Digital Video Interfacing Products

AT2900USB

DVB-S2/S & DSNG Modulator
IF and RF (VHF & UHF) Output
DVB-ASI & DVB-SPI Inputs

Standard Features

DVB-S2/S Modulator with VHF & UHF Up converter.
- High Speed USB 2.0.
- Windows XP, Vista, Win 7 (64bit) Drivers + SDK.
- Linux Drivers & sample application.
- Accompanied by DVSStaion3, Alitronika's Integrated TS Player, Recorder & Real Time Quick Analyser 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 done by hardware so that there is no CPU load and there is no need for an expensive high performance PC.
-TPS flags to indicate TS contains MPE-FEC and/or Time slicing.
- Bitrates: up to 72.57 Mbit/S, DVB-S & 200.385 Mbit/S for DVB-S2.
- Symbol rates: up to 45Msymboles/s
- Supports Burst or continuous modes, 188 and 204 packet sizes.

Inputs:
DVB-ASI input.
DVB-SPI input.

Outputs:
RF and IF Output.
DVB-ASI output for monitoring the modulated TS file.

Application

Targeted for Digital Video Professionals, Sophisticated End Users and OEMs, the AT2900USB is an ideal solution for a number of applications such as:

- Development Tools for DVB-S2/S or DVB-DSNG Receiver R&D.
- IP to DVB Gateway.
- DVB-Transport Stream Generation.
- Stand alone DVB-S2/S signal generator for Test & Validation.
- Demonstration and Trade Shows.
- DVB-S2/S output for OEM product.

IF & RF Specifications

- DVB modes: DVB-S2 and DVB-S.
- **Spectral modes:** inverted and non-inverted.

DVB-S:
- **Alpha rolloff:** 0.35.
- **Modulation Modes:** QPSK.
- **FEC Code Rates:** 1/2, 2/3, 3/4, 5/6 and 7/8.
- **Symbol rate:** up to 45 MSymbols/s.
- **Bitrate:** up to 72.574 MBit/s.

DVB-S2:
- **Alpha rolloff:** 0.20, 0.25 and 0.35.
- **Modulation Modes:** QPSK, 8SPK, 16APSK and 32APSK.
- **FEC Code Rates:** 1/4,1/3,2/5,1/2,3/5,2/3,3/4,4/5,5/6,8/9 & 9/10.
- **Symbol rate:** up to 45 MSymbols/s.
- **Bitrate:** up to 200.385 MBit/s.

Specifications

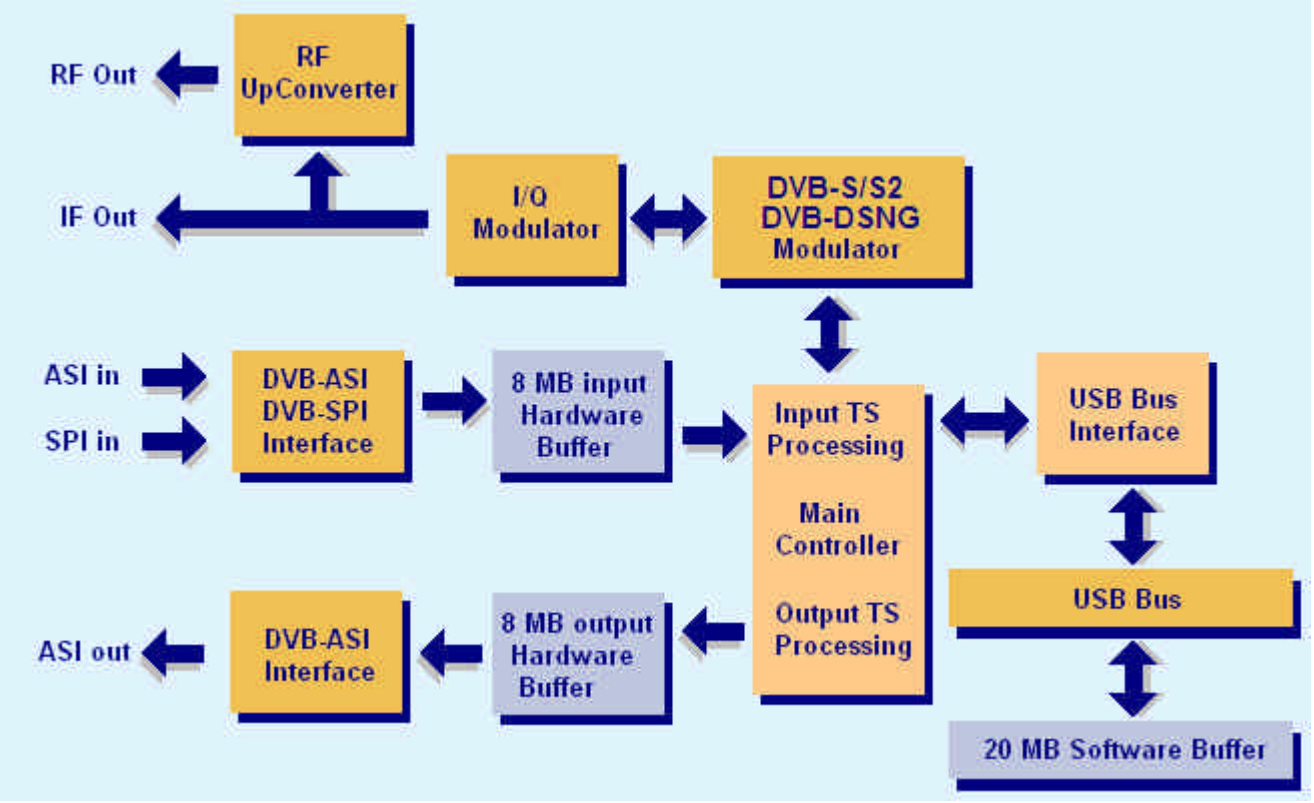
- On Board Buffer: 16Mbytes
- IF & RF Connector: 75 Ohms BNC/F-type.
- IF Output Frequency: 49-51 or 99-101MHz adjustable in 1Hz steps
- IF Output level: -10dBm @ 75Ohms.
- RF O/P Frequency: 950MHz to 2150MHz.
- RF Output power: -10dBm to -45dBm
- DVB-ASI I/O Connectors: 75 Ohms BNC.
- **DVB-ASI Signal level:** 1.0Vp-p nominal.
- **DVB-ASI Output Clock:** 270 MHz.
- **DVB-ASI Input return loss:** 15dB.
- **DVB-ASI Output Bit Rate:** 0 to 214 Mbit/s.
- **DVB-SPI Connector:** 25-pin sub-D.
- **DVB-SPI Input Level:** LVDS.
- Power Consumption: 5 Watts
- Size WxLxH: 170mm**x**210mm**x**65mm

1 GENERAL DESCRIPTION

A member of Alitronika's state of art digital video interfacing products.
The AT2900USB is a USB based interface device suitable for DVB-S2/S 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 AT2900USB device. The device communicates with the PC via the USB interface device. The AT2900USB is capable of modulating a DVB-S2/S TS from the harddisk of the PC or from the incoming DVB-ASI/SPI inputs. The modulated DVB-S2/S 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 DVSStation3.



3 EXTERNAL INTERFACES

The external interfaces for the AT2900USB are shown. There are 2 F-Type connectors for the RF, IF outputs & 2 BNCs for DVB-ASI I/O and a 25-pin D-type connector for DVB-SPI input (LVDS).
The LED on the unit function as follows:
OFF = Power is off/ device not activated
Flashing (Red) = Modulation not activated – Error condition
ON (Green) = Normal operational condition

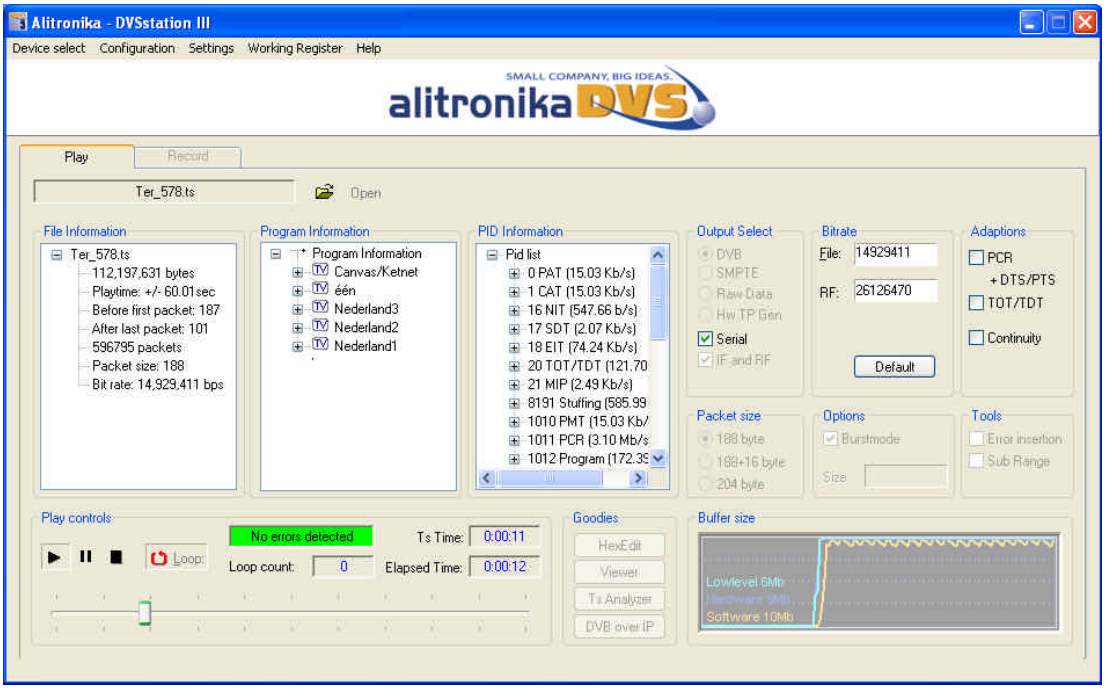
4 APPLICATION

Targeted for digital video professionals, sophisticated end users and OEMs the AT2900USB 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

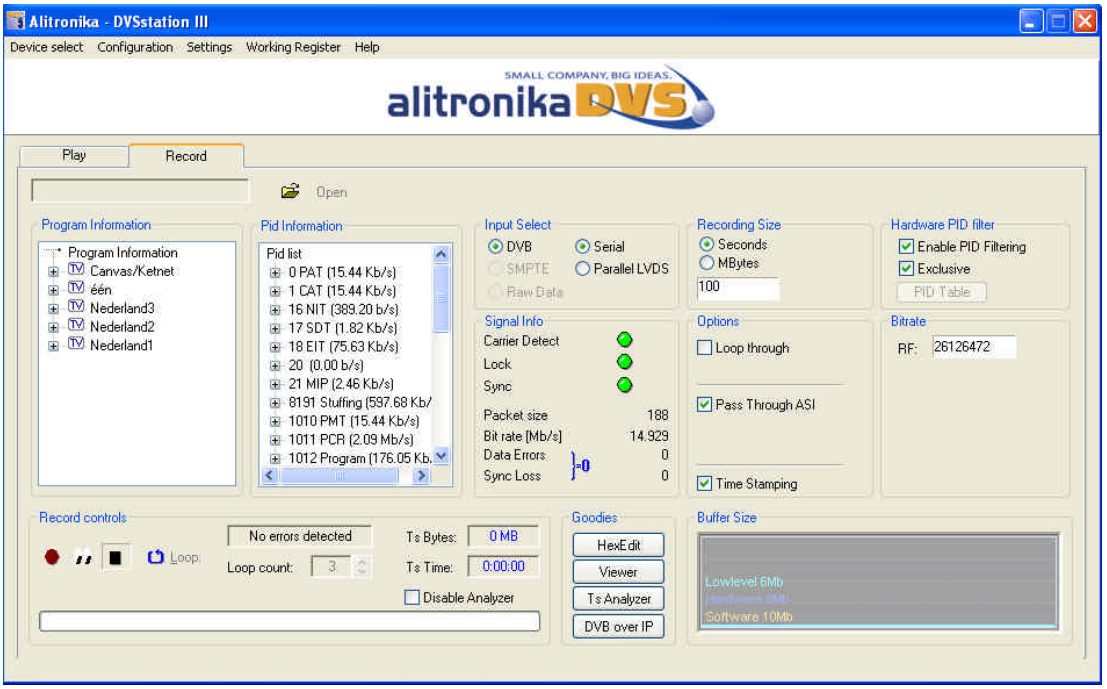
5 Software Application, DVSStation3

5.1 – DVSStation3: All of Alitronika devices are supported by DVSStation3, Alitronika's **FREE** Transport Stream Player, Recorder, Analyser & converter application software. Please refer to DVSStation3 specification and User Manual on our website for more information about DVSStation3. Even better please download it from our website & try it out. It works in DEMO mode without any Alitronika devices.

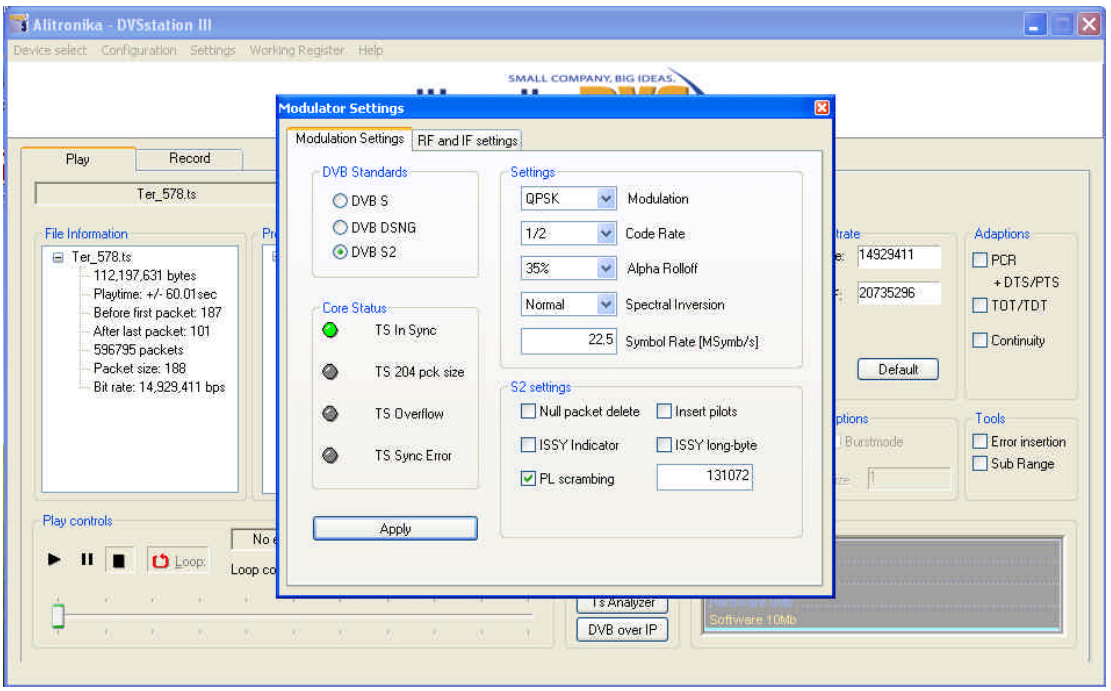
Play Screen



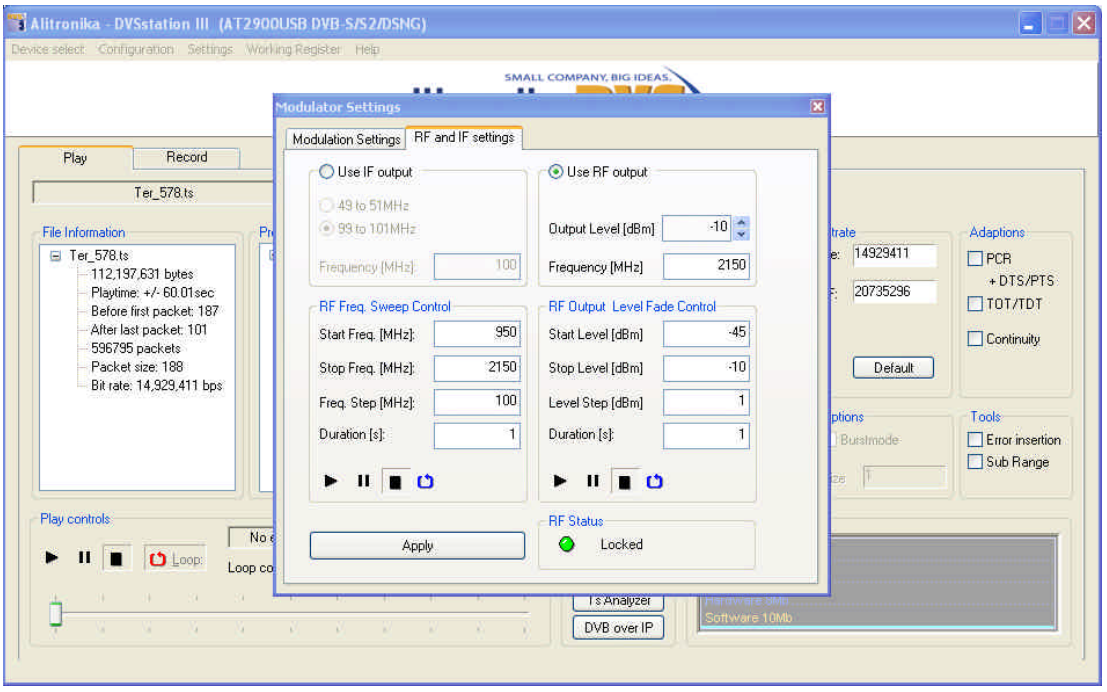
Record Screen



Modulation Settings DVB-S2/S

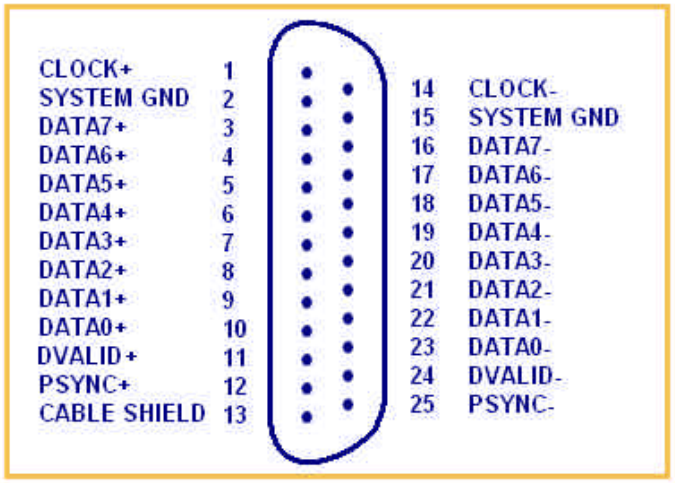


RF Settings

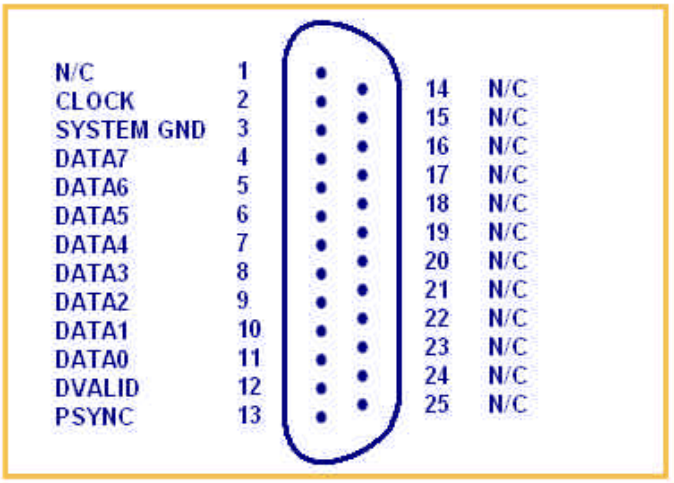


SPI connector Pin outs

Parallel (DVB-SPI) Pinouts
For Alitronika's devices which support DVB-ASI input/output (LVDS and/or LVTTL/LVCMOS)



Standard DVB-SPI input/output Pinout



LVTTL/LVCMOS output Pinout

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Therefore Alitronika DVS reserves the right to make changes in its product specifications at any time without notice. The reader is cautioned to verify that the specification documents are current before placing orders.
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