



DYNAMIC RDS/RBDS SILVER ENCODER USER'S MANUAL



Edition N° 1.0 06/2005

Silver ® and AUDEMAT-AZTEC ® are registered trademarks of AUDEMAT-AZTEC Company.

Audemat-Aztec SA – Audemat-Aztec INC
web: www.audemat-aztec.com - e-mail: contact@audemat-aztec.com

CONTENTS

1. INTRODUCTION	3
1.1. GENERAL INFORMATION	3
1.1.1. <i>About Audemat-Aztec</i>	3
1.1.2. <i>About RDS</i>	3
1.2. BEFORE STARTING.....	3
2. PRODUCT PRESENTATION	4
2.1. LIST OF INCLUDED ACCESSORIES.....	4
2.2. GENERAL SPECIFICATIONS.....	4
2.3. FRONT PANEL.....	6
2.4. REAR PANEL.....	7
3. GETTING CONNECTED	8
3.1. CONNECTION	8
3.1.1. <i>To connect the RDS Silver Encoder to a RDS or SCA input of the pilot transmitter : side chain</i>	9
3.2. INSTALLATION OF THE RDS SILVER SOFTWARE (SEE MORE DETAILS IN CHAPTER 4).....	10
3.3. COMMUNICATION BETWEEN SOFTWARE AND ENCODER RDS SILVER	10
3.4. ENCODER'S CONFIGURATION (BASIC & ADVANCED).....	11
4. INSTALLATION OF THE SILVER ENCODER'S CONTROL SOFTWARE	12
4.1. INSTALLATION.....	12
4.1.1. <i>Software environment</i>	12
4.1.2. <i>Computing configuration</i>	13
4.1.3. <i>Installation procedure</i>	13
4.1.4. <i>De-installation procedure</i>	13
4.2. QUICK START	14
4.2.1. <i>Program launching</i>	14
4.2.2. <i>Software use</i>	14
4.3. FUNCTION DETAILS	15
4.3.1. <i>Main window</i>	15
4.3.1.1. <i>Description of display</i>	15
4.3.1.2. <i>Description of buttons</i>	16
4.3.2. <i>Encodeur configuration</i>	18
4.3.3. <i>Configuration wizard</i>	23
4.3.4. <i>Software configuration</i>	23
4.3.5. <i>Configuration files</i>	23
4.3.6. <i>Automation software interface</i>	24
4.4. DETAILED MENU DESCRIPTION.....	24
4.4.1. <i>'File' menu</i>	24
4.4.2. <i>'Tools' menu</i>	25
4.4.3. <i>'About' menu</i>	26
4.4.4. <i>'Quit menu'</i>	26
5. OBTAINING SERVICES	27
6. GLOSSARY	28
7. INDEX	30

1. INTRODUCTION

1.1. General information

1.1.1. About Audemat-Aztec

Audemat-Aztec offers a complete range of AM, FM, and TV sound metering equipment that allows radio and television broadcasters and regulation authorities to control and optimize an entire broadcast transmission chain.

Since 2000, Audemat-Aztec products have been awarded 11 times at NAB (Awards are delivered by recognized broadcasting engineers to "products that offer substantial improvement over previous technology", that is to say to innovative products).

Headquarter is in Bordeaux Mérignac, France, Audemat-Aztec has a US subsidiary located in Miami, Florida.

1.1.2. About RDS

The RDS system is governed by the CENELEC EN50067 European standard. This system was initially designed to assure the functions directly associated to the radio broadcasting program:

- 1 Automatic frequency change
- 2 Display of the program name on radios
- 3 Display of radio-text for home tuners
- 4 Use of pre-select buttons on radios to memorise a program and not a frequency

The RDS system transmits data via a 57 kHz sub-carrier. Audemat-Aztec's reputation is mainly due to its specialisation in the RDS field, which makes it a privileged supplier of many public and private operators using RDS.

1.2. Before starting

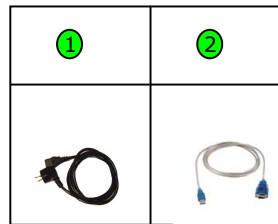
- ⚡ Be sure that the supply voltage is that indicated to the back of the equipment (110/240 V).

2. PRODUCT PRESENTATION

2.1. List of included accessories

Check that all elements are present in the box:

- Power supply cable ①
- Serial/USB cable and it's mini-CD ②
- 1 installation CD-ROM (included in the folder)
- 1 satisfaction survey (included in the folder)



2.2. General specifications

RDS/RBDS signal

Sub-carrier	57kHz (+- 3Hz)
Phase adjustment	+/- 180° in 6° steps
Output level	-60dBu to 0dBu in 1dB steps or (depending on set up) 2,5 to 3199mVcc / 1mv
Spectral purity	conform to CENELEC
Bandwidth	+/-2,4kHz (60dB)

SYNC/MPX connector input signal

Connector	asymmetrical BNC
Max nominal input signal	+12dBu
Peek input signal	18dBu allowed
Max input signal	+22dBu
Pilot frequency	19000Hz +/- 3Hz
Recommended	19000Hz +/- 1Hz
Retransmission gain	+/-1dB DC-100kHz

RDS output signal

Connector	asymmetrical BNC
Output impedance	100 ohms
Typical load impedance	>500 ohms <100 pF
THD	<0,02% (f=10kHz)
THD	<0,04% (f=57kHz)

Communication interfaces

Set up port COM0	RS232 LINK
Speed (baud)	9600
Parity	even, odd, none

Other data

Temperature (operating)	0° to 45°
Storage	-40° à 80°C
EMC	CENELEC EN55024
Test fire	UL94 (UTAC) 95/28 CEE
Supply voltage	110V / 240V
Tolerance on supply voltage	+/-20%
Supply frequency	50-60 Hz
Power supply filter	yes (Schaffner)
Fuse	500mA / 250mA
Power consumption	15VA approximately
Weight	1100g without packaging and cable
Length/width	216 mm
Height	44 mm
Depth	19,8 mm

2.3. Front panel



The Leds and their meanings :

● Green LED "POWER"

- On** Encoder switched on
- Off** Encoder not lit. If the switch is on 1, check the fuse

● "WARNING" :

- Flashing:** indicates that the BYPASS" function» is active
- Continuously or almost continuously on:** indicates that the encoder detects a warning.
- Off:** The configuration of the encoder is credible, the encoder does not detect anything abnormal.
- Other cases:** (transient lighting) This led also lights on power up, whilst reading the parameters in non volatile memory : if the led remains lit, the encoder is unable to initialise correctly.

● GREEN LED "STATUS 1":

LED "STATUS1	Synchronisation
Off	Encoder synchronised with the internal clock
1 flash/second	19 kHz synchronisation signal detected and synchronisation possible if SYNCHRO = EXT or SYNCHRO = AUTO
several flashes / second	Synchronisation state not visible.
1 extinction flash / second	19 kHz synchronisation signal detected and synchronisation possible if SYNCHRO = EXT or SYNCHRO = AUTO
On	Encoder synchronised with internal clock

● **Green Led "STATUS 2" :**

Fully off or fully on: The CPU of the RDS encoder is not running, or is running incorrectly.

1 flash per second: Code PI1 or NPROG1 (programme codes n°1) being broadcast.

2 flashes per second: Code PI2 or NPROG2 (programme codes n°2) being broadcast.

More than 4 flashes per second: Code TA activated to 1, being broadcast.

2.4. Rear panel



- IEC connector : main power switchable from 240 to 110 VAC
- SUB-D type 9 pin female : COM0 RS-232 port
- BNC : OUT = RDS
- BNC : SYNC/MPX IN = synchronisation input and/or composite 'multiplex' signal input

3. GETTING CONNECTED

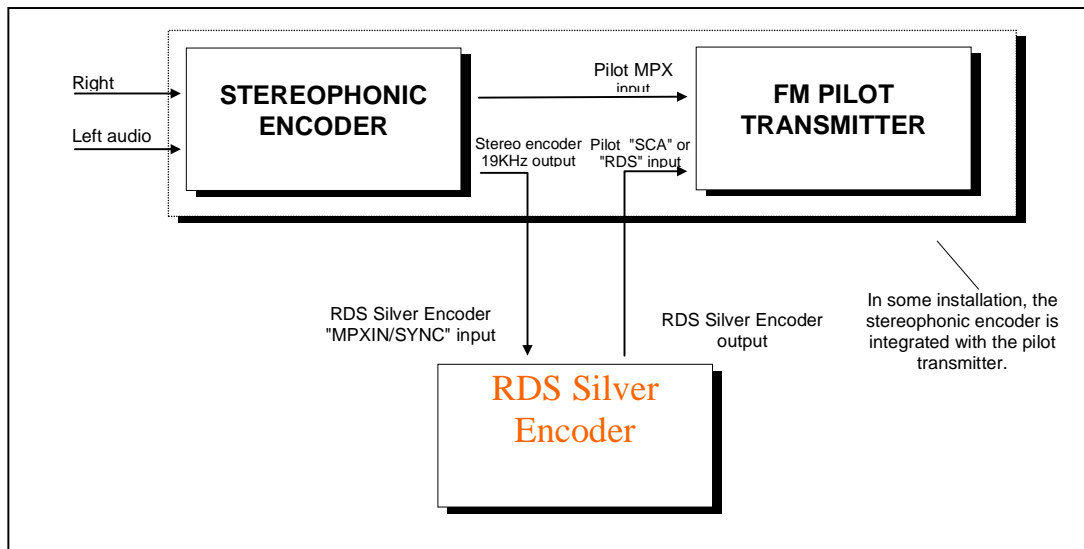
3.1 Connection

- Connect the equipment to AC power using the power supply cable. ①
- Connect the computer to the "RS-232 LINK" with the serial USB/cable ②



- Connect a BNC cable from the stereo generator output to the MPX IN of the RDS encoder
- Connect the MPX OUT of the RDS encoder to the composite/MPX IN of the exciter
- Light the encoder thanks to the switch on the rear panel ③

3.1.1. To connect the RDS Silver Encoder to a RDS or SCA input of the pilot transmitter : side chain



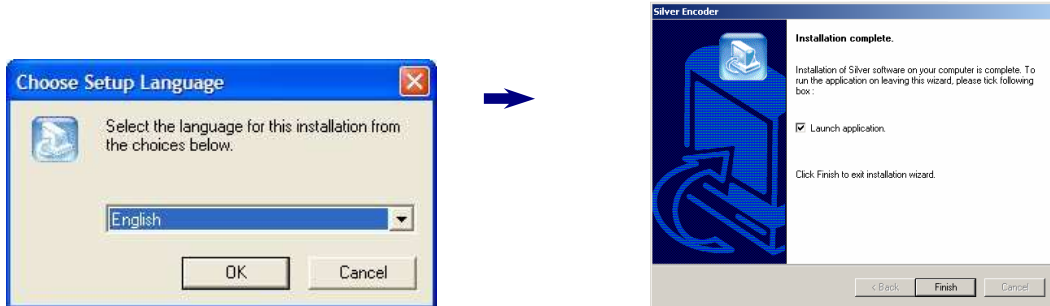
- This configuration is less common but more "professional". It uses the input of the FM pilot provided for this reason.

The synchronisation of the RDS encoder is done by applying a 19 KHz clock (usually available at an auxiliary output of the stereophonic encoder) to the RDS encoder "sync/mpx" input. If no 19 KHz signal is available on the stereo encoder output, apply the multiplex signal directly to the "sync/mpx" input of the RDS encoder.

- It is advised, in this set up to configure "J1" and "J2" of the RDS Silver Encoder RDS Silver Encoder PCB to **inhibit** the "BYPASS" function in all cases.

3.2 Installation of the RDS SILVER SOFTWARE (see more details in chapter 4)

- Load the RDS/RBDS Encoder silver CD-ROM software, double-click on the icon silver and select "Silver Encoder" in the combo-list to launch the installation program.
- Select the installation language and continue the installation assistant until the end.
Tick: "Launch application" before clicking "Finish".




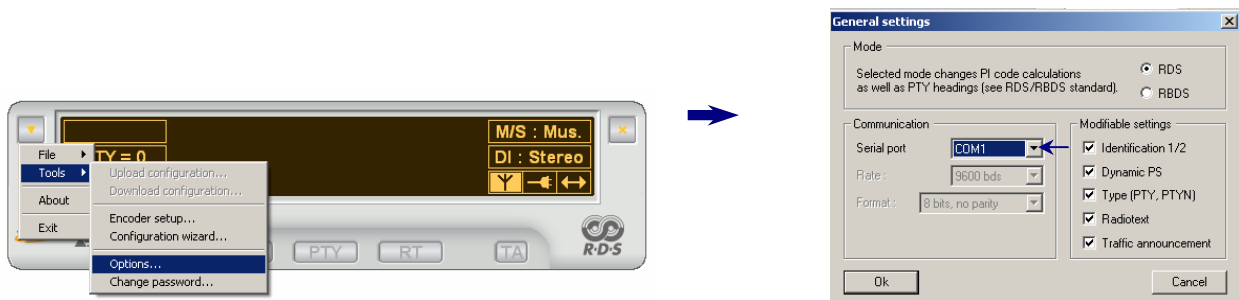
- Once the PC is restarted, launch the RDS Silver encoder software by double-clicking on the short-cut placed on the desk:



3.3 Communication between software and encoder RDS Silver

The software tries to connect automatically: if the encoder is not detected, follow this process:

In the menu (), click on « tools » then « options... » and select the serial port:



To select the right "Com Port" :

To find out what port number is being used (physical or virtual), go to **Windows Device Manager**: Click right on "**my computer**" to select "**properties/hardware/hardware wizard**". Then click on « Ports » to see the "com ports" installed on the PC and select "USB-to-serial" to see the "COM PORT" used (if it's COM1, select COM1 in the serial port).

Click on "OK" to validate the options. The software establishes a communication by using the selected serial port.

This visual shows that the connection has been established:

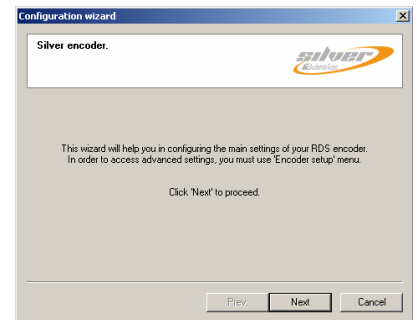
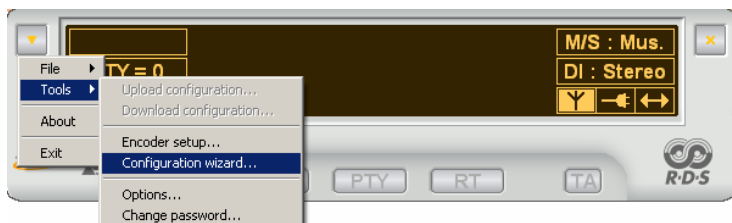


Not connected Connected


In case of failure, check that the encoder is well lit and that the connections are correct. Then click on « F5 » on your PC to relaunch the connection. If there is still a problem, start again stage 4 and change the serial port in « Options... ».

3.4 Encoder's configuration (basic & advanced)

Basic : In the menu () click on « Tools » then « configuration wizard... ».



Follow the wizard indications necessary to the encoder configuration.

Advanced : To set up an "advanced" configuration, go to the menu (), select "tools/encoder configuration" and enter your main parameters.

See Chapter 4.3.2 for more details about advanced configuration.

4 INSTALLATION OF THE SILVER ENCODER'S CONTROL SOFTWARE

This software has been designed for **operating** and **configuring** the Silver RDS encoder.

Its interface comprises:

- a display indicating the main parameters of the encoder generated RDS data.
- a set of buttons giving access to the encoder's current operating functions.
- a button which enables the software's main menu to be accessed. A password can protect these functions and allow only qualified technical personnel to access.



The software has been designed for running with the encoder by means of an RS232C link so as to program it in real time when changing parameter values. It can also save the configurations created in file form: this enables an encoder to be quickly reprogrammed in a given configuration.

The software is supplied on a CD-Rom which contains an installation program as well as this user's manual in file form, readable using *Adobe software: Acrobat Reader®*.

4.1 Installation

4.1.1 Software environment

The software is intended for **Microsoft WINDOWS 9x, NT 4.x, 2k or XP**. The user will make sure that his/her environment has the appropriate software and versions by referring to equipment and software manuals.

4.1.2 Computing configuration

The following table indicates the computer system configuration which is necessary – or recommended – for the software's optimum running.

	Windows 9.x	Windows NT 4.x (SP6)	Windows 2k (SP3) XP
Processor	Pentium 100MHz	Pentium 233MHz	Pentium 300Mhz
RAM memory capacity	16 Mo	64Mo	128Mo
Required hard disk space	80 Mo	80 Mo	80 Mo

4.1.3 Installation procedure

Proceed as follows to install software:

- Before starting installation, close any application which may be running.
- Insert the CD-Rom into the computer.
- Click on the "Silver Audemat-Aztec" logo and select the "silver encoder" product.
- A window requests the user to choose the language used by the program. Select the preferred language, and then click **OK** to continue: the installation assistant's home window is displayed.
- Click on **Next** to proceed to installation.
- Once installation is complete, a window will propose launching the application automatically: validate this option if desired then click on **Finish** so as to quit the installation program.

4.1.4 De-installation procedure



Proceed as follows to delete the RDS encoder's control program:

- Make sure that this program is not running.
- Select '**Parameters – Configuration panel**' from the '**Start**' menu, then click twice on the icon: **Add/Delete programs**.
- Select '**RDS Silver**' from the displayed list and click on **Delete**.
- The automatic procedure is initialized.

4.2 Quick start

4.2.1 Program launching

After having installed the program, follow this procedure in order to be acquainted with its use:

- Link the *Silver* encoder to the computer's COM port using an RS232 cable. Computers equipped with only a USB interface will also need a USB/RS232 adapter.
- Start the encoder.
- Start up the program:
 - either by clicking twice on the **RDS Silver** icon.
 - or by selecting **Programs** from the **Start** menu then clicking on **RDS Silver** in the **AUDEMAT-AZTEC** folder.
- The program now starts up and attempts to establish the link with the encoder by using the COM port defined in the options (COM1 by default): the state of the connection is displayed:
 - : the dialog has been correctly passed on and the link established.
 - : the dialog has not been established: check the connection and/or the communication parameters then re-launch the procedure by pressing the **F5** key.
- Once connection has been established, the current configuration is loaded using the encoder and the main parameters are displayed: PS and Radio text zones present a display **simulation** of these RDS signals on a receiver.

4.2.2 Software use

There are two ways of using the software:

- **Operating** mode: it enables direct access to the basic parameters using the buttons located at the bottom of the window (see paragraph 4.3.1.2).
- **Advanced** mode: it gives access to all the software's functions using the *Main menu* button located on the top left of the window. A password can protect the use of this mode (see paragraph 4.4.2).

For any information concerning RDS standards, please consult the following documents:

- CENELEC Standard EN50067: 1998.
- The new RDS IEC 62106: 1999 draft standard.
- UNITED STATES RBDS STANDARD: April 9, 1998.

4.3 Function details

4.3.1 Main window

This consists of a zone displaying the encoder's main parameters and the command buttons.



Active button wording appears in dark red:



When the mouse's cursor goes over an active button, its wording appears in bright red:



When a function is disabled or inaccessible, the corresponding button appears in grey:



When the mouse cursor stays above a button or a display parameter zone, an explanation message is displayed.


4.3.1.1 *Description of display*


The upper part of the main window is occupied by a display zone which reproduces an LCD type of display. The central part is reserved for alpha-numerical indications:


- **PS** (Programme Service name): this is the name of the received program, displayed on all RDS receivers. This zone also displays the **Dynamic PS** when this functionality is active. This zone has 8 characters.
- **RT** (Radio text): a text message of a maximum of 64 characters destined for receivers equipped with an appropriate displayer (usually home receivers). This zone has 16 characters.

When this information is dynamic (Dynamic PS, Radio text), the display is a **simulation** of RDS data transmitted by the encoder (timing, groups of characters ...). *It is not, in any way, a question of an acquisition of actual encoder transmitted data: especially, the object is not to try to check synchronism with the display obtained on an RDS signal analyser in real time.*


Right and left parts of the displayer are used to present static or temporary parameters. From top to bottom and from left to right can be found the following:

 : **PI** code display zone (Program Identification) being broadcast.


 : **PTY** code display zone (Program Type). When the mouse cursor stops for a moment on this zone, code signification is indicated on light background. If a **PTYN** (Program TYPe name) has been configured, its contents are displayed following the PTY.


 : Current state of control signals of **Info Traffic** system (Traffic Programme, Traffic Announcement). Dark text on light background indicates a value of **1** (here TA), and, vice versa, light text on dark background indicates a value of **0** (here TP).

 : State of **MS** communication code (Music / Speech).

 : State of bit 0 (Mono/Stereo) of **DI** code (Decoder Identification).

 : State of encoder output: indicates if an RDS signal is in fact present at encoder output (signal's Stop/Start parameter, see paragraph 4.3.2). Reverse video background indicates the presence of an output signal.

 : State of connection with the encoder. Dark background indicates that the connection has been established and that any parameter modification will be transmitted to the encoder.


 : Current encoder communication indicator when background is dark. This indication is momentary.

4.3.1.2. Description of buttons


The lower part of the window contains a series of buttons for currently operating the encoder: one click on one of these buttons (excepting TA) will display a window enabling corresponding parameter(s) to be modified.


These windows have 2 buttons: the **Send** button enables the encoder to be programmed with the considered parameter's new value; the **Close** button enables the window to be automatically closed again.


From left to right:

 : enables station identification parameters to be toggled (PI + PS) between the two actions maintained by the encoder.

 : enables the Dynamic PS text to be modified.

 : enables both the transmitted PTY code and the PTYN message text to be modified.

 : enables the Radio text message to be modified. If the Radiotext is stopped, this button is not active (cf 4.3.2 Radiotext).

 : This button directly commands the inversion of the state of the TA signal (Active/Inactive) each time it is pressed. If the TP is not active, this button is not active (cf 4.3.2 Station Identification).

Two other buttons are available:



: This button gives access to the application's main menu. It can be protected by a password (see paragraph 4.4.2). This menu has configuration (Encoder and software), file-saving and printing (see chapter 4: detailed menu description) functions



: This button enables the application to be quitted.

4.3.2 Encodeur configuration

The software should function with the RDS encoder so as to be able to program it and to reflect its functioning all the time: for this, during its launching, the software tries to establish communication with the encoder and asks for its configuration.

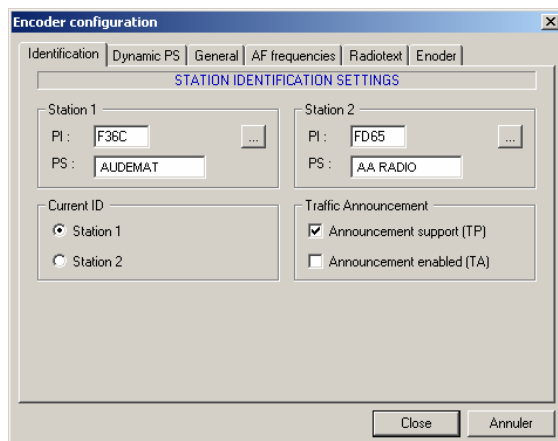
However, the software can work without the encoder: in this case it is used for creating configuration files which could be later used for initializing one or several encoders. Display simulation (PI, PS) remains active in this case, but the current operation buttons are disabled.

Access to encoder configuration is done through the application's main menu: '*Tools / Encoder Setup*'. If a password has been defined, it will be necessary to supply it before having access to the menu. The configuration is divided into several pages which are described below.

When the desired parameters have been configured, validate using the **Close** button: the configuration thereby updated will be sent to the encoder.

➤ Station identification parameters

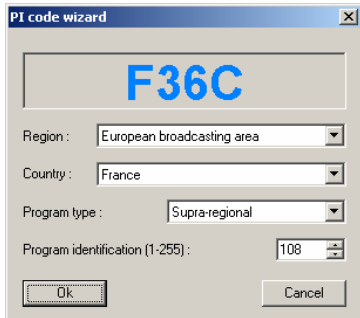
This page contains the parameters necessary for identifying the station:



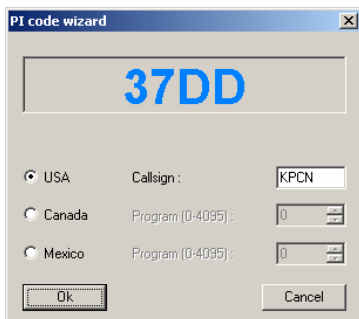
- **Station 1 – Station 2:** these two groups of edition zones enable the PI and PS codes to be captured for the two identifications preserved by the encoder, to allow instant toggling from one to the other during running.
- **Current ID:** these two buttons enable the identification (defined below) to be chosen.
- **Info traffic:** these two boxes are ticked to enable the state of Info Traffic system's signals to be defined. If the announce support (TP) is not active, the running button **TA** will be disabled .

Note: it is imperative that the first PI code (Station 1) be valid (4 hexadecimal figures, no zeros); the second can be left white: in this case, the **PI** running button will not be active (only one valid identification).

This page has two buttons '...' opposite the PI code capture zones: they enable access to a PI code's configuration assistant. The page which is actually displayed depends on the mode (RDS/RBDS) chosen for the software (see paragraph 4.3.4):



In **RDS** mode, select diverse fields (Region, Country, Type of program) and capture the program's digital identifier, then validate with **Ok**: the PI code which is calculated and displayed at top of window will be automatically included in the capture zone.



In **RBDS** mode, select the appropriate country then enter the station's code (for the United States) or the station's digital identifier (for Canada or Mexico).

Then validate with **Ok** to memorize the PI code which is calculated and displayed at top of window.

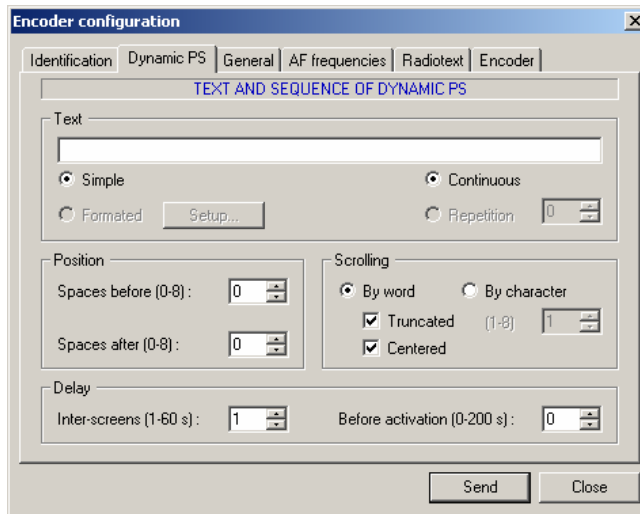
➤ **Dynamic PS**

The RDS encoder can generate one type of dynamic PS:

Dynamic PS: a message of a maximum of 64 characters transmitted by groups of 8 characters. It is directly accessible in exploitation using the **PS** button (see paragraph 4.3.1.2).

Caution: *this mode of functioning is forbidden by regulations in some countries.*

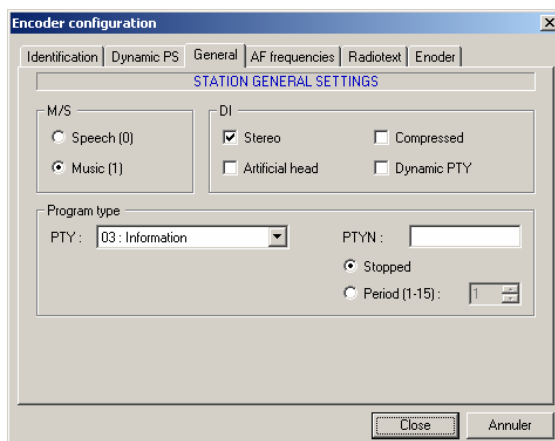
This page contains configuration parameters of the simple Dynamic PS:



- **Text:** this edition zone enables the simple PS text to be captured.
- **Position:** these controls enable the PS message to be framed with spaces so as to separate two successive sequences.
- **Scrolling:** enables the text's shift mode to be defined, either in words or in characters.
- **Delay:** the delay **between screens** defines the pause time between two successive displays; the delay **before activation** enables a pause time to be introduced between sending the command and its execution (mainly destined for formatted PS functioning with a broadcasting automaton).

➤ [Main parameters](#)

This page contains parameters which enable the transmitted program to be qualified:



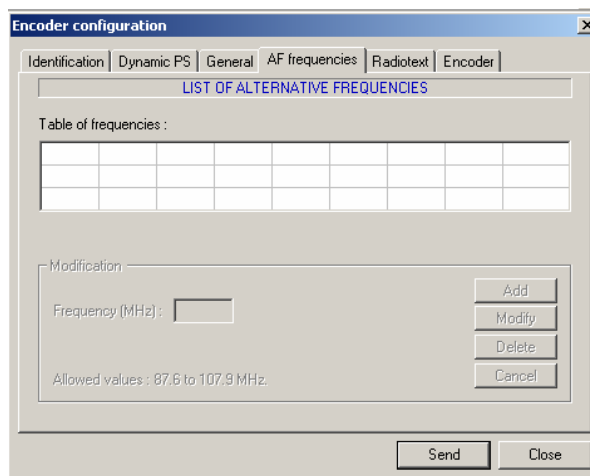
- **M/S:** defines the of program content (Words or Music).

- **DI**: when they are used, these 4 bits enable different functioning modes to be defined in order to switch specific decoders.
- **Program type**: the **PTY** code enables the program type to be defined. It can be used by some receivers to make selective station research. The **PTYN** code enables the **PTY** code to be specified.

Refer to RDS standards for complete information on these different parameters.

➤ Alternative frequencies

This page displays already programmed alternative frequencies (AF) and enables them to be modified or deleted and others to be added:



To **add** a new value to the table, click on an empty box in the grid, then fill the '*Frequency*' field and validate with the **Add** button.

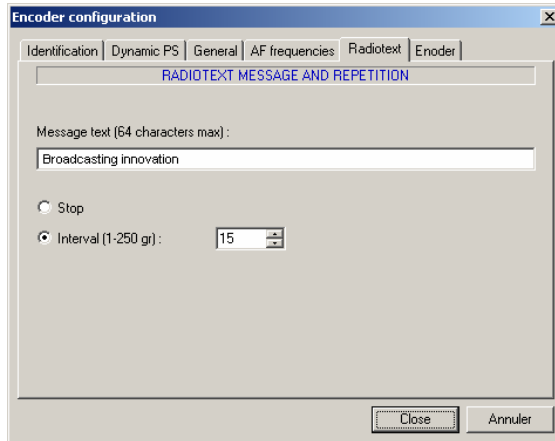
To **modify** an existing value, click on the corresponding box, then modify its value in the '*Frequency*' field and/or the type of broadcast program (method B) and validate with the **Modify** button.

To **delete** a value, click on the corresponding box, then validate with the **Delete** button.

The **Cancel** button is to leave the *Edition* mode without any modification.

➤ **Radio text**

This page enables the transmission of the radio text message to be enabled or disabled:

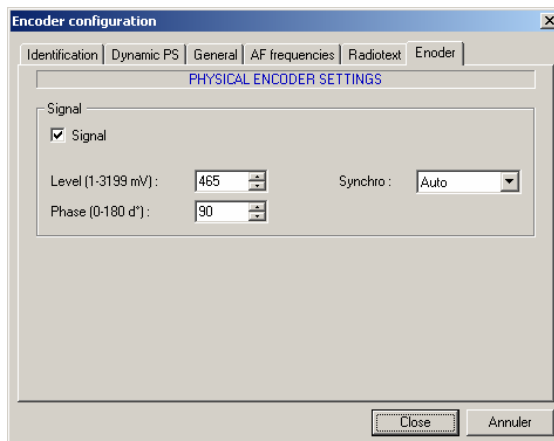


Capture the text of the message in the **Text** zone, then define its repetition period: this is defined in percentage of groups 2A (radio text) according to the other RDS groups (for example, 15 is a value signifying that a group 2A will be transmitted every 15 groups, i.e.: every 1.3 seconds).


When the radio text is disabled (**Stop**), the exploitation mode's **RT** button is not active.

➤ **Encoder**

This page enables the encoder's physical parameters to be configured:



- **Signal:** these parameters enable both the amplitude and the RDS sub-carrier phase to be defined, as well as its synchronization mode with the 19 kHz pilot.

Caution: if the **Signal** box has not been ticked, no signal will be generated in encoder output, as indicated by the  symbol on the main displayer.

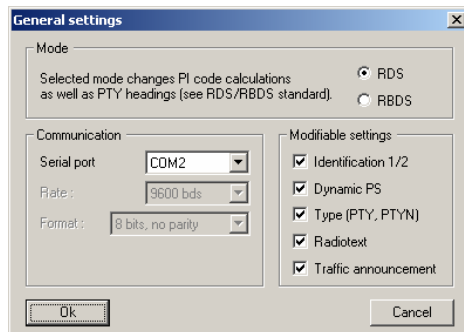
4.3.3 Configuration wizard

To help non-specialists to configure an encoder rapidly, the software has a configuration assistant, which is accessible using the '*Tools / Configuration wizard*' menu.

It proposes configuring the encoder's main parameters step by step (PI, PS, dynamic PS, Info traffic TP/TA, Alternative frequencies, Radio text). When the configuration is completed, it is automatically sent to the encoder.

4.3.4 Software configuration

This page contains the software's configuration parameters:



- **Mode:** defines the software's default mode. Depending on the chosen mode, the **PTY** codes and their wording, as well as the **PI code** calculations, are different.
- **Communication:** these parameters are the ones used for communicating with the encoder via the RS232C link.
- **Modifiable parameters:** when a box is not ticked, the corresponding parameter will be forbidden in *Exploitation* mode and its button will be de-validated. All parameters are default (software installation) validated.

4.3.5 Configuration files

The software enables complete configurations to be kept on the disk: this makes it easier to restore an encoder in a defined state. When a configuration is loaded into memory ('*File / Load a configuration*' menu), it is automatically sent to the encoder which is connected to the PC.

4.3.6 Automation software interface

ASCII Instruction Syntax : **TEXT=x1x2x3...x64**

ASCII Instruction description : This command sets up a text (up to 64 characters) for broadcasting in Radio Text format. If not all the 64 characters are used, the Silver Encoder automatically adds spaces at the end of the entered text string.

Exemples et commentaires : ASCII mode : the TEXT parameter may be reread with the command **TEXT?**

Important : text is not saved

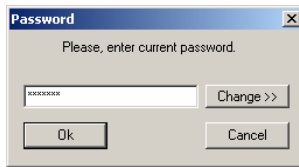
ASCII Instruction Syntax : **PS_TEXT=x1x2x3...x64**

ASCII Instruction description : This command sets up a text (up to 64 characters) for Broadcasting in PS format(no added spaces).

Important : text is not saved

4.4 Detailed menu description

Access to the application's main menu can be protected by a password, in which case, when pressing the 'Main menu' button, a window will request the current password to be captured:



4.4.1 'File' menu

➤ Loading a configuration

This command enables a previously saved configuration file to be opened to load it into the memory. If an encoder is connected, the loaded configuration will be sent to it.

➤ Save

This command enables the current configuration to be saved in the current file. If no file has previously been loaded in the memory, it is equivalent to 'Save as'.

➤ Save as

This command enables the current configuration to be saved in a file chosen by the user.

➤ Configure the printer

This command enables the printer configuration and selection window, which will be used for all printing, to be accessed.

➤ Print the configuration

This command enables the current configuration to be printed on the default selected printer.

4.4.2 'Tools' menu

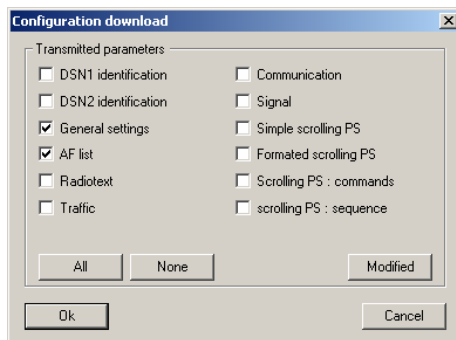
It enables the encoder and software configuration functions to be accessed.

➤ Upload the configuration

This command enables the serial port connected encoder configuration to be loaded in the memory. Contents of the frames transmitted by the encoder are displayed for any possible control. When loading is completed, click on '**Close**' to finish the operation.

➤ Download the configuration

This command enables the configuration which is presently in the memory to be sent to the encoder. When this command is activated, a window enables a choice of the parameters to be sent. By default, those modified since the last update are validated.



Contents of the sent frames are displayed during the transfer. When the transfer is completed, click on '**Close**' to finish the operation.

➤ Encoder script

This command gives access to the previous described encoder configuration pages

➤ Configuration wizard

This command launches the configuration creation assistant

➤ Options

This command displays the software's setting window

➤ Change password

This command enables the existing password to be modified or deleted: enter the current password (possibly empty) then click on **Modify**. Two new capture zones are displayed for the new password: capture this in the same way (for checking) in the two fields, then validate with **Ok**. To delete the password, simply leave the two new password capture fields empty.

Note: when installing the software, no password is configured.

4.4.3 ' About' menu

This command displays the window which contains information about the software version as well as any libraries used.

4.4.4 ' Quit menu...

This command enables the software to be quitted.

5 OBTAINING SERVICES

Headquarter:

Audemat-Aztec

20, avenue Neil Armstrong - Parc d'Activites J.F. Kennedy
33700 BORDEAUX - MERIGNAC

FRANCE

Tel: +33 (5)57 928 928 | Fax: +33 (5)57 928 929

Hotline: services@audemat-aztec.com

USA

Audemat-Aztec Inc.

1021 Ives Dairy Road

Suite 216

Miami, FL 33179

USA

Tel: +1 (305)249-3110 | Fax : +1 (305) 249-3113

Hotline: ussupport@audemat-aztec.com

6 GLOSSARY

AF : Alternative Frequencies list

The list(s) of alternative frequencies give information on the various transmitters broadcasting the same program in the same or adjacent reception areas, and enable and enable receivers to switch to a stronger signal and those equipped with a memory to store the list(s), to reduce the time for switching to another transmitter

DI : Decoder Identification and dynamic PTY indicator

These bits indicate which possible operating modes are appropriate for use with the broadcast audio and to indicate if PTY codes are switched dynamically.

IH : In House application

This refers to data to be decoded only by the operator. Some examples noted are identification of transmission origin, remote switching of networks and paging of staff. The applications of coding may be decided by each operator itself.

M/S : Music/Speech switch

This is a two-state signal to provide information on whether music or speech is the primary broadcast. The signal would permit receivers to be equipped with two separate volume controls, one for music and one for speech, so that the listener could adjust the balance between them to suit his individual listening habits.

PI : Program Identification

This information consists of a code enabling the receiver to distinguish between countries, areas in which the same program is transmitted, and the identification of the program itself. The code is not intended for direct display and is assigned to each individual radio program, to enable it to be distinguished from all other programs. In the US this code acts as a set of digital call letters, each unique in the nation.

PIN : program Item Number

The code should enable receivers and recorders designed to make use of this feature to respond to the particular program item(s) that the user has pre selected. Use is made of the scheduled program time, to which is added the day of the month in order to avoid ambiguity.

PS : program Service name

This is the label of the program service consisting of not more than eight alphanumeric characters which is displayed by RDS receivers in order to inform the listener what program service is being broadcast by the station to which the receiver is tuned.

PTY : program Type

This is an identification number to be transmitted with each program item and which is intended to specify the current program Type within 31 possibilities. This code could be used for search tuning. The code will, moreover, enable suitable receivers and recorders to be pre-set to respond only to program items of the desired type.

PTYN : program Type Name

The PTYN feature is used to further describe current PTY. PTYN permits the display of a more specific PTY description that the broadcaster can freely decide (eg PTY=4: Sport and PTYN: Football). The PTYN is not intended to change the default eight characters of PTY which will be used during search or wait modes, but only to show in detail the program type once tuned to a program.

RT: RadioText

This refers to text transmissions coded in accordance with annex E, primarily addressed to consumer home receivers, which would be equipped with suitable display facilities.

TA: Traffic announcement identification

This is an on/off switching signal to indicate when a traffic announcement is on air. The signal could be used in receivers to:

1. switch automatically from any audio mode to the traffic announcement
 2. switch on the traffic announcement automatically when the receiver is in a waiting reception mode and the audio signal is muted
 3. switch from a program to another one carrying a traffic announcement, according to possibilities available through EON.
- After the end of the traffic announcement the initial operating mode will be restored.

TP - Traffic Program identification

This is a flag to indicate that the tuned program carries traffic announcements. The TP flag must only be set on programs which dynamically switch on the TA identification during traffic announcements. The signal shall be taken into account during automatic search tuning.

TDC: Transparent Data Channels

The transparent data channels consist of 32 channels which may be used to send any type of data.

TMC: Traffic Message Channel

This feature is intended to be used for the coded transmission of traffic information. The coding is separately defined by a set of standards issued by CEN [ENV 12313-1 and ENV 12313-2].

TP: Traffic Program identification

This is a flag to indicate that the tuned program carries traffic announcements. The TP flag must only be set on programs which dynamically switch on the TA identification during traffic announcements. The signal shall be taken into account during automatic search tuning.

7. INDEX

Alternative frequencies, 21, 28

Computing configuration, 13

DI, 15, 21

Leds, 6, 7

M/S, 20, 28

PI, 7, 16, 18, 19, 23

PS, 14, 15, 16, 19, 20, 22, 23, 28

PTY, 16, 21, 23, 28

RT, 15, 16, 22, 28

Status indicator, 6, 7

Supply voltage, 5

Supply frequencies, 5

TA, 16, 29

APPENDIX A : SOFTWARE INCIDENT REPORT

APPENDIX B : FAQ

➤ **FAQ : What do I need to add to each FM Station for RBDS/RDS services ?**

» **Answer :** One standalone RDS/RBDS encoder per transmitter is necessary for static RDS/RBDS services, an associated data link if dynamic RDS/RBDS services.

➤ **FAQ: Where do I install my RDS Encoder?**

» **Answer:** The encoder can also be inserted between the stereo generator (if one is used) and the FM RF modulator. On some FM Exciters, you may find a dedicated input for "RDS" or "SUBCARRIERS".

➤ **FAQ: Are Audemat-Aztec encoders digital?**

» **Answer:** Yes RDS encoders signals are generated digitally meaning that digital signals are constructed mathematically (DSP) and then converted by a D/A converter into the analog format.

➤ **FAQ: Do I need to make calibration adjustment?**

» **Answer:** No, our encoders are 100% digital therefore no calibration adjustment nor maintenance are required.

➤ **FAQ : What if my station name is more than 8 characters in length?**

» **Answer:** The PS RDS function is defined in the CENELEC standard EN50067 and also in the RBDS standard as a 8 character long string. Any longer names have to be shortened to suit that requirement.

➤ **FAQ : What are the difference between a PTY transmit in RDS and a PTY transmit in RBDS ?**

» **Answer:** This is an identification number to be transmitted with each programme item and which is intended to specify the current Programme Type within 31 possibilities. This code could be used for search tuning. The code will, moreover, enable suitable receivers and recorders to be pre-set to respond only to programme items of the desired type. The last number, i.e. 31, is reserved for an alarm identification which is intended to switch on the audio signal when a receiver is operated in a waiting reception mode.

PTY code	RDS Program type	RBDS Program type
0	No program type or undefined	No program type or undefined
1	News	News
2	Current affairs	Information
3	Information	Sports
4	Sport	Talk
5	Education	Rock
6	Drama	Classic Rock
7	Culture	Adult Hits
8	Science	Soft Rock
9	Varied	Top 40
10	Pop Music	Country

11	Rock Music	Oldies
12	M.O.R. Music	Soft
13	Light classical	Nostalgia
14	Serious classical	Jazz
15	Other Music	Classical
16	Weather	Rhythm and Blues
17	Finance	Soft Rhythm and Blues
18	Children's programs	Language
19	Social Affairs	Religious Music
20	Religion	Religious Talk
21	Phone In	Personality
22	Travel	Public
23	Leisure	College
24	Jazz Music	Unassigned
25	Country Music	Unassigned
26	National Music	Unassigned
27	Oldies Music	Unassigned
28	Folk Music	Unassigned
29	Documentary	Weather
30	Alarm Test	Emergency Test
31	Alarm	Emergency

Don't hesitate to consult our website to read the updated FAQs ..