



- [?](#) Introduction
- [?](#) Quick Start
- [?](#) Using ARC
  - [?](#) ARC Player
  - [?](#) ARC Cue Editor
  - [?](#) ARC Configuration
  - [?](#) Output Drivers
- [?](#) Minimum Requirements
- [?](#) Registration
- [?](#) About Fountaineer

**CONGRATULATIONS!**

You have purchased a software package that will automate your most demanding requirements for synchronizing audio of your choice with real world events. ARC makes it easy to import MP3 audio files, add cues wherever you wish (virtually as many as you wish) and after the file is built, you can add it to a sequence and it will run them for you automatically.

Depending upon your particular needs, ARC can be configured to synchronize and control lights, motors, pumps or stage effects to your favorite music or narration. You can import any MP3 audio track into ARC, set your cues, and sit back and watch the changes occur! The application is limited only by your imagination.

## QUICK START

### PASSWORDS

The default password is "ARC" and is not case sensitive. Both the Player and the Editor passwords can be set or disabled separately.

### PLAYER

The Player boots up in scheduled mode, click "stop" and then "play now" to play sequence. The first screen you will see after opening ARC is the Player. This screen displays sequence slots where you can build show sequences once your narration or music files are completed. They can be used to identify one completed file or a collection of files. To edit the sequence name simply double click the name you wish to change.

Some of the options available in this section of the program allow you to Edit the sequence (don't forget to highlight the one you want to work on!) Add a Sequence (up to 255 sequences) and change the Play order of the sequences. The player will play the checked sequences in order from top to bottom.

Essentially, the Player shows you a summary of what you have created using the various other screens explained below and provides overall control of ARC.

Manual Cue allows you to work within a playing Sequence, providing manual override for performance enhancements, without disturbing the operation of the sequence itself.

Spacer Cue lets you fill "empty time" between sequences and can be programmed with start and stop times on a weekly loop if desired.

### EDITING A SEQUENCE

Select a Sequence and click on the Edit Button. This will open the Sequence Editor screen. This screen will identify the sequence being edited and display all files contained within. You can add or delete files, change the order of their execution, and schedule start and stop times with day-of-the-week control for the chosen sequence. You can also loop the sequence for repeated playback.

### CUE EDITOR

The Cue Editor is the heart of the application, so most of the work you do in ARC will be done in this mode. This will be the area where you load/import the MP3 audio track of your choice and apply your Cue Points. The Cue Points tell ARC when to perform the tasks you assign.

Your first step is to Load an MP3 file. Click on the Open button and tell the dialogue box that appears where to find your file. It's a standard browser window so you can go anywhere in your system that you wish. This browser will return to wherever you directed it the last time, so if you keep your audio files in one folder they will automatically be available to you each time you open this dialogue box.

Select the file to be loaded into the Cue Editor. The first two horizontal bands show you the left and right channels of your audio file, underlined with the time signature of the file. The third horizontal bar is a composite of the first two.

This third bar is grey shadowed. This shadowed area can be modified to zoom in on the main file. Find the +

and – button. Click the + button one time. Notice how the grayed area is reduced. It is allowing you to take a closer look at one section of the audio track. If you repeat this process you zoom in closer providing you with greater potential precision in the placing of your cues. The – key backs you up one step or you can click the “A” key to restore the original default view. This feature is especially useful when you start adding many cues in a small section of the audio track. You can zoom in and get a good look at what’s going on.

Note the transport keys to the left of the zoom keys. Think of them as equal to the control keys on your VHS player. Notice that you have two Play buttons. The one on the left automatically starts at the beginning of your file. The other one starts wherever you place the Placement Marker.

The Placement Marker is your workhorse. Left click anywhere in any of the three horizontal audio bars and a red vertical line will appear. Let’s assume that this is where you want to place a cue. Click on the ADD button and the ADD CUE dialogue box will appear. Depending upon the configuration of you system, a number of choices will appear in the box. Placing or removing a check mark next to the action of your choice means that the next time ARC plays your audio track, these actions will occur at this point in the playback. That’s all there is to creating CUE POINTS!

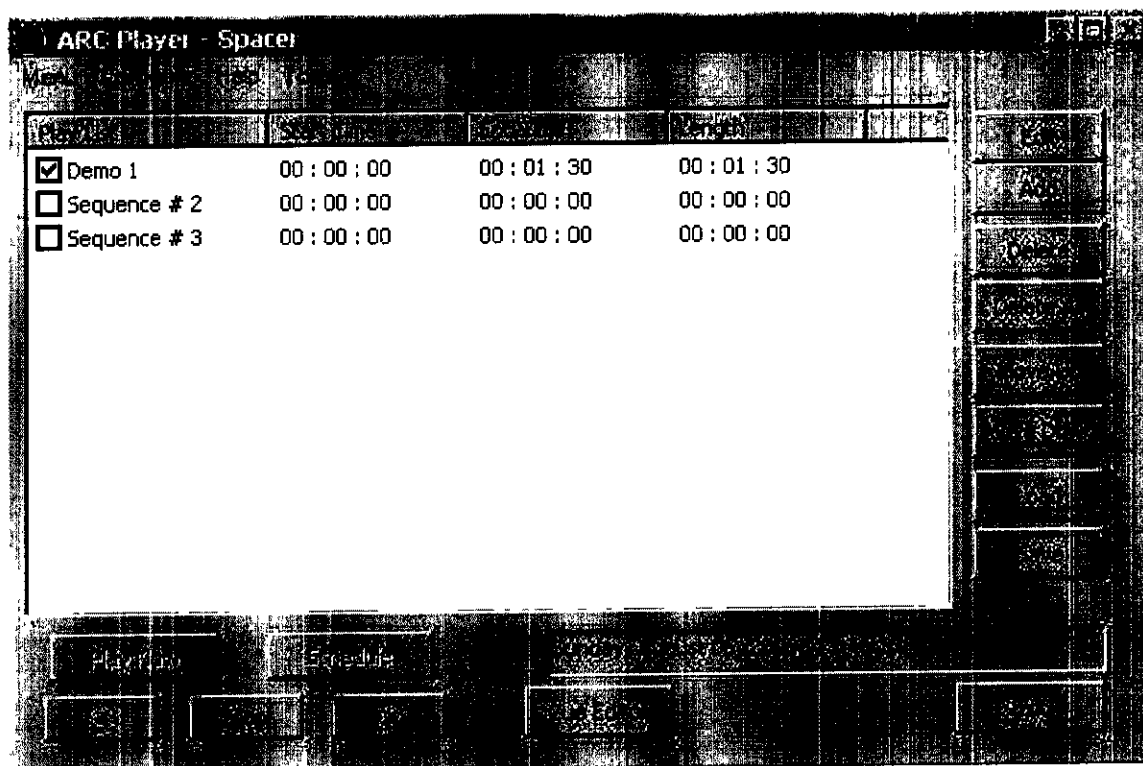
This dialogue box allows you to name your cue if you wish and preview the required activity with the Preview button. It also tells you the time signature of the CUE POINT.

As your cues accumulate they will be listed in the lower right window of the Cue Editor and can be Edited, Previewed, Added or Deleted.

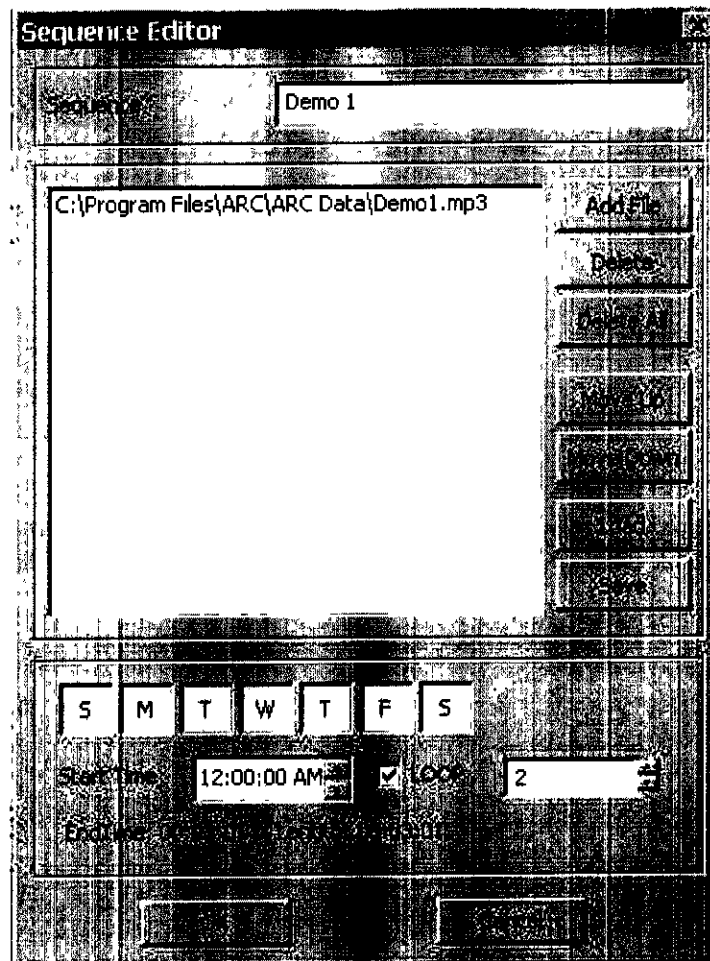
Go ahead and try it! It’s easy! When you’re done, don’t forget to save your work.

## ARC PLAYER

- The “Player” control buttons activate sequence playback. “Stop” will halt playback. “Schedule” will start the scheduled checked play list sequences from a top to bottom order and is the default mode. After clicking “Stop”; “Play Now” will play the checked sequences in top to bottom order regardless of preprogrammed schedules. To return to preprogrammed schedule, click “Stop” and then “Schedule”.
- The current time and date are displayed in “Player” window.
- **Play List** window contains a list of sequences that can be edited, deleted, moved up or down in play order, saved or loaded. Checking the block in front of the sequence will enable it when player is running. You can edit a sequence by double clicking that sequence or selecting it and click **Edit** button.



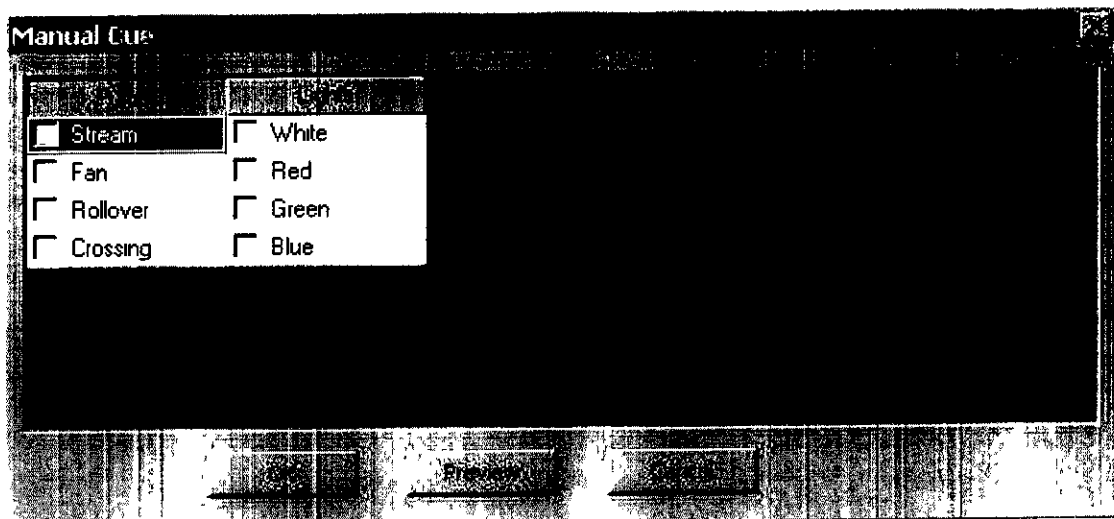
The sequence editor window is where one selection can be added or multiple selections grouped together. The list of selections in this group can be added to, deleted, moved up/down in play order, saved or loaded. This sequence can be scheduled by setting the day of week and start time. If loop is selected ARC will play this sequence the selected number of times before moving to the next sequence on the play list. The limit is 256 loops. The end time and total length of play is noted to facilitate programming other sequences. The sequence name may be changed at top.



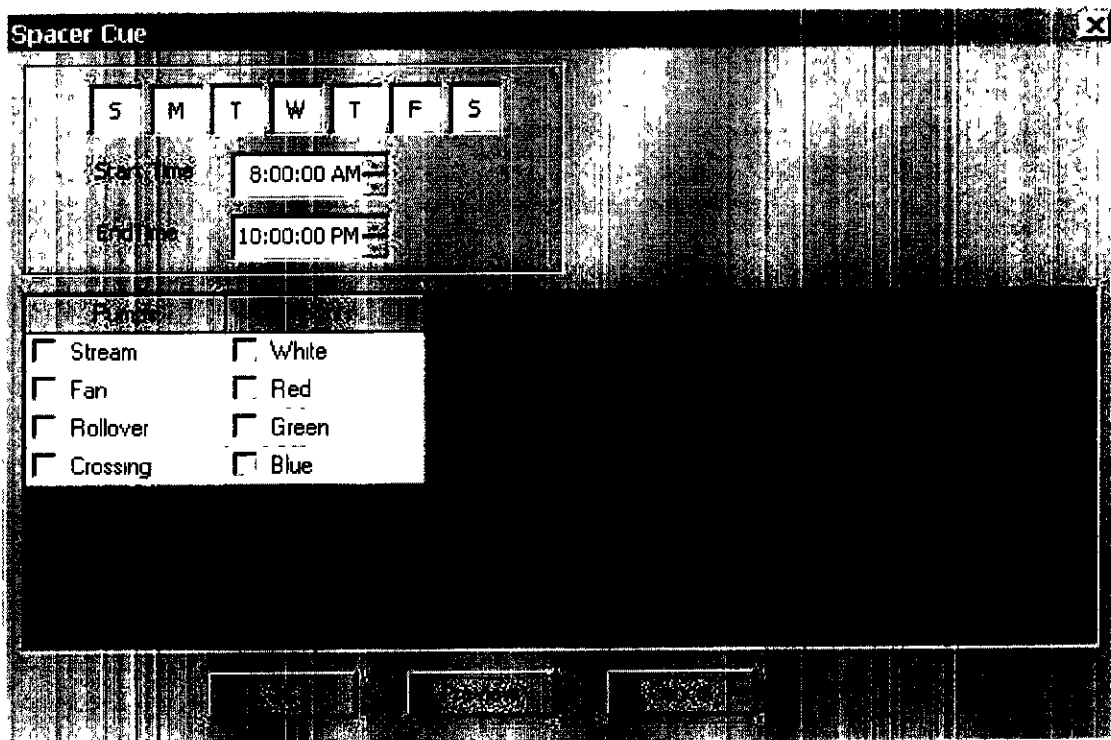
- **Manual Cue** button allows user to preview specific cues using check boxes corresponding to each relay channel. This does not interrupt currently running sequences and allows for real time user input.

Manual Cue facilitates testing and adjustments. Preview sends cue to relays.

\*Relay labels can be changed in Configuration Channel setup.



- **Spacer Cue** button sets the cue that is sent between sequences on the play list. The day of week and start/stop times can be set to limit when Spacer cue is sent. If start/stop time is set to the same time, Spacer cue is disabled.



- **Configure** button will setup the output driver for relay/dimmer device you will be using.

Currently four drivers are installed:

Single / Multi board driver for RC51. [www.industrologic.com](http://www.industrologic.com)

Single / Multi board driver for R8XPro. [www.controlanything.com](http://www.controlanything.com)

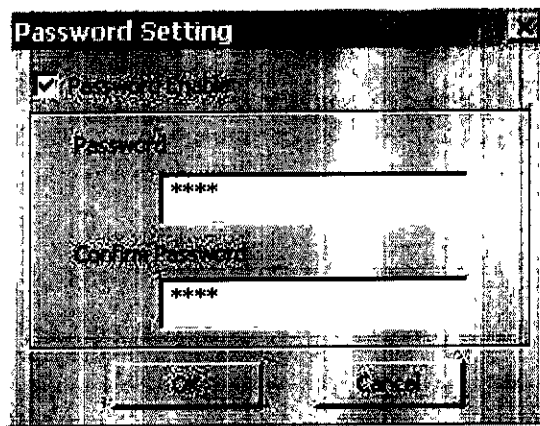
Single / Multi board driver for PwM8X. [www.controlanything.com](http://www.controlanything.com)

USB output to DMX 512. Using the Open DMX USB converter. [www.Enttec.com](http://www.Enttec.com)

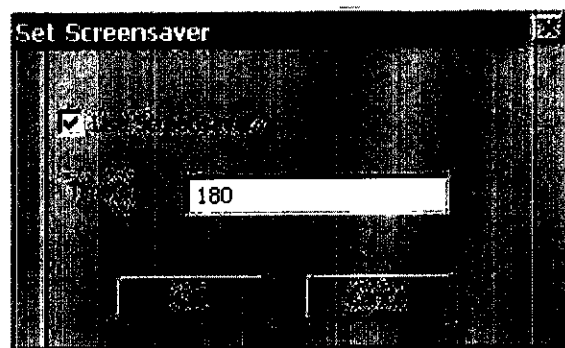
\*If you purchase the relay boards directly from the manufacturer the following modifications are required. The RC51 single board will require loading a tiny basic program. files/setrelrc1.txt A custom EPROM and jumpers are required for the multi-board RC51 setup. The NCD R8XPro and PWM8X boards will need to be set to device #0, which is factory default. These modifications have been done on Fountaineer supplied boards. Com Port settings can be modified for your computer port availability

\*If you purchase the Open DMX converter, no modifications are required. This feeds a standard DMX 512 protocol. The send speed can be adjusted in Port configuration

- Password input is required to access any ARC Player functions. This can be changed or disabled using the Tools drop down **SetPassword** button.

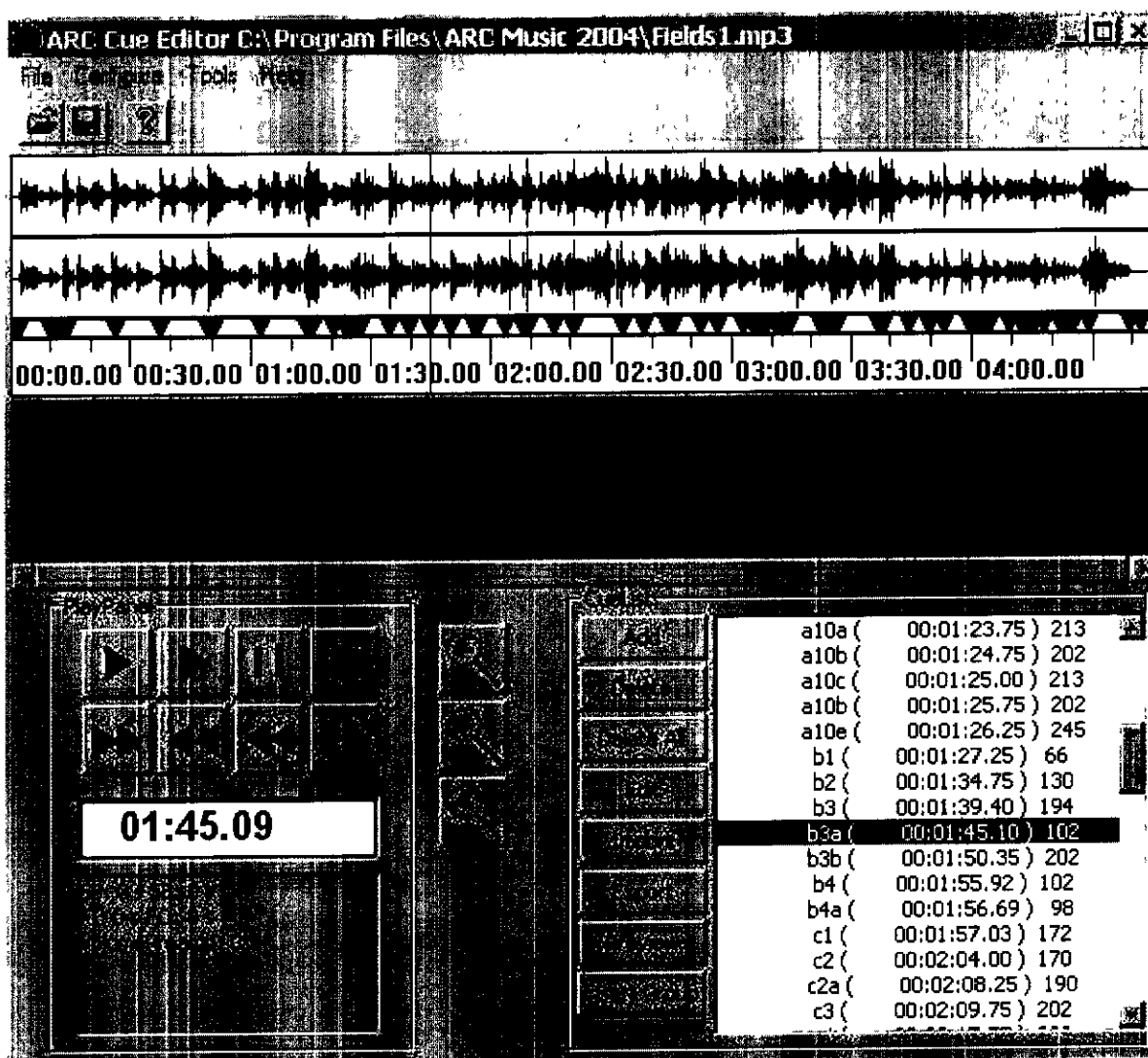


- The Screen saver displays the file being played. The time out can be set or disabled using the Tools drop down **Set Screensaver** button.



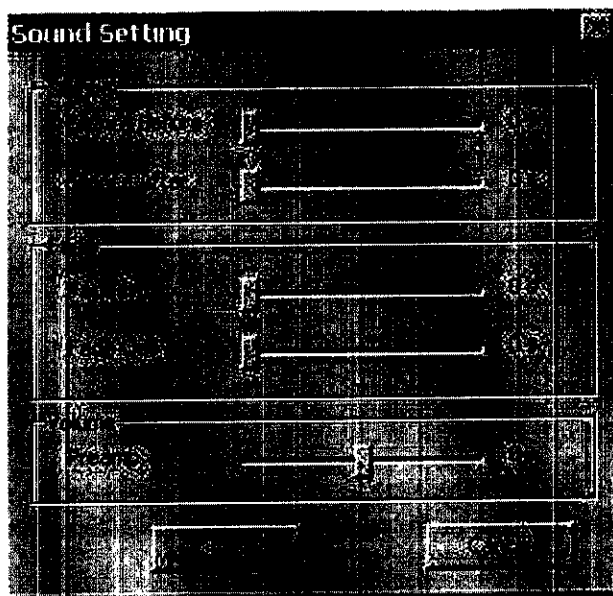
- **Help** button is used to access this Manual and how to completely uninstall the ARC.v2 Controlware.
- **About** button contains information regarding Version, Contacts and Credits.
- **Cue Editor** button will jump to the cue file generator and editing program.
- **Exit** button will quit ARC Player and is password protected to prevent unauthorized program termination.

## ARC CUE EDITOR



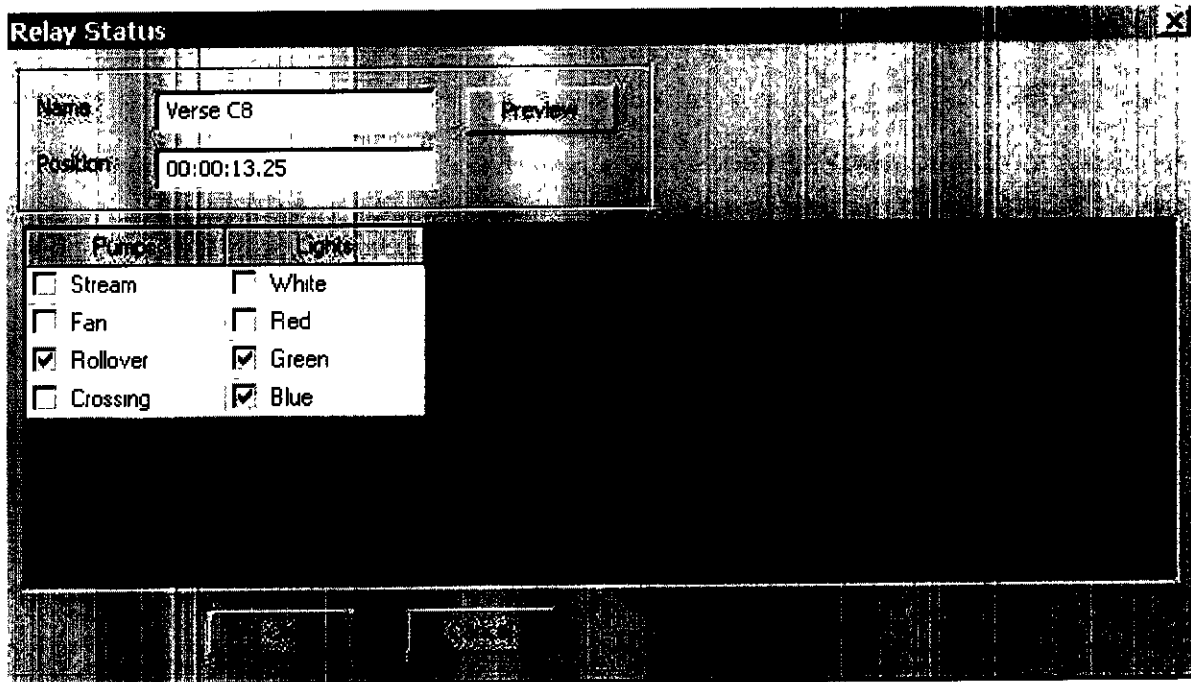
- **Open** will load reference MP3 files from any source your computer is setup for. "Open" will also load ARC cue files if existing. "Open" will return to the same directory unless redirected.
- **Save** will save ARC cue files to same directory that MP3 file was loaded as indicated in the top status line which displays the path and filename.
- **Save As** will save MP3 file and ARC cue files to a directory you specify. "Save As" will default to directory in the top status line. "Save As" can also be used for file name changes.
- **Configure** functions the same as in "Player". Any changes made to "Configure" will be made in both Player and Cue Editor

- **Rip CD Import** starts the MP3 import from CD function. ARC will only support MP3 files at this time. Imported files will be stored at C:\Program Files\ARC\output. We suggest creating a separate folder in Program Files to store ARC material, if you uninstall ARC this will prevent existing preprogrammed material from being deleted.
- **Player** button jumps to the player program. Any new cue programming will be lost if you do not save your project files first.
- Password input is needed to access Editor functions. This can be changed or disabled using **Set Password**. This password is independent of the Player password to allow for security of cue file modifications.
- **Setting** button allows addition of silence (leaders) before and after MP3 file. Also fade in and fade out can be adjusted. Volume allows for matching sound levels on different MP3 files. It should be noted that ARC does not modify the MP3 file; it only changes the playback characteristics. "Setting" indicators are displayed in the lower section of the "PlayPanel" and are saved as part of the ARC cue files.



- **Help** button is used to access to this file.
- **About** button contains information regarding Version, Contacts and Credits.
- **Cue List** functions are enabled when editor playback is stopped. Add, delete, delete all, and edit buttons will modify cue points. The import and export buttons are for text file editing and older versions interfacing. The preview button works on highlighted cue points.

- **Relay Status** window is the heart of the cue programming function. This window pops up using add or edit buttons in the cue list or double click an existing cue point. This is where relays are toggled on/off or dimmers can be set to specific levels and faded in/out. When Output setup and Channel setup are adjusted for devices being used, this window sets the value of the cues.



- **Insert Group** function will insert a selected group of cues, using a key cue to determine the position of all the cues in the group. First, click on a insert point in MP3 file. Next, Open insert group and select the cues to be inserted in top window (Click and then shift+click). Next highlight the cue that will be located at the MP3 file selected point in bottom window and then click "Set Key Cue". The asterisk in the bottom window indicates the selected "Key Cue". Click insert. To select a different group of cues, go to top window and repeat. Over write will erase all existing cues the inserted group overlaps. Whole sections can be duplicated with this function.

**Insert Group**

Insert position: 01:45.46

Cue List

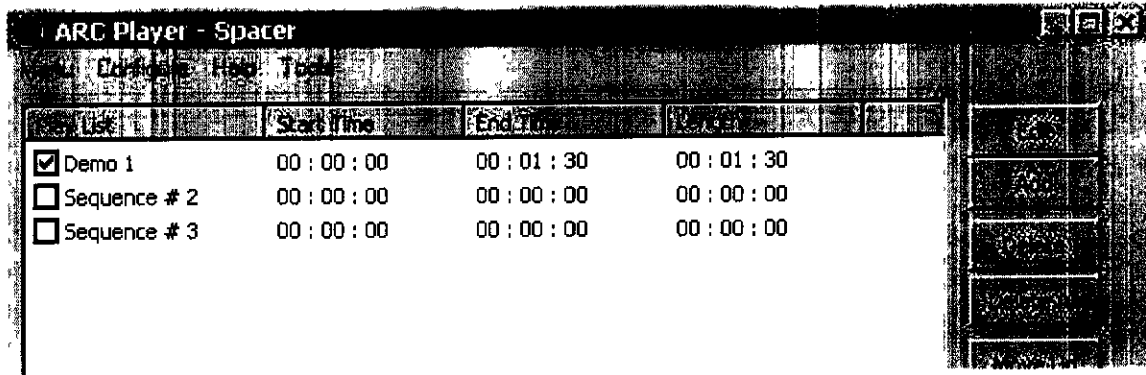
a3	00:00:14.50
a4	00:00:26.25
a5	00:00:37.50
a5a	00:00:49.25
a5b	00:00:50.00
a6	00:00:50.50
a7	00:01:02.25
a8	00:01:13.75

...

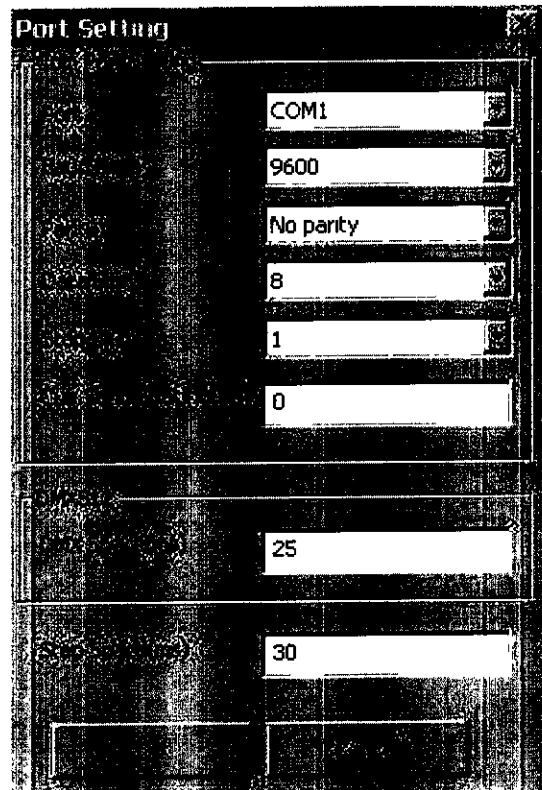
* a5	00:01:45.47
a5a	00:01:57.22
a5b	00:01:57.97

## Configuration

The Configure button is available in both Player and Cue Editor

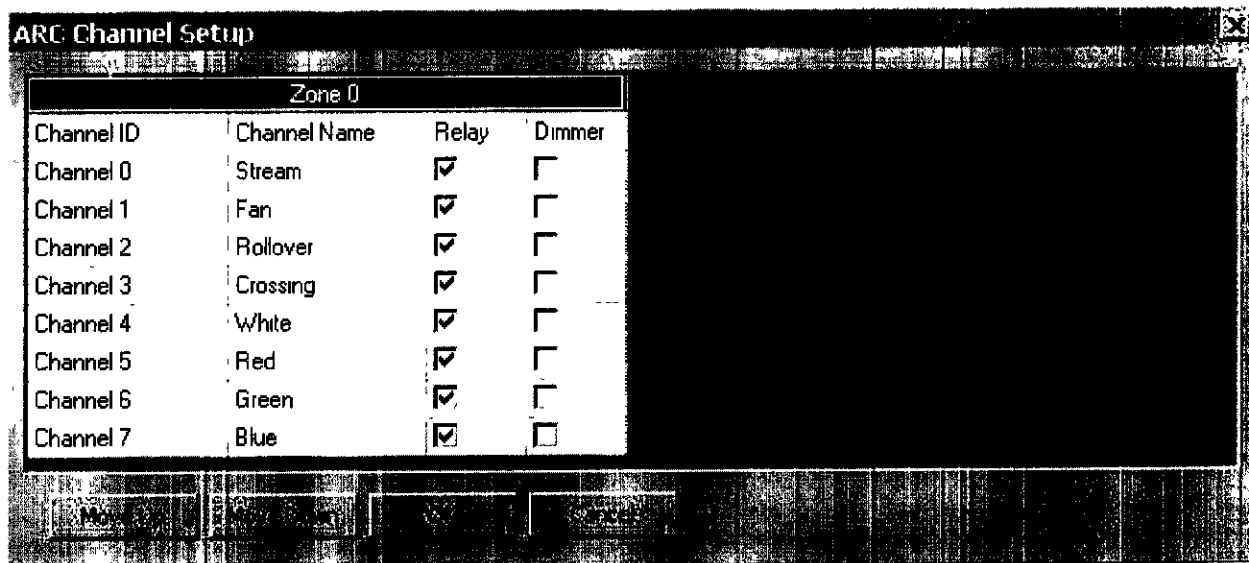


In the Player mode using the Configure button, you can change the port settings for the serial output, change output settings and channel labels. Tools button allows changing password and to adjust screensaver settings.

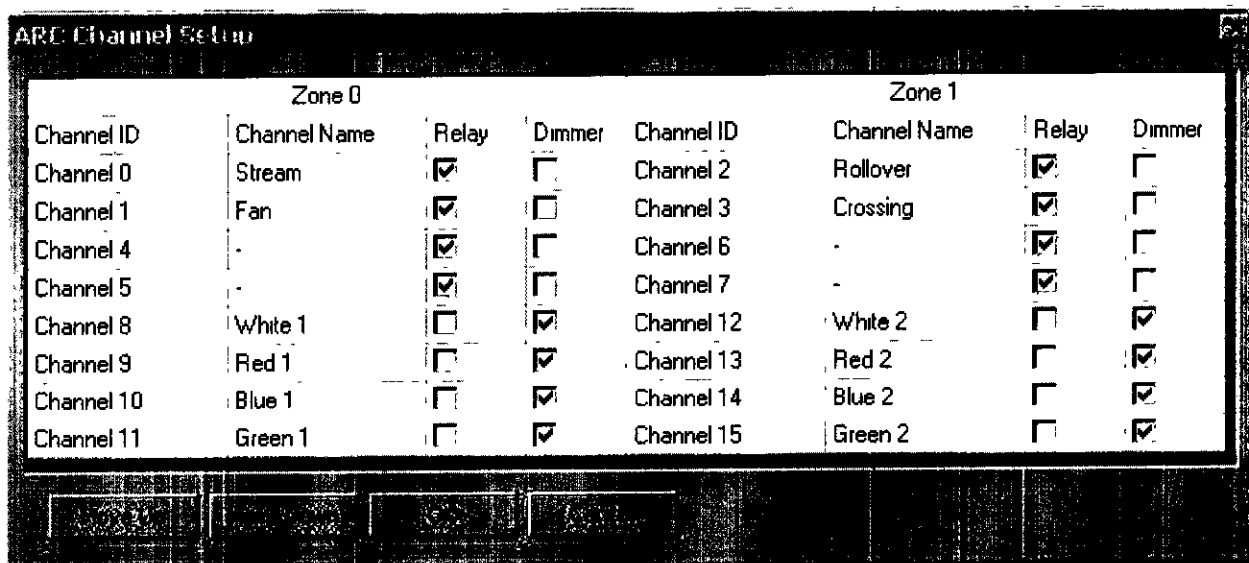


The Port button allows for configuration of the serial RS232 port. The Cue send spacing, adjusts the minimum time between cues sent to port. This may need to be increased for slower computers to avoid missing cues. DMX512 spacing adjusts the repeat speed to the USB port. The Step spacing adjusts the time for each step when fading in or out; 30ms = 33 steps per second. This also may need to be increased for slower computers. The Cue resolution, how close cues can be programmed to each other, can be optimized for your computer's output capabilities

The Output setup button is explained in the Driver Help area.



The Channel setup window allows changing Channel and Zone labels. Zones are user definable groups of relay/dimmers. Relay mode is an on/off function only, Dimmer mode will allow variable value and fade functions. It should be noted that A/C pumps and motors should always be set to relay mode.



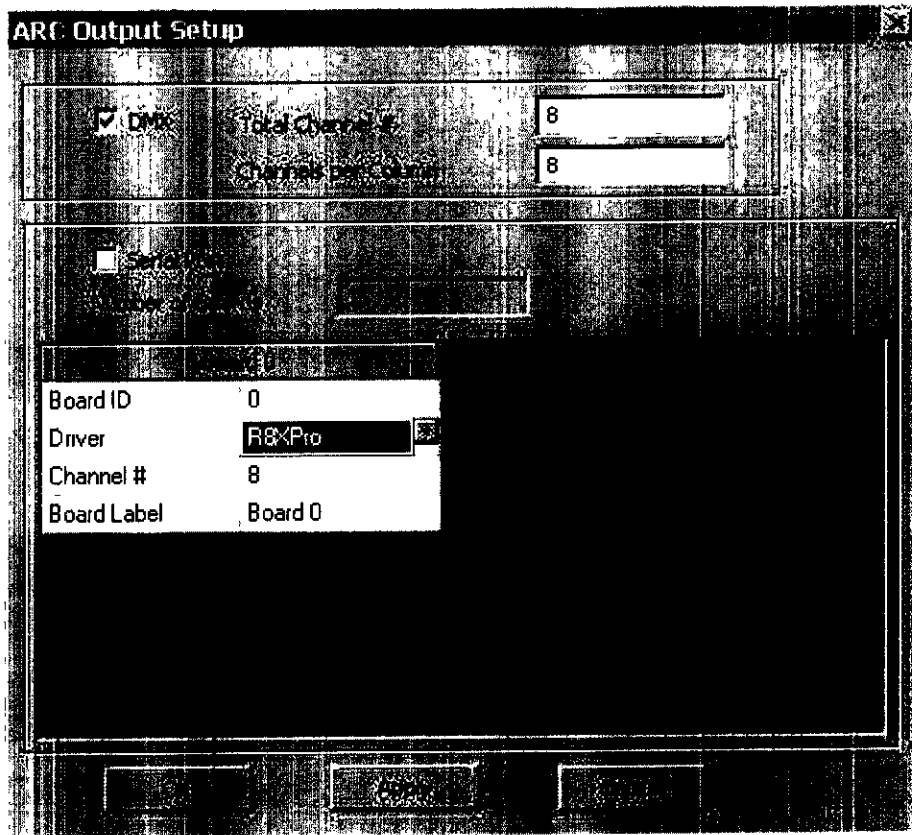
Channels can be moved up or down, if the first channel in the first Zone is moved up a new Zone will be created. If the last channel in the last Zone is moved down a new Zone will be created. Channel positions can be "stacked" in any order. This is like a patch bay to make programming faster no matter how the pumps and lights are plugged in at the devices being controlled.

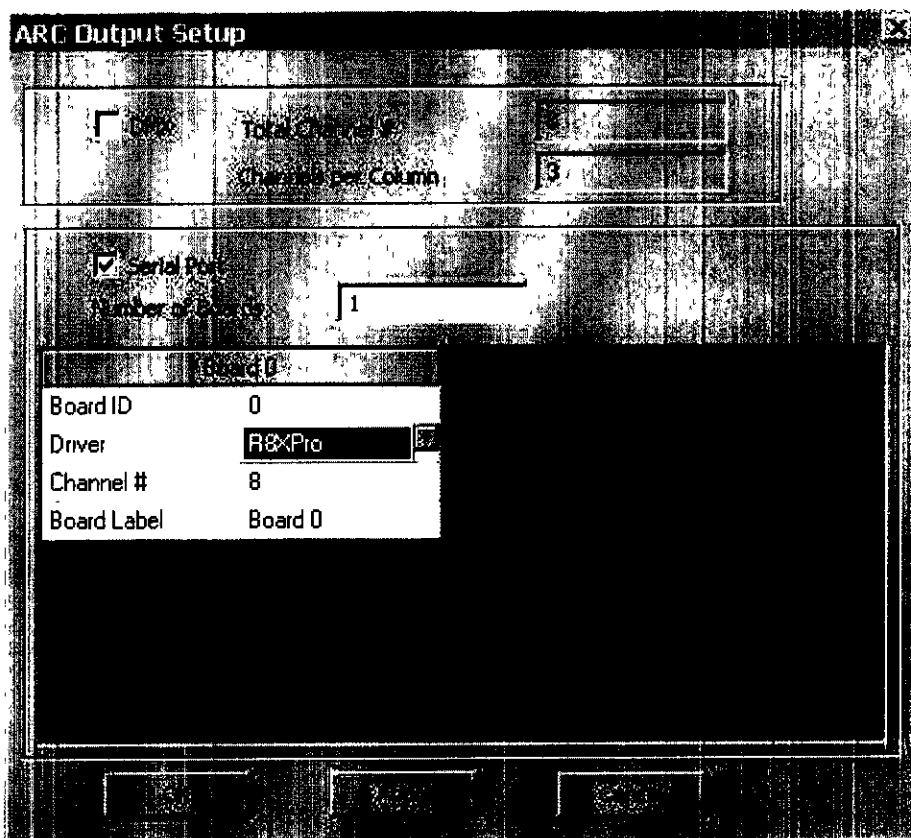
Password modification or enable/disable is accessible in Tools.

Set screen saver button allows for enable/disable and wait time for screen saver function.

### Output Drivers

ARC has four primary drivers installed to date.





In Configure under "Output Setup" there is a DMX enable. This ARC.v2 release allows for 64 DMX channels to be controlled. For separate board setup there is a serial enable that allows 128 relay / dimmer combinations. The Serial driver drop down selections are; R8Pro, PWM8X or RC51. There are two ports implemented; the USB for DMX protocol and the Serial RS232 which can be setup under "Port" for custom applications.

1) The DMX driver feeds the USB port output using the ENTTEC Open DMX USB interface <http://www.enttec.com/opendmxusb.php> to convert to standard DMX512. Any DMX driven device can be used.

2) The R8XPro driver feeds the serial port output that sends a board address and then a "set all relays" command from 0 to 255. At every cue point this string is sent for each board installed. The specific board that has been implemented is the National Control Devices R810Pro eight 10amp relay board. [http://www.controlanything.com/Merchant2/merchant.mvc?Screen=PROD&Store\\_Code=NCD&Product\\_Code=R810PRO](http://www.controlanything.com/Merchant2/merchant.mvc?Screen=PROD&Store_Code=NCD&Product_Code=R810PRO). Multiple boards can be driven by programming board ID's. The R810Pro default board ID out of the box is "0".

3) The PWM8X driver feeds the serial port output that sends a board address, a channel number and a value of 0 to 255. At every cue point this string is sent for each channel on every board installed. The specific board that has been implemented is the Nation Control Devices PWM85 eight 5amp dimmer board. [http://www.controlanything.com/Merchant2/merchant.mvc?Screen=PROD&Store\\_Code=NCD&Product\\_Code=PWM85](http://www.controlanything.com/Merchant2/merchant.mvc?Screen=PROD&Store_Code=NCD&Product_Code=PWM85). The same board ID changes are required for multiple boards as the R810Pro. These dimmers are for DC applications like RGB LEDS, not for A/C devices.

4) The RC51 driver feeds the Serial RS232 port that sends a "set all relays" command from 0 to 255 and a <cr> return. At every cue point this command will be sent to one board. The specific board that has been

implemented is the Industrologic RC51 eight 10amp relay board. <http://www.industrologic.com/rc51desc.htm>. This board has Mini basic control; a simple basic program Files\setrelrc1.TMB can be loaded into the board that will turn the serial input into "set all relays" command or any function that is programmed in basic. This board can be driven with a dumb terminal application. Up to 4 boards can be implemented using a custom EPROM and jumpers between the Int. pins on the board. We can supply information on a simple Mini basic program and multiple board setups.

It should be noted that when using separate boards that mixing manufactures is not recommended.

These drivers were selected to cover a wide range of applications. There are a lot of control board manufacturers and devices available. The architecture of the output of these drivers may apply to other devices that we have not tested. Custom drivers are available.

**MINIMUM REQUIREMENTS**

**Supported OS:** Windows 98, Windows XP or Windows 2000

**Processor:** Pentium Class

**RAM:** 32 MB

**Harddrive Space:** 5mb

## REGISTRATION

Displays a dialog where you can view or enter your registration key to register your copy of ARC.

When you purchase a copy of ARC, you will receive a receipt with the registration key on it. If you purchased the CD version the registration key will be on the CD or CD sleeve.

Keep your registration key in a safe place in case you upgrade your computer and need to reinstall ARC.

**Note:** The registration key should be used to install only one copy of ARC on one computer, per the licensing agreement. The key is used to active your copy of ARC for full functions.

**DO NOT SHARE** your registration key with anyone. Attempting to upgrade ARC using the same key from two different computers is a violation of your license agreement and may result in deactivation of your key or an inability to upgrade your program and data.

### **Trial Mode**

If you have not purchased a copy, ARC will run in trail mode and allow 10 cues to be programmed.

Please contact us if you have problems with your trial or trial limitations.

Go to <http://www.fountaineer.com> to purchase a copy and get a valid registration key.

## **ABOUT**

ARC Version 2.0

Contact: [info@fountaineer.com](mailto:info@fountaineer.com)

### Credits:

Development - Dale Ashby, [dashby1@fountaineer.com](mailto:dashby1@fountaineer.com)

Technology and Graphics - Robert Piano, [rpiano@fountaineer.com](mailto:rpiano@fountaineer.com)

Programming - Xu Shirui, [dev@5dtool.com](mailto:dev@5dtool.com)

Visit us at [www.fountaineer.com](http://www.fountaineer.com)

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## **ARC Uninstall Procedure**

To uninstall ARC completely from your computer go to Start and then to Run.

Type **C:\Program Files\ARC\uninstall.exe** then click OK.

You will be asked if you want to save the ARC Data file folder. If you have not saved any work to this folder, it will not be necessary to keep.