RadioXtreme
USB Radio

Model: FMU-100

User Manual

(Version 1.0)

Table of contents

1   Introduction

1.1   Introduction

RadioXtreme USB brings to you a totally new breeze of experience that livens up your daily computing routine. Working on the PC will never be as monotonous with your favorite radio channels on the latest news updates and music.

RadioXtreme USB comes equipped with an IR Remote Control to provide the full remote steering possibilities over the radio functions and more. Listen and record your favorite music channel is simply a button away. It even lets you shut down the PC with the embedded Auto Windows shutdown function.

For the business executive, RadioXtreme USB remote control comes preprogrammed for MS PowerPoint. Impress your colleagues and business associates by controlling your MS PowerPoint presentation remotely without any additional expensive equipment.

If that is not enough, the RX Remote Control has reserved four additional program groups that you can configure to work with your other favorite applications.

1.2   Specifications

- USB 1.1, HID Class
- VHF Bank II, Frequency range: 87 MHz to 108 MHz
- Philips Digital FM Tuner
- 75ohm Antenna Input
- Audio Line Output
- ECC Compliant: FCC, CE and C-Tick
- Dimensions: 5.4 x 8.8 x 2.1 cm (without cable)
- Weight: 110g (with cable)

1.3   Minimum System Requirements

- IBM PC or 100% compatible PC
- USB 1.1 / 2.0 port
- Pentium CPU with 128 MB RAM or above
- Windows XP, Windows 2000, Windows ME, Windows 98SE
- 20 MB free hard disc space
- Earphones or Active speakers
- CD-ROM or DVD-ROM drive
- Soundcard (optional) for recording to PC HDD

1.4   Package Contents

- RadioXtreme USB Radio (Model: FMU-100)
- Remote Control Unit
- 75ohm Dipole Antenna
- USB Extension Cable (1.5m)
- Line-out Extension Cable (1.5m)
- 2 x AAA Batteries
- Installation CD
- Quick Installation Guide

2   Hardware Setup

2.1   Description of the radio connectors

The diagram below shows the connection of RadioXtreme. It can be connected in 2 easy steps:
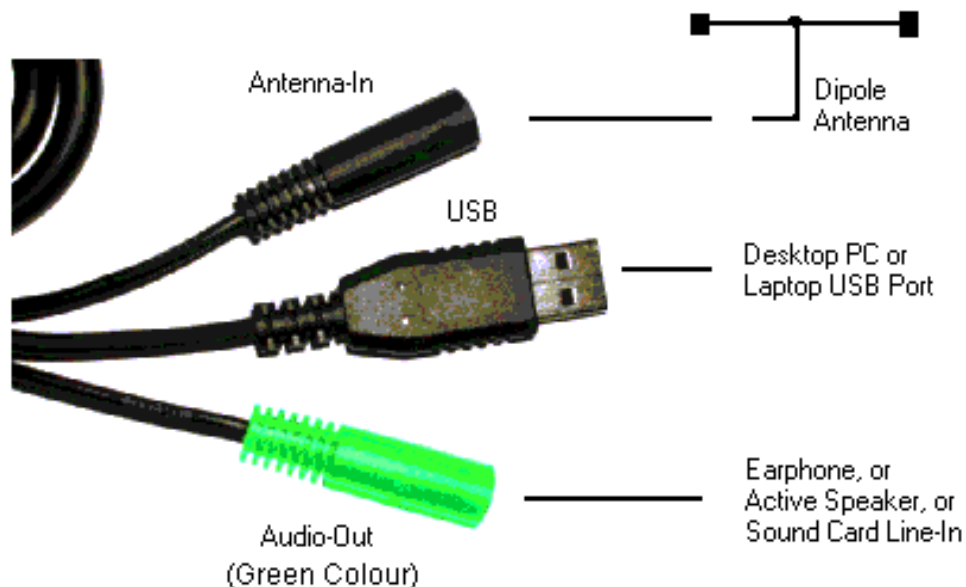
RadioXtreme connection diagram

Step 1:   Connect the earphones or active speakers to the "Audio-Out". To enable the recording function, use the provided Line-out cable and connect from "Audio-Out" to the Line-In, Microphone-In or Auxiliary-In of your desktop or laptop PC.

Step 2:   Connect RadioXtreme USB connector to the desktop or laptop available USB port (you may use the USB extension cable provided if your PC is further away). The system will recognize this HID (Human Interface Device), and install the appropriate device driver automatically.

You can verify if RadioXtreme is properly installed by looking into **Control Panels | System | Device Manager** if HID device driver is found. If the HID device is not installed automatically, you may remove it, reboot your system and repeat Step 2. Once the device is installed, you may proceed to Software Setup to install the application software for RadioXtreme.

TIP: You may connect the dipole antenna to the "Antenna-In", spread the antenna to a T-like shape for best reception.

If Windows still does not detect it, please, contact the technical support at support@mediaforte.com.sg.

3   Software Setup

The software that is bundled with the RadioXtreme USB consists of several components:

- **RX Radiator** – the main application that allows controlling the RadioXtreme. See also What is RX Radiator description.
- **RX Commander** – program that receives commands from the remote control unit to control RadioXtreme USB Radio and PowerPoint presentation (and other programs defined in RX KeyCom application). See also What is RX Commander description
- **RX KeyCom** – program that allows you to configure the remote control for various applications. See also What is RX KeyCom description.

3.1   Installation

RX Radiator, RX Commander and RX Keycom applications are shipped in single installation file. All you need to install it is to run *setup.exe* file and follow the instructions. You can quit the installation any time by pressing **[Cancel]** button.

3.1.1   Choosing the installer language

Choose the language in which the installer will communicate with you and press **[OK]**.

3.1.2   Welcome screen

The Welcome screen will show. Press **[Next >]** to continue.
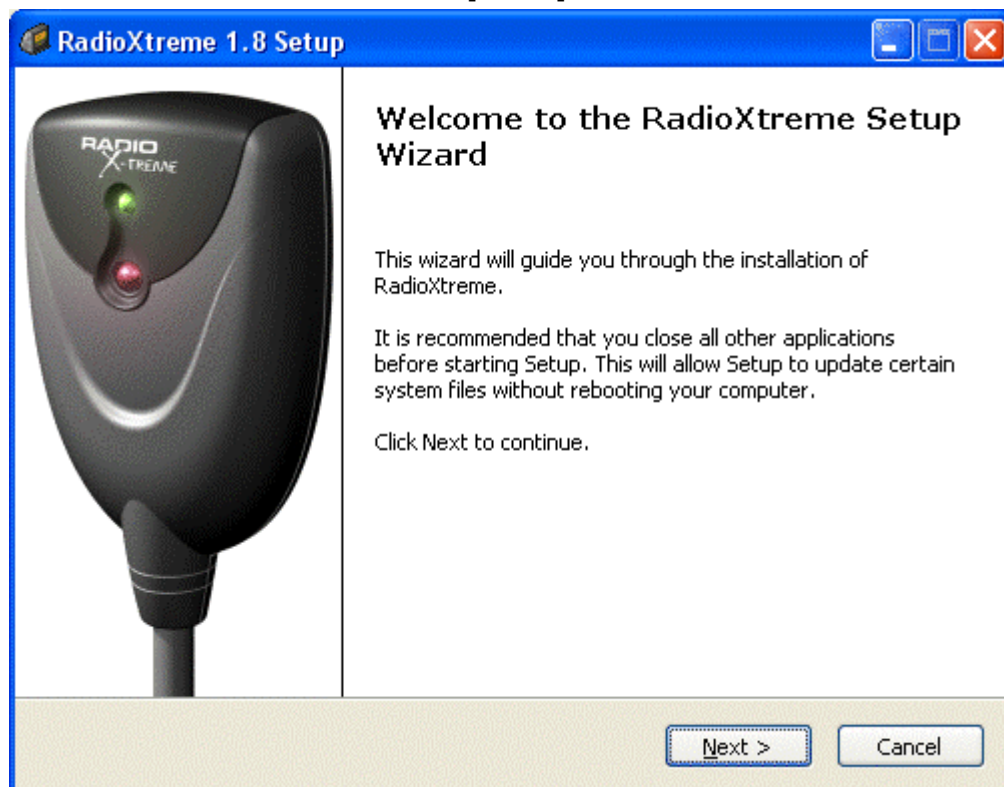
3.1.3 Choosing components

In this dialog you can select the components that you want to install. Press **[Next >]** to continue.
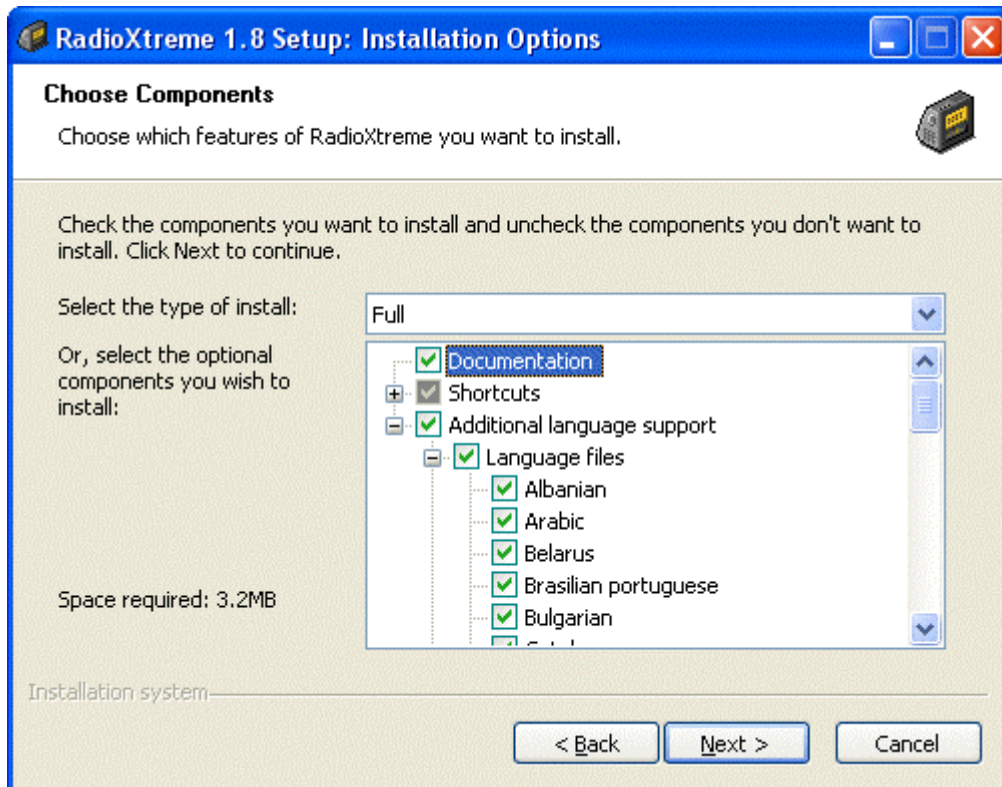
3.1.4 Installation folder

Here you can define the target directory where RadioXtreme software will be installed. Press **[Next >]** to continue.
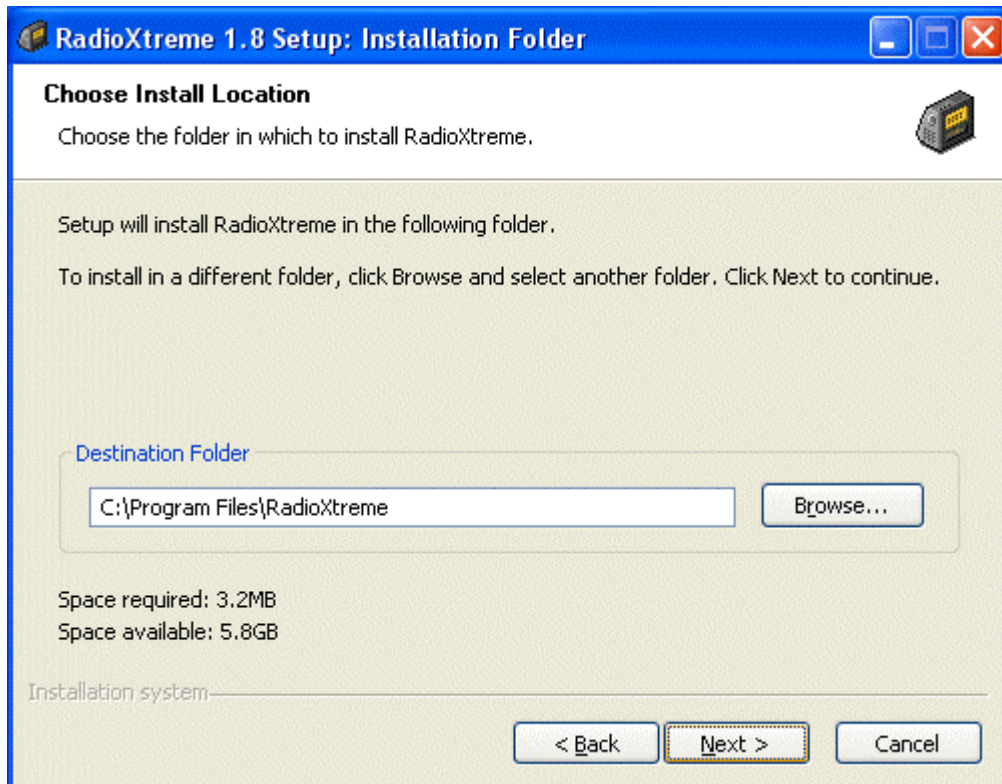
3.1.5 Shortcuts folder

In this dialog you can choose name and location of the folder for RadioXtreme shortcuts in the Start menu. Press **[Install]** to continue.

3.1.6 Installation progress

While copying files the installation progress dialog is shown.
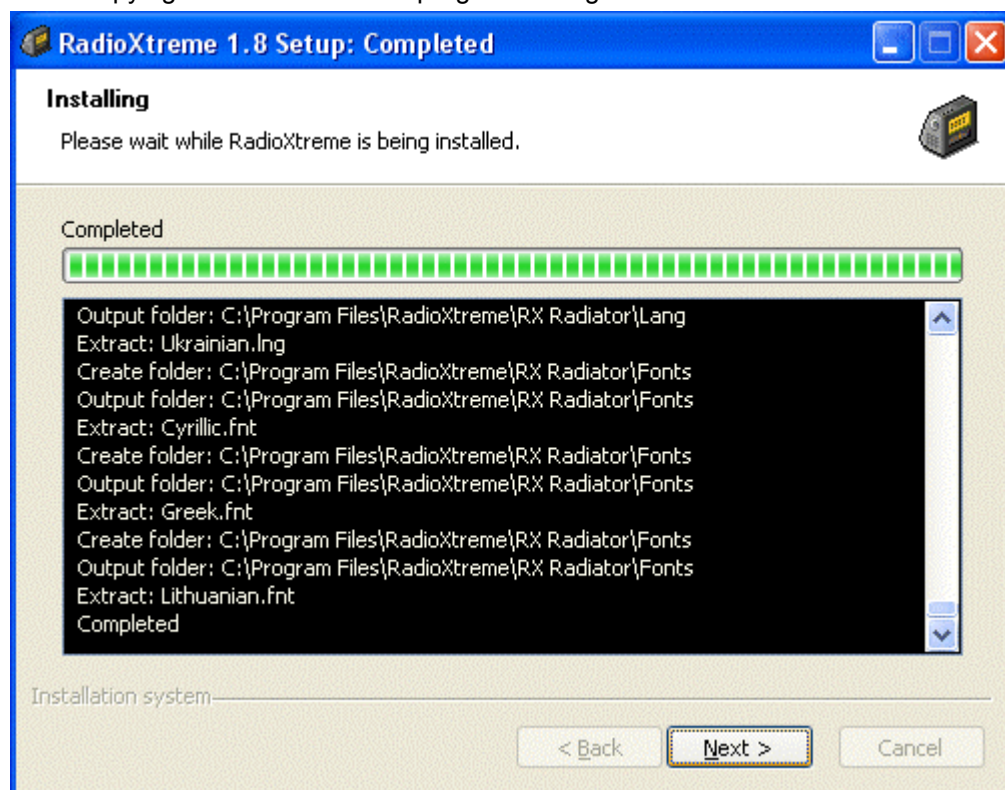
The installer will check if another session of *radiator.exe* is running and close it if so. The program files will be copied into the target directory. Press **[Next >]** to continue.

3.1.7 Completing setup window

You can choose to run Radiator immediately from this dialog. Press **[Finish]** to proceed.

3.2 Detail features, function and usage of RX Radiator

For detail description of features, functions and usage of RX Radiator please see the RX Radiator chapter.

3.3 Detail features, function, programming and usage of RX Commander and RX Keycom

For detail description of features, functions and usage of RX Commander and RX KeyCom please see the RX Commander and RX KeyCom chapter.

4 RX Radiator

RX Radiator is program for listening to and recording from RadioXtreme.
It offers:
- easy and intuitive use

- support of all key operations by hot keys
- possibility to record in various sound quality using codecs
- mouse use include wheel
- optional tray icon view
- easy-to-use frequency editing and sorting stations
- direct keyboard tuning
- command-line switches
- language modules support, large range of languages
- scheduling and scripting
- easy to control from another applications via documented messages
- and much more

4.1 RX Radiator interface

4.1.1 Standard RX Radiator window

This is the standard look of the RX Radiator window. All the operations can be done within its interface.

4.1.2 Thin window

You can set RX Radiator window to smaller 'thin' mode. In this mode, only basic operations are available.

4.1.3 Tray icon menu

RX Radiator main menu contains the most important commands and list of stored stations. You can popup the menu either by left clicking:

- the tray icon (when tray icon is enabled in configuration).
- RX Radiator label or menu button

The look of the menu is customizable, so you can set a background, fonts properties etc.
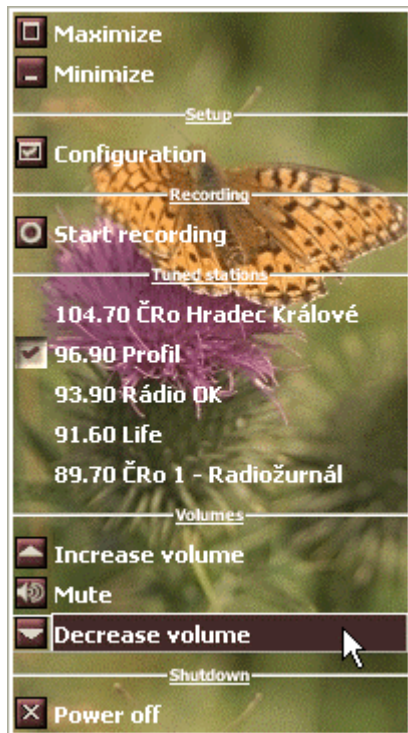
4.1.4   Volume settings area

-   **Volume up**   Increases the volume
-   **Mute/Unmute**   Mutes/unmutes the sound.
-   **Volume down**   Decreases the volume

4.1.5   Tuning

-   **Tune down**   Tunes to lower frequency.
  The target frequency is: *current frequency – tuning step* (1 MHz by default)
-   **Fine tune down**   Tunes to lower frequency using finer step.
  The target frequency is: *current frequency – fine tuning step* (100 kHz by default)
-   **Fine tune up**   Tunes to higher frequency.
  The target frequency is: *current frequency + tuning step* (1 MHz by default)
-   **Tune up**   Tunes to higher frequency using finer step.
  The target frequency is: *current frequency + fine tuning step* (100 kHz by default)

4.1.6   Scanning

-   **Scan down**   Scan downward for stations.
-   **Scan up**   Scan upward for stations.

4.1.7   Stations storing and setting

- **Store frequency in favorites**   Once a station had been pick-up, you can press this button to store it into any one of the user definable station
-

   The following dialog is shown:

   Enter the desired name and press **[OK]. T**he station will be stored in that position.

- **More/Less stations**   Toggles between two sets of stations: stations #1 - #12 and stations #13 - #24.

- **Stations 1 – 12, Stations 13 – 24**   Two sets of numbered buttons of the stored stations. You can switch between them using **[More/Less stations]** button.
   Left click the station button to tune its frequency, right click it to popup the context menu where you can **Rename station**, **Delete station** or **Sort stations** (by their frequencies).
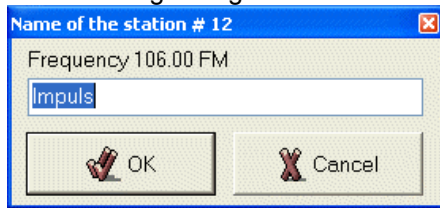

- **Previous station**   Selects previous stored station.
- **Next station**   Selects next stored station.
- **Channel surf**   Each preset station is being playback for several seconds. You can interrupt 'surfing' by pressing the **[Channel surf]** button.
- **Last station**   Tunes to the last played station (for example if you listened to station # 7, then switched to # 3, then this command will tune back to # 7 again.)

4.1.8   Recording

- **Start/stop recording**
   Starts or stops recording to the temporary file on the disk. If **[Save and name automatically]** button is not pressed down, then you have to specify the target location of the recorded file after stopping of the recording.
- **Start/stop loop recording**

   What is loop recording: Automatic recording of last minutes into buffer with defined length/size - no more missing beginnings of songs. **Loop recording works only when recording using codecs.**

   If you have been using uncompressed Wave PCM till now, you can get the same results using codecs - just select PCM coded with appropriate properties - and furthermore - you will be able to use loop recording. Nevertheless not all of the codecs that you can see in the selection dialog are suitable.

   Some codecs or combination of codec and its parameters are supposed to be used for decoding only so they would not work for recording.

   If you try codec (in RX Radiator) that creates wave file that cannot be playback, it is necessary to close RX Radiator and start it again. Otherwise, it would create non-playable files even with codecs that should work.

Notes:
- o CPU load is nearly the same as while file recording
- o In general, PCM, IMA ADPCM etc. require less CPU time than MP3
- o Length of buffer is shown as the last item in *Codec properties* field in RX Radiator configuration
- o If loop recording was active during last RX Radiator session, it will start automatically again when RX Radiator is launched again (even when active only as tray icon)

- **Save and name automatically**
Toggles between two modes of saving of the recorded file. When the button is down, it will assign name and save the recorded file without showing save dialog automatically. Otherwise you have to specify the target location and /or the name of the recorded file.

4.1.9   Miscellaneous

- **Setup**   Configuration window launcher. Click it when you want to change the configurations of the RX Radiator.

- **Sleep timer**   Using this button you can directly schedule RX Radiator to switch off in stipulated period of time (10, 20, 30, 60, 120, 300 minutes). You can also opt to shutdown Windows after that period.
Small LCD display displays the remaining time and sleep mode (**S** for RX Radiator shutdown, **W** for Windows shutdown.

Stay on top   Toggles *Always on top* and *'standard'* mode of the RX Radiator main window.

- **Minimize**   Minimizes the RX Radiator window either in taskbar or into tray.

- **Thin window/Maximize**   Switches between thin and standard window.

- **Power off**   Closes RX Radiator.

- **Menu button**   Left clicking shows the main context menu with list of the stations and several commands that have the same purpose as the RX Radiator window buttons.

4.2   Configuration window

Configuration window is separated into several *tabs*:
- Hardware settings
- Recording settings
- Options
- Stations list
- Schedule
- Menu
- About

4.2.1   Hardware settings
Here you can specify the basic hardware settings to setup the RX Radiator.
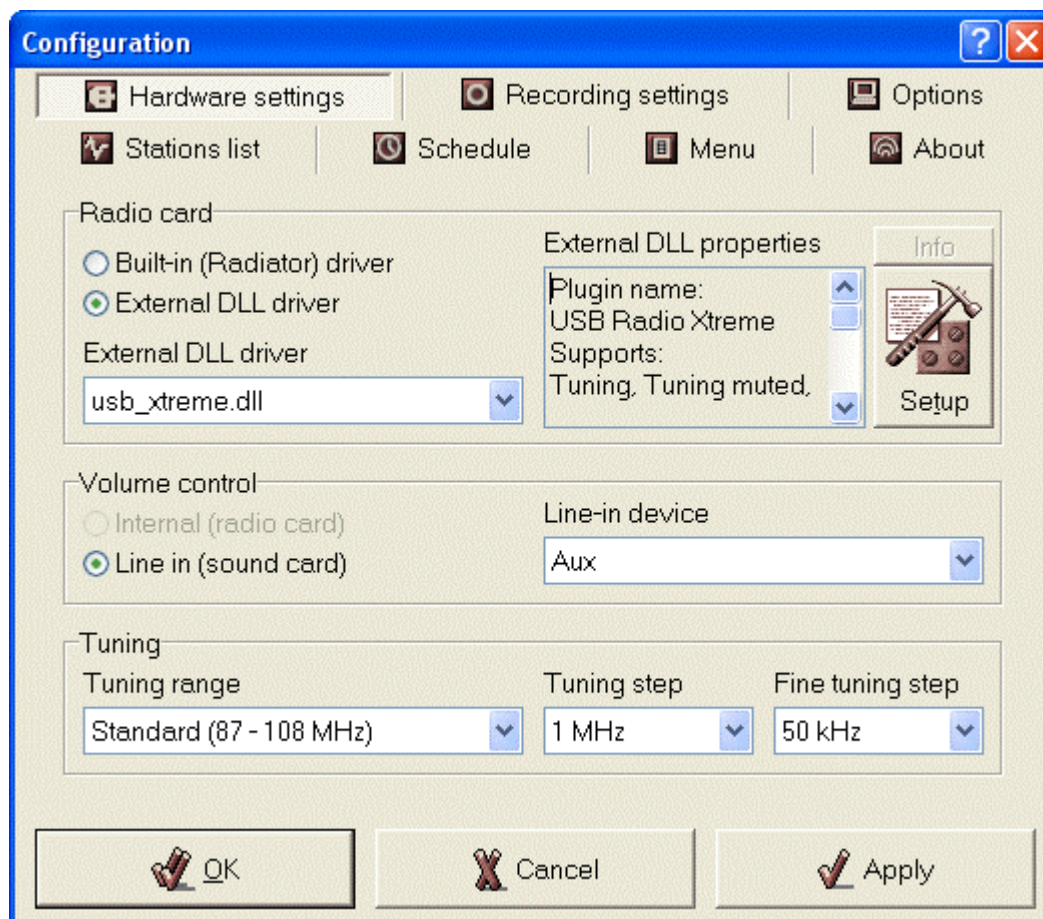
4.2.1.1　　　Volume control

In this section you can define what device should be used for controlling the volume.

- o **Line-in (sound-card)**
  - ▪ **Line-in device**　　　Choose a line-in device, i.e. the input to the sound card where you connect to the audio out of RadioXtreme. (Eg: Line-In, Mic-In, Aux-In and so fore).

4.2.1.2　　　Tuning

- o **Tuning range**　　　This allows you to choose either the standard or the enhanced FM frequency range. However. RadioXtreme only support the standard range.
  - ▪ Standard (87 – 108 MHz)
  - ▪ Enhanced (60 – 160 MHz)
- o **Tuning step**　　　Select the 'normal' tuning step here.
- o **Fine tuning step**　　　Select the 'fine' tuning step here.

4.2.1.3　　　RadioXtreme plugin configuration

You can get some information about radio card and set LED status for recording using **[Setup]** button.
This launches RadioXtreme configuration dialog.

-	**Indicate recording using LED**	When checked then LED on the radio card body blinks while RX Radiator records.
-	**Get firmware version**	Shows version of the radio card firmware.
-	**Get DLL version**	Shows version of *vrlib.dll* (library used by plugin to communicate with radio)
-	**More information about the plugin**	Shows text file describing the plugin properties.
-	**Save and exit**	Stores the current LCD settings.
-	**Cancel**	Closes the window without saving the changes.

4.2.2 Recording settings

In this tab you can defines various settings related to recording. Some of the settings related to recording are also to be specified in **Options** tab.
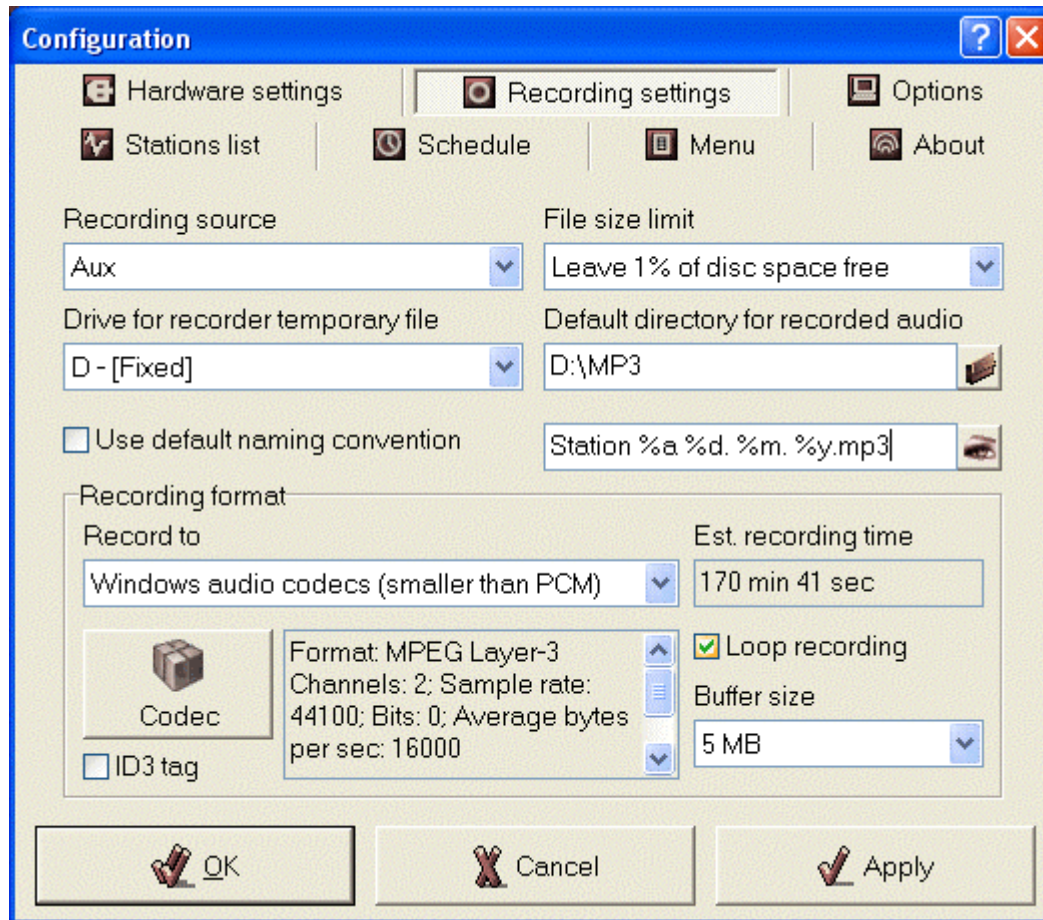
- **Recording source**   Choose here the recording source, i.e. the source that soundcard should record from (usually with the same name as **Line-in device**). Remember, as long as you don't check box **Check the recording source** in the Options tab, this selection is not used by RX Radiator while recording.
- **File size limit**   Defines how much space (if any) should be left free while RX Radiator records.
- **Drive for recorder temporary file**   Select the drive to be used for temporary recording. While recording, RX Radiator continually saves the recording *radrecxx.tmp* into root directory of the selected drive.
- Note: Use the same drive for temporary file and for target files. When the disk is the same, the temporary file needs only to be renamed (which is very fast operation). Whereas when the disks are different, then the file needs to be copied first and then temporary file is deleted (so this operation can last quite long for big files).
- **Default directory for recorded audio** The designated directory where the recorded files are stored.
- **Use default naming convention**   You can overwrite the syntax of the file name that will be used for recordings. When checked, the default convention is used. When unchecked, you can define your own convention using following variables:
  %y (Year), %m (Month), %d (Day), %h (Hour), %n (miNutes), %s (Seconds), %f (Frequency in MHz - e.g. 89_70), %b (station numBer), %a (station nAme), %l (Login name in Windows), %c (Codec name).

  Click the eye icon to preview how the naming structure.

4.2.2.1 Recording format

Here you can choose whether you want to record to standard uncompressed PCM (.wav file) or using so-called Windows ACM (Audio Compression Manager) codecs. Usually, recording using ACM codecs can either result in finer quality while the file size stays the same or even lower.

There are several ACM drivers that are automatically installed with the system. There are drivers that provide support for the compressed formats MS-ADPCM, IMA ADPCM, the GSM 6.10 standard and the TrueSpeech voice-coding format. Furthermore, there are other codecs that can be downloaded, installed and then used in RX Radiator.

- o **Record to**
    - **PCM wave format (no compression)**
        - **Channels**   Stereo or mono.
        - **Bits per sample**   'Resolution' of one sample.
        - **Sample rate**   The sampling rate (in samples per second) at which each channel should be played.
    - **Windows audio codecs (smaller than PCM)**
        - **Codec**   Using this button you can display a codec selection dialog where you can choose appropriate codec and its properties.
        - **ID3 tag**   Optionally, you can append an ID3 tag that will contain name of the station, login name, RX Radiator version, year and date + time of the recording. It is particularly useful when you record using MP3 ACM codec and change the extension of the saved files to .mp3 in RX Radiator configuration
        - **Loop recording**   Enables **[Loop recording]** button. See also Recording chapter.
        - **Buffer size**   Reserved memory where RX Radiator stores the sound while loop recording is in progress. The higher the **Buffer size** is the longer is the loop recording time.

- o **Estimated recording time**   Shows approximate recording time for currently selected recording condition (disk, current disk space, wave format).

4.2.3 Options

Here you can adjust various settings to adapt RX Radiator to your needs.
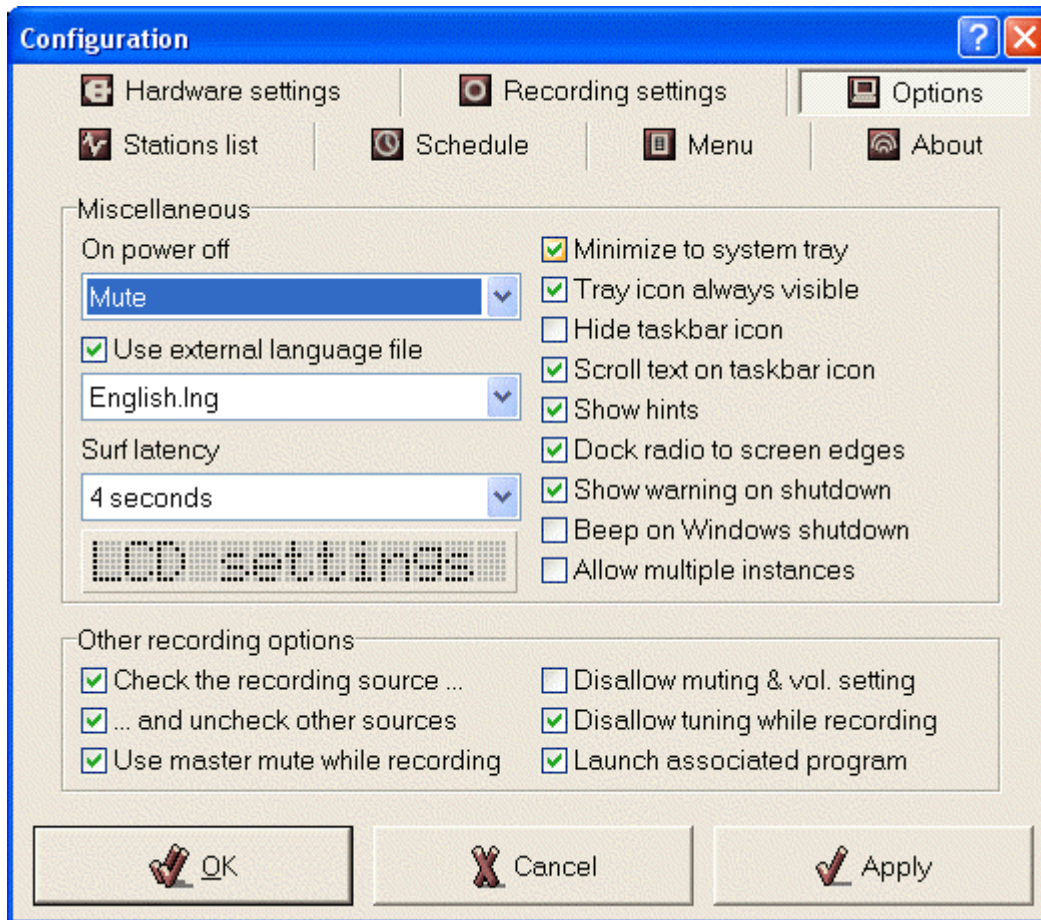
4.2.3.1 Miscellaneous

- **On power off**   Specifies whether the sound should be switched off on each RX Radiator shutdown automatically, or if it shall stay in its current status, or if RX Radiator asks each time
- **Use external language file**   When checked you can select appropriate language file from the combobox. Language is loaded after pressing **[Apply]** or **[OK]** buttons.
- **Surf latency**   Specifies a time interval between switching of the stations in the *Channel surf* mode.
- **LCD settings** This button shows separate dialog window where you can specify LCD properties.
- **Minimize to system tray**   If checked then RX Radiator is minimized into tray icon instead of taskbar.
- **Tray icon always visible**   If checked then tray icon is shown always when RX Radiator is running.
- **Hide taskbar icon**   *(Disabled if **Minimize to system tray** is not checked.)* If checked then taskbar icon is not shown at all.
- **Scroll text on taskbar icon**   *(Disabled if **Hide taskbar icon** is checked.)* When checked, then taskbar icon caption scrolls showing the station name (or frequency).
- **Show hints**   When checked, hints are shown for each main window control.

- o **Dock radio to screen edges**   If checked then when you are moving the main window (by dragging it on RX Radiator label) it docks to screen edges when the distance is lower than 10 pixels.
- o **Show warning on shutdown** When checked the warning window is shown on scheduled shutdown.
- o **Beep on Windows shutdown** When checked then when the sleep timer is about to show warning window the warning sound is played.
- o **Allow multiple instances**   By default, only one instance of RX Radiator can run in the same time. When you run the second one, it will simply bring the already running one into foreground. You can allow several instances of RX Radiator to run in the same time by checking this checkbox.

4.2.3.2   Other recording options

There are different settings for *Playback* and for *Recording* in Windows. Every volume device has its own volume slider and own checkbox. The checkbox provides muting in *Playback* (e.g. LineIn), in *Recording* this checkbox determines if the final recording will contain sound from this source. Some soundcards can have more than one source checked for recording simultaneously; some soundcards can have only one at the same time. The checkbox **Check the recording source automatically** temporarily selects the source when recording in RX Radiator. Correct recording source can be set on page **Recording settings** in **Recording source**. When RX Radiator finishes the recording, all previous soundcard settings are restored.

Example: SoundForte 256 PCS Extreme Theatre 5.1 soundcard has the following recording sources: Mix, CD, Mic, LineIn, Aux, Video, Phone. It allows checking of only one recoding source at the same time. Let's assume that it has *LineIn* set (checked) by default. We set **Recording source** to *Aux* in RX Radiator configuration (this is the source to which is radio connected).

When recording using RX Radiator it will automatically check the *Aux* source (so recording will contain radio sound). After recording it will automatically check *LineIn* source (as it was checked before recording).

Checking the **... and uncheck other sources** checkbox causes automatic temporary unplugging of all the other sources while recording (useful when you are watching TV on PC at the same time and don't want to include its sound in the final recording). The only checked source will be the one set in RX Radiator configuration.

Associated program is an application set in Windows as standard for playing WAV files (or another extension if you overwrite it in naming convention area of the **Recording settings** tab. It can either be a standard file player or Winamp etc. If you check **Launch associated program** checkbox, then after recording and saving the file will the program be launched which will play it immediately.

- o **Check the recording source …**   Temporarily selects the source when recording in RX Radiator.
- o **… and uncheck other sources**   Temporarily unplugs all the other sources while recording.
- o **Use master mute while recording**   Soundcard master mute is used instead of radio card muting - the advantage is that only output is muted while recording itself still contains sound.
- o **Disallow muting & vol. setting**   Disallows muting and volume changing while recording
- o **Disallow tuning while recording**   Checking this checkbox will block tuning to other frequency when recording.
- o **Launch associated program**   After recording and saving the file will be launched the program associated with the extension of the saved file, and play it immediately.

4.2.4   Stations list

Here you can create or modify your list of stations, select which of them you want to appear in menu, set their mono/stereo properties etc.
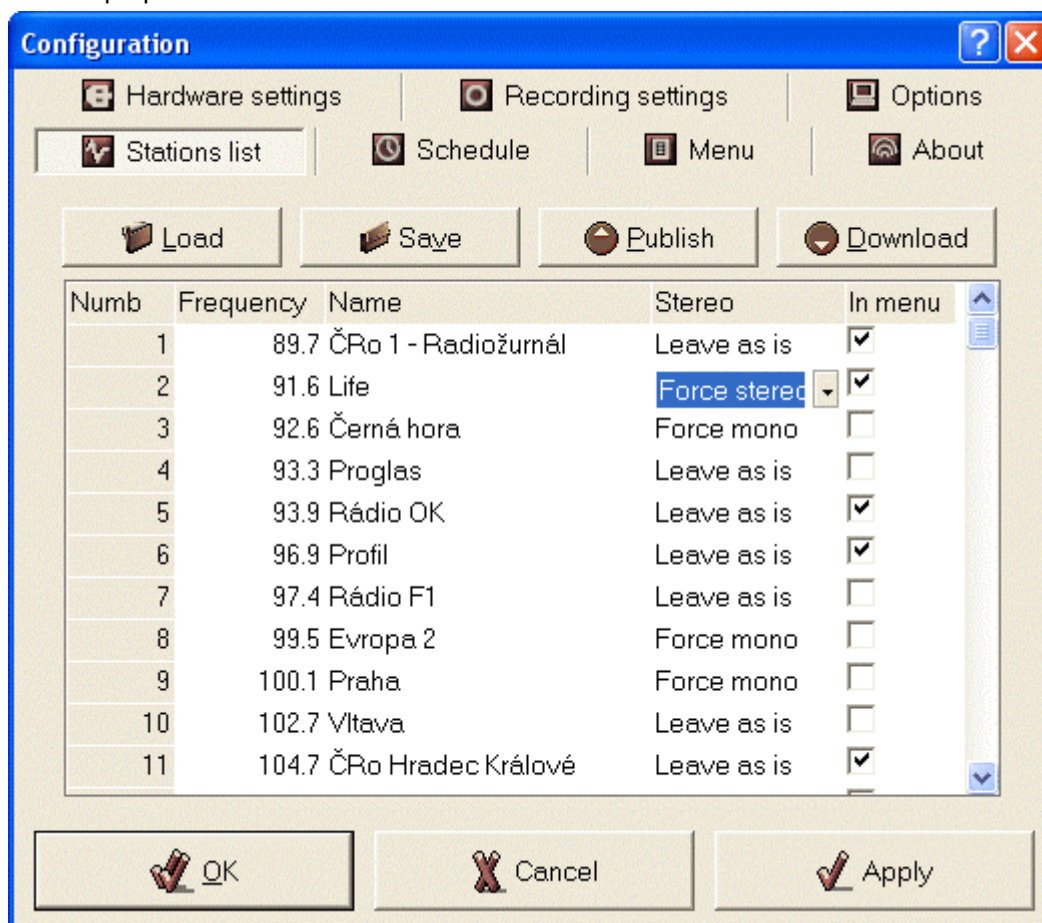
- **Load**   Loads the stations either from .rsd (RX Radiator Station Definition) file or from *Radiator.ini* file.
- **Save**   Saves the current list of the stations into .rsd (RX Radiator Station Definition) file.
- **Publish**   After clicking this button; you have to first select a file containing station to be published. The e-mail will be created. It is necessary to specify the town and country of the station and send to the author.
- **Download**   Opens a web page with the .rsd (RX Radiator Station Definition) files available for download.
- **Stations list sheet**   Contains four columns where you can modify station properties. You can change the station sequence by dragging the row by its number.
    - o **Number**   Number assigned to station.
    - o **Frequency**   Frequency in MHz, use dot '.' as decimal separator.
    - o **Name**   Name of the station shown on LCD and in menu.
    - o **Stereo**   If '*Leave as is*' is selected, then the station plays in mono/stereo mode as defined by current state of **[Set mono/stereo]** button. However, you can force certain station to be played in mono or stereo.
    - o **In menu**   Defines if the current station is shown in menu or only as numbered button.

4.2.5 Schedule

RX Radiator uses very strong tool - scripts for scheduling of the recordings. It is not necessary to write commands in some obscure programming language - everything is intuitive, easy and pleasant.

Both **Global scheduling active** and **Current script enabled** checkboxes have to be checked for script to run.

Scripts have following (intentional) restrictions:

- only one script can run at the same time (You can define as many scripts as you want. Nevertheless when the 1st script is set to start at 8:00 and will run for 2 minutes and the second one is set to start at 8:01, the second one will not run.)
- recording commands are ignored if you are currently recording something
- recording stops sleep timer

See also Script editor description.
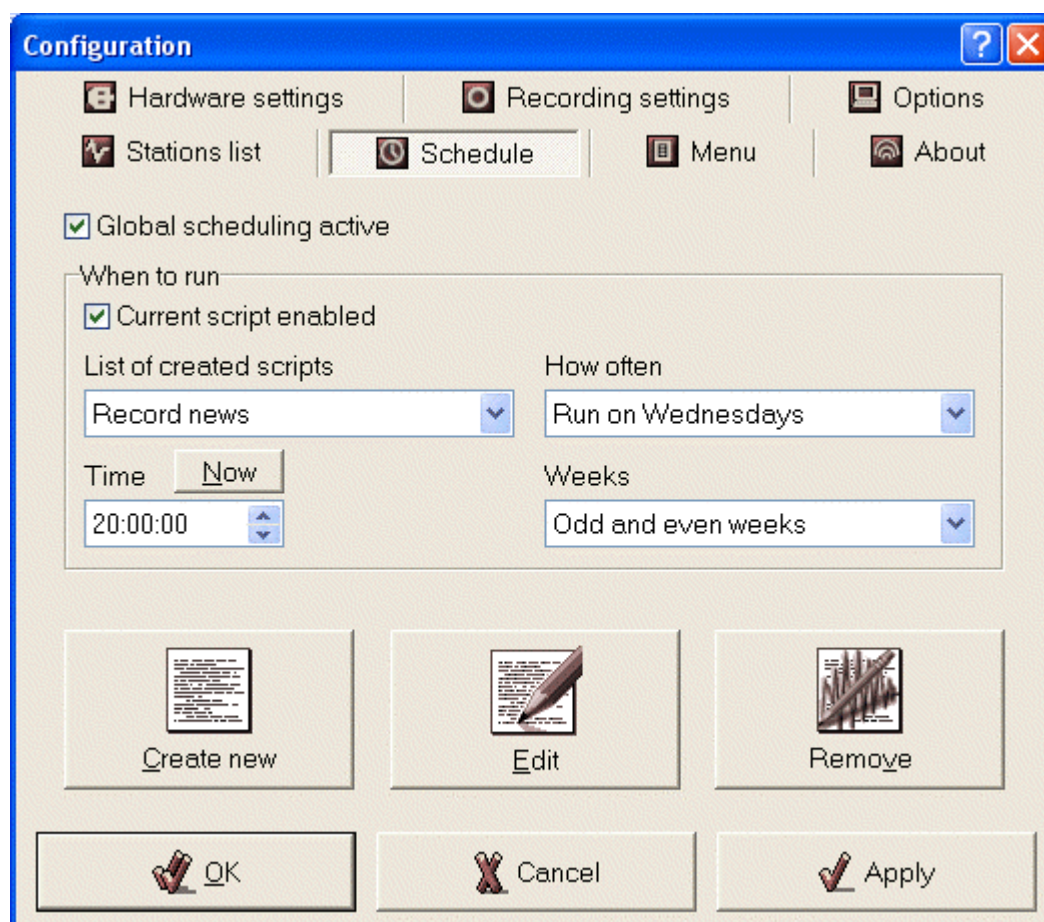
- **Global scheduling active**   Turns on/off the scheduling system. When disabled then no script will run.
- **When to run**   This section changes for each script chosen in **List of created scripts**
    - o **Current script enabled**   If checked and **Global scheduling active** is checked too, then script will run in its scheduled time. When unchecked then only this script will not run.
    - o **List of created scripts**   Select a script to modify here.
    - o **How often**   Periodicity of repeating of the script.
    - o **Time**   Set time for script to run. When *Hourly* is chosen in **How often** combo box then only *minutes and seconds part* is used – i.e. in this case 12:00:00 and 15:00:00 has the same result.

o	**Now**	Sets the **Time** to the actual time.
o	**Date**	Set date for script to run
o	**Run between**	Set start and end time of the interval in which the script should run.

- **Create new**   Creates new blank script.
- **Edit**   Modifies the script chosen in **List of created scripts**.
- **Remove**   Deletes the script chosen in **List of created scripts**.

4.2.6   Menu

Here you can modify the look of main menu and all the context menus.
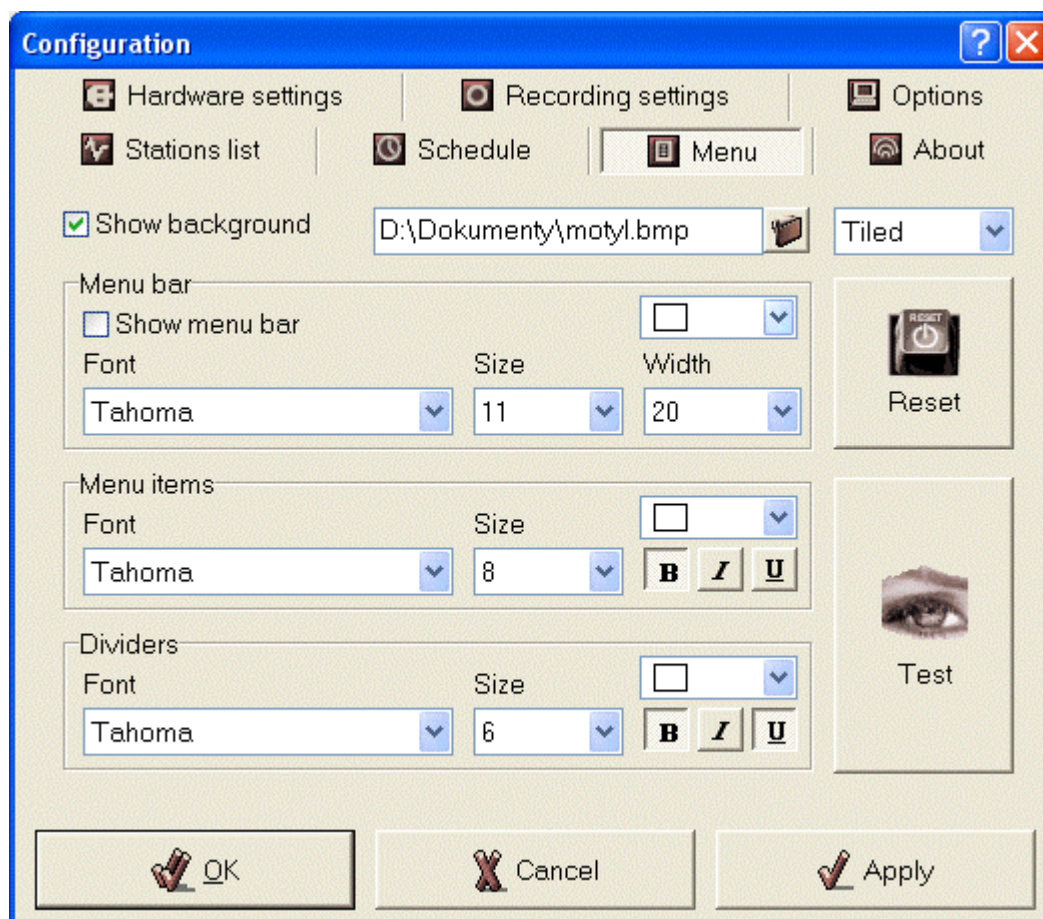
- **Show background**   If checked you can browse for a bitmap file that will be used for background of the menu.

4.2.6.1   Menu bar

- o **Show menu bar**   Specifies if the main menu bar is visible.
- o **Color**   Specifies a color of the menu bar font.
- o **Font**   Choose a font for menu bar.
- o **Size**   Size of the menu bar font.
- o **Width**   Width of the menu bar.

4.2.6.2   Menu items

- o **Color**   Specifies a color of the menu item font.

- o **Font** — Choose a font for menu item.
- o **Size** — Size of the menu item font.
- o **Bold** — Specifies if the font is **bold**.
- o **Italic** — Specifies if the font is *italic*.
- o **Underline** — Specifies if the font is <u>underlined</u>.

4.2.6.3 Divider

- o **Color** — Specifies a color of the menu divider font.
- o **Font** — Choose a font for menu divider.
- o **Size** — Size of the menu divider font.
- o **Bold** — Specifies if the font is **bold**.
- o **Italic** — Specifies if the font is *italic*.
- o **Underline** — Specifies if the font is <u>underlined</u>.

- **Reset** — Resets the menu to the default values.
- **Test** — Shows sample menu with the values set now in the window.

4.2.7 Script editor

In this window shown after pressing either **[Create new]** or **[Edit]** button in the **Schedule** tab you can actually build the script.

Script is saved after pressing **[Save changes and return]** button, changes in script are lost and script editor is closed after pressing **[Cancel]**.

- **Script name** *(Disabled for predefined sample scripts).*
  If enabled, you can type the name of the active script that is then shown in the **List of created scripts**.

4.2.7.1 Available commands

In this tree, you can choose among command that can be inserted into the script. Command can be inserted in the script list either by using **[Add]** button, by dragging and dropping or using context menu.

- **Tuning**
  - **Tune** — Tunes the specified frequency.
  - **Station #** — Tunes stored station identified either by its name or number.
  - **Station up** — Selects station with the nearest higher number than current station.
  - **Station down** — Selects station with the nearest lower number than current station.
  - **Last station** — Tunes to the previous frequency (for example if you listened to station # 7, then switched to # 3, then this command will tune # 7 again.
  - **Channel surf** — Each station is tuned for several seconds. You can interrupt 'surfing' by pressing the **[Channel surf]** button.
- **Volumes**
  - **Mute** — Mutes the sound.
  - **Unmute** — Unmutes the sound.
  - **Set volume** — Sets mute/checked state and volume for audio card source.
  - **Volume up** — Increases the volume (in 10% steps for line-in source or in defined steps when internal volume control is selected).
  - **Volume down** — Decreases the volume (in 10% steps for line-in source or in defined steps when internal volume control is selected).
  -
- **Recording**
  - **Record** — Starts recording using 'standard' PCM compression.
  - **Record using codecs** — Starts recording using compression based on selected codec.
- **Other**
  - **Wait** — Pauses the script for the specified time (i.e. the next command will be executed after the time passes).
  - **Beep** — Beeps using internal PC speaker.
  - **Minimize** — Minimizes RX Radiator window.
  - **Thin window** — Shows RX Radiator window in thin mode.
  - **Normal window** — Shows full RX Radiator window.
  - **Run external program** — Executes specified executable program.
  - *Send message* — *Obsolete, for backward compatibility only.*
  - **Close RX Radiator** — Closes RX Radiator. Can only be the latest command in the script list.
  - **Shutdown Windows** — Shutdowns Windows. Can only be the latest command in the script list.

4.2.8 Script

Here the final script is shown. The script is processed in order in which the command are shown here. You can modify the commands sequence either by dragging and dropping them or by using a context menu.

- **Add** — Adds selected command from **Available command** list into **Script** list.
- **Remove** — Removes selected command from **Script** list.

4.2.8.1 Properties area

Some script command are to be defined, their properties are shown after selecting them in **Script** list.

- **Tune** — Specify a **frequency in MHz**.
- **Station #** — Choose station identified either by its **name** or **number**

- o **Set volume** Choose **destination** (usually *Volume control* or *Recording*), **device** and value of **volume** for audio card source or mute/checked **state**.
- o **Record** **Name automatically** determines if the current naming convention specified in naming convention area of the **Recording settings** tab is to be used, or you can overwrite it. Preview, how the naming will look, is shown after clicking the *eye* icon.
  Length is the length of the recording; **quality** sets the combination of channels, bits per sample and a sample rate.
- o **Record using codecs** Codec defined in **Recording settings tab** is used for recording (even when codec recording is not active in **Recording settings tab**).
  Name automatically determines if the current naming convention specified in naming convention area of the **Recording settings** tab is to be used, or you can overwrite it. Preview, how the naming will look, is shown after clicking the *eye* icon.
  Length is the length of the recording.
- o **Wait** Set here the time to wait.
- o **Beep** Choose what beep you want to use.
- o **Run external program** Browse for executable program and choose a way how it should run (minimized, maximized).
- o **Shutdown Windows** You can select/deselect here the sound warning (it overwrites the setting in the **Options** tab).

4.2.9 LCD Editor

Here you can define properties of 'LCD' displays used in RX Radiator. Changes are reflected immediately after pressing **[Save changes and return]** button. Changes are lost and LCD editor is closed after pressing **[Cancel]**.
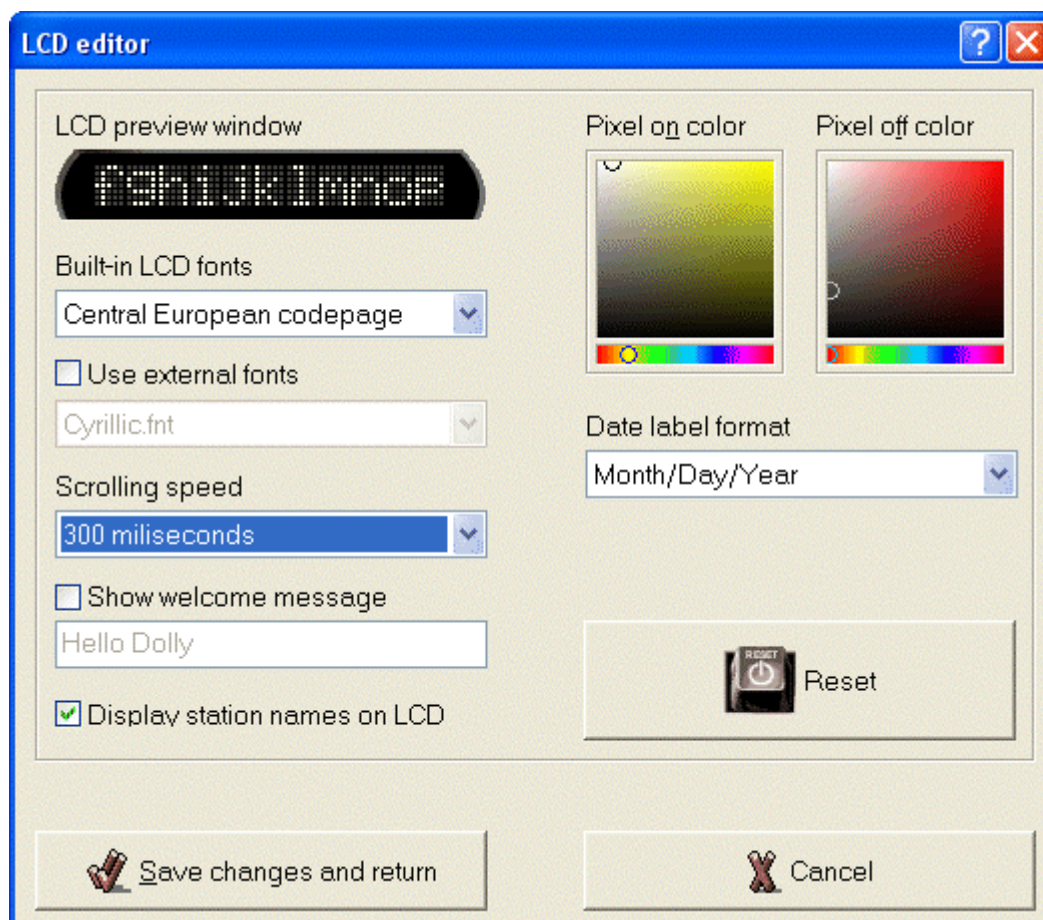
- **LCD preview window** Shows the sample of the LCD based on settings currently set in editor. If you click the LCD it will pause. The next clicking will make the text scrolling again.
- **Built-in LCD fonts** You can choose between two code pages of the installed LCD fonts. The default is ASCII.
- **Use external fonts** If installed, you can use another font for displaying.
- **Scrolling speed** LCD text scrolling interval (text scrolls when it does not fit in LCD).
- **Show welcome message** When checked you can specify own greeting that RX Radiator uses each time on its start.
- **Display station names on LCD** If not checked, then only frequency is shown on LCD instead of station names.
- **Pixel on color** Pick the color for pixel in *on* state.
- **Pixel off color** Pick the color for pixel in *off* state.
- **Date label format** Choose the date format displayed in small LCD.
- **Reset** Resets the values to default.

4.3 Mouse operations

4.3.1 RX Radiator window
- mouse wheel up   increases volume
- mouse wheel down   decreases volume
- Alt + mouse wheel up   next station
- Alt + mouse wheel down   previous station
- Shift + mouse wheel up tunes up
- Shift + mouse wheel down   tunes down
- Ctrl + mouse wheel up fine tunes up
- Ctrl + mouse wheel down   fine tunes down

4.3.2 Menu button
- left click   about menu
- right click   tray icon menu

4.3.3 RX Radiator label
- right click   tray icon menu

4.3.4 Station numbers
- right click   stations menu

4.3.5 Sleep timer button
- left click   start/stop sleep timer
- right click   when Sleep timer button is pressed, then sleep timer menu appears

4.3.6 Thin LCD label
- switching between station and date-time modes

4.3.7 Time LCD label in full window
- if recording, left click switches view mode, right click popup the menu;
- if not recording, left click shows the date, double click launches time&date control panel

---

4.3.8 Frequency LCD label in full window
- left click shows the frequency for current station

4.3.9 Tray icon
- right button ... menu
- left button... mute/unmute
- doubleclick ... restore window

4.4 Controlling RX Radiator from keyboard

4.4.1 List of hot keys (shortcuts)
- M, Space, *   mute/unmute
- S   force mono/stereo (if card supports it)
- F1 - F12   stations 1 - 12
- Shift + F1 - F12   stations 13 - 24
- left   fine tune down
- right   fine tune up
- Ctrl + left   scan down
- Ctrl + right   scan up
- up   increase volume
- down   decrease volume
- PageUp   tune up
- PageDown   tune down
- Home   jump to the start of frequency range
- End   jump to the end of frequency range
- Esc   minimize, stopping surfing
- +   next station
- -   previous station
- /   switch between time/station mode of small LCD
- Backspace   last station
- Ctrl+R   start/stop recording
- Ctrl+L   start/stop loop recording
- Ctrl+A   save and name automatically
- Ctrl+T   always on top
- Ctrl+S   setup
- Ctrl+B   about
- Ctrl+F   switching between thin and 'full screen' panel
- Ctrl+G   enabling/disabling global scheduling
- Ctrl+C   canceling currently running script
- Ctrl+V   station surfing
- Ctrl+Q   'presses' the **[Store frequency in favorites]** button so you can store the frequency using keyboard. Press **<Ctrl+Q>** followed by **F1** - **F12** for stations 1 – 12 or **Shift** + **F1** - **F12 for** stations 13 – 24.
- Ctrl+Del   deletes the current station from the station list
- Ctrl+F4   RX Radiator closes but keeps playing
- Shift + clicking on close button RX Radiator closes but keeps playing

You can also use **RTControl** application installed with RX Radiator for *Windows global* hot key control (i.e. the shortcut works from any application/window).

You can assign messages (special kind of Windows "commands" sent to RX Radiator) to hot-keys (keys combinations) and they will be activated from any other application, ie. hot-key is global in your system.

You can use up to four control keys: Alt, Control, Shift, Win + appropriate key for each command (ie. Ctrl + F9 to mute, Alt+F9 to unmute and so on).

The keys combinations are defined at first in **RTControl** configuration window (in menu *[RX Radiator menu] | Addons | Global hot key | Configure RTControl*)

Changes are reflected immediately after closing the configuration.

Then the global hot key controlling application has to be started via *[RX Radiator menu] | Addons | Global hot key | Load-unload RTControl* menu.

For unloading the application run this menu command again.

4.4.2 Direct tuning using numerical keypad

press 1 or 6, 7, 8 or 9 (1xx or 6x, 7x, 8x or 9x MHz) and press other numbers.

For example:

press **1 0 6 2 5** - frequency 106.25 MHz

press **1 0 6 Enter** - frequency 106.00 MHz

press **1 Enter** - frequency 100.00 MHz

press **9 8 Enter** - frequency 98.00 MHz

Typing can be cancelled by pressing **Esc**, delete last typed number by pressing **Backspace**.

5   Using remote control

Using remote control unit you can remotely control RX Radiator, MS PowerPoint or other user-defined programs.

5.1   Remote Control: Keys and Functions

Remote control	Key #	Symbol	Radio function	PowerPoint function
	1		Mute/unmute radio	
	2		Set Sleep and Windows shutdown mode	
	3	OFF	Turn off radio	Close PowerPoint
	4 to 12	1	Station 1 to 9	Jump to Slide # (for slide 23, press "2" and '3' and 'Enter'
	13	10+	Station 10+ (e.g. for station 12, press '10+' and '2')	Open the last edited file
	15	20+	Station 20+ (e.g. for station 20, press '20+' and '0')	
	16	FM	Launch RX Radiator	
	17	PPT		Launch PowerPoint
	18	P1	Reserved program P1 to P4 for user	Reserved program P1 to P4 for user
	22		Last station	SlideShow
	23	Surf	Channel surfing	Esc
	24		Minimize/maximize radio	Enter
	25		Previous station	
	26		Record from radio	
	27		Next station	
	28		Scan backward	
	29		Stop recording	
	30		Scan forward	
	31	+	Volume up	Previous slide
	32	-	Volume down	Next slide

5.2 RX Commander

RX Commander is a program that runs on the background and receives the commands from the remote control unit and controls RX Radiator (or also other programs defined in RX Keycom application).

I.e. it is **not possible** to control RX Radiator using remote control while RX Commander is **not** running.

By default, it is copied into *Startup* folder so it is launched automatically upon Windows startup. However, you can run it manually from the Start menu within the RadioXtreme folder.

5.3 RX KeyCom

Using KeyCom application you can:
- overview the default assignment of remote-control for RX Radiator and MS PowerPoint applications
- define or modify up to four additional programs (P1 to P4) to be controlled via remote control
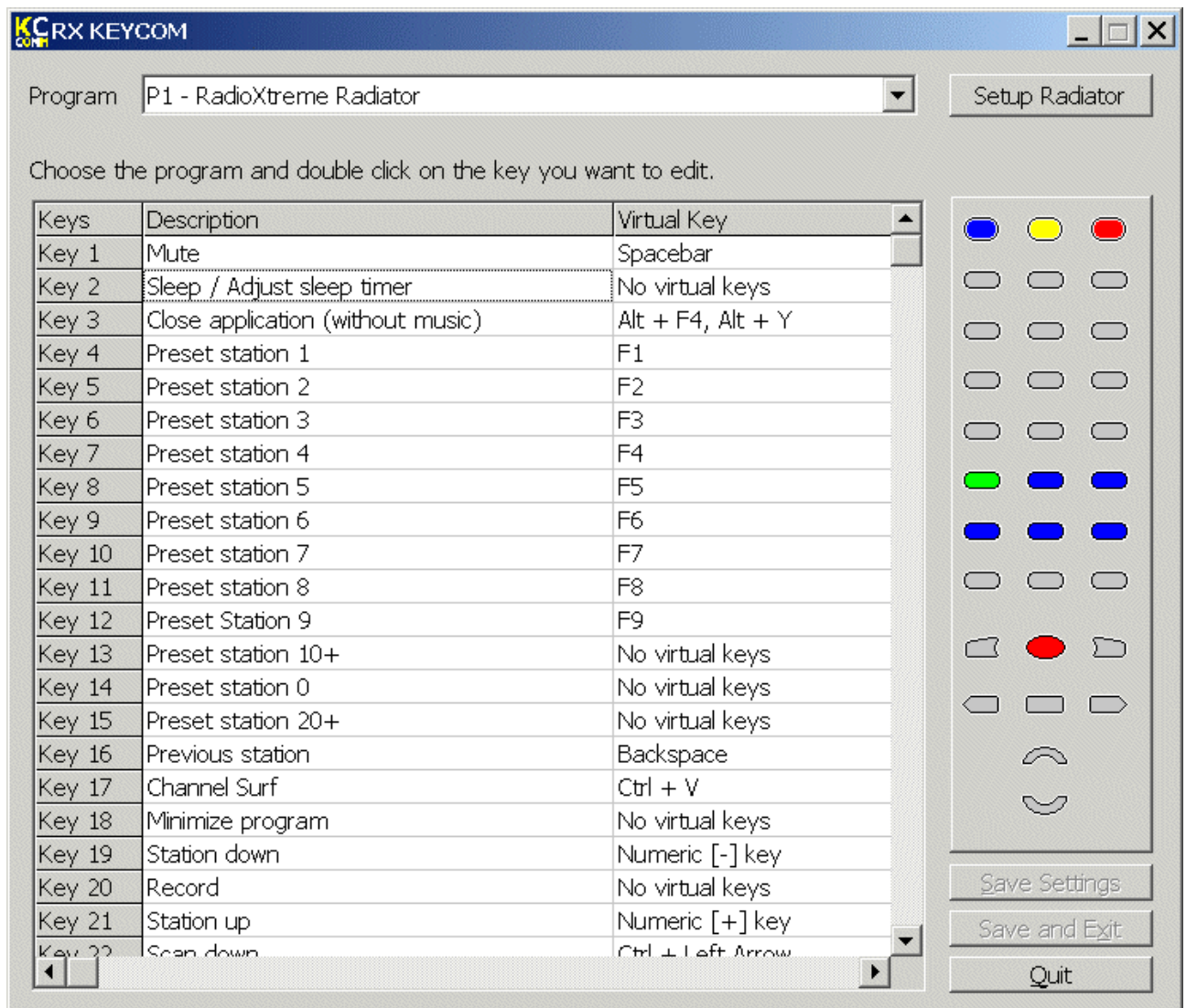
Program combobox defines the actually edited program. The first and second programs are predefined as RX Radiator and MS PowerPoint respectively. You cannot change the keys assignments.

When one of these first two programs is selected, either the **[Setup Radiator]** or **[Setup Powerpoint]** button is visible next to the combobox.

Press **[Setup Radiator]**. The configuration file will be updated with RX Radiator location. This enables the user to work with the remote when user did not install Radiator in the default location.

Press **[Setup Powerpoint]**. The configuration file will be updated with real MS PowerPoint exe file location; the class name of the PowerPoint application is also changed according to the installed MS Office version.

List of keys and their assignments to the remote control buttons are shown in the combobox; when you click it, appropriate button is lighten up.

5.3.1   Defining a new program for remote controlling

1) Select one of the four (**P1** to **P4**) additional programs in the **Program** combobox
2) Press the **[Preset program]** button – the **Program settings** window is launched
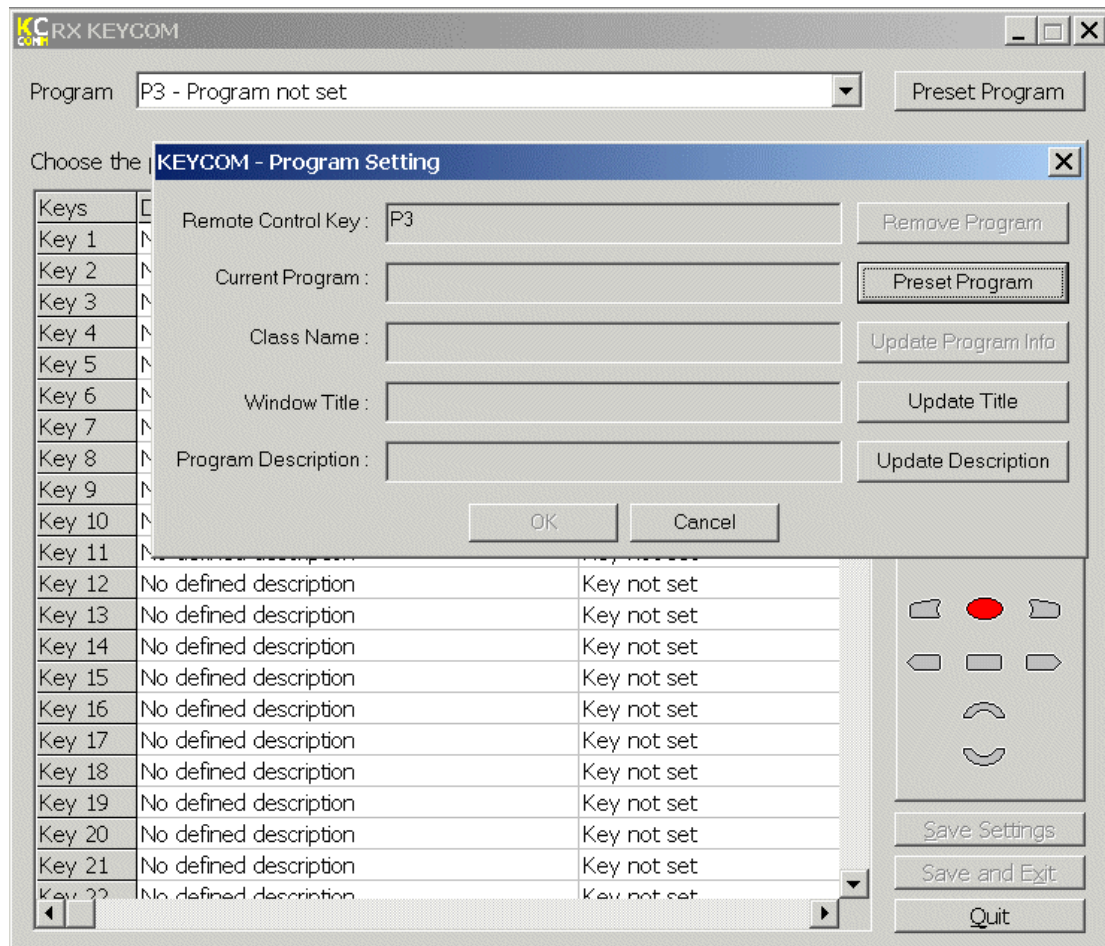
3) Press the **[Preset program]** button in the **Program settings** window
4) Choose the executable file of the target application (the application that should be controlled via remote control) and press **[OK]** in the browse dialog

5) Then, press **[Update program info]** button and type some description for the 'Program Description'.
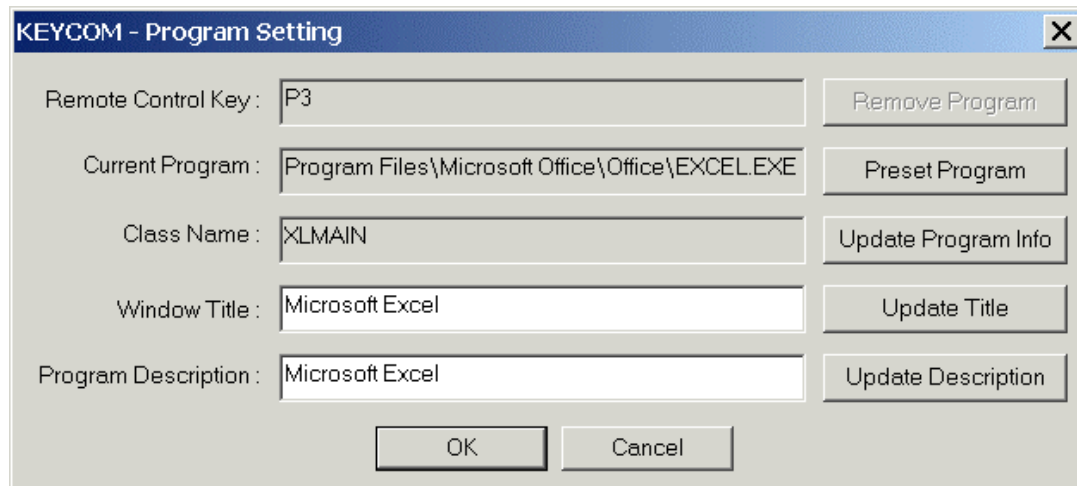
6) Click **[OK]**
7) Then the main window is shown again and you can assign the buttons to certain keys combination that will be sent to the target application
8) Double-click cell in appropriate *Key* row in *Description* column
9) New dialog window is opened where you can define the hot-key combination. Confirm it by clicking **[OK]**
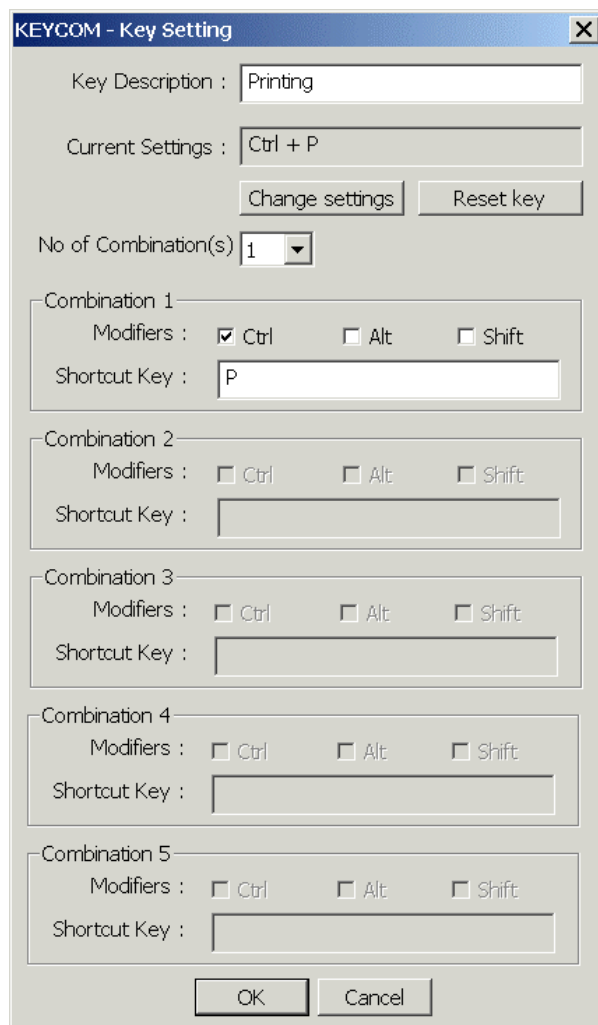
10) Repeat steps in **8** and **9** for each buttons you want to define.

11) Finally, save the configuration either using **[Save settings]** – saves the settings and leaves the dialog opened, or using **[Save and exit]** – saves the settings and closes the KeyCom dialog window.

6 Getting Help

6.1 FAQ for RX Radiator

6.1.1 Computer freezes when recording using Mpeg Layer-3 codec, why?

Mpeg Layer-3 codec may causes system halting on Windows 98 - the *blue screen.* Restart is necessary.

6.1.2 How can I schedule recording?

Example: Station *Asia 3* broadcasts it's well known hit parades from 21^{00} to 22^{00} every Sunday. We want to record it using audio codecs and then switch off the computer.

1. At first we have to set correct codec (codec which is set in RX Radiator configuration is then used during scheduled recording). You can set codec using this procedure: open tab *Recording settings,* in combo box *Record to* select *Windows audio codecs ...* After clicking the **[Codec]** button will the list of codecs and their properties be shown. You can choose one, and then click **[OK]**. Then click **[Apply]** to save your choice.

2. We will create the new script: open tab *Schedule*, click on **[Create new]** button.

3. Type name of the script **Asia 3 hit parade** in the Script editor.

4. There is a list of usable commands available on the left side of the Script editor. Choose following commands and add them to the script list using **[Add[** button: *Station #, Volume up, Record using codecs*, *Shutdown Windows*.

5. The commands in script list can be moved (resp. their sequence can be changed). You can not move these commands from the end of the list: *Close RX Radiator* and *Shutdown Windows* (it would be strange to shutdown Windows and then save the recording …)

6. When the *(...)* sequence is appended to command in the script list it means that properties of the command could be set - click on command *Station #* and choose station *Asia 3*, click on *Record using codecs* and *Codec recording properties* window appears in the bottom. Item *Name automatically* means that file will be saved as *Rad sch yearmonthday hourminutesecond.waw.*If the checkbox is not checked you can use your own name, e.g. **Asia 3 hit parade.waw**. Let's set *length* (of the recording) to **01:00:00** (1 hour).

7. After setting properties click **[Save changes and return]**. This will return us to *Schedule* tab - there is new item in the *List of created scripts*. Choose *Run on Sundays* in the list *How often*, fill **21:00:00** in *Time* and *Odd and even weeks* in *Weeks* combo box.

8. To run script in the planned time, following conditions must be fulfilled: *Global scheduling active* (it means enabling/disabling of running all the scripts) must be checked - enabled and also current script must be enabled (i.e. *Asia 3 hit parade*).

9. Click **[OK]** and script should run at time you specified.

6.1.3 I have created the script, set the time and date but script did not run. Why?

Please check whether the correct time was set and both *Global scheduling active* and *Current script enabled* checkboxes are checked. Scripts have following (intentional) restrictions:

- only one script can run at the same time (You can define as many scripts as you want. Nevertheless when the 1st script is set to start at 8^{00} and will run for 2 minutes and the second one is set to start at 8^{01}, the second one will not run.)

- recording commands are ignored if you are currently recording something

- recording stops sleep timer

6.1.4 Buttons bitmaps are sometimes framed by the black line, how to get rid off it?

Sometimes this problem arises when the color depth is set to 16 bits (65.535 colors). After switching to 24 or 32 bits color depth everything should be OK.

6.1.5 Why the mouse wheel does not work?

Some mouse drivers (e.g. Logitech etc.) are sometimes causing problems - probably compatibility issue with standard IntelliMouse interface. You can uninstall original drivers and install IntelliPoint - download at http://www.microsoft.com/mouse/mouse.htm

6.1.6 Why the volume setting does not work?

You have probably selected wrong device - on tab *Hardware settings* in section *Volume control* choose *Line -in* and then choose the correct device in *Line-in device*. The device is the input to the soundcard which connected to the audio out of RadioXtreme.

6.1.7 Always when starting RX Radiator I have to skip error message *There is no media in drive. Insert disc \Device\...* twice. Can I solve it somehow?

You have probably removable disk drive installed (ZIP, Jazz etc.); this message can be avoided by inserting some media to the drive (i.e. presence of the media in drive when RX Radiator starts).

Next possibility: Change letter for the removable disk drive using Control panels.

6.1.8 How to enable other language and LCD font?

Example (for Czech): Go to the RX Radiator configuration, tab *Options* and check *Use external language file* checkbox. Select *Cesky.lng* in the language files list. On *LCD settings tab* choose *Central European code page*.

6.1.9 How can I switch off the annoying window on closing asking me whether mute or leave?

Go to the RX Radiator configuration, tab *Options* and select either *Mute* or *Leave in current state* in the *On power off* list.

6.1.10 How to expand the frequency range?

RadioXtreme can only work within the standard band (87Mhz – 108MHz).

6.2 Contacting support

For further technical support, email to support@mediaforte.com.sg

6.3 Website for Update

http://www.mediaforte.com.sg

6.4 Acknowledgement

RX Radiator © 2003 Miroslav Fleško (Czech Republic) http://flesko.cz

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Appendix 1: Command-line switches

- -tray   run in tray
- -thin   run as thin window
- -full   run as normal window
- -mute   run muted

Appendix 2: Using command line utility for remote controlling RX Radiator

If you have RX Radiator running and want to control it for example from another application, from batch file and so on, you can do that by utilizing small application *rc.exe* (22 kB).

It is placed in the following folder *[RX Radiator base path]\Add-ons\Command line\rc.exe* (for example *D:\Program Files\RX Radiator\Add-ons\Command line\rc.exe*).

List of parameters

Parameters are separated by spaces: `rc command1 command 2`

Example: `rc fr8970 x vu` (tune frequency 89.70 MHz, maximize RX Radiator and set volume one step up).

Tuning

`fr`	tune frequency (fr10685 for 106.85 MHz)
`finetuneup, fu`	fine tune up
`finetunedown, fd`	fine tune down
`tuneup, tu`	coarse tune up
`tunedown, td`	coarse tune down
`scanup, scu`	scan up
`scanup, scd`	scan down

Stations

`no`	station number (no11 for switching to station No. 11)
`statup, su`	station up
`statdown, sd`	station down
`last, l`	last station
`surf, f`	station surfing

Sound

`muteunmute, mu`	toggle mute/unmute
`mute, m`	mute sound
`unmute, u`	unmute sound
`volup, vu`	volume up
`voldown, vd`	volume down
`monostereo, ms`	toggle mono/stereo
`stereo, st`	stereo
`mono, mo`	mono

Recording

`loopon, lo` set loop recording on

`loopoff, loff` set loop recording off

`toggleloop, tl` toggle loop recording on/off

`record, r` begin/stop recording (when stopping recording it will ask for name of the recorded file)

`sr` stop recording and save it with given name (Example `sr"C:\Music\My Name Of The File.wav"` or `srMyFile.wav` or `sr` without parameter for automatical naming.

Use quotation marks " " when filename contains one or more spaces.

You can use variables in filename: *%y* (**y**ear), *%m* (**m**onth), *%d* (**d**ay), *%h* (**h**our), *%n* (mi**n**utes), *%s* (**s**econds), %f (**f**requency in MHz - e.g. 89_70), *%b* (station num**b**er), *%a* (station n**a**me), *%l* (**l**ogin name in Windows), *%c* (**c**odec name).

(Example *sr"C:\Music\Show from %a on %d-%m (%y) at %h-%n by %l.wav"* could result in:

`C:\Music\Show from Radio Life on 25-10 (2001) at 15-03 by Mirek.wav`)

Make sure that length of the filename (including path) will not exceed file name length limitation of OS (for example file names are limited to 255 characters in Windows 95).

Other

`lcd` set LCD text (`lcd"Give me a break ..."`)

`locklcd, ll` prevent LCD from being updating by any other way than by WM_MyLCD message

`releaselcd, lr` unlock LCD previously locked by WM_MyLockLCD

`refreshlcd, lf` force RX Radiator to refresh LCD

`min, n` minimize

`max, x` maximize

`thin, t` thin window

`togglethin, tt` toggle thin/full size window

`toggletray, ttr` toggle minimized (tray)/window modes

`restore, e` restore from tray icon

`ontop, ot` toggle on/off always on top

`sleep` sleep (0, 10, 20, 30, 60, 120, 300 minutes)

`close, c` close RX Radiator

`terminate, ter` shutdown

Appendix 3: Messages for remote controlling RX Radiator

```
const

WM_MyVolUp=WM_USER + 1001;          volume up

WM_MyVolDown=WM_USER + 1002;        volume down

WM_MyMute=WM_USER + 1003;           mute

WM_MyUnmute=WM_USER + 1004;         unmute

WM_MyStatUp=WM_USER + 1005;         station up

WM_MyStatDown=WM_USER + 1006;       station down

WM_MyLastStat=WM_USER + 1007;       last station

WM_MySurf=WM_USER + 1008;           starts/stops surfing

WM_MyTuneStatNo=WM_USER + 1009;     wPar= 1 .. 24

WM_MyTuneFr=WM_USER + 1010;         wPar= 06000 to 13000
                                    (for example wPar=8970 for fr. 89.7 MHz)

WM_MyMin=WM_USER + 1011;            minimize

WM_MyMax=WM_USER + 1012;            maximize

WM_MyThin=WM_USER + 1013;           thin window

WM_MyRecord=WM_USER + 1014;         starts/stops recording

WM_MyRadClose=WM_USER + 1015;       close RX Radiator

WM_MyRestore=WM_USER + 1016;        restores from minimized state

WM_MyMonoStereo=WM_USER + 1017;     toggles mono/stereo

WM_MyStereo=WM_USER + 1018;         stereo on

WM_MyMono=WM_USER + 1019;           mono on

WM_MyMuteUnmute=WM_USER + 1020;     toggles mute/unmute mode

WM_MyToggleThin=WM_USER + 1021;     toggles thin/maximized window

WM_MyToggleTray=WM_USER + 1022;      toggles tray icon/normal window

WM_MyFineTuneUp=WM_USER + 1023;     fine tune up

WM_MyFineTuneDown=WM_USER + 1024;   fine tune down

WM_MyCoarseTuneUp=WM_USER + 1025;   tune up

WM_MyCoarseTuneDown=WM_USER + 1026; tune down

WM_MyScanUp=WM_USER + 1027;         scan up

WM_MyScanDown=WM_USER + 1028;       scan down

WM_MyToggleOnTop=WM_USER + 1029;    toggless on/off always on top

WM_MyLCD=WM_USER + 1030;            set LCD text

WM_MyRecordName=WM_USER + 1031;     stop recording and save it with given name

WM_MyLockLCD=WM_USER + 1032;        prevent LCD from being updating

WM_MyReleaseLCD=WM_USER + 1033;     unlock LCD

WM_MyRefreshLCD=WM_USER + 1034;     force RX Radiator to refresh LCD

WM_MyLoopOn=WM_USER + 1035;         loop recording on

WM_MyLoopOff=WM_USER + 1036;        loop recording off

WM_MyToggleLoop=WM_USER + 1037;     toggles loop recording on/off

WM_MySleep=WM_USER + 1038;          toggles sleep timer on/off, parameters wPar:
                                    0 for switching off and 10, 20, 30, 60, 120,
                                    300 (minutes);
                                    If lPar = 1, then Windows will be shut down
```

Example:

You can use it in some programming language (example in Delphi):

```
PostMessage(FindWindow('TMainRadioForm',nil),WM_MyMute,0,0); //mutes radio
PostMessage(FindWindow('TMainRadioForm',nil),WM_MyTuneStatNo,7,0); //station #7
PostMessage(FindWindow('TMainRadioForm',nil),WM_MySleep,30,0); //sets sleep
timer to 30 minutes
PostMessage(FindWindow('TMainRadioForm',nil),WM_MySleep,0,0); //turns off sleep
timer
PostMessage(FindWindow('TMainRadioForm',nil),WM_MySleep,30,1); //sets shutdown
Windows timer to 30 minutes
```

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