



Radix 2
[the complete radio messaging solution]

MANUAL

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Welcome

Radix by Broadcast Partners is one of the most complete and easy to use programs for controlling your RDS encoder.

Radix suits a large diversity of customers; from small local radio stations to large and demanding commercial radio networks.

This manual will guide you through all of Radix' features. To learn everything there is to know about this program, we advise you to read all the way through this manual at least once. Even though the screens are clear and self-explanatory, you will find the background information in this manual to be very useful.

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1 General information

1.1 Welcome

Welcome to Radix, by Broadcast Partners. Radix is the most complete solution for controlling RDS encoders, according to the Universal Communication Protocol (UECP 5.1). Many other radio stations already rely on Radix, for all their RDS programming.

This manual will guide you through all of Radix' features. To learn everything there is to know about this program, we advise you to read all the way through this manual at least once. Even though the screens are clear and self-explanatory, you will find the background information in this manual to be very useful.

Before getting into any details and summing up all of Radix' features, let's first list a couple of terms. Roughly put, we can distinct these next users:

- | | |
|-------------------------|--|
| <i>Local station</i> | A single transmitter, covering the city or area. |
| <i>Regional station</i> | Several transmitters (sites) covering a larger area. |
| <i>National station</i> | Covering an entire country or region |

Local radio stations usually have their equipment set up in close proximity to the station. Regional and National stations have their studio and transmitters separated. The *Radix* software is installed at the RDS encoder, but a DJ needs to be able to switch traffic information. The Radix software consists of two components; the main application and the client. The main application is named *Radix* and forms the hart of the system. The *Radix Client* is an interface application, usually installed in the studio.

The next chapters describe the software installation, followed by an in-depth description of *Radix* and finally of the *Radix Client*.

There are three different Radix editions. All versions will be covered in this manual. The table below shows their differences.

	Screen colour	AF frequencies	XML/RSS feeds	Dynamic PS	Dynamic RT	Local Texts	Regional decoupling	Support/ Updates
Radix LE	Green	Max. 2	No	Yes	No	No	No	No
Radix Standard	Blue	Max. 4	Yes*	Yes	Yes	Max. 2	No	No
Radix Nat./Reg.	Blue	Unlimited	Yes	Yes	Yes	Yes	Yes	Yes

* = Comes standard with a new system, older stations who want to upgrade will be charged a fee.

Whenever Radix LE differs from the standard version, it will say in the border.

For nationwide or regional radio stations with large transmitter networks we sell Radix only on an operational lease contract basis. This version is called Radix National/Regional. Radio stations with Radix lease contract receive free updates and new versions of the Radix software. Support in case of questions or problems is also included. We for instance gladly assist in getting the import of the title-artist information from your current play-out system up and running in Radix (as far as reasonably possible).

The special features only available for the Radix National/Regional version are also clearly indicated in the manual.

1.2 Introduction to RDS

RDS stands for *Radio Data System*. Besides the audio signal, the FM signal used for radio broadcasts contains a data signal carrying all sorts of data. This data signal is called RDS and can be decoded by tuners and car radios.

To fully explain RDS would be too far off topic for this manual, so we will only describe the options that are relevant to radio-broadcasting.

<i>Program Identification (PI)</i>	This hexadecimal value represents the radio program. Please note that this has to be a unique value, unused by other radio stations. This code is used in combination with the AF-list to find other transmitters that broadcast the same program. This allows (car) radios that support RDS to automatically select the most optimal frequency.
<i>Program Service name (PS)</i>	This is an 8 digit long text, usually containing the radio program's name. If required, <i>Radix</i> can automatically create PS, changing the message every x seconds. This text will be shown on car radios that support RDS.
<i>Alternative Frequencies (AF)</i>	This is a list of alternative frequencies, broadcasting the same radio program. You can use this feature if your company owns several transmitters. It is very convenient for listeners who own a car radio that supports RDS. The car radio can automatically tune in to the most optimal frequency.
<i>Traffic Program / Traffic Announcement (TP/TA)</i>	The availability of traffic information is determined by the TP code while the TA code announces an actual traffic bulletin. The receiver can for instance respond by changing the volume or switching from CD to radio.
<i>Clock Time and date (CT)</i>	Broadcasts the current date and time (Standard UTC time).
<i>Program TYpe (PTY)</i>	This is a number between 0 and 31, announcing what type of program is broadcast. The PTY codes are explained further in this manual.
<i>Radio Text (RT)</i>	The RT contains a 64 character text. This text can be displayed by radios that support RDS and have a large display. Radix allows you to adjust this text to show a new message every x seconds.

2 Installation

2.1 Installing the software

You can start installing the software when you have connected the PC you want to use for Radix to your RDS encoder. The installation procedure is described in this chapter.

The Radix software is supplied on a CD. This CD contains the installer **Setup.exe** as well as a PDF file of this manual. To see which software version you have on your CD, use the right mouse button (RMB) on the **Setup.exe** file, choose *Properties* and go to the *Version* tab.

When you are performing a software update, please make sure Radix is shut down before continuing. Radix restarts as soon as the installation is complete.

Start the **Setup.exe** program. The default installation directory for Windows XP is C:\Broadcast Partners\Radix, and will usually suffice. Of course you can install the software on a network drive, like F:\Radix. Use the *Browse* button to select a different location.

Windows Vista separates the data- and installation files. The installation files are in C:\Program Files\Broadcast Partners\Radix, the data in C:\Users\Public\Documents\Broadcast Partners\Radix. The Data and Log folders, and the Radix.ini configuration file are placed here as well.

The installer has all the required information. Press *Next* to go to the last screen. Here you can review all the data you have just entered.

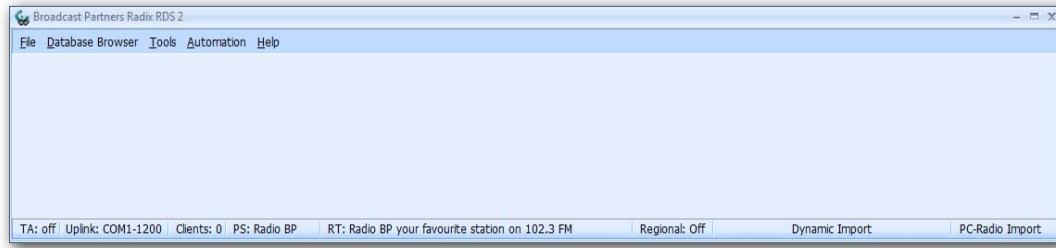
If all the data is correct, press *Next*. The installation might take several minutes. Please wait before the next screen appears.

Press *Finish* to close the program. Radix is now ready to use.

3 Main Program

3.1 Introduction

The *Radix* program is started by pressing *Start, Programs (All Programs* when using Windows XP), *Broadcast Partners, Radix, Radix*. When the program is started, the following Window is shown:



The menu bar in the upper left corner contains several controls, allowing you to activate a number of Radix' components. These are described later in this manual.

Some items are listed in the status bar on the bottom of the screen. The first field, TA, shows if the Traffic Announcement is active (as described in the chapters *Introduction to RDS* and *On Air*). The connection details to the RDS encoder are shown in the second field. More information on this can be found in the chapter *Configuration*, in the *Encoder* section. You can remotely activate the Traffic Announcement, using the *Radix Client* software. The third field lists the number of clients connected to *Radix*. The texts broadcast as *Program Service* and *Radio Text* are displayed in the fourth and fifth fields.

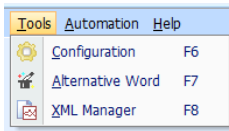
More information about *Program Service* and *Radio Text* can be found in the *Introduction to RDS*, and the *Editor* chapters in the *Program Service Item* and *Radio Text Item* sections. The last two fields in the status bar are reserved for the *Dynamic Import* function. This allows the title and artist of the currently played album to be automatically updated. The first field shows the title and artist of the most recent successfully imported song. The import method used by the *Dynamic Import* function is shown in the second field. More information on *Dynamic Import* can be found in the *Configuration* chapter.

4 Configuration

4.1 Introduction

A number of settings can be manipulated in the configuration panel, allowing you to customize *Radix* to your own requirements.

Open this window by clicking *Tools, Configuration* from the menu bar. Of course you can use the F6 short key as well.



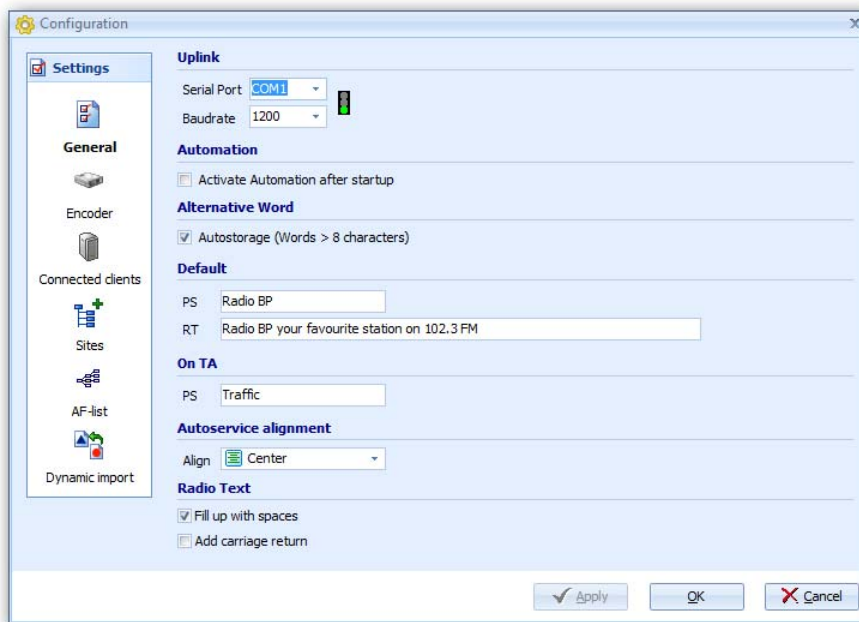
The *Configuration* panel now pops up. A navigation bar is shown on the left side of the screen. Clicking any of these items will guide you to the concerned section of the configuration screen.

4.2 Settings

4.2.1 General

The *General* tab is shown when you open the configuration panel.

The Radix PC is connected to the RDS encoder, using a serial (RS-232) cable. This tab allows you to specify the serial port, and the connection speed. The Baud rate must match the settings of your RDS encoder. Radio stations using a satellite uplink normally use 1200 baud. *Radix* supports any RDS encoder that supports the SPB490 Universal Encoder Communication Protocol (UECP).



Serial Port

The serial port you have connected your RDS encoder to. If you select an invalid port, the program displays a warning, as soon as you press *Apply*.

Baud rate

The connection speed to your RDS encoder. You can select 1200, 2400 or 9600 bps.

Automation

The *Activate Automation after startup* has the RDS *Automation* start automatically. This function is activated the next time *Radix* boots up. If the automation is running, you'll have to manually abort it, before you can close *Radix*. More information on this topic can be found in the *On Air* chapter.

Auto storage

This is a supplement to the dynamic import. If the dynamic import receives a word that exceeds 8 characters (the maximal number of PS characters) this word is stored in an array. Later you can use the

Alternative Word function to determine if the word needs to be abbreviated, or an alternative word is required. If this option is unchecked, these words will not be stored.

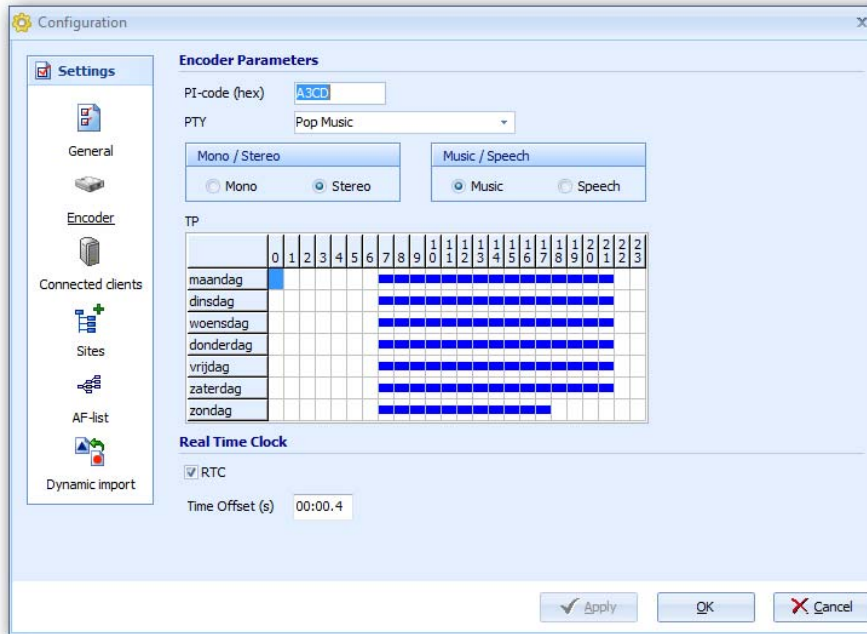
Default In this field you can enter 2 texts, the *Program Service Name (PS)* of the show (which has a maximum of 8 characters) and the *Radio Text (RT)* (that has a maximum of 64 characters). These are the default texts when there is no *Playlist* that has *Program Service Items* or *Radio Text Items* defined.

On TA The text in the *PS* field when *Traffic Announcement (TA)* is active. Just like the *PS*, the maximum number of characters is 8. When *Traffic Announcement (TA)* is deactivated, the *Default PS* and the *Default RT* are broadcast.

Autoservice Alignment PS The *Autoservice Alignment PS* settings are on the bottom of the screen. This option lets you set the alignment of the *Default PS* as well as the *Dynamic Import's* alignment.

4.2.2 Encoder

In the Encoder section you can adjust several settings of the RDS encoder that is connected to the *Radix* computer.



PI-code

In this field you can set the hexadecimal value of the program identification code. Please note that this has to be a unique value, not used by any other radio station. Radios that support RDS use this code in conjunction with AF-list, to localize the most optimal transmitter.

PTY

You can choose 31 different categories from the *PTY* list. This setting specifies the type of music currently playing. You cannot add categories to this list, because it is predefined. The entire list is shown on the next page.

Music/Speech

This option lets you show whether a deejay is talking or music is playing.

Mono / Stereo

This option lets you specify if the program is broadcast in mono or stereo.

TP

The *TP* option allows you to define Traffic Announcements for every day and hour of the week. When this is activated, you can manually start and stop the *TA* signal from the On-Air window, when the traffic announcements are over.

RTC Shows if the *RTC* (Real Time Clock) signal is broadcast with the RDS.

RTC Time Offset If the transmitter and receiver experience latency, the RTC Time Offset needs to be enabled.

The Table below lists all 32 possible PTY categories.

No program type or undefined

News Current Affairs

Information

Sports

Education

Drama

Culture

Science

Varied

Pop Music

Rock Music

Easy Listening Music ⁽¹⁾

Light Classical Music

Serious Classical Music

Other Music

Weather

Finance

Children's Programs

Social Affairs

Religion

Phone In

Travel

Leisure

Jazz Music

Country Music

National Music

Oldies Music

Folk Music

Documentary

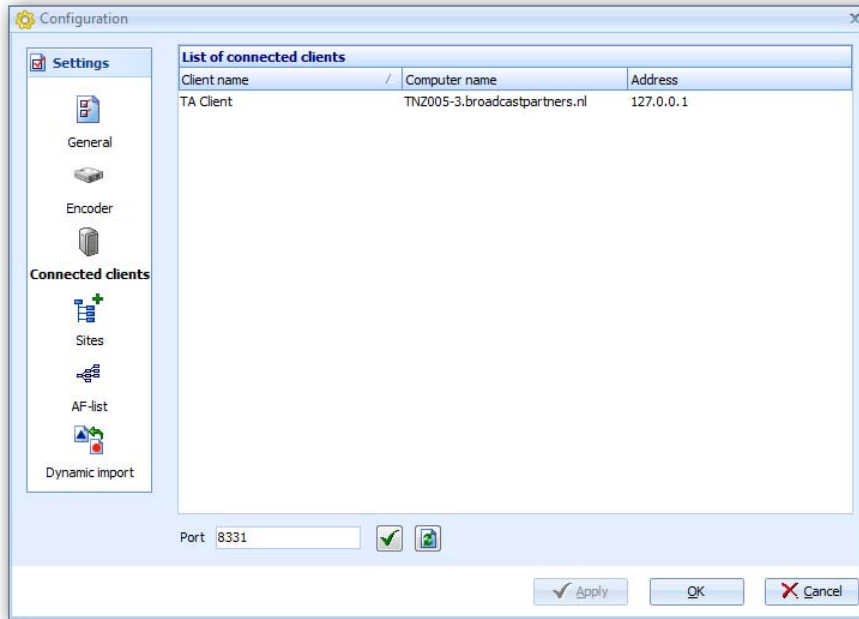
Alarm Test

Alarm

(1): Some older RDS encoders use the term: *M.O.R. Music*.

4.2.3 List of connected clients

Radix can be remotely controlled, using the *Radix Client* (TA Client) software. This allows you to connect to the *Radix Server* through TCP/IP.



List of connected clients

These are all clients connected to the *Radix* application. The *Radix Client* is identified as *TA Client*. The *Computer name* and the *Address* are the DNS name, or the computer's name and its accessory IP address. *Radix* can communicate with *PC-Radio* by Broadcast Partners as well. It will show in this list as soon as the *PC-Radio* software is connected to *Radix*.

Port

Like any other TCP/IP application, the server needs to know the port number for incoming transmissions. The default value is 8331. You can change this value if this port is used by another application on the *Radix* PC (between 1 and 65535). *Radix* needs to be allowed by any contingent firewall, to gain access to the network.



Press this button to apply the new port settings. When it is pressed, *Radix* stops listening to the old, and adjust to the new port number. All connected clients are updated, moving them to the new port number as well.

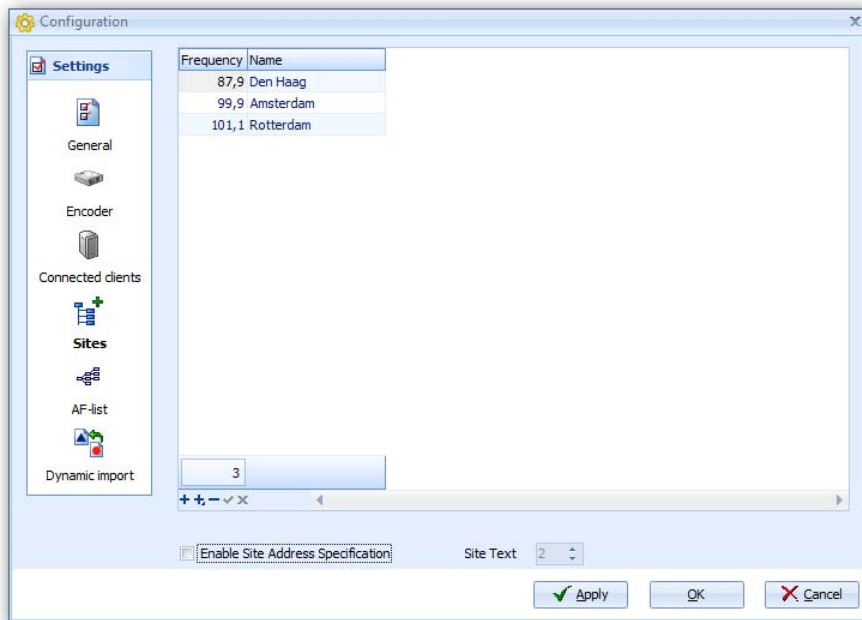


This button refreshes the connected client list. This is implemented because the list is not updated in real-time.

4.3 Site

4.3.1 Sites

All of your radio station's transmitters and their frequencies, can be entered in the *Sites* tab.



If you wish to add a new site, just press the “+” button in the lower left corner of the screen. A new row is added to the list, allowing you to add a new frequency right away. The program automatically checks the validity of the frequency. The *ENTER* key takes you to the next input field. Here you can enter the name of the site (usually the location of the transmitter). This data can be used for alternative frequencies, which will be covered later in this manual.

If you wish to remove a transmitter, select it from the list and press the “-” button in the lower left corner. The selected station is removed (without a warning) from the list.

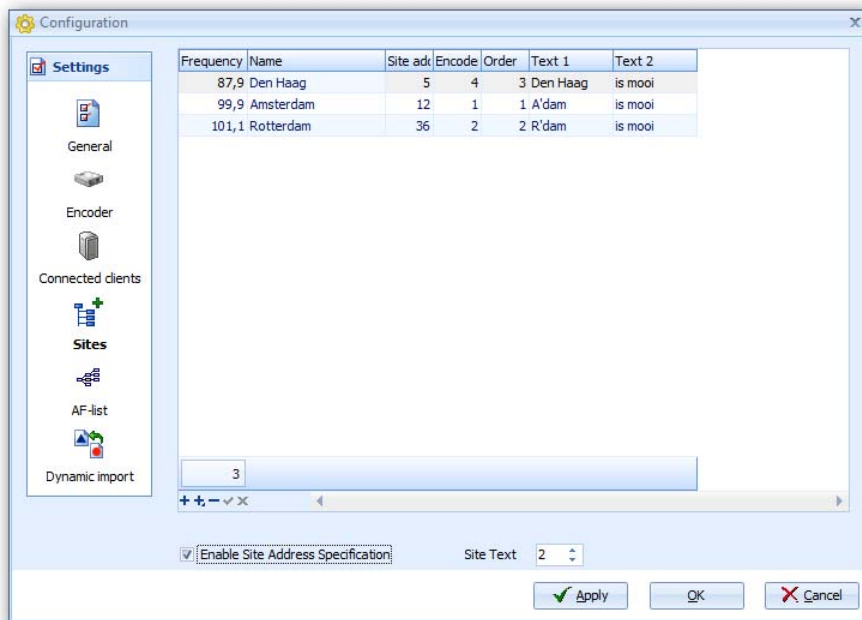
You can edit the data by clicking in the required field. A window pops up, allowing you to change the text. Clicking anywhere outside the frame saves the data (but still it is written to the disc after the *OK* or *Apply* button is pressed).

Radix LE allows a maximum of 3 sites.
Radix Standard allows a maximum of 5 sites.
Radix National/Regional unlimited number of sites

Radix standard edition and the Radix National/Regional edition come with a special option; to send individual messages to different sites, by using the “*Site Address Specification*”.

☒ Enable Site Address Specification Site Text 2

When this option is enabled, several extra columns are shown. One for the site’s address, one for the encoder’s address one for the transmission order and two columns for specific texts (Site Text). The standard edition support up to two (2) Site Texts, the national/regional edition up to ten (10).



Data from these columns are transmitted using *Tags*.

4.3.2 AF-list

The *AF-list* from the *Radix* configuration screen is used for setting the Alternative Frequencies. Radio networks that have multiple sites (transmitter locations), can set alternative frequencies. This allows car tuners to automatically switch to a stronger transmitter, when they are out of another transmitter's range.

RDS has 2 different broadcasting methods for alternative frequencies:

Method A: suited for stations that have a maximum of 25 frequencies in their network.

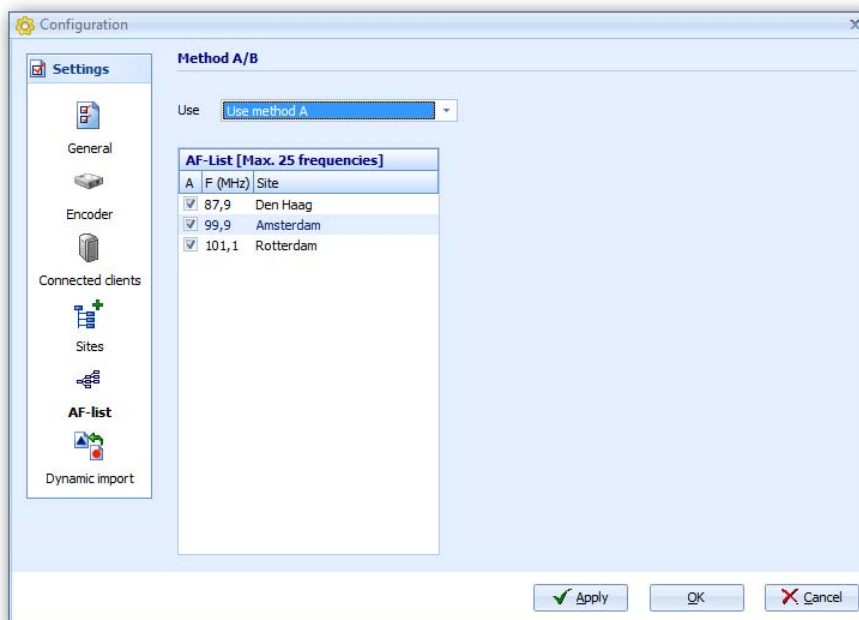
Method B: suited for stations that use over 25 frequencies in their network. Needless to say, there is a difference between the number of sites and the number of frequencies in your network. You might have a network that uses 30 sites, with a total of 10 different frequencies; method A is best suited for your requirements.

Method A is commonly preferred. Sending the AF-list using method B takes longer then method A.

Method A and B both have their own format, the screen below changes when you select a different method. This window uses the transmitter data from the *Sites* tab. This means you'll have to complete the *Sites* data before you can create an AF-list.

Method A

This method has a list of all the frequencies within the network. A large network might have the same frequency at different sites. All the transmitters within the network broadcast the same AF list.

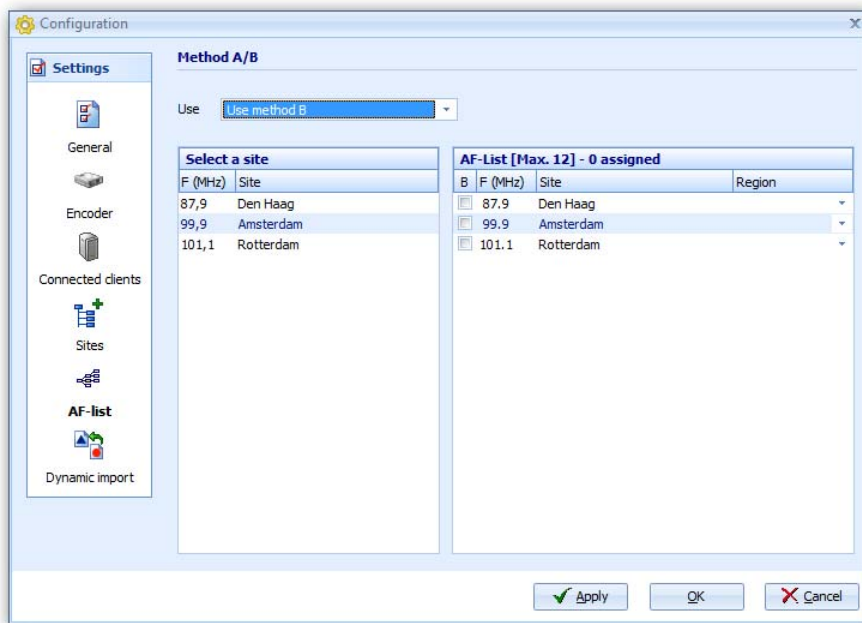


All sites you have entered in the *Sites*, are listed in the AF-list. You can select a maximum of 25 stations from this list that will be added to the RDS signal. You can add a site by clicking in the *A* column, adding a mark. To remove a site from the list, simply press the *A* column again. The mark is now removed.

Radix LE allows a maximum of 2 alternative frequencies
 Radix standard allows a maximum of 4 alternative frequencies

Method B

Using this method, you can enter up to 12 alternative frequencies per site. Each transmitter has its own AF-list for its surrounding sites.



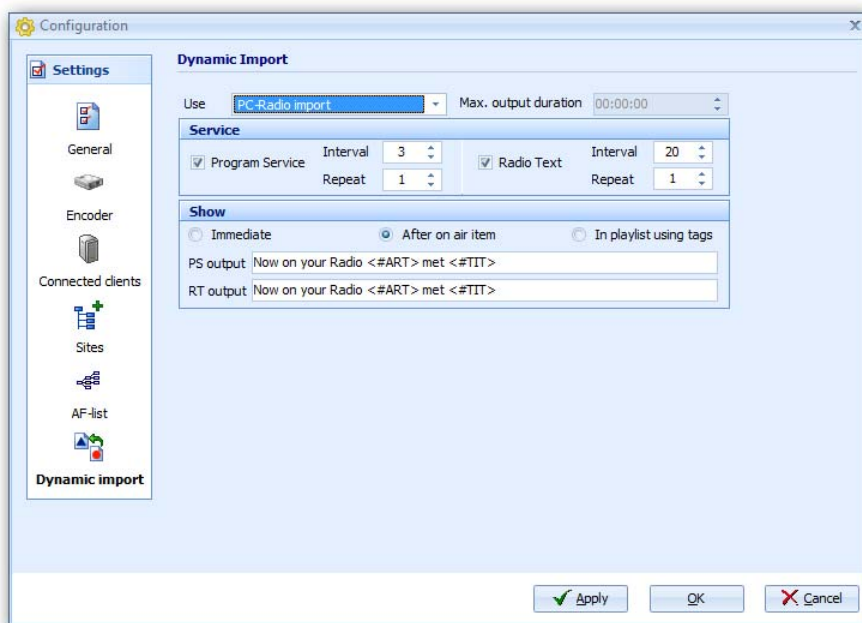
The window for method B has 2 list boxes. Both have all the sites you've entered in the *Sites* tab. Start by selecting a site from the left list box. Now you can choose the frequencies you want broadcast with the RDS, from the right list. The procedure is similar to method A, i.e. by clicking in the *B* column. Now a mark is placed, which can be removed again by pressing the *B* column again. Each station can broadcast up to 12 frequencies.

If you do not wish to use the AF-list, you can select the *No Alternative Frequency* from the *Use* dropdown menu.

4.4 Import

4.4.1 Dynamic Import

The last tab in the Radix configuration window is called *Dynamic Import*. This function allows you to link your radio automation to *Radix*. There are 3 different methods; *PC-Radio*, *Text file* and *RS-232*. The *PC-Radio* method can link the *PC-Radio* program by *Broadcast Partners* to *Radix*. *PC-Radio* now automatically sends the title and artist to *Radix*, as soon as a new song is played. The *Text file* method monitors the contents of a certain file. *Radix* processes the file as soon as its contents are changed. You can use an *RS-232* connection (also known as serial connection) to control *Radix* when you use the *RS-232* method.



This window is divided into two (*PC-Radio*) or three (*Text file*, *RS-232*) groups. First you need to select the method you require. The *Service* group sets a message from the *Dynamic Import* as a *Program Service*, a *Radio Text* or both. Here you can set the output duration as well as the number of repetitions. The *Show* group holds a number of functions regarding the appearance and duration of the messages.

Use : The input method *Radix* uses for its *dynamic import*. Each method has its own settings, automatically shown when an option is selected.

Max. output duration: This option sets the maximum amount of time a message can be shown. This might be useful when the *In playlist using tags* function is activated. When set to for instance 3 min. the import expires after three minutes and changes to the default text, until a

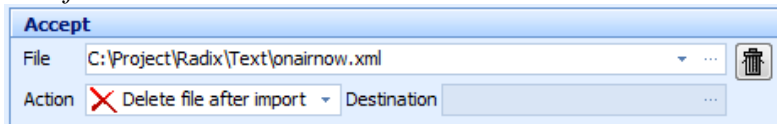
new text is added to the import. This is a common setting, applicable to all methods.

Service : Lets you send a message from the *dynamic import* to the *Radio Text*, *Program Service* or both. The interval (the amount of time the message needs to be shown) and the number of repetitions can be entered here as well.

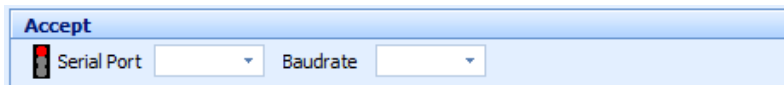
Show : This setting determines the action when a change in the *dynamic file* is detected. If the *Immediate* option is marked the active *Item* is terminated, and replaced by the contents of the *dynamic file*. When the *after current on air* option is selected, *Radix* will wait for the currently active item to end before broadcasting the contents of the *dynamic file*. The final option allows the *On-Air Item* to change the data. The original automation is restarted after all the text from the *dynamic file* has been shown. The *PS output* and *RT output* hold the desired output, completely dynamic, thanks to the <#ART> and <#TIT> tags.

The new *Accept* group is different for the *Text file* and *RS-232* methods. Their differences are shown below. Another field named *Title/ Artist Divider* has been added as well.

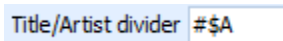
Text file



RS-232



Title/ Artist divider



Title/ Artist divider (File + RS-232) This value holds the symbol or characters you are using to separate the title and the artist. Several special characters have been reserved for this purpose: Newline character (enter): **#SA**, carriage return: **#SD**, tab: **#ST**.

Of course you can use your own unique divider as well. When this field is left empty, the whole text is shown. Please note the 'Show in playlist using tags' is unavailable.

File (File) The file that needs to be monitored for changes. The dropdown list (the downward arrow on the right of the field) provides a list of recently selected files. The dotted button lets you open a new file.



*Delete history
dynamic file (File)*

Empties the dropdown list from the *File* field.

*Action, Destination
(File)*

There are three different actions for an imported file: *None*, *Delete file after import* and *Move file after import*. When you have selected *Delete file after import*, the dynamic file is removed after it has been imported. The *Move after import* lets you export the file to a certain destination.

*Serial port,
Baud rate,
Connect/ disconnect*

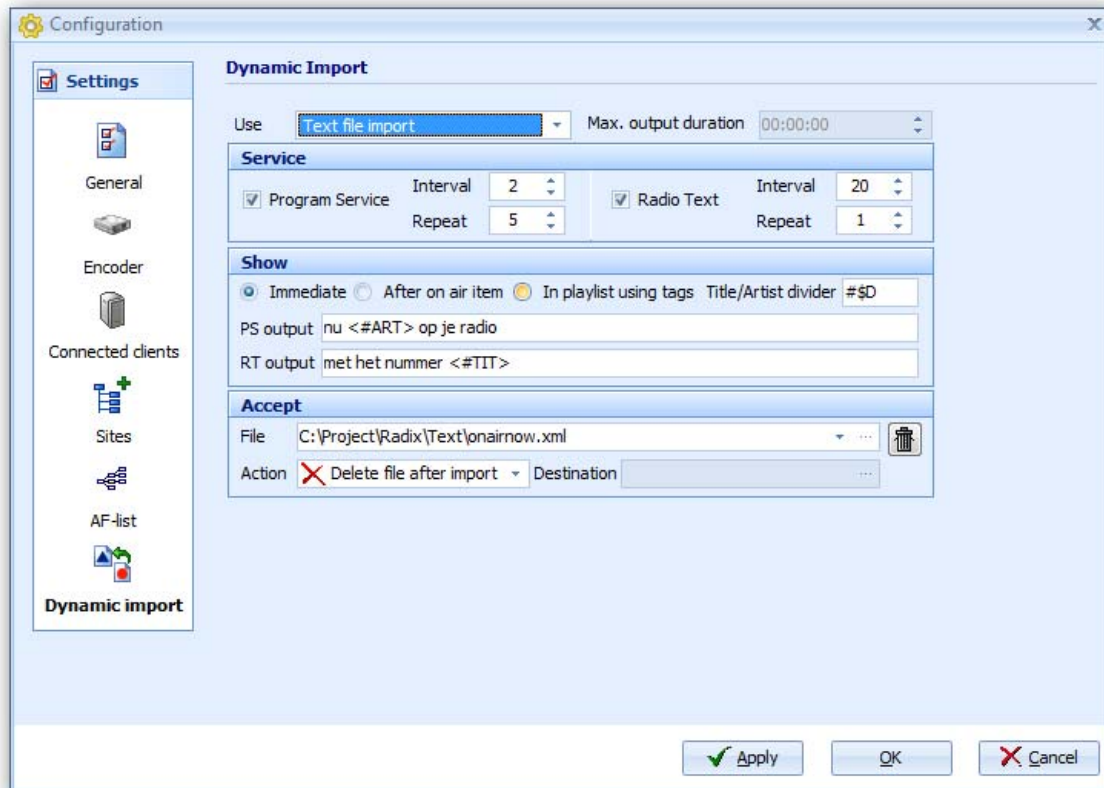
These are the settings of your serial port, used by the dynamic import module, for the incoming data. This window is operated exactly the same as the *General* tab, already described in a previous chapter.

4.4.2 Examples of XML import

In the example below, a Dallet (radio automation) generated XML file is imported in Radix.

Click on Tools -> Configuration -> Dynamic Import

Select the Text import option. This option's settings are described in previous chapters.



The XML file's contents might resemble:

```
- <BroadcastMonitor>
  <updated>2008-12-25T10:54:42</updated>
  <stationName>Unknown</stationName>
- <Current>
  <startTime>2008-12-25T10:54:42</startTime>
  <itemId>1000320655:3876589</itemId>
  <titleId>39366965</titleId>
  <itemCode>1144-01</itemCode>
  <itemReference />
  <titleName>RAY OF LIFE</titleName>
  <artistName>MADONNA</artistName>
  <albumName />
</Current>
</BroadcastMonitor>
```

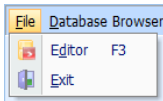
Radix uses the XML file's tags. The <#ART> tag, in the PS output file or RT output file, is substituted by the text between the <artistName> and </artistName> tags. As is the song title, which has the <#TIT> tag replaced by the <titleName> and </titleName>.

In this last example the onairnow.xml is directly removed after the text has been displayed.

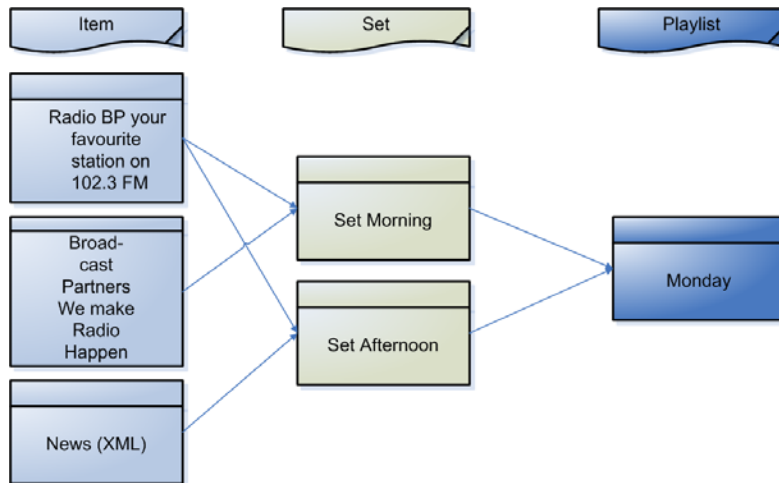
5 Editor

5.1 Introduction

The *RDS Editor* can be accessed from the main menu, using the *Editor* button from the *File* menu, or simply by pressing the *F3* key.

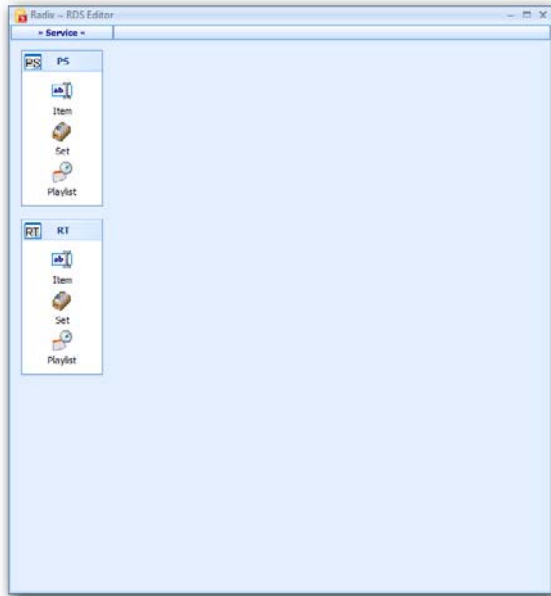


Before discussing the *Editor*, let's take a look at *Radix*' playlist. The simple diagram below clearly shows the hierarchy of the playlists' different components.



As you can see in the example above, a *Playlist* is constructed by one or more *Sets*, which in turn are built up by one or more *Items*.

This format is clearly shown, when the *Editor* window is opened.



The *Editor* is divided in two main sections (*Services*). These are named: *Program Service (PS)* and *Radio Text (RT)*.

Radix LE only has the Program Service (PS) section.

5.2 Tags

Radix can use *Tags*. *Tags* can be used to stream dynamic information, without having to change this manually every time. A good example is the date. Another good reason to use *Tags* is their ability to access large amounts of information with just a single tag, making the task of *playlist* writing a lot easier.

Say you have five transmitters, each at a different location, and a different frequency. You want the name of your station, the transmitter's location and the matching frequency to be broadcast. There are three different approaches to this problem:

1) By creating one large *PS item* containing all the information

The downside is that listeners at location **A** receive the information meant for listeners at location **B**.

2) By creating five short *PS items*, each with their own specific information

The same problems as the last example, only adding even more *PS items*, that fill the database with unnecessary data.

3) By creating one short *PS item*, that uses tags (also see: *Site Address Specification*)

Only the useful information is sent at the right location, and only a single *PS Item* has to be created.

Radix has 8 different *Tags* which can then be divided into two groups. The *Site Specification Tags* and the *Dynamic Tags*. *Tags* always start with a '<#>' and always end with a '>'.

Site Specification Tags are:

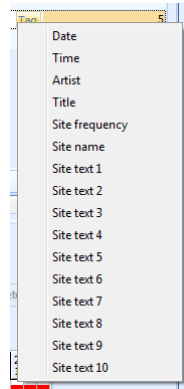
- <#FREQ> (is replaced by the site's frequency)
- <#SITE> (is replaced by the site's name)
- <#TXT1> (is replaced by a custom text)
- <#TXT2> (is replaced by a custom text)
- ..
- <#TXT9> (is replaced by a custom text)
- <#TXT10> (is replaced by a custom text)

Dynamic Tags are:

- <#TIME> (is replaced by the current time)
- <#DATE> (is replaced by the current date)
- <#ART> (is replaced by the name of the artist, currently playing)
- <#TIT> (is replaced by the name of the song, currently playing)

When the <#ART> and the <#TIT> tags are used in a *PS* or *RT* item, the category needs to be set to **Automation**.

Tags can be selected from the *Editor*. When you want to use a tag, open the menu by pressing the *Tag* button in the selected line, and scroll down to the required *Tag*.



The tag is now automatically placed in the selected line.

Radix LE doesn't allow site specific tags, like the Radix standard edition (2) and the Radix National/Regional edition (10)

The example below contains all relevant *Tags*. Let's create a *Program Service Item*, that has both specific, as well as general information.

Example:

<Line 1>	<#DATE>	General information, sent to all sites
<Line 2>	Radio BP	General information, sent to all sites
<Line 3>	<#SITE>	Specific information, handled per site
<Line 4>	<#FREQ>	Specific information, handled per site
<Line 5>	For	General information, sent to all sites
<Line 6>	young &	General information, sent to all sites
<Line 7>	old	General information, sent to all sites
<Line 8>	Radio BP	General information, sent to all sites
<Line 9>	<#TXT1>	Specific information, handled per site

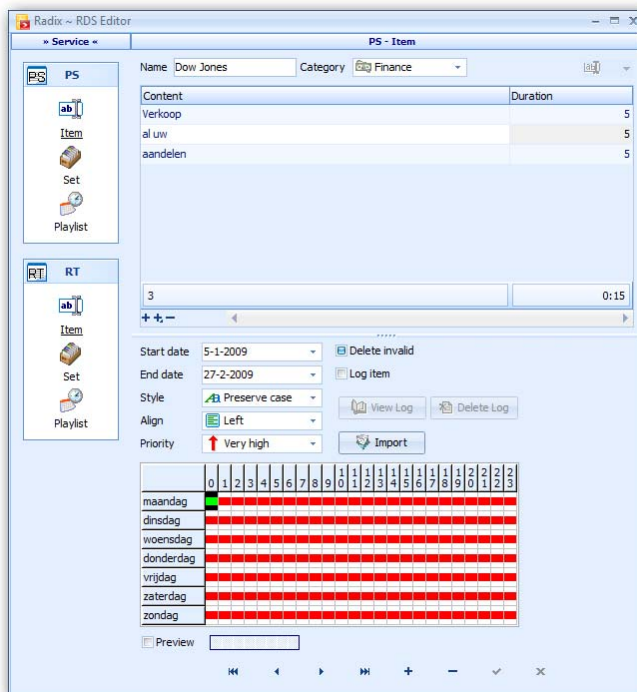
Now what happens when this PS *item* is broadcast? Line 1 is a general *Tag* and is accepted by all encoders. This means it is broadcast by every encoder, the *Tag* being replaced by the correct name. Line 2 is general information as well, and is handled like Line 1. Line 3 is a *Tag* as well; it will be replaced by the site's name, as listed in the "*Site name*" column. (See: Configuration -> Sites). Because this is **site specific information**, the "*Site addr.*" is used, in the order specified under "*Order*", to the required encoder. Only the encoder that holds the matching Site address will broadcast the line. Line 4 is a site specific line as well and is handled like Line 3. Lines 5 through 8 are general information, Line 9 specific.

5.3 Program Service

The Program Service requires *Items*, which are used in a set. These sets in turn are used in a playlist.

5.3.1 Item

The window below can be accessed by pressing the *Item* button in the *PS* section on the left side of the screen. Here you can create *Items* for the *Program Service*. *Program Service* is the text displayed on car radios. A *Program Service Item* consists of one or more lines of text. Each line has a maximum of 8 characters. Words that are too long are displayed in red.



Name Here you can enter the name of the *Program Service Item*. It needs to be a unique name; no other *Program Service Items* are allowed to have the same name.

Category Each *Program Service Item* needs to be in a certain category. Its value doesn't affect the RDS data. Categories are mainly implemented for a fast *Item* search in the *Database Browser*.

Content and Duration Here you can view and alter all texts. Simply press the down arrow to skip to the next line. You can add a new line as well, if required. To cancel the last modification, press the *ESC* key, while the field is still active. A line can hold a

maximum of 8 characters (the *Program Service's* maximum). The length of each rotation can be specified in the *Interval* column.

Tag *Select a tag*

Simply select a *Tag* from the *Editor*. When you want to use a tag, press the required tag in the menu, which can be opened by pressing the *Tag* button. The *Tag* is now placed on the desired line automatically.

++- *Add Line, Add line at end & Delete selected line*

Add Line adds a new (empty) line to the list, between the other lines. The short key for this function is the *INSERT* key. *Add line at end* adds a new line at the end of the *Item*. *Delete selected line* removes the active line from the list.

Preview

Pressing this button generates a preview of the text, as shown on an RDS display.

You can navigate through the Database by using the buttons in the lower center. These buttons are activated when you select a service. You can see a short description, when you move your mouse pointer over a button.

5.3.1.1 Settings

This window is opened by pressing the navigation bar in the *Program Service Item* or *Radio Text Item*. It allows you to adjust several *Program Service/ Radio Text Item* settings.

Start date

The activation date for a *Program Service Item*.

End date

Here you can specify if a *Program Service Item* has a limited running time or not. This could for instance be useful for Christmas, broadcasting 'Merry Christmas' a few weeks after the holidays is quite useless. You can pick a date by pressing this field. You can remove a date (stating a *Program Service Item* doesn't have a limited lifetime) by pressing the *Delete* or *Backspace* key with the field still active.

Delete Invalid

This option automatically removes all the *Items* that have past their expiration dates.

Log item

You can save the *Program Service Items* and *Radio Text* messages that have been broadcast (+ their times) to a special log file. This option enables or disables the automatic logging.

View Log

This shows the current *Item's* log file. Data is only stored to a log file, when the *Log item* is enabled in this window.

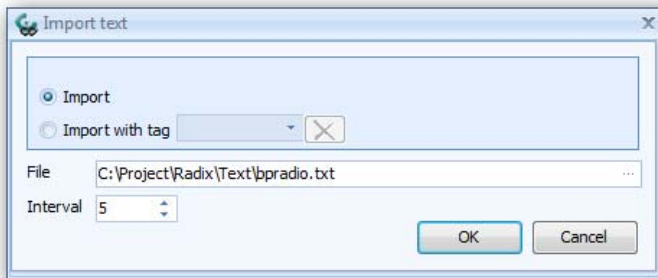
<i>Delete Log</i>	Deletes the contents of a log file. This option cannot be undone.
<i>Style</i>	This option has 3 different settings, <i>case insensitive</i> , <i>uppercase</i> and <i>lowercase</i> . When the <i>case insensitive</i> option is enabled, all messages are shown, exactly like they were typed. Choosing the <i>uppercase</i> option converts all the letters to uppercase, while <i>lowercase</i> converts them to lowercase characters.
<i>Align</i>	The text justification. You can choose <i>center</i> , <i>left</i> or <i>right</i> .
<i>Priority</i>	This option is used for automatic <i>playlists</i> scheduling. You can set the priority of the individual items. High priority <i>Items</i> are broadcast more frequently and sooner than low priority <i>Items</i> .
<i>Import</i>	This is discussed in depth in the <i>Import text</i> chapter.
<i>Time Matrix</i>	You can set an <i>item</i> to be broadcast by the hour and the day. A more detailed description on this subject can be found in the Time Matrix chapter.

5.3.1.2 Import Text

With this function you can import external text files into *Radix*. You can access this function with the *Import* button from the RDS editor screen.



The window below pops up:



You can choose between *Import* and *Import with tag*. Choosing *Import* imports all of the file's contents. *Import with Tag* only imports a specified portion of the file.

File The file type. Selecting a type brings up a standard Open File Window.

Interval The rotation time per line

OK When you have entered the new data, press this button to import the data from the text file into the *Program Service Item* for further manipulation and storage. While the program is importing, it automatically uses the *Alternative Word* functionality.

Import with tag

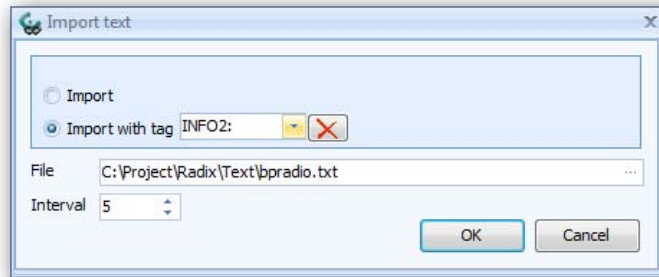
Some radio automations generate text files that have too much information. You can enable the *Import with tag* function to be able to use these files.

Example text file:

INFO1: none relative information

INFO2: *relative information, you want to broadcast*

INFO3: none relative information



To import the text following “**INFO2:**”, use this as your *import tag*. Now select the location of the file, and the text following “**INFO2:**” is imported and computed.

5.3.1.3 Time Matrix

The Time Matrix allows you to determine what time to broadcast a *Program Service Item* or a *Radio Text Item*.

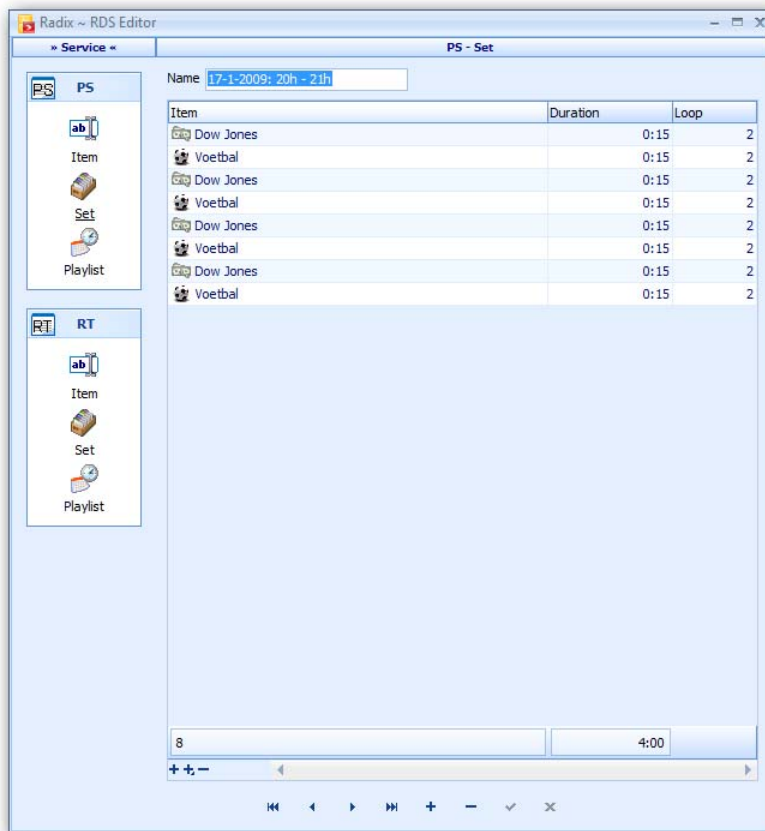
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
maandag																								
dinsdag																								
woensdag																								
donderdag																								
vrijdag																								
zaterdag																								
zondag																								

You can select the hour and day that a specific *Item* can or can't be broadcast. Click in a frame inside the matrix using the left mouse button followed by a right mouse button click (or the space bar). The selected frame is now colored. To undo this, simply press the right mouse button again. To select a series of frames, drag the mouse, while holding the left mouse button across the fields and press the right mouse button (or the space bar).

This *Time Matrix* is used when you use the *auto plan today* or the *auto plan week* function to automatically generate a *playlist*. This will be discussed later in this manual. An hour/ day is scheduled in the playlist when the referring cell is colored.

5.3.2 Set

A set consists of a number of *Program Service Items* or *Radio Text Items*. This set can then be used to create a *Playlist*. The easiest way to create playlists is by skipping the sets, and have Radix automatically create a playlist for each day of the week, with a set for each hour. Most radio stations consider this method, which will be explained in the next paragraph, an efficient way to schedule. If you still want to create your sets manually, you can use the screen below.



Name Each set requires a name, which should be entered in this field.

Item You can add *items* to a *set* by dragging them to the required position, from the *Database Browser*. You can use the drop-down menu from the *Item* column as well. All available *Items* are listed here, and can be manually selected.

Loop

This is the number of times an *Item* has to be repeated before skipping to the next *Item*.

+ + - *Add Line, Add line at end & Delete Selected line*

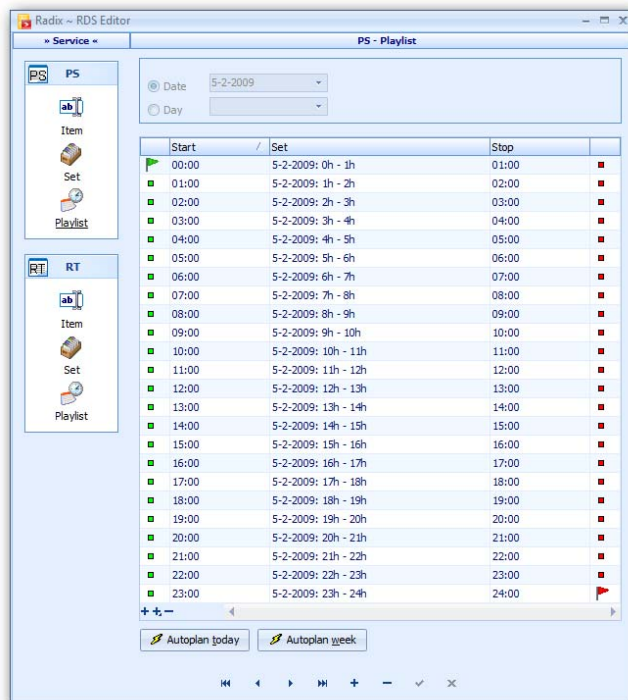
Add Line adds a new line to the list between the other lines. The short key for this function is the *INSERT* key. *Add Line at end* adds a new line at the bottom of the list, while the *Delete Selected Line* removes the currently selected line from the list.

5.3.3 Playlist

The fastest and most efficient way to schedule in Radix, is the *auto plan method*. You don't need to create the sets manually or create the playlists from these sets by hand. Radix uses all the parameters from the *items* to automatically create the hour-sets for each day of the week. It just doesn't get any easier.

After you have specified one or more new PS (RT) *items*, all you need to do now is to press the *Auto plan week* button and all the *items* are automatically distributed amongst the week by their parameters.

You can manually create playlists as well, determining the times and lengths of the Sets yourself. The Set(s) are constantly repeated during that time, until the next Set(s) are played. General Playlists for the auto plan method can be created, as well as playlists for a specific date. These last are scheduled before the week day playlists.



Date / Day

Allows you to lock a set to a specific date or week day. When active, the automation first checks if there is a *Playlist* for the **current date**. This will be used if available. When **unavailable**, the program checks for a *Playlist* for the current day of the week. If this is not available either, the standard text (set in *Configuration -> General*) is broadcast.

Start

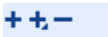
Here you can enter the starting time of a certain *Set*.

Set

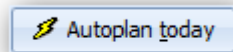
You can place all the *Sets* you want in the playlist, in this list. Add a set with the drop down menu from the *Set* column, or by dragging it from the *Database Browser*. The start and stop times are automatically filled out when you have selected a set. You can start changing the times when you have two or more *Sets* in the playlist. If you don't, the set will be repeated the throughout the day (also marked with an "arrow" icon in the first and last column).

Stop

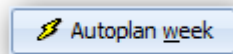
The time a certain *Set* has to stop.

 *Add Line, Add line
Line at end & Delete
Selected line*

Add Line adds a new line to the list between the other lines. The short key for this function is the *INSERT* key. *Add Line at end* adds a new line at the bottom of the list, and the *Delete Selected Line* removes the currently selected line.



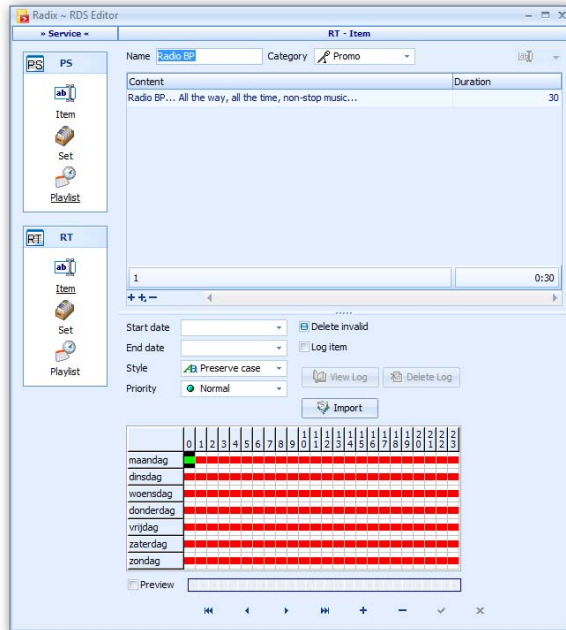
This button automatically generates a *Playlist*, holding 24 one hour *Sets*, for a given date. Each *Item* is checked for validity (as explained in the chapters on *Item Settings* and *Time Matrix*). If valid, the *Set* is added to the playlist (in the generated hour sets) by its parameters.



This button automatically schedules 24 one hour sets, for each day of the week. Each item is automatically checked whether it is valid for that day (as explained in the chapters on *Item Settings* and *Time Matrix*). If valid, the *Set* is added to the playlist (in the generated hour sets) by its parameters. This means an *Item* is added to all the existing (day) playlists with just one easy function. This makes *Radix* one of the easiest RDS programs available today.

5.4 Radio Text

The *Radio Text Item*'s functionality is quite similar to the *Program Service Item*'s. For more information please review that specific chapter. The difference between the two services is (briefly) explained below.



The main difference between a *Program Service Item* and a *Radio Text Item* is the maximum number of characters in a single line. A *Program Service Item* has a maximum of 8 characters, while a *Radio Text Item* allows 64 characters. The align function is unavailable here as well.

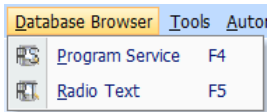
Radix LE edition can't automate Radio Text (RT). Only a single fixed line is displayed.

6 Database Browser

6.1 Introduction

You can review the data you have entered in the *Editor*, using the *Database Browser*. The *Database Browser* has two different versions, one for the *Program Service* and one for the *Radio Text*. Both variants look the same. The pictures in the next chapters are from the *Program Service* version, the *Radio Text*'s operation is similar.

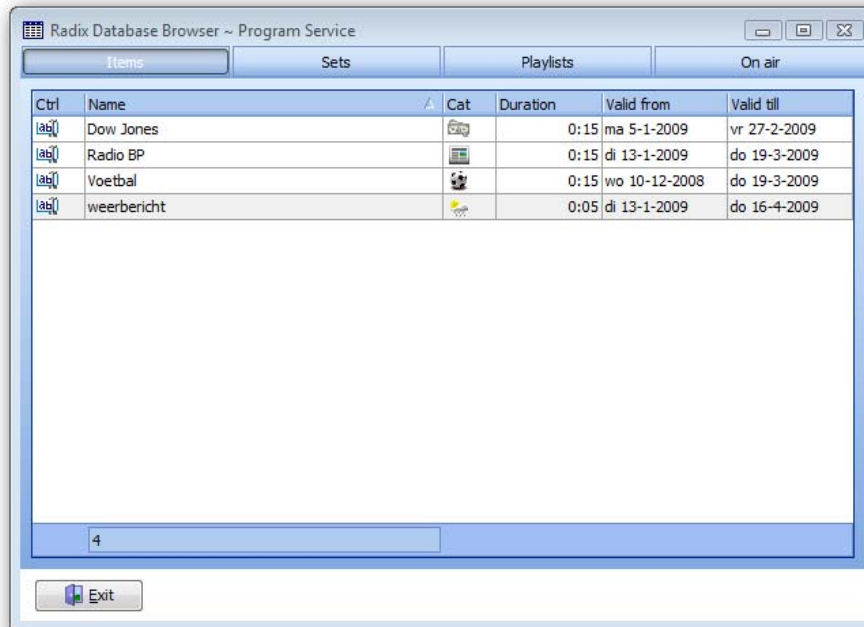
You can start the *Database Browser* by selecting *Database Browser* from the menu bar. Now you can choose which *Database Browser* variant you wish to use. You can use the F4 or F5 short keys as well.



Radix LE only contains the Program Service (F4) Database Browser.

6.2 Items

When you open the *Database Browser* you will notice the row of buttons in the top of the screen. The *Items* button is active by default. A list of all the *Program Service Items* (or *Radio Text Items*) is shown below the buttons.

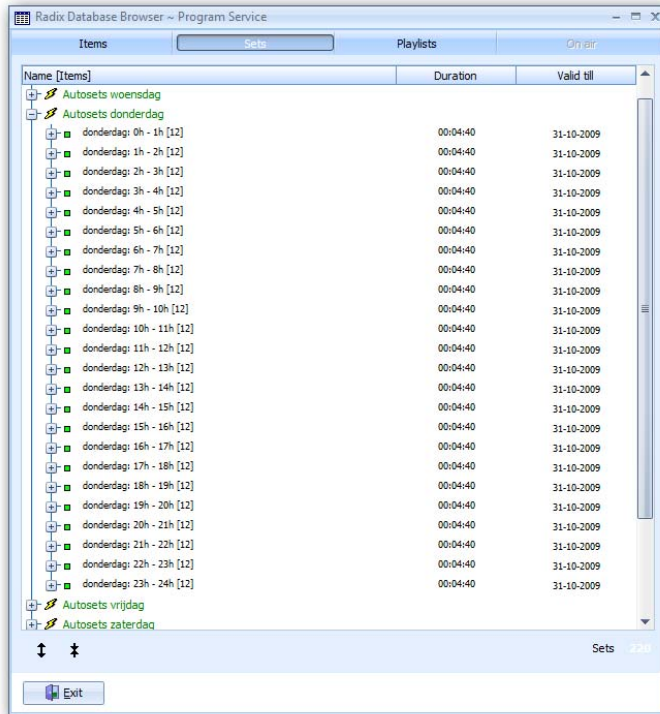


The first column shows whether the *Item* text has been entered manually, imported, or has been streamed from an XML feed. The second column holds the *Item*'s name. The next two columns are for the category and duration and the last two for the *Item*'s start- and ending dates. To edit an *Item*, simply double click it to open the *Editor*. You can use the *Editor*'s database navigator to edit an *Item*.

On Air When this button is pressed, the current *Item* is send to the *automation*. A second press restarts the *automation*.

6.3 Sets

The *Database Browser's* *Sets* function can be opened using the *Sets* button in the menu bar. All existing *Sets* are listed in the center of the window.



To edit a *Set*, just double click it, or browse to the required *Set* from the *Editor's* database navigator. You can also edit an *Item* from this window by double clicking it.

↑ Expand

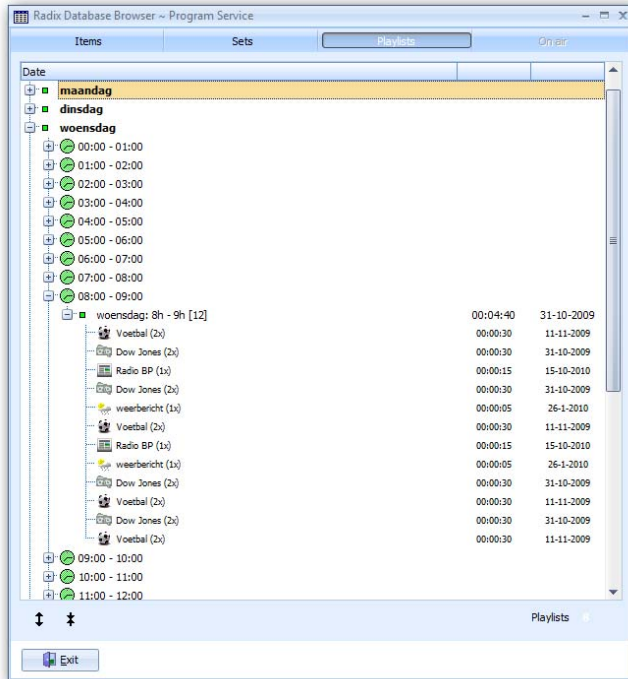
A set is comprised from one or more *Items*. The *Expand* button shows all the *Items* related to this *Set*. The "+" icon has the same effect.

⌵ Collapse

The opposite to the *Expand* button. When a *Set* is expanded (showing all related *Items*), this button folds the list back. Pressing the "-" icon collapses a *Set* as well.

6.4 Playlists

You can review all available *Playlists* by pressing the *Playlists* tab in the *Database Browser*. The list in the center of the window shows all the *Playlists*.

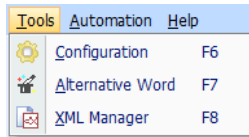


You can edit a *Playlist* by double clicking it, or by using the *Editor's* database navigator to browse to the required *Playlist*.

7 Alternative Word

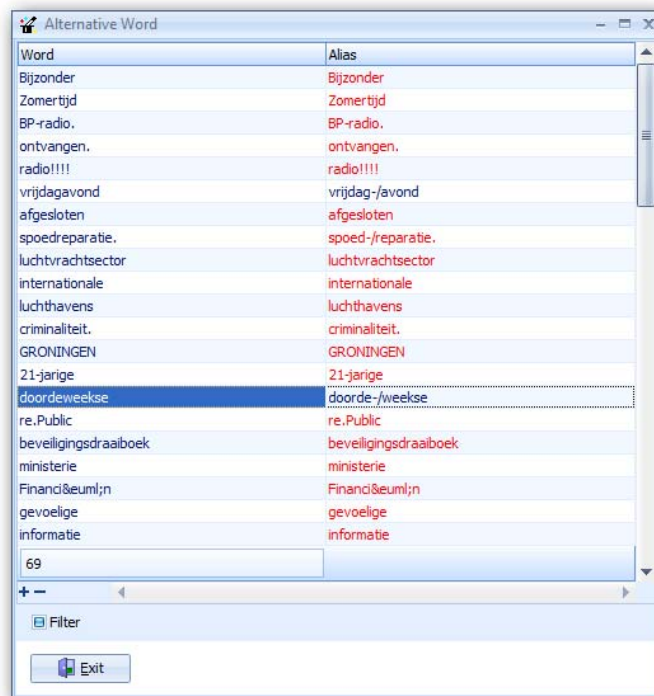
7.1 Alternative Word

The *Alternative Word* function can be opened from the main window, pressing *Tools -> Alternative Word*.



As described in previous chapters, a *Program Service* can hold a maximum of 8 characters. The *Alternative Word* function is integrated in *Radix*, to make sure all words are properly abbreviated. This function allows you to create a list of all words over 8 characters, and choose an alias. This alias can be an abbreviated version of the word, or to have the word spread out amongst several lines.

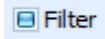
If an imported RSS-feed has words over 8 characters from a *news-item* they are added to the list. They can be hyphenate as shown in the picture below (-/).



Word This column holds the words that you want to automatically abbreviate. Click a word twice (not a double click) to change its contents.

Alias The word's alias from the *Word* column. You can use the *Word separator* to define the abbreviation point. To change the *Alias*, click it twice (not a double click).

Filter Creates a collection of all the words that still need to be edited.



8 XML Manager

8.1 Introduction

RSS (Really Simple Syndication) is a XML meta language application. RSS files are commonly used for syndicating web based information, i.e. mass publication. These feeds are usually published on an internet site with lots of advertisements and links. RSS provides a simple presentation, with only the headlines and a link to the original site. Website information can now be converted for use in other websites or programs (*Radix*). The *XML Manager* allows you to define *XML feeds* (*RSS feeds*).

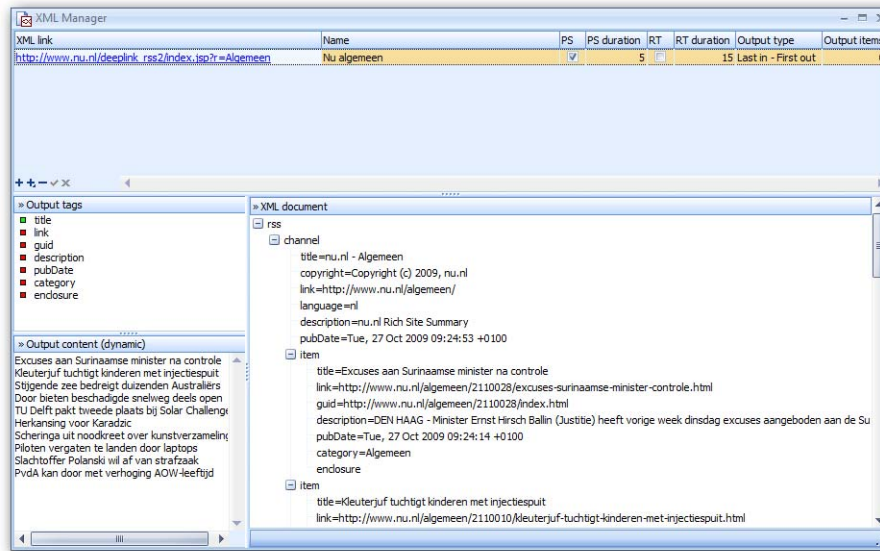
How do I know a site is providing RSS feeds?

RSS feeds are usually indicated with an orange square, with the letters XML in a white font. Other indicators might be texts such as RSS, RDF and XML, sometimes accompanied by the term 'syndication'. This text or picture is connected to an RSS feed by a hyperlink. The internet address of this hyperlink can simply be copied by clicking the 'copy' command, from the right mouse button menu. The link has to be pasted in the *XML Manager*.

This function is not available in Radix LE.

8.2 Using an XML link

This chapter describes the XML Manager.



Most of the XML-feed settings are set on the top of the screen. From left to right these are: *XML link*, *Name*, *PS*, *PS duration*, *RT*, *RT duration*, *Output type* and *Output Items*.

XML link This field holds the link to the XML page. The *XML Manager* starts importing when you enter a valid link and a unique name, to the bottom right field (*XML document*).

Name The link should have a clear name, which needs to be unique, meaning it can only be used in this window once. A link that is used for both *PS* as well as *RT* can be named as such, e.g.: new *PS*.

PS Mark this, when the link is used as a *PS*.

PS duration The standard duration of each line in *PS*.

RT Mark this, when the link is used as an *RT*.

RT duration The standard duration of each line in *RT*.

Output type *Radix* has two output types, i.e.: *Last in – First out* or *Rotate items*. An XML page is (usually automatically) updated quite frequently. New messages are added, and old ones are removed. *First in – First out* always displays the **latest** XML *item* first. This could be useful for, for instance news, or news flashes. The *Rotate items* type **rotates** a given number of items. This might be useful for pop news.

Output items Most feeds contain more than one message. The default value (0) shows all messages. Higher values restrict the maximum to the value entered.

Output Tags The XML Manager shows the contents of the document and the available tags, when an *item* is saved.

Click and save an *Output tag* to show the *Output content*. A lot of providers give a short (tag *title*) and a long (tag *description*) description of the message. The short can be published as a PS, the long as an RT.

When you close the window, the XML Manager creates the PS- and RT *items* for all the XML feeds that are marked in the *Editor*.

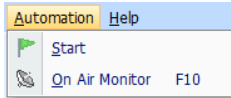
Items not listed in the XML Manager are removed from the *Editor's items* list. These *items* can still be opened in the Editor, to change extra fields (like category, priority, day or week parts, validity etc.). The easiest way to reschedule them is by using the “*auto plan week*” method.

9 On Air

9.1 On Air

Radix waits for the *Automation* to start, before sending data to the RDS encoder.

The *Automation* can be started from the main window, by clicking *Automation -> Start*.



The program will notify the user if today's playlist is unavailable. A standard text is displayed:



This field holds all the *Configuration* settings. The current *Program Service* message and the owning *set* are displayed in the bottom left corner. The same is shown in the right corner, for the *Radio Text*.

The top right corner holds an icon with a “highway” sign. Pressing this button activates the *Traffic Announcement*. This adjusts the listener's volume, or temporarily stops their CDs. The *ON* light is lit as well. Press the button again to indicate the DJ has finished announcing traffic reports. The *Traffic Announcement* is lifted (and the *OFF* light is lit).

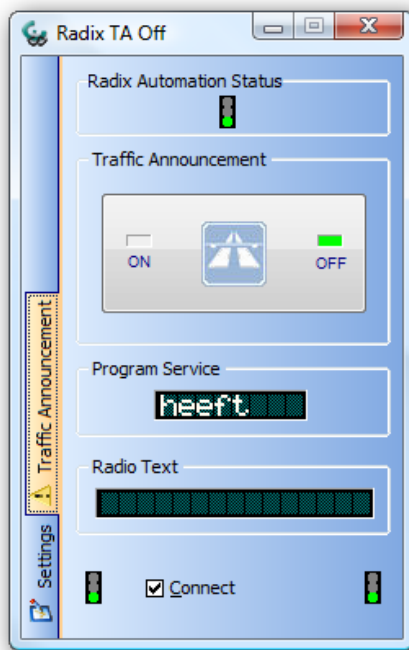
10 Radix Client

10.1 Introduction

The *Radix* computer is usually in the same building the audio is connected to the transmitter, cable station or satellite uplink. The *Traffic Announcement* relay is usually located somewhere else.

The *Radix Client* can activate the *Traffic Announcement* from any computer in the RDS server's network. You can optionally use any free serial port to switch the *Traffic Announcement* as well.

10.2 Traffic Announcement



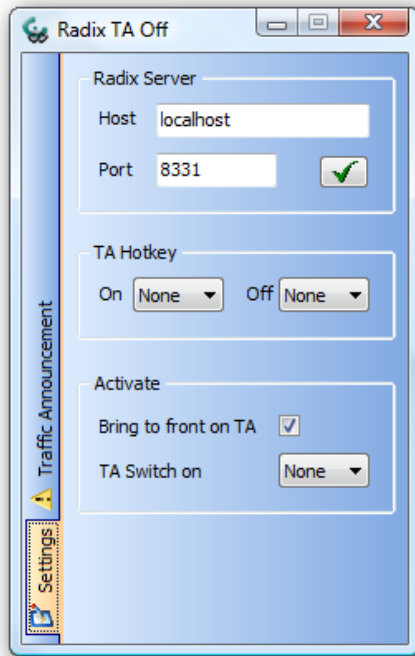
The traffic light next to *Radio Automation Status* indicates if *Radix*' automations has started or not and if the standard PS or RT texts are being broadcast.

The large button with the "highway" traffic sign can (de)activate TA.

The current *Program Service* and *Radio Text* are displayed in the center of the window.

The client is connected to the *Radix* RDS Server when the traffic lights are green. The middle button can connect or disconnect the TCP/IP connection.

10.3 Settings



Host The *Radix* computer's name or host IP-address. If this is similar to the local computer, you can enter *local host* or 127.0.0.1 for an IP address.

Port This has to match the *Ports* section's settings in the *Configuration* -> *Server* menu. This could, for example be 8331. If this port is already used, you can ask your network administrator for assistance to find another.



Apply Settings

Applies the settings for both *Host* and *Port*. The program instantly tries to connect to the *Radix Server*. Any active connections are aborted.

TA Hotkey On/Off Allows you to switch the *Traffic Announcement* by means of the *F1* through *F12* function keys.

Bring to front on TA Automatically brings the *Radix Client* window on top, when TA is activated, regardless of the switching computer.

TA Switch on

The *Traffic Announcement* can be activated by switch or relay as well. This can be done with the serial port that is selected here. Connecting pins 2 and 3 activates the TA. TA stays active as long as both pins are connected.

Note: When the TA is activated by a serial port it must be through a switch or relay contact. Any external current will irreversibly damage your serial port!