

## Digital Video Interfacing Products

### iMod AT278USB

DVB-T /H/C & ATSC Modulator  
IF and RF ( VHF & UHF ) Output  
DVB-ASI Input



## Standard Features

### DVB-T/H/C Modulator with VHF & UHF Up converter.

- High Speed **USB 2.0**
- Windows 2000, XP Drivers and **SDK**.
- Free **DVSStation3** Alitronika's Application Software.
- Supports DVB According to Standard **A1010 Rev1 & EN50083**.
- Modulation of Transport Stream files from Harddisk.
- Modulation of TS from the ASI or SPI inputs.
- All modulation processes are carried out by the hardware so that there is no load on the PC processor,
- TPS flags to indicate TS contains MPE-FEC and/or Time slicing.
- Bitrates from 4.98 MB/s to 31.67 MB/s. for DVB-T/H and from 14 MB/s to 65 MB/s. for DVB-C.
- Supports Burst or continuous modes, 188 and 204 packet sizes.

#### Inputs:

DVB-ASI input.

#### Outputs:

RF and IF Output.

## Application

*Targeted for Digital Video Professionals, Sophisticated End Users and OEMs, the AT278USB is an ideal solution for a number of applications such as:*

- Development Tools for DVB-T/H/C QAM A/B/C & ATSC Receiver R&D.
- IP to DVB Gateway.
- DVB-Transport Stream Generation.
- Stand alone DVB-T/H/C signal generator for Test & Validation.
- Demonstration and Trade Shows.
- DVB-T/H/C output for OEM product.

## IF & RF Specifications

- **IF & RF Connector:** 75 Ohms BNC.
- **IF Output Frequency:** 35/37 or 69/71MHz adjustable in 1Hz steps
- **IF Output level:** 0dBm @ 75Ohms.
- **RF Output Frequency Range:** 50MHz to 1000MHz.
- **RF Output power over bandwidth:** -15dBm to -50dBm.
- **FEC Code Rates:** 1/2, 2/3, 3/4, 5/6, 7/8.
- **Spectral Inversion:** Both inverted and non-inverted.
- **Guard Interval Modes:** 1/32, 1/16, 1/8 and 1/4.

#### DVB-T/H Mode

- **Channel Bandwidth:** 5MHz, 6MHz, 7MHz, 8MHz.
- **COFDM Spectrum:** 2k, 4k and 8k carriers non-hierarchical.
- **Standards:** COFDM according EN 300 744.
- **Modulation Modes:** QPSK, 16QAM and 64QAM.

#### DVB- C Mode

- **Channel Bandwidth:** 6MHz, 8MHz.
- **Standards:** QAM according EN 300 744.
- **Modulation Modes:** 16QAM, 32QAM, 64QAM, 128QAM, 256QAM.

#### ATSC 8-VSB Spec.

- **Channel Bandwidth:** 6MHz.
- **Standards:** A/53 8-VSB

## ASI/SPI Specifications

- **On Board Buffer:** 16Mbytes
  - **DVB-ASI I/O Connectors:** 75 Ohms BNC.
  - **DVB-ASI Signal level:** 1.0Vp-p nominal.
  - **DVB-ASI Output Clock:** 270 MHz.
  - **DVB-ASI Input return loss:** 15dB.
  - **DVB-ASI I/O Bit Rate:** 0 to Max Mbit/s\*.
  - **DVB-SPI Connector:** 25-pin sub-D.
  - **DVB-SPI Input Level:** LVDS.
  - **DVB-SPI Input Bit Rate:** 0 to Max Mbit/s\*.
  - **Power Consumption:** 7.5 Watts
  - **Size WxLxH:** 170mmx210mmx65mm
- \* Max Mbit/s = Maximum bit rate allowable by DVB-T/H or DVB- C modulation.

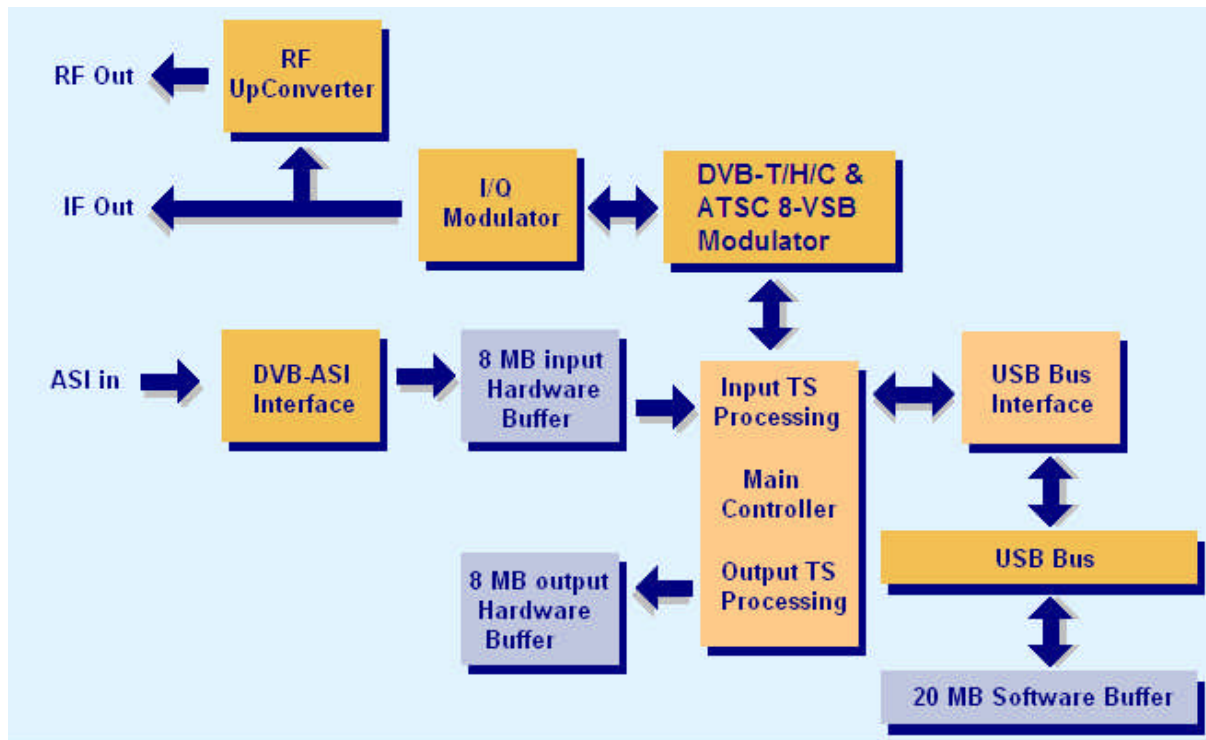
## 1 GENERAL DESCRIPTION

*A member of Alitronika's state of art digital video interfacing products.*

The AT278USB is a USB based interface device suitable for DVB-T/H/C & ATSC 8-VSB Transport Stream Generation and IF as well as full range VHF & UHF IF up conversion.

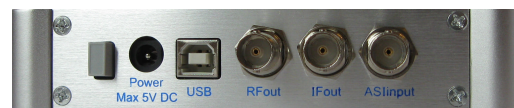
## 2 BLOCK DIAGRAM

The figure below illustrates the block diagram of the AT278USB device. The device communicates with the PC via the USB interface device. The AT278USB is capable of modulating a DVB-T/H/C TS from the harddisk of the PC or from the incoming DVB-ASI/SPI inputs. The modulated DVB-T/H/C is available on both IF and RF outputs as well as DVB-ASI output (for monitoring). The modulation options, output frequencies and all other setting are done with the help of DVStation3.



## 3 EXTERNAL INTERFACES

The external interfaces for the AT2780USB are shown. There are 4 BNC connectors for the RF, IF, DVB-ASI I/O as well as USB and DC power inlet connectors. The Unit is supplied with power supply and USB2.0 cable.



There are 3 LED in front of the unit function as follows:

**OFF** = Power is off/ device not activated

**Flashing (Red)** = Modulation not activated – Error condition

**ON (Green)** = Normal operational condition

## 4 APPLICATION

Targeted for digital video professionals, sophisticated end users and OEMs the AT278USB is an ideal solution for a number of applications such as, development tools, universal interface for MPEG-II Transport Stream Playing and Recording, video on demand server, transport stream test generator, high speed serial data link, software based MPEGII decoders & encoders and many other applications.