

## Digital Video Interfacing Products

# AT2900PCI

**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.

- PCI 2.2, 32 bit, 33/66MHz 3.3V.
- Bus Master DMA, Scatter /Gather Interface Protocol.
- 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 45Msymbols/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 AT2900PCI 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 WxL:** 175mmx107

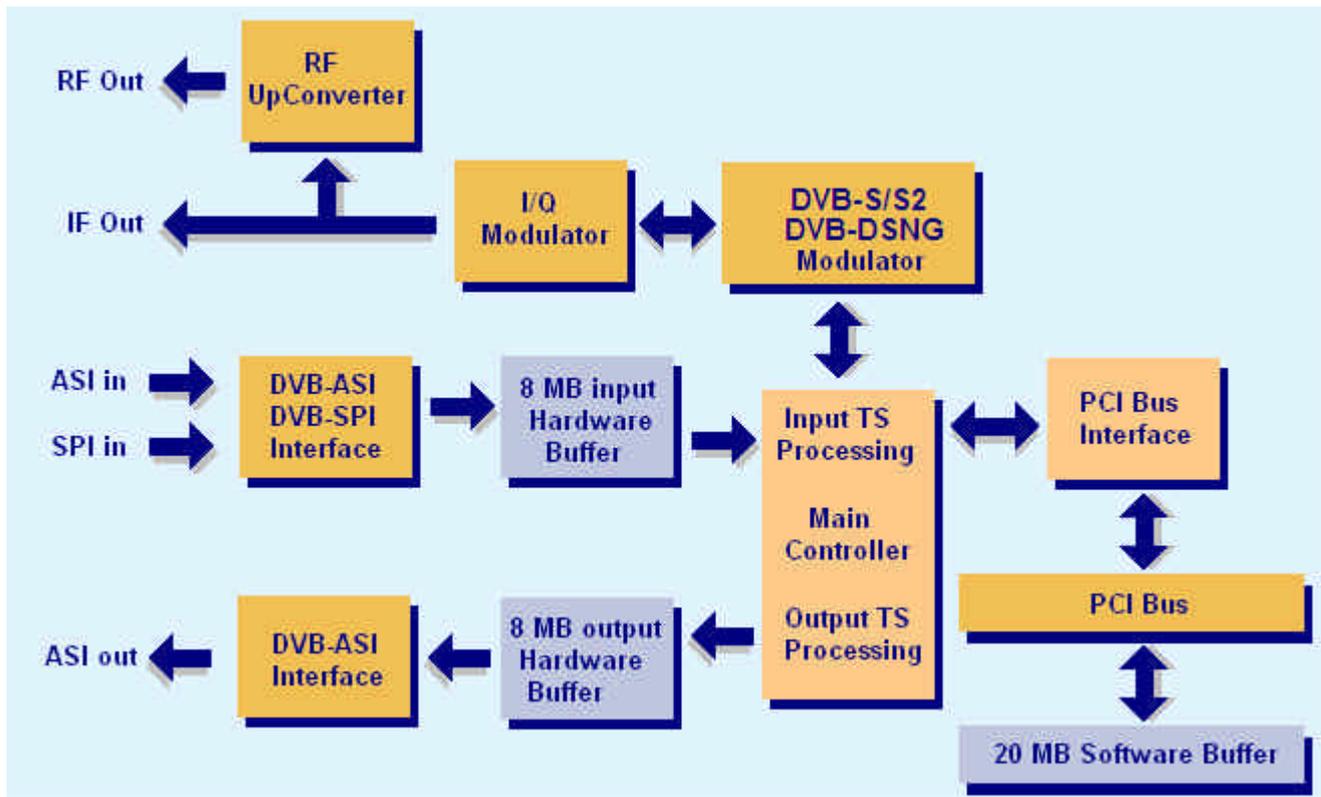
## 1 GENERAL DESCRIPTION

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

The AT2900PCI is a PCI 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 AT2900PCI device. The device communicates with the PC via the PCI interface device. The AT2900PCI 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 DVStation3.



## 3 EXTERNAL INTERFACES

The external interfaces for the AT2900PCI 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



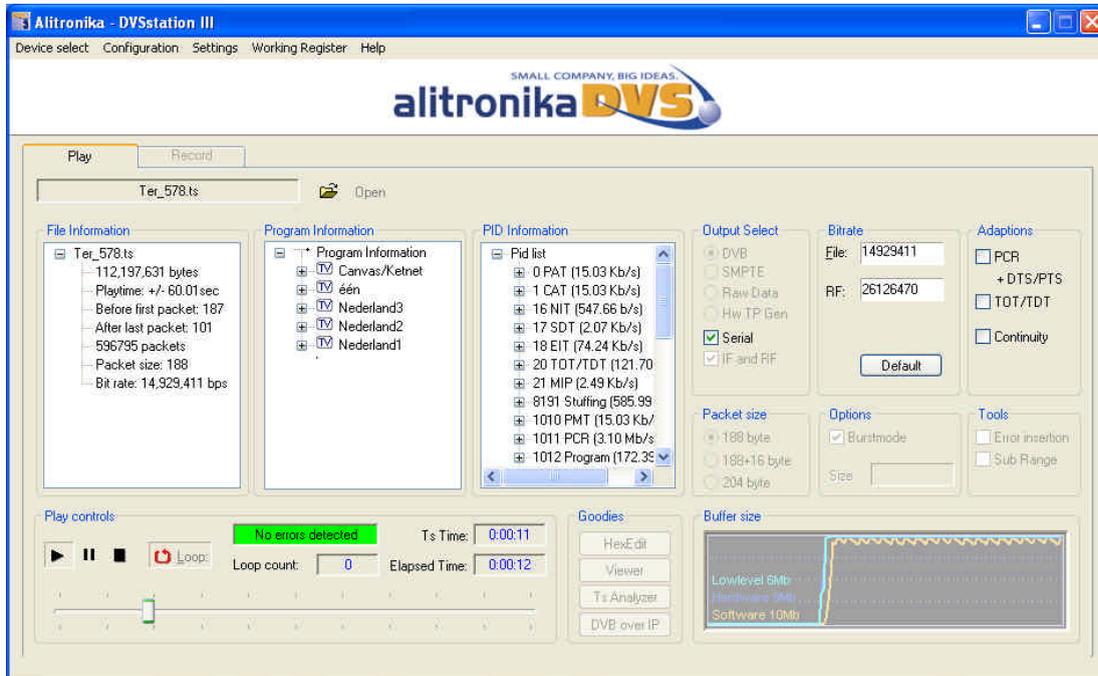
## 4 APPLICATION

Targeted for digital video professionals, sophisticated end users and OEMs the AT2900PCI 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

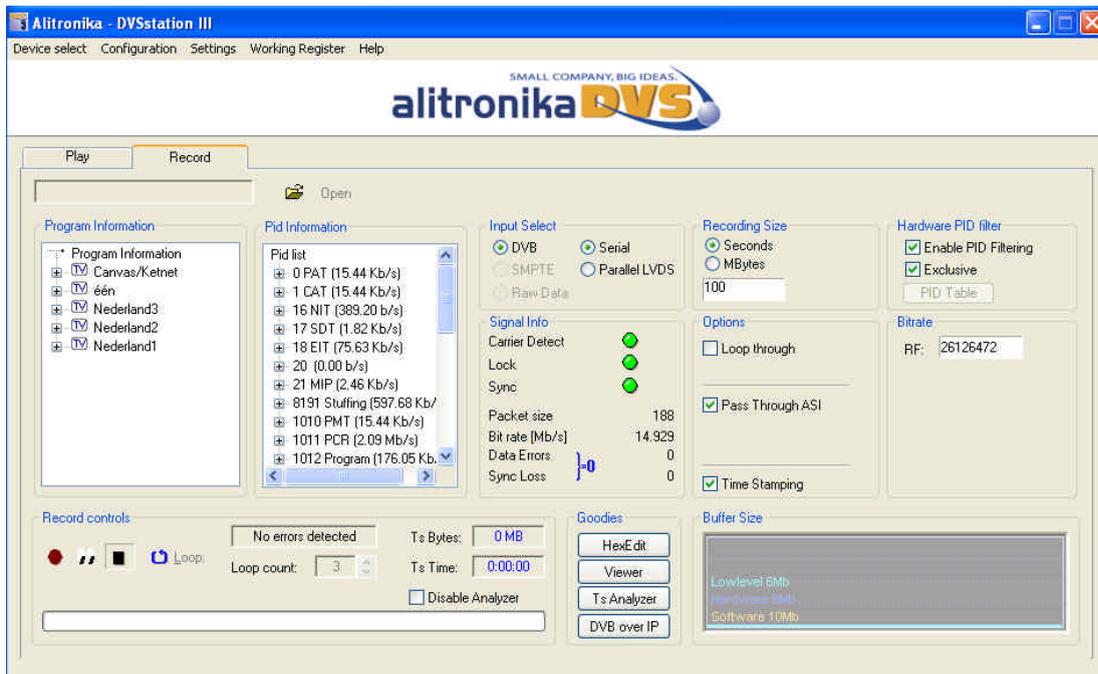
## 5 Software Application, DVStation3

**5.1 – DVStation3:** All of Alitronika devices are supported by DVStation3, Alitronika's **FREE** Transport Stream Player, Recorder, Analyser & converter application software. Please refer to DVStation3 specification and User Manual on our website for more information about DVStation3. Even better please download it from our website & try it out. It works in DEMO mode without any Alitronika devices.

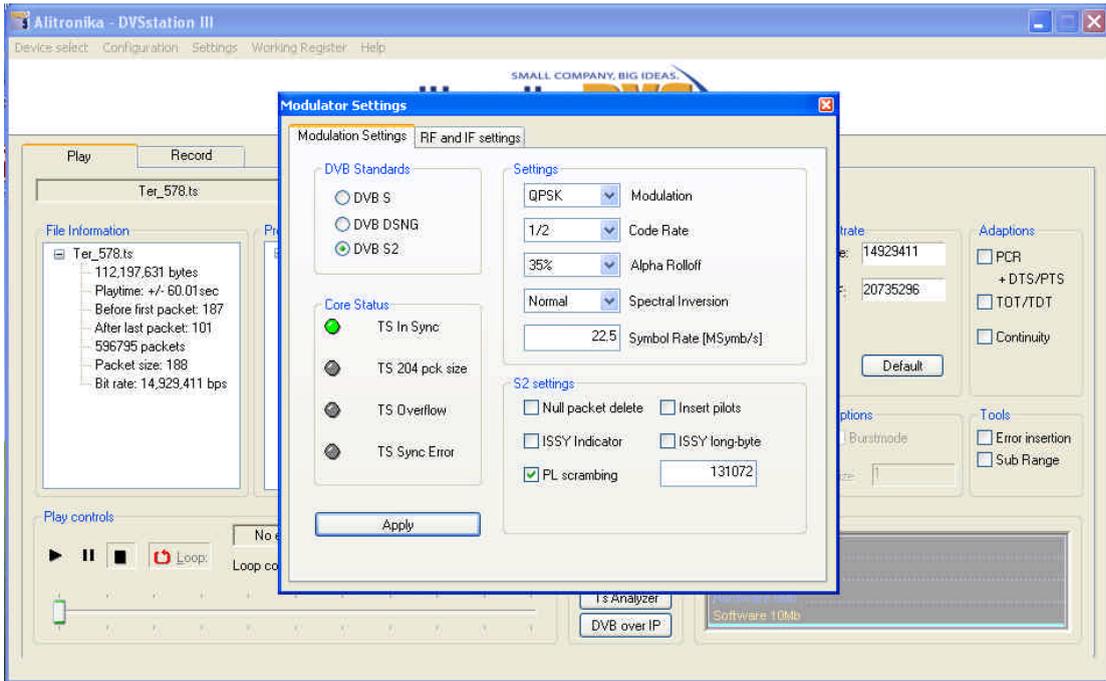
### Play Screen



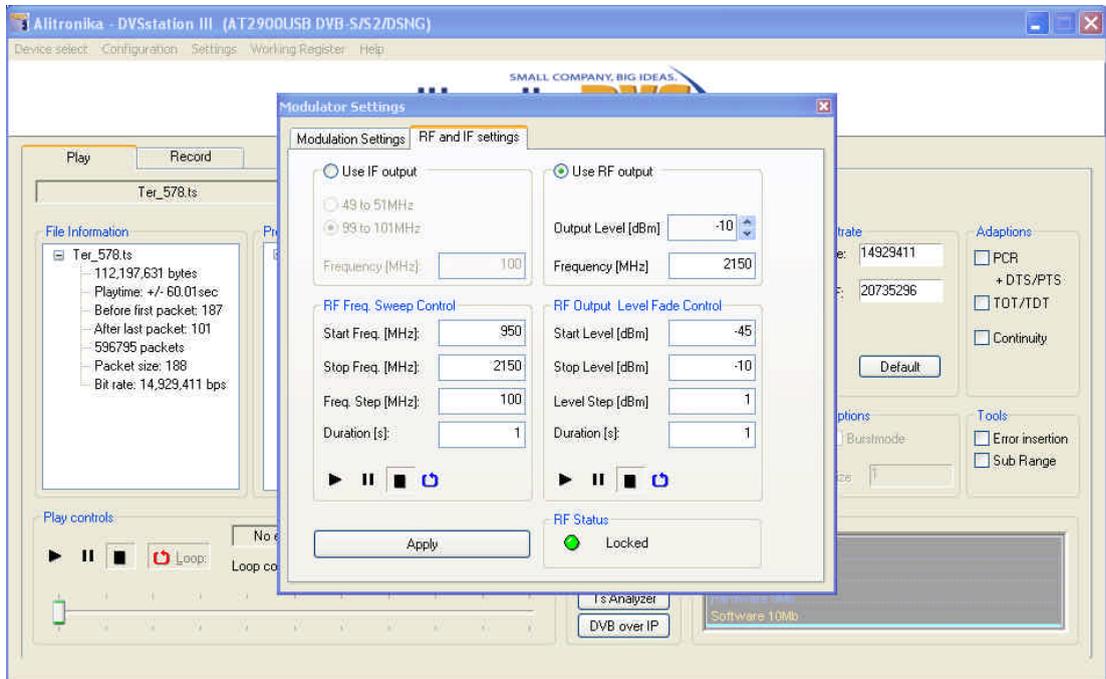
### Record Screen



## Modulation Settings DVB-S2/S



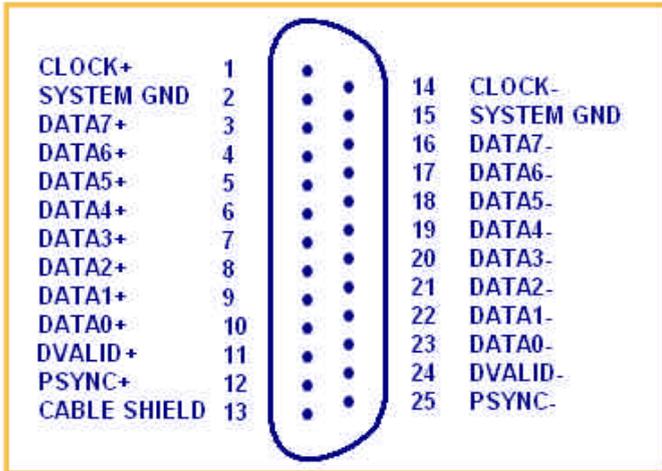
## RF Settings



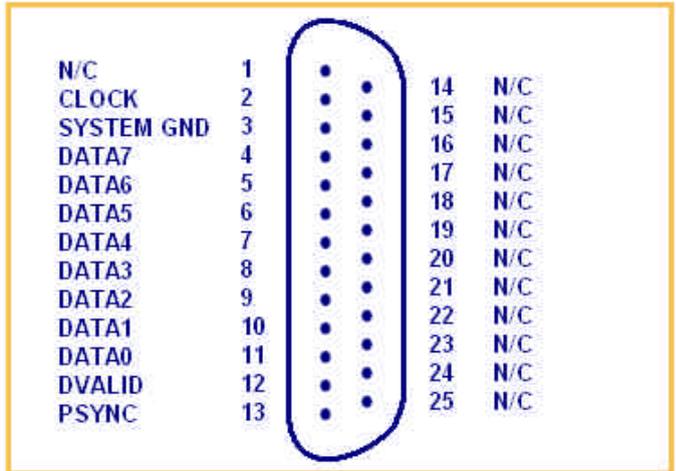
## SPI connector Pin outs

### Parallel ( DVB-SPI) Pinouts

For Alitronika's devices which support DVB-ASI input/output ( LVDS and/or LVTTTL/LVCMOS )



Standard DVB-SPI input/output Pinout



LVTTTL/LVCMOS output Pinout



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