Digital Video Interfacing Products

AT40XUSB

DVB-ASI/SPI Player & Recorder
SDI Recording & Play back
Small Handheld size
No External Power Supply needed

Standard Features

- 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 Standards **A1010Rev1** and **EN50083.**
- Supports 188 /204 byte Packet Sizes.
  Input
- Integrated Loop Through output.
- Carrier and Lock Detection.
- Sync, Error & Code Violation Detection.
- Automatic Cable Equalization of up to 350m.
- Support for Time Stamping, PID filtering.
  Output
- Programmable Output Bit Rate.
- Null Packet Insertion by hardware.
- Selectable Burst size mode & continuous mode TS.

Application

Targeted for Digital Video Professionals,
Sophisticated End Users and OEMs the
AT40XUSB is the Ultimate device.
It combines functions of **8 Devices**:
1- **DVB-ASI** to **USB 2.0** converter
2- **USB 2.0** to **DVB-ASI** converter
3- **DVB-SPI*** to **USB 2.0** converter
4- **USB 2.0** to **DVB-SPI*** converter
5- **SDI** to **USB 2.0** converter (SDI Recorder)
6- **USB 2.0** to **SDI** converter (SDI Player)
7- **DVB-ASI** to **DVB-SPI** converter
(Serial to Parallel converter)
8- **DVB-SPI** to **DVB-ASI** converter
(Parallel to Serial converter)

 * *Supports both LVDS & LVTTL/LVCMOS*

Specifications

On Board Buffer: 8Mbytes
Serial Connectors: 75 Ohms BNC
Input Return Loss: >15 dB
Input Signal level: 800 mV +/- 10%
Output Signal level: 1.0Vp-p nominal
Parallel Connectors: 25-pin sub-D
DVB-ASI Input/Output Bit Rate: 0 to 214 Mbit/s
DVB-SPI Input/Output Bit Rate: 0 to 108 Mbit/s
Bit Rate Stability: +/- 25ppm
DVB-ASI Input/Output Clock: 270 MHz
DVB-SPI Input/Output Clock: 0 to 13.5 MHz
DVB-SPI Input/Output Level: LVDS & LVTTL
**Size WxLxH:** 140mmx120mmx30mm

1 GENERAL DESCRIPTION

A member of Alitronika's state of art digital video interfacing products.
The AT40XUSB is a USB based interface device suitable for Recording, Playing and Analyzing of DVB-ASI Transport Streams.

2 BLOCK DIAGRAM

FIG4 illustrates the block diagram of the AT40XUSB device. The device communicates with the PC via the USB interface device. On the input side, the serial data is de-serialized 8b/10b and de-coded before it is presented to PC via the USB controller device. On the output side, the MPEG-II transport streams enter the device via the USB interface device. The AT40XUSB 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.
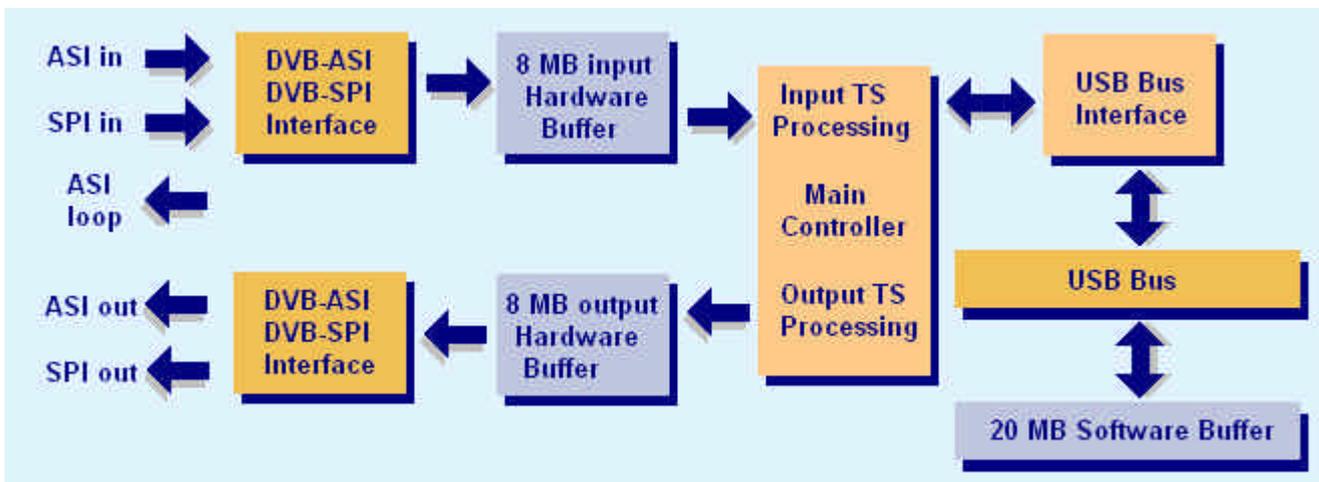
3 APPLICATION

Targeted for digital video professionals, sophisticated end users and OEMs the AT4USB 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.

The external interfaces for the AT40XUSB are shown. There are two BNC connectors for the Serial input and output of DVB-ASI.
The three LEDs in front of the unit function as follows:

PWR - Top LED   Power LED   **ON** = Power is on
                                                 OFF = Power is off

CD - Middle LED   Play/ Record LED   **ON** = Device is Playing/Recording TS
                                                 Flashing = Play /Record not activated

In Record mode this LED indicates that a Carrier has been detected.
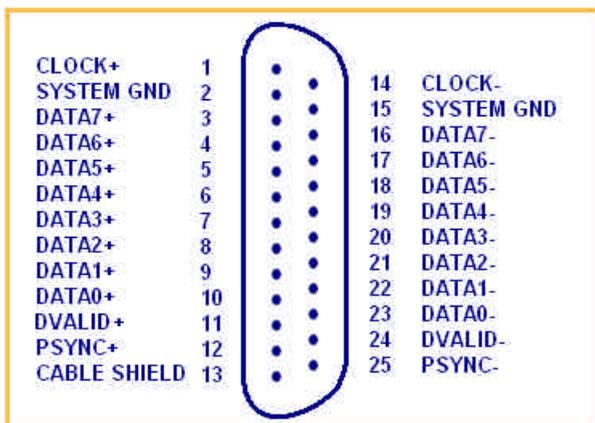In Play mode this LED indicates that the output section has valid TS.

LCK - Bottom LED   LOCK LED   **ON** = Device is locked to TS
                                                 Flashing = No lock has been achieved

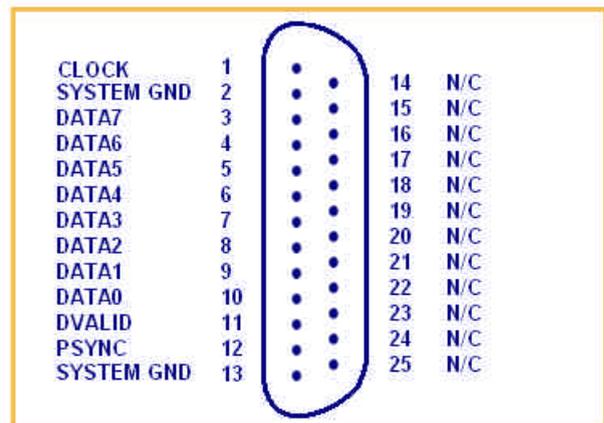In Record mode this LED indicates that the device has locked into incoming TS.
In Play mode this LED indicates that the output section has locked into outgoing TS.

DVB-SPI Pin out
The Pin outs for the DVB-SPI, LVDS & LVTTL/LVCMOS are shown below.

LVDS input & output Pinout				
CLOCK+	1		14	CLOCK-
SYSTEM GND	2		15	SYSTEM GND
DATA7+	3		16	DATA7-
DATA6+	4		17	DATA6-
DATA5+	5		18	DATA5-
DATA4+	6		19	DATA4-
DATA3+	7		20	DATA3-
DATA2+	8		21	DATA2-
DATA1+	9		22	DATA1-
DATA0+	10		23	DATA0-
DVALID+	11		24	DVALID-
PSYNC+	12		25	PSYNC-
CABLE SHIELD	13			

LVDS input & output Pinout

| LVTTL/LVCMOS input & output Pinout				
CLOCK	1		14	N/C
SYSTEM GND	2		15	N/C
DATA7	3		16	N/C
DATA6	4		17	N/C
DATA5	5		18	N/C
DATA4	6		19	N/C
DATA3	7		20	N/C
DATA2	8		21	N/C
DATA1	9		22	N/C
DATA0	10		23	N/C
DVALID	11		24	N/C
PSYNC	12		25	N/C
SYSTEM GND	13			

LVTTL/LVCMOS input & output Pinout

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.
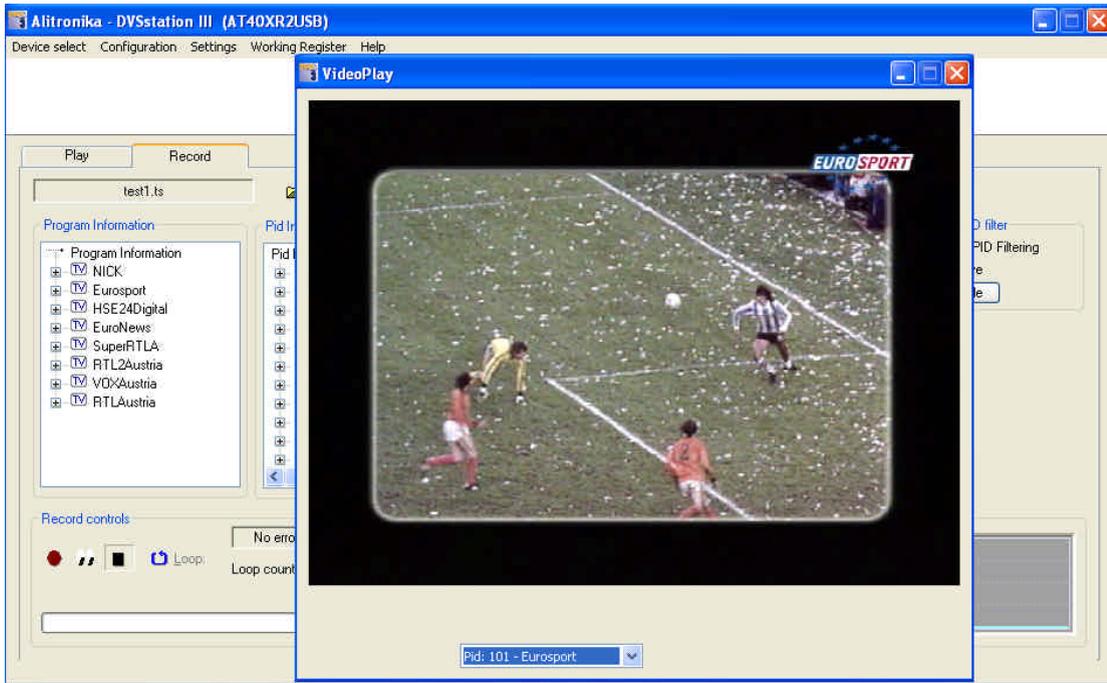
Play Screen
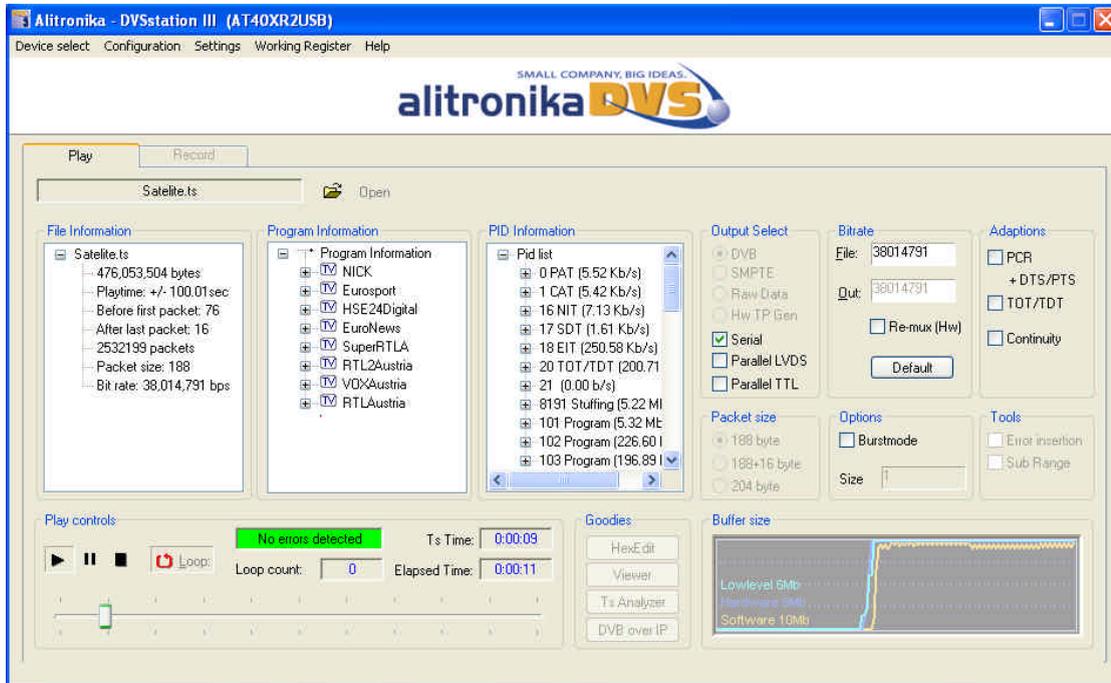
Record Screen
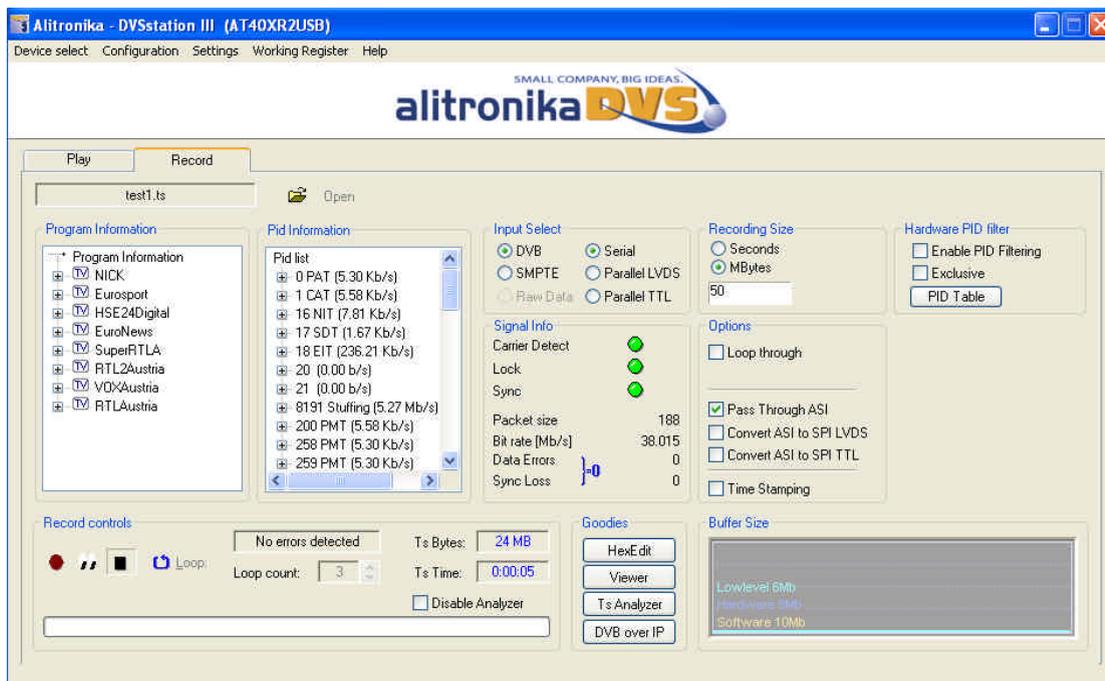
Video Viewer

Alitronika DVS continually strives to improve its products to keep up with ever increasing demands of the broadcasting industry.

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.

Information furnished in this document is believed to be accurate and reliable.

However, Alitronika DVS assumes no responsibility for any errors that may appear in any of its documents. Furthermore, Alitronika DVS assumes no responsibility for the consequence of use of such information or for any infringement of patents or other rights of third parties that may result from its use. No license is granted by implication or otherwise under any patent or patent rights of Alitronika DVS.

This document supersedes and replaces all information previously supplied.

Alitronika DVS makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does Alitronika DVS assumes any liability arising out of the application or use of any product and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages.

Conformity to standards, all operating parameters and compliance to regulations must be validated for each customer application by customer's technical experts.

Alitronika DVS products are not authorized for use as critical components in any systems such as life supporting systems.