DVB-Tx/C/Sx/ISDB-T/J83.B Demodulator

OVERVIEW

- Conforms to the following standards:
  ETSI EN 302-755 V1.3.1 (DVB-T2/T2-Lite)
  ETSI EN 300-744 V1.6.1 (DVB-T)
  ETSI EN 300-429 V1.2.1 (DVB-C)
  ETSI EN 307-421 V1.2.1 (DVB-S2)
  ETSI EN 300-421 V1.1.2 (DVB-S)
  ARIB STD-B31 V1.6-E2 (ISDB-T)
  ITU-T J.83 Annex B 12/2007 (J.83/B)

- DVB-T2/T Compliant with:
  DTG D-Book 7 part A C3.0
  Nordig Unified Test specification V2.2.2
- Flexible architecture allows for easy upgrade via firmware
- Fast switching between standards
- Automatic acquisition modes

FEATURES

DVB-T2

- Compliant with DTG D-book 7 part A version 3.0 and Nordig 2.2.2.
- Supports all DVB-T2 modes including
  - Single and multiple-PLPs
  - SISO and MISO transmissions
  - Future Extension Frames (FEFs)
  - DVB-T2 Base and Lite profiles
  - L1 post descrambling and long FEF
- Automatic T/T2 standard detection
- Null packet insertion
- QAM modes: 4, 16, 64, 256 (with or without rotation)
- Bandwidths: 1.7, 5.0, 6.0, 7.0, 8.0 MHz
- FFT Sizes: 1K, 2K, 4K, 8K, 16K, 32K
- Automatic merging of common and data PLPs
- Improved performance and acquisition time versus previous generation

DVB-T

- Compliant with DTG D-book 7 part A version 3.0 and Nordig 2.2.2.
- Improved AWGN performance versus previous generation

DVB-C

- Fully compliant with the Broadcast Service profile of the European Standard ETSI EN 300 429 v1.2.1 (DVB-C).
- Supports all five QAM modes: 16QAM, 32QAM,64QAM,128QAM and 256 QAM
- Automatic modulation detection
- ± 500 KHz frequency acquisition range.
- ± 1000 ppm symbol timing acquisition range.
- 0.87 to 9 Msps symbol rate

DVB-S/S2

- DVB-S2
  - Symbol Rates:
    QPSK 1- 55 Msps
    8PSK 1- 45 Msps
  - QPSK Code Rates:
    1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10
  - 8PSK Code Rates:
    3/5, 2/3, 3/4, 5/6, 9/10
  - Roll-off factors for pulse shaping: 0.20, 0.25, 0.35
- DVB-S
  - Symbol Rates: 1-55 Msps
  - Code Rates: 1/2, 2/3, 3/4, 5/6, 7/8
- Fast automatic blind scan of symbol rates and carrier frequencies
- Carrier frequency acquisition range: $\pm$5MHz for symbol rates above 3 Msps and $\pm$3MHz for all other symbol rates
- Multi-purpose modulator for DiSEqC™ applications
- Improved co-channel interference performance

FEATURES

ISDB-T

- Supports all three modes: 1, 2, and 3
- DQPSK, QPSK, 16QAM, 64QAM
- Supports all code rates:
  1/2, 2/3, 3/4, 5/6, 7/8
- Supports 13-segments (full segment)
- Supports hierarchical processing of multi-layer
- Automatic mode detection
- Automatic detection of spectral inversion

J83.B

- Full standard support
- Sophisticated equalizer cancels co-channel tones and echoes

General

- Terrestrial and Cable support Low IF and high IF(36 MHz) input
- Satellite support zero IF input
- Performance upgrade via firmware
- MPEG output and AGC can be set to Tri-state
- 48 pin QFN 6 x 6 mm package
- Pin-to-Pin compliant with Availink chips
  AVL6762: DVB-C/T/T2
  AVL6862: DVB-C/T/T2 + DVB-S/S2
  AVL6812: ISDB-T + DVB-S/S2 + J83.B
  AVL6381: DTMB + DVB-C

AVL6882 Block Diagram