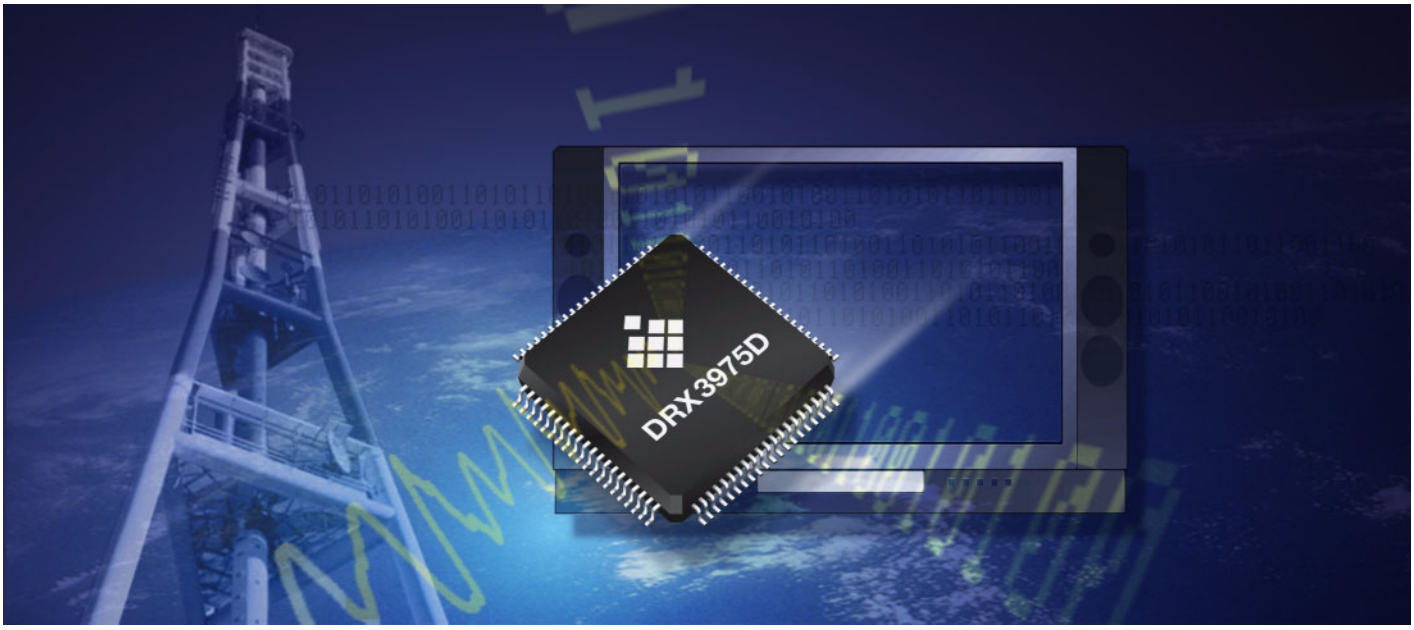
MICRONAS

DRX 3975D

Sept/2004



DRX 3975D
Fourth-Generation COFDM Demodulator

The DRX 3975D is a fourth-generation COFDM demodulator that offers today's highest level of front-end integration resulting in ultimate DVB-T digital reception according to ETS 300 744.

The IC applies cutting-edge digital filtering techniques in combination with a high-performance A/D converter and PLL configuration leading to superior performance figures, in the presence of digital or analog adjacent channels.

Progressive digital algorithms in the channel estimator of the DRX 3975D results in exceptional performance in multipath and dynamic Echo conditions. This is important for single-frequency networks and indoor reception.

The state-of-the-art noise cruncher suppresses noise disturbances from sources such as cars, phones, and other electrical appliances.

Features

- Highest level of functional integration and front-end flexibility:
  - Single 8-MHz SAW filter operation
  - AGC options: RF-AGC; IF-AGC
  - Flexible clock reference options
- Exceptional digital reception performance:
  - High-quality PLL allows real reuse of 4-MHz tuner clock reference
  - Superior digital and adjacent channel performance (> –40 dB QEF)
  - Impulsive noise cruncher
  - Pre-SAW sense input for optimal RF-AGC setting and RF-level measurement
- Input IF frequency can range up to 44 MHz in order to accept new tuner topologies with new defined IF
- Integrated microprocessor to perform autonomous detection and operation of all possible DVB-T modes, without interaction of the host processor
- Fully automatic and fast signal acquisition: UHF and VHF band-scan in <10 s.
- Meets the relevant international DVB-T performance requirements standards: Nordig Unified, DTG, EICTA, and others.
- Comfortable software drivers for integration of tuner with the DRX 3975D
- Secondary serial interface for tuner control
- 5-V tolerant AGC output
- Configurable parallel or serial MPEG-TS output
- PLQFP64 package
- IEEE 1149.1 boundary scan

Applications

- IDTV / hybrid TV receivers
- Set-top boxes
- PVR / PDR
- Network interface modules (NIM)
- PC-TV cards

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Front-End Applications

The DRX 3975D can be applied as demodulators for DVB-T applications, or in combination with the DRX 3960A in a hybrid front-end for combined analog and DVB-T reception.

The combination of DRX 3975D and DRX 3960A enables an economic solution for hybrid reception, using only one tuner and one 8-MHz SAW filter. This concept allows the end-user to receive analog or DVB-T broadcasts, depending on the local spectrum allocation. It perfectly fits to the MDE 9500B hybrid video decoder family.

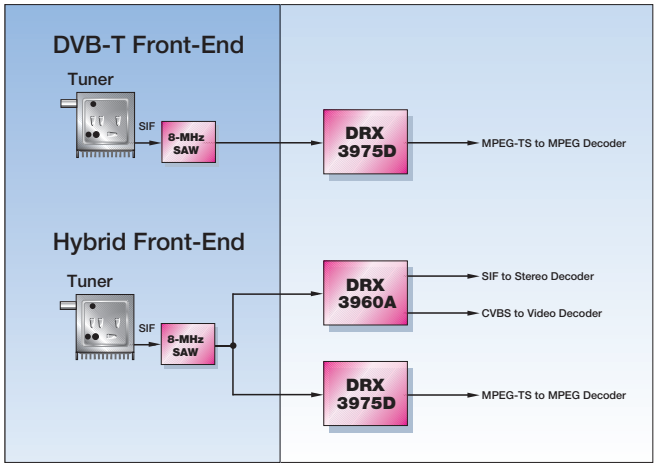

Fig. 1: Front-end application examples

DVB-T Front-End Application

Figure 2 shows a block diagram of a typical DVB-T front-end using the DRX 3975D controlling a tuner via the optional RF-AGC signal. If the tuner has an integrated RF-AGC, this signal line is not required.

The 4-MHz clock reference output of the tuner is used as clock input for the DRX 3975D, thus saving an external crystal for the DRX 3975D.

Via the pre-SAW sense input, the RF signal level can be monitored for optimal RF-AGC setting and/or RF-level measurement.

For further details and availability information please contact DigitalTV@micronas.com.

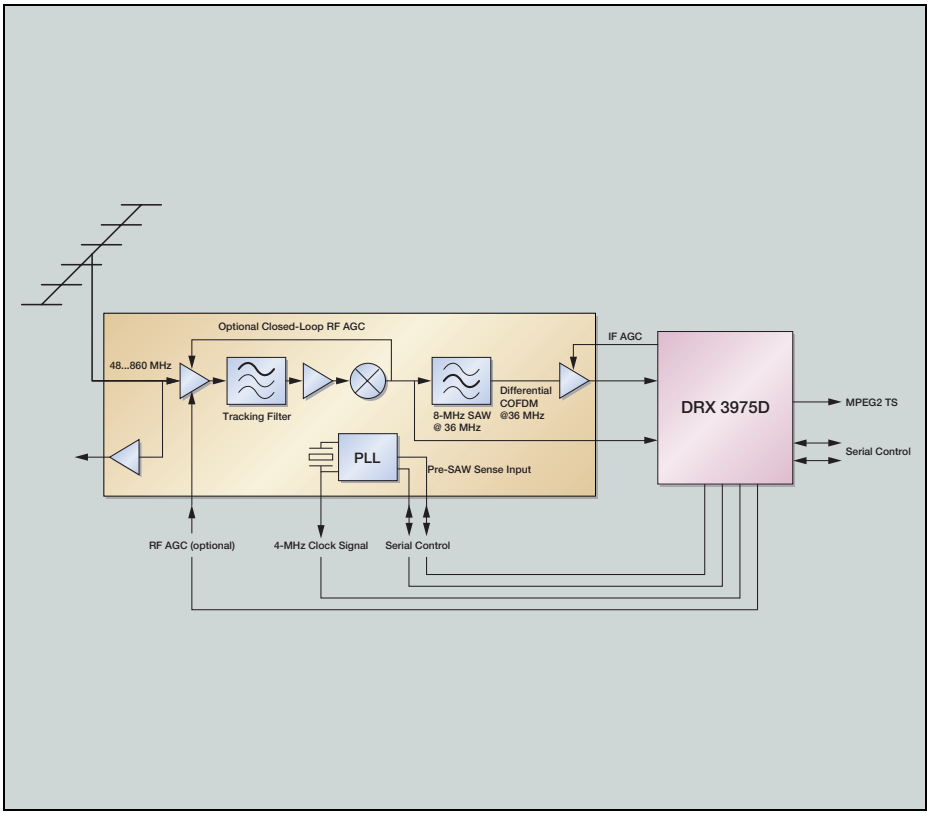

Fig. 2: Block diagram of a typical DVB-T front-end based on the DRX 3975D

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