mAirList Radio Automation Software Version 3.1

User Manual (PRELIMINARY)

UK English version written by
Cad Delworth CEng MBCS CITP

Original German language version written by
Dr. Torben Weibert

Credits and Acknowledgements

The *mAirList*, *mAirListConfig*, *mAirListDB*, and *mAirListTag* programs, and the original German language User Manual are written by Dr. Torben Weibert, with artwork by Hannes Lambert.

mAirList, *mAirListConfig*, *mAirListDB*, and *mAirListTag* are trademarks of Broadcast Solutions and Software Development, Dortmund, Germany.

The *mAirList*, *mAirListConfig*, *mAirListDB*, and *mAirListTag* programs include icons from the **Nuvola** project's icon library, which are used under an LGPL licence. For more details, including your rights under the LGPL licence, please visit http://www.icon-king.com.

The *mAirList*, *mAirListConfig*, *mAirListDB*, and *mAirListTag* programs include components and/or code portions from the following projects, whose home pages are shown below:

BASS — http://www.un4seen.com
JCL — http://www.homepages.borland.com/jedi/jcl/
JVCL — http://vcl.sourceforge.net
OmniXML — http://www.omnixml.com
RemObjects PascalScript and RemObjects SDK — http://www.remobjects.com
TRegExpr — http://RegExpStudio.com

All other trademarks and product names are acknowledged as the property of the respective owners, and are used within this Manual and within the *mAirList*, *mAirListConfig*, *mAirListDB*, and *mAirListTag* programs purely for descriptive and explanatory purposes.

Copying

This manual is current as of *mAirList* version 3.1.7, build 974.

This manual is typeset in Utopia and URW Classico fonts.

Cad Delworth has asserted his moral right to be identified as the author of this manual.

Contents

A Personal Note From The Author

The Operation Manual for a brand of professional PA digital mixing consoles famously began with a page containing the single sentence: *Throw a six to start.* Although it is true that *mAirList* is an ***enormously*** configurable application, I hope you will find this Manual a helpful and, above all, *reliable* companion and guide to all of *mAirList*'s 'nooks and crannies.'

Please don't be misled by the size of this User Manual: you **can** simply install *mAirList* and put it live on air in just a few minutes, using its default settings; and after reading maybe ten pages of this manual or less. But as I hope you will discover, *mAirList* is unique in the almost total flexibility it gives you to customise the program into the radio playout and automation software **you** want. I like to think of *mAirList* as probably the ultimate 'radio automation software construction set.'

Working on this User Manual for *mAirList* has been an extremely enjoyable project, and I sincerely hope that you, as a user or potential user of *mAirList*, find the Manual informative, complete, and accurate. I suspect that experienced *mAirList* users will often think *'Oh! I didn't know that!'* as they explore these pages, just as I did while I was writing them.

I am one of those strange types of people who *enjoys* writing technical manuals, and as I am my own fiercest critic, please **do** let me know if you discover any mistakes or typographic errors, no matter how 'minor.' The best way to do this is in the *mAirList* forums online.

Cad Delworth
Edinburgh,
Scotland

6 July 2011

Terms Used Throughout This Manual

The devil is in the detail, as they say, so rest assured that throughout this Manual, we always use the same form of words to describe the same action. For example, you won't see 'press **Enter**' on one page and 'hit the **Return** key' on another page.

- '**Press** …' always means 'press the keyboard **key** …'
- **'Click** …' always means
  'press and release the left mouse button while the mouse pointer is over …'

Verbs which refer to mouse actions have the meanings listed below.

Verb	Meaning
Click	Press and release the left mouse button.
Ctrl-click	Hold down either **Ctrl** key, press and release the left mouse button, then release the **Ctrl** key.
Ctrl-drag	While holding down either **Ctrl** key, press and hold the left mouse button while moving the pointer.
Double-click	Press and release the left mouse button twice in quick succession.
Drag	Press and hold the left mouse button while moving the pointer.
Drop	Release the left mouse button after dragging an item or items.
Right-click	Press and release the right mouse button.
Scroll	Rotate the mouse wheel.
Shift-click	Hold down either **Shift** key, press and release the left mouse button, then release the **Shift** key.

We assume throughout this Manual that you are a reasonably experienced *Windows* user who is familiar with standard terms for Windows features: for example, **drive**, **folder** and **subfolder**.

We also assume that you are experienced in working with computer drives, folders, and files; with knowledge of how to use *Explorer* or *My Computer* to work with your files and folders.

1. Getting Started

Welcome to *mAirList*, which is arguably the most flexible and configurable radio playout and automation system available today. We would like to sincerely thank all our users for their thousands of questions, suggestions, and ideas: these have helped shape *mAirList* into the powerful, professional application that it is today. From our users' feedback, we are confident that *mAirList* meets the **actual** needs of **any** kind of radio station, whether large or small, local or national.

Please note that the features available in your installed copy of *mAirList* depend on the type of *mAirList* licence you have purchased. Therefore, some features described in this Manual may not be available in your installed copy of *mAirList*.

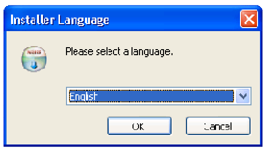
We hope you find this Manual helpful, informative, and easy to use. We welcome your comments and ideas to improve future editions of this Manual: please use the *mAirList* forums to do so.

This chapter lists the steps required to install *mAirList* on your computer. This includes the installation of the software itself. and how to use the *mAirList* **Licence Manager** to import your purchased or demo licence to unlock the software.

1.1 *Installing* mAirList

To install *mAirList*, download the latest **.exe** setup file from the *mAirList* Web site. There is also a ZIPfile version of the setup, which experienced *mAirList* users may prefer.

When you open the setup program, you see this dialog:

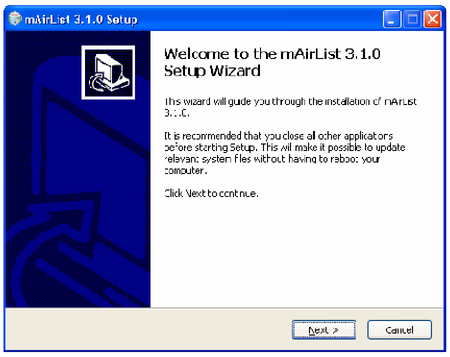

Installer Language

Please select a language.

English

The language should default to **English**.
If it doesn't, select **English** from the dropdown.

Click **OK** to continue.


mAirList 3.1.0 Setup

Welcome to the mAirList 3.1.0 Setup Wizard

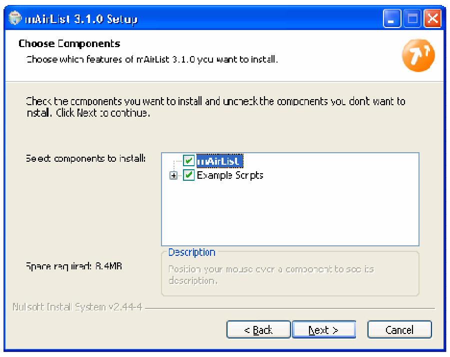
This wizard will guide you through the installation of mAirList 3.1.0.

It is recommended that you close all other applications before starting Setup. This will make it possible to update relevant system files without having to reboot your computer.

Click Next to continue.

The **Setup Wizard** opens.

Click **Next** > to continue.


mAirList 3.1.0 Setup

Choose Components

Choose which features of mAirList 3.1.0 you want to install.

Check the components you want to install and uncheck the components you don't want to install. Click Next to continue.

Select components to install:

- ✓ mAirList
- ✓ Example Scripts

Space required: 8.4MB

Description

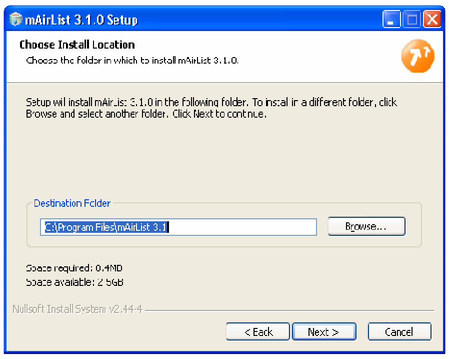
Position your mouse over a component to see its description.

Nullsoft Install System v2.44-4

On the **Choose Components** page, you can choose **not** to install the Example *mAirList* Scripts if you prefer.

However, we recommend that you leave all boxes ticked, especially if this is your first *mAirList* install.

Click **Next** > to continue.


mAirList 3.1.0 Setup

Choose Install Location

Choose the folder in which to install mAirList 3.1.0.

Setup will install mAirList 3.1.0 in the following folder. To install in a different folder, click Browse and select another folder. Click Next to continue.

Destination Folder: C:\Program Files\mAirList 3.1

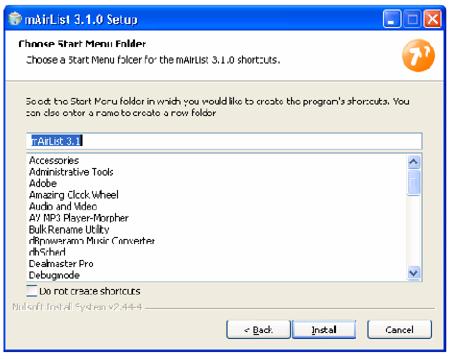
Space required: 0.4MB
Space available: 2.5GB

Nullsoft Install System v2.44-4

On the **Choose Install Location** page, you choose the folder where you wish to install *mAirList*.

We suggest that you do **not** change the folder from its default unless you have a specific reason to do so.

Click **Next >** to continue.


mAirList 3.1.0 Setup

Choose Start Menu Folder

Choose a Start Menu folder for the mAirList 3.1.0 shortcuts.

Select the Start Menu folder in which you would like to create the program's shortcuts. You can also enter a name to create a new folder.

mAirList 3.1

Accessories
Administrative Tools
Adobe
Amazing Clock Wheel
Audio and Video
AV MP3 Player-Morpher
Bulk Rename Utility
dBpoweramp Music Converter
dbSched
Dealmaster Pro
Debugmode

☐ Do not create shortcuts

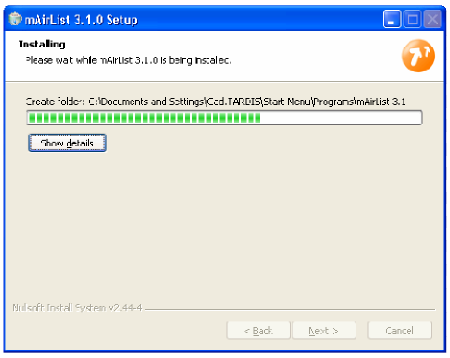
Nullsoft Install System v2.44-4

On the **Choose Start Menu Folder** page, you choose the *Windows Start Menu* folder where you wish to install the *mAirList* shortcuts.

NOTE: Only *Windows Start Menu* shortcuts are installed. No other shortcuts are installed (desktop icons or *Quick Launch* icons, for example).

We suggest that you do **not** change the *Start Menu* folder unless you have a specific reason to do so.

Click **Install** to begin the install process.


mAirList 3.1.0 Setup

Installing

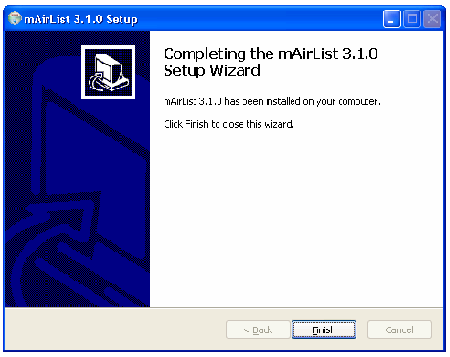
Please wait while mAirList 3.1.0 is being installed.

Create folder: C:\Documents and Settings\Ccd.TARDIS\Start Menu\Programs\mAirList 3.1

Nullsoft Install System v2.44-4

The install process typically takes less than one minute.

When it is complete, you see the page below.


mAirList 3.1.0 Setup

Completing the mAirList 3.1.0 Setup Wizard

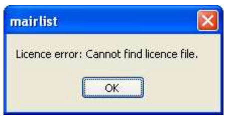
mAirList 3.1.0 has been installed on your computer.

Click Finish to close this wizard.

Installation is complete.

Click **Finish** to close the **Setup Wizard**.

1.2 Licences



Licence error: Cannot find licence file.

There is only one *mAirList* program (EXE) file: there are no separate ‘demo’ and ‘licensed’ versions. However, you **do** need to obtain a licence to be able to open the *mAirList* program. If you open *mAirList* without installing a licence first, you see the **Licence error** message box shown on the right and *mAirList* does not open (when you click **OK**, the *mAirList* Licence Manager opens).

There are several types of licence available, including: **free** licences which offer basic playout features only, **demo** licences which are identical to purchased licences but with some limitations, and **purchased** licences which are available in several ‘editions’ that offer different sets of features.

Free licences are strictly for **personal home use** only, and **must not** be used for **any** commercial or broadcast purpose (which includes **club DJing** and **Internet streaming**).

If you are evaluating *mAirList*, we recommend that you obtain a **demo** licence. This allows you to test *mAirList* features and decide which licensed edition of *mAirList* is best for your station. Demo licences are strictly for evaluation use only, and **must not** be used for **any** commercial or broadcast purpose (which includes **club DJing** and **Internet streaming**).

To use *mAirList* for **any** purpose other than personal home use or evaluation, you **must purchase** a **separate** licence for **each** computer which has *mAirList* installed on it, **including computers where *mAirList* is used for scheduling, production, or programming**.

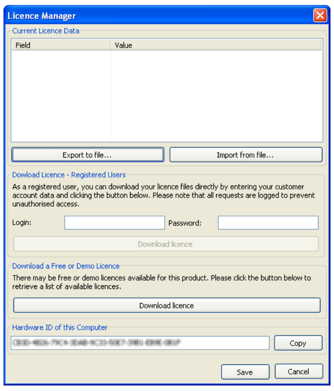
For full details and feature comparisons of the demo and purchased *mAirList* licence editions, please visit the *mAirList* web site: http://www.mairlist.com.

1.3 Licence Manager

To use *mAirList* for **any commercial or broadcast** purpose,
you **must purchase** a licence for **each computer** where *mAirList* is installed.

To manage the *mAirList* licence on a computer, open the *mAirList* **Licence Manager** by double-clicking its icon in the *mAirList* group in your computer’s *Start Menu*, or by running the **LicenseManager.bat** file in your *mAirList* program folder.

When you open the *mAirList* Licence Manager, you see the dialog below.



As a registered user, you can download your licence files directly by entering your customer account data and clicking the button below. Please note that all requests are logged to prevent unauthorised access.

There may be free or demo licences available for this product. Please click the button below to retrieve a list of available licences.

[redacted]

Figure 1.1: The *mAirList* Licence Manager dialog

Your current licence information is shown in the **Current Licence Data** grid at the top of the dialog. This is empty (as shown above) unless you have already installed a *mAirList* licence.

The **Hardware ID** at the bottom of the dialog, which is different for every computer, is used to activate licences. The Hardware ID you use is recorded against each licence number you activate.

Before you install any *mAirList* licences, please note that
you may **only** use *mAirList* licences for the **appropriate** purposes.

In particular, a free licence may **only** be used by **private individuals at home**,
and **only** for **non-commercial**, **non-broadcast** purposes.

1.3.1 Types Of Licence

There are four types of *mAirList* licences. You download and install all *mAirList* licences—regardless of type—using similar steps, which are described below.

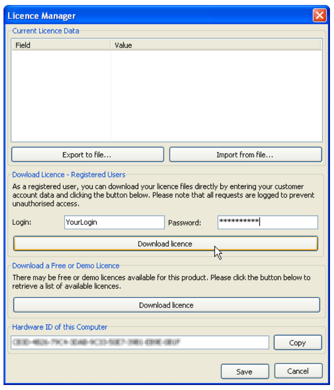
1.3.1.1 Purchased Licences and 'Personal' Demo Licences

If you purchase a *mAirList* licence (or request a 'personal' demo licence, which allows you to run *mAirList* unrestricted for a fixed number of days), it is 'personalised' with your station or company name (or your own name), and it is also specific to **one** computer. To download these types of licences, you need a **login name** and **password** for the customer area of the *mAirList* web site, and the **Hardware ID** (see section 1.3.3) of **each** computer you are licensing.

1.3.1.2 Free Licences and 'Non-Personal' Demo Licences

Anyone can download and use a free *mAirList* licence, which is **strictly** for personal **home use** only, for **non-commercial** and **non-broadcast** purposes; or a 'non-personal' demo licence, which allows you to run *mAirList* for a fixed time, after which all audio output stops and *mAirList* closes.

1.3.2 Installing A Purchased Licence Or 'Personal Demo' Licence


Licence Manager

Current Licence Data

Field	Value

Dowload Licence - Registered Users

As a registered user, you can download your licence files directly by entering your customer account data and clicking the button below. Please note that all requests are logged to prevent unauthorised access.

Login: YourLogin Password: **********

Download a Free or Demo Licence

There may be free or demo licences available for this product. Please click the button below to retrieve a list of available licences.

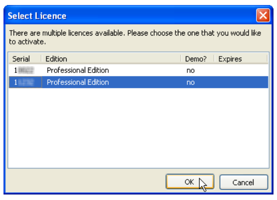
Hardware ID of this Computer

[redacted]

If your *mAirList* computer can connect directly to the Internet, you can download its licence data from the *mAirList* **Licence Manager**.

In the **Download Licence - Registered Users** section of the dialog, type your *mAirList* customer account **Login name** and **Password**, then click **Download licence**.

The Licence Manager connects to the *mAirList* customer site, retrieves the list of your purchased and 'personal demo' licences, and shows the list in the dialog on the right.

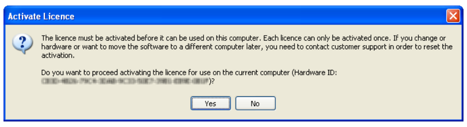

Select Licence

There are multiple licences available. Please choose the one that you would like to activate.

Serial	Edition	Demo?	Expires
1[redacted]	Professional Edition	no	
1[redacted]	Professional Edition	no	

Select the licence you want to install, then click **OK**.

Licence Manager reminds you that the licence must first be **activated** by showing the message box on the right.

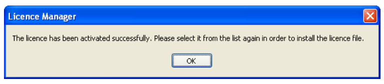

Activate Licence

The licence must be activated before it can be used on this computer. Each licence can only be activated once. If you change or hardware or want to move the software to a different computer later, you need to contact customer support in order to reset the activation.

Do you want to proceed activating the licence for use on the current computer (Hardware ID: [redacted])?

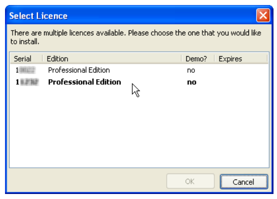
If you are downloading a licence for use *on the same computer*, click **Yes**. (Otherwise, click **No**, then follow the instructions in section 1.3.3).

Licence Manager sends the data to the activation server which performs the activation of the licence, then confirms that the licence you selected has been activated by showing the message box on the right.


Licence Manager

The licence has been activated successfully. Please select it from the list again in order to install the licence file.

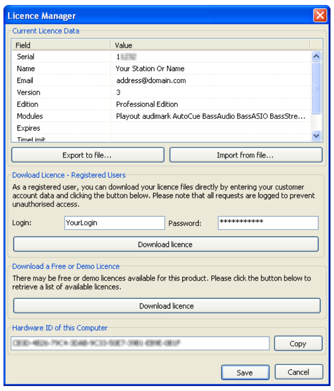
In the **Registered Users** section of the dialog, click **Download licence** again. Notice that the **Select Licence** dialog shows activated licences in **bold**.


Select Licence

There are multiple licences available. Please choose the one that you would like to install.

Serial	Edition	Demo?	Expires
1[redacted]	Professional Edition	no	
1[redacted]	**Professional Edition**	**no**	

Select the activated licence, then click **OK**.


Licence Manager

Current Licence Data

Field	Value
Serial	1[redacted]
Name	Your Station Or Name
Email	address@domain.com
Version	3
Edition	Professional Edition
Modules	Playout audimark AutoCue BassAudio BassASIO BassStre...
Expires	
TimeLimit	

Dowload Licence - Registered Users

As a registered user, you can download your licence files directly by entering your customer account data and clicking the button below. Please note that all requests are logged to prevent unauthorised access.

Login: YourLogin Password: ***********

Download a Free or Demo Licence

There may be free or demo licences available for this product. Please click the button below to retrieve a list of available licences.

Hardware ID of this Computer

[redacted]

Licence Manager downloads the licence data file you selected, and shows the licence details in the **Current Licence Data** grid at the top of the Licence Manager dialog.

This includes your personal details and the list of *mAirList* modules (features) which your licence has enabled. *mAirList* modules are fully described in **Module Descriptions**, beginning on page 131.

If you downloaded a 'personal' demo licence, the **Expires** date shown in the dialog is the date when your licence expires. After this date, you must purchase a licence.

Click **Save** to install and activate your licence.

1.3.3 Importing A Purchased Licence Or ‘Personal’ Demo Licence

If your *mAirList* computer does not have an Internet connection, or if you plan to activate and download its licence on a *different* computer for any reason, open Licence Manager on your *mAirList* computer and click **Copy** to copy its **Hardware ID**. Open *Notepad* (or any similar text editor), paste the copied Hardware ID into a new text file, then save the file.

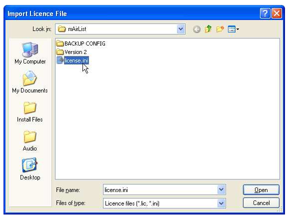
Because you will need to open the saved file on another computer to activate and download the licence, we strongly suggest that you give the text file a unique and meaningful name, especially if you are ‘collecting’ Hardware IDs from two or more *mAirList* computers.

On any computer which has an Internet connection, browse to the *mAirList* web site, log in to the customer area using your supplied user ID and password, then browse the **My Licenses** page. For each computer requiring a licence, choose any licence with an **Activate** link beside it, then click the **Activate** link. Note that each licence *can only be activated **once***: you **cannot** ‘re-activate’ a licence unless you contact *mAirList* customer support. On the page which opens, paste the Hardware ID from your saved text file to activate that licence, then download and save the activated licence file.

If you are activating and downloading more than one licence file, make sure that you note **which** *mAirList* computer each licence file has been activated for. You may find it helpful to give each downloaded licence file a unique name to help you identify it later.

After you have downloaded the licence file or files,
perform the following steps on **each** *mAirList* computer:

1. Open Licence Manager.
2. Click **Import from file…**
3. On the **Import Licence File** dialog,
navigate to and select the correct licence file.
4. Click **Open**.



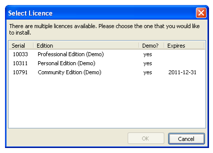
Your licence data is shown in the **Current Licence Data** grid at the top of the Licence Manager dialog. Click **Save** to install your licence.

> If you use the wrong **Hardware ID** when downloading any licence,
> please contact *mAirList* Customer Support immediately.

1.3.4 Installing A Free Licence Or ‘Non-Personal’ Demo Licence

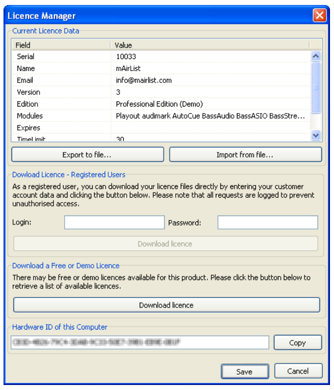
This is similar to the process for installing purchased licences, except that you click **Download Licence** in the **Download a Free or Demo Licence** section of the Licence Manager dialog.

When you do this, Licence Manager connects to the *mAirList* site, retrieves the list of free and ‘non-personal’ demo licences, and shows the list in the dialog shown on the right. Select the type of licence you want to install, then click **OK**.


Select Licence

There are multiple licences available. Please choose the one that you would like to install.

Serial	Edition	Demo?	Expires
10033	Professional Edition (Demo)	yes	
10311	Personal Edition (Demo)	yes	
10791	Community Edition (Demo)	yes	2011-12-31


Licence Manager

Current Licence Data

Field	Value
Serial	10033
Name	mAirList
Email	info@mairlist.com
Version	3
Edition	Professional Edition (Demo)
Modules	Playout audimark AutoCue BassAudio BassASIO BassStre…
Expires	
TimeLimit	30

Dowload Licence - Registered Users

As a registered user, you can download your licence files directly by entering your customer account data and clicking the button below. Please note that all requests are logged to prevent unauthorised access.

Login:
Password:

Download a Free or Demo Licence

There may be free or demo licences available for this product. Please click the button below to retrieve a list of available licences.

Hardware ID of this Computer

[redacted]

Licence Manager downloads the licence data file you selected and shows the details in the **Current Licence Data** grid at the top of the Licence Manager dialog.

If you downloaded a ‘non-personal’ demo licence, the **TimeLimit** shown in the dialog is the number of minutes you can use *mAirList* before it stops all audio output and then closes.

Click **Save** to install and activate your licence.

If your *mAirList* computer does *not* have an Internet connection, you can download a free or ‘non-personal’ demo licence data file on another computer, then transfer and import it in exactly the same way as described above in section 1.3.3.

1.4 USB Dongle (Hardware Licence Key)

Instead of using licences which are permanently ‘locked’ to specific computers, you can optionally purchase USB dongles (hardware ‘licence keys’). You can freely move any USB dongle to any computer, which you may find more convenient if you frequently change or upgrade computers.

Please see the customer area of the *mAirList* web site for more details.

1.5 Software Updates And Upgrades

This section lists the steps to **update** or **upgrade** from a version of *mAirList* to a later version.

- **Update** means a change *within* the same minor version
  (for example, from version 3.1.1 to version 3.1.2).
- **Upgrade** means a change from one minor version to a *different* minor version
  (for example, from version 3.0.x to version 3.1.x)
  or a change from one major version to a *different* major version
  (for example, from version 2.x.x to version 3.x.x).

Before installing **any** update or upgrade, **make a backup copy** of your *mAirList* program folder, and your **Root Data Folder** (see 7.14.1 on page 77) and subfolders. Your *mAirList* configuration files are in the data folder and its subfolders.

If you use a *mAirListDB* (or other) database, also **make a backup copy** of **all** your database files, including any stored on *other* computers.

Also before installing any update or upgrade, **read its change log** (a text document listing changes from the previous version). The change log contains any significant changes to configuration settings or *mAirList* features.

If you use a *mAirListDB* database, the table schema (layouts and structures) **must** be in step with the installed version of the *mAirList* program. You can view the required and actual version of your *mAirListDB* database schema in the **Databases** node of the *mAirList* configuration program (see 7.9 on page 66 for more details).

Conversely, if you have several *mAirList* computers using the same *mAirListDB* database, **all** the *mAirList* computers must have the **same** version of *mAirList* installed (or versions which use the same *mAirListDB* database schema version).

For this reason, it's **not** usually possible to use the same *mAirListDB* database from computers with *different* versions of *mAirList* installed on them. Therefore, if you plan to install a new update or upgrade, and you want to test or trial it with an existing *mAirListDB* database, you should first **copy** your existing *mAirListDB* database files, then configure the trial installation to use those *copied* files as its *mAirListDB* database. You can then safely upgrade the database schema.

1.5.1 Update (within *mAirList* Version 3.1)

mAirList is constantly being developed and improved, and two types of updates are usually available for you to download and install: **releases** and **snapshots**.

- A **release** is a new, stable version which typically includes new or improved features.
- A **snapshot** is a possibly unstable development build which is available for testing.
  Snapshots usually consist of a single, updated **mAirList.exe** file

IMPORTANT NOTE: Always *backup your* mAirList *program folder and* ***all*** *your* mAirList *data files* ***and*** *databases* ***before*** *you install an update or snapshot.*

You should **not** install snapshots on your live playout computers unless you have conducted your own 'as-live soak testing' of a snapshot build, and are confident of its stability: on the other hand, we strongly recommend that you **do** install new stable **releases** on your live playout computers.

If you want to install an update within version 3.1 of *mAirList* (for example, version 3.1.0 to version 3.1.1), you don't need to do anything to prepare for the update, other than backing up your *mAirList* program folder, your *mAirList* data folder and all its subfolders, and your database files (if any).

To perform an **update**:

1. Make backup copies of your existing *mAirList* program folder, data folder and all subfolders, and all database files.
2. Download either the installer (.exe file) or ZIPfile of the new version of *mAirList*.
3. **If you downloaded the installer**:
   Open the file, which overwrites your existing version of the *mAirList* program file (**.exe** file) but leaves your configuration files unchanged.

   If you downloaded the ZIPfile:
   Extract it into your existing *mAirList* program folder and data folder (and its subfolders).
   Overwrite existing files in all folders ***except*** the **config** subfolder of your data folder,
   and extract files 'using folder names' (i.e. extract using the subfolder names within the ZIPfile).
4. Open the *mAirList* configuration program and check all settings, especially any new or changed settings as detailed in the change log.
5. If you have an existing *mAirListDB* database, check your database schema version (see 7.9 on page 66 for details) and upgrade it if necessary.
6. When all configuration settings are correct, click **Save** to save your changes and close the *mAirList* configuration program.
7. Open the updated *mAirList* and test it thoroughly **before** using it for broadcast.

1.5.2 Upgrade (from *mAirList* Version 3.0.x or earlier)

Before you upgrade, check that **all** your *mAirList* licences
are valid for the version you are upgrading **to**.
mAirList licences are usually valid for any version within
the current **major** version (for example, all **3**.x.x versions).

Upgrading from a version earlier than 3.1.x (for example, from 3.0.x) is slightly more complicated than installing an update.

You will usually need to manually copy the existing configuration files into the new version's program folders (**and** copy any *mAirListDB* files, as described earlier).

You *may* need to manually edit configuration files, and you will definitely need to check **all** configuration settings, as features may have been changed, added, or removed.

It's **especially important** that you read the change log **before** installing an upgrade.

To perform an **upgrade**:

1. Make backup copies of your existing *mAirList* program folder, data folder and all subfolders, and all database files.
2. Download either the installer (.exe file) or ZIPfile of the new version of *mAirList*.
3. **If you downloaded the installer**:
   Run the file, which installs the new version of *mAirList*.

   If you downloaded the ZIPfile:
   Extract it into a **new folder**, making sure you extract all files 'using folder names' (i.e. extract using the subfolder names within the ZIPfile).
4. Copy the contents of the previous version's data folder into the new version's data folder,
   but *do **not** copy* the previous version's **license.lic** file.
5. Open the *mAirList* **Licence Manager** (see 1.3 on page 5) and activate the licence.
6. Open the *mAirList* configuration program and check all settings, especially any new or changed settings as detailed in the change log, and adjust the paths of all database connections.
7. When all configuration settings are correct, click **Save** to save your changes and close the *mAirList* configuration program.
8. Open the new version of *mAirList* and test it thoroughly **before** using it for broadcast.

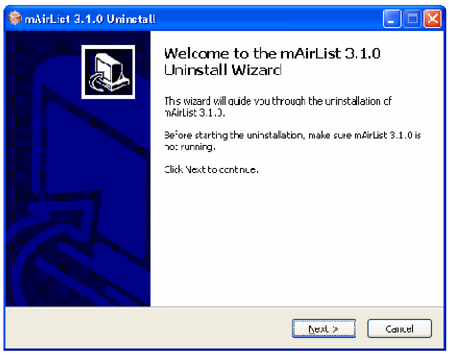
1.6 *Uninstalling* mAirList

***NOTE:** If you uninstall mAirList, this does not delete any* mAirList *data files (such as .mmd and .mlp files) or mAirList databases. If you wish to delete these files, you must do so yourself after the uninstall.*

If you need to uninstall *mAirList* (because you have 'moved' it to a new computer, for example), double-click the **Uninstall** icon in the *mAirList* folder in your *Windows Start Menu.*

If you did not create a *mAirList* folder in your *Windows Start Menu* when you installed *mAirList,* navigate to the folder where *mAirList* is installed, then open the **Uninstall** program.

You see the *mAirList* **Uninstall Wizard**:



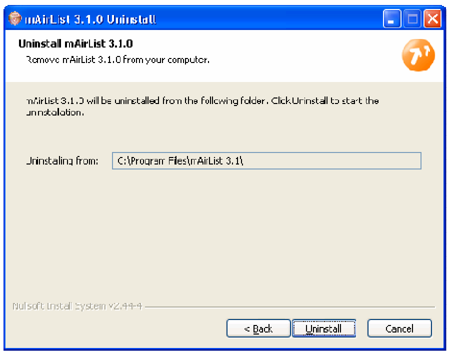
Welcome to the mAirList 3.1.0 Uninstall Wizard

This wizard will guide you through the uninstallation of mAirList 3.1.0.

Before starting the uninstallation, make sure mAirList 3.1.0 is not running.

Click Next to continue.

Click **Next >** to continue.



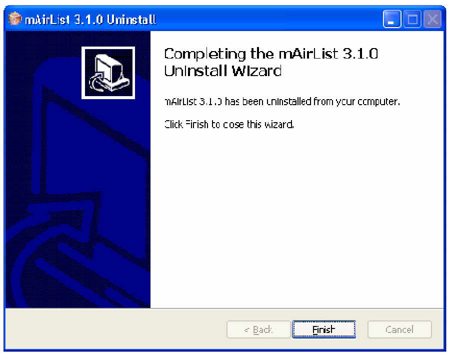
Uninstall mAirList 3.1.0
Remove mAirList 3.1.0 from your computer.

mAirList 3.1.0 will be uninstalled from the following folder. Click Uninstall to start the uninstallation.

Uninstalling from: C:\Program Files\mAirList 3.1\

Check that the folder shown is the folder where you originally installed *mAirList.*

Click **Uninstall** to begin the uninstall process.



Completing the mAirList 3.1.0 Uninstall Wizard

mAirList 3.1.0 has been uninstalled from your computer.

Click Finish to close this wizard.

When you see this page, *mAirList* has been uninstalled.

Click **Finish** to close the **Uninstall Wizard**.

2. Introduction To *mAirList*

It will take you some time to learn all of *mAirList*'s features, especially its configuration settings. However, this does **not** mean that *mAirList* is complicated to learn or understand.

If you are a new *mAirList* user, we strongly recommend that you first learn and understand the basic functions of *mAirList* in its default configuration, and in some detail, before making any changes. As you become familiar with *mAirList*, you can experiment with the configuration settings and learn more of *mAirList*'s capabilities.

2.1 The Main Window

When you open *mAirList* after installation, you see the main window shown below, which we have labelled to help you understand the default layout.

Remember that this is the **default** layout, which you can—and probably will—change to suit the needs of your station.

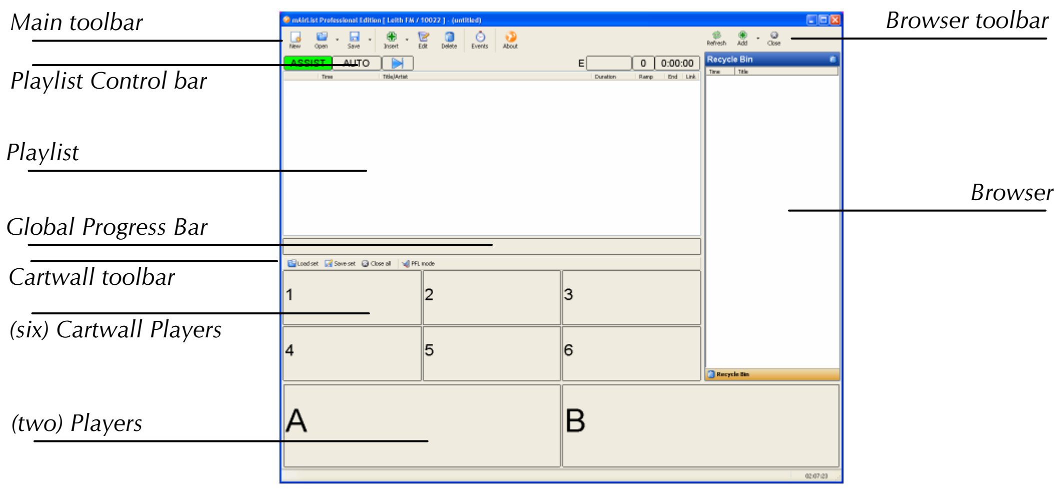


Figure 2.1: The default *mAirList* window layout

Working from the top down, then from left to right, the window elements are:

Main toolbar
Contains buttons to Open and Save playlists, Insert items into the Playlist, Edit and Delete Playlist items, open the **Event Scheduler**, and run *mAirList* **scripts**. Most—but **not** all—of these functions are duplicated elsewhere in the *mAirList* GUI.

Playlist Control bar
Contains buttons for **AUTO** and **ASSIST** modes, a **NEXT** button, and boxes showing the **Next event time**, the **number of items** in the Playlist, and the **total duration** of the Playlist.

Playlist
The playlist of audio items to be played in the Players, plus 'special' items such as Commands.

Global Progress Bar
A progress bar for the item which is currently playing.

Cartwall toolbar
Contains buttons to load and save **Cart Sets**, and to toggle **PFL mode** for all Cartwall Players.

Cartwall Players
'Cart' players for jingles, stings, effects, music beds, etc. Unlike the main Players, a Cartwall Player *re-cues* itself and remains loaded after it finishes playing an item. Also note that a single Cartwall Player can contain a **'stack'** of audio items.

Players
The main players for music tracks, which are automatically 'loaded' by the Playlist and 'ejected' when they stop. Players contain only one item, however an 'item' can be a 'container' which contains a number of audio items.

Browser toolbar
Contains buttons to **Refresh**, **Add**, and **Close** panes in the Browser.

Browser
A browser which can contain panes showing file **folders** or **folder trees**, **databases**, database **search**, database **playlists**, **clocks**, and the *mAirList* **Recycle Bin**.

Status Bar
Finally, at the very bottom of the window is the **Status Bar**, which contains the **System Message area** on the left and the *mAirList* time-of-day **clock** on the right.

Double-clicking the System Message area opens the *mAirList* System Log, and double-clicking the clock opens the **Adjust Internal Time** dialog, which allows you to manually set or change the *mAirList* 'internal' date and time (note that this does **not** affect the *Windows* date and time).

All of these elements are explained in more detail in the following sections.

2.1.1 Browser, Playlist, Players, Cartwall

The four main operational areas of *mAirList* are:

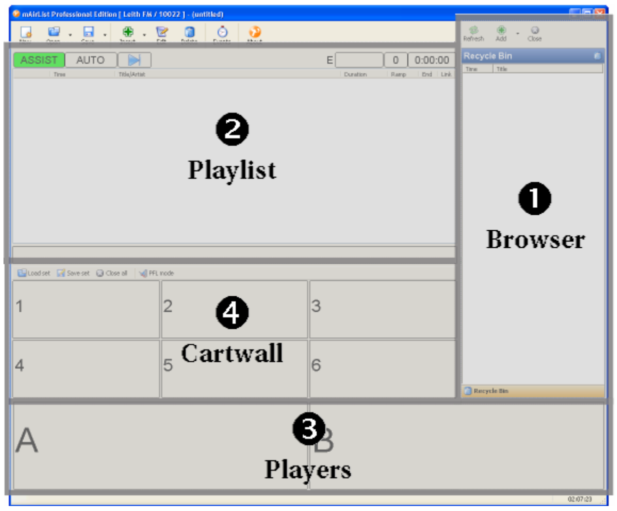


Figure 2.2: The main areas of the default *mAirList* window layout

1. **Browser**

   The **browser** contains **panes**, which can contain file folders, databases, database search, database playlists, clocks, and the *mAirList* **Recycle Bin**. By default, only the **Recycle Bin** is shown. You can drag audio items from any pane in the Browser and drop them on the Playlist or on any Player, including Cartwall Players.

2. **Playlist**

   The **Playlist** is the central component of *mAirList*. Audio items in the Playlist are automatically loaded in sequence into available Players for manual ('live assist' or **assist** mode) or automated (**automation** mode) playout. Items in the Playlist are listed with the first ('next') item at the top, and show projected playout times and current status, which Player they are loaded into, etc.

3. **Players**

   The **Players** are separate audio players which play the items in the Playlist. Players are loaded automatically by the Playlist. When an item ends (unlike Cartwall Players: see below), the Player 'ejects' it and the Playlist loads the Player with the next available item. The two Players in the default configuration are named **A** and **B**. If you use mAirList (as we recommend) with a mixer, each Player is usually set up to correspond to a separate fader (channel) on the mixer.

4. **Cartwall**

   The **Cartwall** comprises a set of additional 'single shot' players (called 'cartwall' or 'cart' players because they mimic hardware cart players), which can be played independently of the Playlist. Use the Cartwall for your short elements such as jingles, effects, music beds, etc. Unlike the main Players, Cartwall Players 'reset' after use and the audio item remains loaded and re-cued. Cartwall Players can also contain a 'stack' or 'mini-playlist' of audio items. Cartwall Players are numbered from 1 upwards. There are six Cartwall Players in the default configuration. If you use *mAirList* (as we recommend) with a mixer, all Cartwall Players are usually set up to correspond to a **single** fader (channel) on the mixer.

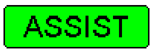
The following three sections are short, carefully designed ‘hands-on’ tutorials which we created to help you learn the *mAirList* ‘basics’ as quickly as possible.

If you are a new *mAirList* user, we **strongly recommend** that you complete **all three** tutorials yourself, in a single continuous session on your own installed copy of *mAirList*.

The full set of three tutorials should take you much *less* time to complete than the 30 minutes of audio output allowed in demo versions of *mAirList*.

More detailed instructions follow, but you will find those instructions much clearer and easier to understand if you complete these short tutorials first.

2.2 Working With The Browser

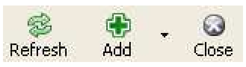


Open *mAirList* if it is not already open, and make sure **assist** mode is selected (if not, click **ASSIST** on the Playlist Control bar).

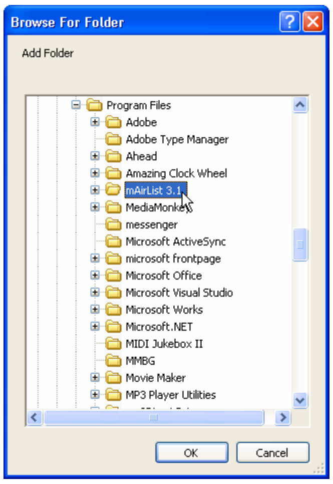
The Browser is, as it implies, an area where you can view several ‘pages’ or **panes** of information, including things like clocks and saved playlists. More importantly, it can browse your audio database if you have one, and can show folders containing your audio files.

By default, the Browser contains a single **Recycle Bin** pane (of which, more later).

As an example, we’ll add a Browser pane which lists the *mAirList* program folder, which contains the single audio file (**test.ogg**) for testing purposes.

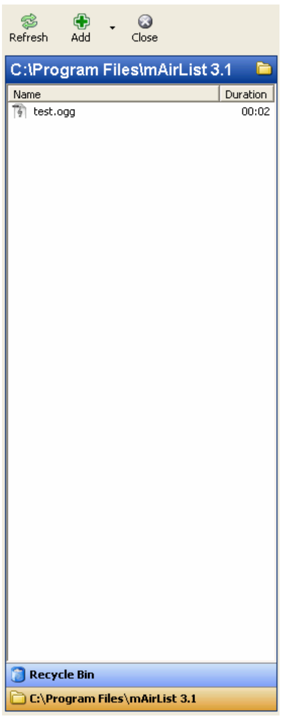


On the Browser toolbar (just above the Browser), click **Add** to open a **Browse for Folder** dialog.



If a different dialog appears, click **Cancel**, then click **Add**—*not* the dropdown arrow to its right—and don’t proceed until you have a **Browse for Folder** dialog open, as shown on the left.

On the **Browse for Folder** dialog, navigate to and select the folder **C:\Program Files\mAirList 3.1**[1], then click **OK**.



The Browser opens a new pane and you see the **test.ogg** file in the pane. Note that folder panes in the Browser list only **audio** files, even if there are other files in the folder.

You now have two panes in the Browser.
To choose the pane you want to view, click its name in the **pane stack** just below the main Browser window. This is known as making a pane the ‘active pane.’

The active pane expands to fill the Browser, and the previous active pane returns to the pane stack.

Note that you can’t change the *order* of panes in the stack.

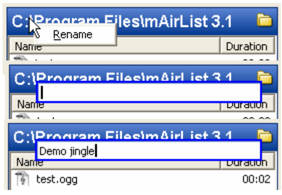
The new pane has the name **C:\Program Files\mAirList 3.1**,[2] which happens to be fully visible in the Browser.

But what happens if you open a folder with a much *longer* path, like **C:\Audio Library\For broadcast\Music\E-K** for example, in the Browser? That path does not fit in the Browser pane header, so it is truncated.
It would be useful if you could change the pane name to something more sensible, like **Music Library E-K**.

As you will learn on the next page, *mAirList* allows you to do this.

[1] If your computer won’t let you navigate to the *mAirList* program files folder, navigate instead to any folder which contains short audio items, like station jingles or presenter IDs, and use that folder for the rest of this tutorial.

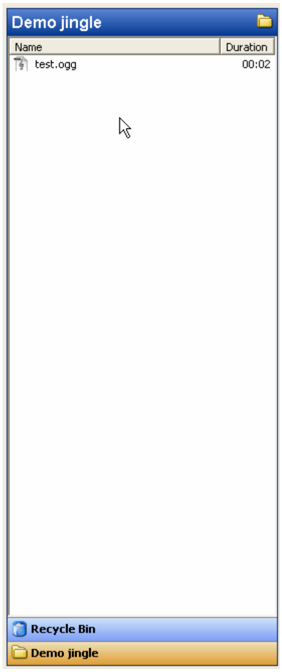
[2] If you had to use a folder other than the *mAirList* program files folder, its full drive and path are shown instead.



Type in a better name for the folder pane.
Right-click the pane header, then click **Rename**.

mAirList opens a small empty text box.[3]

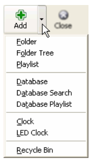
In the box, type **Demo jingle**[4] and press **Enter**.



Notice that the pane name changes both in the pane header *and* in the 'stack' of pane names at the foot of the Browser, as shown on the right.

You can change the name of **any** Browser pane in the same way.
For practice, change the **Recycle Bin** pane name to **Played Items**.

The names of renamed panes are **not** remembered if you close and re-open the pane. To demonstrate, make your renamed **Played Items** pane the active pane, then on the Browser toolbar, click **Close**.

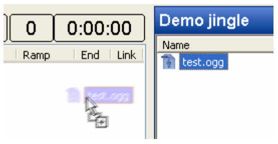


Now open a Recycle Bin pane. On the Browser toolbar, click the dropdown arrow immediately to the right of the **Add** button, then click **Recycle Bin** on the dropdown menu.

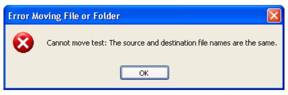
Hopefully, you are not surprised to see that the pane you opened is named **Recycle Bin**.

To save Browser changes, create a *mAirList* Desktop file. On the *mAirList* toolbar, click **Save**, and on the **Save Desktop** dialog, navigate to your *My Documents* folder, type a **File name** of **tutorial**, and click **Save**.

Let's check this worked. On the *mAirList* toolbar, click **New**. This 'resets' *mAirList* to its startup condition. On the *mAirList* toolbar, click **Open**, and on the **Open Desktop** dialog, navigate to your *My Documents* folder, select the file **tutorial**, and click **Open**. The Browser contents are restored.



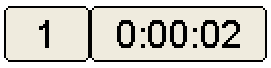
Click your **Demo jingle** pane caption in the pane stack to make sure it is the active pane. You see the file test.ogg[5]. Drag this file[6] around the *mAirList* window, but do **not** drop it yet. Note that you *could* drop it almost anywhere: on the Playlist, or directly on any Player or Cartwall Player.


Error Moving File or Folder

Cannot move test: The source and destination file names are the same.

OK

Drop the file on a blank area of the **Demo jingle** Browser pane.
You see a message box warning you that you cannot move the file.
Click **OK** to clear the message box.



Drag the test file from the Browser again and drop it on the Playlist.
Note that the file *also* loads into Player A, and the boxes at the top right of the Playlist now show 1 **item** and the **total duration** of the Playlist.

Leave everything as it is, ready for the next tutorial section on the following page.

Summary of the Browser:

- The Browser is principally an 'audio-focussed' version of *Explorer*, but it can contain other things like database search panes and time-of-day clock panes.
- The Browser can contain any number of **panes**. Pane names are listed in the **pane stack** under the Browser. Click a name in the pane stack to make it the **active** (visible) pane.
- You can **rename** any Browser pane to give it a more readable or meaningful name.
- You can **Save** the Browser contents, including pane name changes, in *mAirList* Desktop (.mld) files which you can **Open** later.
- You can **drag** any audio file from any Browser pane and **drop** it on the Playlist, or on any Player, or on any Cartwall Player.

[3] If you open one of these boxes by mistake, press **Esc** to close it without making any changes.

[4] Even if you had to use a folder other than the *mAirList* program folder, please type the name **Demo jingle** anyway: it makes the rest of the tutorial easier to follow.

[5] If you had to use a folder other than the *mAirList* program folder, the audio file(s) within it are listed instead.

[6] If you had to use a folder other than the *mAirList* program folder, choose any audio file you see in the Browser pane.

2.3 *Working With The Playlist And Its Players*

IMPORTANT NOTE: We assume that you are continuing from the previous tutorial.

If not, please 'replay' the instructions in the previous tutorial section to set up *mAirList* exactly as it was at the end of the previous tutorial.

As you have seen, audio files in the Playlist are automatically loaded into Players until all the available Players are loaded. Something else happens when *mAirList* opens audio files: it analyses the files and automatically sets some Cue Markers.

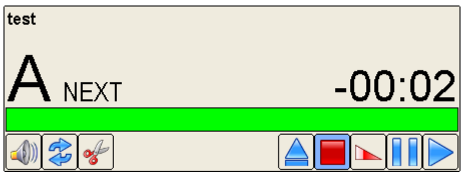
In the Playlist, click the large quaver (musical note) icon to open the PFL dialog. The *mAirList* jingle (or other file) plays in the PFL player, and the list of Cue Markers contains *Fade Out* and *Cue Out* Cue Markers. As this is a jingle, you won't want it to fade out, so remove the *Fade Out* Cue Marker as follows.

On the PFL dialog (its title bar is the title of the audio file), click the **Fade Out** row in the list of Cue Markers, then click **0** (the large button on the right, between **SET** and **TEST**) to clear the Cue Marker. A more *useful* Cue Marker would be a **Start Next** Cue Marker, which in automation mode means 'start the next item **now**.' Drag the slider (just below the Player on the dialog) so that **Elapsed** reads **0:00:01.00** (one second before the end of the item), click the **Start Next** row, then click **SET**.

It would be a pity to lose this change, so click **Metadata File**. This saves[7] a *mAirList* **.mmd** file containing your changes. When *mAirList* opens the audio file in future, it loads all file-related information (*metadata*) from the .mmd file instead of analysing the audio file again.

Click **Cancel** to close the PFL dialog, click the **test** row in the Playlist and press **Delete** (or right-click the row and click **Delete** if you prefer).

Drag the test file from the Browser and drop it on the Playlist again. In the Playlist, click the large quaver (musical note) icon to open the PFL player dialog again. Note that your changes to the Cue Markers have been 'remembered.' Click **Cancel** to close the PFL dialog.



Examine the loaded Player, Player A. It shows the title of the audio, a NEXT indicator, a **remain time** counter, and a green **progress bar**.

The Player's **controls** are also visible. One of these is another PFL control: the leftmost button with the speaker icon. Click this button.

Note that when the file plays in the mini-PFL player which opens, the green progress bars in the Player and Playlist Item (row) move in sync. If you missed that, click **PLAY** on the mini-PFL player and watch again. Also note that the PFL button on the Player is 'illuminated' to confirm that PFL is active, and that PFL is shown beside NEXT on the Player's display.

To close the mini-PFL player, click the PFL button **on the Player** again.

Click the **Start** (play) button on Player A. Note that the Player and Playlist Item (row) progress bars move, as does the Playlist progress bar at the bottom of the Playlist. The Player background *flashes* to warn you that the item is within ten seconds of finishing.

Now that it has played, the file has been 'ejected' from the player, but you can easily load it again from the **Recycle Bin** pane in the Browser. Make the Recycle Bin the active pane (click its name in the pane stack). Drag the test file from the Recycle Bin and drop it on the Playlist again.

Now save a copy of the playlist. Right-click any **blank** area on the Playlist (**not** the test file row) and click **This Playlist...**, **Save...** On the **Save playlist** dialog, navigate to your *My Documents* folder, type a **File name** of **tutorial1**, and click **Save**. Now play the test file again.

To load your saved playlist, right-click a **blank** area of the Playlist and click **This Playlist...**, **Load...** On the **Load playlist** dialog, navigate to your *My Documents* folder, select the file named **tutorial1**, and click **Open**.

[7] On *Window s Vista* and *Windows 7*, this usually fails because program folders are write-protected by default. If this happens, choose a different folder (see footnote 1 on page 15) and use a file in *that* folder as your test audio file.

Add another Folder pane to the Browser. Choose any folder on your computer that contains music tracks. Drag any file from your music folder pane in the Browser and drop it on the blank Playlist area below the test file. Save the playlist again, naming the file **tutorial2** this time.

On the Playlist Control bar, immediately to the right of the **ASSIST** and **AUTO** buttons, is the **Next** button. Click **Next**, and *while the test file is playing*, click **Next** again. Note that you can play items from Players A and B at the same time, and that *mAirList* plays items in Playlist order, from top to bottom.

To stop your music track, click the **Stop** button or **Fade** button on the Player.

Load the **tutorial2** playlist, add another music track to the end of it, then save the playlist again, naming it **tutorial3**. Click **Next** twice, to play the first two items (the test file and your first music track). Let the music track play for a little while, then click **Next** again. *mAirList* segues the tracks by fading out the first track under the beginning of the following track. After a little while, click **Next** again. Nothing happens, because the Playlist is empty.

*A*nother useful assist mode feature: you can **link** items so that they all play in the *same* Player.

Load the **tutorial3** playlist, then click the **Link** column in the top row. Several things happen: the top row shows a green lamp in the Link column, and the second row shows a red lamp. The first music track has ‘disappeared’ from the Players and the *second* music track (the final item in the Playlist) has loaded into Player B. *mAirList* plays all the items from the first linked item to the last in the **same** Player; and segues the items according to their Cue Markers.

You can link any number of items. Click the Link column in the second row of the Playlist (the one with the red lamp in it currently) a few times and note what happens. First click: the item below is added to the list of linked Playlist items; second click: the item below is removed from the linked list; and so on. You see the second music track disappear from, and reappear in, Player B as you make the clicks. The red lamp always indicates the **last** item in the linked list. Linking tracks, especially with sweepers or jingles in the list, is a good way to ‘automate’ a self-operated show temporarily.

Link all three tracks together and click **Next**. While the second item (first music track) is playing, click **Next**. Nothing happens, because although there *is* another item in the Playlist, it is no longer a *separate* item because it is linked to other items. In other words, *mAirList* treats a set of linked items as a **single** item. Remove the link and clear the Playlist and the Players.

Load the **tutorial3** playlist, then click the Playlist **AUTO** button. Two buttons—to stop/start automated playout—replace the Next button on the Playlist Control bar.

Click the Auto **Start** button. The test file plays, followed by the first music track. Note that AUTO flashes as a reminder, the Next button is visible again, and Player controls are *not* visible. Click **Next** and note that the currently playing track segues smoothly into the next track. After a little while, click **Next** again. Unlike in assist mode, this **fades out** the current track, even though the Playlist is empty.

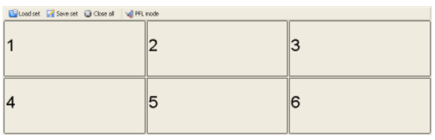
Drag another audio file into the Playlist and note that it plays immediately. In automation mode, *mAirList* plays tracks until it is stopped or the Playlist is empty. If you use *mAirList* as a fully automated system, it is easy to set up *mAirList* to load a playlist (or ‘hourly log’) once an hour.

To stop automated playout, click the Playlist Auto **Stop** button, **or** click **ASSIST** and then click the Player’s **Fade** button. Whichever method you use, the track fades out.

Summary of the Playlist and Players:

- The Playlist ‘feeds’ items into the Players, in Playlist order.
- In **automation** mode, the Playlist plays and segues items until the Playlist is empty or until it is stopped; in **assist** mode, you must start Players manually unless they are **linked**.
- You can save the playlist at any time, and Load (or Append) any saved playlist later.
- You can start PFL from the Playlist or a Player, and change an item’s Cue Markers.
  Cue point marker changes are **temporary** unless you either save the Playlist (which saves the changes in that Playlist file **only**), or you save the changes **permanently** in one or more of the audio file’s tags, a Metadata (.mmd) file, or a *mAirListDB* database.
- Played items are ‘saved’ in the Recycle Bin pane in the Browser.

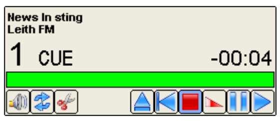
2.4 Working With The Cartwall



The fourth and final main component of *mAirList* is the **Cartwall**[8]: the software equivalent of hardware NAB tape cartridge or 'cart' players. Cartwall Players look and operate almost exactly the same as the main Players you learned about in the previous tutorial, so this tutorial concentrates on those differences. To save space, we will refer to Cartwall Players as **Carts**.

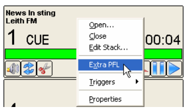
Use the Cartwall in **assist** mode to quickly and easily play items like station ID and promo jingles, music beds, sound effects, competition stings, etc. without needing to plan them into the Playlist (however, ad. breaks typically *are* scheduled into the Playlist).

The Cartwall contains a toolbar and—by default—six numbered **Cartwall Players** or **Carts**. If you are thinking 'only ***six***?' remember this is the **default**—you can easily change the number of Carts later; and six Carts *are* enough for you to learn how to *use* the Cartwall.



Load a jingle into Cart 1 (Cartwall Player 1) by opening a *Windows Explorer* window, then dragging an audio file and dropping it directly on to Cart 1.

If the item you load is an 'unknown' audio file, *mAirList* performs the same file analysis and automatic setting of Cue Markers it does when an 'unknown' audio file is loaded into a main Player.
With jingles and effects, this is usually exactly what you **don't** want, so let's fix this now.

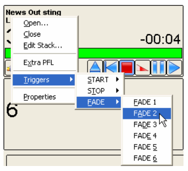


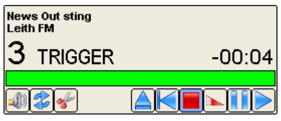
Right-click Cart 1, then click **Extra PFL**. You see the standard PFL dialog for the audio item. As you did in the last tutorial on Players: clear the item's Fade Out point; add a Start Next point at roughly one second *before* the end of the item; and if a Cue In point is showing as **0:00:00**, clear that as well. When you've made all those changes, click **Metadata File** to save them; then click **OK** to close the PFL dialog. (If you've forgotten how to do all this, all the details are on page 17.)

As well as the **PFL** button on each Cart, you can click the **PFL mode** button at the right of the Cartwall toolbar to put *all* Carts into PFL mode. In this mode, you can click **PFL** or **Start** (play) on *any* Cart to listen to it. Click the **PFL mode** button again to switch Cartwall PFL off.

Click the Cart 1 **Start** button and let the jingle play out. When it stops, Cart 1 re-cues the jingle: it does **not** 'eject' it. Now load a long music bed (a five-minute news or traffic news bed is ideal) into Cart 2, and a closing sting into Cart 3. Again, use **Extra PFL** on these audio items as described above to remove their Fade Out Cue Markers and so on.

Usually, you would fast-fade a music bed out when you fire the closing sting. *mAirList* can do this for you automatically, but first you have to set up a *fast* fade out[9] on the music bed. Right-click Cart 2, click **Properties**, **Options** tab, and change **Fade duration** to **750** (mS).





Now you can tell *mAirList* to fade out Cart 2 when Cart 3 starts. Right-click Cart 3, click **Triggers**, **FADE**, **FADE 2**. Notice that Cart 3 now shows **TRIGGER**, as a reminder. Now **Play** Cart 2, let it run for a while, then start Cart 3 and you will hear Cart 2 fast fade out automatically.

Triggers work **only** when a Cart *starts*[10], and you can only set triggers to start, stop, or fade other Carts, but you can set as many triggers as you like on the same Cart.

You can save and load the entire Cartwall as a **cart set** file. You can create as many cart sets as you like, ready for near-instant[11] loading. On the Cartwall toolbar, click **Save set**. On the **Save cart set** dialog, navigate to your *My Documents* folder, type a **File name** of **tutorial**, and click **Save**. Now click **Close all** to clear the Cartwall.

To load a saved cart set, click **Load set**. On the **Load cart set** dialog, navigate to your *My Documents* folder, select the file named **tutorial**, and click **Open**. Notice that the Cart 3 trigger and the changed fade duration for Cart 2 were both saved in the cart set.

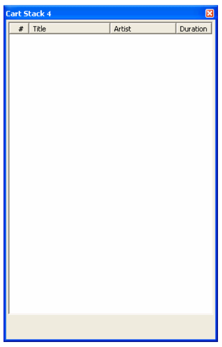
[8] This is the same feature as 'jingle decks' or 'instant players' in other software.

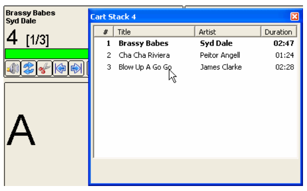
[9] If you don't do this, *mAirList* will use the **Default automation fade time**, which by default is five seconds.

[10] To make things 'happen' when a Cartwall Player *stops*, or for anything more sophisticated, you will need to use **Actions On Start/Stop**, which you can read about later on page 25.

[11] By setting up **Favourite Cart Sets** (see 7.3.7 on page 52 and 7.3.2 on page 50), you can make this process even faster.

The final distinct feature of Carts is that you can load *more than one* audio item into each Cart, just as you can on a hardware NAB cartridge: if it helps, think of this as a virtual CD player. Right-click Cart 4 and click **Edit Stack…** to open the **Cart Stack** dialog shown on the right. Notice that this resembles a mini-playlist.





Cart Stack 4

#	Title	Artist	Duration
1	Brassy Babes	Syd Dale	02:47
2	Cha Cha Riviera	Peitor Angell	01:24
3	Blow Up A Go Go	James Clarke	02:28

Drag some talkover music beds or instrumental tracks from a *mAirList* browser pane (or from *Windows Explorer*)and drop them on the Cart Stack dialog. Notice that as you add more tracks, the Cart also shows you how many items are in the stack, and which item is currently cued.

Now change the order of the items by dragging them up or down the list in the dialog. When you are happy with your list, click the Close button at the top right of the Cart Stack dialog.

Notice also that there are now two extra buttons in Cart 4:
click these to move one item back or forward in the stack, respectively.

Click **Start** in Cart 4 and after a few seconds, click **Stop**. The Cart re-cues the item you just played. Click **Start** in Cart 4 again, and after a few seconds, click **Fadeout**. The item fades out, but this time, the Cart cues the *next* item in the stack, because the Cart treats a fadeout the same as reaching the end of the item; therefore it 'moves on' to the *next* item.

Now make sure the final (highest numbered) item in the stack is cued, click **Start** in Cart 4 again, and after a few seconds, click **Fadeout**. The Cart now cues the **first** item in the stack: in other words, the stack is 'endless,' again just like a hardware NAB cartridge.

For practice, click **Save set** to save the cart set again, click **Close all**, then click **Load set** to load the cart set you just saved. Check that your stack in Cart 4 has been saved and loaded.

Summary of the Cartwall:

- Use the Cartwall to play jingles, effects, and similar 'instant' items; or music beds.
  Usually, you would only use the Cartwall in **assist** mode.
- A Cartwall Player can contain **more than one** audio item (a 'cart stack').
  This is especially useful for music beds, or for sets of station IDs or jingles (like alternate versions, cuts, or mixes of the same ident). Basically, use a cart stack for any set of items where you won't need or want to play out any two of the items at the same time.
- A Cartwall Player **re-cues** when its item ends, unless it contains a 'cart stack.'
- A Cartwall Player containing a 'cart stack' re-cues the **same** item when Stopped; it cues the **next** item when it reaches the end of an item or when Fadeout is clicked.
- You can set up **triggers** to automatically start, stop, or fade other Cartwall Players when you **start** a specific Cartwall Player.
- You can save the Cartwall at any time as a **Cart Set**. Saved Cart Sets include any 'cart stacks' and triggers you have set up, and Cart Sets can be loaded at any time.

2.5 What Next?

If you have completed the tutorials in the preceding sections, you now have a good working knowledge of *mAirList* and you also now know enough to use it on air for your live shows.

We stressed many times during those tutorials that we were describing the **default** *mAirList* setup, and you are probably already keen to learn what else *mAirList* can do, and what you can change.

For example, you can easily change the numbers of Players or Cartwall Players, and many more subtle aspects of the way *mAirList* operates. With only a little more effort, you can also change things like the screen layout and the colour scheme. You can create scheduled events to perform actions automatically for you at pre-set times, and you can also create an audio database to contain all the information about every item in your audio library. You can add remote controls, to operate *mAirList* directly from your mixer faders or from other hardware, such as programmable keyboards.

In short, and unlike most other radio playout systems, you can change almost *every* aspect of *mAirList*, how it operates, and the way it looks; and you can do all of this **yourself**, without needing to contact the software company for expensive and time-consuming 'custom tweaks' to make the system exactly suit the way **your** station works.

We suggest that you first decide how many Players and Cartwall Players you require for your station, then decide which stereo output pair on your computer's sound card(s) you want to 'attach' to each Player, and to the Cartwall, to allow you to connect *mAirList* Players and the Cartwall to the channels on your studio mixer.

Once you have made those changes, probably the next thing you will want to change is the screen layout. After that—or perhaps instead of changing the layout—you may want to change the colour scheme; and after that, you will probably want to set up a database, possibly importing the information from another playout system or your music scheduling software, or perhaps starting from scratch by simply 'synchronising' ('importing') the files in your audio library.

Finally, you will probably want to set up automated playout for some or all of your broadcast day. Again, *mAirList* has all the tools you need to do this quickly and easily, especially so if you create your playlists using the *mAirListDB* database.

All of the information you are likely to need to do all of these things (and many more) is in the chapters and sections which follow.

Please also remember that if you need any help, the *mAirList* forum is always available online, and if the answer is not there already, the many forum users—and the program's author, Dr. Weibert—will always be happy to help you quickly solve any queries or problems you may have.

3. Advanced Operator Controls And Features

3.1 Player Time Display

To change a **Player**'s time display:

- **Click** the time display to cycle between **remain**, **elapsed**, and **elapsed/remain** modes, or to cancel backtiming mode (see below).
- **Double-click** the time display to select **backtiming mode**, which shows the time when the item loaded in the Player will end.

Note that this works only in loaded Players and does **not** work in Cartwall Players.

3.2 Loop And Hook Modes

By default, Players contain **Loop** and **Hook** mode buttons; Cartwall Players contain **Loop** buttons. To enable or disable either mode, click its button: when it is **on**, a mode button 'lights up.'

- **Loop** mode loops the item until it is stopped, either: manually; or by a command, Action, or Event; or by a 'hard' fixed-time item in Auto mode.
- **Hook** mode plays only the item's 'hook section,' as defined by its Hook In, Hook Fade, and Hook Out cue markers. If these cue markers are not set, the entire item is played.

3.3 Special Playlist Items

As well as audio file items, a Playlist can contain any of the following special items.

3.3.1 Automation Break Point

In Auto mode, a **Break** item stops Auto mode playout (identical to an AUTOMATION STOP command). You can add information the presenter will see (for example: Trail next show) by changing the *Artists* in the item's Properties to . Break items are most often used in stations where presenters use *mAirList* in Auto mode, to indicate points in the playlist where the presenter should be talking.

Break items have no effect in Assist mode.

3.3.2 Command

In Auto mode, a **command** item contains one or more *mAirList* commands (see mAirList Commands, starting on page 125) which are processed immediately. Command items are useful if you need to run commands (especially timed commands) during Auto mode, and are more visible and flexible than adding Actions to Playlist items.

Because they cannot be loaded into Players, command items have no effect in Assist mode.

3.3.3 Container

A **container** item, similar to a Cart Stack, is a 'mini Playlist' of one or more items. The container is treated by *mAirList* as **one** Playlist item (except for logging). Usually, the items in a container are all audio files, but any type of item is allowed. Items in a container are played out in a single Player (as if in Auto mode), using any Start Next and Fade Out cue markers in the container's items for segues.

Note that after you add an item to a container, you **cannot** view or change any Properties of any of the 'contained' items—including cue markers—which means the only way to adjust segues in containers is to delete items, adjust their cue markers, then add them to the container again.

Usually, the easiest way to load and create a container is to add the items you want in your container to the Playlist, select all those items, then right-click and click **Create Container**.

You can 'name' a container by changing the *Title* in its Properties dialog from the default **Container**. During playout, the container's *Title* is shown in the Player after the playing item's *Title*, but only the **container's** *Artists* (if you added any *Artists* in its Properties dialog) is shown: the *playing* item's *Artists* are never shown in the Player.

Items played from inside a container item are still *logged* as individual Playlist items, so if your station uses *mAirList* logging to send 'now playing' information (for example, to a web site), this will still work properly. However, the **container's** start and stop are **also** logged, so you will probably want to exclude log entries with a *Type* of Container from your 'now playing' processing.

3.3.4 Dummy

A **dummy** item is exactly that. Its only purpose is to allow someone working on a Playlist to add a 'comment' to the Playlist, by changing the *Artist* and/or *Title* in its Properties.

You can use dummy items as visual 'markers' (*Top Of The Hour* or *Competition*, for example), or to provide information or instructions to the operator.

TIP: Use the *Comments* in the dummy item's Properties if you need to add more text.

3.3.5 Hook Container

If you use hook cue markers, you can use **hook container** items to quickly create 'hook sweeps' which will play as a series of hooks without needing Players to be put into Hook mode.

A **hook container** item is a container item, but with two important differences:

- The selected Playlist items are added to the hook container with:
  the **Cue In** cue marker set to the **Hook In** cue marker value,
  the **Fade Out** cue marker set to the **Hook Fade** cue marker value, and
  the **Cue Out** cue marker set to the **Hook Out** cue marker value.
- If you have configured them (see 7.12.2 on page 70),
  and after all the selected Playlist items have been added to the hook container:
  a **Hook Opener** is added at the start of the Container list,
  a **Hook Sweeper** is added between each Playlist item in the Container list, and
  a **Hook Closer** is added at the end of the list.

To create a hook container item, select the Playlist items whose hooks you want to play,
then right-click and click **Create Hook Container**.

3.3.6 Network File

A **network file** is an audio file which can only be located and retrieved by using a URL.
For example, a file stored in a central audio library on a Web server. Obviously (?), your *mAirList* computer has to be able to access the network location to be able to play files stored on it.

3.3.7 Region Container

A **region container** item is a special type of container which allows 'split outputs' (see 7.13.7 on page 76 for more details about regions and split outputs). Within a region container are one container for each region set up in *mAirList*. When the region container is played, all of these 'sub-containers' are played simultaneously and sent to their specified sets of audio outputs.

In the region container's Properties dialog, the *Region Container* tab contains a tabbed dialog with one tab for each region. The duration of the items in each 'sub-container' is also shown on its tab. Add items to each region's container and adjust Cue Markers etc. to ensure that each region's container has the same duration.

The *broadcast* duration of a region container is the largest of the durations of its 'sub-containers,' and **each** region's 'sub-container' plays for that length of time. This is why it is so important to make each region's 'sub-container' have the same duration: otherwise, when each region with a shorter 'sub-container' ends, it will be fed silence until *every* 'sub-container' has ended.

3.3.8 Silence

A **silence** item is exactly that: audio silence of the *Duration* specified on its Properties dialog.

3.3.9 Stream and Stream (infinite)

Stream Playlist items 'play' audio from an externally-streamed source.

4. Actions And The Event Scheduler

4.1 *Actions*

An Action is literally that: an 'action' that you wish to take place. The most common example is the **Load playlist** Action, which is the same as manually loading a playlist from the *mAirList* menu. Unlike their manual equivalents, Actions allow you to use variables (see 7.8.2 on page 63), so as an example, provided you name your playlist files using a standard format, you can use a single scheduled Action to load *all* your hourly playlists.

You can combine any number of Actions into an **Action List**, and you can load and save Action Lists as **.mla** files.

You can use Actions in several ways:

- To add custom items to the *mAirList* **Actions menu** on the main toolbar (see 7.11 on page 68).
- To create scheduled **events** which perform routine or repetitive tasks (see 4.2 on page 29) .
- To perform routine or repetitive tasks at *mAirList* **startup** and/or **shutdown** (see 7.11 on page 68).
- To perform 'recovery' tasks if the **playlist runs empty** during Automation playback (see 7.11 on page 68).
- To define the tasks performed when a custom **button** is clicked (see 7.6.5 on page 58).
- To make an item in a Playlist or Cartwall Player 'work' an Action List when the item **Starts** and/or **Stops** (see 9.6.5 on page 99).

You can add any Action to any Action List, but please note that several Actions have little or no effect when 'worked' from an item's **Actions on Start** or **Actions on Stop** Action Lists, and a few 'play' Actions have 'side effects' when 'worked' from a starting/stopping item during automated playback.

Each Action requires specific information (such as script file name, command name, etc.) on its **Action** or **Database** tab, as shown below; but each Action has the *same* **Options** tab:

4.1.1 Options tab

Custom title (default: **blank**)
If supplied, the **Custom title** is shown in the Action list instead of the 'standard' Action description.

Enable substitution of variables (default: **off**)
If this setting is **on**, any variables (see 7.8.2 on page 63) in the **Actions** tab will be substituted by their current values before the Action is performed. This is especially useful when you create time or date specific Actions, such as loading a playlist for the 'next' hour, or for the 'current' day of the month.

Time adjustment (default: **zero**)
If non-zero, the Action is performed as if the internal *mAirList* time-of-day clock was adjusted **forward** or **backward** by the specified amount of time.

Affected playlist (default: **Default playlist**)
The Playlist which is affected by the Action. If you have two or more Playlists, you can use Actions to control any Playlist. **Default playlist** means Playlist 1, or for Actions on Start/Stop, it means the Playlist *containing* the Action.

4.1.2 List Of Actions By Category

The Actions are listed and described below, by category.

4.1.2.1 Miscellaneous Actions

Send data to serial port
Sends the specified **Data** to the specified serial **Port**.
(If the specified serial port is not already open, this Action may fail.)

Execute command
Execute the command(s) specified. A list of *mAirList* commands is in **Appendix A** on page 125.
You cannot execute *external* programs or commands with this Action: to do so, create a *mAirList* **script** which executes the program or command, then use the **Run script** Action.

Run script
Runs the *mAirList* script (.mls file) specified in **Filename**.

4.1.2.2 File Actions

Play file
*This Action **only** works in Automation mode.*
It is not recommended for use as an Action on Start/Stop.[12]
Inserts the file named in **Filename** at the top of the Playlist **and** plays the file immediately.

Insert file
Inserts (adds) the file named in **Filename** at the top of the Playlist.

4.1.2.3 Network File Actions

Play network file
Not recommended for use as an Action on Start/Stop in Automation mode.[13]
Inserts the file named in **URL** at the top of the Playlist **and** plays the file immediately.
You can optionally type in a **Title** for the network file (the default Title is the URL).

Insert network file
Inserts (adds) the file named in **URL** at the top of the Playlist.
You can optionally type in a **Title** for the network file (the default Title is the URL).

4.1.2.4 Stream Actions

Play stream
Not recommended for use as an Action on Start/Stop in Automation mode.[14]
Inserts a **Stream** item for the audio stream specified by **URL** at the top of the Playlist **and** plays the item immediately. You can specify an **unlimited** or **Fixed Duration**, and optionally type in a **Title** for the stream (the default Title is the URL).

Insert stream
Inserts a **Stream** item for the audio stream specified by **URL** at the top of the Playlist.
You can specify an **unlimited** or **Fixed Duration**, and optionally type in a **Title** for the stream (the default Title is the URL).

4.1.2.5 Playlist Actions

Playlist Actions are not recommended for use as Actions on Start/Stop: they are intended for use in scheduled events, typically with substitution of date and time variables.

Load
Loads the Playlist with the playlist file specified in **Filename**. Except for items currently playing, existing items in the Playlist are deleted *before* the playlist file is loaded.

Load and play
Loads the Playlist with the playlist file specified in **Filename** and plays it immediately. Except for items currently playing, existing items in the Playlist are deleted *before* the playlist file is loaded.

[12] In Automation mode, and when specified as an Action on Start or Action on Stop in an item's Properties; this Action usually causes the *following* item to end prematurely. This is a natural but non-obvious consequence of immediately 'adding and playing' an item in Automation mode, and is **not** a bug in *mAirList.*

[13] See footnote 12 above.

[14] See footnote 12 above.

Insert
Inserts the playlist file specified in **Filename** at the top of the Playlist.

Insert and play
Inserts the playlist file specified in **Filename** at the top of the Playlist and plays it immediately.

Append
Appends the playlist file specified in **Filename** to the end of the Playlist.

4.1.2.6 Automation Actions

Enable automation
Switches to **Automation** mode (same as the Playlist Control bar **AUTO** button).

Disable automation
Switches to **Assist** mode (same as the Playlist Control bar **ASSIST** button).

Start automation playback
Starts automated playout (same as the Playlist Control bar **Start** button).

Fade to next item
Starts the next item and fades the current item (same as the Playlist Control bar **Next** button).

Stop automation playback
Stops automated playout and fades the current item (same as the Playlist Control bar **Stop** button).

4.1.2.7 Database (Playlist) Actions

*Database Actions are not recommended for use as Actions on Start/Stop: they are intended for use in scheduled events. Playlists are loaded from the database selected in **Database Connection** (see below).*

All Database Actions have a **Database** tab, where you can select these settings:

- **Database Connection**: the database from which the playlist will be loaded.
- **Load the playlist for the next hour (instead of the current hour)**: self-explanatory.
- **Set fixed time on first element**:
  mark the first loaded playlist element with a fixed time of 'the hour' ('o'clock'),
- **Use soft fixed time**: mark the first loaded playlist element with a 'soft'[15] fixed time
  (has no effect unless **Set fixed time on first element** is also selected).
- **Use an extra dummy element for fixed time**: add a DUMMY element with a fixed time of 'the hour' (has no effect unless **Set fixed time on first element** is also selected).
- **Report an error if the playlist is empty**:
  if the playlist being loaded is empty, report this as an error.

Load
Loads the Playlist with the database playlist for the current[†] hour. Except for items currently playing, existing items in the Playlist are deleted *before* the playlist file is loaded.

Load and play
Loads the Playlist with the database playlist for the current[†] hour and plays it immediately. Except for items currently playing, existing items in the Playlist are deleted *before* the playlist file is loaded.

Insert
Inserts the database playlist for the current[†] hour at the **top** of the Playlist.

Insert and play
Inserts the database playlist for the current[†] hour at the **top** of the Playlist and plays it immediately.

Append
Appends the database playlist for the current[†] hour to the **end** of the Playlist.

Generate playlists
Generates database playlists (see 11.5.3.6 on page 115) for a number of hours in advance.

[†] Unless you select the setting **Load the playlist for the next hour (instead of the current hour)**, and/or specify a **Time adjustment** on the **Options** tab.

[15] The marked item will start at, *or as soon as possible after*, the 'soft' fixed time. Playing items will continue playing to the end, but items not yet played, and before the 'soft' fixed item in the Playlist, will be skipped over, and will not be played.

4.1.2.8 Encoder Actions

To use these Actions, you must first set up one or more Encoders (see 7.13.6 on page 76).

Use these Actions to connect/disconnect the Encoder, or enable/disable live feed and local output.

4.1.2.9 (Windows) Mixer Actions

These Actions are often used to manage live feeds on an input of the computer's sound card.

The **Mute mixer channel** and **Unmute mixer channel** Actions are self-explanatory, and both have a **Mixer** tab on their Configure Action dialog. On the **Mixer** tab, you select the **Device** (sound card), **Destination** (usually *Volume Control* for output, or *Recording Control* for input), and the **Source** (one or all sound card mixer channels) you want to mute/un-mute.

4.1.2.10 SAS Actions

These Actions are specific to the Lawo series of digital mixing consoles.
If you use a Lawo digital console, *mAirList* offers several Actions specific to these consoles, such as setting a fader level, toggling PFL and fader start button lights, and switching GPIs on/off.

4.1.2.11 Work an action list Action

Use this Action to 'nest' one Action List within another. Often used to 'include' the Actions in a saved .mla file within an Action List by Loading the file in the **Work an action list** Action's list.

4.1.2.12 Emergency actions Action

The **Emergency actions** Action is a separate 'sub-'Action List which *mAirList* will only 'work' if any preceding Action fails. In other words, an **Emergency actions** Action is a list of 'fallback' Actions for all *preceding* Actions; or if you prefer, it is an 'on error' Action List.

For example, if a **Load database playlist** Action fails, you could load an 'emergency' playlist file instead: to do this, add an **Emergency actions** Action after the **Load database playlist** Action, and add a **Load playlist** Action to the Action List *in* the **Emergency actions** dialog.

If you use an **Emergency actions** Action, we recommend it is the **final** Action in an Action List. However, you can if you wish add two (or more) **Emergency actions** Actions to an Action List, to provide different 'fallback' or 'on error' Actions at different points in the Action List.

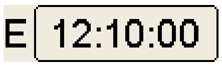
4.1.2.13 No action Action

A 'dummy' Action you can use to add comments or descriptions to Action Lists.

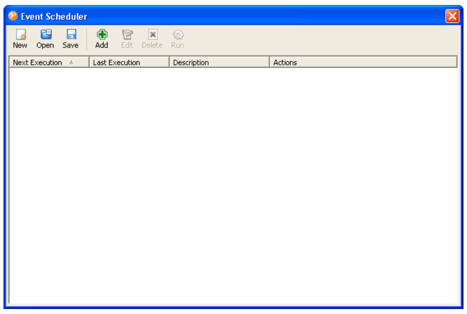
4.2 *Event Scheduler*

The *mAirList* **Event Scheduler** runs Action Lists at fixed times, according to a schedule you specify. You can usually set up even apparently complex date/time schedules using just one event per Action List. The scheduler is built-in to the *mAirList* program and it runs in the background all the time *mAirList* is open: you cannot 'switch the scheduler off.' The **Next event time** box on the Playlist Control bar shows the time of the next scheduled event, or blank if no events are scheduled.

To open the **Event Scheduler**,
click **Events** on the toolbar,
or click *inside* the **Next event time** box on the Playlist Control bar.


E 12:10:00

The **Event Scheduler** dialog opens, showing the **Event List**. Note that you *can* resize this dialog.

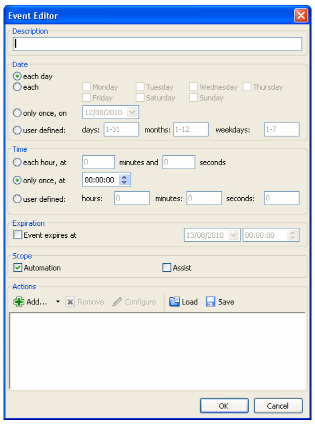


On the **Event Scheduler** dialog:

- Click **New** to clear the event list.
  A confirmation dialog is displayed.
- Click **Open** to load an event list file (**.mle**).
  The current event list is cleared,
  without any confirmation dialog.
- Click **Save** to save the current event list as a **.mle** file.
- Click **Add** to add an event to the list using the **Event Editor**.
- Click **Edit** to edit the selected event using the **Event Editor**.
  If more than one event is selected, the event which has *focus* is opened in the Event Editor.
- Click **Delete** to delete the selected event(s). A confirmation dialog is displayed.

The columns in the **Event List** show, for each event in the list: its **Next Execution** date and time, **Last Execution** date and time, **Description** (if any), and a list of its **Actions**. By default, the Event List is sorted by **Next Execution** (ascending): click any column heading to sort by that column instead.

When you **Add** or **Edit** an event, the **Event Editor** dialog opens.



Date: [✓ each day] each (Monday, Tuesday, Wednesday, Thursday, Friday, Saturday, Sunday) only once, on 12/08/2010 user defined: days: 1-31 months: 1-12 weekdays: 1-7

Time: each hour, at 0 minutes and 0 seconds [✓ only once, at 00:00:00] user defined: hours: 0 minutes: 0 seconds: 0

Expiration: Event expires at 13/08/2010 00:00:00

Scope: [✓ Automation] Assist

On the **Event Editor** dialog:

- Type an optional **Description**.
  We recommend that you give *every* event a Description.
- Specify the **Date**(s) and **Time**(s) when the event is to be run (explained in detail in 4.2.1 on page 30).
- Optionally, tick **Event expires at** and specify a date and time.
  If you do so, the event will not be run after that date/time.
- In the **Scope** box, specify whether the event should be run if *mAirList* is in **Automation** or **Assist** mode (or both) when the event is due (default: **Automation** mode only).
- **Actions** is an Action List (see 4.1 on page 25), containing the Actions to be run for the event.

When building new events, we suggest that you:

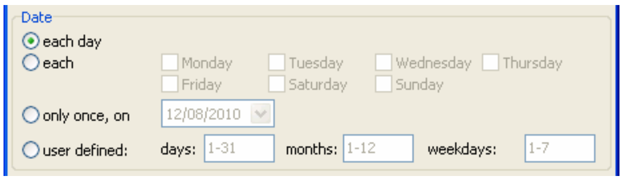
1. Create the **Action List** you want to run, then save it as a new **.mla** file.
2. Test your Action List thoroughly, saving any changes to the **.mla** file.
3. Think through what would happen if each of the Actions in your list failed, and whether you need to add an **Emergency actions** Action to the end of the Action List to 'recover.'
4. When your Action List is fully tested, carefully plan its run dates and times. Could it 'clash' with any existing events? We suggest that you leave *at least* thirty seconds between events.
5. Open the Event Scheduler, **Add** a new event; set up the date, time, scope, etc. in the **Event Editor**; **Load** your **.mla** file; and click **OK**.
6. Test your new event *in conjunction with all your other scheduled events* on a *non*-production *mAirList* computer before putting it 'live.'

4.2.1 Event Date And Time Settings

*You **must** supply a **Date** setting **and** a **Time** setting for **every** event (default is 'every day, at midnight').*

The event will run **only** when the current date and time matches **all** the Date **and** Time settings, **and** the current date and time is **before** the event's **Expiration** date and time (if it has one).

4.2.1.1 Date Settings



Date
(● each day) ○ each ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday
○ only once, on 12/08/2010
○ user defined: days: 1-31 months: 1-12 weekdays: 1-7

each day (default): run **every** day.

each: run only on the ticked days of the week.

only once, on: run once,
on the date you specify (default: 'today').

user defined: run only on the **days**, **months**, and **weekdays** you specify (see below).

4.2.1.2 User-defined Date Setting

Use the **user defined** Date setting to create 'irregular' date schedules. The event runs on days which match *all three of* the **days**, **months**, and **weekdays** you specify (*and all* Time setting values): if you do not specify *all three* values, the event will never be scheduled.

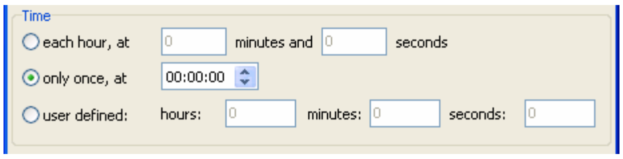
You specify **days**, **months**, and **weekdays** as comma-separated numbers and/or number ranges. For example: **days** might be **1-7,15-21**; **months** might be **3,6,10-12**; **weekdays** might be **1,4,7** (**weekdays** range from **1** for Monday through to **7** for Sunday).

The defaults of **1-31**, **1-12**, **1-7** mean 'every day,' and do the same as the **each day** Date setting.

Change **only** the **days**, **months**, and **weekdays** values needed to 'limit' dates and/or weekdays to the dates and/or weekdays you want: leave the others at their default values. For example:

- *first day of each month*: change **days** to **1** but *leave* **months** as **1-12** and **weekdays** as **1-7**.
- *first Sunday of each month*: change **days** to **1-7** and **weekdays** to **7**,but *leave* **months** as **1-12**.
- *10th January, 10th April, 10th July, and 10th September*:
  change **days** to **10** and **months** to **1,4,7,10** but *leave* **weekdays** as **1-7**.

4.2.1.3 Time Settings



Time
○ each hour, at 0 minutes and 0 seconds
(● only once, at) 00:00:00
○ user defined: hours: 0 minutes: 0 seconds: 0

each hour: run **every** hour of the day,
at the same time past the hour, defined
by the **minutes** and **seconds** you specify.

only once (default): run only once a day,
at the time (default: **00:00:00**) you specify.

user defined: run only at times defined by the **hours**, **minutes**, and **seconds** you specify (see below).

4.2.1.4 User-defined Time Setting

Use the **user defined** Time setting to create 'irregular' time schedules. The event runs at times which match *all three of* the **hours**, **minutes**, and **seconds** you specify (*and all* Date setting values): if you do not specify *all three* values, the event will never be scheduled.

You specify **hours**, **minutes**, and **seconds** as comma-separated numbers and/or number ranges. For example: **hours** might be **0,7-17,21**; **minutes** might be **16,36,56**. **seconds** is usually left at its default of **0** unless the event is especially time-critical. We do not recommend more than one value in **seconds**, though the dialog does allow this if you genuinely need that option. If you *do* supply multiple **seconds** values, we strongly recommend that you test your new event *in conjunction with all your other scheduled events* on a *non*-production *mAirList* computer before putting it 'live.'

The defaults of **0**, **0**, **0** mean 'midnight,' and do the same as the **only once, at 00:00:00** Time setting.

Change **only** the **hours**, **minutes**, and **seconds** values needed to 'include' all the times you want: leave the others at their default values. For example (leave **seconds** as **0** in all these examples):

- *at 15, 30, and 45 past every hour*: change **hours** to **0-23** and **minutes** to **15,30,45**.
- *on the half-hour, 23:30 to 06:30*: change **hours** to **0-6,23** and **minutes** to **30**.
- *at 57 past alternate hours, 11:57 to 17:57*: change **hours** to **11,13,15,17** and **minutes** to **57**.

4.2.2 Event Scheduler Tips

- If at all possible, **thoroughly test** all changes to events on an ‘off air’ computer before making the same changes to your ‘on air’ computers.
- Develop the Action List of **every** event first, to ensure it works as you intended; click **Run** to test it, then **Save** it as a separate Action List (**.mla**) file. This makes it easier to schedule the same Action List as two or more events (see below); and you can also *combine* different Action Lists easily, by creating a **Work an action list** Action for each Action List you want to include as part of a larger Action List.
- You **don’t** have to use just *one* event which specifies *every* scheduled occurrence of an Action List. If an Action List’s schedule is complex, set it up as two or more separate events: each with *different* and simpler sets of Date and Time settings, which *together* specify all the scheduled occurrences you need.
  For example: to run the same Action List at 07:15, 09:30, and 10:15 on Saturdays, and at half-past the hour from 07:30 to 21:30 on weekdays, we recommend that you create *three* events: one for the weekday occurrences, one for the Saturday 07:15 and 10:15 occurrences, and one for the Saturday 09:30 occurrence; with each event running the same Action List.
- When testing an event’s Date and Time settings, remember that you can change *mAirList*’s ‘internal’ date and time of day by clicking the time display at the right of the *mAirList* window status bar, that the Next event time box (E box) in the Playlist control bar always shows the ‘next’ event’s scheduled time, and that you can always check the ‘next’ scheduled date and time of each event on the Event Scheduler dialog.
- Remember you can ‘stop’ an event at any future time by giving it an **Expiry** date **and** time.
- When you set up new events or amend existing events, always consider the effects on your **entire** event schedule. Ensure that no changes would result in a ‘clash’ (two events running within a minute or less of each other): if they do, either separate the events by a few minutes, or merge the Action Lists in the ‘clashing’ events into a **single** event, so that you can *control* the order in which the combined set of Actions will run.
- Finally, always **Save** the event list (**.mle** file) after **every** change you make, and give **every** Event List file a **meaningful** name that you will recognise later.

5. *mAirList* Data File Types

All *mAirList* data files are XML documents stored as plain text files. Although you *can* view or edit these files in any plain text viewing/editing application, an XML viewer or editor application makes the internal file structures easier to see and understand. We recommend that you use an XML viewer or editor application (several freeware programs are available) if you need or wish to edit or view the contents of these files regularly.

5.1 .mla—Action List

Contains a list of Actions (see 4.1 on page 25).

Created by clicking **Save** on any Action List.

Opened by clicking **Load** on any Action List.

Edited by clicking **Configure** on any Action List.

5.2 .mlc—Cart Set

Contains a snapshot of a Cartwall's contents **and** Cartwall Player settings, including any Cart Stacks, Triggers, and Actions on Stop/Start; and all saved changes to any Cartwall Player item's Properties (such as a fixed time or Cue Markers).

Created by clicking **Save Set** on the Cartwall toolbar.

Opened by clicking a **Favourites** button or tab on the Cartwall;
or by clicking a Cart Set in the **Favourites** dropdown on the Cartwall toolbar;
or by clicking **Load Set** on the Cartwall toolbar.

Edited indirectly by changing the Cartwall contents, then clicking **Save Set** on the Cartwall toolbar.

5.3 .mld—Desktop

Contains a snapshot of the contents of the Playlist, (optionally) the contents of the Cartwall (see 7.3.1 on page 50), and (by default) the open Browser panes (see 7.6.3.1 on page 56). The file does **not** contain any Player, Cartwall, or Cartwall Player settings.

Created by clicking **Save** (but see 7.6.2 on page on page 55), **Save desktop**, or **Save desktop as...** on the main toolbar.

Opened by clicking **Open** (but see 7.2.2 on page on page 55) or **Open desktop** on the main toolbar. Note that opening a desktop file or a desktop template file **overwrites** the current Playlist (and the Cartwall, if the Cartwall is stored in the file) *without any warning or confirmation dialog.*

5.4 .mle—Event List

Contains a list of scheduled events (see 4.2 on page 29).

Created by clicking **Save** on the Event Scheduler.

Opened by clicking **Open** on the Event Scheduler.

Edited by clicking **Add...**, **Edit**, and **Delete** on the Event Scheduler.

5.5 .mlp—Single Playlist

Contains a snapshot of a Playlist's contents (**not** the Playlist's settings), including all saved changes to the playlist's items' Properties (such as adding or changing a fixed time or Cue Markers).

Created by right-clicking a Playlist, then clicking **This Playlist...**, **Save...**;
or by clicking **Save Playlist...** in the main Toolbar (but see 7.6.2 on page on page 55).

Opened by right-clicking a Playlist, then clicking **This Playlist...**, **Load...** (or **Insert...** or **Append...**);
or by clicking **Open**, **Open Playlist...** on the main Toolbar (but see 7.6.2 on page on page 55);
or by clicking **Insert**, **Playlist...** on the main Toolbar.

Loading a playlist file clears all existing Playlist entries (except for playing items) and then adds the playlist file contents to the Playlist.

Inserting a playlist file adds the playlist file contents above the currently selected Playlist item.

Appending a playlist file adds the playlist file contents to the end of the Playlist.

5.6 .mlpe—Exported Playlist

***NOTE:** Because creating an exported playlist file also copies **all** the audio items in the Playlist to the same folder, we recommend that you always save exported playlist files into an empty folder.*

An exported playlist file allows you to save a playlist and a copy of each audio file in the Playlist, so you can use it on a *mAirList* computer which does not have access to the audio files in the Playlist.

The only differences from a standard single playlist file are:

1. Audio file name references in an *exported* playlist file do **not** contain any drive or folder information; they contain **only** the file name and extension. This is because it is assumed that all audio items will be in the same folder as the exported playlist file.
2. Creating an exported playlist file also copies **all** the audio files in the Playlist into the same folder as the exported playlist file.

After saving an exported playlist file, and presuming you started with an empty folder, you can copy the folder and play the Playlist on any other *mAirList* computer.

5.7 .mls—Script

Contains a *mAirList* script (see section 12 on page 119).

5.8 .mlt—Desktop Template

Contains a snapshot of the contents of the Playlist, (by default) the contents of the Cartwall (see 7.3.1 on page 50), and (by default) the open Browser panes (see 7.6.3.1 on page 56). The file does **not** contain any Player, Cartwall, or Cartwall Player settings.

The principal difference between a desktop file and a desktop template file is that by default, a desktop template file contains Cartwall contents and a desktop file does not. Desktop template files are intended to be used as a ‘standard base’ which you can open, then make changes and save different desktop files.

Created by clicking **Save desktop as…** or **Save desktop as default template** on the main toolbar.

Opened by clicking **Open** or **Open desktop** on the main toolbar (but see 7.6.2 on page on page 55). Note that opening a desktop file or a desktop template file **overwrites** the current Playlist (and the Cartwall, if the Cartwall is saved in the file) *without any warning or confirmation dialog.*

5.9 .mmd—MetaData

Contains metadata about an audio item, including its file type, artist and title, duration, and all *mAirList*-specific item settings (such as Cue Markers, Type, fixed time, and custom icon).

Created by clicking **Save Metadata** on an item’s Properties dialog (within any *mAirList* program including *mAirListDB* and the *mAirList* file tagging program *mAirListTag*), or on any PFL Player.

Existing MetaData files are edited (indirectly) in the same way.

5.10 .xml—mAirListDB Hour Templates and Template Assignments

These files contain snapshots of *mAirListDB* hour templates, and template assignments, respectively.

The files are created by clicking the **Export…** button in the **Manage Hour Template** and **Hour Template Assignment** dialogs, respectively.

6. Operator's Reference

This chapter lists all the operations, menu items, and other operator actions available in *mAirList.*

6.1 Toolbar

Note that some toolbar buttons have a small dropdown arrow 'extension' beside them.
Click the arrow to open the button's menu, or click the button to select the default menu item.

New
Opens a new desktop. If a default desktop template file (standard.mlt) exists, it is Opened.

Open

- **Open desktop** (**Ctrl+O**, **default**)
  Opens a saved desktop (.mld) file or desktop template (.mlt) file.
- **Open playlist…**
  See 7.6.2 on page on page 55 if you want ***Open Playlist*** *to be the default* ***Open*** *button action.*
  Opens a saved playlist file (*mAirList* or M3U) or music scheduler log file as Playlist items. Any current Playlist items which are not playing are deleted.

  After the file is Opened, you cannot manipulate it as an 'item' in the Playlist: you must instead select the Playlist items you want to manipulate.

  The current supported 'playlist' file types and their file extensions are:

  - *mAirList* playlist files (.mlp and .mlpe);
  - *mAirList* desktop and desktop template files (.mld and .mlt);
  - M3U playlist files (.m3u);
  - *DigAS* show files (.xml); and
  - *Powergold* automation files (.ptm).
- **Run script**
  Runs a *mAirList* script (.mls) file.

Save

- **Save desktop** (**Ctrl+S**, **default**)
  Saves the current desktop (.mld) file or desktop template (.mlt) file. If no desktop or desktop template file has been loaded, or if a New template is open but has not been saved yet, this is identical to clicking **Save Desktop as…**
- **Save desktop as…**
  Saves the current desktop as a desktop (.mld) file or desktop template (.mlt) file.
- **Save desktop as default template**
  Saves the current desktop as the 'default' desktop template file (standard.mlt).
- **Save playlist…**
  See 7.6.2 on page on page 55 if you want ***Save Playlist*** *to be the default* ***Save*** *button action.*
  Saves the current Playlist as a single Playlist (.mlp) file.

Insert

The item or items are inserted *above* the current selected Playlist item.

If no Playlist item is currently selected, the item or items are *appended* to the end of the Playlist.

- **File(s)…** (**default**)
  Inserts one or more audio files as Playlist items.
- **Playlist…**
  Inserts the items within a saved playlist file or music scheduler log file as Playlist items.

  After the playlist files is Inserted, you cannot manipulate it as an 'item' in the Playlist: you must instead select the Playlist items you want to manipulate.

  See above for the current supported 'playlist' file types and their file extensions.

The following 'special' Playlist items are all described in detail in 3.3 on page 23.

- **Files as Container…**
  Inserts one or more audio files as a container Playlist item.
  The Container tab in the container's Properties dialog is displayed, so you can rename and reorder the items in it before you insert the container into the Playlist.
  You can only insert audio files from the *same* disk folder as a container Playlist item; however, you can add further items from other folders (or from a database) later.
- **Stream**
  Inserts an external audio stream source of *known* duration as a Playlist item. The stream item's Properties dialog is displayed, so you can change its *Title* and *Artists* (for 'now playing' and logging), *URL* of the stream, and its *Duration* (for automation).
  Use **Stream** to add streams of known, fixed duration; use **Stream (infinite)** to add streams where the duration cannot be known in advance (for example, a live concert or event).
- **Stream (infinite)**
  Inserts an external audio stream source of *unknown* duration as a Playlist item.
  This is identical to the **Stream** menu item, but with *Duration* greyed out.
  Use **Stream (infinite)** to add streams where the duration cannot be known in advance (for example, a live concert or event); use **Stream** to add streams of known, fixed duration.
- **Network file**
  Inserts an audio file stored on a network resource as a Playlist item.
  Use **Network file** to add files which can only be located and retrieved by using a URL.
- **Automation Break Point**
  Inserts an automation Break point as a Playlist item.
- **Dummy**
  Inserts a dummy Playlist item.
- **Command**
  Inserts a *mAirList* command or command set as a Playlist item.
  (For a complete list of all *mAirList* commands, see pages 125 onwards.)
- **Silence**
  Inserts a silence as a Playlist item. Set its *Duration* in the item's Properties dialog.
- **Container**
  Inserts an empty container as a Playlist item.

Edit

Opens the selected Playlist item's Properties dialog (see 9.6 on page 97).

Delete

Deletes the selected Playlist item(s) from the Playlist.

Events

Opens the Event Scheduler dialog (see 4.2 on page 29).

Actions (optional)

Runs the named set of Actions.

Database (optional)

Opens the *mAirListDB* window. Note that this is a fully functional window.

mAirList

- Control Panel

- **About…**
  Opens the *mAirList* **About…** dialog.

6.2 Browser

6.2.1 Browser Toolbar

6.3 Player

6.4 Playlist

6.4.1 Playlist Control Bar

6.5 Cartwall

6.5.1 Cartwall Toolbar

6.5.2 Cartwall Player

6.6 Status Bar

System Log

Internal Time

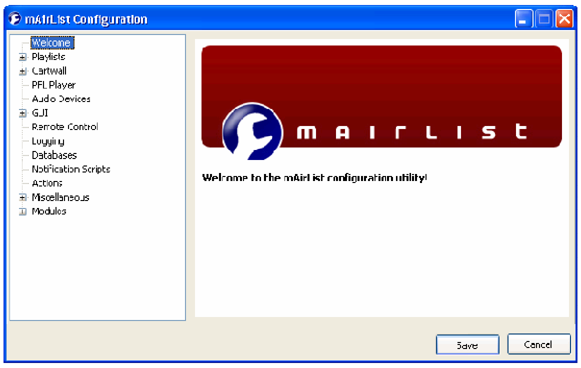
7. Configuration

The default *mAirList* configuration settings provide a radio playout and automation system which works immediately after installation, with all features operational. As you learn *mAirList*'s features and operation, sooner or later you will want to change the way some features work, or add more Players or Cartwall Players, or make other small (or large!) changes.

This chapter lists and describes the configuration settings, in tree node order.
The settings which are available in the tree depend on the type of *mAirList* licence you purchased.

Because *mAirList* is a uniquely 'configurable' system, the large number of settings may seem daunting at first. The best way to learn what the settings do is to explore them for yourself; but if you find a setting you don't understand, read its description in this Manual.

To configure *mAirList*, open the *mAirList Configuration* program (known as *mAirListConfig*), which is built in to the **mAirList.exe** program file. To open *mAirListConfig*, click *Start*, *All Programs* (or *Programs*), *mAirList*, *Configuration*; or navigate to the *mAirList* program files folder and open the file **mAirListConfig.bat**.



Welcome to the mAirList configuration utility!

Figure 7.1: The *mAirList* configuration program (*mAirListConfig*) window

In the *mAirListConfig* window (see Figure 7.1 above), the left pane contains a menu tree; the right pane shows the settings for the currently-selected item (node) in the menu tree.

When you have finished changing settings, click **Save** to save your changes; or click **Cancel** to close *mAirListConfig* without saving any changes.

**Any changes you make using *mAirListConfig* do not take effect until *mAirList* is next opened.
If you make changes using *mAirListConfig* while *mAirList* is running, you must close and re-open *mAirList* to make your changes take effect.**

Unlike many other Windows programs, *mAirList* configuration settings are not stored in the Registry: they are stored in several **.ini** files in the **config** folder under the *mAirList* data folder (see 7.14.1 on page 77). Therefore, you can copy your *mAirList* configuration to another computer by copying the contents of the **config** folder.

To prevent unintentional changes by users, not all settings can be changed from within the main *mAirList* program by the user; and the settings which *can* be changed are not changed permanently. For example, if the user changes Player or Playlist settings, those changes are **not** written to the configuration files, and are lost when *mAirList* is closed, or when a Desktop file is loaded (see below).

7.1 Playlists

The Playlist contains the items to be played out by the associated Players. Most users use a single Playlist, but you can set up more than one Playlist (and associated Players) if you wish; you may want to do this if for example you have split outputs to play different regional ads. during ad. breaks. You can even have **no** Playlists, if you want to use *mAirList* purely as a Cartwall.

On the **Playlists** node, choose the number of Playlists you want (default: **1**). The menu tree contains a node (**Playlist 1**, **Playlist 2**, …) for each Playlist. Each of these nodes shows a page containing a tab named **General**, **Options**, **GUI Options**, **Control Bar**, **Progress Bar**, and **Display**.

7.1.1 General tab

Player Count (default: **2**) is the first setting on the **General** tab. This is the number of associated Players you want for the Playlist. Each Playlist has one or more associated Players which the Playlist uses to play out its contents.

The number of Players you choose determines the number of items you can play simultaneously, so if you want to segue between items, you need at least two Players. Depending on your needs and preference, you might use three (or more) Players, with the third used for jingles, music beds, etc.

Three Players are also useful in automation mode, especially if you use voice tracks or sweepers which play out 'over' a music track. However, you can run automation using only a single Player.

If you use a mixer in your studio, you should assign each Player to a separate mixer channel, and also route each Player's output to a separate audio card output (see 7.5 on page 52), so that you can control the level of each Player independently.

Number of items to keep in the playlist history (default: **0**) sets the number of played items which remain 'greyed out' at the top of the Playlist before (usually) being moved to the *mAirList* Recycle Bin (this depends on the **Options** tab settings: see 7.1.2 below). 'Greyed out' items in the Playlist are known as the **Playlist history**.

This allows the user to see the last few items played, as well as those coming up.
For example, if set to **3**, the top three items in the Playlist are 'greyed out' when they have been played; when the fourth item ends, the top item moves from the history to the *mAirList* Recycle Bin.

If this setting is **0**, the Playlist history is disabled. Played items are still moved to the *mAirList* Recycle Bin unless you disable this as well (see **Move deleted items into Recycle Bin** below).

7.1.2 Options tab

These settings affect the *behaviour* of the Playlist; as opposed to the GUI Options tab settings (see 7.1.3 below), which affect the *appearance* of the Playlist.

Allow automation mode (default: **on**)
If this setting is **off**, you cannot select automation mode for this Playlist.

Use only a single player in automation mode (default: **off**)
Automation mode normally uses all available Players. If this setting is **on**, Automation uses only **one** Player—either the first available Player, or the Player which is playing when automation mode is selected. This can be useful for automated overnight playout, because only one channel on the mixer needs to be left faded up.

Auto clean-up history (default: **on**)
Played items are usually automatically deleted from the top of the Playlist history and are either moved to the *mAirList* Recycle Bin or just deleted. If this setting is **off**, you must manually Delete **all** played items (this overrides the **Number of items to keep in the playlist history** setting).

Auto clean-up history only if item is at top of playlist (default: **on**)
*This setting has no effect if **Auto clean-up history** is **off**.*
If this setting is **on**, a played item can only be automatically deleted from the Playlist history—and (usually) moved to the *mAirList* Recycle Bin—if it is the **top** item in the Playlist: otherwise, the item remains in the Playlist. This setting takes precedence over **Number of items to keep in the playlist history** setting.
If this setting is **off**, a played item can be automatically deleted *from any position* in the Playlist. When the number of items in the Playlist history exceeds the **Number of items to keep in the playlist history** setting, the topmost history item in the Playlist is automatically deleted.

Auto-move non-playable items to history in assist mode (default: **off**)
In assist mode, non-playable items in the Playlist (such as COMMAND, SILENCE, and BREAK items) are not executed; this is to ensure that they do not 'disappear' from the Playlist before they are acted upon. When this setting is **on**, all non-playable items in the Playlist are automatically marked as 'played' when they reach the top of the Playlist, and are immediately moved to the Playlist history.

Save event list along with desktop files and templates (.mld/.mlt) (default: **off**)
Each Playlist has its own list of scheduled events (see Event Scheduler on page 29). Normally, when you save a Desktop (.mld) or Desktop Template (.mlt) file, the Event list is not included as part of these files. When this setting is **on**, this Playlist's Event list is included in these files.

Automatically save event list at shutdown (default: **on**)
Self-explanatory. The auto-saved file name is **standard0.mle** for the first Playlist, **standard1.mle** for the second Playlist, and so on.

Move deleted items into Recycle Bin (default: **on**)
Deleted items, and items in the Playlist history, are usually moved to the *mAirList* Recycle Bin.
If this setting is **off**, played items are deleted permanently.

Automatically jump to fixed-time items in automation mode (default: **on**)
In automation mode, *mAirList* normally 'jumps' to Playlist items which have a fixed (or 'soft' fixed) playout time. If this setting is **off**, *mAirList* does not 'jump' to these items.

Update backtiming with current time when idle (default: **off**)
mAirList has a background routine which calculates the estimated start time of all the remaining items in the Playlist (beginning initially at 00:00:00 if no Players are playing). When a Player starts, *mAirList* updates these times, but does not update them again until another Player starts.
If this setting is **on**, and no Players are playing, *mAirList* updates these times continuously, using the current time of day as the start time of the first item in the Playlist.

7.1.3 GUI Options tab

These settings affect the *appearance* of the Playlist; as opposed to the Options tab settings (see page 40), which affect the *behaviour* of the Playlist.

Show column headers (default: **on**)
If this setting is **off**, the Playlist's column headings (Title, Artist, Duration, Ramp, etc.) are not shown. You may wish to do this to save screen space.

Extended display mode (default: **on**)
If this setting is **off**, the Title and Artist are shown on the same line in the Playlist instead of on two separate lines. You may wish to do this to show more items on the screen.

Swap artist and title in extended display mode (default: **off**)
If this setting is **on**, and **Extended display mode** is also **on**, the Artist is shown above the Title instead of below the Title.

Backtiming display (default: **on**)
If this setting is **off**, the fixed and estimated start times of items are not shown.

Display remaining time and ramp for playing items (default: **on**)
If this setting is **off**, the Duration and Ramp columns do not 'count down' while an item is playing.

Show ramp countdown overlay (default: **on**)
If this setting is **off**, the overlay countdown to Ramp(s) of the currently playing item is not shown.

Show only nearest ramp (default: **off**)
If this setting is **on**, the overlay countdown to Ramp(s) of the currently playing item shows a single countdown to the *nearest* Ramp (instead of a multiple countdown to *all* Ramps).

Show EOF warning countdown overlay (default: **off**)
If this setting is **on**, an overlay countdown to the end of the currently playing item is shown during the Player's EOF warning period (see 7.2.1 on page 45).

Show comment expand/collapse buttons (default: **on**)
If this setting is **off**, the button which toggles the display of Comments for the item is not shown.

Always expand comments (default: **off**)
If this setting is **on**, item Comments are always shown.

Use playlist icons (default: **on**)
If this setting is **off**, the icons indicating item types (Music, COMMAND, BREAK, etc.) are not shown.

Click on playlist icon toggles Extra PFL (default: **on**)
If this setting is **off**, clicking a Playlist icon does not toggle the Extra PFL Player for that item.

Use player colours (default: **on**)
Normally, the background colour of each Player is also used as the background colour of the Player column for a Playlist item while it is loaded into a Player. If this setting is **off**, the *current State colour* of the Player is used as the background colour of the Player column for a Playlist item while it is loaded into a Player.

Show player name in any state (default: **on**)
If this setting is **off**, the Player column in the Playlist shows only the Player name (instead of the Player name and Player State.

Always show duration (default: **off**)
If this setting is **on**, items with unknown Durations (for example, a BREAK with no Duration specified) are shown with a Duration of **0**.

Always show ramp (default: **off**)
If this setting is **on**, items with no Ramps set are shown with a Ramp of **0**.

Auto-truncate time (default: **on**)
If this setting is **off**, Duration and Ramp times are shown including leading zeros.

Automatically scroll to playing item (default: **on**)
If this setting is **off**, the Playlist does not automatically scroll so that the playing item is visible.

Spacebar triggers AUTOMATION NEXT (default: **off**)
If this setting is **on**, pressing the **Spacebar** performs an **AUTOMATION NEXT** Command. This setting is provided for compatibility with other playout software, because the Spacebar cannot be used as a Remote Control Hotkey in *mAirList*.

Escape triggers AUTOMATION BREAK (default: **off**)
If this setting is **on**, pressing **Esc** performs an **AUTOMATION BREAK** Command. This setting is provided for compatibility with other playout software, because the Esc key cannot be used as a Remote Control Hotkey in *mAirList*.

Escape triggers AUTOMATION STOP (default: **off**)
If this setting is **on**, pressing **Esc** performs an **AUTOMATION STOP** Command. This setting is provided for compatibility with other playout software, because the Esc key cannot be used as a Remote Control Hotkey in *mAirList*.

Item-specific colours have priority over skin.ini (default: **off**)
If you assign colours to Player States in the **skin.ini** file, these may conflict with colours you have assigned to specific items. Normally, the **skin.ini** Player State colour takes precedence; if this setting is **on**, the item colour takes precedence.

Show break duration (default: **on**)
If this setting is **on**, the (actual or estimated) Duration of BREAK items is shown in the Duration column.
If this setting is **off**, BREAK items are shown with a blank Duration column.

7.1.4 Control Bar tab

The Control Bar is the 'toolbar' at the top (or bottom, see the second setting below) of the Playlist which contains the AUTO, ASSIST, NEXT, and automation control buttons.

Show control bar (default: **on**)
If this setting is **off**, the Control Bar is not shown.

Position at bottom (default is at top) (default: **off**)
If this setting is **on**, the Control Bar is shown below the Playlist instead of above it.

Separate ASSIST/AUTO buttons (default: **on**)
If this setting is **off**, the ASSIST and AUTO buttons are shown as a single toggle button.

Show NEXT button in assist mode (default: **on**)
If this setting is **off**, the NEXT button is not shown in assist mode.

Use graphic buttons (default: **on**)
If this setting is **off**, the Automation STOP, PLAY, and NEXT buttons are shown with text labels instead of graphic images.

AUTO button flashes while playing (default: **on**)
If this setting is **off**, the AUTO button does not flash while Automation is playing items.

Show next event time box (default: **on**)
If this setting is **off**, the Playlist **Next event time** box (the 'E' box) is not shown.

Show item count and duration boxes (default: **on**)
If this setting is **off**, the Playlist item count box and Playlist total duration box are not shown.

7.1.5 Progress Bar tab

These settings affect the Progress Bar which you can optionally show *within* the Playlist.

Enable progress bar (default: **on**)
If this setting is **off**, no Progress Bars are shown for playing items within the Playlist.

Show ramp in progress bar (default: **on**)
If this setting is **off**, the Progress Bar does not show Ramps as separate coloured sections.

Split progress bar during ramp (default: **on**)
If this setting is **off**, the Progress Bar shows Ramps at the left of the normal bar; if this setting is **on**, the bar is split vertically, with the top half of the bar showing the Ramps.

Show only nearest ramp (default: **off**)
If this setting is **on**, the bar shows only the *nearest* Ramp; if this setting is **off**, the bar shows all Ramps.

7.1.6 Display tab

These settings affect the format of the backtiming display which is normally shown (see **Backtiming display** on page 41) in the leftmost column of the Playlist, and the time formats used to show times in the Duration and Ramp columns.

7.1.6.1 Backtiming Prefixes

These settings specify the characters used to prefix the backtiming display, which indicates whether the time shown is a fixed or estimated time. There are four types of times:

Type	Default prefix characters	Description
Fixed	= followed by a space	Item with a ('hard') **fixed** playout time.
Fixed (soft)	~ followed by a space	Item with a '**soft**' fixed playout time.
Absolute	none (empty)	**Actual start** time (item has been played or is playing).
Relative	+ followed by a space	**Estimated start** time, calculated using actual start times and durations of preceding items.

Table 7.1: Backtiming Prefix Characters

7.1.6.2 Time Formats

The strings in the **Duration**, **Ramp**, **Ramp Overlay**, and **EOF Warning Overlay** settings are **time format** strings (see below).

If the **Ramp Overlay** string is empty, Ramp Overlays use the **Ramp** time format string; if the **EOF Warning Overlay** string is empty, EOF Warning Overlays use the **Duration** time format string.

The dropdown boxes contain some commonly used time format strings for each setting, but you can type in a custom string if the format you want is not one of the presets.

The following table lists the characters you can use to compose a custom time format string. You can add any characters **not** in the table (except ‘) to the format string: these are shown ‘as is.’

Characters	Description
yy	Year (last two digits)
yyyy	Year (four digits)
m	Month (one or two digits)
mm	Month (two digits with leading zero)
mmm	Month (short name, e.g. **Feb**)
mmmm	Month (long name, e.g. **February**)
d	Day (one or two digits)
dd	Day (two digits with leading zero)
ddd	Day (short name, e.g. **Sun**)
dddd	Day (full name, e.g. **Sunday**)
ddddd	Date (*Windows* short date* format)
dddddd	Date (*Windows* long date* format)
h	Hours (one or two digits)
hh	Hours (two digits with leading zero)
n	Minutes (one or two digits)
nn	Minutes (two digits with leading zero)
s	Seconds (one or two digits)
ss	Seconds (two digits with leading zero)
u	Tenths of seconds (one digit)
zzz	Milliseconds (three digits with leading zeros)
!	Truncation point ‘marker’ (see below)

Table 7.2: Time Format String Characters

* These formats use the date formats specified in the *Regional and Language Options* in your *Windows Control Panel* or *Settings*.

The **!** character marks the **truncation point**: everything *following* the **!** character in the string will **always** be shown, even when the time is ‘truncated’ (the **!** character itself is **never** shown).

You would not normally use day. month, or year in a **Duration**, **Ramp** or **Overlay** time format string: they are included in the table because you can use them in logging (see 7.8.2 on page 63).

The custom format string **n:ss.u** shows Durations as (for example) **4:07.5** and **11:38.0**.
The preset format string **nn:s!s** shows the same Durations as **04:07** and **11:38**.

The custom format string **n:s!s.u** shows Durations as (for example) **9.5** and **12.8**.
The custom format string **n!n:ss** shows the same Durations as **0:09** and **0:12**.
Finally, the custom format string **n!n’ss”** shows the same Durations as **0’09”** and **0’12”**.
Note that you **must** type this string using **typographic** quote characters (**Alt+0146** and **Alt+0148**).

7.2 Players

Each Player in each Playlist has its own node in the menu tree. Each of these nodes shows a page containing tabs named **General**, **Options**, **GUI Options**, **Buttons**, and **Progress Bar**.

Note that you must configure each Player separately. If you want the same settings for each Player in a Playlist, we suggest that you begin by setting up the first Player in the Playlist the way you want, then configure the other Players to match the settings of the first Player.

The quickest way to do this is to click the first Player's node in the menu tree, click a tab, set everything on it the way you want, then click other Players' nodes in the menu tree.
The same tab is shown, so you can quickly compare the settings of all the Players.

7.2.1 General tab

7.2.1.1 Appearance

These settings control the general 'look and feel' of a Player. Each Player is initially assigned a **Caption** matching its number (1, 2, 3, …) and the **Colour** red. By default, a Player's Caption and Colour are shown in the Playlist when an item is loaded into the Player.

Caption is a Player's 'name.' You can use any characters as a Player's Caption. For example, you could use letters (A, B, C, …) instead of numbers. Although Captions can be any length you like, we suggest that you keep them to one or two characters in length.

Unless you use a **skin.ini** file to assign colours to Players, we suggest that you give each Player a different **Colour** to make it easier to tell them apart. For example, if you have different coloured faders on your mixer, you could make each Player match the colour of the corresponding fader.

The **Default time display mode** is similar to the elapsed/remain time display option on a CD deck. In the table below, the time format used for the Examples is **n:ss.u**:

Mode	Description	Example
Elapsed time	Time from start of item	+0:09.5
Remaining time	Time remaining to end of item	-3:55.9
Elapsed and remaining time	Both of the above, separated by a slash	0:09.5 / 3:55.9
Backtiming mode	Time of day when the item ends (this *updates* until the Player is started)	16:22:34

Table 7.3: Time Display Modes

The **Default time display mode** (default: **Remaining time**) is the mode *mAirList* uses when it opens. However, the user can change the mode by clicking the time display (or Shift+clicking it, if the Player has a mouse-click Command assigned to it: see below). Clicking the time display cycles through the first three time display modes in the table above.
The user can also double-click (or Shift+double-click) the time display to select Backtiming mode.

Use **EOF warning** to set the number of seconds (default: **10** seconds) before EOF when you want the Player to start flashing, as a warning to the user that the item is about to end. This value is also used to start the large EOF overlay countdown on the Playlist, unless you have switched that feature off. To disable **EOF warning**, set it to **0**.

Use **Command when clicked** (default: **(none)**) to select the Command you want the Player to perform when clicked—or if you have a touch screen, when the Player is touched.

7.2.1.2 Time Formats

The time format settings for **Remaining time**, **Elapsed time**, and **Ramp** are the same as those used for the Playlist's time formats. The dropdowns contain six commonly used formats, or you can compose your own (see Table 7.2 on page 44).

The default formats for **Remaining time** and **Elapsed time** are **nn:ss**; the default for **Ramp** is **ss**.

7.2.2 Options tab

These settings affect the *behaviour* of the Player; as opposed to the GUI Options tab settings (see 7.2.3 below), which affect the *appearance* of the Player.

The term **close** is used for consistency with the Player button label, *mAirList* commands, and the *mAirListScript* scripting language. Depending on the other Player Options settings which you select, closing a Player means 'the act of doing **all** of the following:'

- stop the Player if it is playing
- mark the loaded item as 'played'
- unload the loaded item from the Player
- move the item to the Playlist history and/or the *mAirList* Recycle Bin.

Hence for example, 'Auto close at EOF' means '"eject" the Player when it reaches the end of an item.'

Auto load in assist mode (default: **on**)
*If you want to use the Playlist Control Bar NEXT button in assist mode, this setting must be **on**.*
If this setting is **on**, the Player *auto-loads* in assist mode if the Player is empty and there are items in the Playlist which are not already loaded in any Player.
If this setting is **off**, you must *manually load* the Player in assist mode.

Auto load on demand (default: **off**)
If this setting is **on**, the Player *auto-loads* in assist mode if the Player is empty, **and** there are items in the Playlist which are not already loaded in a Player, **and** a Start command is issued.
If this setting is **off**, you must *manually load* the Player in assist mode.

Only auto-load if all other players are empty (default: **off**)
If this setting is **on**, the Player does not auto-load unless all other Players in the Playlist are empty.

Only auto-load items marked as 'special' (default: **off**)
If this setting is **on**, the Player only auto-loads items marked as 'special items' in their Properties. You can use this feature to 'reserve' a Player for talkover beds, news clips, programme replays, or any other 'special' purpose.

Auto close on STOP in assist mode (default: **on**)
*This setting applies **only** to STOP Commands and **not** to FADEOUT Commands nor reaching EOF, even if **Auto stop at EOF in assist mode** is **on**.*
If this setting is **on**, stopping the Player closes it.
If this setting is **off**, stopping the Player 'resets' to the beginning of the item.
When combined with remote control by fader start, this is useful for repeated plays of the same item in quick succession—for example, a 'timer' bed for a phone-in competition.

Auto close at EOF in assist mode (default: **on**)
*If you want to use the Playlist Control Bar NEXT button in assist mode, this setting must be **on**.*
If this setting is **on**, the Player closes when it reaches EOF.
If this setting is **off**, the Player 'resets' to the beginning of the item when it reaches EOF.
Tip: if a Player is 'stuck' at EOF[16], switch this setting **on** to close it.

Auto rewind at EOF in assist mode (default: **on**)
*This setting has no effect if **Auto close at EOF in assist mode** is **on**.*
If this setting is **on**, the Player 'resets' to the beginning of the item when it reaches EOF.
Tip: if a Player is 'stuck' at EOF, switch this setting **on** to 'reset' it.

Auto release PAUSE when other player is playing or started (default: **off**)
If this setting is **on**, and the Player is paused, it starts playing when any *other* Player is started.

Auto PFL OFF on START (default: **off**)
*This setting has no effect if **Allow simultaneous playback and PFL** is **off**,*
because the START button is not visible.
If this setting is **on**, starting the Player stops PFL playout (if any) and closes the PFL Player, even if **Allow simultaneous playback and PFL** is **on**.
If this setting is **off**, starting the Player does not close the PFL Player; PFL playout (if any) *continues.*

Auto close PFL at EOF (default: **off**)
If this setting is **on**, the PFL Player closes when it reaches EOF.

[16] Some combinations of Player settings can leave the Player stopped and open ('stuck') at EOF.

Auto fadeout at Fade Out marker in assist mode (default: **off**)
If this setting is **on**, when the Player reaches an item's Fade Out Cue Marker in assist mode, the Player fades out and closes (as it does in automation mode).
If this setting is **off**, Fade Out points are ignored in assist mode.

Use in automation mode (default: **on**)
*To be able to automate a Playlist, at least one Player in the Playlist must have this setting **on**.*
If this setting is **on**, the Playlist can use the Player to load and play items in automation mode.
If this setting is **off**, the Playlist cannot use the Player to play items in automation mode; if the Player is playing when automation mode is selected, the Player continues playing until it reaches Fade Out or EOF (whichever comes first); if the Player is loaded but stopped when automation mode is selected, the loaded item is Recycled and the Player closes.

Move item to history when closing paused/EOF player (default: **on**)
If this setting is **off**, items remain in the Playlist when they end.

Move item to history when closing loaded player (default: **off**)
If this setting is **on**, items are moved to the Playlist history when the Player is closed.

Include in logging (default: **on**)
If this setting is **off**, no log entries are written for any item played in the Player.

Allow simultaneous playback and PFL (default: **off**)
If this setting is **on**, all Player buttons remain visible and active while the PFL Player is open, and the Player and PFL Player operate independently. If **Auto PFL OFF on START** is also **on**, starting the Player stops and closes the PFL Player.
If this setting is **off**, the Player's PFL button is hidden while the Player is playing, and the Player's transport buttons (STOP, PAUSE, PLAY, etc.) are hidden while the PFL Player is open. You can operate the Player *or* the PFL Player, but not both at the same time.

Only use PFL audio device while Player is playing (default: **off**)
*This setting has no effect if **Allow simultaneous playback and PFL** is **off**.*
If this setting is **on**, the Player's **PFL** audio device is only used **while** the Player is playing: at all other times, the Player's PFL output is routed to the Player's **Playback** audio device. This provides a separate 'PFL during playback' audio output which you could connect to a pair of 'squawk-box' speakers, or to an input of a headphone amplifier system, for example.

PFL during playback starts End Mon (default: **on**)
*This setting has no effect if **Allow simultaneous playback and PFL** is **off**.*
If this setting is **on**, selecting PFL while the Player is playing plays the *ending* of the item in the PFL Player (see 7.12.7 on page 72).

Loop audio (default: **off**)
If this setting is **on**, the Player's Loop mode is **on** when *mAirList* opens.

Hook mode (default: **off**)
If this setting is **on**, the Player's Hook mode is **on** when *mAirList* opens.

Switch off loop mode when player is closed (default: **off**)
If this setting is **on**, the Player's Loop mode switches off each time the Player closes.

Switch off hook mode when player is closed (default: **off**)
If this setting is **on**, the Player's Hook mode switches off each time the Player closes.

7.2.3 GUI Options tab

These settings affect the *appearance* of the Player; as opposed to the Options tab settings (see 7.2.2 above), which affect the *behaviour* of the Player.

Auto-truncate time (default: **off**)
If this setting is **off**, Duration and Ramp times are shown including leading zeros.

Show PFL cue dialog (default: **on**)
This setting applies to the PFL Player which opens when the ***Player****'s PFL button is clicked.*
If this setting is **on**, the PFL Player contains a cue dialog which you can use to create or alter Cue Markers 'on the fly.'

Show save buttons in PFL cue dialog (default: **off**)
This setting applies to the PFL Player which opens when the ***Player****'s PFL button is clicked.*
If this setting is **off**, the Save buttons on the PFL Player are hidden, preventing users accidentally overwriting any item settings. To protect your data more thoroughly, see 7.12.5 on page 71.

Flash during EOF warning (default: **on**)
If this setting is **on**, the Player's background colour flashes during the Player's EOF warning period (see 7.2.1 on page 45).

Show ramp when idle (default: **off**)
If this setting is **on**, loading the Player shows the item's Ramp (if any) instead of the usual time display (remaining, elapsed, etc.). This is particularly useful in assist mode.

Show only nearest ramp (default: **off**)
If this setting is **on**, and **Show ramp when idle** is **on**, the Player's time display shows a single countdown to the *nearest* Ramp (instead of a multiple countdown to *all* Ramps).

Hide buttons in automation mode (default: **on**)
If this setting is **on**, the Player's buttons are hidden in automation mode. This acts as an extra visual confirmation to the user that *mAirList* is in automation mode and manual operation of the Player is not possible.
If this setting is **off**, the Player's buttons are visible in automation mode. The Hook and Loop mode buttons work normally; the PFL button works only if **Allow simultaneous playback and PFL** is on; and all transport buttons (Stop, Play, etc .) are disabled.

Swap artist and title (default: **off**)
If this setting is **on**, the Artist is shown above the Title instead of below the Title.

Use cue category colours (default: **on**)
If this setting is **off**, the cue dialog shows all Cue Marker names and values on the same background colour, instead of using background colours for different Cue Marker categories.

Enable alternative cue points (default: **off**)
If this setting is **on**, the cue dialog shows extra controls which allow you to see, use, and edit 'alternative' (multiple) values for each Cue Marker.

Use item colour when idle (default: **off**)
If you assign colours to Player States in the **skin.ini** file, these may conflict with colours you have assigned to specific items. Normally, the **skin.ini** Player State colour takes precedence; if this setting is **on**, the item colour takes precedence.

Show cue list in seconds (instead of 1/100s) (default: **on**)
If this setting is **off**, the cue dialog shows values in full 1/100s accuracy.

Use "stutter" mode during cueing (default: **on**)
If this setting is **on**, changing the value of any Cue Marker in the PFL Player plays a very short loop of that section of the item (hence "stutter" mode), which mimics the cueing features on professional CD decks.
If this setting is **off**, the PFL Player does not use "stutter" mode.

7.2.4 Buttons tab

These settings show or hide each of the Player's buttons.
The available buttons are: **Start**, **Stop**, **Pause**, **Close**, **PFL**, **Loop**, **Hook**, **Fade Out**. and **Reset**.
The default is to **show all** buttons.

We recommend that you hide any Player buttons you don't use. For example, to 'force' your users to control *mAirList* **only** from faders on a mixer, hide **all** the Player buttons.

If you hide **all** the buttons on a Player, its height is reduced and you can use the extra screen space for other purposes.

7.2.5 Progress Bar tab

These settings affect the Progress Bar which you can optionally show *within* the Player.

Enable progress bar (default: **on**)
If this setting is **off**, the Player does not show a Progress Bar. If this setting is **off** for all Players in the Playlist, the Players' heights are reduced and you can use the extra screen space for other purposes.

Show ramp in progress bar (default: **on**)
If this setting is **off**, the Progress Bar does not show Ramps as separate coloured sections.

Split progress bar during ramp (default: **on**)
If this setting is **off**, the Progress Bar shows Ramps at the left of the bar; if this setting is **on**, the bar is split vertically, with the top half of the bar showing the Ramps.

Show only nearest ramp (default: **off**)
If this setting is **on**, the bar shows only the *nearest* Ramp; if this setting is **off**, the bar shows all Ramps.

7.3 *Cartwall*

The optional *mAirList* Cartwall is the digital equivalent of traditional cart players; other software names the equivalent feature *Carts*, *Cartwall*, *Instants*, *Spot Players*, *One-Shots*, or *Single Players*.

The **Cartwall** node in the menu tree contains the basic settings for the optional Cartwall.
These settings control the basic 'look and feel' of the Cartwall.

If you don't want a Cartwall, clear the **Enable Cartwall** check box (default is **ticked**).

Use the (across) and (down) **Player count** settings (defaults: **3** and **2**) to define the shape of the Cartwall, as well as the number of Cartwall Players it contains. Cartwall Players are numbered from 1 upwards, and are coloured **red** unless you create a **skin.ini** file and specify a different colour, and/or set the Player GUI Options setting **Use item colour when idle** to **on**. (see 7.3.3 on page 51).

Use **Default cart set** (default: **blank**) to enter the path and name of the Cart set file you want to be automatically loaded when *mAirList* opens (or click **Browse...** to select a Cart set file).

To have an empty Cartwall when *mAirList* opens, blank out **Default cart set**.

If you allow the Cartwall to be saved in Desktop files (see 7.3.1 below), every user can set up the Cartwall contents and settings as they prefer, then save and load this as part of their Desktop, in effect giving each user their own Default cart set. Saving alternative Cartwall content layouts in Desktop files is also a good way to test them out before deciding which ones to save as cart set files.

All other settings on the **Cartwall** node are identical to those on a **Player** node (see 7.2.1 on page 45).

7.3.1 Options, Options tab

These settings are identical to those on the Options tab for a Player (see 7.2.2 on page 46),
with three extra settings:

Save cartwall content in desktop files (.mld) (default: **off**)
If this setting is **on**, the Cartwall contents and settings are saved as part of a Desktop file.

Save cartwall content in desktop templates (.mlt) (default: **on**)
If this setting is **on**, the Cartwall contents and settings are saved as part of a Desktop Template file.

Keep open when starting a new desktop (default: **on**)
If this setting is **on**, the Cartwall is unaffected when the **New** button on the main Toolbar is clicked.
If this setting is **off**, all Cartwall Players' contents and settings are cleared when the **New** button on the main Toolbar is clicked.

7.3.2 Options, GUI Options tab

These settings affect the Cartwall Toolbar and the appearance of the Favourite Cart Set list.

Show toolbar (default: **on**)
If this setting is **off**, the Cartwall toolbar is hidden; the Cartwall's height is reduced and you can use the extra screen space for other purposes.

*Note that the following three settings are **not** mutually exclusive.*
*To create or change the list of **Favourite Cart Sets**, see 7.3.7 on page 52.*

Show favourites as a drop-down (default: **off**)
*This setting has no effect if **Show toolbar** is **off**.*
If this setting is **on**, Favourite Cart Sets are shown in a drop-down box on the Cartwall toolbar.

Show favourites as tabs (default: **on**)
If this setting is **on**, Favourite Cart Sets are shown as tabs along the bottom of the Cartwall, which may slightly reduce the height of the Cartwall Players.

Show favourites as buttons (default: **off**)
If this setting is **on**, Favourite Cart Sets are shown as buttons down the left side of the Cartwall , which reduces the width of the Cartwall Players.

7.3.3 Options, Player GUI Options tab

These settings are identical to those on the GUI Options tab for a Player (see 7.2.3 on page 49), with one extra setting:

Allow dragging (default: **on**)
*This setting has no effect if a **Command when clicked** is specified on the **Cartwall** node.*
If this setting is **on**, an item in a Cartwall Player can be dragged and dropped on a Playlist or Player.

7.3.4 Options, Buttons tab

These settings are identical to those on the Buttons tab for a Player (see 7.2.4 on page 49), but with two extra buttons—**Previous** and **Next**—which are used to control cart player stacks.

7.3.5 Options, Progress Bar tab

These settings are identical to those on the Progress Bar tab for a Player (see 7.2.5 on page 49).

If **Enable progress bar** is **off**, each Cartwall Player's size is reduced and you can use the extra screen space for other purposes.

7.3.6 Window

These settings affect the Cartwall window's position and appearance.

Use the **Cartwall Window Type** setting to choose whether you want to show the cartwall **embedded** as a 'screen object' within the main *mAirList* window, or a **separate Cartwall window**.
An **embedded** Cartwall is usually[17] shown below the Playlist(s) in the main *mAirList* window; a separate Cartwall **window** is best suited to computers which have multiple monitors.

The other **Window** settings apply separately to embedded Cartwalls and Cartwall windows.

7.3.6.1 Embedded Cartwall Settings

Visible at startup (default: **on**)
If this setting is **off**, the Cartwall is not shown when *mAirList* opens, and the Playlist(s) 'expand' to fill the available window space.

Show Cartwall button in toolbar (default: **off**)
If this setting is **on**, the main *mAirList* toolbar includes a **Cartwall** 'toggle' button which shows or hides the Cartwall. When not using the Cartwall, you can hide it to 'reclaim' space for the Playlist(s). (*Note: The toolbar **always** includes a **Cartwall** button if the Cartwall is in a separate window.*)

Automatically stretch if no Playlists are configured (default: **off**)
If this setting is **on**, and **Number of playlists** on the **Playlists** node is **zero**, the Cartwall stretches to fill the entire *mAirList* window.

7.3.6.2 Cartwall Window Settings

Window position (default: **Default**)
If your *mAirList* computer has two or more monitors, you can change this setting to **Maximise on monitor 1, Maximise on monitor 2**, … etc.

Visible at startup (default: **on**)
If this setting is **off**, the Cartwall window is not shown when *mAirList* opens.

Always on top (default: **off**)
If this setting is **on**, the Cartwall window stays on top of all other applications and windows.

Remember window position and size (default: **off**)
If this setting is **on**, the window size and position are saved in the **positions.ini** file, and are restored when *mAirList* opens.

[17] You can use the *mAirList* **Layout Designer** program to change the position and size of any object in the *mAirList* window.

7.3.7 Favourites

Use this page to create and edit the list of **Favourite Cart Sets** which are shown in the Favourites drop-down box, or as tabs, or as buttons (see 7.3.2 on page 50).

- To add a single Cart Set, click **Add set…**, then choose a .mlc file and click **Open**.
- To add every Cart Set in a folder, click **Add folder…**, then choose a folder and click **OK**.
- To remove an entry, select the entry and then click **Remove**.

7.4 PFL Player

These settings affect the PFL Player shown on an item's **Properties** dialog, and in the *mAirListTag* window. All these settings are identical to those on the corresponding tabs for a Player.

7.5 Audio Devices

The **Audio Devices** settings 'connect' *mAirList* Players to the physical audio devices in your computer. In other words, these settings are the *mAirList* 'patch bay' or 'routing matrix.'

'Device' means 'any stereo output of a physical audio device.' This includes each output pair on a multi-output audio card (see 7.5.1 on page 52), and digital outputs such as optical S/PDIF.

When you install *mAirList*, all *mAirList* Players are set to connect to your computer's current default device. This is the device shown as the default device for sound playback in your *Windows Settings* (or *Control Panel*), in the *Sound and Audio Devices Properties*. Use the **Audio Devices** settings if you want to route *mAirList* Players to other devices in your computer (including digital audio outputs).

The **Audio Devices** settings are a tree-structured list of all the *mAirList* **Players** in the following order, showing the **Device** each Player is 'connected' to:

- Playlist Players
- Cartwall (global settings)
- Cartwall Players (individual settings)
- PFL Player
- Error Checking

Playlist and **Cartwall** Players have both **Player** and **PFL** settings; other Players have a **Player** setting.

To change any setting, select an entry from the dropdown in the **Device** column beside the setting you want to change. For example, to change the PFL Device for Playlist 1–Player 1, expand the tree to **Playlist 1**, **Player 1**, **PFL**; drop down the **Device** column box; and select a device.

If you use a mixer, you usually set each Playlist Player's **Player** and **PFL** settings to the **same** device, and connect this device to an input channel on the mixer. You would use a *separate* device for each Playlist Player, and for the Cartwall.

The **Cartwall** global settings are listed just above the individual Cartwall Player settings.
The global settings apply to all Cartwall Players, but any changes you make to an *individual* Cartwall Player's settings take precedence over the 'global' settings.

The **Error Checking** Player is never visible. *mAirList* uses this Player internally to check items for errors before loading them into a Playlist or on-screen Player. Although the Error Checking Player almost never produces any audio output, we still suggest that you **do** assign it to a device which you do **not** use, to prevent any possibility of its output being broadcast on air.

7.5.1 Choosing A Device

For each physical audio device (sound card, etc.) in your computer, *mAirList* adds a **default** device for it to the dropdown in the **Device** column, *in addition to* its named outputs. The **default** device is the device's default output pair (for a 5.1 audio card, usually the **Front** or **(1/2)** outputs). So, a sound card with four analogue output pairs and a digital optical output would show as six devices in the **Device** dropdown: its **default** device followed by its five 'named' outputs (see the list below).

mAirList adds two more items to the **Device** dropdown: **(default)**, which is your computer's default audio device (see 7.5 above); and **Encoder** (only shown if you have a *mAirList* Professional licence) is *mAirList's* built-in audio stream encoder (see 7.13.6 on page 76).

So, the full list of possible devices in the **Device** dropdown are (from top to bottom):

- **(default)**
- ***devicename1* - default**
- ***devicename1* - *outputname1***
- *devicename1* **-** *outputname2*
- …
- *devicename2* - default
- *devicename2* - *outputname1*
- *devicename2* - *outputname2*
- …
- ASIO: *ASIOdevicename1* **-** *outputname1*
- ASIO: *ASIOdevicename2* **-** *outputname2*
- …
- **Encoder**

Lines shown in **bold** type are always present (subject to your *mAirList* licence); the presence of other lines depends on the physical audio devices installed in your computer. Text in *italics* is replaced by the device driver and output names of your physical audio devices. For example, the ***devicename1* - *outputname1*** line might read **VIA AC'97 Audio (WAVE) - front (1/2)** on your computer.

mAirList can use standard *Windows* Device Model (WDM) drivers[18] or ASIO drivers to communicate with physical audio devices. Don't use ASIO drivers unless you need to (for example, to send an encoded audio stream directly to a Web server).

To use the 'main' (or only) output of a physical audio device, choose its **default** device (*devicename* - default) in preference to its equivalent 'named' output (*devicename* **-** *outputname*).

Incidentally, if you have multi-channel audio files such as 5.1 files in Ogg Vorbis format, *mAirList* can play these out in full 5.1 stereo if you select the **default** output of the 5.1 card for the Players. Obviously this means you cannot also use the same 5.1 card as three separate output pairs.

7.5.2 Troubleshooting Output Problems

Most output problems occur either when you change device settings, or 'suddenly' at a later time.

'Sudden' problems with a device output which has proved reliable are invariably solved by normal audio fault-finding: check cables for continuity, check the sound card itself is not faulty, etc.

Changing device settings in *mAirList* can reveal other 'problems' which are more subtle but are equally easy to solve. Obviously we cannot cover every potential problem in this Manual, but we list a few well-known ones below.

7.5.2.1 Multi-channel Sound Cards

The two most frequent problems with multi-channel sound cards are: a) some channels are not shown in the Devices dropdown; and b) no output from 'some' channels on the card. You can usually solve both of these problems by following the steps below, *in the order shown.*

1. In *Windows Settings* (or *Control Panel*), check the **Speakers** selected for the sound card. For example, for a 5.1 card, make sure it has a 5.1 Speakers setup instead of (for example) *Desktop stereo speakers. Windows* can 'hide' the extra outputs from applications (including *mAirList*) if you select a two-channel speaker configuration.
2. If the *Windows* **Speakers** setup is correct, but there is still no output from *mAirList,* (or if the outputs are still not shown as Device selections), close *mAirList*, switch on **Force multichannel output** for the card (see 7.13.2 on page 74), then re-open *mAirList.*
3. If the *Windows* **Speakers** setup is correct, but there is still no output from *mAirList,* (or if the outputs are still not shown as Device selections), close *mAirList*, switch on the **Ignore speaker assignment** setting for the card (see 7.13.2 on page 74), then re-open *mAirList.*
4. If there is still a problem, try the suggestions below for **All Sound Cards**. If one of those solves your problem, try switching **off** the two settings above (one at a time) to see whether either setting is still required; if not, leave them switched **off**.

[18] Strictly speaking, *mAirList* uses the *Windows DirectSound* interface, so older MME drivers are also supported.

7.5.2.2 All Sound Cards

Output is non-existent, noisy, or 'scratchy' (WDM drivers only)
Some sound cards (including some sound 'cards' built in to the computer's motherboard) do not produce audio output correctly unless specific features of the BASS audio engine used internally by *mAirList* are enabled or disabled. Because every sound card is different, this is a 'trial and error' process. The settings to try (change these one at a time) are described in section 7.13.2 on page 74:

- **Disable hardware mixing (BASS_SAMPLE_SOFTWARE)**
- **Use application-level software mixing**
- **Use single multichannel link for software mixing**
- **Use floating point data (BASS_SAMPLE_FLOAT)**

Output pairs are 'mixed up' (WDM and ASIO drivers)
mAirList numbers output channels on a sound card in the order *Windows* reports them, which is the order the sound card's device driver reports the channels to *Windows*. Sometimes, this order is 'wrong:' for example, the channels listed as **front 1/2** in the *mAirList* Devices dropdown may actually be the Rear (3/4) speaker outputs on the card; or testing shows that left and right channels are reversed. Although annoying and frustrating, these are not *mAirList* or *Windows* problems or bugs; however, check that you are using the most recent driver software for your sound card.

Noticeable delay and/or large CPU overhead when starting items (WDM drivers only)
Some sound cards take a few (or few hundred) milliseconds to 'open' before they can play audio.
If you have this problem, one solution to try is to force your sound card to remain 'open' in the BASS audio engine used by *mAirList* even if the card is idle, thus avoiding the delay when it is re-opened. To do this, switch on the **Keep device open** setting for the card (see 7.13.2 on page 74).
NOTE: If CPU overhead is the problem, your **video** card might be too slow to cope with all the redraws when items start, especially if you use countdown overlays and multiple progress bars, and particularly in automation mode. If you are using a video 'card' built-in to your computer's motherboard, this is definitely worth checking. Consider installing a faster video card or, if you have a spare video card available, try it out and see if it makes a difference.

Cue Point markers and/or item durations are 'wrong' (WDM and ASIO drivers)
This is not a sound card problem, it is an inherent problem if you use variable bit-rate audio files. BASS almost always reports inaccurate durations, and inaccurate Cue Markers, for variable bit rate audio files unless the **High precision cueing for VBR files (BASS_STREAM_PRESCAN)** setting for your sound card (see 7.13.2 on page 74 for WDM, 7.13.3 on page 75 for ASIO) is **on**.

7.6 *GUI*

These settings affect the general appearance of the *mAirList* GUI.

7.6.1 Settings

If your *mAirList* computer has two or more monitors, you can change the **Window position** setting (default: **Default**) to **Maximise on monitor 1, Maximise on monitor 2**, … etc.

Use the **Show GUI in language** setting (default: **blank**) to choose the language used in *mAirList* menus, dialogs, etc. If this setting is **blank**, *mAirList* auto-detects your computer's default language from the *Regional and Language Options* in *Windows Settings* (or *Control Panel*). You can override automatic language detection by selecting a language from the drop-down.
To choose an **English** language from the list, select **en_GB** for UK English and **en** for US English.

Use the **Global progress bar update interval** setting (default: **100** mS = 1/10 second) to choose the refresh time for the optional global progress bar (see 7.6.4 on page 57). The default value of 100 mS gives a 'fluid' progress bar movement on most computers, without crippling either the CPU or the video card. For the same reasons, we strongly recommend that you do **not** reduce this value.

7.6.2 Options

Remember window size and position (default: **on**)
If this setting is **on**, the *mAirList* window size and position are saved in the **positions.ini** file, and are restored when *mAirList* opens.
If this setting is **off**, the default *mAirList* window size and position are used when *mAirList* opens.

Show status bar (default: **on**)
If this setting is **on**, the status bar at the bottom of the *mAirList* window is shown. The status bar shows the current time as well as some warning and error messages, including messages from scripts. Double-clicking the status bar opens the *mAirList* System Log for browsing.
If this setting is **off**, the status bar at the bottom of the *mAirList* window is not shown. Note that this also removes script message displays and the ability to browse the *mAirList* System Log.

Show save confirmation (default: **on**)
If this setting is **on**, an extra confirmation message box is shown before you save any file, and also when *mAirList* is closed and any part of the desktop (such as Playlist contents) has changed since *mAirList* was opened.
If this setting is **off**, files are saved immediately and no message box is shown when *mAirList* is closed, even if the desktop has changed since *mAirList* was opened.

Minimise to tray (default: **off**)
If this setting is **off**, the *mAirList* window minimises to a *Taskbar* button.
If this setting is **on**, the *mAirList* window minimises to a *System Tray* icon.

Open and Save buttons apply to first playlist (default: **off**)
If this setting is **off**, the Toolbar **Open** and **Save** buttons open and save the **'desktop'**
(see 5.3 on page 32 for more details);
If this setting is **on**, the Toolbar **Open** and **Save** buttons open and save the **first** Playlist.

Use small icons (default: **off**)
If this setting is **off**, the *mAirList* Toolbar and Browser Toolbar icons are 22×22 pixels in size.
If this setting is **on**, the *mAirList* Toolbar and Browser Toolbar icons are 16×16 pixels in size.

7.6.3 Browser

These settings affect the appearance and behaviour of the Browser.

7.6.3.1 Browser Options

Save within desktop files (.mld) (default: **on**)
If this setting is **on**, the Browser contents and settings are saved as part of a Desktop file.

Save within desktop templates (.mlt) (default: **on**)
If this setting is **on**, the Browser contents and settings are saved as part of a Desktop Template file.

Keep open when starting a new desktop (default: **on**)
If this setting is **on**, the Browser is unaffected when the **New** button on the main Toolbar is clicked.
If this setting is **off**, the Browser is closed and a new, empty Browser is opened when the **New** button on the main Toolbar is clicked.

Always show Recycle Bin (default: **on**)
If this setting is **on**, the Browser contains a Recycle Bin pane when it is created (when *mAirList* opens, and when the **New** button on the main Toolbar is clicked).

Show panes as tabs (default: **off**)
If this setting is **on**, Browser panes are shown as tabs.
If this setting is **off**, Browser panes are shown as a stack of coloured panes.

Allow stack of panes to be minimised (default: **off**)
*This setting has no effect if **Show panes as tabs** is **on**.*
If this setting is **on**, a splitter bar is shown above the stack of pane names. Drag the splitter bar *downwards* to shrink the stack of pane names to a row of icons. This maximises the display area of the currently Browser pane.

Show file durations (may be slow) (default: **on**)
If this setting is **on**, Folder and Folder Tree panes show the Duration of each audio file. Because *mAirList* has to open each file to do this, it can cause slow performance, especially if the folder or folder tree contains a large number of audio files.

Auto update folder contents (default: **on**)
If this setting is **on**, Folder panes auto-update to reflect changes to their contents.
If this setting is **off**, Folder panes are 'static' and only update when closed and re-opened.

Keep search history (default: **on**)
If this setting is **on**, the Database Search pane in the Browser keeps a history of recent searches.
To repeat a recent search, select it in the dropdown list and press **Enter**.

Enable autocompletion for search history (default: **on**)
If this setting is **on**, the Database Search pane in the Browser uses the history of searches to suggest search terms as you type. You can accept the suggested term at any time by pressing **Enter**.

7.6.3.2 Additional File Extensions

mAirList recognises the standard file extension of every audio file format it can play (see 9.1 on page 93). Files with other file extensions are not recognised as audio files and are not listed in Browser panes, file open dialogs, database synchronisation, etc., unless you type the extensions, separated by spaces, into the **Additional File Extensions** box.
For example, to add **.mpg**, **.mpeg**, and **.pre** file extensions, type **mpg mpeg pre** into the box.

mAirList determines the audio file format of files with non-standard file extensions when you open them. You don't need to 'associate' any extension with an audio file format, but you **do** need to ensure that all files with a non-standard file extension contain audio in a format which *mAirList* can recognise and play (see 9.1 on page 93).
For example, if you save all your pre-recorded programmes, interviews, etc. with a **.pre** extension, it doesn't matter whether those files are in MP3, OGG, or WAV format.

7.6.3.3 Quick Folders

Use the **Quick Folders** list to add frequently-used folders as items at the end of the Browser **Add** menu, so you can quickly open them in a Browser **folder** pane without having to navigate the folder tree dialog. When clicked, a Quick Folder menu item opens a **folder** pane in the Browser.

Use the **Add...** and **Remove** buttons to manage the **Quick Folders** list.

7.6.4 Progress Bar (global progress bar)

Separate progress bars on Playlists, Players, and Cartwall Players can confuse some users.
You can *optionally* create a 'global' progress bar which tracks the **most recently started** Player.
The settings on this page affect the 'global' progress bar, and are identical to those on the Progress Bar tab for a Player (see 7.2.5 on page 49), with two extra settings:

Auto-hide when inactive (default: **off**)
If this setting is **off**, the global progress bar is shown as 'empty' when no Players are playing.
If this setting is **on**, the global progress bar is not shown when no Players are playing.

Ignore cartwall (default: **on**)
If this setting is **on**, the global progress bar does not track the progress of Cartwall Players.
If this setting is **off**, the global progress bar tracks the progress of Cartwall Players.

7.6.5 Custom Screen Objects

As well as the standard *mAirList* 'screen objects' (Toolbar, Players, Playlist, Cartwall, Browser, etc.), you can optionally add **custom** screen objects. Custom Screen Objects are shown either above or below the Browser unless you create a custom layout (see Layout Designer on page 103).

In *mAirListConfig*, you specify basic settings for each Custom Screen Object, such as font size, show at top/bottom of Browser, etc. If you create a custom layout (as mentioned above), you can specify more settings, such as the font colour and style (normal, **bold**, *italic*, or ***bold italic***).

There are thirteen types of Custom Screen Objects, which are briefly described in the table below. You can add as many of each type of object as you wish, but you are unlikely to want (for example) more than one **LED Clock** object in the *mAirList* window.

- To **add** a Custom Screen Object, click **Add...**, select the object type from the menu, edit the object (see below), then click **OK** or **Cancel**.
- To **edit** a Custom Screen Object, select it, then click **Edit**, make changes in the Edit dialog (see below), and click **OK** or **Cancel**. The Edit dialog contains a sample which shows you how the Custom Screen Object looks with your changes applied.
- To **delete** a Custom Screen Object, select it, then click **Remove**.
- To **change the display order** of Custom Screen Objects, select an object from the list, then click **Up** or **Down** to move it.
- To **sort the list** so that 'top' items are listed above 'bottom' items, click **Sort**.

Screen Object Type	Description
Date or time	The current date and/or time of day.
LED Clock	A clock similar to a hardware LED studio clock.
Countdown to top of the hour	A countdown timer to the next 'top of the hour' or 'o'clock.'
Countdown to next event	A countdown timer to the next scheduled event (see Event Scheduler on page 29).
Player countdown	A configurable Player countdown timer with more options than the standard Player countdown overlay.
Comment Viewer	Shows the **Comments** of any Playlist item dropped on it.
On Air Status	The static text **ON AIR** or **OFF AIR**, according to the current on-air/off-air status of *mAirList*.
On Air Switch	Same as **On Air Status** object above, but you can also click the object to toggle the current on-air/off-air status.
Button	A custom button which runs an Action List when clicked.
Static Text	Any 'fixed' text, such as your station name or frequency.
Image	Any image file, such as your station logo.
PFL Player	A 'mini' PFL Player which PFLs any item dropped on it.
Streaming encoder status	A small window showing the current encoder status.

Table 7.4: Custom Screen Object Types

Notes:

- **On-Air Status** and **On-Air Switch**: The **Switch** object toggles on-air/off-air status when clicked, while the **Status** object is purely a display. If you only use the **Status** object, you must use a *mAirList* Remote Control (see 7.7 on page 59) to toggle on-air/off-air status.
- **Image**: *mAirList* stores only the image file **name** (not the image itself). If you move the image file to a different folder, it is not shown in *mAirList*.

7.6.5.1.1 Edit dialog

The Edit dialog box for each type of Custom Screen Object is slightly different, showing only the appropriate settings for that Custom Screen Object. Most of these settings are obvious, such as the **Change Font...** button, **Alignment**, or the **Dot colour** setting for an LED Clock object. The settings which are less obvious are listed below.

7.6.5.1.2 Countdown tab (Player Countdown object only)

Countdown Type: Six Player countdown types are available: **Remaining time**, **Elapsed time**, **Duration**, **Remaining ramp**, **EOF warning**, and **Remaining time to outro**.
Show only nearest ramp: (Ramp countdown only) Same as the Player setting (see page 48).
Show EOF warning after effective end: (EOF warning countdown only) Continue to display the warning after the effective end of an item.

7.6.5.1.3 Appearance tab

Time Format: A *mAirList* time format string (see Table 7.2 on page 44).
Text Format: Any text. **%s** represents the formatted time and/or date. For example, to show an event countdown as ***n:ss* to next event**, change its **Text Format** to **%s to next event**.
When clicked, execute command: (**Static text** object only) Select the command (or type the command set) to be executed when the text object is clicked.

7.6.5.1.4 Actions tab (Button object only)

Use this tab to specify the **Actions** (see 4.1 on page 25) to be executed when the button is clicked.

7.6.5.1.5 Advanced tab

Position (default: **Top**): Select **Top** or **Bottom** to display the object above or below the Browser.
Automatically hide or minimise: Self-explanatory.
Remote ID: A unique arbitrary text name (ID) for the control, which you can use in a *mAirList* script to associate the control with script code which is run when the control is clicked.

7.7 Remote Control

You can operate *mAirList* using only a mouse (or a touch screen), but most users also need various functions to be operated 'remotely:' that is, not directly on your *mAirList* computer. A classic example is 'fader start,' where lifting a fader on your mixer also starts the associated *mAirList* Player. *mAirList* supports many more types of Remote Controls than this obvious example.

By default, Remote Controls do **not** work in the *mAirListDB* and *mAirListTag* programs, but you can easily change this (see 0 on page 72 for details).

All Remote Controls in *mAirList* work in the same way. When you create a Remote Control, you link it to one or more *mAirList* commands; when the Remote Control is operated, *mAirList* processes those commands. For example, the command **START PLAYER 1-2** starts the second Player in the first (or only) Playlist.

The Remote Control dialogs in *mAirListConfig* contain dropdowns which list most of the commands available, but you need to type in some commands yourself. A Remote Control which runs a *mAirList* script is an obvious example. Similarly, if you want a Remote Control to run more than one command, you have to type in the 'extra' command(s) yourself.

A list of *mAirList* commands is in **Appendix A**, beginning on page 125.

Most Remote Control types allow you to set up multiple items in the same list entry. For example, you can set up several **Hotkeys** in a single list entry.

Note that you can add multiple list entries of the **same** type, allowing you to 'group' sets of Remote Controls. This is useful if you are evaluating a new device such as a custom keyboard: you can set up an extra list entry containing only the Remote Controls for that device, making it easier to modify or remove those Remote Controls later. Another use for multiple list entries is to set up (for example) more than one MIDI port or serial port on your computer for Remote Control.

- To **add** a Remote Control type, click **Add…**, choose a Remote Control type from the menu, then configure it as described below.
- To **modify** a Remote Control type, or to add or remove settings within that type of Remote Control, select it in the list, click **Configure**, then configure it as described below.
- To **remove** a Remote Control type, select it in the list, then click **Remove**.

The ten types of Remote Control, and the settings available for each type, are described below.

7.7.1 Hotkeys (local)

A **local** hotkey is a keyboard key which operates as a *mAirList* Remote Control only when the *mAirList* window is the ‘active’ window: the hotkey is ignored by *mAirList* if another application is the ‘active’ window.

The term ‘keyboard key’ includes any switch or key on any device which acts like a computer keyboard, including custom keyboard devices such as EPOS keyboards.

mAirList treats each shift state and *combination* of shift states as a separate key, so for example, **K**, **Shift+K**, **Ctrl+Shift+K**, and **Alt+K** are all separate keys.

On the **Hotkeys Configuration** dialog:

- To **add a hotkey** to the list, click the **Shortcut:** text box, then press the key or shifted key you want to add, then click **Add**.
- To **delete a hotkey** from the list, click the **Command** column in the row you want to delete, then click **Delete**.

7.7.2 Hotkeys (system-wide)

A **system-wide** hotkey is a keyboard key which operates as a *mAirList* Remote Control at any time, regardless of which window is ‘active.’ System-wide hotkeys are otherwise identical to local hotkeys, and you configure them in exactly the same way.

7.7.3 Serial Port

The Serial Port Remote Control accepts *mAirList* commands as plain ASCII text sent to one of your computer’s serial ports (for example, **COM1**). Each command or set of commands must end with a **CR** character (ASCII code 13, or 0D hex).

The only setting on the dialog for the Serial Port Remote Control is a dropdown where you choose the serial port you want to use. To configure serial port settings such as parity, see 7.12.6 on page 71.

7.7.4 MIDI

The MIDI Remote Control associates *mAirList* commands with specific MIDI messages sent to one of your computer’s MIDI IN ports.

On the **MIDI Configuration** dialog:

- Select a MIDI device from the **Device** dropdown.
- To **add a MIDI Message** to the list, you *can* type the command manually and then click **Add**; but the easier method is to tick the **Capture** checkbox, then operate your MIDI controller or other device and allow *mAirList* to ‘capture’ the MIDI message for you, then click **Add**.
  If you wish—and if you understand MIDI Message formats—you can manually edit the captured MIDI Message before you click **Add**. All parameters are in hexadecimal. The Data2 value is preceded by a dropdown where you can choose whether that value is equal to, less than, or greater than the Data2 value; this is useful for MIDI devices like touch-sensitive keyboards, which may generate a range of values for Data2.
- To **delete a MIDI Message** from the list, click the **Command** column in the row you want to delete, then click **Delete**.

7.7.5 Joystick/Gamepad

The Joystick/Gamepad Remote Control associates *mAirList* commands with button presses or button releases on any joystick or gamepad device installed on your computer. Note that you must install the device **before** you open *mAirListConfig*. We also strongly suggest that you use *Game Controllers* in *Windows Control Panel* to test **all** the device's buttons **before** you open *mAirListConfig*.

Most mixers which have external connections to switch contacts for fader start, PFL switching, etc. can be easily and cheaply interfaced to your computer by connecting them directly to the contacts on a USB gamepad's circuit board. Typical gamepads allow eight or ten switches to be interfaced.

On the **Joystick/Gamepad Configuration** dialog:

- Select a joystick or gamepad device from the **Device** dropdown. *mAirList* automatically shows all the device's buttons in the lists on the **Button Pressed** and **Button Released** tabs (you cannot modify these lists). You can then assign commands to any button.

7.7.6 IO-Warrior

IO-Warrior is a USB device made by *Code Mercenaries Hard-und Software GmbH*. The three models available provide 16, 32, or 50 input and output ports, making them well-suited to installations where a converted USB gamepad does not provide enough inputs.

7.7.7 SAS

SAS[19] is a proprietary communication protocol provided on digital broadcast mixers manufactured by *Lawo AG*, including the *diamond*, *zirkon*, and *crystal* series. SAS allows these devices to 'connect' directly to external systems such as *mAirList*.

The SAS Remote Control refers specifically to SAS when connected *via* a serial port on your computer. Note that like any other serial port interface, you must configure the serial port settings in *mAirList*. See 7.12.6 on page 71 for details.

If your Lawo mixer is connected to your computer *via* a network (TCP/IP) port, use the **SAS over IP** Remote Control.

7.7.8 SAS over IP

The SAS over IP Remote Control refers specifically to SAS (see 7.7.7 above) when connected to your computer *via* a network (TCP/IP) port.

If your Lawo mixer is connected to your computer *via* a serial port, use the **SAS** Remote Control.

7.7.9 Window Message Client

The Window Message Client Remote Control associates *mAirList* commands with incoming Window Messages: short numeric messages which applications can send to one another internally within *Windows*.

7.7.10 Barth D.MAX Serial Interface

D.MAX is a digital broadcast mixer and control surface manufactured by *Barth KG*. It includes a serial interface which transmits switch press and fader movement information to external systems such as *mAirList*.

Note that like any other serial port interface, you must configure the serial port settings in *mAirList*. See 7.12.6 on page 71 for details.

[19] Lawo's English documentation refers to this protocol as **RAS**. SAS is its (original) name in German.

7.8 Logging

Logging means the log entries which *mAirList* can create when each item played out is started and stopped (sometimes also known as 'playout logging'). This is separate from the *mAirList* **System Log** (see 7.12.10 on page 73), which logs *internal* events (such as when *mAirList* is opened and closed).

Almost every station requires a log of all music played, including its actual **broadcast** duration, to comply with the requirements of the local music licensing agencies, such as the Harry Fox Agency in the USA, GEMA in Germany, or PPL and MCPS/PRS in the UK.

Playout logs can also assist in the running of your station. For example, whether a presenter has played too many songs by the same artist, to quickly answer listener enquiries ('What was the third song you played after the news at noon?'), or to 'prove' the playout of ads. to clients.

You can also use logging to send 'now playing' information to an HTTP location such as a Web site, or to a text file or database 'feeding' an RDS encoder, or to be encoded into *mAirList*'s *Icecast2* audio output stream. Note that *mAirList*'s internal *Shoutcast* and *Icecast2* stream encoders automatically updates Title and Artist information, so you should **not** use playout logging to do this unless you are using a *Shoutcast* or *Icecast2* stream encoder outside of *mAirList*.

7.8.1 Log Types

Note that you can add several log **types**, so for example, you could have a fully detailed log file, another log file containing only the **last** log entry (say, to 'feed' a PHP script), *Icecast2* logging, and log records being written to a remote SQL database, all running at the same time.

- To **add** a Logging type: click **Add...**, choose a Log type from the menu, then configure it as described below.
- To **modify** a Logging type, or to change its settings: select it in the list, click **Configure**, then configure it as described below.
- To **remove** a Logging type: select it in the list, then click **Remove**.

The simplest and arguably the most flexible type of log output is a plain text **file**. This is often used to 'feed' other processes, such as spreadsheet import, or a process to update a Web site or a database. The log entries are free-format and you can use logging variables in them (see 7.8.2 on page 63). You can also use logging variables in the log file name.

You *can* log direct to a **SQL database** by sending it executable SQL statements, but subsequent logging may be delayed if *mAirList* cannot connect to your database server; therefore you may prefer to use a log **file** instead, plus an external process to 'import' the log file into the database. If you use SQL logging, you can use logging variables (see 7.8.2 below) in your SQL statements.

HTTP GET logging requires a suitable 'receiving process' to exist, such as a PHP script, a DHTML page, or an ASP page. You can use logging variables in the parameters you send.

Shoutcast and **Icecast2** logging sends Title and Artist update information to the stream server, to be shown on the listener's player, but you can use any logging variables in the log entry you send. Unlike all other logging types, these entries are sent **only** when an item is started.

7.8.2 Logging Variables

In all log types, you can use **variables**, which are replaced by their values at the moment a log entry is written or sent. For example, when an item by *Talking Heads* starts playing, the variable **%a** in a log entry, SQL statement, etc. is replaced by the text **Talking Heads**. Note that you can also use variables in the **Filename** for the **Log file** type (see 7.8.3 on page 64), and in many other places in *mAirList*, such as in Actions (see 4.1 on page 25). A complete list of the variables is shown below.

Log Variable	Description	Restricted to ...
%t	Tab character (ASCII character code 9)	
%Y	Current year (four digits)	
%y	Current year (two digits)	
%M	Current month (two digits)	
%D	Current day of the month (two digits)	
%h	Current hour (two digits)	
%m	Current minute(two digits)	
%s	Current second (two digits)	
%T{*string*}	Formatted current date/time: *string* is a time format string (see Table 7.2 on page 44).	
%e	Broadcast duration (seconds and milliseconds)	Stop Entry Format
%d	Broadcast duration (1/10,000,000 second units)	Stop Entry Format
%1	File name including drive and full path	Audio file items
%2	File name and extension (no drive or path)	Audio file items
%3	File name (no extension)	Audio file items
%a	Artist(s)	
%b	Title	
%i{*tag*}	Value of a file's tag: *tag* is the tag name (for example: **TALB** is the MP3 *Album* tag's name)	Audio file items
%C	*mAirList* Comment/Description	
%J	*mAirList* Type (**Station ID**, **Music**, **Voice Track**, etc.)	
%I	*mAirList* internal Type (**StationID**, **Music**, **Voice**, etc.)	
%u{*attr*}	*mAirList* Attribute value: *attr* is the attribute name	
%E	*mAirList* Ending Type value	
%c{*point*}	*mAirList* Cue Marker time in 1/10,000,000 seconds *point* is the Cue Marker name (**Cue In**, **Outro**, etc.)	
%g	*mAirList* internal GUID of ***this*** playout of the item (items have a *different* GUID each time they are played)	
%U	*mAirList DB* internal (unique) ID number	*mAirListDB* items
%X	*mAirList DB* external ID value	*mAirListDB* items

Table 7.5: Logging Variables

Notes:

- All variables begin with the **%** character, followed by a letter or number, and sometimes followed by more information enclosed in braces { }.
- The **case** of the letter after **%** must be typed **exactly** as shown. For example, **%m** is the current minute of the hour, but **%M** is the current month shown as two digits.
- Variables are usually part of a longer string. Other characters in the string are interpreted literally, so the string **%Y-%M-%D log.txt** would become (for example) **2011-11-27 log.txt**.
- Use **%t** (an ASCII **tab** character) to separate items in the log entry if you want to create a tab-delimited file suitable for direct import into a spreadsheet or database application.
- The **Restricted to ...** column shows 'restrictions' on a log variable. For example, some variables only have a value when they are in a Stop Entry Logging string, or only when the item being logged is an audio file.

7.8.3 Log File

This Logging type writes log entries to a plain text file.

Filename is the fully-qualified name of the file, and can include logging variables. A commonly-used filename is ***drive*:\path\\%Y-%M-%D.LOG**. This creates a new log file each day.

Overwrite this file each time a log entry is written (default: **off**): Turn this setting **on** if you want to create a new log file each time an entry is written. You may want to do this if, for example, you are creating a text file which is used to update an RDS encoder or a Web page.

Start Entry Format is the format of the log entry written when an item is started in *mAirList*.

Stop Entry Format is the format of the log entry written when an item is stopped in *mAirList*. This includes items which are 'stopped' by reaching EOF.

Entry Formats can (and almost always do) include logging variables. To prevent Start or Stop logging, clear the entry format, making sure that you do not leave any spaces[20] in the box.

7.8.4 SQL Database

Because subsequent mAirList *logging may be delayed if* mAirList *cannot connect to your database server, you may prefer to write SQL statements to a log* ***file*** *for later processing by your database server instead of writing direct to the database.*

This Logging type submits SQL statements to a SQL database server for immediate processing.

The ZeosLib library used by *mAirList* to do this supports a number of SQL server types: to view a list of the supported server types, click the **List of supported protocols…** button on the dialog. Note that the version numbers in the list are the version numbers of the *client DLL* you use to connect to the server, and **not** the version of the database server itself.

In a default installation, *mAirList* only provides *PostgreSQL version 7* and *SQLite version 3* client DLLs, because these are the client DLLs required by *mAirListDB*. If you need to connect to a different type of database server, you must ensure that you have the correct client DLL installed, either in your *mAirList* program folder, or in a folder which is in your computer's 'path' (that is: accessible by all programs). Please also check that your database server's licensing allows you to use the client DLL.

URL defines both the type of database server and the location of the database you want to use, in the form *protocol://host[:port]/database*, where:

Protocol is the type of database server: to view a list of the supported server types, click the **List of supported protocols…** button on the dialog. So for example, if your database is a *SQLite version 3* database, you would type **sqlite-3** as the *protocol*. Note that this is the version of the client DLL you use to connect to the server, and **not** the version of the server itself.

Host is the network name of the database server, optionally followed by a port number.

Database is the name of the database within your SQL server.

User and **Password** are the SQL user name and password you want *mAirList* to use when connecting to your database. You can leave these fields blank if your database server does not require a login.

SQL Statements (**On Start** and **On Stop**) are the SQL statements you want to write when an item is started or stopped in *mAirList*. If you only want one type of logging, leave the other box blank.

Usually, the SQL Statements are either SQL INSERT statements or statements which call a stored procedure. These statements can (and almost always do) include logging variables. Note that *mAirList* adds quotes around each logging variable in the generated statements, so the following SQL statement in the dialog:

- INSERT INTO playlist (starttime, artist, title) VALUES (NOW(),%a,%b)

creates a generated SQL statement like:

- INSERT INTO playlist (starttime, artist, title) VALUES (NOW(), 'Madonna', 'Vogue')

[20] If you leave spaces in the Entry Format box, *mAirList* writes a log entry containing only spaces.

This means that if you want to combine logging variables into a single value, you must use the SQL CONCAT function. For example, the following SQL statement in the dialog:

- INSERT INTO playlist (starttime, song) VALUES (NOW(), CONCAT(%a, ' - ',%b))

creates a generated SQL statement like:

- INSERT INTO playlist (starttime, song) VALUES (NOW(), 'Madonna - Vogue')

Be careful which logging variables you include in a SQL Statement: ensure that every logging variable you specify will have a valid value when the SQL statements are generated.

7.8.5 HTTP GET

***HTTP GET** Playout Logging requires a PHP or similar script; an ASP or DHTML or other 'scripted' Web page or similar; or any other process which can accept parameters specified as part of its URL.*

This Logging type uses an HTTP GET call to send information to a Web server. It is often used (for example) to run a server-side script to update 'now playing' information on a public Web site.

Base URL is the URL of the page or script. For example: **http://myserver.com/script.php**

Parameters is the list of parameters (names and values) to be added to the Base URL when the HTTP GET call is generated. For example: a name of **artist** with the value **%a**, a name of **title** with the value **%b**, and using the example Base URL above, creates an HTTP GET call like:

- http://myserver.com/script.php?artist=Madonna?title=Vogue.

You can specify as many parameters as you wish. Press Insert or the down-arrow key to add lines; blank out both Name and Value to delete a line.

Authentication allows you to optionally add a **User** and **Password** if you need to use these to access your Web server. Otherwise, leave these boxes blank.

Tick the **Scope** checkboxes to specify whether the HTTP GET call is to be made when an item starts, stops, or both. If you want to use *different* HTTP GET calls when items start and stop, note that you need to add **two** HTTP GET Logging items: one for start and one for stop.

7.8.6 Shoutcast

Shoutcast** Playout Logging is only needed if you use an **external** Shoutcast audio stream encoder (for example, you use a mixer to mix* mAirList *output with other sources, then encode the mixer output on a separate computer). The **built-in mAirList *Shoutcast encoder streams title updates automatically.*

This Logging type sends information to an external Shoutcast audio stream server when an item **starts**. **Stop** logging is not possible in Shoutcast audio streams.

Server URL is the URL of the external Shoutcast audio stream server.
For example: http://myshout.com:8000

Password is the stream or admin password for the external Shoutcast audio stream server. This is transmitted as a parameter in the URL.

Log Format is the title update information you want to send to the external Shoutcast audio stream server when an item **starts**; usually, this information includes logging variables for title, artist, etc. You can optionally delay these updates by a number of seconds so that they are in sync.

7.8.7 Icecast2

Icecast2** Playout Logging is only needed if you use an **external** Icecast2 audio stream encoder (for example, you use a mixer to mix* mAirList *output with other sources, then encode the mixer output on a separate computer). The **built-in mAirList *Icecast2 encoder streams title updates automatically.*

This Logging type sends information to an Icecast2 audio stream server when an item **starts**.
Stop logging is not possible in Icecast2 audio streams.

Server URL is the URL of the external Icecast2 audio stream server.
For example: **http://myshout.com:8000**

Mount point is the name of the Icecast2 mountpoint for which your encoder is acting as a source
This is needed because Icecast2 supports more than one stream.
For example: **/myFM.ogg** or **/128k.mp3**.

User Name and **Password** is the stream or admin user name and password for the external Icecast2 audio stream server.

Log Format is the title update information you want to send to the external Icecast2 audio stream server when an item **starts**; usually, this includes logging variables for title, artist, etc. You can optionally delay these updates by a number of seconds so that they are in sync.

7.9 *Databases*

These settings connect one or more audio databases for use by *mAirList*.

An audio database contains lists of audio files and information (metadata) about the files, such as title, artist, and album; and it may contain playlists as well. *mAirList* supports several types of audio databases, but the built-in *mAirListDB* database was specifically developed to store **all** the metadata used by *mAirList*; such as Cue Markers, whether a file should be excluded from logging, etc. If you do not already use an audio database, we strongly recommend that you create a *mAirListDB* database as described in *mAirListDB Audio Database*, beginning on page 105.

You can search any audio database connected to *mAirList* from the Browser, and you can also add Browser tabs to show an individual audio database's contents; for *mAirListDB* and *iTunes* audio databases, you can add a Browser tab to show the stored playlists it contains.

- To **add** a database connection: click **Add…**, choose a database type from the menu, then configure it as described below.
- To **remove** a database connection: select it in the list, then click **Remove**.
- To **modify** a database connection, or to change its settings: select it in the list, click **Configure**, then configure it as described below.
- To **test** a database connection: select it in the list, then click **Test**.

The rest of this section contains descriptions of each supported audio database type.

All database connection Configure/Setup dialogs contain two or more tabs, including an **Advanced** tab in which you can type a **Custom Caption** or 'user-friendly' name for the database which is shown by *mAirList* in (for example) the Browser.

Most of the database connection Configure/Setup dialogs contain a **Connection** tab, where you specify the Protocol (server) type, host (computer name) and database name, and login information. You should be able to obtain this information from your database documentation.

7.9.1 mAirListDB (network mode)

See **mAirListDB Audio Database**, beginning on page 105.

7.9.2 mAirListDB (local mode)

See **mAirListDB Audio Database**, beginning on page 105.

7.9.3 Script

In a similar way to a notification script (see 7.10 on page 68), a Script database is a *mAirList* script containing procedures that are run when the user (or *mAirList*) browses, searches, or retrieves data from the Script 'database;' for example, loading a Database playlist. The script can retrieve these data from any desired source, such as an external SQL database or a music scheduler product.

Describing how to write such a script is outwith the scope of this manual, but a 'template' script, and a working example script to access an eldoDB database, are in the scripts\database folder in your *mAirList* root data folder. For further advice or assistance, please use the *mAirList* Forum.

7.9.4 eldoDB

eldoDB is a now-obsolete database, hosted on a *MySQL* server, which was shipped with early versions of *mAirList*. To connect to an eldoDB database, you need a copy of the appropriate MySQL client DLL in your *mAirList* program directory (see the eldoDB documentation for details).

On the **Settings** tab, you must also specify the **Base Folder** ('root directory') of your eldoDB Music Archive, *as seen from your* mAirList *computer*.

7.9.5 radioDB2

radioDB2 is a database programmed as an add-on for *mAirList* by Christopher Kramer, and hosted on a *PostgreSQL* server. To connect to a radioDB2 database, you need a copy of the appropriate PostgreSQL client DLL in your *mAirList* program directory (see the radioDB2 documentation for details).

On the **Settings** tab, you can also specify:

- **Base Folder** ('root directory') of your audio files, *as seen from your* mAirList *computer*.

- If your radioDB2 database contains *absolute* path names, use **Strip Path** to specify the part of the path which *mAirList* should remove (strip) from the beginning of file names; leave **Strip Path** blank if your radioDB2 database contains *relative* path names. In both cases, *mAirList* uses the Base Folder to access your audio files.
- Type a slash (/) in **Path Delimiter** if your radioDB2 database was created on Linux. *mAirList* substitutes any slash character in file names with backslashes.
- Leave **Encoding** blank unless you need to specify a particular character set to communicate with your radioDB2 database.

7.9.6 SAM Broadcaster V4

SAM Broadcaster V4 (SAM4 for short) is Internet broadcasting software written by Spacial Audio Solutions LLC. The database server used to host the SAM4 music database depends on the type of install. To connect to a SAM4 database, you need a copy of the appropriate database client DLL in your *mAirList* program directory (see the SAM4 documentation for details).

mAirList can access a subset of the information stored in a SAM4 database, including the title, artist, comment, duration, and some Cue Marker data.

7.9.7 On The Fly

An *on-the-fly* (OTF) database is strictly speaking not a database, but an XML file created by *mAirList* when it opens, which you can then use in a Database Search pane in the Browser. This ‘database’ format was created before *mAirListDB* existed, and you **should not** use OTF ‘databases’ except for compatibility with existing *mAirList* installations: create a local *mAirListDB* instead.

If you use OTF ‘databases,’ expect *mAirList* startup to be delayed by several **minutes**. If you have configured *mAirList* is to use Auto Cue (this is the default: see 7.13.4 on page 75), creating an OTF database invokes Auto Cue for all ‘new’ audio files, delaying *mAirList* startup even more.

On the **Settings** tab:

- Specify the **Folder** to recursively scan for audio files.
- Tick the **Use cache file** checkbox (default: cleared) to save the OTF ‘database cache’ file (OnTheFlyCache.mlp) when you close *mAirList*. When you next open *mAirList*, it reads the cache file instead of examining each audio file; this usually reduces the *mAirList* startup delay significantly.
- Tick the **Automatically re-scan at startup** checkbox (default: cleared) to update the OTF ‘database cache’ file (OnTheFlyCache.mlp) each time you open *mAirList*, to remove missing files and add new ones (including Auto Cue if enabled). This setting has no effect if the **Use cache file** checkbox is not ticked.

NOTE: To re-scan an OTF ‘database’ while *mAirList* is running, open it in the Browser, right-click its name, then click **Disconnect**. Right-click its name again and click **Connect**. This performs the same processing as at startup (including Auto Cue if enabled), so it may take some **minutes** to complete.

7.9.8 iTunes

iTunes is a freeware media player and media database written by Apple Corporation, which stores audio file information and playlists in a ‘database’ which is an XML file. Usually, this file is named iTunes Music Library.xml.

mAirList can access the iTunes title, artist, and comment fields, and iTunes playlists.

On the **Settings** tab:

- Specify your **iTunes Music Library.xml File** location and name.
- If you need to substitute paths to audio files (perhaps because the iTunes ‘database’ is on a different computer), type the drives and paths in the **Replace...** and **With...** boxes.
  For example: if the path and file name in iTunes is d:\iTunes\Madonna-Vogue, but this location would be i:\Madonna-Vogue as viewed from your *mAirList* computer, type **d:\iTunes** in the **Replace...** box and **i:** in the **With...** box.
- If you want to use iTunes playlists in *mAirList* (for things like a Database Playlist Browser), you must specify an **Hourly Playlist Pattern** (see below). You should ensure that each iTunes playlist you intend to use in *mAirList* has a total duration of *at least* sixty minutes.

Because iTunes playlist names are free form, *mAirList* needs to know the **pattern** it should look for to identify hourly playlists: the **Hourly Playlist Pattern**. The pattern is built using logging variables (see Table 7.5: Logging Variables on page 43).

The default pattern is: **mAirList-%Y-%M-%D-%h**, which means for example that the playlist for 0500 on 11th January 2010 would be named in iTunes as **mAirList-2010-01-11-05**. If you use a different playlist naming system in iTunes, change the Hourly Playlist Pattern to match; the **Sample:** changes as you type, to show you the generated playlist name for the current hour.

7.9.9 audimark

audimark GmbH are a German marketing company who provide pre-packaged hourly commercial breaks to German and Austrian Internet broadcasters. Subscribing broadcasters are paid fees for broadcasting the commercials. See the German language *mAirList* manual for more details.

mAirList can show audimark commercial breaks in the Browser as a 'database' containing one item per commercial break. *mAirList* assumes that the audimark software is installed on the same computer as *mAirList*, so the only information you need to supply on the **Settings** tab are your normal or 'administrator' audimark **User** and **Password**.

7.10 Notification Scripts

These settings specify the names and locations of any 'notification' scripts (see 12.1 on page 119) which you want to run in the background while *mAirList* is open.

- To **add** a notification script: click **Add…**, navigate to an choose an **.mls** file from the dialog, then click **Open**.
- To **remove** a notification script: select it in the Notification Scripts list, then click **Remove**.

7.11 Actions

These settings specify Actions (see 4.1 on page 25) which are:

- shown as items in the **Action** menu[21] on the *mAirList* main toolbar,
- run just after *mAirList* opens,
- run just before *mAirList* closes,
- run if the playlist 'runs empty' during Automation playback,
- run when entering ON AIR mode, and
- run when entering OFF AIR mode.

To modify any of these Action lists, select the list you want to work with from the dropdown, then use the toolbar below the dropdown to add, configure, or remove items from the list. To change the order of list items, drag an item to the position you want.

To rename any item, select it, click **Configure**, then on the **Option** tab, specify a **Custom Caption**. The item's name in the Action list changes to the Custom Caption you specify.
We especially recommend that you do this for all **Action Menu** items, because the Custom Caption you specify is the menu item's text in the Action menu.

Tip: To specify a keyboard accelerator for an Action Menu item, precede the accelerator letter in the Custom Caption with an ampersand (**&**). For example, the Custom Caption: **Add &Icons to items** specifies **I** as the accelerator, so in the Action Menu, the user can press Alt+I to 'run' the Action (in the Action menu, the menu item would display as **Add <u>I</u>cons to items**).

If you make **any** changes to **any** list, *all six* lists are saved in your *mAirList* config folder as the files:

- **MenuActions.mla** for Actions shown as menu items on the *mAirList Action menu*,
- **OffAirActions.mla** for *When entering OFF AIR mode* Actions,
- **OnAirActions.mla** for *When entering ON AIR mode* Actions,
- **PlaylistEmptyActions.mla** for *When Playlist runs empty during automation* Actions,
- **StartupActions.mla** for *After Startup* Actions, and
- **ShutdownActions.mla** for *Before Shutdown* Actions.

[21] The **Action** button and menu do not appear in the *mAirList* toolbar unless the **Action Menu** list contains at least one entry.

7.12 *Miscellaneous*

7.12.1 File Import

The first time you open any given audio file in *mAirList*—whether by adding the file to *mAirListDB*, putting the file into a *mAirList* playlist or player, or opening the file in *mAirList*'s file tagging program—*mAirList* examines the file to determine information such as artist, title, and duration; and by default (see 7.13.4 on page 75), *mAirList* automatically determines the file's Cue In, Fade Out, and Cue Out Cue Markers. This process is known as 'importing' an audio file.

The File Import Options affect various aspects of file import processing.

Import description from file tags (default: **on**)
If this setting is **on**, *mAirList* imports Genre and Comment tags if they exist in the audio file.

Import file tags as attributes (default: **on**)
If this setting is **on**, *mAirList* imports tags such as Genre, Track Number, Album, and Year as Attributes. If you use *mAirListDB*, Attributes are automatically shown as nodes in the Library tree.

Import album artwork from file tags (default: **off**)
If this setting is **on**, *mAirList* imports album artwork if it exists in the audio file's tags. If it exists, imported album artwork is shown as the item's icon in Playlists.

Import Date field in Vorbis Comments as Year (default: **off**)
If this setting is **on**, *mAirList* uses the Date field in an OGG or FLAC file to set the Year Attribute.

Import MusiFile Outro markers as Fade Out (default: **off**)
If this setting is **on**, *mAirList* uses the MusiFile[22] Outro marker to set a Fade Out Cue Marker.

The next three options provide compatibility with the file naming convention used by *Raduga* radio automation software, where file names end in a ~ character followed by a number
(for example: **Kiss - Crazy Crazy Nights~5.mp3**). This indicates the number of seconds before end of file where the next track should be started. *mAirList* can use this number to set Cue Markers.

Import ~ in filename as Start Next (default: **off**)
If this setting is **on**, *mAirList* uses the number to set a Start Next Cue Marker.

Import ~ in filename as Outro (default: **off**)
If this setting is **on**, *mAirList* uses the number to set an Outro Cue Marker.

Import ~ in filename as Fade Out (default: **on**)
If this setting is **on**, *mAirList* uses the number to set a Fade Out Cue Marker; this takes priority over the standard *mAirList* Auto Cue processing for Fade Out (see 7.13.4 on page 75).

Strip leading and trailing whitespace from tag data (default: **on**)
If this setting is **off**, any leading or trailing spaces in tag information are not removed.

The next three options allow you to control how *mAirList* uses **ReplayGain** tags in audio files.

Import ReplayGain as Amplification (default: **on**)
If this setting is **off**, any ReplayGain values in file tags are ignored.

Use Album ReplayGain values if available (default: **on**)
If this setting is **off**, *track* ReplayGain values are used in preference to *album* ReplayGain values.

Prevent clipping when using ReplayGain amplification (default: **on**)
If this setting is **off**, ReplayGain values are not checked for clipping during import.

You can optionally use **Central folder for MMD files** to specify a folder where *mAirList* stores **all** .mmd files (normally, .mmd files are stored in the same folder as the related audio file). You may wish to do this to secure your .mmd files from accidental amendment or deletion, or to reduce the total number of files in folders containing audio files for performance reasons.

You can optionally use **Default Item Type for Imported Files** to specify a default Type for files.

[22] MusiFile is an MP2 audio file format developed by DAVID Systems GmbH which contains cue point information. These files usually (but not always) have the extension **.mus**.

7.12.2 File Repository

These settings allow you to specify jingles or other audio files which *mAirList* automatically adds to a **hook container** item when you create it (see 3.3.5on page 24 for more details).

You can specify an **opener** (played *before* a set of 'hooks'), a **sweeper** (played *between* each 'hook' in a set), and a **closer** (played *after* a set of 'hooks').

7.12.3 Attributes

These settings allow you to define custom Attribute names and a set of permitted values for each custom Attribute, which you can use later when tagging files. For example, you could add an Attribute named *Decade* and specify permitted values of *pre-1950, 1950s, 1960s*, etc. Later, if you manually add the *Decades* Attribute name to a file's Properties, a drop-down is shown in the Value column on the Attributes tab, from which you can select one of the permitted values.

If you use *mAirListDB*, Attributes are automatically shown as nodes in the Library tree.

Note that removing custom Attributes from this list does **not** remove the Attributes from your .mmd files, internal file tags, or *mAirListDB* database.

7.12.4 File Management

These settings affect the internal management of audio files.

***NOTE: Do not** use these settings unless* mAirList *support staff have advised you to do so, because using **any** of these settings can adversely affect* mAirList *performance. These settings exist **only** to resolve specific known problems which occur **very rarely**.*

Enable File Management (default: **on**)
If this setting is **on**, *mAirList* handles all audio file I/O, then passes the loaded audio files to the BASS engine for playout (this resolves a few rare but specific known problems).
If this setting is **off**, the BASS engine handles all audio file I/O.

Load entire file into RAM if smaller than (0 = disable) (default: **0**)
*This setting has no effect if **Enable File Management** is **off**.*
If your audio files are stored on slow media (for example, on a remote Web server), playout can 'stutter' or suffer gaps. Performance may be improved by loading entire files into RAM, up to the maximum file size you specify. The spin buttons increase/decrease this upper limit in 128KB steps, or you can type a value into the box. Only values between **0** and **32,767** (inclusive) are allowed.
A value of **0** (the default) disables this feature.
For any value above **0**, *mAirList* loads audio files up to that size into RAM, and loads players from the RAM copies of the files.

Cache network files (default: **on**)
*This setting has no effect if **Enable File Management** is **off**.*
If your audio files are stored on a slow network (for example, on a geographically remote file server), playout can 'stutter' or suffer gaps. Performance may be improved by caching network files (making a temporary copy of the file on the *mAirList* computer).
If this setting is **on**, *mAirList* makes temporary copies on the local disk of any audio files stored on a network, and loads players from the local copies of the files unless you also specify a
Load entire file into RAM if smaller than size, in which case players are loaded from the RAM copies of the cached files.
If this setting is **off**, *mAirList* loads players directly from the network files, unless you also specify a
Load entire file into RAM if smaller than size, in which case players are loaded from the RAM copies of the network files.

7.12.5 Runtime Features

These settings allow you to disable specific *mAirList* features, which are described below.
To disable a feature, clear its checkbox; to enable a feature, tick its checkbox.
By default, all these settings are **enabled** (ticked) except for **Popup menus in folder browsers**.

Extra PFL Player
When disabled:

- The **PFL** and **This Playlist..., PFL** items are not shown in the playlist context menu.
- Clicking a playlist icon opens the Item Properties dialog General tab (not the PFL tab).
- The **Extra PFL** item is not shown in the cartwall player context menu.
- Clicking the **PFL** tab in any Item Properties dialog in any *mAirList* program shows a **Start PFL** button instead of beginning PFL immediately.

Item Properties dialog
When disabled, the **Properties** item is not shown on the playlist context menu or on the cartwall player context menu. *mAirListTag* and *mAirListDB* are unaffected.

Save to Tag in Item Properties and PFL dialogs
When disabled, the **File Tag** button is not shown in the **Export to...** box on the Item Properties and PFL dialogs in any *mAirList* program.

Save to MMD in Item Properties and PFL dialogs
When disabled, the **Metadata File** button is not shown in the **Export to...** box on the Item Properties and PFL dialogs in any *mAirList* program.

Save to Database in Item Properties and PFL dialogs
When disabled, the **Database** button is not shown in the **Export to...** box on the Item Properties and PFL dialogs in any *mAirList* program. Note that even if this setting is disabled, clicking **OK** on an Item Properties dialog in *mAirListDB* **does** still save the changes to the database.

Mixdown
When disabled, the **Mixdown selection** and **This Playlist..., Mixdown...** items are not shown on the playlist context menu.

Attributes tab in Item Properties dialog
When disabled, the **Attributes** tab is not shown on the Item Properties dialog in any *mAirList* program. Note that even if this setting is disabled, *mAirListDB* **does** show Attributes nodes in the Item tree on the Library tab if any Attributes are stored in the database.

Popup menus in folder browsers
When enabled, right-clicking any item in a folder browser (including the folder tree in *mAirListTag*) opens the standard *Windows Explorer* context menu.

Option menus in playlist context menu
When disabled, the **Options**, **GUI Options**, and **Progress Bar** sub-menus are not shown on the playlist context menu.

Option menus in player context menu
When disabled, the **Options**, **GUI Options**, and **Progress Bar** sub-menus are not shown on the player context menu.

Save default desktop in main toolbar
When disabled, the **Save desktop as default template** item is not shown on the **Save** button menu on the main *mAirList* toolbar.

7.12.6 Serial Ports

These settings allow you to set the parameters for each serial port used by *mAirList* (for example, for serial port logging, or for communication with SAS mixers).

mAirList shows a separate tab in the dialog for each serial port on your computer. On each tab, you can specify the standard serial port parameters of Baud rate, Byte size, Parity, Stop bits, and the sizes of the transmit and receive buffers (in bytes).

The defaults are the Windows COM port settings, which you can view in Windows *Device Manager*. Typically, these settings are **9600**, **8**, **N**, **1**, **1024**, and **1024**.

7.12.7 Settings

These settings control some ‘global’ *mAirList* features and options.

Default automation fade time (default: **5000 mS**)
The default duration (in mS) of a fade out in automation mode.

End Mon duration (default: **15 seconds**)
mAirList PFL dialogs contain an **END MON** (ENDing MONitor) button which you click to listen to the ending (‘last *n*’ seconds) of an audio file as defined by this setting, which is relative to the Fade Out Cue Marker if this is set, or relative to EOF if no Fade Out Cue Marker exists.

Process priority (default: **Normal**)
***Do not change this setting unless* mAirList *support staff have advised you to do so. Changing the priority of any process can adversely affect your computer’s performance, or lock it up entirely*.**
The Windows process execution priority of *mAirList*.

Recycle bin size (0 = unlimited) (default: **100**)
The maximum number of items which are kept in the *mAirList* Recycle Bin before being deleted[23].
Specify **0** if you do not want to limit the number of items in the *mAirList* Recycle Bin.

File extensions
File name extensions (for example, .mlp) which are ‘registered’ with Windows can be double-clicked in *Explorer* to open them with the recommended program (in this case, *mAirList*).
Click **Register** to register all *mAirList* data file types with Windows.
Click **Unregister** to remove the registration of all *mAirList* data file types with Windows.

Format for Custom Text Playlist Export (default: **blank**)
The format string to use when saving a Playlist as a Custom text file. The string usually contains logging variables (see 7.8.2 on page 63). If the string is blank (empty), an empty text file is created.

7.12.8 Options

These settings define some miscellaneous options.

Regard Start Next marker as EOF (default: **off**)
If this setting is **on**, item durations use the Start Next marker point (if it exists) as EOF.

Regard Fade Out marker as EOF (default: **on**)
If this setting is **on**, item durations use the Fade Out marker point (if it exists) as EOF.

Use Cue Out marker for end of fade (default: **off**)
If this setting is **on**, the default fade duration is ignored and fade duration is the time between the Fade Out and Cue Out marker points. This setting has no effect if no Cue Out marker exists.
Note that even if this setting is **off**, the Cue Out marker point **will** be used for end of fade if the time between the Fade Out and Cue Out marker points is less than the default fade duration.

Use Outro marker for EOF warning (default: **on**)
If this setting is **on**, all Players start their EOF warning at the Outro marker point, if it exists.
Although this setting *overrides* the individual Player and Cartwall EOF Warning time settings, those settings **are** used if an item does not contain an Outro marker.

Allow only one instance of mAirList to run at the same time (default: **off**)
If this setting is **off**, more than one instance of *mAirList* can be opened on the same computer.

Start in ON AIR mode (default: **on**)
If this setting is **off**, *mAirList* opens in OFF AIR mode.

Disable logging when OFF AIR (default: **on**)
If this setting is **off**, items are logged while *mAirList* is in OFF AIR mode.

Show splash screen (default: **on**)
If this setting is **off**, *mAirList* does not show its ‘splash’ screen during startup.

Enable remote controls in mAirListTag and mAirListDB (default: **off**)
If this setting is **on**, Remote Controls operate in the *mAirListTag* and *mAirListDB* programs.

Debug mode (default: **off**)
If this setting is **on**, it enables the detailed reporting of certain errors which would normally only be reported in the *mAirList* System Log.

[23] Only *details* of items are deleted from the *mAirList* Recycle Bin. The audio files are **not** deleted from disk.

7.12.9 Passwords

These settings allow you to optionally specify passwords to protect *mAirList* from configuration changes or accidental shutdown.

The passwords are stored (with a simple encryption) in the **passwords.ini** file. Deleting this file removes password protection, so if you use passwords, we recommend that you write-protect the passwords.ini file after you set the passwords.

Configuration password (default: **blank**)
If specified, you must type this password to use the *mAirList* configuration program.

Shutdown password (default: **blank**)
If specified, you must type this password to shut down *mAirList*.

7.12.10 System Log

These settings allow you to optionally write *mAirList* System Log messages to a text file.

Filename (default: **blank**) is the fully-qualified name of the file, and can include logging variables (see 7.8.2 on page 63). A commonly-used filename is ***drive*:\path\\%Y-%M-%D.SYSTEM.LOG**. This creates a new log file each day. Blank out Filename if you do not want to create system log files.

Message Categories are the message categories to be written to the system log file (default: **all**). Tick its checkbox to write a message category to file; clear its checkbox if you do not want to write a message category to file.

7.13 Modules

You cannot change any settings on this node. This node simply shows the *mAirList* program **modules** which are Enabled or Disabled, according to the type of *mAirList* licence you purchased. If a module is in the Disabled Modules list, you cannot use its functions in *mAirList*.

To read a description of what each module does, see Module Descriptions, beginning on page 126.

You can alter the settings of some modules. These settings have their own nodes in the menu tree.

7.13.1 BASS.DLL

These settings apply to BASS, the audio engine used internally by *mAirList*.

***NOTE: Do not** change these settings unless* mAirList *support staff have advised you to do so, because changing **any** of these settings may adversely affect* mAirList *performance. These settings exist **only** to resolve specific known problems which occur **very rarely**.*

Performance tab

Update period (ms) (default: **100 mS**)
The time between BASS reports of playback positions, player states, etc.

Network buffer size (ms) (default: **5000 mS**)
The time between internal BASS buffer updates when playing audio files stored on a network drive.

Network pre-buffer amount (%) (default: **75%**)
The percentage of an audio file which BASS ‘pre-buffers’ when playing audio files stored on a network drive.

The following two settings apply **only** to audio fetched or sent via HTTP or FTP, such as an incoming or outgoing stream. *They do **not** apply to files accessed from a LAN or other non-Internet sources.*

Network connection timeout (seconds) (default: **5 seconds**)
The time allowed for an external server to respond to a connection request from *mAirList*.

Network read timeout (seconds) (default: **0 seconds** = no timeout; maximum: **32767** seconds)
The time allowed to wait for an external server to deliver more data for a stream. This setting is useful for detecting ‘stalled’ or disconnected streams, or to force a Player playing a stream to consider a stream as ‘ended’ after the specified period of time.

The **Info** tab lists the installed BASS DLLs and their version numbers, as well as information about any BASS plugins you have installed.
Note: To install BASS plugins, copy the DLL files to the **plugins\bass** folder in your *mAirList* root data folder. (To locate your *mAirList* root data folder, see 7.14.1 on page 77.)

7.13.2 WDM Audio

These settings apply to audio devices which use standard WDM (Windows Driver Model) drivers. Most audio devices use this type of driver.

***NOTE:** We suggest that you do **not** change these settings unless you are an advanced* mAirList *user. Most of these settings can adversely affect* mAirList *performance or stop audio output completely if they are changed from their default setting.*

To change the settings for a WDM audio device, select it from the dropdown, which lists all detected WDM audio devices installed on the computer.

Click **Info…** to open a message box listing basic information about the selected device, such as number of speakers and sample rate.

Output sample rate (default: **44100**) is the sample rate used to send audio output to the device.

Buffer size (default: **500 mS**) is the duration of audio BASS keeps in its internal buffer for the device.

Force multichannel output (requires restart) (default: **off**)
Some multiple output audio device drivers incorrectly report themselves to BASS as single output devices: changing this setting to **on** can correct this problem. Note that if you change this setting, you must close and re-open *mAirList* for the change to take effect.

Ignore speaker assignment (requires restart) (default: **off**)
Some multiple output audio device drivers report their speaker outputs incorrectly to BASS: changing this setting to **on** can correct this problem. Note that if you change this setting, you must close and re-open *mAirList* for the change to take effect.

Disable hardware mixing (BASS_SAMPLE_SOFTWARE) (default: **off**)
Normally, BASS uses the device driver to perform audio mixing. With some audio device drivers, this can cause playout problems when two or more items are playing simultaneously. Changing this setting to **on** can correct this problem by forcing BASS to mix audio internally, before sending the mixed output to the device driver.

Use application-level software mixing (default: **off**)
With some audio device drivers, the **Disable Hardware mixing (BASS_SAMPLE_SOFTWARE)** setting does not correct playout problems when two or more items are playing simultaneously. Changing this setting to **on** can correct this problem by forcing *mAirList* to mix audio internally, before sending the mixed output to BASS.

Use single multichannel link for software mixing (default: **off**)
When mixing audio output for an audio device with multi-channel outputs, *mAirList* will by default use a separate (internal) mixer for each output pair. If you use such an audio device, and it has problems handling separate streams for each of its output pairs, switch this setting **on** to have *mAirList* use a single (internal) mixer for the entire device instead.

Use floating point data (BASS_SAMPLE_FLOAT) (default: **on**)
When this setting is **on**, it enables a BASS option which uses floating-point data internally. Some audio devices cause BASS to report inaccurate durations unless this setting is **on**; while some audio devices cannot handle this sample format. In particular, we recommend that you switch this setting **off** if you need to switch the **Use single multichannel link for software mixing** setting **on**.

High precision cueing for VBR files (BASS_STREAM_PRESCAN) (default: **off**)
When this setting is **on**, it enables a BASS option which pre-scans audio files. BASS almost always reports inaccurate durations for variable bit rate audio files unless this setting is **on**.

Pitch and tempo adjustment using BASS_FX.DLL (default: **off**)
When this setting is **on**, the PFL tab of the Item Properties dialog in *mAirList*, *mAirListTag*, and *mAirListDB* show **Pitch** and **Tempo** sliders. The settings of these controls are saved in an item's Properties. Unless you use pitch or tempo, leave this setting **off** for best performance.

Keep device open (default: **off**)
Normally, *mAirList* closes WDM audio devices when playout ends and re-opens them when playout begins again. With some audio device drivers, this either causes a noticeable delay when playout restarts, or 'cuts off' the beginning of items. Changing this setting to **on** keeps the audio device permanently open, which *may* correct those problems.

7.13.3 ASIO Audio

These settings control *mAirList* and BASS settings for audio devices which use ASIO (Audio Stream Input/Output) drivers. Typically, these are professional and/or digital audio devices.

***NOTE:** We suggest that you do **not** change these settings unless you are an advanced* mAirList *user. Most of these settings can adversely affect* mAirList *performance or stop audio output completely if they are changed from their default setting.*

To change the settings for an ASIO audio device, select it from the dropdown, which lists all detected ASIO audio devices installed on the computer. If the dropdown is empty, no ASIO audio devices are installed on the computer.

Click **Info…** to open a message box listing information about the selected device, such as number of outputs; and minimum, maximum, and default buffer lengths.

Click **Config…** to open the selected device's configuration dialog or control panel.

Output sample rate (default: **44100**) is the sample rate used to send audio output to the device.

Buffer size (default: **0**) is the number of samples sent per buffer to the selected ASIO device, in increments of 32 samples. Set this to match the device's buffer size. The smaller the buffer size you use, the lower the latency of the ASIO device will be.

High precision cueing for VBR files (BASS_STREAM_PRESCAN) (default: **off**)
When this setting is **on**, it enables a BASS option which pre-scans audio files. BASS almost always reports inaccurate durations for variable bit rate audio files unless this setting is **on**.

Pitch and tempo adjustment using BASS_FX.DLL (default: **off**)
When this setting is **on**, the PFL tab of the Item Properties dialog in *mAirList*, *mAirListTag*, and *mAirListDB* show **Pitch** and **Tempo** sliders. The settings of these controls are saved in an item's Properties. Unless you use pitch or tempo, leave this setting **off** for best performance.

7.13.4 Auto Cue

These settings allow *mAirList* to automatically determine and set Cue Markers when a previously 'unknown' audio file is loaded into *mAirList* or *mAirListTag*, or added to *mAirListDB*.

Each setting has a checkbox and a spin control to set the related value.

Automatically determine Cue In for new items (defaults: **on** and **-90dB**)
If enabled, Cue In is set to the point when audio level first rises above the level specified.

Automatically determine Fade Out for new items (defaults: **on** and **-30dB**)
*If **Import ~ in filename as Fade Out** is on (see 7.12.1 on page 69), it takes priority over this setting.*
If enabled, Fade Out is set to the point when audio level last falls below the level specified.

Automatically determine Cue Out for new items (defaults: **on** and **-90dB**)
If enabled, Cue Out is set to the point when audio level last falls below the level specified.

Limit time between Fade Out and Cue Out (defaults: **off** and **0 seconds**)
This setting has no effect unless Fade Out and Cue Out are both determined automatically.
If enabled, the time between Fade Out and Cue Out points is limited to the time specified.
Fade Out is determined first, then Cue Out. If the time between the two points exceeds the limit time you specify, the Cue Out point is moved to bring it within the limit time.
NOTE: Setting a Fade Out/Cue Out limit time may cause the ending of items to be 'cut off' when they are played in assist mode. Therefore, we recommend that you do **not** use this setting unless you **always** play items in automation mode.

7.13.5 Mixdown

These settings allow you to create 'mixdown profiles' for the *mAirList* Mixdown function, if you have enabled it (see 7.12.5 on page 71).

mAirList can internally mix down and encode a playlist (or parts of it) to a WAV file. To mix down to any other audio file format, you need an external audio encoder program (such as *LAME* for MP3 files or *OGGENC* for OGG files) which can be executed from the Windows *Command Prompt*; **and** you must create one or more *mAirList* 'mixdown profiles' for it. You may wish to create multiple profiles for an audio encoder, to create (for example) audio files of different bitrates.

The *mAirList* distribution includes the **oggenc.exe** audio encoder program, which is installed in the *mAirList* program folder.

To add a new mixdown profile:

1. Click **Add...**
2. On the **Edit Mixdown Settings** dialog, type a **Profile name**, a **File extension** for the generated audio files, and an **Encoder command line** (see below).
3. Click **OK**.

You can **Edit**, **Copy**, or **Delete** an existing mixdown profile by clicking the appropriate button.

Encoder command line

The command line you type must include the full drive and path to the external encoder program, as well as all necessary command-line parameters for that program.
TIP: If you copy the encoder program's EXE file into your *mAirList* program folder, you don't need to include a drive and path in the command line.

In the command line, type **-** where you would normally type the encoder's *input* file name, and **"$FILENAME"** where you would normally type the encoder's *output* file name.
For example, the command lines below create a 128 kbps MP3 and OGG file, respectively:

- **C:\lame\lame.exe -m s -b 128 - "$FILENAME"**
- **oggenc.exe -b 128 -o "$FILENAME" -**

7.13.6 Encoder

*NOTE: Most of these settings have no effect if you use an **external** audio stream encoder.*

These settings control the internal *mAirList* audio stream encoder, which sends a Shoutcast/Icecast format audio stream to an external Shoutcast/Icecast audio stream server. To use the internal *mAirList* audio stream encoder, you must send the audio from your *mAirList* Players to the **Encoder** device (see 7.5.1 on page 52).

There is also an option to **only** count listeners to a stream without sending to it. Use this option if you want to monitor the listener count for a stream created by an external audio stream encoder.

You can also create an encoder 'server' which writes to a local MP3, OGG, or WAV audio file. To do this, add a **File (aircheck)** encoder to the **Server** list and configure its settings. Note that you can request that a new file is created after a specified number of minutes elapses. As the name implies, this type of 'encoder' is useful for 'aircheck' recordings.

Use the **Metadata** tab to set up the stream's metadata such as Name, URL, title updates, etc.

7.13.7 Regionalisation

mAirList can provide 'split outputs:' in other words, it can play two or more *different* audio streams (to separate audio outputs) at the same time. Because this is usually done to provide regional advertising or regional 'opt-out' programming, the feature is named **Regionalisation**.

To set up regional or split outputs, type the name of each region (or split output) on a **separate** line in the list. For example: **West**, **East**; or **Central**, **North**, **South**.

You can then use **Region Containers** in your playlist. In a Region Container's Properties dialog, the *Region Container* tab contains a tabbed dialog where each tab's name is the name of one region, followed by the total playout time of the items in that region's container. You then add items to each region's container and adjust Cue Markers etc. to ensure that each region's container has the same duration, ensuring a smooth switch back to 'combined' output after the regional break.

7.14 Advanced

7.14.1 Data Folders

This node shows the locations of the *mAirList* data and configuration folders, and allows you to open these folders in *Windows Explorer*. The locations of these folders depend partly on the version of *Windows* installed on your computer, and partly on the way you installed *mAirList*.

We recommend that you do **not** open or edit any *mAirList* data or configuration files manually unless you are an advanced *mAirList* user.

Note that you **cannot change** the locations of these folders in this dialog: you can only **view** the locations and—as explained above—open the folders directly in *Windows Explorer*.

8. Advanced Configuration

8.1 skin.ini File

Many programs allow you to change their appearance using so-called ‘skin’ files, which contain information to change, for example, the fonts and colours in the program’s window.

The *mAirList* file **skin.ini**, stored in the **config** folder in your *mAirList* data folder, allows you to make exactly those kinds of changes. Please note that skin.ini does not exist until you create the file manually, and you can use skin.ini to change the appearance of *mAirList* even if you do not change the default layout: in other words, the Layout Designer and skin.ini are independent of each other.

To edit *mAirList* configuration files, you can use any plain text file editor application, including *Windows Notepad*, but we strongly recommend that you use a file editor which allows you to edit several files simultaneously. Many excellent freeware file editor applications are available.

The basic contents and structure of a **skin.ini** file are shown below.

```
[MainWindow]
… settings for the main window (background image or colour), one per line …
[Toolbar]
… settings for the main window Toolbar, one per line …
[Browser]
… options for the Browser, one per line …
[Player]
… ‘global’ settings for Players, one per line …
[Player0_0]
… settings for Playlist 1, Player 1, one per line (overrides [Player]) …
[Player0_1]
… settings for Playlist 1, Player 2, one per line (overrides [Player]) …
… other [Playerx_y] sections…
[ExtraPFL]
… settings for the PFL Player and mAirListTag PFL player, one per line (overrides [Player]) …
[Cartwall]
… ‘global’ settings for Cartwall Players, one per line (overrides [Player]) …
[Playlist]
… ‘global’ settings for Playlists, one per line …
[Playlist0]
… settings for Playlist 1 (overrides [Playlist]) …
… other [Playlistx] sections …
[ProgressBar]
… settings for the Global Progress Bar, one per line …
```

Figure 8.1: Contents and Structure of *skin.ini* file

Figure 8.1 above shows every possible section you *could* include in **skin.ini**, but the basic principle to bear in mind when creating or editing skin.ini is: if you don’t need a section, *don’t add it.*

All the settings you can add to a skin.ini file are listed here by section, in the same order as shown in Figure 8.1 above. We suggest that no matter how many sections you use in your skin.ini file, you keep the sections you *do* use in the same order as shown in Figure 8.1above.

If you want the **default** option for any setting, ***don’t** add it to your skin.ini file.* Not only is it unnecessary, but each redundant entry still has to be *processed* during *mAirList* startup.
So please remember: the *smaller* your skin.ini file is, the *faster* your *mAirList* startup will be.

For example, if all you want to change is the colour of all empty cartwall players to a neutral grey, your skin.ini file would contain exactly two lines:

```
[Cartwall]
EmptyColor=#666666
```

More complicated requirements, like using colours to reflect player states in the Players and Playlist, or highlighting ‘special’ Playlist items or History items by using specific contrasting colours for them, do of course require quite a number of settings to be added to skin.ini: this is unavoidable.

However, by judicious and careful use of the settings, and by taking advantage of the way *mAirList* processes skin.ini and resolves any conflicts (see the next page for details), you can keep the size of your skin.ini to tithe minimum necessary.

8.1.1 skin.ini Setting Names and Conflicts

Some skin.ini setting names are simple and fixed. They are written like this:

AutoSize=off

Below the setting name is a description, of what it does, like this;

"Add this setting to *stop* the Browser resizing to fill vacant space when the *mAirList* window is resized."

This implies that the default for this setting is **on**, so using the 'least possible lines in skin.ini' principle, you know that adding **AutoSize=on** to your skin.ini file would be redundant.

We also give you extra relevant information before or after many setting descriptions:

"This setting has no effect if you use a custom layout created with the Layout Designer."

Some other settings have a much wider range of choices. In these cases, the setting name is written like this, with the default shown in ( ) parentheses:

ProgressBarBorderColor=*ColourValue* (default: **#000000** = black)

ColourValue is a *mAirList* colour value (explained below): you don't actually type ***ColourValue*** in the setting, you instead type the colour value which *represents* the colour you want. When you see a setting **value** in ***bold italic***, it is always one of the value types explained below, and you must supply a valid value to replace what is printed: a font name, a colour value, a number, and so on.

Many skin.ini settings, particularly those for text objects, can have a large number of variations, each with its own setting name. To keep the manual brief, setting names of this type are written like this:

[*optionalvariable*] [Optional] *variable*Fixed=on
(where ***optionalvariable*** is one of: **One**, **Two**;
and ***variable*** is one of: **Stop**, **Start**)

How should you read this kind of setting 'name,' and what should you *type* as the setting name?

- Parts of the name shown in **bold** are 'fixed' text which you must type exactly as shown.
  In the example above, this would be **optional** (if used, see below) and **Fixed**.
- Parts of the name shown in ***bold italic*** are 'variables:' type **one** of the options listed.
  In the example above, you could use **Stop** and **Two** or any other combination of options.
- Anything in **square brackets** [ ] is optional; this might be fixed text or a variable.
  Do not *type* the square brackets in the setting name.
  In the example above, ***optionalvariable*** and **Optional** are both optional.

Again referring to the example setting name above, the shortest valid setting name would be **StopFixed** or **StartFixed**; other valid setting names based on the description above include **OneStopFixed**, **OptionalStartFixed**, and **TwoOptionalStopFixed**.

A 'variable' setting name represents a (perhaps large) number of possible variations based on a single setting. However, you must type each variation you need to use as a separate line (see below).

For most 'variable' setting names, the minimum (shortest) setting name is a 'master' setting, which is only over-ridden by a longer (more specific) setting name of the same type. For example, if you have **FontColor** and **PlayingFontColor** settings in the same section, **PlayingFontColor** will be used while the object is in the 'playing' state and **FontColor** will be used at all other[24] times.

It's usually easiest to start by adding the 'basic' (shortest name) setting, followed (if you need them) by the more specific (longer names) settings. Why do we say 'followed' and not 'preceded by?' Because of the way *mAirList* decides which setting to use in cases of conflicts: that is, when two or more settings 'match' the screen object's current state. The rule is simple: the **last** matching line (the one 'furthest down' skin.ini) is used. For example:

```
[Playlist]
PlayerNameFontColor=#0000FF
NextPlayerNameFontColor=#800000
```

When a Player is 'next,' the colour **#800000** is used; otherwise, the colour **#0000FF** is used.

[24] Unless, of course, you have further state-specific **...FontColor** settings in the same section, like **FadingFontColor**.

8.1.2 skin.ini Values

All the types of **values** you use for various skin.ini settings are described below.

Ranges of values are indicated by **...**,
for example: **1 ... 99**. means ‘any whole number between **1** and **99** inclusive.’

8.1.2.1 String Values

When typing a **string** (text) value, **do not** put quotes around the string unless the **final** character is a space: in which case, you **must** put **double quote** characters (**"**) around the string to stop *Windows* trimming off the final space. This **includes** string values which are file names or font names.

Single quote characters (**'**) around string values used for display *are* displayed as part of the text.

Here are some examples to make these points more clearly:

```
...
Background="C:\graphics\mairlist BG.png"   ;works, but quotes are not needed
Background='C:\graphics\mairlist BG.png'   ;fails
Background=C:\graphics\mairlist BG.png     ;works
...
TimeFont="Segoe UI"                        ;works, but quotes are not needed
TimeFont='Segoe UI'                        ;fails
TimeFont=Segoe UI                          ;works
...
RampPrefix="RAMP TIME "                    ;displays as RAMP TIME 14.0
RampPrefix='RAMP TIME '                    ;displays as 'RAMP TIME '14.0
RampPrefix=RAMP TIME                       ;displays as RAMP TIME14.0
...
```

8.1.2.2 Colour Values

To specify a **colour value**, use strings in the HTML colour format **#rrggbb**, where:

- **#** indicates the following string is a hexadecimal number;
- ***rr*** is the two-digit hexadecimal **red** value (**00...FF**);
- ***gg*** is the two-digit hexadecimal **green** value (**00...FF**); and
- ***bb*** is the two-digit hexadecimal **blue** value (**00...FF**).

For example: **magenta** is **#FF00FF** (maximum red + zero green + maximum blue);
cyan is **#00FFFF** (zero red + maximum green + maximum blue).

This is the same format used to specify colours on Web pages. There are numerous freeware ‘colour picker’ applications which you can use to choose colours visually; these applications show your chosen colours in the format above, which you can copy and paste into your **skin.ini** file.

8.1.2.3 Size Values

- To specify the size of a **screen object**, such as a button, use size units of **pixels**.
- To specify the size of a **font**, use size units of **points**.

8.1.2.4 Font Style Values

To specify a text font **style**, use one of these numbers:

Number	Style
0	normal
1	**bold**
2	*italic*
3	***bold italic***

To add underlining to a font style, add **4** to the font style value;
To add ~~strikethrough~~ to a font style, add **8** to the font style value.

For example, for ~~*italic strikethrough*~~ text, use the value **10** (2 + 8);
for **bold underlined** text, use the value **5** (1 + 4).

8.1.2.5 Text Object Settings And Values

The appearance of every *mAirList* text object (for example, the Title in a Player) is defined by **four** separate settings in a skin.ini file:

- ***textobjectname*FontName**: Font **name** (e.g. Arial).
- ***textobjectname*FontSize**: Font **size**, in points. Specify a size of **0** to ‘hide’ a text object.
- ***textobjectname*FontStyle**: Font **style** , in ***FontStyle*** format (see above).
  The default font style of most text objects in *mAirList* is **0** (normal).
- ***textobjectname*FontColor**: Font **colour**, in ***ColourValue*** format (see above).
  The default **FontColor** of most text objects in *mAirList* is **#000000** (black).

where ***textobjectname*** is the *mAirList* name of the text object (as simple examples: **Title** or **Time**).

For example, the settings below show the **Time** in a Player as **white 17pt Verdana Bold** text:

```
...
TimeFontName=Verdana
TimeFontSize=17
TimeFontStyle=1
TimeFontColor=#FFFFFF
...
```

Before changing any font colour, consider how it looks on the **background** colour underneath it. Font colours other than black or white can be very difficult to read on some background colours.

Always use strong font colours which contrast well with the background: this avoids potential problems for users who have mild colour blindness.

We recommend Microsoft’s **Segoe UI** font, distributed as part of *Windows Vista* or later, as an especially good choice for Title fonts. The characters **l** (lower case L) **1**, (numeral 1) and **I** (capital I) are very easy to tell apart, and the whole font is easy to read at most sizes.

As with all skin.ini settings, remember that you only need to *specify* the settings you need to *change*. If the only change you want is to make a font bold, add only ***textobjectname*FontStyle=1**.

8.1.2.6 On/Off Values

A few skin.ini settings, typically for toolbars and control bars, have a value of either **on** or **off**.

Since one of these will always be the default, in this manual we only describe the ‘other’ value—the one you would have to add—and what it does.

8.1.2.7 Column Numbers

Some skin.ini Playlist settings use **column** numbers. These column numbers are **always the same**, regardless of any hidden columns, and regardless of the displayed column order in the Playlist:

***column* number**	**Column Name**
0	Icon
1	Time
2	Title
3	Duration
4	Ramp
5	End
6	Link
7	Artist

8.1.2.8 Line Style Values

The skin.ini Playlist setting **GridLineStyle**, which sets the style of lines drawn above and below rows (items) in the Playlist, can have the values **dotted** (default) or **solid**.

There is no **none** setting: to have ‘no’ grid lines, set **GridLineStyle=solid** and set **GridLineColor** to match the Playlist’s **BackgroundColor**. This makes grid lines transparent. It is **not** possible to ‘remove’ grid lines completely and have no ‘gaps’ at all between Playlist rows.

8.1.3 Main Window

These settings add a background image to, or change the colour of, the *mAirList* window.

Background=*filename*
Add this setting to display an image file 'under' all the objects in the *mAirList* window. The image file is always displayed **actual size**: it is never stretched or cropped to fit the *mAirList* window size.

Color=*ColourValue*
Add this setting to change the background colour of the *mAirList* window.

8.1.4 Toolbar

These settings hide buttons in the main *mAirList* toolbar.
To 'hide' the entire toolbar, use the mAirList *Layout Designer (page 103 onwards)*
*to set the **Toolbar** object's height and width to **zero**.*

All toolbar buttons are **on** (shown) by default. Add the settings below to hide toolbar buttons:

- **ShowNew=off**
- **ShowOpen=off**
- **ShowSave=off**
- **ShowInsert=off**
- **ShowProperties=off**
  (The **Edit** button, which opens the selected item's **Properties** dialog.)
- **ShowDelete=off**
- **ShowEvents=off**
- **ShowActions=off**
- You cannot hide the **Cartwall** button if the Cartwall is in a separate window.
  If the Cartwall is embedded in the *mAirList* window, you hide or show the button using a configuration setting and **not** skin.ini (see 7.3.6.1 on page 51).
- You hide or show the **Database** button using a configuration setting and **not** skin.ini
  (see 11.2.1 on page 105 and 11.2.2.4 on page 107).
- **ShowAbout=off**
  (The ***mAirList*** button, which was originally named **About**.)

8.1.5 Browser Section

The **[Browser]** settings affect the Browser and its toolbar.

8.1.5.1 Browser Settings

AutoSize=off (default: **on**)
This setting has no effect if you use a custom layout created with the Layout Designer.
Add this setting to *stop* the Browser resizing to fill vacant space when the *mAirList* window is resized.

8.1.5.2 Browser Toolbar Settings

Captions=on (default: **off**)
Add this setting to display text captions on the Browser toolbar buttons.

List=off (default: **on**)
Add this setting to show Browser toolbar button text captions to the right of (not below) the button.

ShowRefresh=off (default: **on**)
Add this setting to hide the **Refresh** button on the Browser toolbar.

ShowAdd=off (default: **on**)
Add this setting to hide the **Add** button on the Browser toolbar.

ShowClose=off (default: **on**)
Add this setting to hide the **Close** button on the Browser toolbar.

*To hide the Browser toolbar, hide **all three** Browser toolbar buttons.*

8.1.6 Player

These settings affect **all Players**, including Cartwall Players.
*To override some or all of these settings for **individual Playlist Players**, see 8.1.7 below.*
*To override some or all of these settings for the **Extra PFL Player**, see 8.1.8 below.*
*To override some or all of these settings for **Cartwall Players**, see 8.1.9 below.*

When *mAirList* draws a Playlist Player, it first applies any settings in this section; it **then** applies any settings in that Player's Player*x_y* section, if there is one. Therefore, the settings in the Player section are the 'global' or 'template' settings for all Playlist Players, which are *overridden* by any settings you add for *specific individual* Playlist Players.

The same principle applies to the Extra PFL Player and the Cartwall players: settings in this section are applied first, **then** settings in the individual section (ExtraPFL or Cartwall) are applied.

Therefore, how you use the Player section depends on whether you want all Players (including the Cartwall Players and the Extra PFL Player) to have the *same* 'look and feel,' or you want each Player to have a *different* 'look and feel.'

- **If you want all Players to look the same**, make changes in the Player section; then if you find you need to make minor changes to some kinds of Players (for example, reducing font size, or changing the font used, for Cartwall Players), add the appropriate section or sections *after* the Player section and make the appropriate changes in that section or sections.
- **If you want all Players to look different**, work out any common elements and make those changes in the Player section first—remember to always try to *minimise* the number of lines in skin.ini—*then* add the sections for each Player, Cartwall, and the Extra PFL Player *after* the Player section and make the appropriate changes in that section or sections.

A Player divides naturally into five main parts: a **border**, a **background**, **text** boxes, a **progress bar**, and **buttons**. Apart from the border and background, every part of a Player is optional; and as you will see below, there are ways to make the border and background 'invisible' as well.

8.1.6.1 Player Border Settings

BorderRadius=0 ... (default: **0**)
*The border **width** is **fixed** at a size of one pixel.*
Add this setting to draw Players with curved corners. The value is the **radius** of the corner curves. You can specify any number from **0** upwards, but values much above or below **10** give near-invisible results, or cut off text at the Player's corners, respectively.

BorderColor=*ColourValue* (default: **#FFFFFF** = black)
Add this setting to change the border colour drawn around Players. For an 'invisible' border, specify your *Windows Application Background* colour (**not** the Player's **BackgroundColor**!).
(To learn how to check the colour of your Application Background, type **screen appearance** into *Windows Help and Support Center.*)

8.1.6.2 Player Background Settings

BackgroundColor=*ColourValue* (default: your *Windows Application Background* colour)
Add this setting to change the default background colour of Players.

state*Color=*ColourValue
(where ***state*** is one of: **Empty**, **EOF**, **Error**, **Fading**, **Loaded**, **Next**, **Paused**, **PFL**, **Playing**, **Stopped**)
Add this setting to set the background colour of Players when in the named state.

8.1.6.3 Player Text Settings

[state]object*FontName=*fontname
[state]object*FontSize=*size (in points)
[state]object*FontStyle=*TextStyle
[state]object*FontColor=*ColourValue
(where ***state*** is one of **Empty**, **EOF**, **Error**, **Fading**, **Loaded**, **Next**, **Paused**, **PFL**, **Playing**, **Stopped**; and ***object*** is one of: **Title**, **Artist**, **Name**, **State**, **Time**)
Add these settings to change the font settings of the named text object.

8.1.6.4 Player Progress Bar Settings

ProgressBarBorderColor=*ColourValue* (default: **#FFFFFF** = black)
Add this setting to change the border colour drawn around progress bars (and ramp progress bars, if shown as separate progress bars) in Players.
Unlike the player background, you cannot specify a *different* progress bar border colour for each Player state; therefore, an 'invisible' progress bar border in *all* Player states is not usually possible.

ProgressBarColor=*ColourValue* (default: **#???**)
Add this setting to change the basic background colour of progress bars in Players.
(In practice, this colour is rarely[25] shown in progress bars.)

ProgressBar*element*Color=*ColourValue*
(where ***element*** is one of: **Elapsed**, **ElapsedRamp**, **Outro**, **Ramp1**, **Ramp2**, **Ramp3**, **Remain**)
Add this setting to change the colour of the named progress bar element.

ProgressBarHeight=*size* (default: **???** pixels)
Add this setting to change the height of the progress bar. You cannot change the *width* of the bar.

8.1.6.5 Player Button Settings

To show or hide specific Player buttons, see 7.2.4 on page 49.

ButtonSize=*size* (in pixels, default: **???** pixels square)
Add this setting to change the size of Player buttons. Note that you cannot resize *individual* buttons: this setting is applied to **all** Player buttons.

button*Button[Active]Color=*ColourValue (default: **#???** = pale blue)
(where ***button*** is one of: **Close**, **Fadeout**, **Hook**, **Loop**, **Pause**, **PFL**, **Reset**, **Start**, **Stop**)
Add this setting to change the background colour of the named button when inactive (not selected) or active (selected). Note that in practice, **ActiveColor** has no effect on the **Close** and **Reset** buttons.

8.1.6.6 Ramp Text Settings

*The Ramp prefix is part of the **Time** text object, so the **Time** font settings also apply to the Ramp prefix.*

RampPrefix=*string* (default: **R**)
Add this setting to change the text preceding the Ramp times shown in the Player.

- If the string *ends* with a space, you **must** put double quotes around the string.
  For example: **RampPrefix="RAMP "** or **RampPrefix="R "**
- You do **not** need quotes if the string *contains* a space but does not *end* with a space.
  For example: **RampPrefix=LEAD IN:** or **RampPrefix=TO VOCAL...**

8.1.7 Player*x_y*

These settings are identical to the settings you can add in the Players section, but affect **only** the Playlist Player specified in the section name.
In the section name, **x** is the Playlist number and **y** is the Player number within that Playlist.
Both numbers start at zero, so **Player0_0** means 'the first Player in Playlist 1.'

8.1.8 ExtraPFL

These settings are identical to the settings you can add in the Players section, but affect only the **Extra PFL Player** (on the **PFL** tabs in the Item Properties dialog and in the *mAirListTag* program).

8.1.9 Cartwall

These settings are identical to the settings you can add in the Players section, but affect only **Cartwall Players**. One extra setting, and one changed setting, are available:

PFLModeColor=*ColourValue*
Add this setting to change the background colour of Cartwall Players when **Cartwall PFL mode** is **on**.

button*Button[Active]Color=*ColourValue (default: **#???** = pale blue)
(where ***button*** is one of:
Close, **Fadeout**, **Hook**, **Loop**, **Next**, **Pause**, **PFL**, **Previous**, **Reset**, **Start**, **Stop**)
In this setting, two *extra* (cart Stack) buttons are available in Cartwall Players: **Next** and **Previous**.

[25] This colour is **very** occasionally shown at either end of a progress bar, if an item's cue marker settings are sufficiently bizarre. Please do let us know of any sightings, ideally with a screenshot.

8.1.10 Playlist

These settings affect **all** Playlists (if you have more than one Playlist).
If you have only one Playlist, use this section to change its settings.

When *mAirList* draws a Playlist, it first applies any settings in this section; it **then** applies any settings in the **[Playlist*x*]** section, if there is one. Therefore, the settings in the **[Playlist]** section are the 'global' or 'template' settings for all Playlists, which are *overridden* by any settings you add for *specific individual* Playlists.

Therefore, how you use the Playlist section depends on how many Playlists you have, and also whether you want all Playlists to have the *same* 'look and feel,' or a *different* 'look and feel.'

- **If you have only one Playlist**, make changes in the Playlist section. If you later decide to add more Playlists, your changes will apply to all of them; and if you then want to change any of them individually, add a Playlist*x* section or sections *after* the Playlists section and make the appropriate changes in that section or sections.
- **If you want all Playlists to look the same**, make changes in the Playlist section; then if you find you need to make minor changes to some Playlists, add a Playlist*x* section or sections *after* the Playlist section and make the appropriate changes in that section or sections.
- **If you want all Playlists to look different**, work out any common elements and make those changes in the Playlist section first—remember to always try to *minimise* the number of lines in skin.ini—*then* add Playlist*x* sections *after* the Playlist section and make the appropriate changes in those sections.

A Playlist divides naturally into four main parts: a **toolbar** (control bar), a **grid** of items, a **progress bar**, and a **countdown overlay**. Apart from the grid, every part of a Playlist is optional.

8.1.10.1 Playlist Toolbar (Control Bar) Settings

ToolbarFontName=*fontname* (default: **Arial**)
ToolbarFontSize=*size* (default: **24???** points)
ToolbarFontStyle=*TextStyle* (default: **1** = bold)
ToolbarFontColor=*ColourValue* (default: **#FF0000** = red)
Add these settings to change the font settings of the toolbar objects.

Change **ToolbarFontSize** to change the height of the control bar objects; you cannot change the width or order of the control bar objects.

button*Button[Active]Color=*ColourValue
(where ***button*** is one of: **Jump** ('next' button), **Start**, **Stop**)
Add this setting to change the background colour of the named button when inactive (not selected) or active (selected). Note that in practice, **ActiveColor** has no effect on the **Jump** button.

8.1.10.2 Playlist Grid Settings

GridLineStyle=solid (default: **dotted**)
Add this setting to change the gridlines above and below Playlist rows to solid gridlines.

GridLineColor=*ColourValue*
Add this setting to change the colour of the gridlines above and below Playlist rows.

focus*Selection[Border]Color=*ColourValue
(where ***focus*** is one of **Focused**, **Unfocused**)
Add these settings to change the background or border colour of the currently selected Playlist rows.

ColWidths=*size,size,size,size,size,size,size,size* (in pixels)
(where ***size***s are the widths of each column, **always** in this order (*regardless* of **ColumnOrder** and **HideColumns** settings): **Icon**, **Time**, **Title**, **Duration**, **Ramp**, **Ending**, **Link**, **Artist**)
Add this setting to set the width of all Playlist columns. A ***size*** of 0 'hides' a column.

HideColumns=*column*[*,column,column …*]
(where ***column*** is always one of (*regardless* of **ColWidths** and **ColumnOrder** settings):
0=Icon, **1**=Time, **2**=Title, **3**=Duration, **4**=Ramp, **5**=Ending, **6**=Link, **7**=Artist)
Add this setting to 'hide' one or more Playlist columns without using a **ColWidths** setting.

ColumnOrder=*column,column,column,column,column,column,column,column*
(where ***column*** is always one of (*regardless* of **ColWidths** and **HideColumns** settings):
0=Icon, **1**=Time, **2**=Title, **3**=Duration, **4**=Ramp, **5**=Ending, **6**=Link, **7**=Artist)
Add this setting to change the order of columns in Playlist rows.

[*state*] [*type*] [*object*] FontName=*fontname*
[*state*] [*type*] [*object*] FontSize=*size*
[*state*] [*type*] [*object*] FontStyle=*TextStyle*
[*state*] [*type*] [*object*] FontColor=*ColourValue*
(where ***state*** is one of **Empty**, **EOF**, **Error**, **Fading**, **Loaded**, **Next**, **Paused**, **PFL**, **Playing**, **Stopped**;
type is one of: **Break**, **Command**, **Container**, **Dummy**, **File**, **Other**, **Stream**; and
object is one of: **Artist**, **Backtiming**, **Comment**, **Duration**, **Ending**, **PlayerName**, **Ramp**, **State**, **Title**)
Add these settings to change the font settings of the named text object in Playlist rows.

[*state*] [*type*] RowColor=*ColourValue*
(where ***state*** is one of **Empty**, **EOF**, **Error**, **Fading**, **Loaded**, **Next**, **Paused**, **PFL**, **Playing**, **Stopped**;
type is one of: **Break**, **Command**, **Container**, **Dummy**, **File**, **Other**, **Stream**; and
Add these settings to change the background colour of the named text object in Playlist rows.

HistoryFontName=*fontname*
HistoryFontSize=*size*
HistoryFontStyle=*TextStyle*
HistoryFontColor=*ColourValue*
Add these settings to change the font settings of History rows in Playlists.

HistoryRowColor=*ColourValue*
Add this setting to change the background colour of History rows in Playlists.

8.1.10.3 Playlist Progress Bar Settings

These settings are identical to the ProgressBar settings you can add in the Players section
(see 8.1.6.4 on page 85), but affect **only** the **Playlist progress bar**, which is shown on Playlist items in the grid which are currently loaded in Players.

8.1.10.4 Playlist Countdown Overlay Settings

These settings affect the **countdown overlay** which overlays the Playlist during Ramps and/or during EOF Warnings. Note that these settings apply to *both* types of overlay: you cannot have *different* settings for the Ramp and EOF Warning overlays.

OverlayFontName=*fontname* (default: **Arial**)
OverlayFontSize=*size* (default: **24???** points)
OverlayFontStyle=*TextStyle* (default: **1** = bold)
OverlayFontColor=*ColourValue* (default: **#FF0000** = red)
Add these settings to change the font settings of the countdown overlay.

OverlayOutlineWidth=*size* (default: **2** pixels)
Add this setting to change the width of the coloured outline around the countdown overlay text. Note that the outline is drawn *inside* the text (keeping its overall size the same).

OverlayOutlineColor=*ColourValue* (default: **#FFFFFF** = white)
Add this setting to change the colour of the coloured outline around the countdown overlay.

OverlayPosition=*position* (default: **centre**)
(where ***position*** is one of: **N**, **NE**, **E**, **SE**, **S**, **SW**, **W**, **NW**; the eight major compass points)
Add this setting to move the countdown overlay to a corner, or the centre of one side, of the Playlist.

8.1.11 Playlist*x*

These settings are identical to the settings you can add in the Playlists section, but affect only the Playlist specified in the section name. In the section name, **x** is the Playlist number, starting at zero, so **Playlist0** means Playlist 1.

In practice, you only need this section if you have more than one Playlist.

8.1.12 ProgressBar

These settings are identical to the ProgressBar settings you can add in the Players section
(see 8.1.6.4 on page 85), but affect **only** the **global progress bar**.

8.2 *Changing* mAirList *Icon Graphics*

You can easily replace any icon *mAirList* displays (for example, on Player buttons, in the *mAirListDB* database application, or on any toolbar button), with an icon of your choice.

To do this, obtain or create replacement graphics files and save them in PNG format with a transparent background colour, give the files the names *mAirList* requires (in **lowercase**, as shown in the lists below), and add the files to the **images** folder[26] in your *mAirList* data folder.

Tips for preparing replacement icon graphics files:

- Because *mAirList* resizes icons if necessary to display them, make your replacement graphics files 'actual size' if you know the usual displayed sizes of the icons.
- Although you *can* use graphics files with a non-transparent background colour, we strongly recommend against this.
- For button icons, you can add skin.ini entries to specify background colours for the button when it is inactive and when it is active (see 8.1.6.5 on page 85).
  This **requires** graphics files with a *transparent* background colour.
- Player button icon changes affect **all** players, including Cartwall Players and PFL Players; if you use more than one Playlist, Playlist icon changes affect **all** Playlists.

8.2.1 Replacing Common Icon Graphics

To replace the most common icons—in Players, Playlists, *mAirListDB*, System Log, and the built-in *mAirList* stream encoder—place a PNG format file with the appropriate 'alias' name (chosen from the following tables) in your *mAirList* **images** folder (see above). For example, to replace the icon on the PFL button in Players, supply a file named **button_pfl.png**.

The 'alias' filenames, and their corresponding *mAirList* icons, are listed in the tables below.

8.2.1.1 Player Button Icons (default size: 48 × 48 pixels)

Filename	**Default**	**Icon for *mAirList* Player...**
button_close.png	⏏	**Close** (eject) button
button_fadeout.png	◣	**Fadeout** button (not a *Nuvola* icon)
button_hook.png	✂	**Hook** button
button_loop.png	🔁	**Loop** button
button_next.png	⇥	**Next** button (Cartwall Players only)
button_pause.png	⏸	**Pause** button
button_pfl.png	🔊	**PFL** button
button_previous.png	⇤	**Previous** button (Cartwall Players only)
button_reset.png	⏮	**Reset** button
button_start.png	▶	**Start** (play) button
button_stop.png	🟥	**Stop** button

8.2.1.2 Playlist Control bar Button Icons (default size: 48 × 48 pixels)

Filename	**Default**	**Icon for *mAirList* Playlist Control bar...**
button_jump.png	⏭	**Jump** (next) button
button_start.png	▶	**Start** (play) button
button_stop.png	🟥	**Stop** button

[26] If the **images** folder does not exist, create it and then copy your image files into it.

8.2.1.3 Playlist Icons (default size: 64×64 pixels, except as stated)

Filename	Default	Icon for *mAirList* Playlist …
icon_advertisement.png	📊	**Advertising** (Type) item
icon_attention.png	ℹ	
icon_audimark.png	audi mark	**Audimark** item (not a *Nuvola* icon)
icon_break.png	🔴	**Break** item
icon_command.png	🔨	**Command** item
icon_comment.png	ℹ	
icon_container.png	📦	**Container** item
icon_dummy.png	☐	**Dummy** item
icon_endofchain.png	🔴	**Final linked item** (in **Link** column): 32×32pixels
icon_error.png	⚠	**Error** item (after a **This Playlist…**, **Check for errors**)
icon_file.png	♪	**File** (audio file) item
icon_history.png	🗑	**History** (played) item
icon_linked.png	🟢	**Linked item** (in **Link** column): 32×32pixels
icon_notlinked.png		**Non-linked item** (in **Link** column): 32×32pixels
icon_playlist.png	☐	**Playlist** item (an item which is itself a playlist)
icon_regioncontainer.png	🌐	**Region Container** item
icon_silence.png	☐	**Silence** item
icon_stream.png	🌐	**Stream** item

8.2.1.4 *mAirListDB* And *Database Browser Pane* Icons (default size: 16×16 pixels)

Filename	Default	Icon in Database Browser pane or *mAirListDB* …
dbicon_artists.png	👥	**Artists** node
dbicon_attributes.png	☆	**Attributes** node
dbicon_connecting.png*	🔌	**Root** while connecting to a database
dbicon_customizeditem.png	🟠	**Customised** item in **Playlist**
dbicon_database.png	🖥	**Root**
dbicon_disabled.png*	✗	**Root** when database is disconnected, or is disabled in Configuration
dbicon_fixedtime.png	🔨	**Fixed time** item in **Database Playlist**
dbicon_folder.png	📁	**Folder**
dbicon_folderroot.png	📁	**Folders** node
dbicon_foreignitem.png	🔵	**Non-audio** or **imported** item in **Database Playlist**
dbicon_item.png*	♪	**Item**
dbicon_originalitem.png	🟢	**Audio** item in **Database Playlist**
dbicon_storages.png	▭	**Storages** node
dbicon_types.png	▨	**Types** node

* These icons are only shown in **Database Browser** panes: they are not used in *mAirListDB*.

8.2.1.5 System Log Icons (default size: 16 × 16 pixels)

Filename	Default	Icon for *mAirList* System Log ...
logicon_debug.png	🐞	**Debug** item
logicon_error.png	❌	**Error** item
logicon_info.png	ℹ	**Info** item
logicon_playlist.png	🔊	**Playlist** item
logicon_status.png	🏆	**Status** item
logicon_unknown.png	❓	**Unknown** item
logicon_warning.png	⚠	**Warning** item

8.2.1.6 Encoder Icons (default size: 22 × 22 pixels)

Filename	Default	Icon for *mAirList* Encoder ...
encoder_state_connected.png	⚡	**Connected** state
encoder_state_connecting.png	⚙	**Connecting** state (while trying to connect)
encoder_state_disconnected.png	✖	**Disconnected** state
encoder_state_error.png	✖	**Error** state

8.2.2 Replacing Other Icon Graphics

The icons in *mAirList* are selected icons from the *Nuvola* project's icon library. A condition of use of the *Nuvola* icons in an application is that the end user has the ability to change any or all of the icons to any other icons of their choice, and to allow future versions of the *Nuvola* icons to be used.

In *mAirList*, you do this by supplying replacement PNG format files in the *same* folder structure as the *Nuvola* icon library distribution folder structure[27], in the **images** folder[28] in your *mAirList* data folder. The root of this structure is ***datafolder*\images\nuvola**.

Although you *can* use graphics files with a non-transparent background colour, we strongly recommend against this. A transparent background colour ensures that your replacement icons will display correctly in *mAirList* applications.

Your replacement graphics files **must** have the **same** names as the *Nuvola* files you are replacing (see Appendix C on page 133). We also strongly suggest that you supply replacement files for **all** the *Nuvola* icon sizes used by *mAirList* (for example, both 16×16 *and* 48×48 sizes for a replacement **player_stop.png** file).

Note that you need to supply **only** the graphics files which **replace** existing icons: you do **not** need to supply **all** the graphics files used by *mAirList* (if you do, this may increase *mAirList* startup time).

[27] That is, the same folder structure as the extracted version of the full *Nuvola* icon library.

[28] If the **images** folder does not exist, create it.

8.3 Setting Default Folders For mAirList Dialogs

Many *mAirList* functions use file Open or Save dialogs. Although these dialogs ‘remember’ the folder they used when last opened, you can set default folders for many of these dialogs. The default folder you set will be used when the dialog is first opened during a *mAirList* session.

To set default folders, manually create a **DefaultDirectories.ini** file in your *mAirList* **config** folder. An example **DefaultDirectories.ini** file for a home or ‘hobby’ user of *mAirList* is shown below.

```
[DefaultDirectories]
AddDirectoryBrowser=D:\audio
AddDirectoryTreeBrowser=D:\audio
AddPlaylistBrowser=C:\Documents and Settings\User.HOMEPC\My Documents\mAirList
AppendPlaylist=C:\Documents and Settings\User.HOMEPC\My Documents\mAirList
CartwallLoad=C:\Documents and Settings\User.HOMEPC\My Documents\mAirList
CartwallSave=C:\Documents and Settings\User.HOMEPC\My Documents\mAirList
InsertFiles=D:\audio
OpenPlaylist=C:\Documents and Settings\User.HOMEPC\My Documents\mAirList
RunScript=C:\Program Files\mAirList\scripts
SavePlaylist=C:\Documents and Settings\User.HOMEPC\My Documents\mAirList
SchedulerLoadList=C:\Documents and Settings\User.HOMEPC\My Documents\mAirList
SchedulerSaveList=C:\Documents and Settings\User.HOMEPC\My Documents\mAirList
SchedulerSelectFile=D:\audio
SchedulerSelectPlaylist=C:\Documents and Settings\User.HOMEPC\My Documents\mAirList
SchedulerSelectScript=C:\Program Files\mAirList\scripts
SelectIcon=C:\Program Files\mAirList\3\images
```

Figure 8.2: Contents and Structure of *DefaultDirectories.ini* file

The first line is always required, and must be the first line in the file.

The other lines are all optional: you can add all or just one of them. Each line sets the default folder for one type of *mAirList* file dialog. The setting names are self-explanatory.

Dialogs you don’t set a default for in your DefaultDirectories.ini file will use their *mAirList* default when they are first opened during a *mAirList* session.

9. Working With Audio Files

9.1 Planning Your Audio Library

If you are moving to *mAirList* from a different playout system, or using *mAirList* in addition to existing playout systems, you will probably already have a substantial music library, and may have already added ‘properties’ such as Cue Markers to them in another playout system’s database.

If *mAirList* is your first experience of radio playout systems, be aware that an audio library for radio playout requires planning, and is harder work to set up and maintain than simply ripping CDs.

In either case, we suggest that you appoint *at least* one audio librarian, who is responsible for the initial setup and continuing maintenance of your audio library.

Setting up your audio library requires:

- Preferably, a 100% ‘clean’ set of audio files (see 9.3).
- Ideally, a ‘central’ location to store your audio files.
  This may be on one or more networked computers: if you map network drive letters to refer to these locations, map the **same** network drive letters on **all** your *mAirList* computers.
- Creation of a *mAirListDB* database, if you plan to use one (see 11.2 on page 105).

If you have an existing audio library and database, it is usually possible to either access and use that database directly within *mAirList*, or to convert/import the database into a *mAirListDB* database. Even if this is not possible, importing your existing audio library into a *mAirListDB* database is easy.

9.2 Audio File Formats: BASS Add-Ins

By default, *mAirList* can play AIFF, MP1, MP2, MP3, OGG, and WAV format audio files.

To play other audio file formats (for example, **.flac** files), visit the BASS download page at http://www.un4seen.com/bass.html#addons and download the appropriate BASS **add-in** DLL file for that audio format. Note that you **must** download the add-in for the correct **version** of BASS. For *mAirList* 3.1, use only add-ins for BASS version **2.4**. Extract the downloaded file and copy it into the **plugins\bass** folder in your *mAirList* data folder.

When *mAirList* next opens, all *mAirList* features which relate to audio files, such as Browser panes and file open dialogs, automatically recognise and use the new format(s) and file extension(s).
NOTE: If you use non-standard file extensions, see *Additional File Extensions* on page 56.

Please note that *mAirList* does **not** read tag information in audio files unless it is in the **ID3v1**, **ID3v2**, or **Vorbis comment** tag format[29]. Therefore, tags in file formats you have added as described above will almost certainly not be read by *mAirList*.

9.3 Importing Files

Although *mAirList* requires no special preparation of your audio files before ‘importing’ them, there are three simple actions you should take *before* importing any audio file. These will make your file imports faster, easier, and trouble free.

- ***Do* NOT *import* ANY *known faulty audio files.***
  No matter how rare or ‘loved’ they are, discard any faulty audio files (which stop playing mid-way through, or have any clicks, jumps, or any other noise or artefacts): import only fault-free audio files.
- ***If you use a tagged file format like MP3 or OGG:***
  Check and correct at least the **artist**, **title**, **year**, **album**, and **track number** tags.
  Fill in **all** of these tags *as completely as possible*: if any properties/tags need to be changed or added at a later time, you must do so **manually**.
  If you also plan to use information from **genre** or **comment** tags within *mAirList*, check and correct those as well. *mAirList* imports the contents of all these tags.
- ***Rename all your audio files in* artist - title.xxx *format.***
  If all other methods fail, *mAirList* will at least be able to read the title and artist correctly from the filename.

[29] **ID3v1** and **ID3v2** are the tag formats used in MP3 files; **Vorbis comments** is the tag format used in OGG files.

You should also consider which method(s) you want to use to store the imported information (plus any information you add within *mAirList*, such as Cue Markers):

- **Metadata (.mmd) file**
  A small text[30] file named the same as the audio file followed by **.mmd**.
- **Tag** (only available for audio file formats which support custom tags)
  A custom *mAirList* tag[31] within the audio file.
- **Database** (not available in all editions of *mAirList*)
  A local or remote database[32].

We strongly recommend that you try all three (or both) methods on **a few** audio files[33] before deciding which method(s) to adopt for your entire library. All three have advantages and disadvantages:

- **.mmd files** are easy to find and can be opened in *Notepad* or any editor or viewer which supports text or XML files. It is also very easy to see which audio files have been imported and which have not. Using .mmd files means your audio files are not changed in any way. However, because one .mmd file is needed for each audio file, disk performance may be adversely affected, especially if you have a large number of audio files in any single folder. .mmd files are also subject to accidental deletion if not backed up.
- **Tags** are not as visually obvious, and are less easy to edit or view outside of *mAirList*, but you may prefer to write the information into the audio file itself, to vastly reduce the chances of accidental deletion. You also don't double the number of files in each folder of audio files (as using .mmd files would do). However, if you have a significant number of audio files in a non-tagged audio format (.wav files, for example), tags are not an option. Another 'problem' with tags is that you cannot *save* a tag while the audio file is loaded in any Player.
- A **database** (available in some editions of *mAirList*) is the usual choice. However, you may want to consider having the existing information *also* available in either tags or .mmd files. That way, if the database ever needs to be rebuilt from scratch, the task is simplified; and the amount of manual work needed afterwards is also reduced. It also means that the information is still available to *mAirList* even if the database is unavailable for any reason.

We do not recommend that you store audio file information in .mmd files **and** tags, unless you are very paranoid. One **or** other is sufficient, especially if you *also* store the information in a database.

One reason for this is the method *mAirList* uses to load a file's information (its **properties**) each time you load it into a Playlist, Player, or Cartwall Player:

1. *mAirList* first looks for a matching **database** entry. If one exists, its information is used.
2. If no database entry exists, or no database is in use, *mAirList* looks for a matching **.mmd file**. in the same folder (or if you have created one, in the **Central Folder for MMD files**).
   If an .mmd file exists, its information is used.
3. If no .mmd file exists, *mAirList* looks for a *mAirList* custom **tag** within the audio file.
   If it exists, its information is used.
4. If no custom tag exists, or the audio file is in a non-tagged format, *mAirList* **imports** the file: **title** is set to the audio file's name; its **duration** is determined; native file format **tags** are read; **type** is set to the default; if a ~ exists in the filename (*Raduga* format), it is used to compute **Fade Out**; **Auto Cue** is performed (ignoring Fade Out for *Raduga* files); and. if you have specified a **Default Item Type for Imported Files**, the file's Type is set.
5. If no tags exist, *mAirList* uses the audio file's name to set artist and title.

Using both .mmd files **and** tags is unnecessary; and though .mmd files are marginally faster to read than tags, in practice you will not notice any difference.

[30] To be accurate, the 'text file' contains the information in XML format.

[31] The *mAirList* tag contains a text string containing the information in XML format.

[32] Much of the information is stored in a text field containing the information in XML format.

[33] Using a very small number of audio files allows you to *quickly* try each method out *before* committing to any method(s).

A database (naturally, we recommend *mAirListDB*, but you can use *iTunes* or other databases with less functionality: see 7.9 on page 66 for details) is the most efficient way to store your audio file information, followed by .mmd files and custom *mAirList* tags, in that order.

If you initially choose to use either .mmd files or custom *mAirList* tags, then later decide to switch to using a *mAirListDB* database instead, your existing information is preserved because *mAirListDB* uses the same strategy shown above when it initially adds a file to the database.

9.4 File Tagging And Metadata

'Tagging' is the process of adding information about an audio file (data *about* data, or metadata) and saving it (in a database, .mmd file, or a tag within the audio file) as a set of **properties**.
The saved information is displayed in all *mAirList* applications on an item's **Properties** page.

Item Properties are fully listed and described in section 9.6 on page 97.

To tag a file, change and save the item's **Properties**, using *mAirListDB* or *mAirListTag* (see below), or directly in the *mAirList* PFL Player or any Playlist.

9.4.1 Properties in Playlists

You need to be aware that in a *mAirList* Playlist, each item's properties are stored **separately** within the file or database, in a database playlist, in a Playlist, *and* within any .mlp files you create by *saving* a Playlist. This means that you can change any property of any item in a Playlist *without* affecting any item's saved properties in the database, .mmd file, file tag, or .mlp file. For example, you can 'shorten' an item in a Playlist by changing its Cue Markers, and/or add a fixed time to it, or make any other 'custom' changes you need for that one occasion.

Therefore, be aware that when you load a saved Playlist, any item may have 'customised' properties which differ from its 'standard' properties in the database, .mmd file, or file tag.

The comments above also apply to *mAirListDB* Database Playlists (see 11.5 on page on page 111).

9.5 File Tagger Program (mAirListTag)

mAirList includes a *File Tagger* program (known as *mAirListTag*), which is built in to the **mAirList.exe** program file. Use *mAirListTag* to tag files separate from the main *mAirList* program.

mAirListTag is useful if you need to tag a large number of files, especially if you would prefer that the personnel who tag files do **not** have access to the full *mAirListDB* program.

To open *mAirListTag*, click *Start*, *All Programs* (or *Programs*), *mAirList*, *File Tagger*, or navigate to the *mAirList* program files folder and open the file **mAirListTag.bat**. *mAirListTag* looks similar to a *mAirList* Browser and PFL Player (more accurately, an **Item Properties** dialog) in the same window.

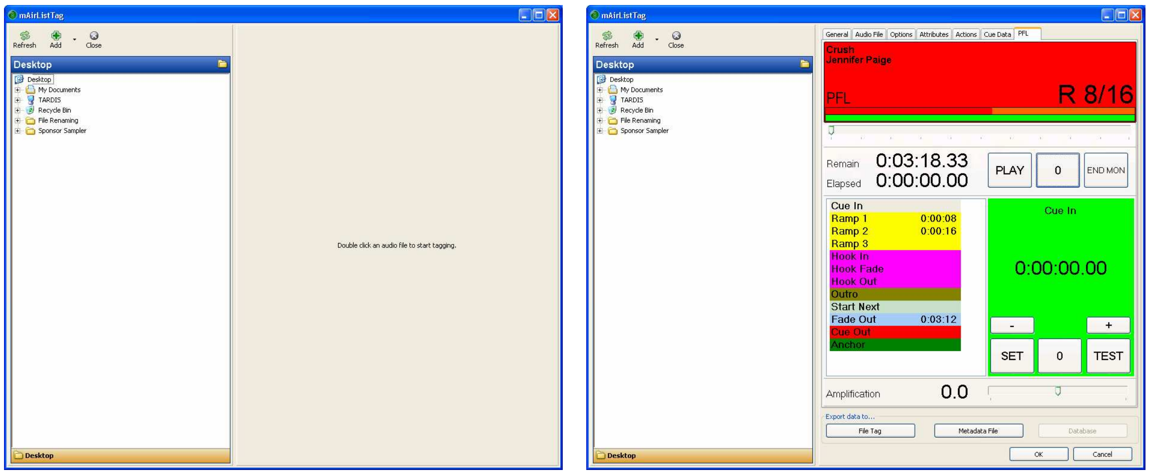


Figure 9.1: The *mAirList* File Tagging program (*mAirListTag*) window—empty and loaded

On the left of the *mAirListTag* window is the **Browser**, on the right is the **Item Properties** dialog.
If you resize the window, the Browser fully resizes, but the Item Properties dialog has a fixed width.

When you open an item in *mAirListTag*, the Item Properties dialog shows the **PFL** tab and starts playing the item, ready for you to add Cue Markers; but you can click on any tab in the dialog, and change any settings, in exactly the same way as you could do on any Item Properties dialog in any *mAirList* application.

9.5.1 *mAirListTag* Browser

Use the Browser to locate and load audio items for tagging. You can load items from a database, from folders containing audio files, or from a saved *mAirList* Playlist (.mlp file) or Database Playlist. Note that you cannot use *mAirListTag* to *save* changes to a database, Database Playlist, or .mlp file: you can **only** use *mAirListTag* to save changes to individual **items**.

Double-click an audio item in the Browser to load it into the Item Properties dialog. Unlike *mAirList*, you **cannot** drag and drop audio files on *mAirListTag* from a *Windows Explorer* window.

The dropdown menu on the *mAirListTag* Browser toolbar's **Add** button shows the same list of **Quick Folders** as the Browser in *mAirList*, so you may wish to add the folder(s) where you usually store 'new' audio files to the Quick Folders list (see Quick Folders on page 56).

When you open an audio item, the Item Properties dialog shows the **PFL** tab and plays the item.

9.5.2 *mAirListTag* Item Properties Dialog

Use the Item Properties dialog (see below) to tag an audio file and save your changes. When the dialog opens, the **PFL** tab is shown and the item plays. You can change any setting on any tab.

9.6 *Item Properties Dialog*

The Item Properties dialog is a key component of *mAirList,* available from all *mAirList* programs. Use this dialog to tag an audio file and save your changes.

To **save** your changes, click an **Export data to...** button: **File Tag**, **Metadata File**, or **Database**. Note that the **Database** button is disabled unless the file you are tagging *already exists* in the database: in other words, you cannot *add* files to a database by clicking the **Database** button.

To **cancel** your changes, click **Cancel**. Note that this will **not** undo any changes you have already saved by clicking an **Export data to...** button.

The **Item Properties** dialog is described below, by tab.

9.6.1 General tab

Title
The item's Title.
For 'special' Playlist items like DUMMY and BREAK, Title is the name of the 'special' item.

Artists
The item's Artist or Artists. If the item has two or more artists, we strongly recommend that you put each Artist on **separate** lines: the *mAirListDB* database can then list the item under **each** Artist name. To add a new line in the Artists box, press **Enter**.
For 'special' Playlist items like DUMMY, BREAK, and COMMAND, Artist is always blank.

Ending (default: **blank**)
Type any 'code' you wish to indicate the item's ending type.
A commonly-used system is to use an Ending code of **f** for items which fade out, **s** for items which 'stop' or have a definite end, and to leave the Ending code of all other items blank.
An item's Ending is shown in the Playlist, but has no other function in *mAirList.*

Duration
The item's total duration. You cannot change this value.

Type (default: **none**)
The item's Type, chosen from a dropdown list of the available Types in *mAirList.* An item's Type is shown in *mAirListDB*, and can be used as a Filter in the *mAirListDB* Mini Scheduler.
Tip: Mark **all** instrumental items with a Type of **Instrumental**.

External ID (default: **blank**)
The ID of the item in an external database or music scheduling application (see 11.9 on page 118).

Colour (default: **transparent**)
The background colour of the item when shown in a Playlist, and—optionally—in *mAirListDB.*

Icon (default: **none**)
An optional custom icon for the item when shown in the Playlist; a standard icon (or the item's 'album art' if one is stored in its ID3 tag) is shown if you leave this blank.
By default, only the **name** and **path** of the icon file is stored; so if you rename, move, or delete the icon file, the icon will not be shown in the Playlist and *mAirList* will display an error message (and will *clear* the item's Icon property) when you next open the item's Properties dialog in any *mAirList* program. However, if you click **shift+Select...** to open the dialog, the icon's **data** is stored instead.

Comment/Description (default: **blank**)
A comment or description of the item. Although the default is blank, an *existing* Comment tag in a supported audio file format (like MP3 or OGG) is imported to this property.

9.6.2 Audio File tab

Filename
The full path and name of the audio file associated with the item.

If you rename or move an audio file, you can 're-associate' the item with the audio file either by typing the correct path and filename, or (recommended method) clicking **Replace File** and selecting the file's new location and/or file name.

For 'special' Playlist items like DUMMY and BREAK, Filename is blank.

Please note that the *Open in audio editor* and *Open in external player* buttons on this tab cannot be used in the current version of *mAirList*; these planned new features are not yet implemented.

9.6.3 Options tab

Fixed time (default: **off**)
This option has no effect in Assist mode, even if items are Linked.
To force the item to play out at a fixed time in Automation mode, switch this option **on** and set the fixed time using the spinner control. At the fixed time, preceding playing items are faded out early and preceding unplayed items are dropped (marked as played). If **Soft fixed time** (see below) is also **on**, then at the fixed time: preceding playing items are allowed to play out in full, and are not faded out early; preceding unplayed items are still dropped (marked as played).

Last played and **Planned**
If you use a *mAirList*DB database, these are the dates and times when the item was last played, and when it is next scheduled to be played, respectively. You cannot change these values.

Fade duration (default: **0 mS** = **off**)
To override the global fade duration, type a non-zero duration. You may wish to set short fade durations of 750 mS or so for items in the Cartwall (such as beds or looped drones) which are designed to 'fast fade out' when another Cart Player (such as a closing sting) starts.

Special item (default: **off**)
This option has no effect unless one or more Players have the configuration option ***Only auto-load items marked as 'special'*** *switched* ***on*** *(see page 46).*
If this option is **on**, the item is only *auto*-loaded into a Player which has the corresponding configuration option switched **on**. Note that you can still *manually* load the item into any Player.

Exclude from backtiming (default: **off**)
If this option is **on**, the item is ignored when calculating backtiming for Playlist items.

Exclude from logging (default: **off**)
If this option is **on**, the item is ignored by **all** logs (see 7.8 on page 62) and is not logged. This is useful for 'incidental' items such as sound effects, DJ idents, and jingles and beds for show features etc.

Skip in automation mode (default: **off**)
If this option is **on**, the item is skipped (not played, but marked as played) in Automation mode.

Fade out all other players in automation mode (default: **off**)
If this option is **on**, all other Players in the same Playlist are faded out when the item starts playing in Automation mode. In practice, this option has no effect unless at least two other Players are playing when the item starts. Note that this option does **not** affect Cartwall Players.

Set internal clock to fixed time when started (default: **off**)
This option has no effect unless the item's ***Fixed time*** *option is also* ***on****.*
If this option is **on**, the internal *mAirList* clock is set to the item's fixed time when the item starts. This can be useful when recording a show 'as live' for later playout.

Always fade out on STOP (default: **off**)
If this option is **on**, the item fades out (instead of stopping dead) when it is stopped.

Linked to next item (default: **off**)
If this option is **on**, the item is Linked to the next item. This option duplicates the function of the **Link** column in the Playlist, and is useful if the item is *always* to be Linked to the following item.

Don't move to history (default: **off**)
If this option is **on**, the item is not moved to the Playlist History when it ends or is stopped.

9.6.4 Attributes tab

Attributes such as Genre, Album, Track (number), Year, and Album Art (as the item's icon) are imported automatically from files whose internal tags contain them; but you can add any Attributes you wish. You can add, change, or delete any value or Attribute, including imported Attributes.

If you use *mAirListDB*, Attributes are automatically shown as nodes in the Library tree.

- To **add** an Attribute: press **Insert** to add *before* the selected Attribute, or press **down arrow** to *append after* the final Attribute in the list; then type the new Attribute's **Name** and **Value**.
  If you have created a fixed set of Values for an Attribute (see 7.12.3 on page 70), you can select a **Value** from the dropdown list; otherwise, the dropdown list will be empty.
- To **change** an Attribute, type a new **Name** or **Value**.
- To **delete** an Attribute, **blank out** the **Name** and **Value**.

9.6.5 Actions tab

Lists of **Actions** which you want to occur when the item starts or stops. The upper list shows the **Actions on Start**; the lower list shows the **Actions on Stop**. In each list, you can **Add**, **Remove**, or **Configure** individual Actions, and you can **Load** and **Save** entire action lists as **.mla** files.

You can add Actions to any item except DUMMY and BREAK items,

For more information about Actions, see 4.1 on page 25.

9.6.6 Cue Data tab

A list of the item's Cue Markers, showing Track Markers (if any) and Cue Markers.

You can add Track Markers by importing them from **.cue** files (click **Import...**, **Cue Sheet...**); or by clicking **Add...**, **Track Marker** and completing the details on the **Edit Cue Point** dialog.
You cannot *add* Cue Markers on this tab: instead, use the **PFL tab**.

To **change** a Track Marker or Cue Marker, **double-click** it, or select it and click **Edit...**
In the edit dialog, you can adjust Cue Markers to millisecond accuracy.

To **delete** a Track Marker or Cue Marker, select it and click **Delete**; or select it and press **Delete**; or select it, right-click it. and select **Delete** from the menu.
IMPORTANT: *No confirmation dialog is shown: the Cue Marker is deleted* ***immediately***.

9.6.7 PFL tab

In *mAirListTag*, opening an audio file opens the PFL tab and immediately starts playing the file.

Use the PFL tab to add, change, and remove **Cue Markers**; and—optionally—to change the **amplification** ('replay gain'), the **pitch**, and the **tempo** of the audio file.

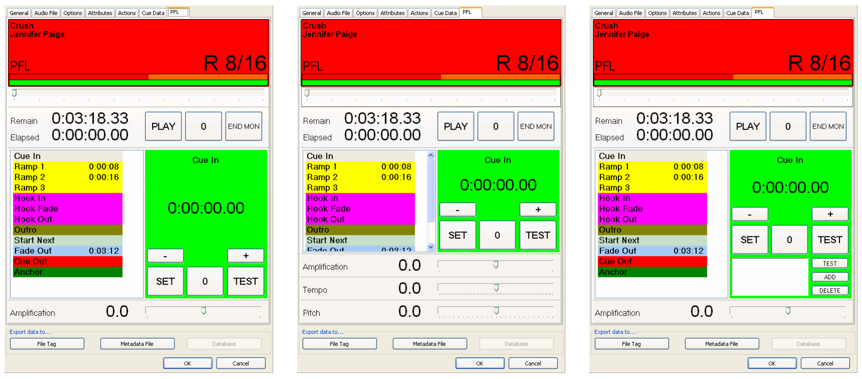


Figure 9.2: *mAirListTag* PFL tab and optional controls

Some PFL tab controls are only shown if you select specific configuration settings:

- **Tempo** and **Pitch** sliders are shown if the **Pitch and tempo adjustment using BASS_FX.DLL** setting is **on** (see 7.13.2 on page 74 and 7.13.3 on page 75).

- **Alternative cue point controls** (the list box, and the small **TEST**, **ADD**, and **DELETE** buttons) are shown if the **PFL Player** setting **Enable alternative cue points** is **on**
(see 7.4 on page 52; also see 7.2.3 on page 48 and 7.3.3 on page 51).

Cue Markers are entirely *optional*: you don't *have* to add, adjust, or remove *any* Cue Markers if you don't want to. However, we do suggest that:

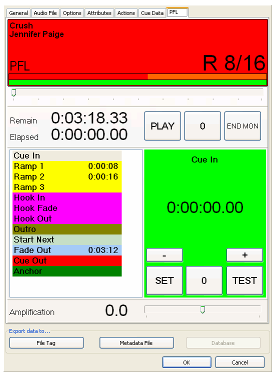
- All jingles and idents use **Start Next** and *not* **Fade Out**.

- If you use automation, check **Fade Out** and change where necessary to **Start Next**.

- If you have live presenters, add **Ramp**s (one or more) to assist their talkovers and add **Outro** so they know when it's 'safe' to fade or start talking over the end of a song.

mAirList uses **Auto Cue** by default, which usually sets **Cue In**, **Fade Out**, and **Cue Out** Cue Markers. Again, it's not required, but it is *wise* to check these Cue Markers. Tracks with internal silences can 'fool' Auto Cue into setting **Fade Out** much too early, or **Cue In** too late, and so forth. There may also be audio at the start or end of the track which you'll never want to play out; for example, the first few seconds of *Wannabe* by the Spice Girls.

9.6.7.1 Cue Markers



The Cue Markers, and their functions, are described below.
The term **track** is used here to mean 'the audio file you have opened.'

Cue In
Use this Cue Marker to set the 'beginning' of the track.
The track will be played starting from this point, and any audio before this point will not be played in either Assist or Auto mode.

Ramp 1, **Ramp 2**, **Ramp 3**
Use these Cue Markers to set 'ramp' points: usually, the points where the vocals or the 'main beat' of the track begin.
Ramps are displayed in progress bars with separate countdowns and in contrasting colours, but have no other function. Ramps are useful in Assist mode to help the presenter to 'talk up' to the vocal.

Hook In, **Hook Fade**, **Hook Out**
A 'hook' is a short section of a track, usually the chorus or the most recognisable part of the track, played on air as a 'teaser' for a track which will be played in full later in the same show.
Use these three Cue Markers to set the points where the hook begins, should be faded out, and ends.
To play an item's hook, click the **Hook** button in a Player or Cartwall Player, then click **Start**; but note that if the track does *not* have Hook Cue Markers set, *the entire item will be played* instead.
Note that you cannot play 'hooks' in Auto mode.

Outro
Use this Cue Marker to set the point where the vocals have ended, or where it is 'safe' for the presenter to talk over the rest of the track. If the track ends with a 'repeat and fade' of the chorus, many stations define the outro point to be just after the second repetition of the chorus.
The portion of the track after the Outro is displayed in a contrasting colour in progress bars, but the Outro Cue Marker has no other function[34].

Start Next
Use this Cue Marker to set the point where the next item should start playing in Auto mode (or when items are linked in Assist mode). In Auto mode, the track will **not** fade out until the Fade Out Cue Marker is reached; if the track does not have a Fade Out Cue Marker set, it continues to play to the end, which will be either the Cue Out Cue Marker (if any) or EOF.

Fade Out
Use this Cue Marker to set the point where the track should fade out in Auto mode (or when items are linked in Assist mode). The fade duration is usually the time between the Fade Out Cue Marker and the Cue Out Cue Marker, or the default automation fade time, whichever is shorter; however, note that some configuration settings can change this behaviour; and if a fade duration is specified in an item's Properties (either in a playlist, database playlist, or the item's Properties in a database, .mmd file, or in the file's internal tag), those settings take precedence, and in that order.
In Auto[35] mode (or when items are linked in Assist mode), the next playlist item will start playing when at the Fade Out Cue Marker, unless it has already been started by a prior Start Next Cue Marker.

Cue Out
Use this Cue Marker to set the 'end' of the track. The track will stop at this point (and will usually be unloaded from a Player), and any audio after this point will not be played in either Assist or Auto mode. **NOTE:** Even if it is enabled, 'stutter' mode cueing is **not** used for **Cue Out** Cue Markers. When you click **TEST**, the two seconds of audio *before* the Cue Out Cue Marker is played instead.

Anchor
Use this Cue Marker to set the 'reference point' for backtiming when playing the track at a fixed time, especially at a 'hard' fixed time, in Auto mode only: **not** when items are linked in Assist mode. An example of why and how to set an Anchor Cue Marker follows.

If you have a jingle which runs for a few seconds before an effect or drumbeat which *must* play out *exactly* on the hour, set its Anchor Cue Marker at that effect or drumbeat. When playing this jingle in Auto mode, *mAirList* backtimes the track so that its **Anchor** Cue Marker—**not** its Cue In Cue Marker—plays out at the fixed time (for example, 12:00:00).

[34] Unless the Configuration setting **Use Outro marker for EOF warning** (see 7.12.8 on page 72) is **on**.

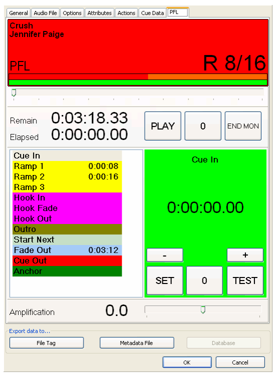
[35] Unless the Configuration setting **Auto fade out at Fade Out marker in assist mode** (see 7.2.2 on page 47) is **on**.

9.6.7.2 Alternative Cue Markers

As noted earlier, you can enable 'alternative' Cue Markers. This allows you to set several different 'versions' of each Cue Marker—for example, more than one Cue In and Fade Out Cue Marker—which a presenter or scheduler can choose when playing or scheduling the track.

This is particularly useful for tracks recorded live, where you may want the option of playing the full track; or just the song, without the spoken introduction before it, or the crowd applause following it.

9.6.7.3 Using The PFL Tab



The term **track** is used here to mean 'the audio file you have opened.' Below the PFL player, the default controls on the PFL tab from top to bottom, then from left to right, are:

Track Position controls

- **Position slider**
  Drag to move the current track position.
  You can also select (click) the control, then use the mouse wheel or press the up/down arrow keys to move the current track position.
- **PLAY/PAUSE button** (toggle)
  Click to PLAY or PAUSE the track.
- **0 button**
  Click to move the current track position to zero (start of the track).
- **END MON button**
  Click to move the current track position to the Ending Monitor point, which by default (see 7.12.7 on page 72) is 15 seconds before the end of the track.

Cue Marker list[36]

To select a Cue Marker, click its name in the list. The selected Cue Marker and its value is displayed to the right of the list, and is affected by the Cue Point Adjustment controls (see below).

Cue Marker Adjustment controls

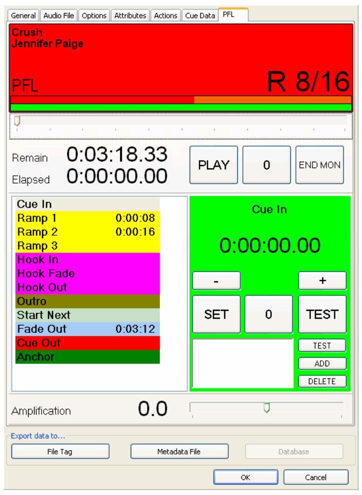
NOTE: ***DO NOT*** *press* ***keys*** *to adjust Cue Marker times: click buttons or use Remote Controls mapped to PFL commands. (Holding down a Ctrl or Shift key* ***while*** *clicking the* **-** *or* **+** *button is fine.)*

If 'stutter' mode cueing is switched on (this is the default), **any** change to a Cue Marker time (except clearing/deleting it) starts 'stutter' play at that Cue Marker.
To stop 'stutter' play, click **PLAY/PAUSE** or **TEST** *while* the track is 'stuttering.'

If 'stutter' mode cueing is switched off, Cue Markers are **not** auditioned automatically when you alter times: you must click **TEST** to audition the selected Cue Marker.

- **-** and **+ buttons**
  Click to decrease/increase the Cue Marker time by 1/100th of a second (10 mS)
  Shift+click to decrease/increase the Cue Marker time by 1/10th of a second (100 mS).
  Ctrl+click to decrease/increase the Cue Marker time by one second.
- **SET button**
  Click to set the Cue Marker time to the current **Elapsed** time.
- **0 button**
  Click to clear (delete) the Cue Marker.
- **TEST button**
  Click to audition the Cue Marker. The default 'stutter' mode cueing, combined with mouse wheel 'jog' adjustments (see below), is a fast, efficient way to set Cue Markers.
  NOTE that if **Cue Out** is the selected Cue Marker, clicking **TEST** plays the two seconds of audio *before* Cue Out: 'stutter' mode cueing is **never** used for the Cue Out Cue Marker.
- **Mouse wheel**
  Scroll **towards** you to **increase** the Cue Marker time or **away** from you to **decrease** the Cue Marker time; by 1/100th of a second (10 mS) per step.
  Shift+scroll to change the Cue Marker time by 1/10th of a second (100 mS) per step.
  Ctrl+scroll to change the Cue Marker time by one second per step.

[36] If you prefer a plain list to a coloured list, switch the **Enable cue category colours** Configuration setting **off** (see 7.2.3 on page 48, 7.3.3 on page 51, and 7.4 on page 52).



Alternative Cue Marker controls (optional)

If the **Enable alternative cue points** settings in Configuration are **on** (see 7.2.3 on page 48, 7.3.3 on page 51, and 7.4 on page 52), you can store any number of *alternative* values for each Cue Marker.
This is useful (for example) for live recordings, to quickly find the start of the artist's introduction and the start of the music; and to have the option of alternative fade outs at different points.

The extra list box shows the alternative values (if any exist) for the **selected** Cue Markers.

- To **audition** an alternative Cue Marker,
  select (click) it in the list box,
  then click the small **TEST** button beside the list box.

- To **store** (add) an alternative Cue Marker,
  first set the 'main' Cue Marker to the time you want to store,
  then click **ADD**.

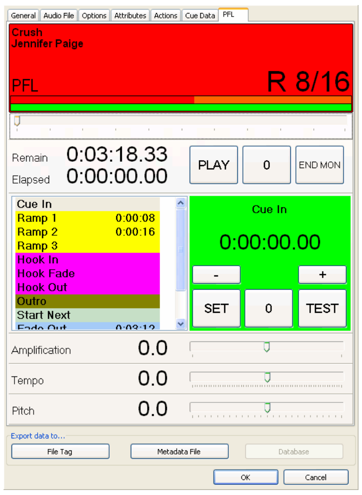
- To **delete** an alternative Cue Marker time value,
  select (click) it in the list box, then click **DELETE**.

Before setting an *alternative* Cue Marker time value, **first** add the 'standard' Cue Marker time value to the list of alternative Cue Marker time values. This ensures you always have the 'standard' Cue Marker time value available in the list, so you can easily re-set the 'standard' Cue Marker after you have added alternative Cue Markers.

Amplification slider

Drag to change the amplification of the track (minimum: **-60dB**, maximum: **+6dB**, default: **0dB**).
You can also select (click) the control, then use the mouse wheel to move the slider less precisely.

To **reset** the amplification to 0dB, double-click the **value** (the large number beside the slider).



Tempo and Pitch sliders (optional)

If the **Pitch and tempo adjustment using BASS_FX.DLL** setting is **on** (see 7.13.2 on page 74 and 7.13.3 on page 75), **Tempo** and **Pitch** sliders are shown, which you can use to alter the speed and/or pitch of the track.

- Drag the **Tempo** slider to change the **speed** of the track
  without altering its pitch ('time stretch')
  (minimum: **-32%**, maximum: **+32%**, default: **0%**).

- Drag the **Pitch** slider to change the **pitch** of the track
  without altering its speed ('change key')
  (minimum: **-12 semitones = 1 octave**,
  maximum: **+12 semitones = 1 octave**, default: **0**).

- You can also select (click) either slider,
  then use the mouse wheel or left/right arrow keys to move it,
  though this is less precise than dragging the slider.

- To **reset** either slider to zero, double-click its **value** (the large number beside it).

Export Data controls

- **File Tag** button
  Click to save the track's Properties in a custom *mAirList* tag within the audio file.
  At present, this is only supported for MP3 or OGG files.

- **Metadata File** button
  Click to save the track's Properties in a *mAirList* metadata file (.mmd file).

- **Database** button
  Click to save the track's Properties in a *mAirListDB* database.
  You **cannot** use this button to *add* the track to a *mAirListDB* database; the track must already exist in the database *before* you click the **Database** button.

10. Layout Designer

To change the positions and sizes of objects in the *mAirList* window, including any custom screen objects you have created (see section 7.6.5 on page 58), you can, if you wish, manually edit the **layout.ini** file in your *mAirList* config folder. However, *mAirList* provides a built-in **Layout Designer** which you can use to make these changes visually.

The *mAirList* Layout Designer is built in to the **mAirList.exe** program file. To open the *mAirList* Layout Designer, click *Start*, *All Programs* (or *Programs*), *mAirList*, *Layout Designer*; or navigate to the *mAirList* program files folder and open the file **LayoutDesigner.bat**.

The Layout Designer is a **fully-working** copy of *mAirList*, with square selection 'handles' on each object in the window (main toolbar, Players, Playlist, Browser, etc.). Everything in the window works exactly as it does normally, so you can test any changes *within* the Layout Designer.

The first time you open the Layout Designer after installing *mAirList*, it looks like this:

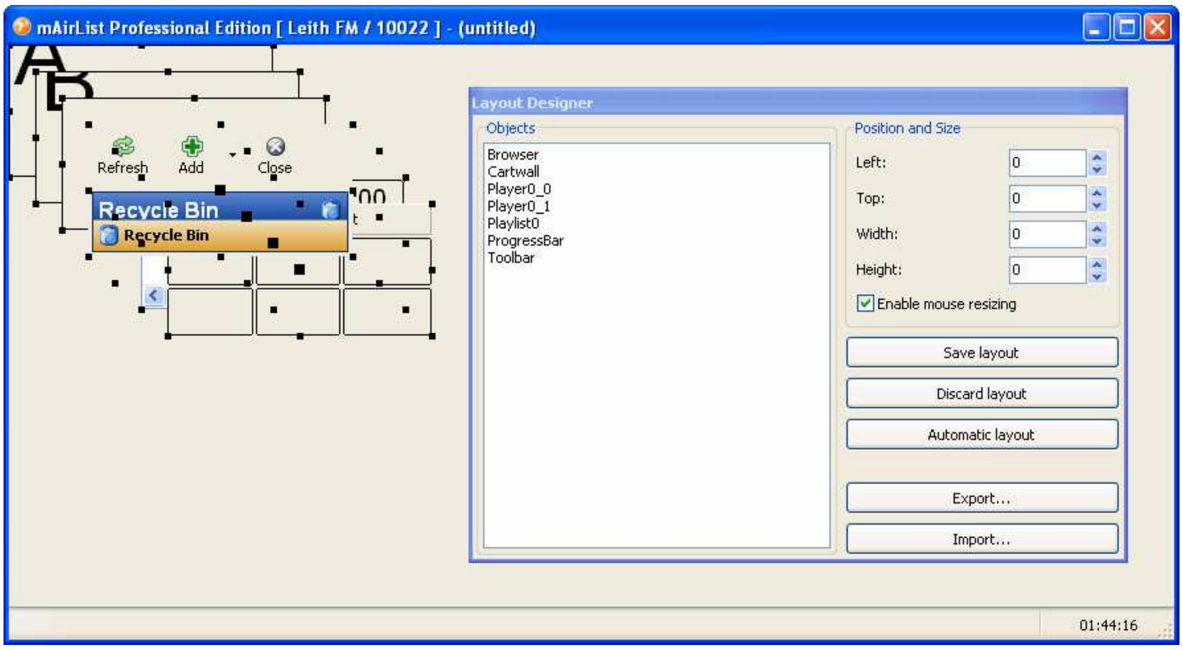


Figure 10.1: The *mAirList* Layout Designer window

The **Layout Designer** dialog lists all the objects in the window, and shows the size and position of the currently selected object (initially, **no** objects are selected, and all object 'handles' are black).

If a **layout.ini** file already exists, objects are shown in the sizes and positions specified in the file; otherwise, all objects are set to 200×100 pixels in size, and are 'cascaded' in the window to make them easier to select using the mouse.

Use the mouse or the dialog to select an object. You can select only **one** object at a time.

10.1 Using The Mouse

***NOTE:** When you open the Layout Designer, **Enable mouse resizing** is selected.*
*You **cannot** use the mouse to make layout changes if this checkbox is cleared.*

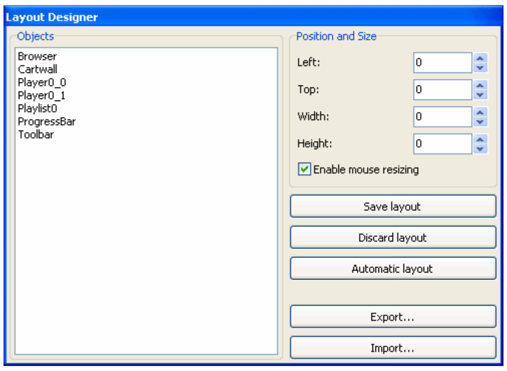
Use the mouse to select, move, and resize objects as described below. Note that you will usually need to use the Layout Designer dialog as well, to ensure that objects are precisely aligned, and that objects like Players are identically sized.

- **Select** an object by clicking the large 'handle' in the **centre** of the object.
  The 'handles' of the currently selected object change from black to red,
  and its name is selected in the **Objects** list in the Layout Designer dialog.
- **Move** an object by dragging the 'handle' in the **centre** of the object.
- **Resize** an object by dragging any 'handle' on the **edge** or **corner** of the object.

Moving or resizing an object with the mouse automatically **selects** that object.

You can also move or resize the *mAirList* window by using the mouse.

10.2 Using The Layout Designer Dialog



Click an object in the **Objects** list to select it. Use this method to select an object which is currently 'under' other objects, or is too small or otherwise difficult to select using the mouse. The 'handles' of the currently selected object change from black to red.

Note that Playlists, Player objects, and any custom screen objects you have created are numbered starting from **zero**, so for example, the first Player in the first Playlist is named **Player0_0** in the Objects list.

Use the **Position and Size** text boxes and spin controls to make fine adjustments to the currently selected object.

This allows you to precisely align the edges of objects, and to ensure that objects of the same type (for example, all Players) are all the same size.

Enable mouse resizing is selected by default. Clear this checkbox if you want to prevent accidental changes, or while testing your layout. Clearing this checkbox removes the 'handles' on all objects.

Save layout saves the current layout to the **layout.ini** file in your *mAirList* Config folder. When you next start *mAirList*, it will use the layout you have saved.

Discard layout 'resets' the layout to the way it looked when you opened the Layout Designer, or to the last layout you saved. In other words, the current layout.ini file is loaded, and all objects are arranged according to the settings in the file. Any changes made since your last save will be lost.

Automatic layout deletes the layout.ini file, if it exists. The Layout Designer shows a message box asking you to confirm this action. Clicking **Automatic layout** has the effect of returning to the 'no layout' default position (see Figure 10.1 on page 103).
IMPORTANT: *Clicking* ***Yes*** *in the message box will* ***delete*** *your current layout.ini file.*
Unless you are starting from the default layout, we ***strongly*** *suggest that you first make a copy of your current* ***layout.ini*** *file in another location, by clicking* ***Export...***

Export... saves the current layout to a file and location *other* than the layout.ini file in your *mAirList* Config folder. This is useful if you want to save a layout to Import it on another *mAirList* computer, and also to backup your current layout before you make any changes to it.

Import... loads a layout you previously saved by using Export...; all objects are arranged according to the settings in the file you import. Any objects in the window which don't exist in the imported layout file will not be affected. Use Import to copy a layout exported on another *mAirList* computer, or to restore a previously saved layout.

10.3 Closing The Layout Designer

To close the Layout Designer, close the *mAirList* window using any of the usual methods.

If you have made changes but have not yet saved them, the Layout Designer displays a message box asking whether you want to save your changes.

11. mAirListDB Audio Database

Important Note: *mAirListDB* is only available in the **paid** editions of *mAirList* (Personal Edition and Professional Edition).

11.1 About mAirListDB

mAirListDB (*mAirList* **d**ata**b**ase) is a so-called music database or audio database. *mAirListDB* stores a list of audio files (but **not** the actual files) and their properties (Cue Markers, etc.). *mAirListDB* also manages playlists you build from the audio files in the list, and allows you to use your entire audio library as a single browsable, searchable entity: the *location* of your audio files—local hard disk or server on the Internet—no longer matters. You can therefore organise the physical storage of your audio files in any way you wish.

You manage *mAirListDB* using the database management application, which is built in to the **mAirList.exe** program file. To run this application, click **Database** in your *mAirList* Start menu folder or run **mAirListDB.bat** from your *mAirList* program folder.

You can set up *mAirListDB* in two different modes:

- In **local mode**, all data is stored in a single *SQLite* **.db** file on your computer's local hard disk.
- In **network mode** (available in Professional Edition only), all data is stored on a *PostgreSQL* server you can access from anywhere on your network. Use this mode if you want to access the database from multiple computers. (Please note that you **must** purchase at least a *mAirList* Management licence for **each** computer you use to access the database.)

After you create a database, you **cannot** change its mode unless you delete and re-create the database from scratch, so it is **very important** that you decide the database mode you want to use (local or network) *before* you create a database.

11.2 How To Create A New mAirListDB Database

The steps to create a new *mAirListDB* database are different for local mode and network mode databases, as described below.

11.2.1 Local Mode

To create a new *mAirListDB* database in local mode:

1. Open the *mAirList Configuration* program (*mAirListConfig*) and navigate to the **Databases** node.
2. Click **Add**, and in the pop-up menu, click **mAirListDB (local mode)**.
   You see the *mAirListDB (local mode) Setup* dialog.
3. Click **Create new database**. and, on the *Create New mAirListDB Instance* dialog, either accept the default database file name and location (**database.db** in your *mAirList* data folder), or select the folder and type the **File name:** you want to use for your new database file. Click **Save**.
4. *mAirListDB* creates the database file. When the database file has been created, you see a **Setup completed successfully** message box. Click **OK** to dismiss the message box.
5. Optionally, you can change the caption for your database (the default caption is **Database**).
   The caption is the database 'name' displayed in *mAirList* Browser Database panes.
   To change the caption, click the **Advanced** tab and type a **Custom Caption**.
6. Optionally, clear the **Show database button in playout window** checkbox
   (if you do **not** want a **Database** button in the mAirList toolbar).
7. Optionally, select the **Use external IDs for import and export** checkbox
   (if you need to synchronise *mAirListDB* with an external database: see 11.9.1 on page 118).
8. Optionally, set the **Synchronous Mode**[37]. **OFF** dramatically improves *SQLite* performance but does not use any disk caching, making your database file vulnerable to corruption or data loss in case of power loss etc.; **NORMAL** enables disk caching for almost all operations, but has little or no performance gain compared to **FULL**, the default setting (cache all disk operations).
9. Click **OK** to close the *mAirListDB (local mode) Setup* dialog.
10. On the *mAirList Configuration* window, click **Save** to save your changes.

[37] See the online *SQLite* documentation for full details.

11.2.2 Network Mode

11.2.2.1 Obtain and Install *PostgreSQL*

Before you can create a *mAirListDB* database in network mode, you must first install *PostgreSQL*, a free database management system. If you already have *PostgreSQL* installed on your computer network, you can add the *mAirListDB* database schema and login roles to it: your *PostgreSQL* administrator should be able to do this for you after studying the instructions below.

mAirListDB has only been tested with *PostgreSQL* 8.3 and above, which is available for both *Windows* and *Linux*, as well as for several other *Unix*-like operating systems. Brief installation and setup instructions for *Windows* and *Linux* are below.

Windows Installation

You can download a 'one-click' installer from http://www.postgresql.org/download/windows. This distribution includes a very useful management application called *pgAdmin III*.

Download the installer and follow the installation instructions. If you encounter any problems, please refer to the *PostgreSQL* documentation.

After you have installed *PostgreSQL*, open *pgAdmin III*. In the **Object browser** pane, double-click the **PostgreSQL 8.3 (localhost:5432)** node. *PostgreSQL* prompts you for the server password you chose during *PostgreSQL* setup.

Once you are connected, right-click the **Login Roles**[38] node and click **New Login Role**. Role names are case sensitive, and should ideally be all lower case. On the **New Login Role** dialog, type **mairlist** as the **role name**, and type a **password**. Leave all other options unchanged, *especially* the **Role Privileges** checkboxes. Click **OK** to create the role.

Next, right-click the **Databases** node and click **New Database**. Like role names, database names should ideally be all lower case. Type **mairlist** as the database name.

Important: *As **Owner**, select the **mairlist** role you created in the previous step.*

Make sure **Encoding** is set to **UTF8** and leave all other options unchanged. Click **OK** to create the database. When this is complete, close *pgAdmin III*.

Linux Installation

PostgreSQL 8.3 or later should be included in all recent *Linux* distributions. If not, you can download it from http://www.postgresql.org/download/linux and install it separately.

The *pgAdmin III* configuration tool referred to in the *Windows* installation instructions above is also available for Linux, so if you prefer a graphical management application, you can install it and follow the instructions above.

However, you can easily create the login role and database using the *Linux* console:

1. Open a console window and become **root**, usually by entering the **su** or **sudo su** command.
2. Change your user ID to the special PostgreSQL management user **postgres**:
   # su postgres
3. The command prompt should now look something like **postgres@*computername*$**.
   From this user ID, you can create **PostgreSQL** login roles and databases.
4. Create a new login role named **mairlist** (in all lower case, as preferred by PostgreSQL):
   # createuser -P mairlist
5. Choose a password for the user and enter it *twice*. Answer all questions with **no**.
   (The user does not need to be a super-user, nor be able to add other users or databases.)
6. Create a database named **mairlist** (again, all lower case) owned by the user **mairlist**:
   # createdb -O mairlist -E UTF8 mairlist

A few seconds later, your database is ready for use. You can try to log in by typing
# psql -U mairlist -d mairlist -W

[38] In *PostgreSQL* terminology, a **login role** is the same thing as a database **user**.

11.2.2.2 Allow Remote Computers To Access *PostgreSQL*

By default, the *Windows* and *Linux* distributions of *PostgreSQL* only allow connections from the local PC, and will block any connection attempts from other computers on your network. To allow other computers to access the *PostgreSQL* server, edit the **pg_hba.conf** file. You will also usually need to add the line **listen_addresses='*'** to the **postgresql_conf** file.

On *Linux*, these files are located somewhere in **/etc/postgresql**. On *Windows*, the files are usually in the **C:\Program Files\PostgreSQL\8.3\data** folder.

To configure *PostgreSQL* server to allow other computers to access the database via MD5 password authentication over your IP network, add a line to the **pg_hba.conf** file. For example, if your network uses the IP subnet range **192.168.10.*nnn***, add the appropriate version[39] of this line:

Newer PostgreSQL servers: **host mairlist all 192.168.10.0/24 md5**
v7.x PostgreSQL servers: **host mairlist all 192.168.10.0 255.255.255.0 md5**

Don’t forget to *restart* the *PostgreSQL* server after you save **pg_hba.conf** and **postgresql_conf**.

You must also install the *PostgreSQL* Client Library on each ‘remote’ *mAirList* computer (see below).

Finally, we recommend that you select the **Management mode requires login** option in *PostgreSQL*. With this option set, starting the management interface presents a login dialog, requiring the user to enter their personal credentials. This allows you to track which changes are made by which user.

By default, *mAirListDB* operates with a single database user (role). Optionally, you can create multiple login roles and (using *PostgreSQL* admin tools) assign different privileges to each role. However, at the moment, we recommend that only advanced users, or those with practical experience in *PostgreSQL* administration and rights management, should attempt to do this.

11.2.2.3 Obtain and Install the *PostgreSQL* Client Library

To access a *PostgreSQL* server, *mAirList* uses the *PostgreSQL* client library (**libpq.dll**). Starting from *mAirList* 3.0.8, the older version (7.4) of the *PostgreSQL* client library is included in all *mAirList* setup packages including the ZIPfile distribution. The client library is a single DLL file named **libpq74.dll**.

You *can* use the newer version 8 of the client library if you prefer, but version 8 installs numerous support DLLs which unnecessarily ‘bloat’ the installation. This is why we recommend the (supplied) older version **libpq74.dll** file, which provides all the function required for *mAirList* and *mAirListDB*.

If you would still prefer to use a newer version of the *PostgreSQL* Client Library, download it from http://www.mairlist.com/download/misc/libpq/. Extract **postgresql-libs-*version*.zip** into your *mAirList* program folder, preserving the folder structure. **Important:** You **must** use this installation method on **every** computer which accesses *mAirListDB* (and *PostgreSQL*).

11.2.2.4 Set Up *mAirList*

Configure *mAirList* to use your new *PostgreSQL* mAirList database as follows:

1. Open the *mAirList Configuration* program (*mAirListConfig*) and navigate to the **Databases** node.
2. Click **Add**, **mAirListDB (network mode)**. You see the *mAirListDB (network mode) Setup* dialog.
3. Click the **Connection** tab and type the information you use to connect to your *PostgreSQL* server. If you followed the instructions above: **Database** and **User** are both **mairlist**; **Host** is either **localhost** or the **name/IP address** of the computer running your *PostgreSQL* server; and **Password** is the password you chose for the **mairlist** role during *PostgreSQL* setup.
4. ***IMPORTANT!*** *Do **not** perform this step more than once on the **same*** PostgreSQL *database.*
   Click the **Setup** tab, and click **Perform Initial Setup**. When the database setup is complete, you see a **Setup completed successfully** message box. Click **OK** to dismiss the message box.
5. Optionally, change the caption for your database (the database ‘name’ displayed in *mAirList* Browser Database panes, default: **Database**): click the **Advanced** tab and type a **Custom Caption**.
6. Optionally, clear the **Show database button in playout window** checkbox
   (if you do **not** want a **Database** button in the mAirList toolbar).
7. Optionally, select the **Use external IDs for import and export** checkbox
   (if you need to synchronise *mAirListDB* with an external database: see 11.9.1 on page 118).
8. Click **OK** to close the *mAirListDB (network mode) Setup* dialog.
9. On the *mAirList Configuration* window, click **Save** to save your changes.
10. When *mAirList* starts up, it uses the user credentials you entered on the **Connection** tab to make its automated login and connection to *PostgreSQL* and the *mAirListDB* database.

[39] Compare these lines with the examples in your **pg_hba.conf** file to decide whether to use CIDR or subnet mask format.

11.3 Managing Your Audio Library

Before we explain how to use *mAirListDB* to manage your audio library, we recommend that you appoint *at least one* member of your station personnel to *manage* your audio library. If you allow your audio library to 'just grow,' it will quickly become an unmanagable mess.

Your audio library manager will be responsible for:

- Maintenance of library media and folders.
- Physically adding new audio files to the library media and folders.
- Quality-checking all new audio files for clicks, pops, artefacts, and other audio faults.
- Tagging all new audio (assigning an audio Type, adding cue and ramp points, etc.).
- Checking that artist and title information is correct, and in a standard format.
- Checking for duplicate titles which are different songs, and marking these accordingly.
- Keeping *mAirListDB* in sync with the library media.
- Managing *mAirListDB* folders.

Audio library managers typically have one ore more assistants/staff to assist with these duties.

If you have not already done so, please read (or re-read) section 9.3 on page 93 before continuing, and make sure that your audio library manager and staff *also* read section 9.3 and all of *this* section.

Once you have set up a *mAirListDB* connection, you can run the *mAirListDB* database management program either by selecting **Database** from the *mAirList* Start menu group, or by running **mAirListDB.bat** from your *mAirList* program folder.

11.3.1 Adding Storages

Before you can add audio files to *mAirListDB*, you need to tell *mAirListDB* where your audio files are stored. In *mAirListDB* terminology, the audio file folders on your hard disks or network file servers are called **storages**. (The term 'storage' was chosen because future versions of *mAirList* may support other types of data source: for example, a web server).

Important: If you map network drive letters to refer to locations on network file servers, map the **same** network drive letters on **all** your *mAirList* computers, and use the **same** network drive letters when you add storages to *mAirListDB*. Otherwise, your playout computer(s) will not be able to load the audio files.

To add one or more folders as a storage, click **Administration**, **Configuration...**, **Storages** tab, click **Add...**, then navigate to the **top-level** folder you want to add as a new storage and click **OK** twice. *mAirListDB* scans folders *recursively*, so you **don't** need to Add subfolders separately—and if you did, this would result in unexpected behaviour. The storage is named the same as the folder name.

Please note that adding a storage does *not* add its audio files to the database. To add audio files to the database, *synchronise* the storage as described in 11.3.3 on page 109. A storage will **not** be listed under the Storages node of the Library pane tree until you have synchronised it at least once.

11.3.2 Adding Virtual Folders

Within *mAirListDB*, you can create a hierarchy of **virtual folders** to help you organize your audio files. Virtual folders only exist within *mAirListDB*, and are completely separate from the real file folders where your audio files are stored.

Once created, virtual folders can contain audio files from **any** storage, so you do not need (for example) to store all your 'oldies' in the same real folder(s) on disk. You can also add 'special' non-audio items to any virtual folder.

To add a new virtual folder, select a folder (or the **Folders** node) in the tree on the **Library** page, then on the toolbar, click **New Folder**. For example, you might create a virtual folder named *Xmas* to store all your Xmas-themed items, a virtual folder named *1950s* to store all items recorded in the years 1950–1959, or virtual folders like *Ballads*, *Current Hits*, *Heavy Rotation*, *Jingles*, *Sweepers*, etc.

The virtual folder named **Unsorted** is always present and you cannot delete it. The Unsorted virtual folder contains all audio files which you have not added or moved to any other virtual folder. If you Delete an audio file from all other virtual folders, it will 'move back' to the Unsorted virtual folder.

Note that you can copy the same audio file (or item) into as many virtual folders as you like.
So for example, you could copy the same station jingle audio file into virtual folders named *Jingles*, *Station IDs*, and *Xmas Jingles*; or the same song into virtual folders named *1970s*, *Disco*, and *Number Ones*. This is especially useful if you plan to use the *mAirListDB Mini Scheduler* (see 11.5.3 on page 113) to create playlists for automated playout.

On the other hand, if you are purely a live assist station which does not use scheduled playlists at all, we suggest that you at least create two virtual folders named *Music* and *Jingles*, but like everything in *mAirList*, that is entirely your decision, based on how your station works.

Important: If you plan to use the *Mini Scheduler* to create database playlists, we suggest that you **first** learn and understand how the *Mini Scheduler* works (see 11.5.3 on page 113), **then** create a set of virtual folders which will best suit your hour templates.

11.3.3 Synchronising a Storage

Once you have added a storage, you can import a list of the audio files it contains and read all the information (file tags etc.) from the audio file tags and .mmd files in that disk folder and all its subfolders. In *mAirListDB* terminology, this import process is called **synchronisation**.

To synchronise a storage, click **Synchronise** on the **Library** tab, then choose the storage you want to synchronise. Note that you cannot synchronise more than one storage at the same time.

The synchronisation dialog scans the storage and displays the list of 'new' files on the left hand side. Select the files you want to import (by default, all files are selected); decide whether you want to **Disable Auto Cue** (the default is **Enabled**: see below); select the virtual folder where you want to save the imported files (the default is **Unsorted**); select the desired Type for the files by selecting it in the **Set type as** dropdown (leave this blank unless **all** files in the storage are the same Type), then click **Import selected files**.

Important: If Auto Cue is enabled in the *mAirList* configuration program, synchronisation takes longer to run, *unless* you have previously tagged the files.

The **Disable Auto Cue** check box in the Synchronisation dialog optionally 'switches off' Auto Cue for this one synchronisation. Tick this box **only** if you do **not** want to run Auto Cue for 'untagged' files in the storage which are 'new' to *mAirList*.

Regardless of the check box setting, files already present in *mAirListDB* will **not** be Auto-Cued again: their *existing* Cue Markers are **unaffected**.

Even if **Disable Auto Cue** is cleared, **no** Cue Markers will be set during synchronisation unless Auto Cue is enabled in the *mAirList* configuration program.

Depending on the speed of your computer, synchronisation processes at least one thousand items per 35 minutes; or at least 1,700 items per hour.

During synchronisation, *mAirListDB* reads all the .mmd files and *ID3* (or other) file tags, exactly like dragging a file into *mAirList* does (synchronisation uses exactly the same mechanism, which is described on page 94). You can check the progress of the synchronisation in the status bar at the bottom of the dialog. As each file is successfully synchronised, it disappears from the *New Files* list.

To interrupt synchronisation at any time, press **Esc**.

After your storage is fully synchronised, its audio files appear as items in the virtual folder hierarchy of the Library pane tree on the **Library** tab; the storage will be listed in the Storages node of the Library pane tree; and the audio files will *also* be listed as items in the storage.

You can synchronise a storage at any time to check for files which have been added to, renamed, or deleted from it since the last synchronisation. If a file is missing, the dialog gives you the option to delete the corresponding database items; if a file has been renamed, it will appear in both lists (*New* and *Missing*), and you can select both the old name and the new name, then click **Fix renamed file** to rename the file in the database.

11.3.4 VACUUM Command (Compact/Defrag)

Like all database files, a *mAirListDB* database can become 'bloated' over time. To 'compact' or 'defrag' a *mAirListDB* database, open its Configure/Setup dialog in the *mAirList* configuration program, click the Advanced tab, then click VACUUM: **Perform now**.

11.4 Working With The Library Tab

The **Library** tab window in *mAirListDB* shows the contents of your library using two panes.

The left-hand pane shows a tree whose root is the database name. The 'first-level' nodes below the root are (virtual) **Folders**, **Artists**, item **Types**, item **Attributes**, and **Storages**.

The right-hand pane is a list of the contents of the node selected in the left-hand pane.
For example: click an Artist node in the left pane to show all items by that Artist in the right pane.

- To **add** a new virtual folder, select a folder (or the **Folders** node) in the tree on the **Library** page, then on the toolbar, click **New Folder**.
- To **rename** a virtual folder, select it, click its name, edit the name, and press **Enter**.
- To **move** a virtual folder within the **Folders** tree, drag the folder and drop it on the folder you want to move it to. Drop the folder on the **Folders** node to make it a 'top-level' folder.
- To **delete** a virtual folder, select it and, on the toolbar, click **Delete Folder**. Any items in that folder which are now no longer in any *other* virtual folder move to the **Unsorted** folder.
- To **add item(s)** to a virtual folder, select the item(s), then Ctrl+drag/drop them on the folder to **copy** the items, or drag/drop them on the folder to **move** the items.
- To **add 'special' items** to a virtual folder, select the folder, click **New Item** on the toolbar, select the type of item you want to add (for example, *Silence* or *Automation break point*) from the menu, add or change the item's properties, then click **OK**.
(This is useful when creating Hour Templates for the Mini Scheduler: see 11.5.3 on page 113.)
- To **search for an item**, type any part of the title or artist name in the **Search:** box and press **Enter**. *mAirListDB* displays all items whose title or artist(s) contain the text you typed.
- To **change sort or column order** in the right-hand pane, click a column heading to sort by that column; drag and drop column headings to change their order.
- To **edit an item's Properties**, double-click the item.
- To **'mass edit' a number of selected items in a single operation**, select (Ctrl+click or Shift+click) the items, right-click, then click **Mass edit**. On the **Mass Edit** dialog, make changes, then click the **Apply** button beside the box to apply that change to all the items. Finally, click **OK** to save all your changes or click **Cancel** to abandon all your changes.
- To **change an item's Type**, first expand the **Types** node, then drag/drop the item on the Type node you want to change it to (for example, **Instrumental**).
- To **listen to an item**, select the item and use the mini-PFL player at the bottom of the *mAirListDB* window.
- To **use the mini-PFL Player**, select an item, then click the **Listen** (play) button.
While the item is playing, drag the slider to listen to any part of the item, or click the **Jump** (next) button to hear the end of the item (approximately twenty seconds).
Click **Stop** to stop playback. Unless the double-click action for an item is *Playback* (see below), you cannot listen to a *different* item until you either stop the mini-PFL Player, or select a different item and then press the **Listen** (play) button again.
- To **change the double-click action for an item** from *Properties* to *Playback*, click the **Playback** (speaker) button at the bottom right of the *mAirListDB* window; to change the double-click action back to *Properties* , click the **Properties** (pencil) button at the bottom right of the *mAirListDB* window.
- To **export the entire library as a CSV, text, or Raduga file**,
click **Export**, **Export Entire Library...**, navigate to the desired folder, select the type of file you want to export, type a **File Name**, and click **OK**.
- To **export the items shown in the right-hand pane as a CSV, text, or Raduga file**,
click **Export**, **Export Current View...**, navigate to the desired folder, select the type of file you want to export, type a **File Name**, and click **OK**.
- To **export selected items as a CSV, text, or Raduga file**,
select the item(s), click **Export**, **Export Selection...**, navigate to the desired folder, select the type of file you want to export, type a **File Name**, and click **OK**.

11.5 Managing Database Playlists

A **database playlist** is a normal *mAirList* playlist which is stored within the *mAirListDB* database instead of in an external file[40]. Database playlists are especially useful if you regularly run *mAirList* in Automation mode for any part of your broadcast day or week.

In *mAirList*—like most music scheduling applications—a database playlist begins 'on the hour,' so there is one playlist for each hourly 'slot' in each day. Database playlists are identified by the **hour** and **date** for which they are scheduled. For example: 'the 3 a.m. playlist for June 4th, 2010.'

You can easily schedule *mAirList* events to automatically load a database playlist a few minutes before every hour; and you can also quickly and easily make last-minute changes to any database playlist right up to the moment it is automatically or manually loaded into *mAirList*.

Although each database playlist's duration represents one hour of airtime, we strongly suggest that you make each database playlist a few minutes *longer* than one hour, in case any items in the playlist fail to play out, or the playlist under-runs for any other reason.

To manage database playlists, click the **Playlist** tab in the *mAirListDB* window.

11.5.1 Working With The Playlist Tab

The **Playlist** tab window in *mAirListDB* is identical to the **Library** tab window, but with a **playlist** pane above the two Library panes. The playlist pane shows the contents of the database playlist for the hour and date currently showing in the date and time dropdowns at the left of the toolbar.

On the **Playlist** tab, the **navigation** actions are:

- To **jump to a specific slot** and view the database playlist in that slot,
  set the date and time dropdowns to the day and hour you want to view.
- To **move one slot (hour) back or forward** and view the database playlist in that slot,
  click **Previous** to move one hour back; click **Next** to move one hour forward.
- To **view one week's slots as a table**, click **Go To...**
  The **Select Playlist** dialog opens, showing all the slots in the current week, and the duration of each non-empty slot's database playlist.
  Click the left arrow to move one week back; click the right arrow to move one week forward.
  Completely empty slots are red; slots which have at least one item in their playlist are green.
  Beside each non-empty slot's duration, a warning icon indicates the slot's duration is *less than* one hour; a green tick indicates the slot's duration is *at least* one hour.
  To **view the contents of the database playlist in a slot**, double-click the slot.

On the **Playlist** tab, the **general** actions **for the database playlist you are currently viewing** are:

- To **save the database playlist**, click **Save**.
- To **clear (empty) the database playlist**, click **Clear**. Although the database playlist is cleared immediately on screen, the change is **not** permanent unless you click **Save**, so navigating to a different slot and back again will 'restore' the cleared playlist.
- To **play the entire database playlist**, click **PFL**.

On the **Playlist** tab, the **item-related** actions **for the database playlist you are currently viewing** are:

- To **change the database playlist order**, drag and drop the items in the playlist pane.
- To **add a specific library item to the database playlist**, drag the item from the right-hand library pane and drop it in the playlist pane.
- To **add a 'special' item to the database playlist you are viewing**, click **Insert**, select the type of item you want to add (for example, Silence), add or change the item's properties, then click **OK**. The item is inserted **before** the currently selected item in the playlist.
- To **make custom changes to an item's Properties** which apply **only** to the current playlist, select an item, right-click it, click **Customise Properties...** , and make the changes.
- To **play the selected database playlist item**, right-click it, click **Customise Properties...**, then click the **PFL** tab in its Properties dialog.

[40] Unless, of course, you choose to **Export** the playlist to an external file.

On the **Playlist** tab, the **file import and export** actions are:

- To **import an external playlist file into the current hour slot**, click **Import**, **Single Playlist...**
  ***Note** that this **replaces** the current database playlist contents.*
  If the current database playlist is not empty, click **Yes** to save the current database playlist first, **No** to allow it to be replaced without saving, or **Cancel** to cancel the import.
  On the **Import Playlist** dialog, select the file type in **Files of type**, then navigate to and select the playlist file you want to import and click **Open**.
- To **import one or more external playlist files and split them into multiple database playlists**, click **Import**, **Multiple Playlists...**
  ***Note** that this may **replace** the current database playlist contents.*
  If the current database playlist is not empty, click **Yes** to save the current database playlist first, **No** to allow it to be replaced without saving, or **Cancel** to cancel the import.
  On the **Import Playlists** dialog, select the file type in **Files of type**, then navigate to and select the playlist file(s) you want to import and click **Open**.
  On the **Playlist Import** dialog **Output** tab, select the start date/time and criteria to use to split the playlist(s), then click **Apply/Generate**. To save the results as database playlists in those slots, click **OK**; or to cancel the import, click **Cancel**.
- To **export the database playlist you are viewing to a file**, click **Export**, **This Playlist...** and on the **Save Playlist** dialog, select a file type (.mlp, .m3u, or printable HTML) in **Save as type**, navigate to the correct folder, change or accept the **File name**, and click **Save**.
- To **export a range of database playlists as separate files**, click **Export**, **Multiple Playlists...**, and on the **Save Playlists** dialog, select the range of database playlists you want to export, choose the **Output folder**, type or accept the **File name format** (using logging variables: see 7.8.2 on page 63), select a **File format** (.mlp, .m3u, or printable HTML), then click **Export** to export the files or **Cancel** to cancel the export.

The **Generate** button is described in section 11.5.3 on page 113.

Note that you **cannot** play items in the playlist pane using the mini-PFL player at the bottom of the window: the mini-PFL player can **only** play files in the **library** pane.

11.5.2 Creating Database Playlists

You can create database playlists manually, or automatically by using the built-in *Mini Scheduler* (see section 11.5.3 below), or (as described above) by importing external playlist files (or 'log files') created by music scheduling applications such as *Powergold*, *RCS*, *Station Playlist Creator (SPC)*, *Music 1*, or *DigAS Show*.

11.5.2.1 Creating A Database Playlist Manually

To create a database playlist manually, first select a time and date using the toolbar controls, then drag items from the library browser at the bottom of the window into the playlist at the top of the window. Items dragged from the library pane ('database items') are shown with a **green** icon.

To move items within the database playlist, drag and drop them. To delete items from the database playlist, select the item(s), then press **Del**; or right-click the item(s) and click **Delete**.

You can **customise** any item in the database playlist by changing any value or setting in its Properties (Cue Markers, fade duration, etc.) to a different setting which you want to use in this one database playlist only. These changes are saved *only in that database playlist*: the database item is *not* affected. Customised items (from the library) are shown with an **orange** icon.

To customise an item, double-click it (or right-click it and click **Customise Properties...**) to open its Properties dialog, make your changes, then click **OK**.

To insert non-audio items (Silence, Break, etc.) into a database playlist, click **Insert** in the toolbar, click the type of item you want to insert, set its Properties (if necessary), and click **OK**.
Non-audio items are shown with a **blue** icon (or a **green** icon, if dragged from the library pane).

To save the database playlist, click **Save** in the toolbar.

If you change a database playlist and then move to a different slot's playlist without saving your changes, *mAirList* displays a message box: click **Yes** to save your changes and continue, click **No** to abandon your changes and continue, or click **Cancel** to remain in the database playlist you changed.

11.5.3 Using the Mini Scheduler

Creating database playlists manually quickly becomes a tedious chore. Manually created playlists also tend to be ‘biased’ towards better-known artists and songs, leaving much of your library ‘unplayed.’ Unless you choose to use (or already use) an external music scheduling application, sooner or later you will need an automated way to create database playlists.

The **Mini Scheduler** built into *mAirListDB* creates ‘random’ playlists by using some very basic rules. Although the Mini Scheduler uses techniques and concepts similar to those in professional music scheduling applications, it is **not** intended to replace them: it lacks many important features such as detailed selection rules, daypart separation, and ‘exclusions.’ However, the Mini Scheduler is adequate if all you need to do is create random playlists quickly and with minimum effort.

11.5.3.1 Creating Hour Templates

Although the Mini Scheduler *can* create playlists by randomly selecting items from your entire library, it is more usual to set it up to randomly select items from specific virtual folders. This is the same as using ‘categories,’ ‘groups,’ or ‘rotations’ in a professional music scheduling application. For example, you might create virtual folders like *Pop*, *Rock’n’roll*, and *Country*; and/or *1950s*, *1960s*, *1970s*, *1980s*, etc.: any names which reflect the types of music your station plays, and how you plan to schedule them. As another example, a CHR station would typically use *Heavy*, *Light*, and *Oldies*.

After you create suitable virtual folders, you can create **hour templates** for the hours you want to schedule. An hour template is a list of virtual folder names, and serves the same function as a ‘clock’ or ‘format’ in professional music scheduling applications. When it generates playlists, the Mini Scheduler selects a file randomly from each virtual folder in the list; and by default (you can change this behaviour), it then *shuffles* the files it has selected into a random order.

You can create as many hour templates as you want. For example: templates for your breakfast show, daytime, drive time, late night, automated overnight playout, and weekend shows; each with a slightly different list of virtual folders and therefore a different music mix. As you will see in 11.5.3.3 on page 114, you *assign* **hour** templates to hourly slots in a **weekly** ‘template’ to ‘tell’ the Mini Scheduler *which* hour template to use to generate each hour’s playlist in the week.

To create a new hour template, click **Administration**, **Manage Hour Templates…** to open the **Manage Hour Templates** dialog, then click **New** to open the **Edit Hour Template** dialog.

The default **Name** for the template is **New template**, which is used for **every** new template unless you change it. Because this could result in several templates all named ‘New template,’ we suggest that you first click the **General** tab and type a **Name** and **Description** for your new hour template, but you may prefer to create the template contents first and name the template later. (If you do choose to name the template later, please note that you *cannot* rename templates on the **Manage Hour Templates** dialog: you can *only* do this on the **Edit Hour Template** dialog.)

The **Items** tab lists the template contents. Click **Add** to add a template item, then click the new item’s **Folder** column to choose a virtual folder to replace[41] the default **Unsorted** folder. Note that you cannot add *items* (such as a specific file or a Dummy item) to a template directly: instead, you must create a virtual folder, copy (or Insert) *only* that one item into the virtual folder, then specify that virtual folder as a template item. This *forces* the Mini Scheduler to ‘select’ that specific item.

You can optionally click any template item’s **Type Filter** column to ensure that only items which match the Type Filter value are selected when the playlist is generated. Similarly, you can optionally double-click the **Attribute Filter** column to open the **Edit Attribute Filter** dialog, where you can add filters for any Attribute in the database; again, only items whose Attributes match the value(s) you specify will be selected when the playlist is generated, but you can use ~ as the *first* character of the Filter if you want to use *partial* matches on Attributes. If you specify both types of filter for the same template item, then an item must match *both* filters to be selected at playlist generation time.

The **fixed?** column does *not* refer to fixed time: if set, it means that the template item’s *position* in the generated playlist is fixed. To toggle this setting, double-click the **fixed?** column (default is **off**). A Fixed template item is shown with a pink background.

The **optional?** column, if set, means that the template item will only be included in the generated playlist if the playlist duration—*after* generating all the non-optional template items—is less than one hour .To toggle this setting, double-click the **optional?** column (default is **off**). An Optional template item is shown with a white background, unless it is also a Fixed template item.

[41] You can of course leave the **Folder** as **Unsorted** if you *do* want to pick an item from that folder.

To **change the order** of template items, drag and drop them in the list (tip: drag the *item number*).

Te **delete** a template item, click it, then click **Remove** or press **Del**.

You can export a template as a .xml file, and import it into any template later. If you are creating a number of similar templates, this can save you a lot of time.
To **export a template**, click **Export**, choose a location and name for the .xml file, then click **OK**.
IMPORTANT: *Importing a template **replaces** the template contents and there is **no** warning dialog.*
To **import a template**, click **Import**, navigate to and select the .xml file, then click **OK**.

When you have finished working with the template, click **OK** to save your changes or click **Cancel** to discard all changes.

To **edit** an hour template, select it in the **Manage Hour Templates** dialog and click **Edit**.

To **delete** an hour template, select it in the **Manage Hour Templates** dialog and click **Delete**.
A confirmation dialog is shown: click **Yes** if you are sure you want to delete the template.

11.5.3.2 Generating Single Playlists From Hour Templates

To generate a single playlist *directly* from an hour template, navigate to the date/time where you want to generate the playlist, click the dropdown arrow at the right of the **Generate** button, then click the **template name** in the dropdown.

If the playlist was not previously empty, a confirmation dialog is shown. Click **Yes** if you want to save the previous playlist and continue, click **No** to continue *without* saving the previous playlist, or click **Cancel** to abandon generation of the playlist.

Once it is generated, you can change the generated playlist in the same ways as if you had created it manually (add, move, or delete items; and/or customise item properties).

11.5.3.3 Template Assignment

We mentioned earlier that you will probably want *different* hour templates for different times of the day, or for different days. You will also usually want to generate playlists ‘in bulk,’ typically for an entire week or month. To be able to do this, the Mini Scheduler, like most other music scheduler applications, needs to know *which* hour template to use when generating the playlist for each slot.

In *mAirListDB*, ‘mapping’ your hour templates on to the week is called **template assignment**.

To set up your template assignments, click **Administration**, **Template Hour Assignments…** to open the **Hour Template Assignments** dialog.

The 24×7 grid in the dialog shows each slot (hour) of the week as a separate cell. Each column is a day (from Monday to Sunday); each row is a slot (from the midnight–0100 slot to the 2300–midnight slot). No playlists will be generated for empty slots, and you do **not** have to fill every slot.

To make changes, click one slot or select a block of slots by dragging, then right-click your selection. On the context menu, click **Clear** to clear the slot(s) or click the **name** of the Hour Template you want to use when generating playlists for the slot(s). Repeat this process until you have selected an Hour Template for each slot which needs a generated playlist. There is no ‘undo’ function, but you can click **Cancel** to abandon all changes made since you opened the dialog.

Each different hour template you add to the grid is shown in a different colour, to make it easier to check that hour templates are correctly placed in the grid.

We suggest that you click **Export…** to save a copy of your template assignments. You can then click **Import…** later to re-load your assignments. You can use Export and Import to create and use as many different template assignments as you wish, perhaps for different weeks or quarters.

Click **OK** to save your current template assignments, or click **Cancel** to abandon all changes made since you opened the dialog.

11.5.3.4 Mini Scheduler Configuration—Title/Artist Separation

The Mini Scheduler enforces track, title, and artist **separation** when generating playlists—that is, it will not schedule the same track, title or artist closer together than a specified number of hours (respectively)—and it ‘looks back’ to the hours *before* those being generated while doing so (note that it does **not** ‘look forward’ to hours *after* the hours being scheduled).

Note that if you generate a single playlist *manually* from an hour template, this does **not** check track, title, or artist separation: you **must** use the Mini Scheduler if you want to enforce separations.

There is only **one** set of separation values, which are applied to **all** database playlists generated by the Mini Scheduler, so you cannot use different separation rules for different days or parts of days.

To configure the Mini Scheduler track, artist, and title separations,
click **Administration**, **Configuration…**, then click the **Mini Scheduler** tab.

On the Mini Scheduler tab, set the:

- **Track separation** (in hours, default: **3**) and **Penalty** (default: **2**);
- **Artist separation** (in hours, default: **2**) and **Penalty** (default: **1**); and the
- **Title separation** (in hours, default: **3**) and **Penalty** (default: **1**).

separation is the number of hours you want to elapse before the Mini Scheduler is allowed to schedule the same track, or an item with the same artist or title, respectively.

Penalty is a weighting factor (multiplier) which the Mini Scheduler uses to resolve conflicts where the *only* items which can be scheduled in a particular position would break a separation rule. When an item breaks any separation rule, the Mini Scheduler calculates its **penalty score** by multiplying the number of hours it is 'early' by the Penalty for each broken rule, adding all three penalty scores together. In case of conflicts, the item with the **lowest** total penalty score is scheduled.

This means that when the Mini Scheduler has to break a separation rule, it will break the **artist** or **title** separation rule in preference to breaking the **track** separation rule.

If you change the default Mini Scheduler separation settings, we suggest that you always make the **track** penalty score highest, followed by **artist** and **title**, to ensure that when necessary, you will hear the same *artist* 'too often' and **not** the same *song* 'too often.'

One final note: when generating database playlists, the Mini Scheduler calculates separation times by 'hour' (**not** by exact scheduled playout time) while choosing items from the virtual folders specified in the hour template. Therefore, in extreme cases, it is possible for separations to be one hour 'closer' than you request.

For example, with an artist separation of two hours, it is possible for the *final* artist of the midnight playlist and the *first* artist of the 0200 playlist to be the same, and therefore *one* hour apart instead of two hours. If separations are particularly important to you, you may want increase all separation values by one hour to allow for that possibility.

11.5.3.5 Mini Scheduler Configuration—Options

To configure the Mini Scheduler Options, click **Administration**, **Configuration…**, then click the **Mini Scheduler** tab.

Abort scheduling when no matching item can be found for a slot (default: **on**)
If this setting is **off**, scheduling will continue even if no items match the criteria for a slot.

Suppress errors and warnings for optional items (default: **on**)
If this setting is **off**, error and warning messages will be shown for 'optional' hour template slots.

11.5.3.6 Running the Mini Scheduler

Once you have created and assigned your hour templates and set up your preferred separation values, you can run the Mini Scheduler to create 'random' database playlists 'in bulk.'

To run the Mini Scheduler, click **Generate**; or click the dropdown arrow at the right of the **Generate** button, then click **Mini Scheduler** in the dropdown. The Mini Scheduler dialog opens.

Select the period for which you want to generate database playlists by choosing a **First Day** and **Last Day**. The dialog contains some 'shortcut' buttons like *Today* and *One Week*; but you can select dates manually by dropping down either date and navigating to the first/last day you want.

Normally, the Mini Scheduler generates database playlists for every hour in the day which has an hour template assigned to it in the Hour Template Assignments, but you can *prevent* the generation of a database playlist for any hour or hours by *clearing* the appropriate checkboxes in the **Hours** section of the dialog. Note that if you do this, it 'suppresses' the generation of database playlists for those hours in ***every** day* of the selected period.

To start generating database playlists for the hours and days you selected, click **Go!** Progress is displayed in the bottom half of the dialog, including a preview of each playlist as it is generated.

11.6 *Using* mAirListDB *Databases In* mAirList

There are three principal ways you can use a *mAirListDB* database in *mAirList*:

- Add a **Database**, **Database Search**, or **Database Playlist** pane to the **Browser**.
- Use the **Database** (playlist) actions to add an event (or events) to the **Event Scheduler** to load database playlists automatically.
- Click **Database**[42] in the main toolbar to open a *mAirListDB* window.

11.6.1 Browser Database Panes

You can add any of the following types of panes to the *mAirList* Browser.

11.6.1.1 Database Pane

This pane duplicates[43] the tree in the Library tab of *mAirListDB* as an expandable tree showing titles, artists, and durations of items in the database. Drag the column headings to resize them.

Like all Browser panes, you can drag items from this pane and drop them into the Playlist.

You can also drag and drop virtual folders: this adds all the items in the virtual folder to the playlist. Note that you need to drag the **name** of the virtual folder and *not* the folder icon.

11.6.1.2 Database Search Pane

This pane duplicates the function of the search box in *mAirListDB*.

To search for items, type the text to find and click **Go**. *mAirList* will search the database and list all items whose title or artist contains that text. To stop a search in progress, click **Stop**. When the search is complete, the **Stop** button changes back to a **Go** button.

If you have more than one database, such as *mAirListDB* and *iTunes*, or two different *mAirListDB* databases (perhaps a 'pop' one and a classical one), you can choose a specific database to search by selecting a database from the dropdown below the search term box (default: **(All databases)**).

To sort the list of search results, click a column heading. Drag the column headings to resize them; note that the Title column is automatically sized (resize the Artist column instead).

Like all Browser panes, you can drag items from this pane and drop them into the Playlist.

11.6.1.3 Database Playlist Pane

This pane is similar to the database playlist browser on the Playlist tab in *mAirListDB*.
It can also display the playlists stored in an *iTunes* 'database:' see 7.9.8 on page 67 for full details.

Choose a database to browse by selecting it from the dropdown, or accept the database shown.

Navigate to the desired database playlist using the date/time dropdowns and previous/next buttons.

To sort a database playlist, click a column heading. Drag the column headings to resize them; note that the Title column is automatically sized (resize the Artist column instead).

You can drag items to change their order, or even delete them, but these changes are temporary and are **not** written to the database.

Like all Browser panes, you can drag items from this pane and drop them into the Playlist.

To insert a database playlist item *before* the *currently selected* Playlist item, double-click it.

Note that if an item was 'customised' in the database playlist in *mAirListDB*, the item in the database playlist browser **will** contain those customisations.

Click the small 'gearwheel' button to show a menu with three items:

- **Load into playlist** and **Append to playlist** are self-explanatory.
- **Copy to clipboard** copies the entire database playlist to the *Windows* clipboard as XML text which you can paste into a file. The text is in the same format as a *mAirList* .mlp playlist file.

[42] If the button has not been disabled: see 11.2.1 on page 105 and 11.2.2.4 on page 107).

[43] **Storages** are **not** included in the tree.

11.6.2 Database (Playlist) Actions And Event Scheduling

The Database (playlist) Actions are described in 4.1.2.7 on page 27. You can use these Actions in scheduled Events as described in 4.2 on page 29 to fully automate your station output for some or all of your broadcast day.

Note that you must still *create* the database playlists in advance: manually, or by importing them from a music scheduling application, or by using the Mini Scheduler.

11.6.3 Database Button (Main Toolbar)

Clicking the **Database** button on the main toolbar opens a separate *mAirListDB* window.
All features in this window are fully functional. In copies of *mAirList* used in 'live assist' studios, you may wish to 'remove' the **Database** button to prevent accidental changes being made to the library, hour templates, database playlists, etc. This option is on the **Advanced** tab of the database's Configure/Setup dialog in the *mAirList* configuration program.

11.7 *Changing The Appearance Of Library Item Lists*

By default, the first column in all *mAirListDB* Library item lists has the background colour of that item, if you have set one in the item's Properties dialog (**General** tab, **Colour**). If you prefer, you can show the entire row using the item's background colour, or not use item colours at all. On the *mAirListDB* menu, click **View**, **Item Colours**, then click **Full Row**, **First Column** (default), or **Off**.

You can also select the columns shown in Library item lists by clicking **View**, **Library Columns** on the *mAirListDB* menu, then selecting or clearing column names. The default is to show **all** columns.

Note that the Item Colours and Library Columns settings do **not** affect the playlist (upper) pane on the Playlist tab, but they **do** affect the Library (lower) pane.

11.8 *Importing Audio File Information From Other Products*

If you are switching to *mAirList* from another radio playout system, you will almost certainly want to import information from that product's audio database into *mAirListDB*. At present, *mAirListDB* can directly import information which has been exported from the audio databases of the *DRS2006 V3* or *SAM4* products; or a CSV file (created by any application) in the format shown below.

- To import from *DRS2006* V3 (or later), export your *HRDat* audio database as a **.txt** file.
- To import from *SAM4* (or later), export your *SAM4* audio database as a **.csv** file.
- To import from any other product, export your audio database as a **.csv** file,
  using the field layout shown below. Field 1 (ID) **must** be empty (blank) for an import,
  Field 3 (path/file name) **requires** a value; other fields **may** be empty (blank).
  All time and duration values must be in **seconds** (decimal values like **47.314** are allowed),
  and **all** Cue Marker values are relative to the **start** (**not** end) of the file.

Field	Contents	Field	Contents
1	*mAirListDB* (internal) ID	11	**Ramp 2** Cue Marker
2	External ID (see page 118)	12	**Ramp 3** Cue Marker
3	Full path and file name	13	**Hook In** Cue Marker
4	Title	14	**Hook Fade** Cue Marker
5	Artist(s)	15	**Hook Out** Cue Marker
6	Ending	16	**Outro** Cue Marker
7	Duration	17	**Start Next** Cue Marker
8	Comment/description	18	**Fade Out** Cue Marker
9	**Cue In** Cue Marker	19	**Cue Out** Cue Marker
10	**Ramp 1** Cue Marker	20	**Anchor** Cue Marker

Figure 11.1: *mAirListDB* CSV Import And Export File Layout

When you have prepared your import file and created a *mAirListDB* database, open *mAirListDB* and click **Database**, **Import...** On the **Import Library** dialog, select the correct file type (*SAM4...*, *DRS2006...*, or *CSV* for a CSV file in the format shown in Figure 11.1), navigate to and select your import file, then click **Open**.

11.9 ID And External ID Fields

Every item in a *mAirListDB* database has a unique numeric **ID**, starting at 1. Items are assigned an ID when they are initially added to the database, and you cannot alter the ID of any item.

The logging variable **%U** (for 'unique ID') displays this 'internal' ID in logs.

If you use another audio database or music scheduling application as well as *mAirListDB*, you can use the **External ID** field in *mAirListDB* to store the unique ID (or 'item number' or 'foreign key') of the corresponding item in the 'external' database or application. The External ID field has no other purpose in *mAirListDB*, and External IDs do **not** have to be unique in the *mAirListDB* database.

The logging variable **%X** (for 'external ID') displays this 'external' ID in logs.

To show or hide External ID values as a column in the right-hand pane of the *mAirListDB* window, click **View**, **Library Columns** and select or clear **Ext. ID**.

11.9.1 Adding External IDs To *mAirListDB* Databases

If you are using *mAirList* in conjunction with another audio database or music scheduling application, and even if the 'other' application uses numeric IDs, the IDs for every item will definitely not be identical in both applications. *mAirList* provides a relatively easy way to add External ID values to items in an *mAirListDB* database, or to update External ID values.

You must first use your other application to export or create a CSV[44] file which contains the ID of each item in that application (the External ID in *mAirListDB*), and its full path/filename. It doesn't matter at this point whether the file contains other values as well, but if the other application can do so, ideally you would create the CSV file to match the format shown in the examples below.

To add or update External IDs in *mAirListDB* without changing any other values, the CSV file needs to have a specific format and content, as shown in the examples below. Each line must contain **only** the External ID value and the full path/file name of each item; all other fields in the CSV file —except the (internal) ID field, which **must** be empty for an import—must have the value of a single hyphen (-), which during an import means 'don't change the existing *mAirListDB* value of this field.'

Having only the file path/file name and External ID present in the CSV file forces the *mAirListDB* import process to use **only** the file path/name to find matching *mAirListDB* items, then write the External ID values in the CSV file to the matching items in the *mAirListDB* database.

For example, if an item has the ID **12345** in the 'other' database, its line in the CSV file would look similar to this:

```
,12345,"f:\music\1970s\T. Rex - Debora.mp3",-,-,-,-,-,-,-,-,-,-,-,-,-,-,-,-
```

If the ID values in the 'other' database contain spaces or commas (for example, **T 0470**), ensure the ID values are enclosed in double quotes in the CSV file:

```
,"T 0470","f:\music\1970s\T. Rex - Debora.mp3",-,-,-,-,-,-,-,-,-,-,-,-,-,-,-,-
```

Even if your other application allows you to export CSV files using a custom format or selected fields, you will probably need to edit the exported CSV file to match the examples above: to change field values to single hyphens, or to add/reorder/remove fields until you have exactly twenty fields.

Opening or Importing the CSV file into a database or a spreadsheet application to make these changes, then saving/exporting the results as a new CSV file, is one easy way to do this. Applications designed for directly editing CSV files are another option; freeware 'CSV file editors' are available.

However you decide to edit it, ensure that the resulting CSV file you will import into *mAirListDB* contains **exactly twenty** fields in each line, as shown in the two examples above.

When your CSV file is ready, open *mAirListDB*, click **Database**, **Import…**, then on the Import Library dialog, ensure the **Files of type:** selection is **CSV files (*.csv)**, navigate to and select your CSV file, and click **Open**. *mAirListDB* imports the file, writing the External ID values to items in the database with matching file paths/names.

Note that you can also use the *mAirListDB* import process to change *existing* External ID values in *mAirListDB*, because *mAirListDB* database items are matched using **only** their file paths/names, and the External ID value in the CSV file will *always* be written to matching *mAirListDB* database item(s).

[44] If your 'other' application cannot export files in CSV format, use a file format such as fixed-width plain text file which you can 'convert' to CSV by opening/importing it into a database or spreadsheet application, then saving it as a CSV file.

12. *mAirListScript* Scripting Language

mAirList contains a powerful scripting language called *mAirListScript*, which is based on *RemObjects PascalScript*. *mAirListScript* is ideal for performing complex actions within *mAirList*, or actions which have no simple manual equivalent, or actions which require an external program to be run.

mAirListScript is a so-called 'interpreted' language, which means that once you have written a script, you can run it immediately: there is no compiler or other processing needed. A script is a plain text file with the extension **.mls** (see 5.6 on page 33).

It would be impractical to present a complete programming course within this manual, so we will instead concentrate on explaining the basic concepts and some possible uses of *mAirListScript*. Any programmer—especially one familiar with Pascal or Delphi syntax—should be able to learn the language fairly quickly. The *Delphi Basics* site (http://www.delphibasics.co.uk) is a useful resource if you need a quick introduction to this syntax, but please note that many of the statements available in Delphi (for example, message boxes) are **not** available in *mAirListScript*.

The best resource for examples of scripts, and advice on how to accomplish a particular task using *mAirListScript*, is the *mAirList* online forum.

12.1 *Types Of Script: Action Scripts vs. Notification Scripts*

All *mAirList* scripts are one of two types: an **action script** or a **notification script**.

- An **action script** performs one or more actions, and must be run manually.

  An action script performs a specific 'action,' such as setting the Type of all the items in the Playlist; saving the Properties of every item in the Playlist as a .mmd file; or opening/closing an external feed such as a syndicated news source.

  Action scripts are usually saved in the **scripts** folder under your *mAirList* folder.

  To run an action script, click **Open**, **Run script** in the main *mAirList* toolbar, then on the **Run Script** dialog, navigate to the script you want to run and click **Open**.

  You can add frequently-used action scripts to the **Action** menu in the main *mAirList* toolbar, so you can run them easily with a couple of clicks (see 7.11 on page 68).

- A **notification script** performs one or more actions when certain 'events' occur: for example, when a Player starts. Notification scripts run in the background while *mAirList* is open.

  A notification script typically performs an action like updating a 'now playing' file when a Player starts or stops, or sending a specific signal to external hardware (such as an IOWarrior card) to perform an action (such as switching a lamp on or off on some external equipment) 'in sync' with Players starting or stopping.

  If you need to use notification scripts, it's usually more efficient to have a *single* notification script which contains *all* your 'notification' actions.

  Notification scripts are usually saved in the **scripts\notification** folder under your *mAirList* folder. To enable ('run') a notification script, add it to the list of Notification Scripts in the *mAirList* configuration program (see 7.10 on page 68).

12.2 *Basic Script Design and* mairlistscript.chm

You can execute (or 'run') one script from another, and make calls to external DLLs in scripts. You *can* run external programs or batch files (**.bat** or **.cmd** files) in scripts, but please note that you *cannot* close or 'exit' external programs or batch files because once started, they each run as a separate process thread which cannot be accessed from within a script.

Before deciding that you need to write any script, check that there is no existing *mAirList* command or action, or set of commands or actions, which does what you require. Next, decide whether you need to write an action script or a notification script. The answer will be 'action script' unless the script needs to be 'triggered' each time a specific *mAirList* 'event' occurs.

You can now write a script to suit your needs.

If you do not already have an up-to-date copy, we strongly recommend that you download the *mAirListScript* Help file (**mairlistscript.chm**) from the *mAirList* download site. This file (which is **not** included in the standard *mAirList* setup files) is an essential reference which contains descriptions of the 'custom' *mAirList* classes, objects, functions, and types you can use in *mAirList* scripts.

Initially, it can seem difficult to find the information you need in mairlistscript.chm, so here is a quick guide to its most relevant content:

- Most **objects** are in **Units, mAirListInterfaces, Classes**.
- Most **functions and procedures** are in **Units, mAirListScript, Functions**.
- Most **enumerated types and sets** are in **Units, mAirListTypes, Types**.

There are also some constants in **Units, mAirListTypes, TConstants**, but few of these are of any practical use in scripts, as most of them are default values of various *mAirList* settings.

Getting to know the contents of the Classes, Functions, and Types sections of the help file will help you write better and more efficient scripts more quickly.

12.3 Writing Action Scripts

Before planning or designing any action script, always bear two things in mind:

- There is one and **only** one way to communicate *to* the user:
  the **SystemLog** statement.
- There is **no** way to obtain **any** kind of input or choice *from* the user.

This does in some ways limit the kinds of scripts you can write, but think of *mAirListScript* as essentially an ‘automation’ language, and you *can* still create very powerful scripts which automate tasks which would be enormously time-consuming or near-impossible to perform manually.

For example, scripts can automate the loading of your top-of-hour jingles and ads. to prevent any possibility of your presenters ‘forgetting’ to load them; or load the correct ‘this is the year’ jingle in front of the ‘next’ playlist item; or even create a ‘live’-sounding voicetracked show by using a script to add fades and ducks, and ‘overlay’ music, voicetracks, and beds automatically, ready for playout.

A simple ‘Hello world!’ script would look like this:

```
begin
  SystemLog('Hello world!');
end.
```

It’s a good idea to add a constant for your script’s name and version, and to prefix your SystemLog messages with this constant. This makes it clear to the user that the message is from a script and is not a *mAirList* message, and makes its entries easier to find in the *mAirList* System Log file. Using a **const** also makes changes of version or script name easier to manage later, especially in messages:

```
const
  SCRIPTNAME = 'MyName V1.0 script: ';
begin
  SystemLog(SCRIPTNAME + 'Hello world!');
end.
```

12.3.1 Understanding *mAirList* Time Values

Internally, *mAirList* uses int64 variables for ‘time values’ such as an item’s playback duration, the position of a Cue Marker, and similar ‘duration’ values. However, in a script, you will almost always want to handle most values of this type as numbers of seconds.

Therefore, when you use **any** *mAirListScript* procedure or function which uses the **TTimeValue** variable type (for example, **IPlaylistItem.SetFadeDuration**), use these conversion functions:

```
function SecondsToTimeValue (sngValue: single) : TTimeValue
```

```
function TimeValueToSeconds (ttvValue: TTimeValue) : single
```

as shown in this sample script:

```
begin
  SystemLog('The top playlist item plays for ')
  + FloatToStr(TimeValueToSeconds(CurrentPlaylist.GetItem(0).GetPlaybackDuration))
  + ' seconds.';
end.
```

The default *mAirList* install contains several sample scripts, so we will concentrate here on showing you how to use the main *mAirListScript* objects and functions in practical scripting terms.

12.3.2 Playlists And PlaybackControls

Many scripts work with a Playlist, and several other objects (items in Playlists, Players, event lists, etc.) are referenced *via* a Playlist.

- **IPlaylist—**which contains a collection of **IPlaylistItem** objects, and
- **IPlaybackControl—**which contains (among others) a collection of **IPlayerControl** objects.

Unless you have more than one Playlist[45], or you have a particular reason to do otherwise, use **CurrentPlaylist** to refer to these objects in your scripts.

For example, to work with the **items** in the Playlist:

```
begin
  SystemLog('The Playlist contains '
    + IntToStr(CurrentPlaylist.GetCount)
    + ' items.');
end.
```

Note that you must use **IntToStr** to display any int… variable's value using **SystemLog**. Similarly, you must use **FloatToStr** to display floating-point (single or double) values using **SystemLog**.

You can also work with the Playlist's **playout controls**, **players**, **event list**, and **GUI options** using **CurrentPlaylist**. For example:

```
begin
  if CurrentPlaylist.GetAutomation = true then
    SystemLog('The Playlist is in AUTOMATION mode.')
  else
    SystemLog('The Playlist is in ASSIST mode.');
end.
```

12.3.3 PlaylistItems And FilePlaylistItems

12.3.4 PlayerControls

12.3.5 CartWallControl and CartPlayerControls

12.4 *Writing Notification Scripts*

Notification scripts invariably answer the question 'What should happen when *this* occurs?' where *this* could be (for example):

- When *mAirList* starts up or closes.
- When PFL is switched on and/or switched off.
- When a Player and/or Cartwall Player starts or stops.

Almost always, a notification script is used to interact with external hardware or processes in ways which are not directly possible using *mAirList* commands or actions. One common use for a notification script is to send 'now playing' information to a web site as Players start and stop.

You will find a 'template' file for notification scripts, named **Notification Script Template.mls**, in the **scripts\notification** subfolder of your *mAirList* program folder. This contains an empty procedure definition for each event supported by the notification script interface, followed by a final empty **begin … end.**: do **not** add any statements *between* the final **begin … end.** statements.

The best way to start writing a notification script is to copy the script template file and give the copy a new name with a **.mls** extension. There are also some sample notification scripts in the folder. Some of these (especially the *LogItems…* scripts) are purely for example purposes.

[45] Use **Playlist(0)**, **Playlist(1)**, etc. to refer to a *specific* Playlist or PlaybackControl. Numbering is zero-based.

Most of the procedure names in the template are obvious, but three are worth explaining further:

OnPlaylistEmpty: If the required actions can all be achieved using an action list, an action list is the preferred way to handle this. However, you could use this procedure in addition, perhaps to send a message or e-mail—or add other ‘advanced’ functionality—when a playlist runs empty.

OnExecuteCommand: This refers to a *mAirList* command, so you can use this procedure to extend the functionality of one or more commands.

OnTimer: This is a timer-driven event. This procedure is most often used to ‘poll’ external hardware (perhaps by calling the hardware’s own DLL) at regular intervals. An example is shown overleaf.

This example of a well-written **OnTimer** script also demonstrates how to call external DLL routines:

```
// Notification Script for Velleman K8055 USB Interface
// allowing remote control of mAirList v3.x Players

// Written by Torben Weibert
// Modified by Charlie Davy and Cad Delworth, October 2010
// IMPORTANT: Requires the k8055d.dll file in the mAirList program folder

var
  CurrentStatus: array[1..5] of boolean;
  i: integer;

function OpenDevice(CardAddress: Longint): Longint;
  external 'OpenDevice@k8055d.dll stdcall';
procedure CloseDevice;
  external 'CloseDevice@k8055d.dll stdcall';
function ReadDigitalChannel(Channel: Longint): boolean;
  external 'ReadDigitalChannel@k8055d.dll stdcall';

procedure OnLoad;
begin
  for i := 1 to 5 do
    CurrentStatus[i] := false;
  if OpenDevice(0) < 0 then
    SystemLog('K8055 device not found!')
  else
    EnableTimer(50); // Timer (polling) interval is 50ms
end;

procedure OnUnload;
begin
  DisableTimer;
  CloseDevice;
end;

procedure OnTimer;
var
  newval: boolean;
begin
  for i := 1 to 5 do
  begin
    newval := ReadDigitalChannel(i);
    if newval <> CurrentStatus[i] then
    begin
      CurrentStatus[i] := newval;
      if CurrentStatus[i] = true then
// These are for channels ('buttons') 1, 2, and 3
        case i of
          1 : ExecuteCommand('PLAYER 1-1 START/STOP');
          2 : ExecuteCommand('PLAYER 1-2 START/STOP');
          3 : ExecuteCommand('CARTWALL 1 START/STOP');
        end;
    end;
  end;
end;

begin
end.
```

Especially note the following points:

- Declare and define **all** the **external** (DLL) functions and procedures at the start of the code, **before** all other functions and procedures.
- Use the **OnLoad** procedure to initialise variables, to open devices or drivers, set the timer duration, and start the timer.
- Use the **OnUnload** procedure to stop the timer, to close/terminate the devices or drivers opened in the **OnLoad** procedure, and to perform any other 'clean-up' tasks.
- Use the **OnTimer** procedure to perform the tasks required at each timer interval. Try to keep this code as brief as possible, especially if you use a short timer duration. This reduces CPU usage, and is also best programming practice.

  If the code in an OnTimer procedure takes *longer* to execute than the timer interval you specify, the thread running the procedure will run increasingly slowly as an ever-larger 'backlog' of code builds up, all of which must be executed *before* the code for the *following* timer 'cycle' can begin executing.

A. mAirList Commands

mAirList Commands are used in several places in the program:

- as Action(s) in an Action list which is performed when a *mAirList* Action menu item is clicked, or on *mAirList* startup or shutdown, or when an item Starts or Stops (see 7.11 on page 68 and 9.6.5 on page 99);
- as the Command—or set of Commands—performed when a *mAirList* Remote Control is activated (see 7.7 on page 59);
- as the Command—or set of Commands—performed when a COMMAND item in a Playlist is 'played' in either Assist or Automation mode.

You can choose Commands from a dropdown, or you can type them in.

Anywhere you can type a Command, you can instead type a **set** of two or more Commands by typing in the set of Commands, separating them with a semicolon (**;**). Do not *end* the list with a semicolon. Sets of Commands always performed *in the order you typed them*.

About The Command List

The complete list of available Commands begins on the next page.

Each Command is listed in **bold type**, followed by a brief description of the Command.

When you refer to them in a Command, Playlists, Players, and Cartwall Players are **numbered** from one upwards.

Many commands which switch the state of a *mAirList* object or option (for example, the **CARTWALL PFL** command) have the options of **ON**, **OFF**, or **ON/OFF** (which toggles the state or option).

A few Commands require a filename, or a volume (positive or negative) expressed in dB.

In the Command list, these numbers and options are represented by the characters shown below:

Character(s) ...	represent(s) ...	Example
c	a Cartwall Player	**6** (Cartwall Player 6)
d	a volume, in dB (can be + or -)	**-12** (-12 dB)
f	a filename (can include drive/path)	**Day Set 1.mlc** (a Cart Set file)
s	**ON**, **OFF**, or **ON/OFF** (toggle) option	**ON/OFF** (toggle the option)
x or ***y***	a Player (Playlist number is separate)	**1** (Player 1)
P	a Playlist	**1** (the first or only Playlist)
P-p	a Player within a Playlist	**1-2** (Player 2 in Playlist 1)

Where you see any of these characters in a Command, you must **replace** the 'placeholder' character(s) shown above with the appropriate **number** or **text**, as shown in the **Example** column.

For example, to switch the first (or only) Playlist to Automation mode and start automated playout, you use the **AUTOMATION *P* ON** Command followed by the **AUTOMATION *P* PLAY** Command.

After replacing *P* with the Playlist number (**1**) and putting the Commands together into a set, the complete Command set you need to type is **AUTOMATION 1 ON;AUTOMATION 1 PLAY**.

Similarly, if you want to use a Remote Control to toggle Cartwall PFL on/off, you use the command **CARTWALL PFL *s***, which you type as **CARTWALL PFL ON/OFF**.

Please note that some Commands contain further 'placeholder' characters, which you must replace with actual names or values in a similar way; these characters and replacements are described beside those Commands in the list.

ALL PLAYERS Commands

ALL PLAYERS START	Starts all loaded Players in all Playlists.

*Note that the following Command does **not** stop Cartwall Players (see* **CARTWALL STOP ALL** *below).*

ALL PLAYERS STOP	Stops all Players in all Playlists.

AUTOMATION Commands

AUTOMATION *P* BREAK	Breaks[46] automated playout of Playlist *P*.
AUTOMATION *P* NEXT	Starts the Next item in Playlist *P*.
AUTOMATION *P* OFF	Switches Playlist *P* into Assist mode.
AUTOMATION *P* ON	Switches Playlist *P* into Automation mode.
AUTOMATION *P* ON/OFF	Toggles Playlist *P* Automation/Assist modes.
AUTOMATION *P* START	Starts automated playout of Playlist *P*.
AUTOMATION *P* STOP	Stops automated playout of Playlist *P*; fades out all Players.

BROWSER Commands

These self-explanatory Commands allow Remote Controls to operate the Browser.

BROWSER CURSOR DOWN
BROWSER CURSOR LEFT
BROWSER CURSOR RIGHT
BROWSER CURSOR UP
BROWSER DESELECT
BROWSER FOCUS
BROWSER NEXT
BROWSER PREVIOUS
BROWSER SELECT
BROWSER TOGGLE SELECT

CARTWALL Player Commands

CARTWALL *c* CLOSE	Closes Cartwall Player *c*.
CARTWALL *c* FADEOUT	Fades out Cartwall Player *c*.
CARTWALL *c* NEXT	Loads the Next item in Cartwall Player *c*'s Stack.
CARTWALL *c* OPTION HookMode *s*	Hook mode switch for Cartwall Player *c*.
CARTWALL *c* OPTION LoopAudio *s*	Loop mode switch for Cartwall Player *c*.
CARTWALL *c* OPTION ResetHook *s*	'Reset Hook mode' switch for Cartwall Player *c*.
CARTWALL *c* OPTION ResetLoop *s*	'Reset Loop mode' switch for Cartwall Player *c*.
CARTWALL *c* PAUSE	Pauses Cartwall Player *c*.
CARTWALL *c* PAUSE/STOP	Toggles Pause/Stop for Cartwall Player *c*.
CARTWALL *c* PFL *s*	PFL mode switch for Cartwall Player *c*.
CARTWALL *c* PREVIOUS	Loads the Previous item in Cartwall Player *c*'s Stack.
CARTWALL *c* RESET	Resets Cartwall Player *c*.
CARTWALL *c* START	Starts Cartwall Player *c*.
CARTWALL *c* START/FADEOUT	Toggles Start/Fadeout for Cartwall Player *c*.
CARTWALL *c* START/PAUSE	Toggles Start/Pause for Cartwall Player *c*.
CARTWALL *c* START/PAUSE/STOP	Toggles Start/Pause/Stop for Cartwall Player *c*.
CARTWALL *c* START/STOP	Toggles Start/Stop for Cartwall Player *c*.
CARTWALL *c* STOP	Stops Cartwall Player *c*.
CARTWALL *c* VOLUME *d*	Sets the volume (level) of Cartwall Player *c* to *d* dB.

[46] **Automation** is stopped, but any Players currently playing are **not** stopped, and will **continue** playing.

CARTWALL General Commands

CARTWALL CLOSE ALL	Closes all Cartwall Players.
CARTWALL HIDE	Hides the Cartwall.
CARTWALL LOAD SET *f*	Loads the Cart Set (**.mlc** file) specified.
CARTWALL NEXT SET	Loads the 'next' Cart Set in Favourite Cart Sets.
CARTWALL PFL *s*	'Global' PFL mode switch for all Cartwall Players.
CARTWALL PREVIOUS SET	Loads the 'previous' Cart Set in Favourite Cart Sets.
CARTWALL SHOW	Shows the Cartwall.
CARTWALL SHOW/HIDE	Toggles Show/Hide the Cartwall.
CARTWALL STOP ALL	Stops all Cartwall Players.
CARTWALL VOLUME *d*	Sets the volume (level) of all Cartwall Players to *d* dB.

ENCODER Commands

These Commands allow Remote Controls to operate the Encoder.

ENCODER CONNECT	Connects the Encoder.
ENCODER CONNECT/DISCONNECT	Toggles connecting/disconnecting the Encoder.
ENCODER DISCONNECT	Disconnects the Encoder.
ENCODER LIVE *s*	Toggles the Encoder's on-air/off-air status.

EXTRAPFL Commands

These Commands allow Remote Controls to operate the 'main' PFL Player[47].

EXTRAPFL CLOSE	Closes the PFL Player.
EXTRAPFL SAVE	Saves the settings in the PFL Player.
EXTRAPFL SAVE DATABASE	Saves the settings in the PFL Player to the database.
EXTRAPFL SAVE MMD	Saves the settings in the PFL Player to a **.mmd** file.
EXTRAPFL SAVE TAG	Saves the settings in the PFL Player to the file's Tag.

ON/OFF AIR Commands

OFF AIR	Switches *mAirList* into OFF AIR status.
ON AIR	Switches *mAirList* into ON AIR status.
ON/OFF AIR	Toggles *mAirList* ON AIR/OFF AIR status.

PFL Commands

These Commands allow Remote Controls to operate any PFL Player.

PFL 0	Resets the PFL Player (jumps to zero Elapsed).
PFL END MON	Jumps the PFL Player to near the end of the item (see 7.12.7 on page 72).
PFL PAUSE	Pauses the PFL Player.
PFL PLAY	Starts the PFL Player.

*In the following Commands, **q** represents the **name of a Cue Marker**, chosen from this list: **ANCHOR**, **CUEIN**, **CUEOUT**, **FADEOUT**, **HOOKFADE**, **HOOKIN**, **HOOKOUT**, **RAMP1**, **RAMP2**, **RAMP3**, **OUTRO**, **STARTNEXT**.*

PFL *q* DELETE	Deletes (clears) Cue Marker *q*.
PFL *q* MINUS	Decreases the value of Cue Marker *q* by 10 mS.
PFL *q* PLUS	Increases the value of Cue Marker *q* by 10 mS.
PFL *q* SET	Sets Cue Marker *q* to the current Elapsed time.
PFL *q* TEST	Tests Cue Marker *q* (same as clicking TEST).

[47] The 'main' PFL Player, as shown on the **PFL** tab of the **Item Properties** dialog.

PLAYER Commands

PLAYER *P-p* CLOSE	Closes Player *p* in Playlist *P*.
PLAYER *P-p* EXTRAPFL *s*	'Main' PFL[48] mode switch for Player *p* in Playlist *P*.
PLAYER *P-p* FADEOUT	Fades out Player *p* in Playlist *P*.

In the following Command, ***g*** *represents the* ***name of a Player GUI option*** *(see 7.2.3 on page 48), chosen from this list:* ***AdvancedPFL****,* ***CueAlternatives****,* ***CueCategoryColors****,* ***CueInSeconds****,* ***CueMode****,* ***Dragging****,* ***FlashEOFWarning****,* ***ItemColor****,* ***NearestRamp****,* ***NoButtonsInAutomation****,* ***PFLSaveButtons****,* ***ShowRampWhenIdle****,* ***SwapArtistTitle****,* ***TruncateTime****.*

PLAYER *P-p* GUIOPTION *g s*	GUI Option *g* mode switch for Player *p* in Playlist *P*.
PLAYER *P-p* LOAD *f*	Loads file *f* into Player *p* in Playlist *P*.

In the following Command, ***o*** *represents the* ***name of a Player Option*** *(see 7.2.2 on page 46), chosen from this list:* ***AutoFadeOut****,* ***AutoLoad****,* ***AutoLoadOnDemand****,* ***AutoLoadSingle****,* ***AutoLoadSpecial****,* ***AutoPFLOff****,* ***AutoReleasePause****,* ***AutoStopOnEOF****,* ***AutoStopPFL****,* ***AutoUnloadEOF****,* ***AutoUnloadStop****,* ***HistoryOnClose****,* ***HistoryOnCloseLoaded****,* ***HookMode****,* ***IndependentPFL****,* ***IndependentPFLEndMon****,* ***Logging****,* ***LoopAudio****,* ***PFLOutputPlayback****,* ***ResetHook****,* ***ResetLoop****,* ***UseInAutomation****.*

PLAYER *P-p* OPTION *o s*	Option *o* mode switch for Player *p* in Playlist *P*.
PLAYER *P-p* PAUSE	Pauses Player *p* in Playlist *P*.
PLAYER *P-p* PAUSE/STOP	Toggles Pause/Stop for Player *p* in Playlist *P*.
PLAYER *P-p* PFL *s*	'Player' PFL[49] mode switch for Player *p* in Playlist *P*.

In the following Command, ***b*** *represents the* ***name of a Player progress bar option*** *(see 7.2.5 on page 49), chosen from this list:* ***Enabled****,* ***NearestRamp****,* ***Ramp****,* ***Split****.*

PLAYER *P-p* PROGRESSBAR *b s*	Progress bar option *b* mode switch for Player *p* in Playlist *P*.
PLAYER *P-p* RESET	Resets Player *p* in Playlist *P*.
PLAYER *P-p* START	Starts Player *p* in Playlist *P*.
PLAYER *P-p* START/FADEOUT	Toggles Start/Fadeout for Player *p* in Playlist *P*.
PLAYER *P-p* START/PAUSE	Toggles Start/Pause Player *p* in Playlist *P*.
PLAYER *P-p* START/PAUSE/STOP	Toggles Start/Pause/Stop* for Player *p* in Playlist *P*.
PLAYER *P-p* START/STOP	Toggles Start/Stop for Player *p* in Playlist *P*.
PLAYER *P-p* VOLUME *d*	Sets the volume (level) of Player *p* in Playlist *P* to *d* dB.

* The Player **START/PAUSE/STOP** command works as described below.

- If the Player is not playing or is paused, it is started.
- If the Player is playing, it is paused.
- If the Player is at EOF, it is stopped.
  It is also (usually) unloaded, depending on the Player's Configuration settings.

This command is particularly useful when used with a Remote Control connected to a fader on a mixer. If the associated Player is playing and the fader is accidentally closed, the Player will pause and can be immediately restarted by lifting the fader again. However, when the player has reached EOF, closing the fader will stop the Player, unload it, and load the next item.

Setting the **Auto release PAUSE when other player is playing or started** Configuration setting (see page 46) to **on** is useful if you use the START/STOP/PAUSE command. With that setting **on**, any Player which you have *deliberately* faded out early—and is therefore paused—will automatically be stopped and unloaded when you start any *other* Player.

[48] The 'main' PFL Player, shown on the **PFL** tab of the **Item Properties** dialog.

[49] The 'small' PFL Player, shown when you click the **PFL** button on a Player.

PLAYLIST Commands

PLAYLIST *P* CHECK	Checks Playlist *P* for errors.
PLAYLIST *P* CURSOR DOWN	Moves the selection cursor in Playlist *P* one item down.
PLAYLIST *P* CURSOR UP	Moves the selection cursor in Playlist *P* one item up.
PLAYLIST *P* DELETE	Deletes the selected item(s) from Playlist *P*.
PLAYLIST *P* EDIT	Opens the Properties dialog of the selected item.
PLAYLIST *P* EVENTS	Opens Playlist *P*'s Event Scheduler dialog.
PLAYLIST *P* EXTRAPFL *s*	Opens the selected[50] item in Playlist *P* in the PFL Player.

*In the following Command, **g** represents the **name of a Playlist GUI option** (see 7.1.3 on page 41), chosen from this list: **AlwaysShowDuration**, **AlwaysShowRamp**, **Backtiming**, **BreakDuration**, **ColumnHeaders**, **CommentButtons**, **EOFWarningOverlay**, **EscapeAutomationBreak**, **EscapeAutomationStop**, **ExpandComments**, **Extended**, **FixedItemColors**, **IconClickPFL**, **Icons**, **NearestRamp**, **PlayerColors**, **PlayerName**, **RampOverlay**, **ScrollIntoView**, **ShowPosition**, **SpacebarAutomationNext**, **SwapArtistTitle**, **TruncateTime**.*

PLAYLIST *P* GUIOPTION *g s*	GUI Option *g* mode switch for Playlist *P*.
PLAYLIST *P* MARKASPLAYED	Marks the selected item in Playlist *P* as played.
PLAYLIST *P* MOVE DOWN	Moves the selected item(s) one position down in Playlist *P*.
PLAYLIST *P* MOVE UP	Moves the selected item(s) one position up in Playlist *P*.
PLAYLIST *P* NEXT	Starts the Next item in Playlist *P*; fades out other Players.

*In the following Command, **o** represents the **name of a Playlist Option** (see 7.1.2 on page 40), chosen from this list: **AutomationSinglePlayer**, **AutoSaveEvents**, **CleanUpHistory**, **CleanUpHistoryTop**, **CleanUpNonPlayables**, **HandleFixedTime**, **LiveBacktiming**, **SaveEvents**, **UseRecycleBin**.*

PLAYLIST *P* OPTION *o s*	Option *o* mode switch for Playlist *P*.

*In the following Command, **b** represents the **name of a Playlist progress bar option** (see 7.1.5 on page 43), chosen from this list: **AutoHide**, **Enabled**, **IgnoreCartwall**, **NearestRamp**, **Ramp**, **Split**.*

PLAYLIST *P* PROGRESSBAR *b s*	Progress bar option *b* mode switch for Playlist *P*.
PLAYLIST *P* RECYCLE	Recycles the selected item(s) in Playlist *P*.
PLAYLIST *P* RECYCLE ALL	Recycles all items in Playlist *P*.
PLAYLIST *P* SKIPTOHERE	Marks all items above the selected item as played.
PLAYLIST *P* SWAP *x y*	Swaps the contents of Players *x* and *y* in Playlist *P*.

[50] If two or more items are selected, the *last* selected item is opened in the PFL Player.

B. Module Descriptions

This section contains descriptions of the function of each *mAirList* program module.
To find out which modules are enabled (licensed) in your copy of *mAirList*, see 7.13 on page 73.

audimark

Allows the connection to and use of the German *audimark* system (see 7.9.9 on page 68).

AudioFileTypes

Imports ID3 tags from MP2 and MP3 files.

AutoCue

Performs Auto Cue functions when a 'new' audio file is loaded in any *mAirList* program.

BassASIO

Provides output from the BASS engine used by *mAirList* to ASIO audio devices.

BassAudio

Provides output from the BASS engine used by *mAirList* to WDM audio devices.
Also provides *playback* of incoming streams (cf. **BassStreaming**).

BassStreaming

Provides an integrated Icecast/Shoutcast compatible streaming encoder for output.

BassVST

Allows VST plugins to be used with the integrated streaming encoder (see **BassStreaming**).

Core

The core framework of *mAirList*.

CoreGUI

The core framework of *mAirList* graphical output and user interaction.

CoreLogging

The core framework of *mAirList* file logging.

CoreRemote

Allows hotkeys and serial ports to be used as Remote Controls.

DBLite

Allows creation and use of local (SQLite) *mAirListDB* databases.

DBPro

Allows creation and use of networked (PostgreSQL) *mAirListDB* databases.

DHD

Allows remote control of *DHD* mixing consoles and control surfaces.

DigAS

Allows import of *DigAS* 'show' files.

DMAX

Allows remote control of *Barth* mixing consoles and control surfaces.

DRS2006

Allows import of *DRS2006* databases into a *mAirListDB* database.

HTTP

Provides logging functionality for HTTP GET and POST; and for Shoutcast and Icecast streaming.

InpOut32

Allows *mAirListScript* to directly read/write hardware ports, such as parallel ports.

IOWarrior

Allows use of *IOWarrior* devices for remote control and in *mAirListScript.*

LayoutSkin

The core framework of *mAirList* skin and layout file support.

MiscDatabases

Allows connection to and use of *iTunes* and 'on-the-fly' databases.

Mixdown

Allows a playlist to be 'mixed down' to a single audio file.

Playout

The core framework of *mAirList* playout automation.

Powergold

Allows connection to and use of *Powergold* music scheduler databases.

Regions

Allows use of Region containers for split output, such as regional ad. breaks.

REST

Provides support for remote control of *mAirList* by external REST client programs.

SAS

Allows remote control of *Lawo* mixing consoles and control surfaces.

Scripting

The core framework of *mAirListScript.*

SQLDatabases

The core framework of *mAirList* interaction with SQL databases (including *mAirListDB*).

WindowsJoystick

Allows connection to and use of joystick and gameport devices for remote control.

WindowsMidi

Allows connection to and use of MIDI devices for remote control and in *mAirListScript.*

WindowsMixer

Allows connection to and use of Windows audio device mixers/control panels in *mAirListScript.*

WMClient

Allows use of Windows Message Client as a Remote Control interface.

C. *Nuvola* Icon Graphics Files Used By *mAirList*

The list below contains the names and locations of **all** the *Nuvola* icon graphics files used by *mAirList* applications, and *includes* all the graphics files shown in 8.2.1 on page 88.

The folder names shown are relative to the (unpacked) *Nuvola* distribution root folder.

To replace any (or all) of these icon graphics in *mAirList*, please see 8.2.2 on page 90.

```
16x16\actions\1leftarrow.png
16x16\actions\1rightarrow.png
16x16\actions\artsaudiomanager.png
16x16\actions\cancel.png
16x16\actions\connect_creating.png
16x16\actions\edit_add.png
16x16\actions\editdelete.png
16x16\actions\fileclose.png
16x16\actions\filenew.png
16x16\actions\fileopen.png
16x16\actions\filesave.png
16x16\actions\filesaveas.png
16x16\actions\help.png
16x16\actions\kgpg_edit.png
16x16\actions\ledlightblue.png
16x16\actions\ledlightgreen.png
16x16\actions\ledorange.png
16x16\actions\ledred.png
16x16\actions\messagebox_info.png
16x16\actions\messagebox_warning.png
16x16\actions\misc.png
16x16\actions\no.png
16x16\actions\ok.png
16x16\actions\pencil.png
16x16\actions\player_eject.png
16x16\actions\player_end.png
16x16\actions\player_pause.png
16x16\actions\player_play.png
16x16\actions\player_stop.png
16x16\actions\reload.png
16x16\actions\stop.png
16x16\actions\viewmag.png
16x16\apps\amarok.png
16x16\apps\arts.png
16x16\apps\bug.png
16x16\apps\clock.png
16x16\apps\flashkard.png
16x16\apps\kate.png
16x16\apps\kdat.png
16x16\apps\ktimer.png
16x16\apps\ktip.png
16x16\apps\kuser.png
16x16\apps\package_development.png
16x16\devices\hdd_unmount.png
16x16\filesystems\folder.png
16x16\filesystems\folder_sound.png
16x16\filesystems\folder_txt.png
16x16\filesystems\folder_yellow.png
16x16\filesystems\server.png
16x16\filesystems\services.png
16x16\filesystems\trashcan_full.png
16x16\mimetypes\sound.png
16x16\mimetypes\txt.png
```

```
22x22\actions\1leftarrow.png
22x22\actions\1rightarrow.png
22x22\actions\connect_creating.png
22x22\actions\connect_established.png
22x22\actions\connect_no.png
22x22\actions\edit_add.png
22x22\actions\editdelete.png
22x22\actions\fileexport.png
22x22\actions\filenew.png
22x22\actions\fileopen.png
22x22\actions\filesave.png
22x22\actions\folder_new.png
22x22\actions\reload.png
22x22\actions\roll.png
22x22\apps\arts.png
22x22\apps\clock.png
22x22\apps\date.png
22x22\apps\kate.png
22x22\apps\kdat.png
22x22\apps\ktimer.png
22x22\apps\package_development.png
22x22\filesystems\trashcan_full.png

32x32\actions\ledgreen.png
32x32\actions\ledred.png
32x32\apps\bookcase.png
32x32\apps\multimedia.png
32x32\apps\package_editors.png

48x48\actions\cut.png
48x48\actions\finish.png
48x48\actions\kaboodleloop.png
48x48\actions\kmixdocked.png
48x48\actions\player_eject.png
48x48\actions\player_end.png
48x48\actions\player_pause.png
48x48\actions\player_play.png
48x48\actions\player_start.png
48x48\actions\player_stop.png
48x48\actions\start.png

64x64\apps\important.png
64x64\apps\krec.png
64x64\apps\package_development.png
64x64\filesystems\trashcan_full.png
64x64\mimetypes\empty.png
64x64\mimetypes\html.png
64x64\mimetypes\info.png
64x64\mimetypes\kchart_chrt.png
64x64\mimetypes\readme.png
64x64\mimetypes\sound.png
64x64\mimetypes\tar.png
64x64\mimetypes\txt.png
```