

## Digital Video Interfacing Products

# AT800PCI

DVB-T (COFDM) Terrestrial Input  
7 and 8 MHz Bandwidth  
Receiver & Recorder & TS Player  
DVB-ASI & DVB-SPI outputs



## Standard Features

- **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 Standards **A1010Rev1** and **EN50083**.

### Input

- **DVB-T Compliant COFDM Reception.**
- Input Frequency Range:
  - UHF: 470 MHz to 862 MHz.
  - VHF: 174 MHz to 230 MHz
- Modulation Modes: QPSK, 16QAM, 64QAM.
- COFDM Spectrum: DVB-T and DTG compliant.
- Integrated RF Loop Through output.
- Sync, Error & Code Violation Detection.
- Support for Time Stamping, PID filtering.
- Supports 188 /204 byte Packet Sizes.

### Output

- **Two** DVB-ASI and **One** DVB-SPI outputs.
- Programmable Output Bit Rate.
- Null Packet Insertion by hardware.
- Selectable Burst size mode & continuous mode TS output.

## Application

*Targeted for Digital Video Professionals, Sophisticated End Users and OEMs the AT800USB is an ideal solution for A number of applications such as:*

- Development Tools.
- DVB to IP or IP to DVB Gateway.
- Transport Stream Recording.
- Transport Stream Playing.
- Transport Stream Analysing
- Transport Stream Monitoring.
- Video on Demand Server.
- Transport Stream Test Generator.
- DVB-T to DVB-ASI & DVB-SPI converter hence replacing an IRD.
- Software Based decoding
- DVB-T TS for Tans-modulation into DVB-S or DVB-C.

## RF Input Specifications

**RF Tuner Connector:** 75 Ohms Female IEC Type

**RF Loop Through:** 75 Ohms Male IEC Type

**Input Frequency Range:**

**UHF:** 470 MHz to 862 MHz

**VHF:** 174MHz to 230MHz

**Channel Bandwidth:** 7MHz / 8MHz

**Channel Assignment:** C.C.I.R Channel &  
+/- 166.666KHz offset

**OFDM Spectrum:** 2k & 8k carrier

Hierarchical & non-hierarchical

**Standards:** DVB-T and DTG compliant

**Modulation Modes:** QPSK, 16QAM and 64QAM

**Guard Interval Modes:** 1/32, 1/16, 1/8 and 1/4  
active symbol duration

**FEC Modes:** Rate 1/2, 2/3, 3/4 and 7/8

## Output Specifications

**On Board Buffer:** 16Mbytes

**Serial Connectors:** 75 Ohms BNC

**Parallel Connectors:** 25-pin sub-D

**DVB-ASI Output Bit Rate:** 0 to 214 Mbit/s

**DVB-SPI Output Bit Rate:** 0 to 108 Mbit/s

**Bit Rate Stability:** +/- 25ppm

**DVB-ASI Output Clock:** 270 MHz

**DVB-ASI Output Signal level:** 1.0Vp-p

**DVB-SPI Output Clock:** 0 to 13.5 MHz

**DVB-SPI Output Level:** LVDS

**Power Consumption:** 5 Watts

**Size WxL:** 175mmx107

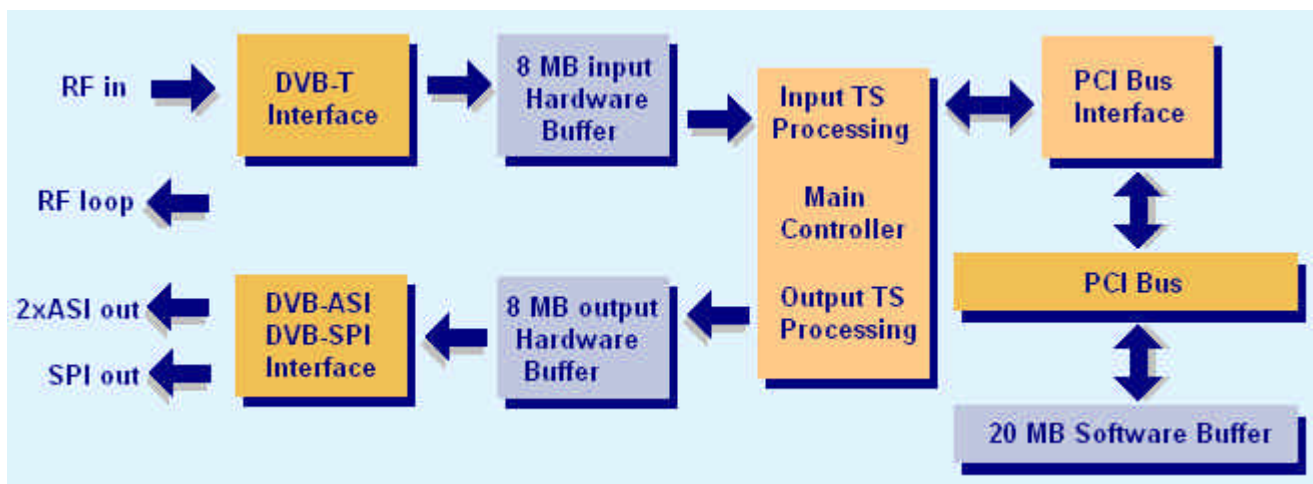
## 1 GENERAL DESCRIPTION

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

The AT800PCI is a PCI based interface device suitable for Recording, Playing and Analyzing of DVB Transport Streams.

## 2 BLOCK DIAGRAM

**FIG4** illustrates the block diagram of the AT800PCI device. The device communicates with the PC via the PCI interface device. On the input side, the RF signal is demodulated and then de-coded before entering the PC via the main controller and the PCI bus as Full TS files. On the output side, the MPEG-II transport streams enter the device via the PCI interface device. The AT800PCI then transmits the transport streams according to the settings provided by the application software. The data is 8b/10b encoded for DVB-ASI signals before it is serialized and transmitted via the BNC output connectors.



## 3 EXTERNAL INTERFACES

The external interfaces for the AT800PCI are shown. There are 2 Female 75 Ohms IEC type connectors for the RF input & Loop Through, 2 BNC connectors for the DVB-ASI outputs and a box header (seen in blue in the picture) for DVB-SPI output. The Unit is supplied with a flat cable/D-type/ bracket combination for access to the DVB-SPI port.



The LED in the back of the unit function as follows:

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

**Flashing (Red)** = Play /Record not activated – Error condition

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

In Record mode this LED indicates that a Carrier has been detected and the device has locked to incoming TS. In Play mode this LED indicates that the output section has valid TS (normal operating conditions).

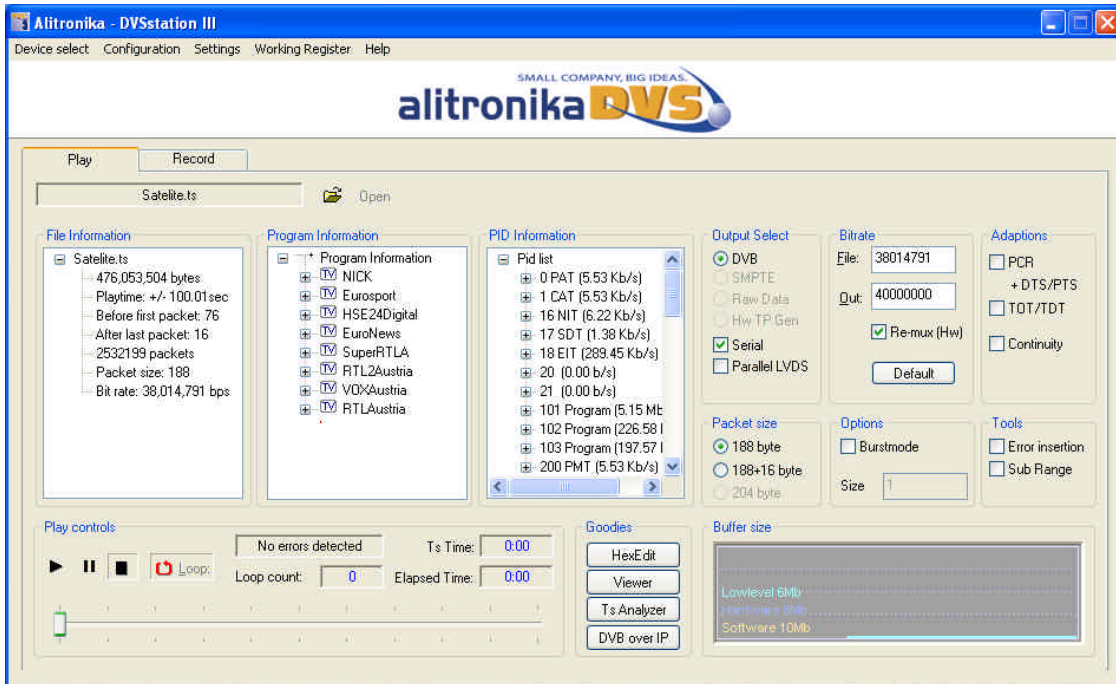
## 4 APPLICATION

Targeted for digital video professionals, sophisticated end users and OEMs the AT800PCI 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

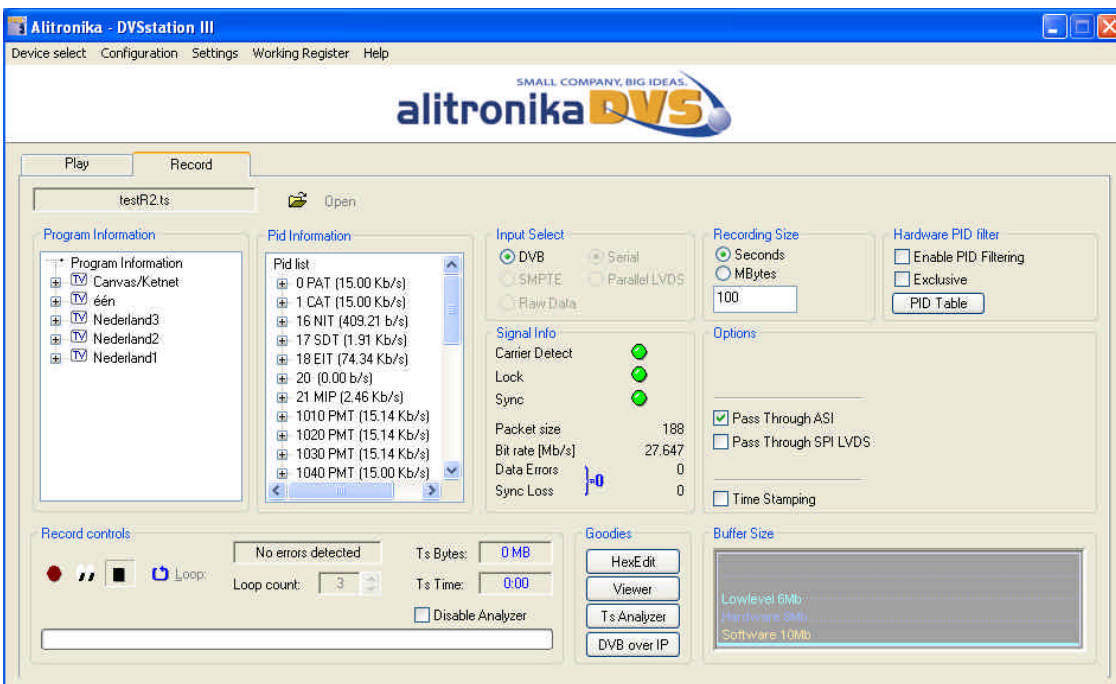
## 5 Software Application, DVStation3

**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.

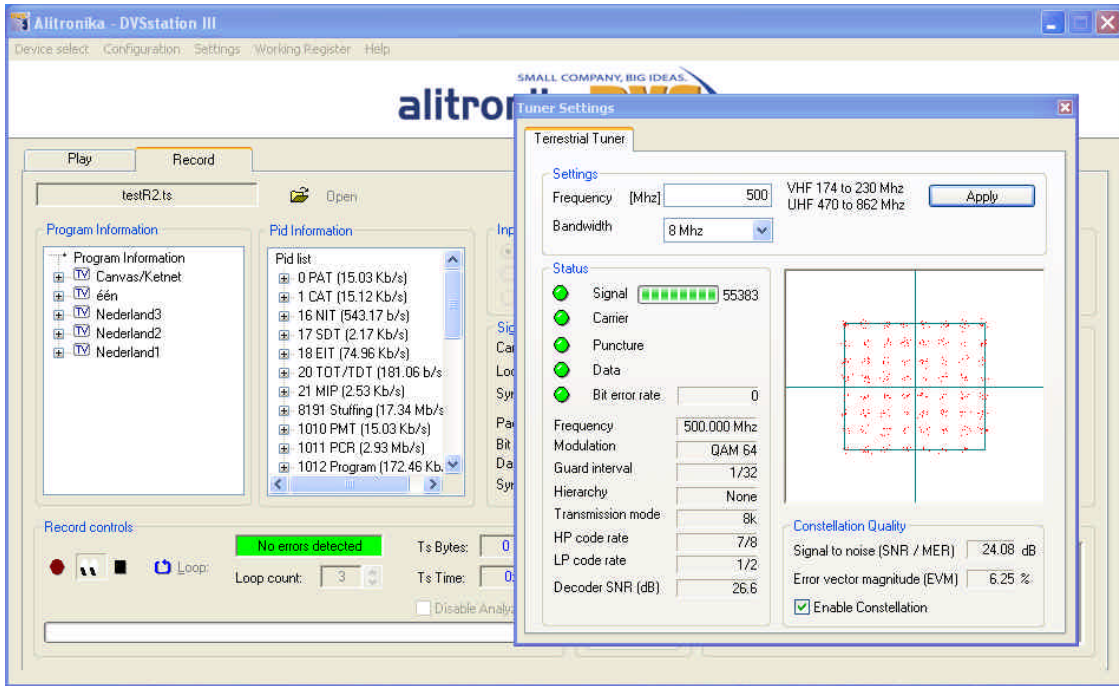
### Play Screen



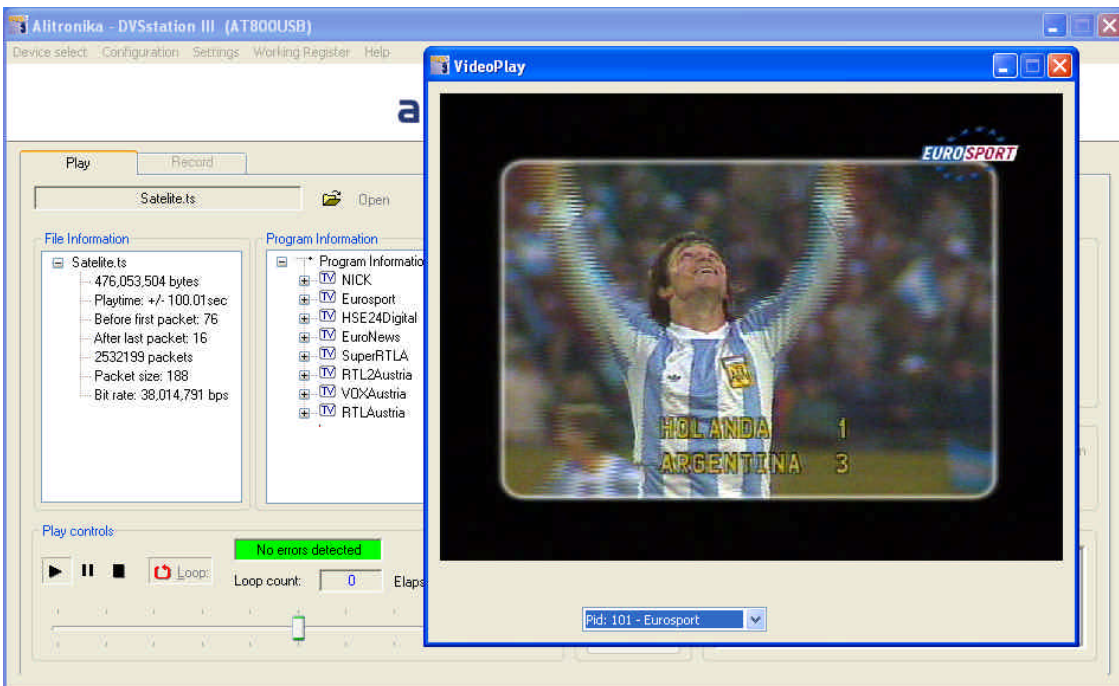
### Record Screen



## RF Tuner Settings QAM64



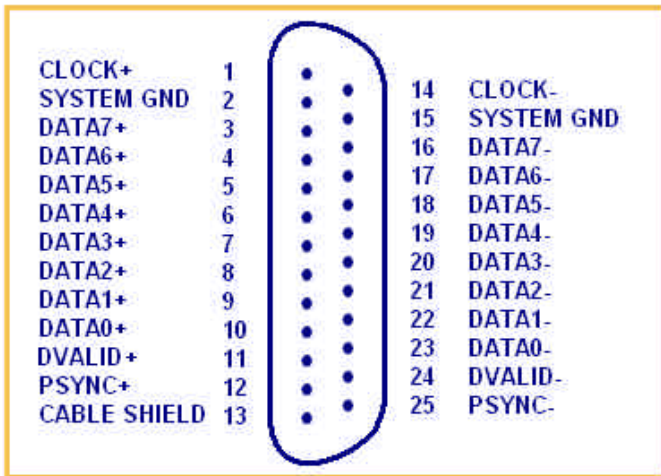
## Video Viewer



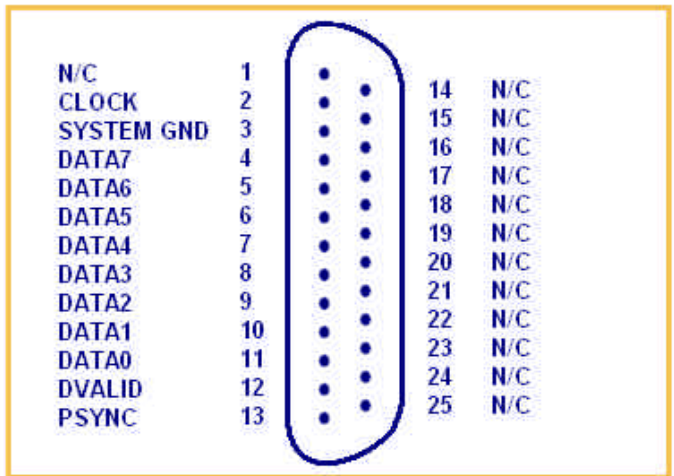
## SPI connector Pin outs

### 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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