

## Digital Video Interfacing Products

# DVSStation3

### Integrated Transport Stream :

- Player
- Recorder
- Analyser
- Viewer
- DVB to IP converter
- File Editor



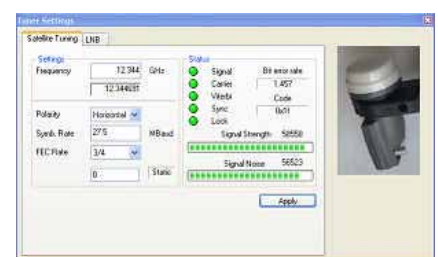
**Free, unlimited licence with every Alitronika device**

## Standard Features

- High performance MPEG-2 Stream Player, Recorder and Analyser supporting all Alitronika's devices.
- Automatically obtains the bitrate from the PCR during Recording and playing.
- Accurate estimation of bitrate when there is none in the PCR.
- Unlimited numbers of play loops & 3 record loops
- Supports sub-loops, partial file play.
- Recoding file selectable by size by duration of recording.
- Automatic correction of PCR/PTS/DTS and continuity counter.
- Integrated file information, (P)SI viewer.
- Allows Null packet insertion using hardware only.
- Allows PID filtering using hardware only.
- Support for Hardware Null packet and counter packet generation for testing without any load on the PC.
- Supports Error insertion.
- Allows user to set TOT/TDT.
- Supports Time Stamping using hardware only.
- Integrated Hex editor for viewing/ Editing TS files.
- Multiple application can be run simultaneously on the same PC for recoding or playing of multiple Streams.
- Support unlimited number of LNB setting.
- Support DVB-T/T2/S/S2/C/C2 Tuner settings.
- Displays all operational registers of the hardware during play and record for diagnostics purposes.
- Displays Hardware and software buffer usages during play and record operations.
- Allows selection of DVB-ASI, DVB-SPI, RAW data, Burst or continuous mode.

## Application

- Universal Player and Recorder for feeding or recording to/from any digital video equipment.
- Transport Stream Recording.
- Transport Stream Playing.
- Transport Stream Analysing
- Transport Stream Monitoring.
- Video on Demand Server.
- Transport Stream Test Generator.
- High Speed Data Link.



# 1 GENERAL DESCRIPTION

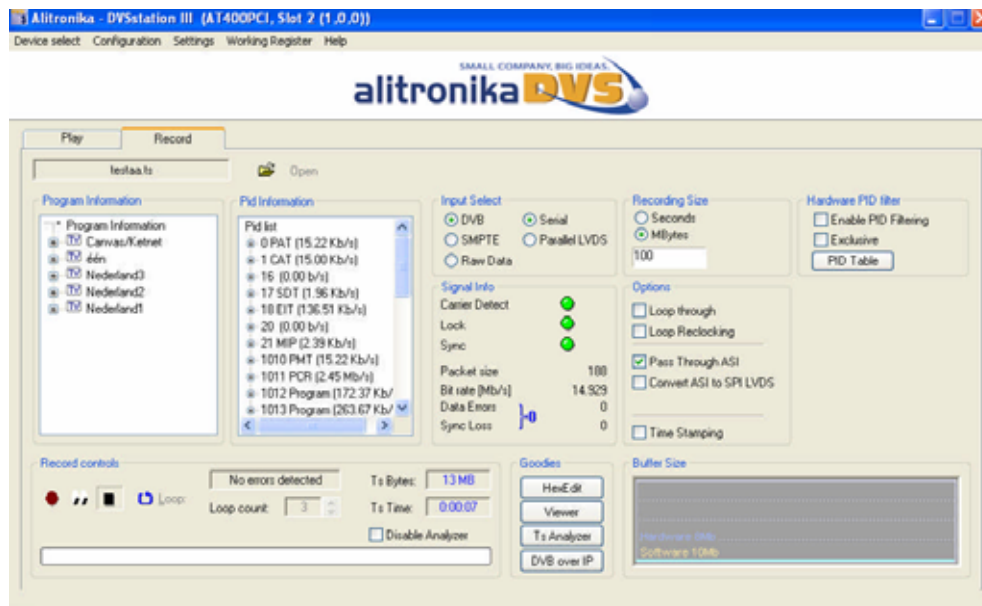
The layout of the DVStation3 has the same familiar look as the DVStation2 and many other application software's. There are two basic screens, play & record. The screen shot below shows a typical record screen. As it can be seen the DVStation3 has many functions, since it must support all Alitronika devices. **Therefore not all of these functions & features are applicable to all devices.**

In general if a device does not support a function, then the option for selecting that function is disabled by the application software and is not selectable by the user.

For example the play screen does not appear for devices that only have input and do not have any output capability, or the tuner settings only applies to the De-modulator devices such as AT800USB/PCI.

In most cases the DVStation3 pre-selects (Default) the options that are valid for a device.

As an example when a device has only DVB-ASI output, then this output is automatically selected by the application and the user need not make any selections.



## 1.1 How to use DVStation3 & all of it's many Features & Functions

The best way to learn to use DVStation3 is actually to **try it out**. Since DVStation3 is a FREE application software, it can be download it from our website & tried out.

Without an Alitronika device, it automatically goes to Demo mode. In this mode a **virtual device**, called **Demo device** is used to demonstrate as many function of DVStation3 as possible.

Most features & functions work in this mode, including the Quick Real Time TS Analyzer.

Another important point to make here is how to use the application software most efficiently with minimum of CPU usage. Most of the major functions of Alitronika devices are carried out by the hardware, such as modulation, de-modulation, coding & de-coding of DVB-ASI & SMPTE signals, conversion of DVB-ASI to DVB-SPI or DVB-T/C/S into DVB-ASI and DVB-SPI, PID filtering, the Re-Mux function and so on.

Some features are carried out by the software. These include all of the features in the **“Goodies”** section, such as the TS Analyzer, Viewer, DVB-IP conversion.

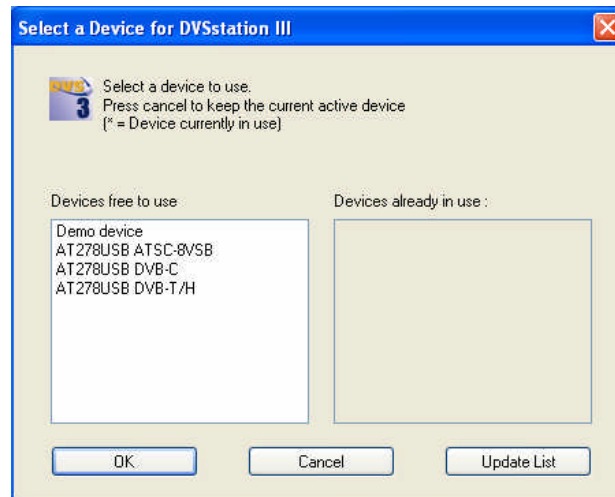
Other features like the **“Constellation diagram”** for some de-modulator devices are entirely software based. Users are advised to disable these functions when not needed in order to save CPU & memory usage. The hardware functions have no effect on the CPU/Memory usage.

## 1.2 Selecting a Device

DVSStation3 supports all Alitronika devices. Multiple devices could be used on one PCI/Laptop and multiple instances of DVSStation3 can run on the same PC/Laptop.

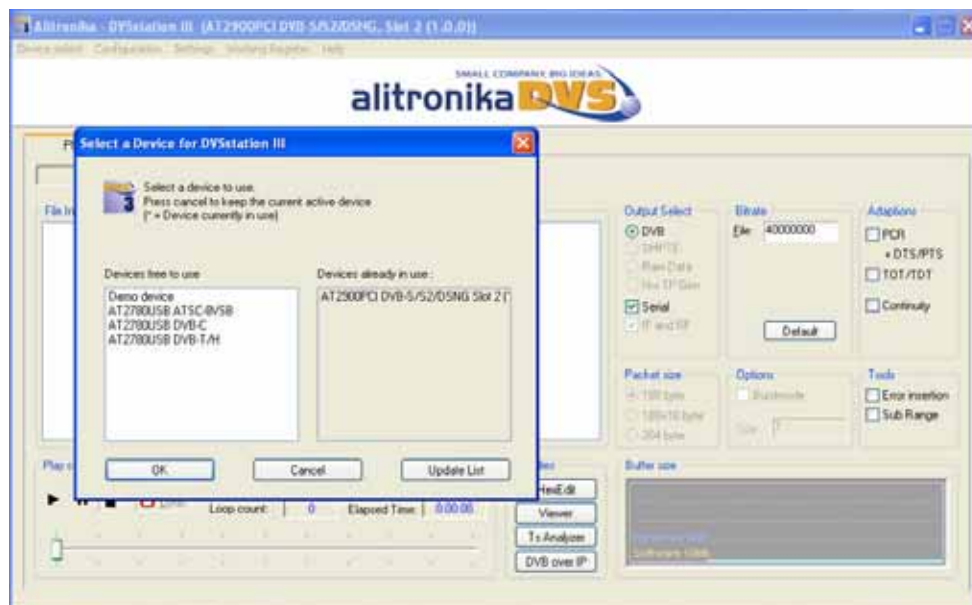
The device selection works as follows:

- **No device present :**  
DVSStation3 automatically enters Demo mode.
- **Only one device is present :**  
DVSStation3 automatically selects it.
- **More than one devices are present :**  
DVSStation3 asks the user to select the device before the session starts.
- If there are only 2 devices present and one is in use, when a 2<sup>nd</sup> instance of DVSStation3 is opened it automatically selects the remaining device.  
If even more devices are present then DVSStation3 will ask the user to select a device and so on.



### Notice

- The Demo device is always present & can be selected.
- At anytime the user can re-select another device within DVSStation3 via **Device Select** tab.
- the device (s) already in use are shown in the appropriate ( Devices already in use ) column.
- Devices which support multiple standards are also treated as multiple devices. For example the AT2780USB is treated as 3 modulator devices DVB-T/H, DVB-C or ATSC-8VSB. This is because AT2780USB is REALLY 3 devices in one! The size & complexity of the modulation schemes makes it impossible to fit inside such a small device. We remind you that our modulators are 100% hardware based, hence require no or small CPU usage.



### 1.3 Device Initialization

After selecting a device, DVStation3 shows the screen below.

During the Initializing a device, DVStation3 carries out the following operations:

- Up-loads any **firmware** needed to make the device operational.
- Loads the last settings stored in the non-volatile memory on board the device.

These settings are written into the memory (EEROM) whenever the user selects:

- new mode of operations (e.g. Play or Record mode)
- new parameters (e.g. modulation parameters)
- settings ( e.g. time stamping, PID filtering and so on)

Notice the user is advised to check the settings to make sure they are still applicable for the current session.

The duration of the Initialization depends on few factors, most important of which is the type of device.

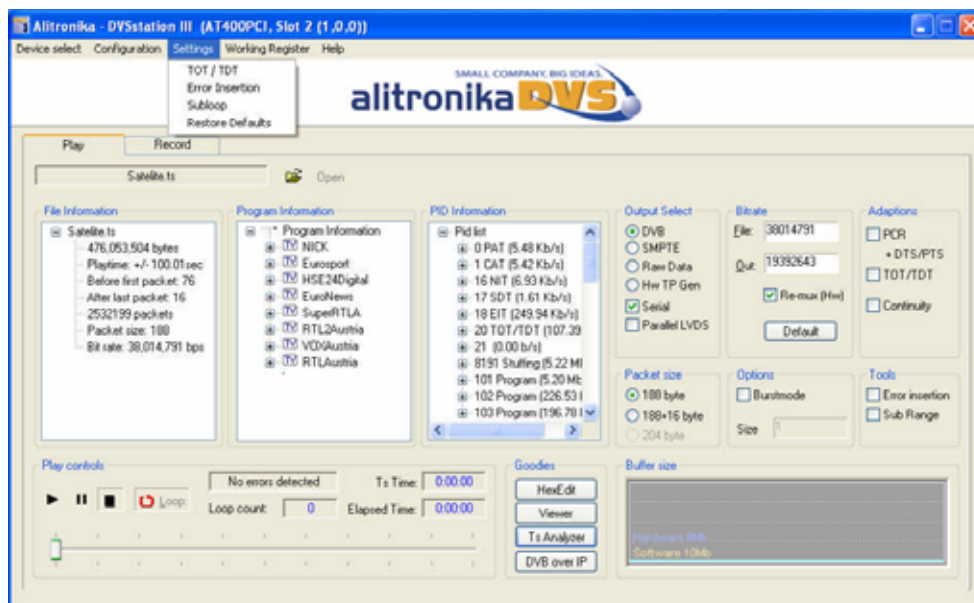
Naturally devices with more settings, like the modulators, take longer to be configured.

In the example below the AT72XUSB device is being initialized. Since this device requires a lot of settings for the tuner & the de-modulator sections and they are all done via a slow I2C bus, it takes the longest!



### 1.4 How to restore the default settings for a device

It is possible that the last used settings are **not saved correctly** in the memory of a device. This condition can occur due to error in the (USB/PCI) connections or by un-plugging the device or switching its power off before the saving of the settings is completed. In such cases users may experience malfunction by the device. The best way of resolving the problem is to "**Restore**" the factory settings. This can be done via "Configuration" tab then by selecting "**Restore Default**", as shown below:

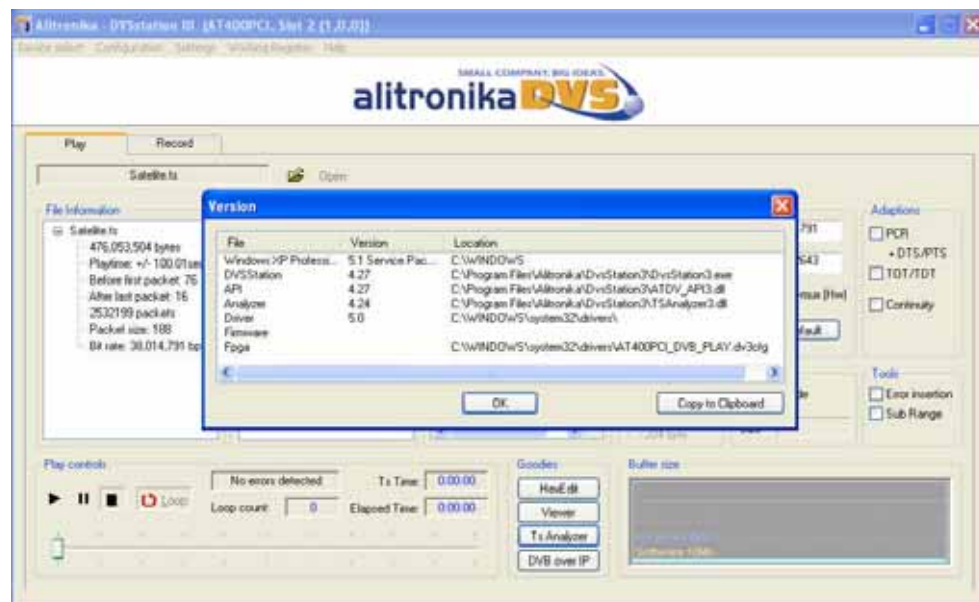
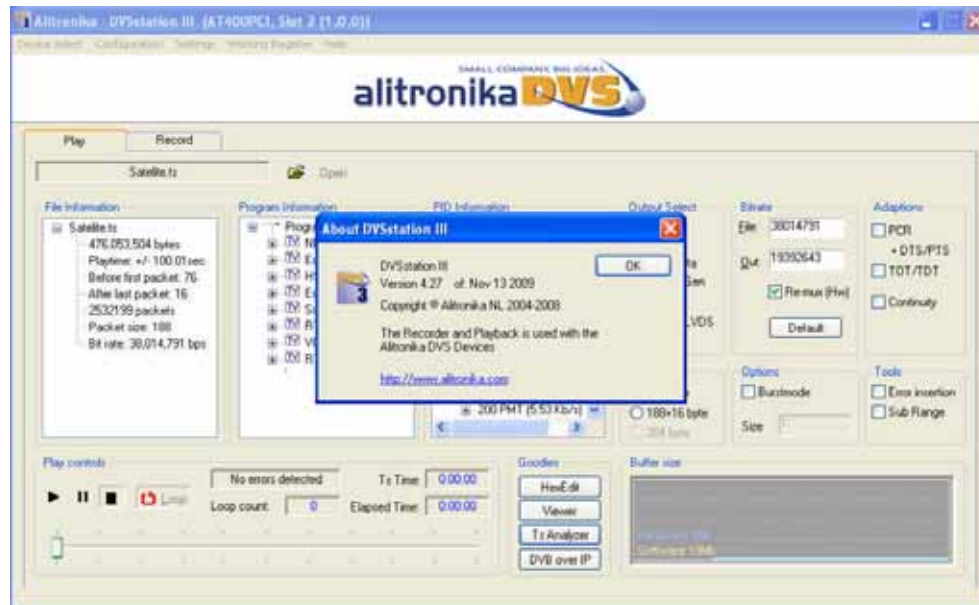




## 1.5 How to check the version

The version number and release date together with the web address where you can get technical support can be viewed by clicking on “Help” from the top tool bar. More information about the version of the SDK, Driver and the application could also be viewed.

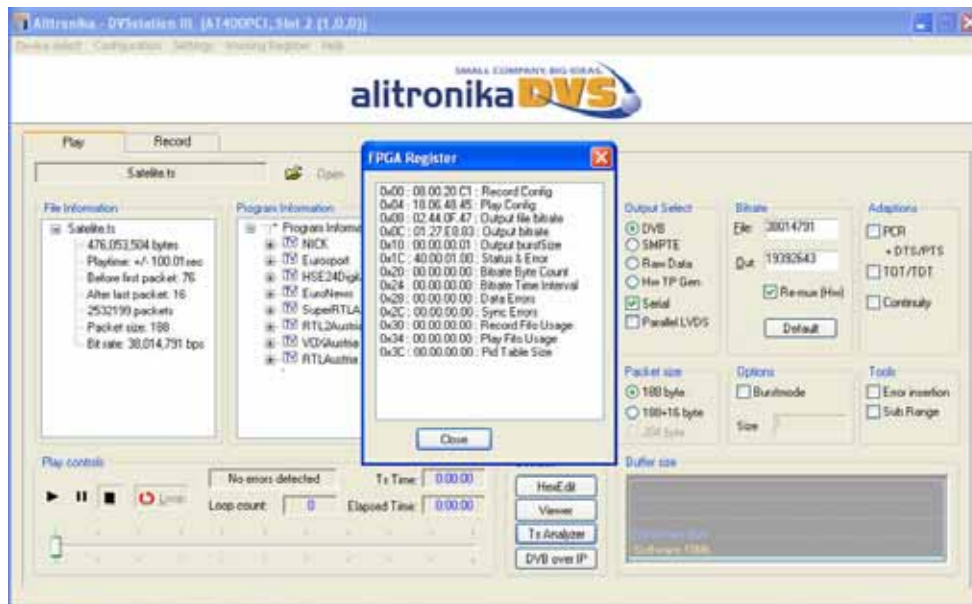
Notice Alitronika strongly recommends that users check Alitronika’s website for the latest releases. Latest releases often mean some reported bugs have been removed, some performances have been enhanced, new features & functions have been added and most importantly support for new devices have been provided. When users encounter problems, more often than not, downloading & installing a new version would resolve the problems. Most problems stem from incorrect installation, wrong version, mixed Drivers & application software versions & so on. Installing a new version solves most of these.



## 1.6 Working Registers

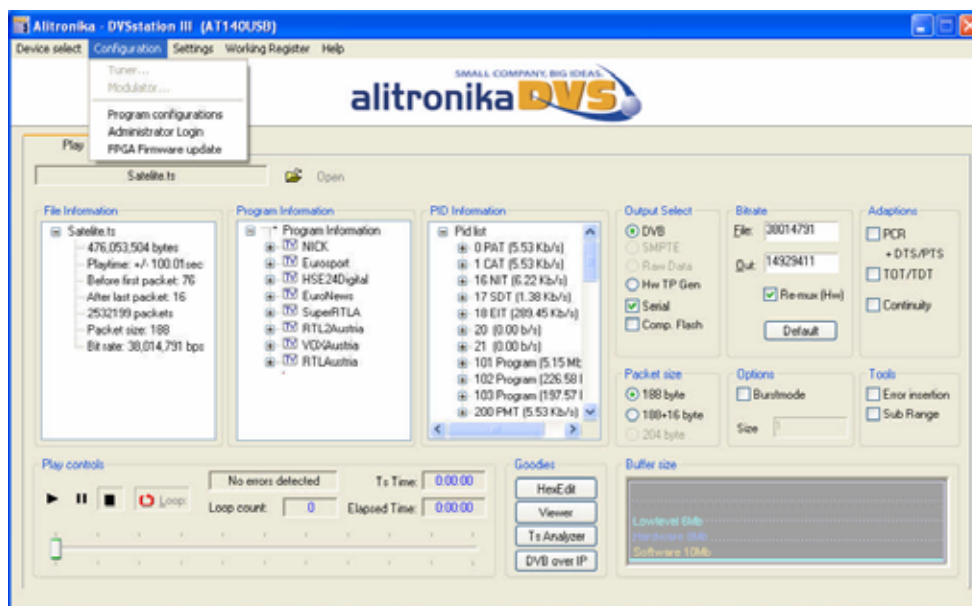
At the hart of every Alitronika device is a powerful FPGA. Most of the functions of the devices are carried out by the firmware residing in this FPGA. The firmware communicates with the application software via the drivers through a series of working resisters. These registers, described in details in the datasheet of the devices, contain all the information with regard to setting and the operation of the devices.

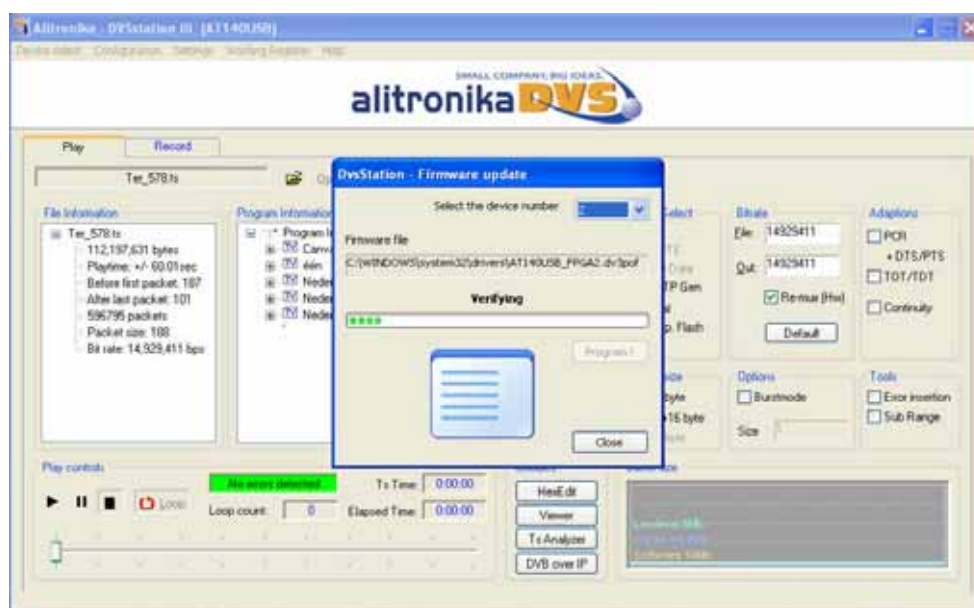
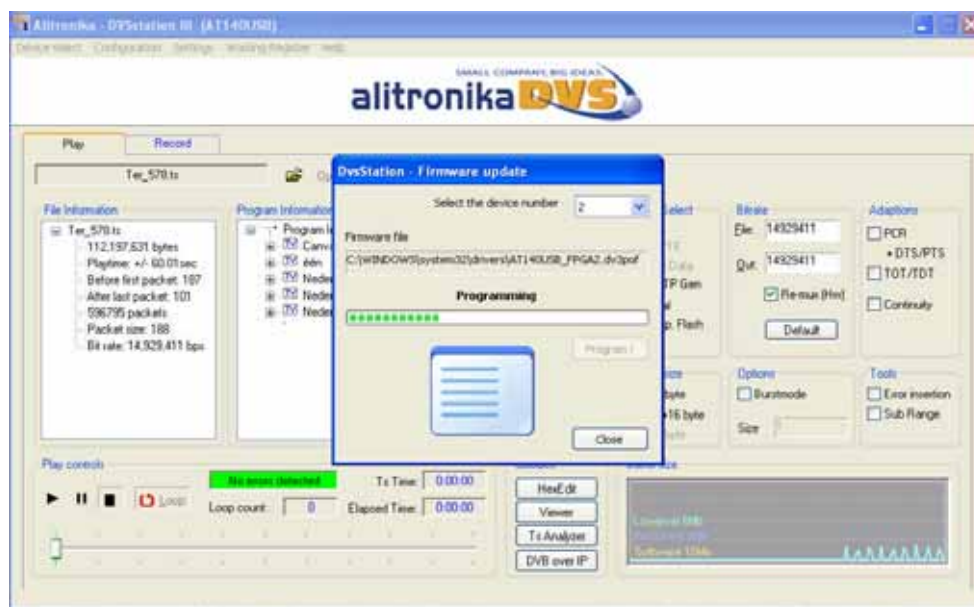
Normally there is no need for the user to know about these. But they can be powerful tools during diagnostics of errors and other conditions. They are made accessible to the users via “Working Register” option in the top menu bar as seen below. The Hardware buffer usage can be read directly. See also section 2.10 for an example of a register discription.



## 1.7 Up-grading Firmware

Alitronika devices which support **Stand Alone** mode of operation such as AT140USB, may require Up-date/up-grade for their firmware. DVStation3 checks the firmware version of these devices each time they are detected by the software and if an up-date/up-grade is needed, it informs the user. The up-date/up-grad is done automatically by DVStation3. The user needs only to follow a few simple steps.

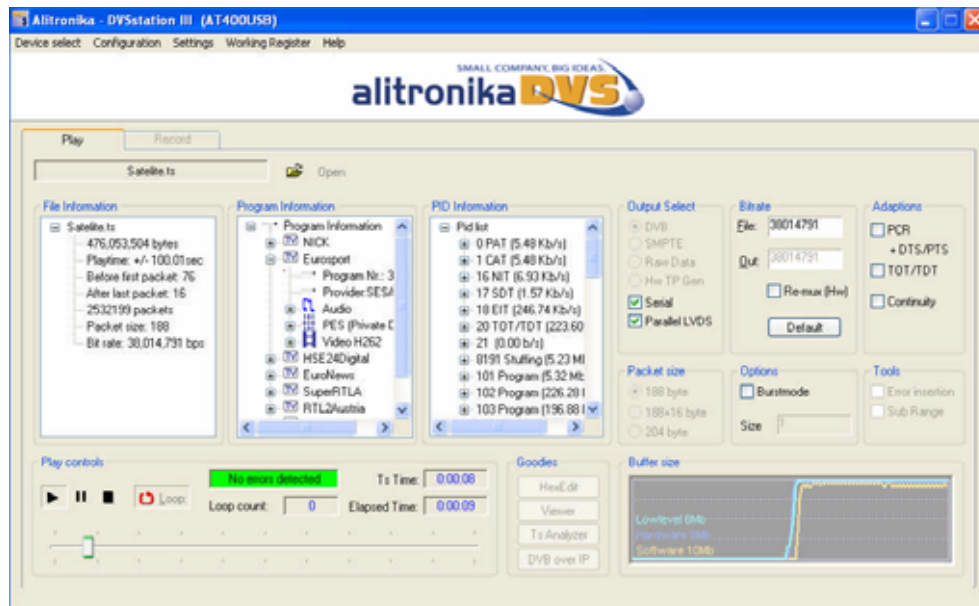




## 2 Play Mode

### 2.0 The play screen

The screen shot below is a typical DVStation3 **Play Screen**. This example is used for the AT400USB/PCI devices. It is selected because the AT400USB/PCI devices have the most functions/features. Most of the functions/features are self-explanatory.



### 2.1 Selecting a TS file in play mode

To select a file to play simply click on “open” and then select the desired file from any location on the PC/ Laptop drives which it resides.

### 2.2 Output Selection

The output modes, DVB, SMPTE, RAW data and Hardware Generated TP can be selected from the “Output Select” section shown. For devices which support both Serial (DVB-ASI) and Parallel (DVB-SPI), one or both outputs could be selected. For devices that only have one type of output this option is pre-selected by the application and there are no user options.

- **DVB** refers to Digital Video Broadcasting. The types of interfaces are serial (ASI) & parallel (SPI).
- **SMPTE** stands for the Society of Motion Picture and Television Engineering and again with two type of interfaces, serial (SMPTE 259) **also known as SDI** and parallel (SMPTE125).
- **RAW** Data refers to the data being treated as just RAW data and transmitted via the serial interface.
- **HW TP Gen.** Stands for Hardware Generated Transport Streams. In this mode the hardware basically generates a simple transport stream for testing the ASI links.

Two types of TS could be selected, a Null Packet TS or a Counter TS.

The counter TS contains the content of a counter counting from 0 to 188/204.

### 2.3 File bitrate Output bitrate & RF bitrate

The bitrate of the TS file to be played is shown in bitrate section in the “File” box. The bitrate at which the file is **actually** played back is shown in the “Out” box.

The TS bitrate is obtained from the TS file. The output bit rate is user selectable.

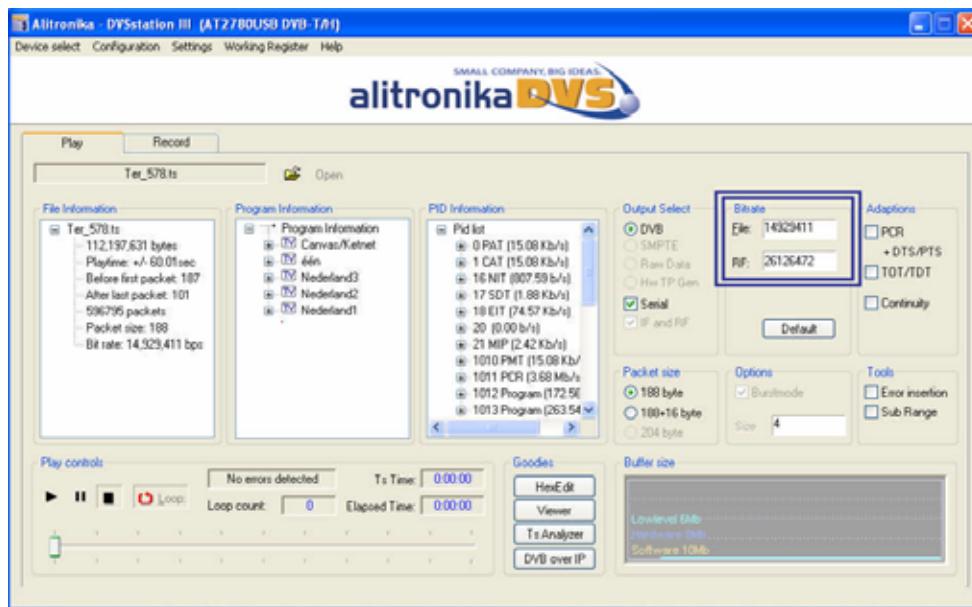
The user may select any valid bitrate as the output bitrate. This is done by checking the “Re-Mux” box and entering the desired bitrate. If the TS is to be played back at it original bitrate, then the “Re-Mux” function should be un-checked and the “Default” button selected.

The Re-Mux function is carried out by the hardware.

Notice this function is not available for modulator devices.

The output bitrate of the modulated TS is dependent on the modulation scheme & the parameters selected for the modulation according to the **DVB-T/T2/H/C/C2/S/S2 or ATSC standards**. It is shown as “RF” bitrate instead of “output” bitrate on some modulator devices.





## 2.4 Output options

All Alitronika devices with output function support many useful play out options, such as burst mode in which the transport packets are transmitted in bursts. The burst size is user selectable.

There are many other options & features such as :

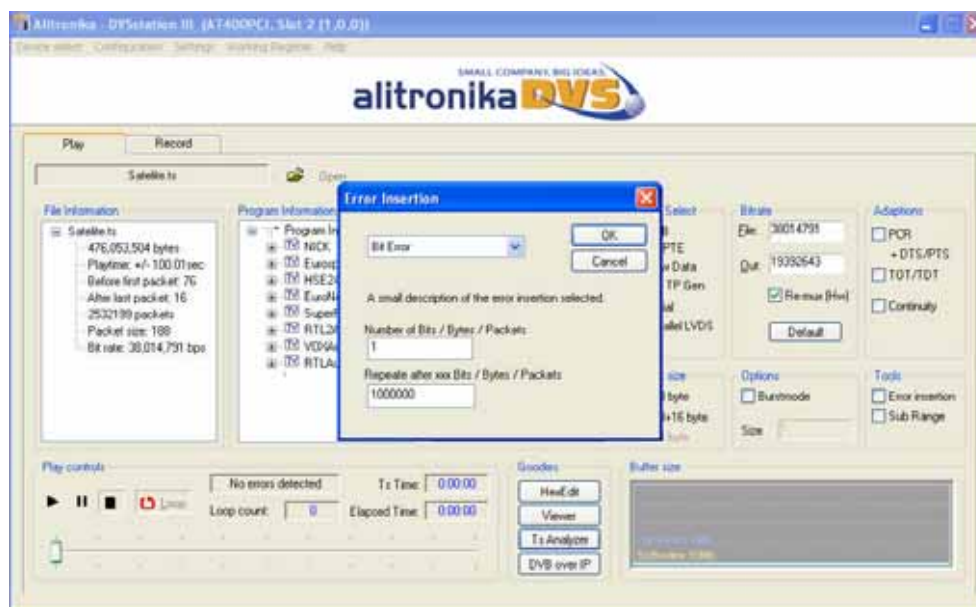
- Error insertion
- Play in loops and sub-loops, full TS range or sub-range (only one section of the TS).
- ADD extra 16 byte to a 188-byte packet size to make a 204-byte packet size and so on.
- PCR correction
- TOT/TDT, change/select Time & Date
- Correct the TS Continuity Counter

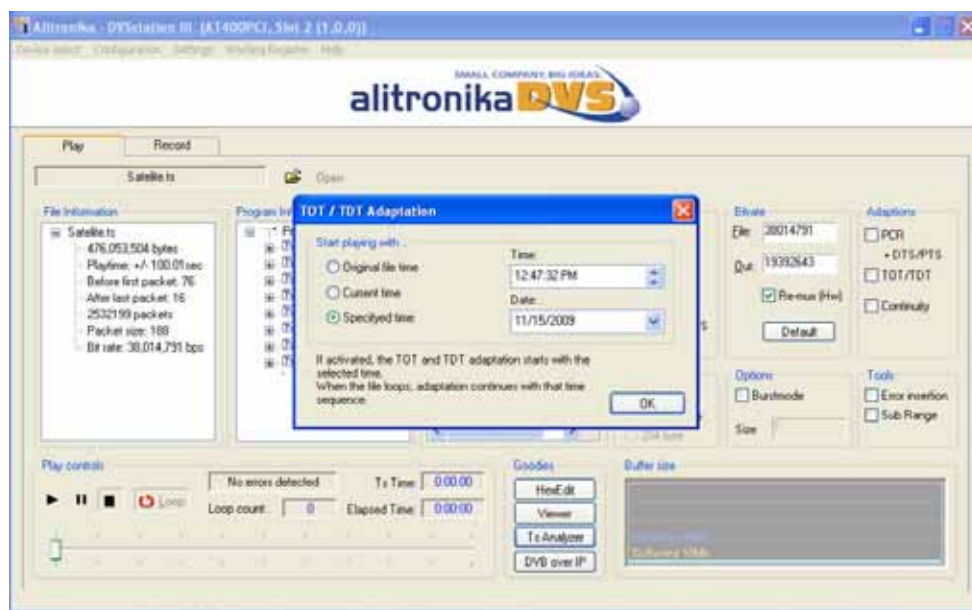
All these function are easily selectable by the user and require no further discussions here.

The setting for all of these options can be accessed via "Setting" from the top menu bar.

There is a separate window for each one of these options.

Some examples are shown in the screen shots below.





## 2.6 The Play panel

The play back interface is based on a typical control layout.

In addition to **“Play”**, **“Pause”** and **“Stop”** there are a **Progress Bar** and **Timing Indicators**.

Files may be played once or be **“looped”** to play continuously by selecting the loop option.

A loop counter shows the number loops played out.

Notice the progress bar can be controlled by the user to move to a desired location in the file.

The Error message indicator will display **“No Errors Detected”** under normal condition in which the indicator box is **green**. As soon as there is an error condition the message indicator changes to flashing **red** & displays the appropriate error message.

## 2.7 File information window

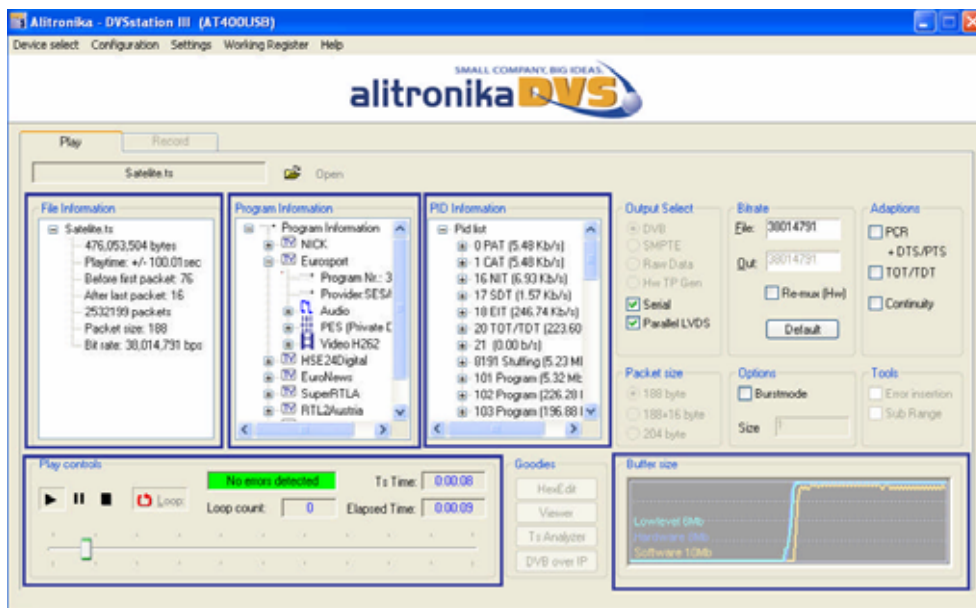
The **“File Information”** window displays all the file properties, such as the size of the file, bitrate, packet size and other useful information about the TS file.

## 2.8 Program Information Window

This section shows most of the useful information about the content of the TS.

## 2.9 PID Information Window

The Quick Real Time Integrated Transport Stream Analyzer displays the result of the stream analyses in this window. This is not a full transport stream analyser, since it does not display all the information about the TS which is being recorded or played back, but when working with a lot of TS a simple tool is sufficient to show what is in the TS streams.



## 2.10 Buffer Usage Display

All Alitronika devices have 8 or 16 MB SDRAM on board, used as hardware buffer. In addition there two software buffer of 6 and 10 MB to ensure the smooth buffering and provide sufficient memory resources during play and record. Although in most cases the bitrate on the incoming or out going transport streams are far lower than to be of any concerns, but there are situations in which the memory usage may be of some concern. The “ Buffer Size” window displays the memory usage graphically. In addition the actual numerical values of memory in use are also made available to the user via the Working Registers. An example of one such register is the “**Record Configuration Register**” Shown below.

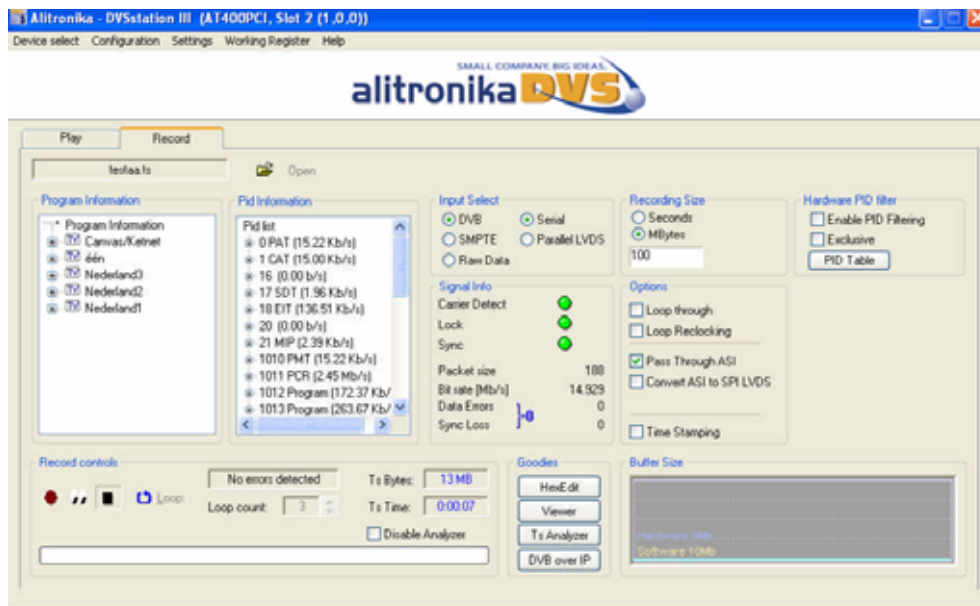
### Record Config Address = H”00”

Bit	Name	Function	level
0	DVB	Selects DVB Mode	High = Enabled
1	SMP	Selects SMPTE Mode	High = Enabled
2	RAW	Select Raw Mode	High = Enabled
3	RSV	Reserved (not use in current design)	Normally Low
4	LEN	Enable loop through output	High = Enabled
7:5	GRSET	Settings for GS9060 device	Set by software
8	ETS	Enable Time Stamping	High = Enabled
9	PID	Enable PID filtering	High = Enabled
10	TEX	PID Table Exclusive	High = Exclusive Table
12:11	RSV	Reserved (not use in current design)	Normally Low
14:13	ISEL [1:0]	Select input source	“0X”: USB “10”: SPI “11” : ASI/Tuner
15	PCLR	Clears PID table	High = Clear PID Table
16	RSPM	SPI input mode selection	0: Constant clock mode 1: Standard DVB-SPI mode
28:17	RSV	Reserved (not use in current design)	Normally Low
29	TRST	Tuner reset	High = Reset Tuner
30	RRST	Record reset, resets input modules	High = Reset
31	REN	Record Enable	High = Enabled

## 3 Record and Monitor

### 3.0 Record Options

The recording and monitoring of Transport Streams is as simple as playing. Most of the options are device dependent. So if a device does not support for example a DVB-SPI input/output, the option is not enabled. The application software selects most of the options by defaults; some are left to the user to select. For example users are able to select to record from DVB-ASI or DVB-SPI inputs of a device that supports both inputs. Other options are entirely of the users choosing such as the size of the file to be recorded. Files could be recorded according to the size (Mbytes) or by selecting a time period (Seconds).



### 3.1 The Record panel

The Record interface, like the play panel, is based on a typical control layout. In addition to “**Play**”, “**Pause**” and “**Stop**” there are progress bar and timing indicators. Files may be recorded once or be recorded in “**loops**”. This is a unique feature of DVStation3. It allows the user to record up to 3 files one after another. A loop counter shows the number of files in the loop being recorded. The file names would increment automatically. A “**Monitor**” feature is added in case the user wishes to analyse the incoming TS without recording it.

Notice the monitor is selected by clicking on the “**EYE**” icon & de-selected by re-clicking on it.

The Quick Real Time TS Analyser could be disabled when not needed.

The Error message indicator will display “No Errors Detected” under normal condition in which the indicator box is **green**. As soon as there is an error condition the message indicator changes to flashing **red** & displays the appropriate error message.

### 3.3 Loop Through, Pass Through.

Most of Alitronika devices with an input also have a “loop through”. In most case when the device also has an output, the input signal can be “passed through” to the output during recording, hence eliminating the use of a router if the signal has to be used by more than one device.

Notice, not all devices could support “Loop through” and/or “Pass through”. These are only possible if the selected device has the correct output. The difference between the them is that “Pass through” is the original signal strait passed through from an input to an output. Whereas Loop through means the input signal has passed through some input circuitry and send out often with different clock (re-clocking) or with time delay or even in different form. We assume the user is aware of these differences.



### 3.4 Time stamping.

During the recording of a transport stream, the "Time Stamping" function could be enabled. This function is entirely carried out by the hardware. Transport Packets are time stamped, that is the time of arrival of the 11<sup>th</sup> byte (which contains the PCR) of every TP is marked by a 32-bit counter. These 4 bytes are added to the start every packet.

Notice the resulting TS is no longer a valid TS file. Further processing is needed to remove the extra added 4 bytes of Time Stamping values from the TS packets.

Warning : Before starting to record check the "Time Stamping" option check box.

### 3.5 PID filtering

All Alitronika devices with **inputs** support PID filtering. The merit and usefulness of PID filtering is beyond the scope of this document. Some application may require PID filtering to reduce the amount of data for further processing. When PID filtering is done by the hardware, great reduction to data transfer is archived. This will allow TS with higher bitrates to be accommodated.

In order to keep the size of the PID table, two types of PID tables could be defined by the user.

An "Exclusive" PID table excludes all the PIDs in the transport stream which are in the PID table.

An "Inclusive" PID table lets all the PID in the table through and filters out the rest.

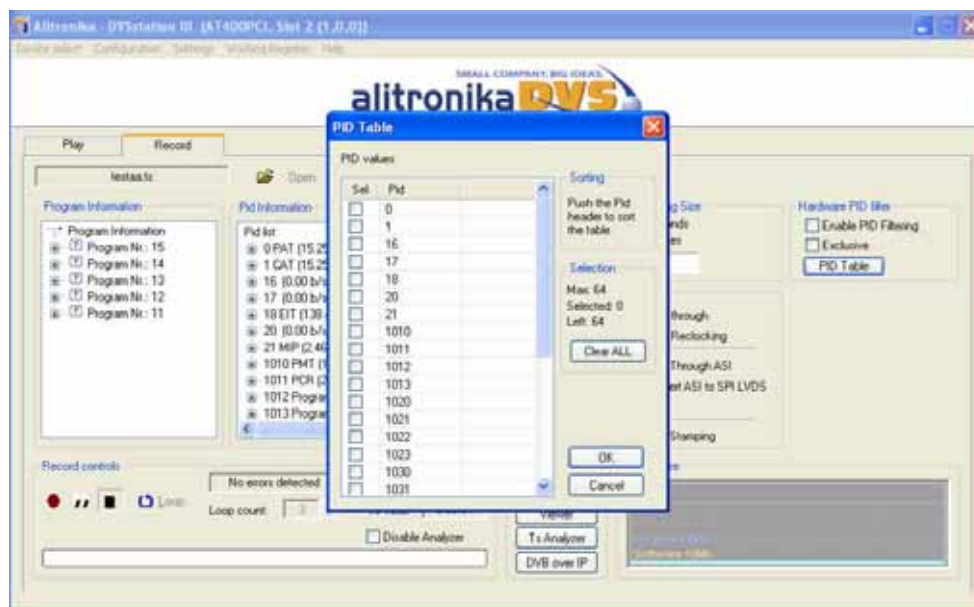
The type, the size and the content of the PID tables are selected by the user.

It is important to notice that when using PID filtering the resulting recorded TS file may not be a valid TS & hence require further processing such as correcting the bitrate and PID tables.

Furthermore the TS analyzer may not function properly if PIDs which contain PCR are filtered out.

Notice, when there is no TS information in the Program Information, PID Information sections & the size of the recorded TS is 0 Mbyte. The PID filter option may have selected all the PIDs! So there is nothing to show or record.

Warning : Before starting to record check the "Enable PID Filtering" option check box.



### 3.6 Signal Information

The information displayed in this section is mostly generated by the Hardware. When there is no Carrier, then the "CD", Carrier Detect, indicator is red and if the device is unable to lock to an incoming signal then the "Lock" indicator is red. The "Sync" indicator will be red if the device cannot find proper synchronization to the TS. They will all be green, if everything is correct. It then follows one or all of these indicators do not apply to all signals & conditions. For example in RAW mode, there are no DVB compliant Transport Streams, therefore "Lock" or "Sync" indicators are not applicable. The bitrate & packet size are derived from the incoming TS. Bitrate Error & Synch errors are also self-explanatory.

## 4 Modulator settings

### 4.0 Modulator Settings

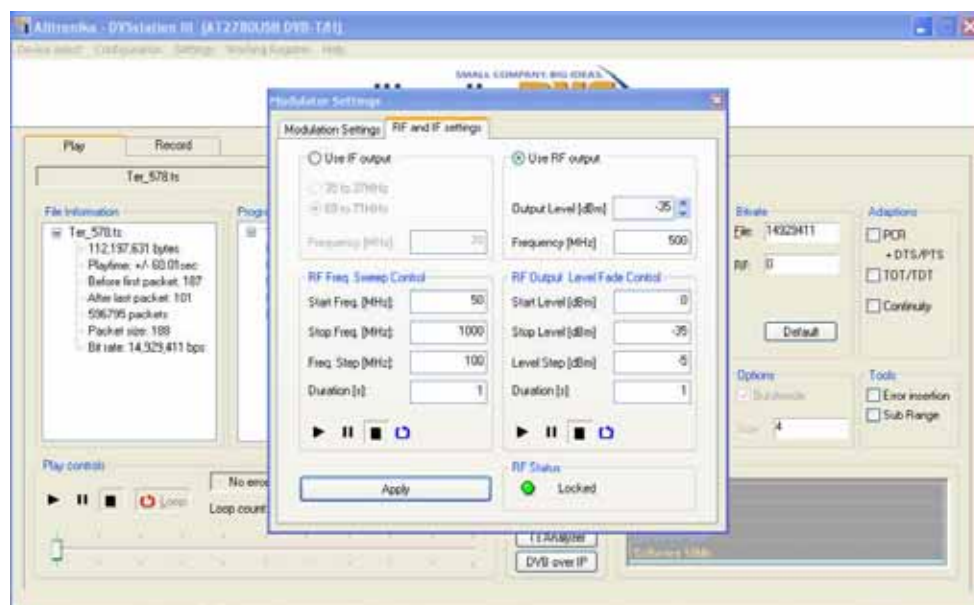
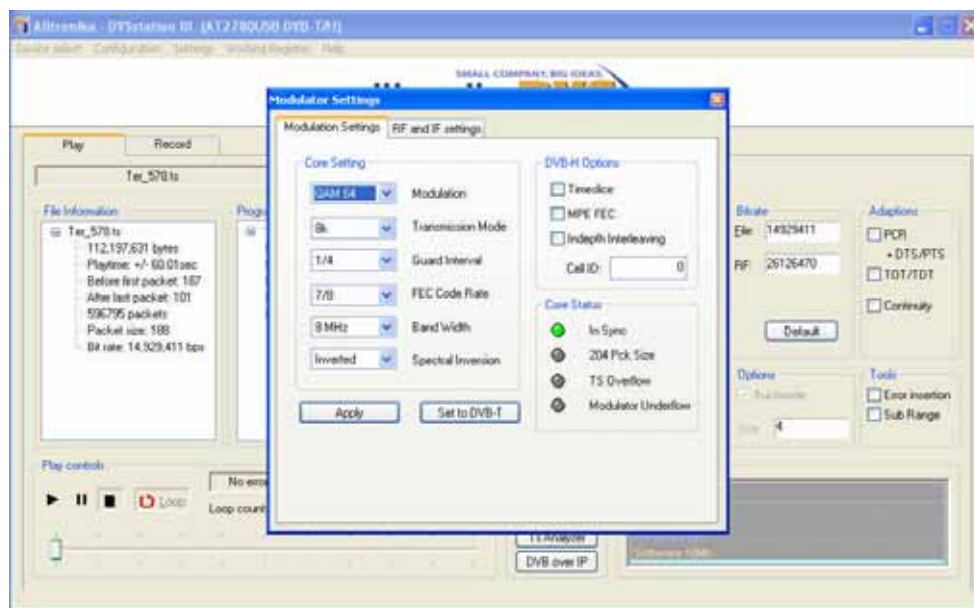
The screen shots below show the Modulator Parameter & RF settings for Alitronika DVB-T/H devices, such as AT2800PCI/USB, AT2780PCI/USB, AT278USB (iMod), AT280USB.

It is assumed the user of such a complex device as the DVB-T/H modulator is aware of the correct selection of these parameters. Reference to the DVB standards is highly recommended. In particular users must be aware of the implication of selecting a particular parameter for modulation of a TS. One good example is the effect that different FEC rates have on the bitrate of the modulator RF output.

The “Modulator Settings” screen is accessible via “Configuration” tab on the top tool bar.

As it can be seen, in most cases when there are more than one standard, here DVB-T & DVB-H, there is a common section & a dedicated section, here for the DVB-H modulation.

Notice the user must click on “Apply” after any new selection in order to activate the new settings. The settings are also “Saved” in the none-volatile memory of the device.



#### 4.1 IF & RF Settings

The IF & RF setting screen shows all the options available to the user.

The user can select the IF output frequency from two options 35-36MHz or 69-70MHz range.

The RF then follows this IF selection. By defaults the 69-70MHz option is selected.

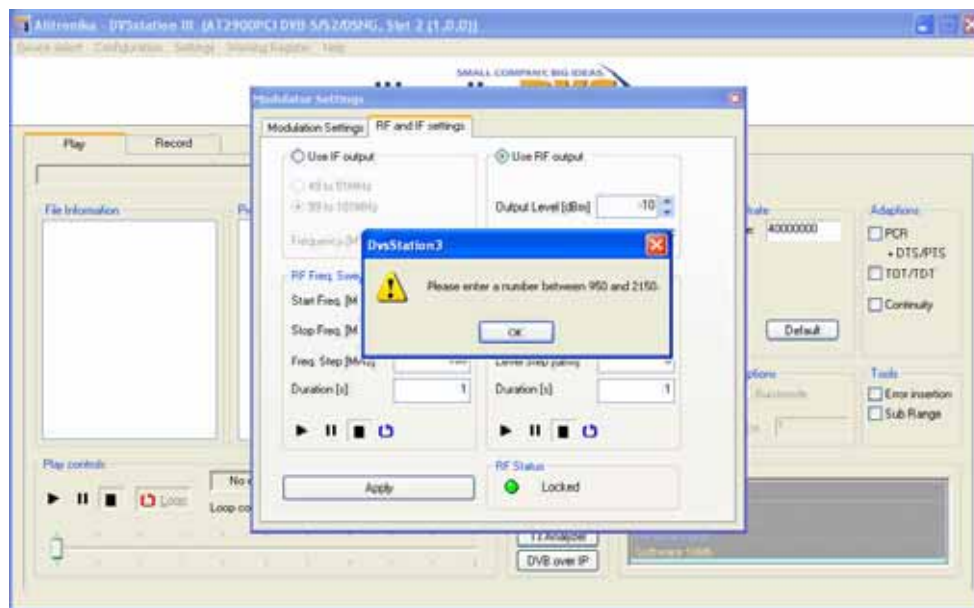
The RF frequency can be set from 50 to 850 MHz & the output level from -35dBm to +2dBm.

Two very useful features are also available to the users

- Frequency Sweep. This feature allows to user to start at a particular frequency in the allowed range and increase the frequency at user selectable steps & duration to an end frequency.
- Output level Fading. This feature can be use to reduced ( Fade ) or increase ( Ramp up ) the output power level at user selectable steps & duration.

The IF & RF setting options are common for all Alitronika modulators.

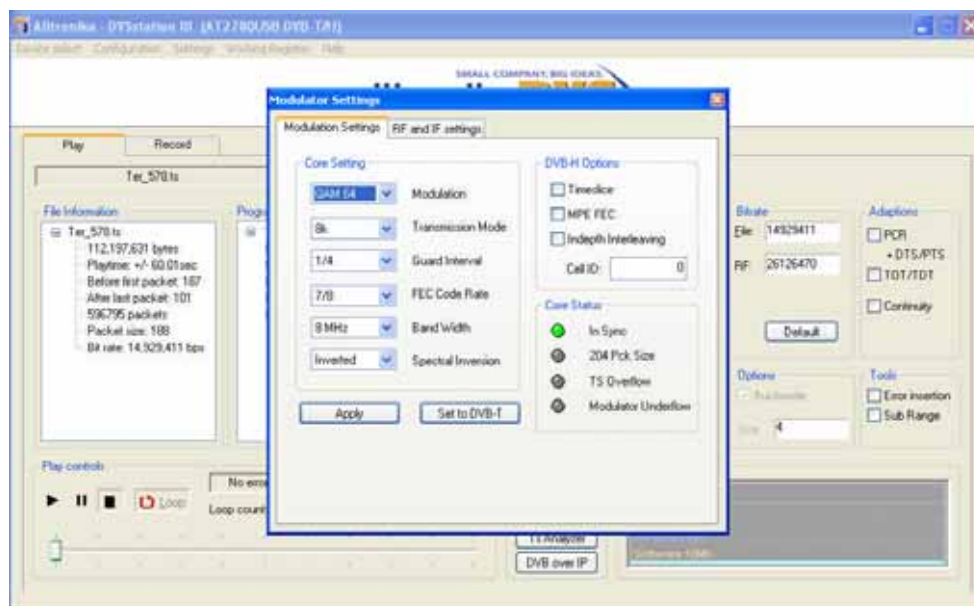
Notice, if the user selects any arguments, values, parameters which are outside the specification of the modulation standards an error message will appear.



#### 4.2 Modulator Parameter & IF & RF Setting screens for DVB-T/H/C/S/S2 & ATSC

The Screen shot below shows the modulator parameter settings for DVB-T/H modulators.

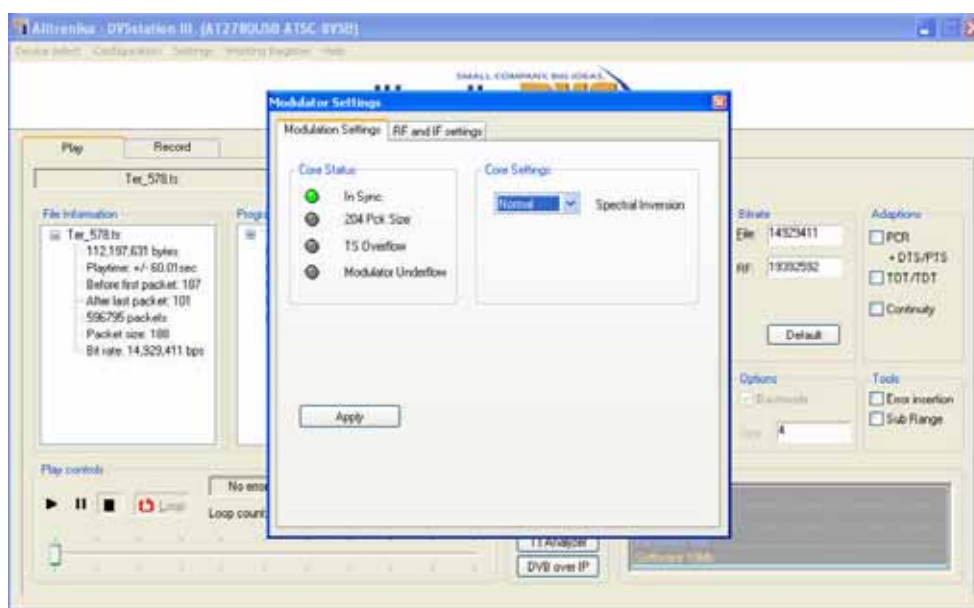
These have already been discussed above.



The Screen shot below shows the modulator parameter settings for DVB-C modulators. There are annexes A, B and C. The extended QAM256 mode can be selected in DVB C Option. A “Free Mode” allows the user to select parameters outside J83 standards.

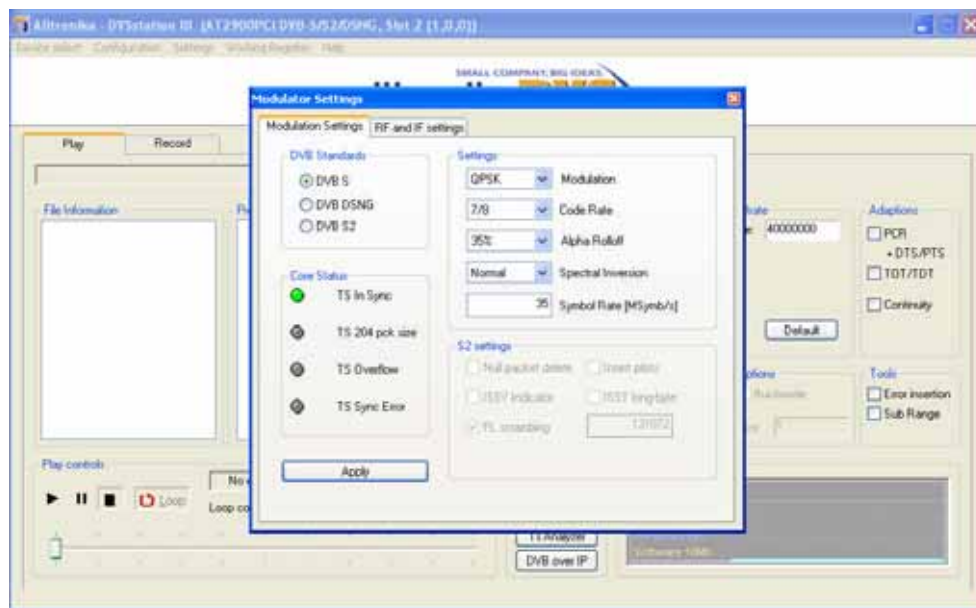


The Screen shot below shows the modulator parameter settings for ATSC-8VSB modulators. Due to the nature of the modulation standards, there are not many user selectable options.

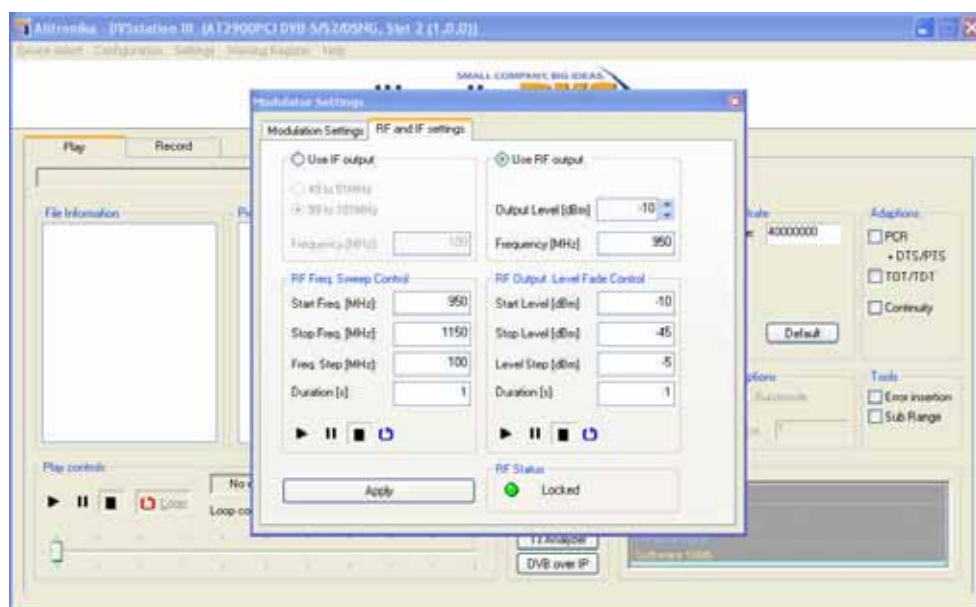




The Screen shot below shows the modulator parameter settings for DVB-S/S2 & DVB-DSNG modulators. As explained before, there is a common parameter section, such as Modulation Mode, Code Rate and so on, as well as a section applicable to DVB-S2 only.



The IF & RF setting options are common for all Alitronika modulators. The frequency range, output level range and IF frequencies differ according to DVB standards & modulation schemes. For example for DVB-S/S2 modulators the selectable frequency range is 950-2150MHz. The IF frequency is selectable between 49-51MHz or 99-101MHz.



## 5 Demodulator settings

Alitronika devices with RF tuners like Cable, Satellite, Terrestrial demodulator devices, allow the user to select the desired channel, frequency, modulation mode and other parameters.

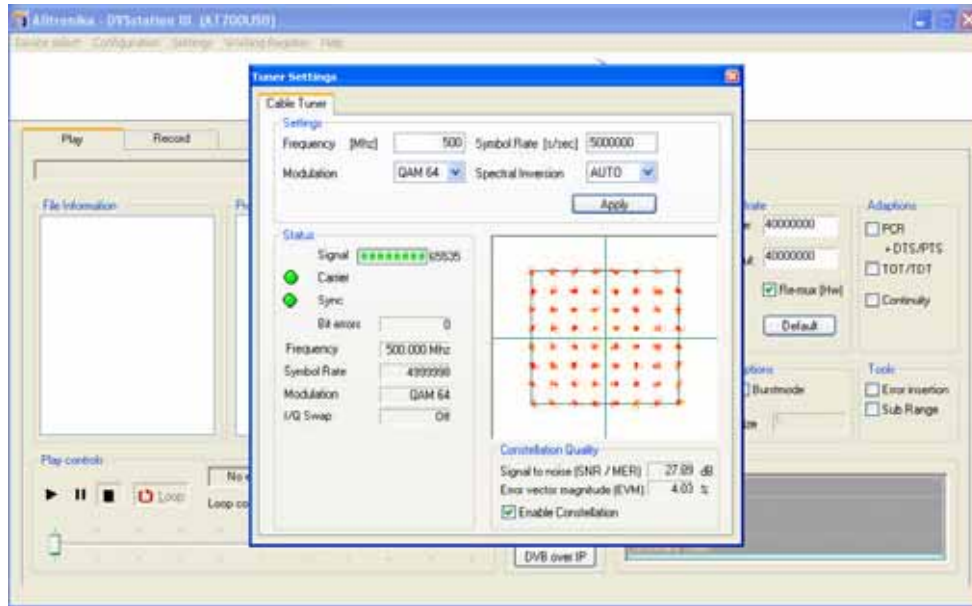
The tuner settings are accessible via the “ Configuration” option from the top menu bar.

The screenshot below shows the options for DVB-C receiver/recorder devices such as AT700USB.

As can be seen in this example, some settings are user selectable, such as the frequency, and some are the property of the selected channel & hence not selectable by the user.

DVStation3 displays useful information as much as possible.

Notice not all information shown here is displayed for all tuners. These are hardware dependent and when the hardware, the de-modulator IC to be exact, does not provide them, then they are not displayed. For definition of terms such as SNR, MER, EVM, we refer the user to the DVB standard documents.

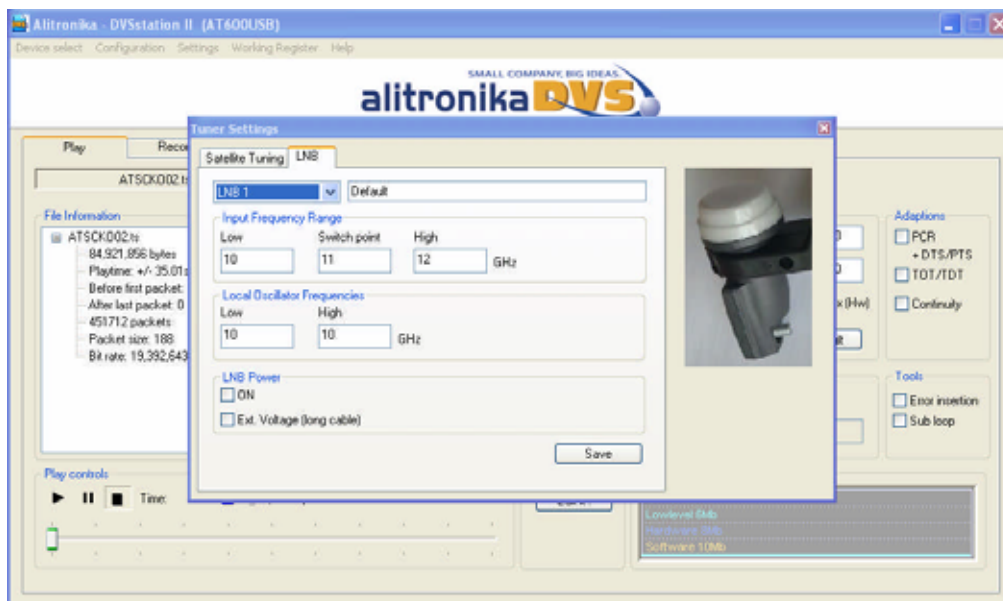


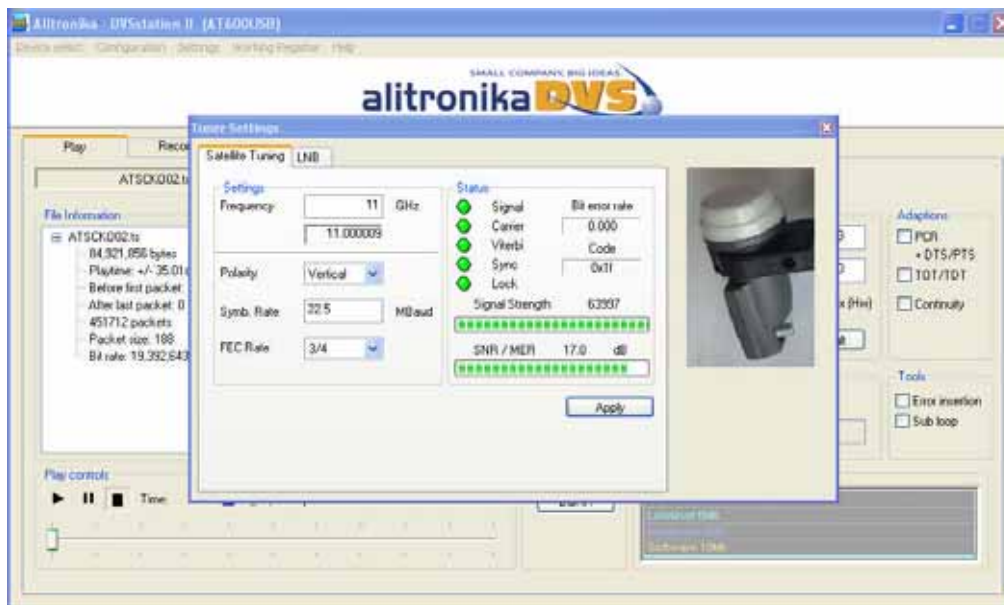
### 5.1 Satellite tuner and LNB Power

Alitronika DVB-S devices with satellite tuners on board, such as AT600USB, also support settings as well as supplying power for the LNB units. Setting for multiple LNB units may be selected & saved as they are used.

The DVB-S devices supply power supply for Vertical, Horizontal and an extra 1V DC to compensate long cables. This option may only be selected if a long cable is used between the tuner & the LNB units.

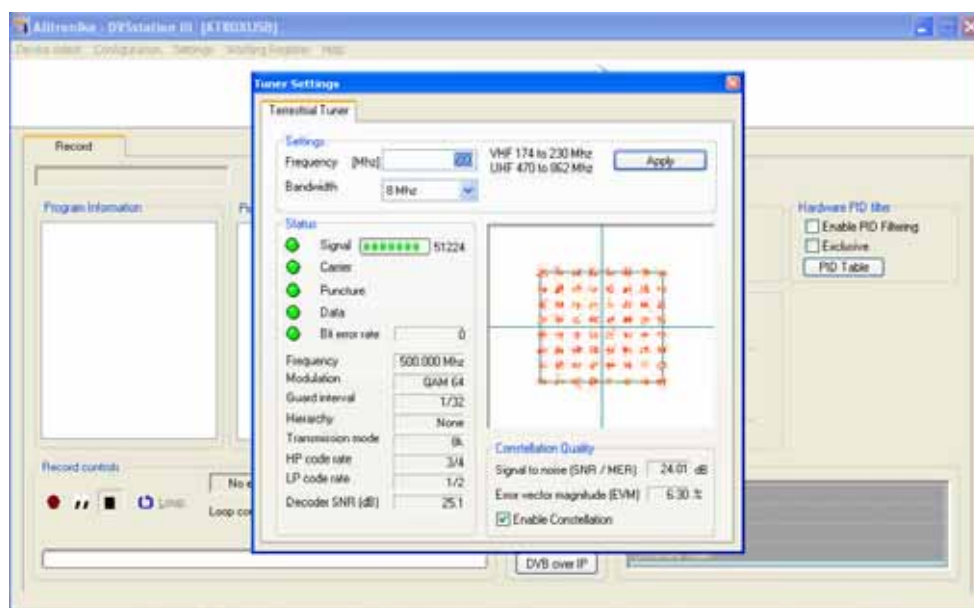
Screen shots below show the available user options for the DVB-S tuner and the LNB device.





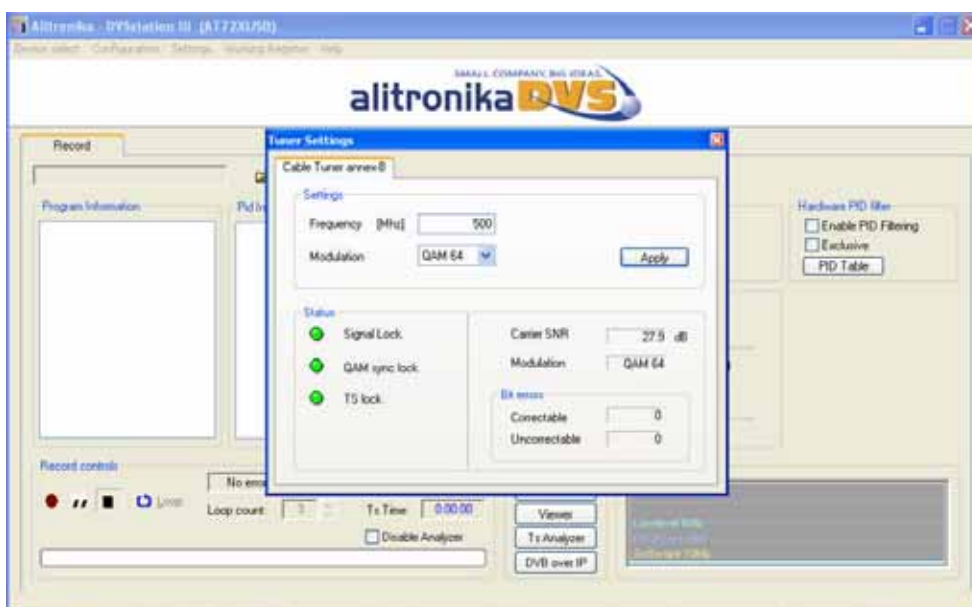
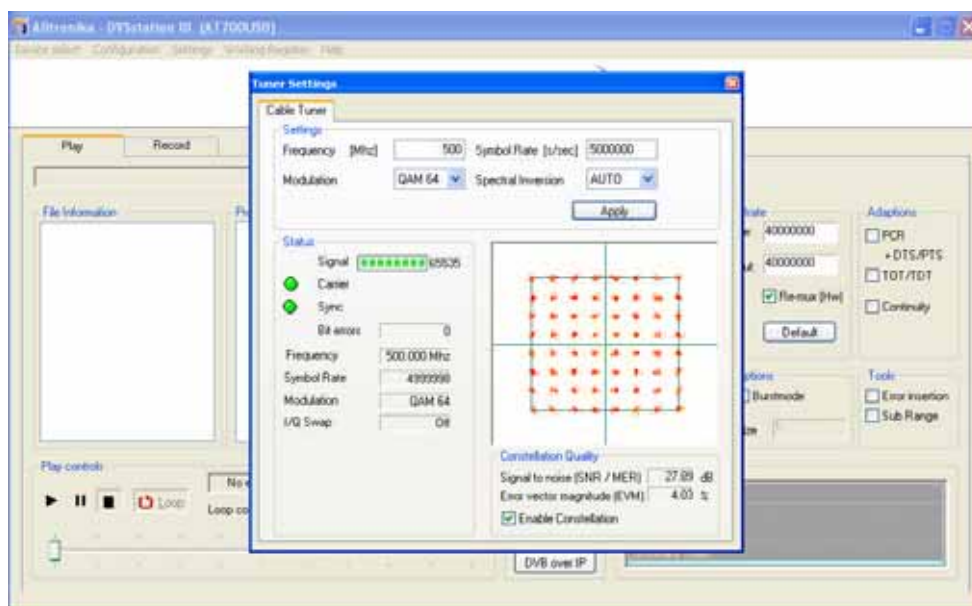
## 5.2 Terrestrial Tuner

Alitronika DVB-T devices with terrestrial tuners need only a few parameters to be set by the user, these are shown in the screen shot below, the other parameters are extracted by the de-modulator IC.



### 5.3 Cable Tuners

The following screen shots show the tuner settings for DVB-C Annex A & DVB-C Annex B respectively.





## 6 The “Goodies” section

DVSStation3 has many functions & features, offering the users almost everything they need during recording, playing, monitoring, modulating, demodulating & converting.

Some of these functions are device dependent, but most are common features available for all devices.

As mentioned before, the best way to make full use of these functions & features is by trying out the application software in demo mode.

In addition to these function & features which are in most cases necessary for the operation of the devices, DVSStation3 offers the users extra functions such as TS Viewer, DVB-IP conversion.

These additional features are mostly software based & hence very much system dependent.

In some cases they may require extra CPU power and or memory to function correctly.

It is also assumed the extra hardware/software components needed to support them are present.

One example is the DVB-IP conversion, it is assumed the user's system support fast enough Ethernet hardware & software components.

In the case of features such as the TS Viewer & TS Analyzer, it is recommended the users download the required application software from the 3<sup>rd</sup> part provider & install them on their system.

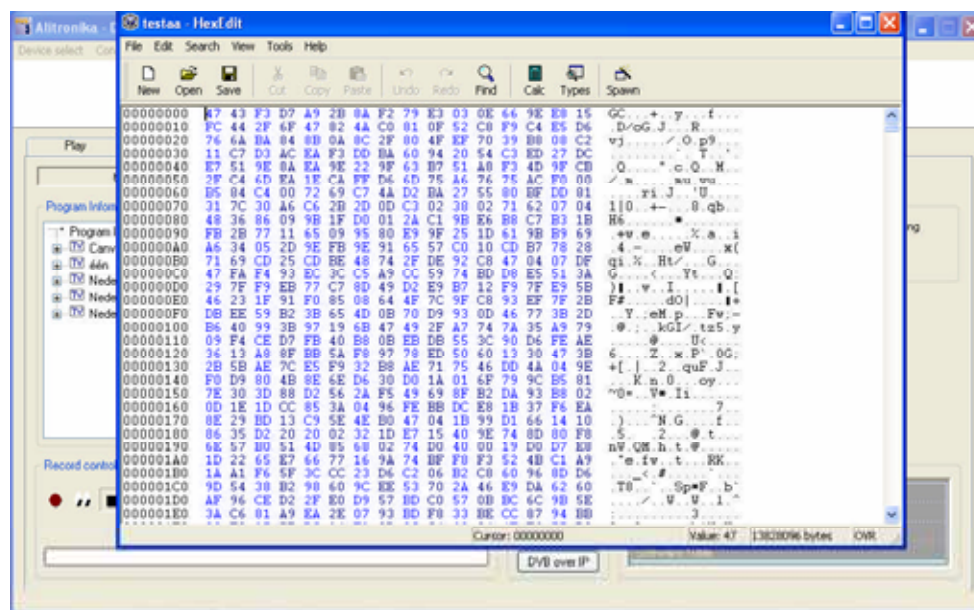
Alitronika accepts no responsibility for functionality of these 3<sup>rd</sup> party components.

### 6.1 Hex file Editor

When working with a lot of TS, during playing & recording it is often very useful to be able to edit a section of the TS file. DVSStation3 provides a free to use Hex editor for such a situations. Simply clicking on “HexEdit” button to activate the Hex editor. Select the file to be edited, the screen below would appear.

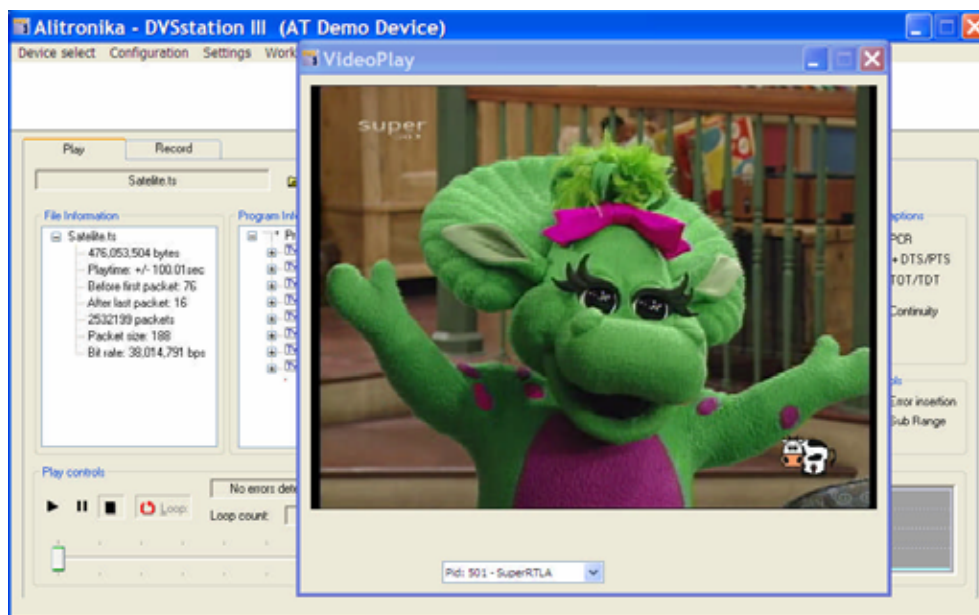
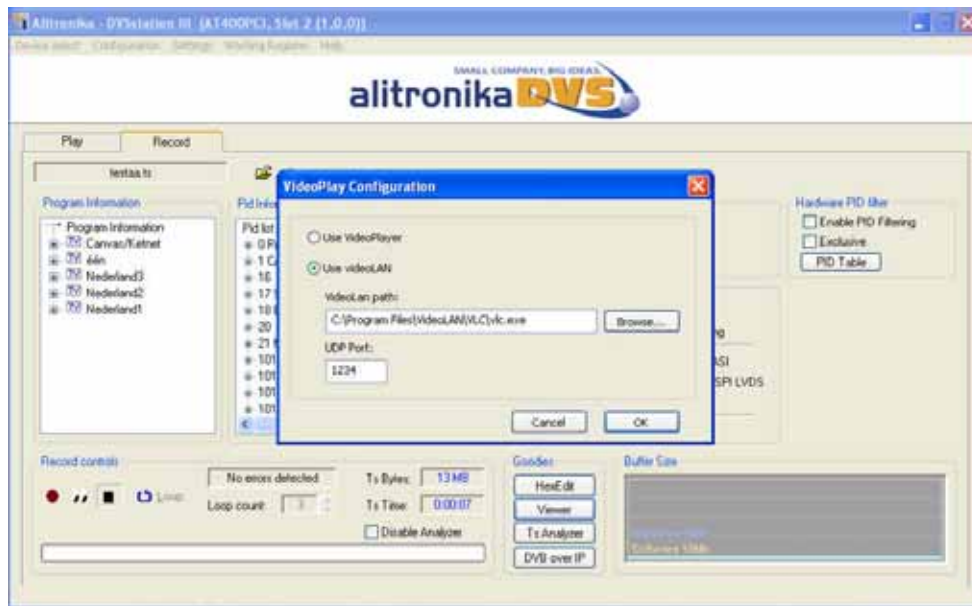
The Hex Editor could be used to:

- “Make” simple, small TS file for test purposes.
- Introduce errors into a TS file for testing error detection applications.
- Remove sections of file for size reduction by leaving the sections of most interest.



## 6.2 TS Viewer

The TS Viewer could be used at any time even when no device is present or operational to view a TS file. There are two options for viewing a TS file, the video player provided by Alitronika or the popular and widely used **VideoLan** TS viewer, please refer to VideoLan website <http://www.videolan.org> for more information. On activating the Viewer, DVStation3 will ask for the selection of one. Once one of them is selected the Video player screen will open. The user is able to view any video programs present in the PID table.



### 6.3 TS Analyzer

DVSStation3 is a complete TS Recorder, Player with an Integrated Quick Real Time TS Analyser.

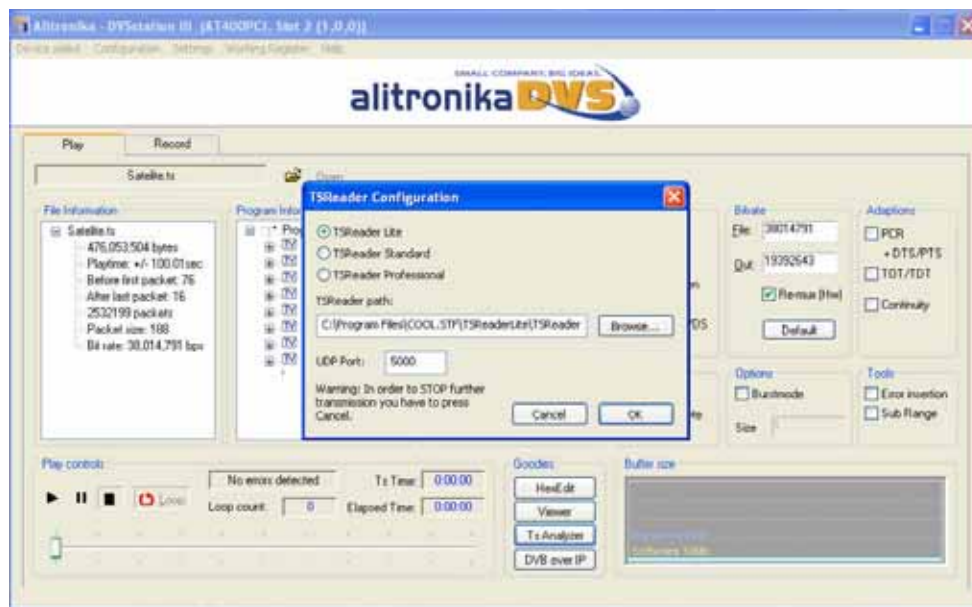
In some application a Full TS Analysing function may be required.

In addition to many 3<sup>rd</sup> party TS Analyzer software which support Alitronika devices, DVSStation3 allows the use of TSReader within the application software.

The FREE version of TSReader, **Lite**, is supplied with DVSStation3, the full versions could be obtained from TSReader website at this address <http://www.tsreader.com>.

Upon activation of TS Analyzer function, the following screen will appear, requesting the selection of one of the TSReader versions, Lite, Standard or Professional from the list.

Notice that we assume the users have obtained the appropriate licences from TSReader website & have already downloaded & installed the software. The path must be correctly entered & a suitable UDP port selected by the user.



The screen shot below shows a typical TSReader screen.

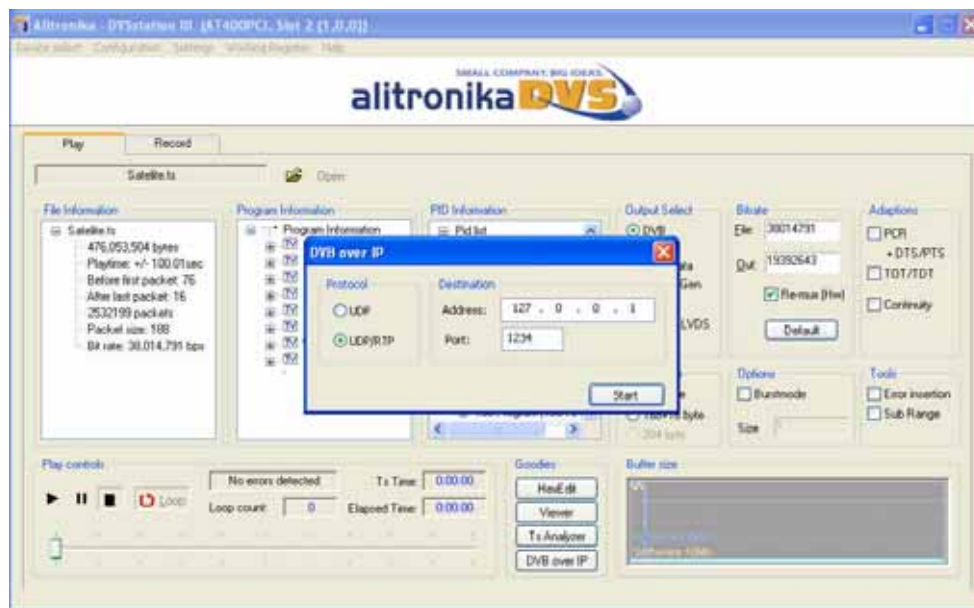


## 6.4 DVB-IP Conversion

DVStation3 offers the option of a DVB-IP conversion during the recording or play back of a transport stream. As mentioned earlier in this document this feature, among many others, is a software function and as such **system dependent**. System dependency is not only limited to the PC/Laptop hardware, but also the operating system as well as system configurations, OS version type, service pack type even the number & types of programs running on the system. The TS bitrate is also an important factor. No efforts are spared in testing and optimizing these functions for as many system configurations as possible, but there is always the one which does not fully operate. These should be reported to Alitronika Support department, but, then again there is the ONE which falls outside the spec of this application.

The following screen shot shows the user option when activating the DVB-IP conversion function.

We strongly recommend reference to appropriate documents, standards, user manuals for using the UDP or RTP options & parameters such as port & address.



The resulting DVB-IP stream could be received, recorded, viewed & analyzed by an instant of DVStation3 or VideoLan running on a remote PC/Laptop on the same network.



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## Warning statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection

against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Caution: Any changes or modifications to this device not explicitly approved by manufacturer could void your authority to operate this equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.