| Measurement Results |                           |                            | Resolution  | Accuracy                        |
|---------------------|---------------------------|----------------------------|-------------|---------------------------------|
|                     | RF Input Analysis         | Level                      | 0.1 dB      | ± 0.5 dB<br>(-5 dBm to + 6 dBm) |
|                     | COFDM Demodulation        | Frequency Offset           | 0.1 Hz      | ± 1 Hz                          |
|                     |                           | Bandwidth                  | 1 Hz        | ± 1 Hz                          |
|                     |                           | Bandwidth Offset           | 1 Hz        | ± 1 Hz                          |
|                     |                           | Net Bit Rate               | 1 bit / s   | look-up table                   |
|                     |                           | Bitrate Offset             | 1 bit / s   | ± 2 bit / s                     |
|                     |                           | Cell-ID                    | - / -       | - / -                           |
|                     | COFDM Modulation Analysis | MER Modulation Error Ratio | 0.5 dB      | ± 0.50 dB up to 40 dB MER       |
|                     | Bit Error Analysis        | BER b.V.                   | 0.1 to 1E-6 | 10 ppm                          |

Please find further information under

[www.adcocom-broadcast.com](http://www.adcocom-broadcast.com)

Advanced Broadcast Components Ltd.

Richthofenstr. 29

31137 Hildesheim

Germany

+49 5121 289 279 4