Configuration manual Remote Control containing:

***D&R AIRENCE***
***D&R AIRLITE and WEBSTATION***
***D&R AIRLAB***
***D&R AXUM (MambaNet)***
***Hotkeys***
***Serial Port***
***MIDI***
***Joystick/Gamepad***
***IO-Warrior***
***Velleman K8055(N)***

# D&R AIRENCE Remote Control

This article describes the remote control interface for the D&R AIRENCE-USB mixing console.

The AIRENCE is an 6- to 24-channel mixer which includes four stereo USB audio interfaces, and a USB control module for fader start etc., all through a single USB connection.

The AIRENCE remote control interface is also compatible with the AIRLAB USB Control Module.

## Audio Setup

The audio setup is not exactly part of the remote control configuration, actually it's entirely separate, but you will find the following remarks useful.

The AIRENCE has four USB channels/faders, labeled “USB 1” through “USB 4” on the mixer surface. These USB channels all have their own USB (stereo) audio interface, all of which are connected to a common USB hub inside the console.

Also connected to that USB hub is the USB control module used for remote control (see below). So there is a total of five USB devices inside the console.

When you plug the USB cable into your computer, Windows will detect the devices one by one, and give the sound cards names like “USB Audio”, “2-USB Audio”, “3-USB Audio” and “4-USB Audio” (names may vary).

It is important to know that the order of these devices is somewhat random, and it does not coincide with the order of the USB channels on the mixer surface most of the time!

So we recommend that you first go to the Windows audio settings, playback devices, identify each USB channel, then edit each device and change it's name (“Speaker”) to something more useful (e.g. “AIRENCE USB 1”). These names will appear in the Aircast audio setup, so you can easily identify the correct USB audio channel.

Each audio device also has a stereo return signal, represented by a record device in the Windows audio settings. The exact signal mapping can be looked up in the AIRENCE manual. The return signal for USB 1 will usually carry the “main” (program) output; use this as the line-in device for streaming.

It is recommended that you use WASAPI instead of DirectSound, as this will avoid mixing up of the several audio devices. Also make sure that you have the console plugged into the same USB port at all times; otherwise Windows may detect all devices as new, breaking your audio setup.

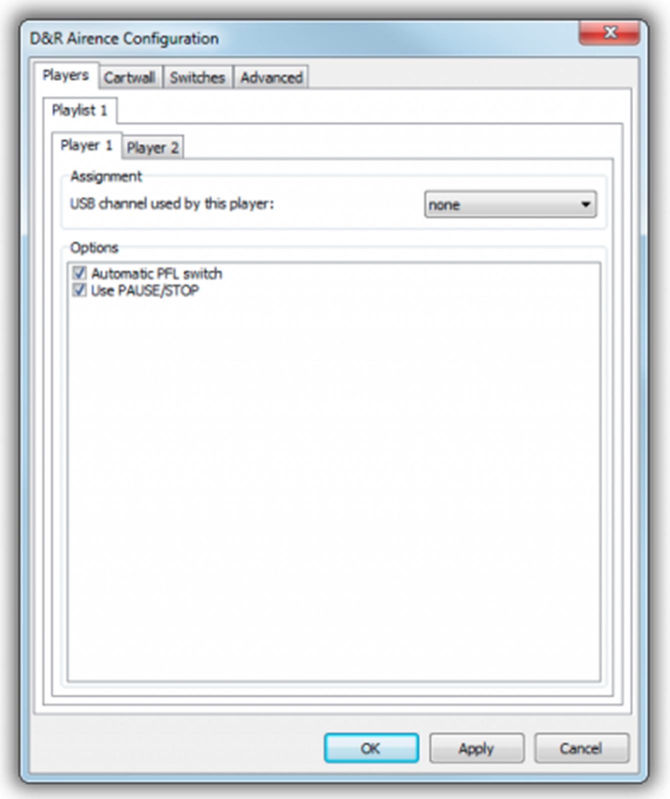
## Configuration

The AIRENCE software must be installed on your computer before you can start with the remote control configuration.

Then open the standalone configuration app, or the Control Panel, go to the *Remote Control* page, and add a new *D&R AIRENCE* remote.

## Players

On the *Players* tab, select the USB channel that corresponds to the respective player:



Assignment

USB channel used by this player: none

Options

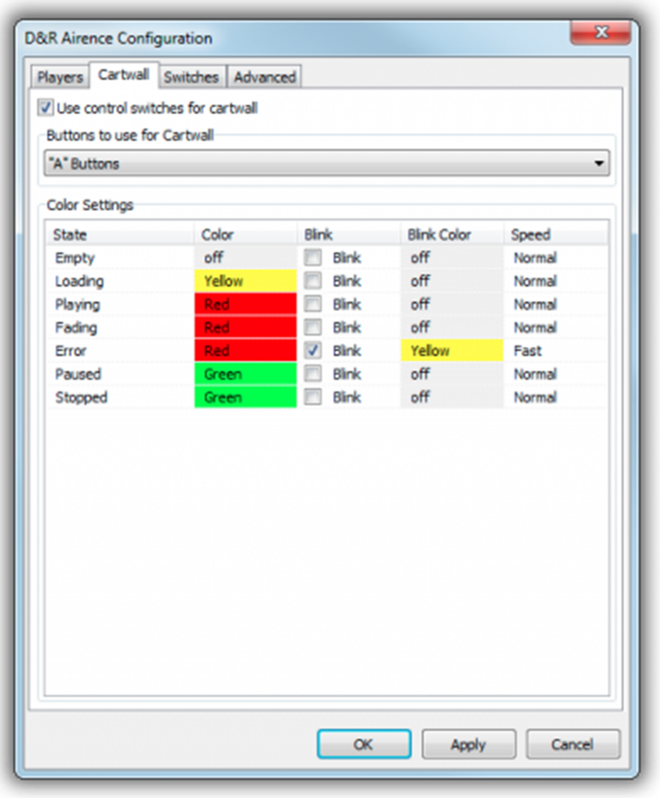
☑ Automatic PFL switch
☑ Use PAUSE/STOP

When you check *Automatic PFL switch*, Aircast will start the player in PFL mode when you press the PFL key on the console, or switch the channel to PFL on the console when you start PFL in the player with the mouse (or any other remote control mechanism).

The option *Use PAUSE/STOP* will pause a player first when the fader is closed and no other player is active. Internally, it will use the remote control command PLAYER x-y PAUSE/STOP instead of just PLAYER x-y STOP.

## Cartwall

The AIRENCE main unit has 16 buttons, in two rows (labeled “A” and “B”), that can be used to control the cartwall players. If you are going to use these buttons, select the row(s) to use on the *Cartwall* tab:



☑ Use control switches for cartwall

Buttons to use for Cartwall: "A" Buttons

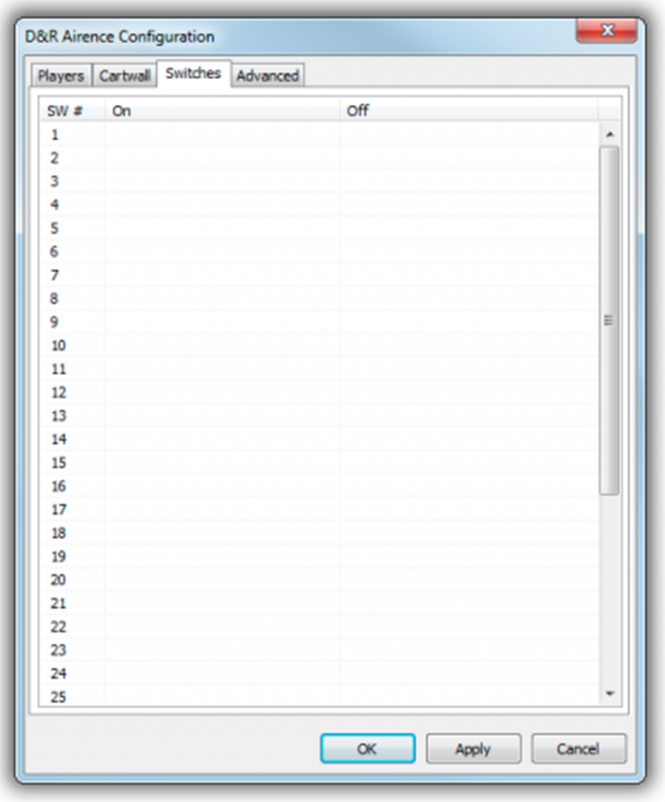
Color Settings

| State | Color | Blink | Blink Color | Speed |
|---|---|---|---|---|
| Empty | off | □ Blink | off | Normal |
| Loading | Yellow | □ Blink | off | Normal |
| Playing | Red | □ Blink | off | Normal |
| Fading | Red | □ Blink | off | Normal |
| Error | Red | ☑ Blink | Yellow | Fast |
| Paused | Green | □ Blink | off | Normal |
| Stopped | Green | □ Blink | off | Normal |

You can also customize the way the various states of the cartwall players (empty, playing, etc.) are represented by the color (or flashing) of the associated push button on the console.

## Switches

If you are going to use any of the push buttons for any other purpose than the cartwall, you can assign remote control commands to them:



| SW # | On | Off |
|---|---|---|
| 1 | | |
| 2 | | |
| 3 | | |
| 4 | | |
| 5 | | |
| 6 | | |
| 7 | | |
| 8 | | |
| 9 | | |
| 10 | | |
| 11 | | |
| 12 | | |
| 13 | | |
| 14 | | |
| 15 | | |
| 16 | | |
| 17 | | |
| 18 | | |
| 19 | | |
| 20 | | |
| 21 | | |
| 22 | | |
| 23 | | |
| 24 | | |
| 25 | | |

Just select any of the available (Not used for the cartwall player) commands from the dropdown list, or type one manually. The “On” command will be executed when you press the button, the “Off” command will be executed when you release the button.

There are 38 buttons:

- 1-8: Cartwall buttons, row “A”
- 9-16: Cartwall buttons, row “B”
- 17-24: Customizable buttons below the cartwall buttons (scroll, play, etc.)
- 25: “Encoder” button
- 26: “Non-stop” button
- 27: Fader start, USB 1
- 28: ON button, USB 1
- 29: CUE button, USB 1
- 30: Fader start, USB 2
- 31: ON button, USB 2
- 32: CUE button, USB 2
- 33: Fader start, USB 3
- 34: ON button, USB 3
- 35: CUE button, USB 3
- 36: Fader start, USB 4
- 37: ON button, USB 4
- 38: CUE button, USB 4
- 39: Rotary encoder, on=right, off=left, you can use $VALUE inside the remote control command as a placeholder for the current encoder value (0..255).

### Advanced

On the *Advanced* tab, you can adjust some internal parameters of the AIRENCE connection. Do this only if instructed by the support.

# Scripting

The AIRENCE remote offers an interface which can be used to communicate with the console from a script. To access the interface, use the following function:

```
function AirenceRemote(iIndex: integer): IAirenceRemote;
```

Remotes are 0-based, so AirenceRemote(0) will return a reference to the first remote in the system.

At the time being, the IAirenceRemote interface offers two useful functions:

```
procedure SetLED(iNumber: integer; iColor: TAirenceColor);

procedure SetLEDBlink(iNumber: integer; iOnColor, iOffColor: TAirenceColor; iSpeed: TAirenceBlinkSpeed);
```

The first one sets an LED of one of the push buttons to a particular color, the second one does the same, but with flashing. The available button IDs are:

- “A” buttons: 0 (Button 1A) to 7 (Button 8A)
- “B” buttons: 8 (Button 1B) to 15 (Button 8B)
- Buttons in the lower part: 16 to 23
- 255 (hex $FF): All buttons at the same time

The available color values are:

- acNone (no color, LED off)
- acRed
- acGreen
- acYellow

The available blink speed values are:

- absSlow
- absNormal
- absFast

# D&R AIRLITE and WEBSTATION Remote Control

This article describes the remote control interface for the D&R AIRLITE-USB and D&R WEBSTATIONmixing consoles.

The AIRLITE is an 8-channel 19“ mixer which includes four stereo USB audio interfaces, and a USB control module for fader start etc., all through a single USB connection.

The WEBSTATION is the smaller brother of the AIRLITE, featuring 6 channels and three USB audio interfaces.

Configuration steps are similar for both models.

## Audio Setup

The audio setup is not exactly part of the remote control configuration, actually it's entirely separate, but you will find the following remarks useful.

The AIRLITE has four USB channels/faders, labeled “USB 1” through “USB 4” (WEBSTATION: three USB channels) on the mixer surface. These USB channels all have their own USB (stereo) audio interface, all of which are connected to a common USB hub inside the console.

Also connected to that USB hub is the USB control module used for remote control (see below). So there is a total of five USB devices inside the console.

When you plug the USB cable into your computer, Windows will detect the devices one by one, and give the sound cards names like “USB Audio”, “2-USB Audio”, “3-USB Audio” and “4-USB Audio” (names may vary).

It is important to know that the order of these devices is somewhat random, and it does not coincide with the order of the USB channels on the mixer surface most of the time!

So we recommend that you first go to the Windows audio settings, playback devices, identify each USB channel, then edit each device and change it's name (“Speaker”) to something more useful (e.g. “AIRLITE USB 1”). These names will appear in the Aircast audio setup, so you can easily identify the correct USB audio channel.

Each audio device also has a stereo return signal, represented by a record device in the Windows audio settings. The exact signal mapping can be looked up in the AIRLITE/WEBSTATION manual. The return signal for USB 1 will usually carry the “main” (program) output; use this as the line-in device for streaming.

It is recommended that you use WASAPI instead of DirectSound, as this will avoid mixing up of the several audio devices. Also make sure that you have the console plugged into the same USB port at all times; otherwise Windows may detect all devices as new, breaking your audio setup.

## Configuration

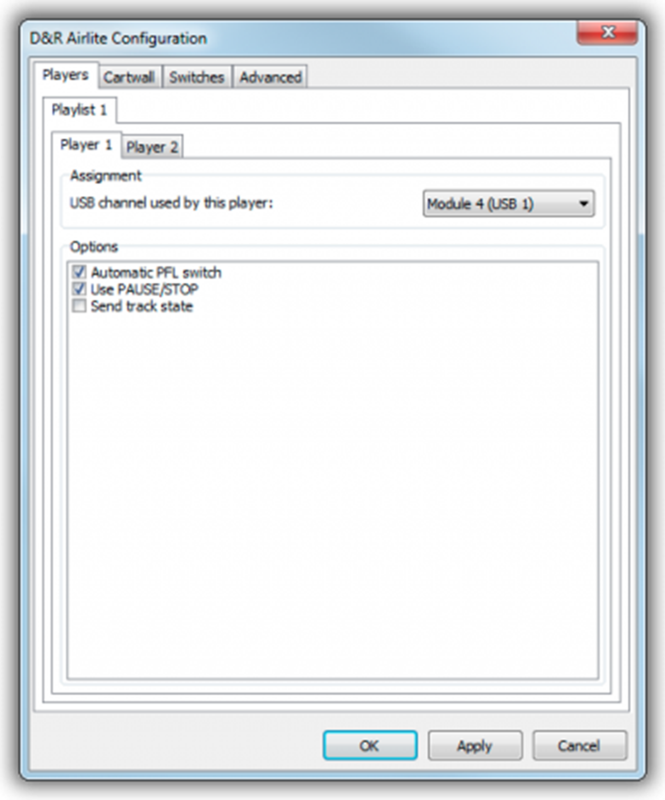
The AIRLITE/WEBSTATION software must be installed on your computer before you can start with the remote control configuration.

Then open the standalone configuration app, or the Control Panel, go to the *Remote Control* page, and add a new *D&R AIRLITE* or *D&R WEBSTATION* remote.

We will demonstrate the configuration of the AIRLITE in the remainder of this article; WEBSTATION is similar.

Players

On the *Players* tab, select the USB channel that corresponds to the respective player:



USB channel used by this player: Module 4 (USB 1)

☑ Automatic PFL switch
☑ Use PAUSE/STOP
□ Send track state

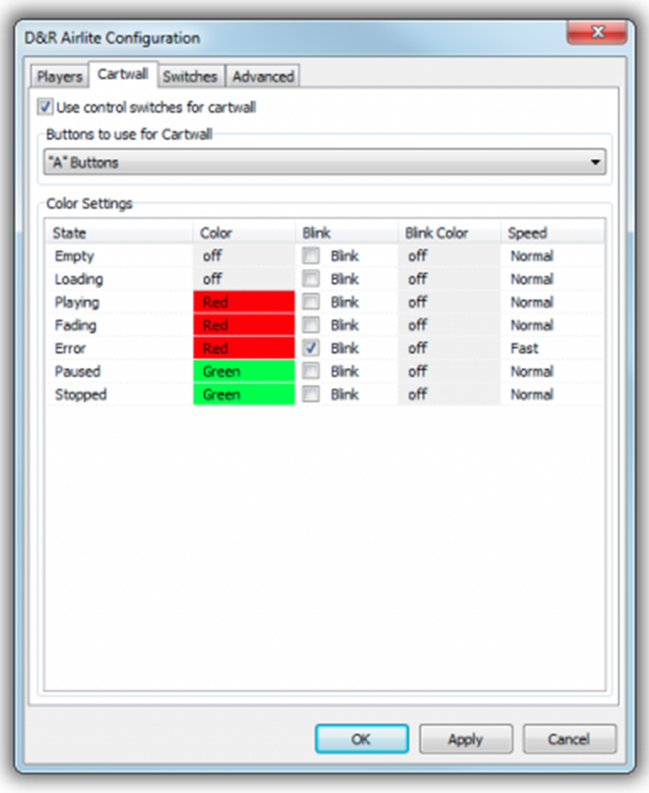
When you check *Automatic PFL switch*, Aircast will start the player in PFL mode when you press the PFL key on the console, or switch the channel to PFL on the console when you start PFL in the player with the mouse (or any other remote control mechanism).

The option *Use PAUSE/STOP* will pause a player first when the fader is closed and no other player is active. Internally, it will use the remote control command PLAYER x-y PAUSE/STOP instead of just PLAYER x-y STOP.

If you want Aircast to send back the state of a particular player (empty, loaded, active, EOF), check the *Send track state* option. The console will use an active/flashing LED to display the state.

## Cartwall

The AIRLITE has 16 buttons (WEBSTATION: 12 buttons), in two rows (labeled “A” and “B”), that can be used to control the cartwall players. If you are going to use these buttons, select the row(s) to use on the *Cartwall* tab:



☑ Use control switches for cartwall

Buttons to use for Cartwall

"A" Buttons

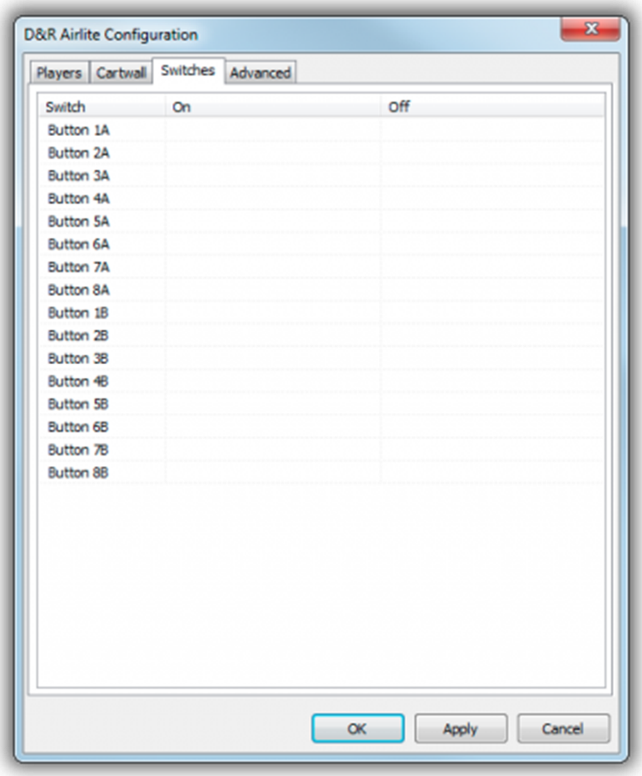
Color Settings

| State | Color | Blink | Blink Color | Speed |
|---|---|---|---|---|
| Empty | off | ☐ Blink | off | Normal |
| Loading | off | ☐ Blink | off | Normal |
| Playing | Red | ☐ Blink | off | Normal |
| Fading | Red | ☐ Blink | off | Normal |
| Error | Red | ☑ Blink | off | Fast |
| Paused | Green | ☐ Blink | off | Normal |
| Stopped | Green | ☐ Blink | off | Normal |

You can also customize the way the various states of the cartwall players (empty, playing, etc.) are represented by the color (or flashing) of the associated push button on the console.

## Switches

If you are going to use any of the 16 push buttons for any other purpose than the cartwall, you can assign remote control commands to them:



| Switch | On | Off |
|---|---|---|
| Button 1A | | |
| Button 2A | | |
| Button 3A | | |
| Button 4A | | |
| Button 5A | | |
| Button 6A | | |
| Button 7A | | |
| Button 8A | | |
| Button 1B | | |
| Button 2B | | |
| Button 3B | | |
| Button 4B | | |
| Button 5B | | |
| Button 6B | | |
| Button 7B | | |
| Button 8B | | |

Just select any of the available commands from the dropdown list, or type one manually. The “On” command will be executed when you press the button, the “Off” command will be executed when you release the button.

### Advanced

On the *Advanced* tab, you can adjust the IP and ports that the AIRLITE/WEBSTATION interface software is running on. It is not required to make any changes here unless you are running the AIRLITE/WEBSTATION software on a different computer.

## Scripting

The AIRLITE/WEBSTATION remote offers an interface which can be used to communicate with the console from a script. To access the interface, use the following function:

```
function AirliteRemote(iIndex: integer): IAirliteRemote;
```

Note: Name of the function is always AirliteRemote, and name of the interface is always IAirliteRemote, also for WEBSTATION. (The same class is used used internally for both models.)

Remotes are 0-based, so AirliteRemote(0) will return a reference to the first remote in the system.

At the time being, the IAirliteRemote interface offers two useful functions:

```
procedure SetLED(iNumber: integer; iColor: TAirliteColor);

procedure SetLEDBlink(iNumber: integer; iOnColor, iOffColor: TAirliteColor; iSpeed: TAirliteBlinkSpeed);
```

The first one sets an LED of one of the push buttons to a particular color, the second one does the same, but with flashing. The available button IDs for AIRLITE are:

- "A" buttons: 0 (Button 1A) to 7 (Button 8A)
- "B" buttons: 8 (Button 1B) to 15 (Button 8B)
- 255 (hex $FF): All buttons at the same time

And for WEBSTATION, given the lower number of butttons:

- "A" buttons: 0 (Button 1A) to 5 (Button 6A)
- "B" buttons: 6 (Button 1B) to 11 (Button 6B)
- 255 (hex $FF): All buttons at the same time

The available color values are:

- alcNone (no color, LED off)
- alcRed
- alcGreen

The available blink speed values are:

- albsSlow
- albsNormal
- albsFast

# D&R AIRLAB (DT only) Remote Control

The D&R AIRLAB is a modular analog mixing console. It has a serial port which can be used for fader start with Aircast. There is also a USB control module with push buttons for the cartwall etc. available.

## Fader Start Configuration

The AIRLAB has a serial port used for fader starts. You need a physical serial port, or a USB/serial adapter, on your computer.

(Depending on your hardware configuration, there might also be a USB port used for the push button control module - see instructions below).

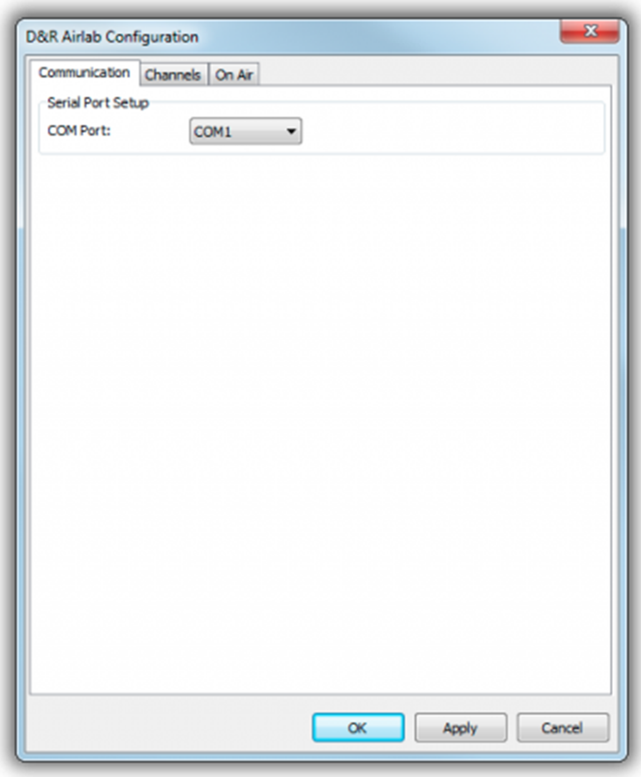
The first step is to set the serial communication parameters correctly. Open the Aircast standalone config app, go to *Misc.* → *Serial Ports*, and set the parameters of the corresponding port as follows:

- Baud rate: 57600
- Byte size: 8
- Parity: N
- Stop bits: 1
- Receive buffer: 4096
- Send buffer: 4096

Next, go to the *Remote Control* page, and add a new *D&R Airlab* remote.

## Communication

On the *Communication* tab, select the COM port that your console is attached to.



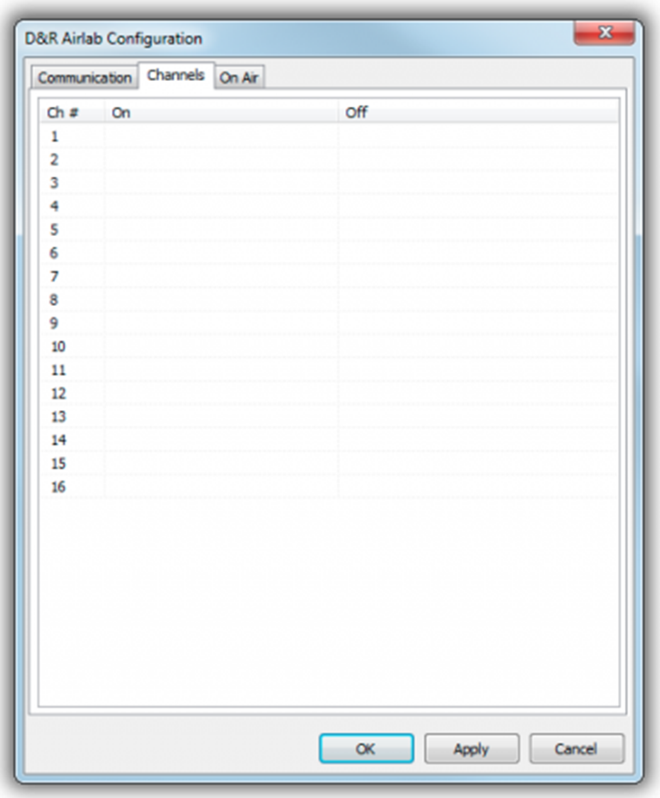
Serial Port Setup

COM Port: COM1

Don't forget to set the communication parameters on the *Serial Ports* page correctly, see above.

## Channels

On the *Channels* tab, you can define fader start commands for any of the 16 channels of the AIRLAB:

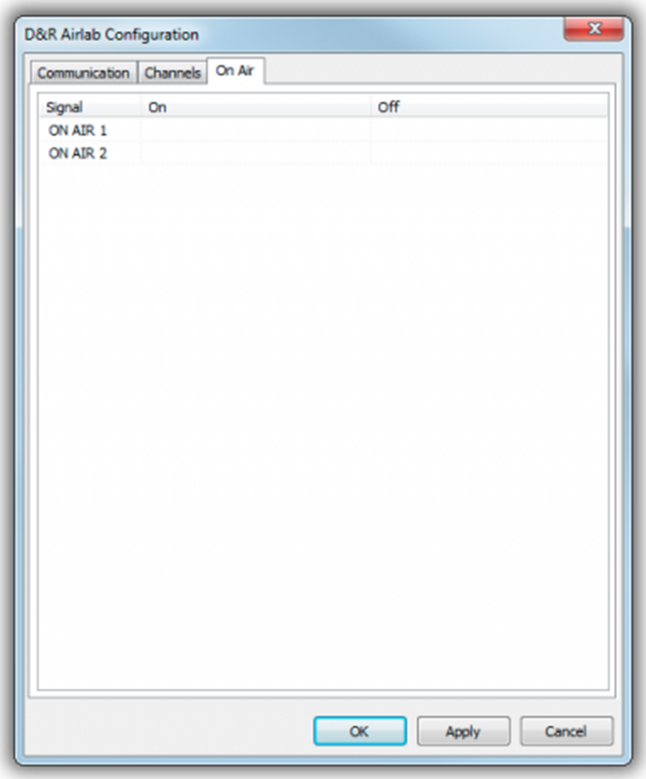


| Ch # | On | Off |
|---|---|---|
| 1 | | |
| 2 | | |
| 3 | | |
| 4 | | |
| 5 | | |
| 6 | | |
| 7 | | |
| 8 | | |
| 9 | | |
| 10 | | |
| 11 | | |
| 12 | | |
| 13 | | |
| 14 | | |
| 15 | | |
| 16 | | |

Just select or type any remote control command for “On” (fader goes on) or “Off” (fader goes off).

## On Air

The AIRLAB has two On Air busses which can be switched separately. On the *On Air* tab, you can assign remote control commands to these switching events:



| Signal | On | Off |
|---|---|---|
| ON AIR 1 | | |
| ON AIR 2 | | |

# USB Control Module

D&R offers an optional USB Control Module with 16 cartwall push buttons and 8 additional customizable keys.

This module is compatible with the similar control module of the D&R AIRENCE control. To use it with Aircast, just follow the instructions for the setup of the D&R AIRENCE remote control (only the Cartwall and Switches tabs, not the players).

So if you are using an AIRLAB with the USB Control Module, you will need to add two remote controls to your Aircast configuration: AIRLAB (for fader starts) and AIRENCE (for the control module).

# MambaNet Remote Control

The MambaNet remote control interface connects Aircast to MambaNet compatible devices. MambaNet is a digital control protocol, developed by D&R Electronica B.V. and used in the D&R AXUM console.

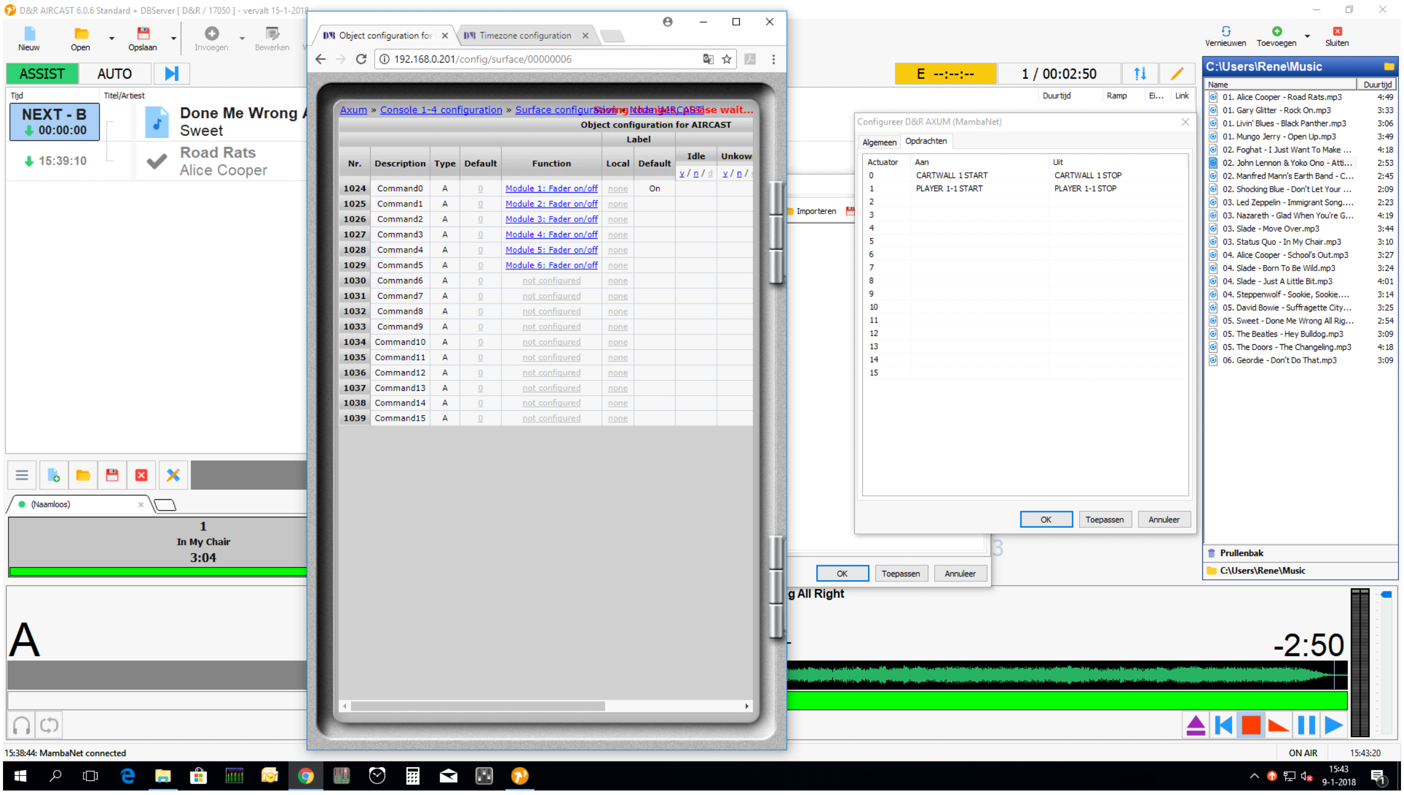
## Configuration

At the Aircast  configurationpanel you'll first have to add the AXUM mambanet module with the AXUM's IP adress and UDP connection type.

The mambanet module has 16 virtual connections between the Axum and Aircast. To make it work you'll have to configure the needed commands of these 16 connections at both sides.
At the Axum side you'll have to tell which fader or switch has to be activate these connections.
At the Aircast side you'll have to configure what command has to be activated by those connections and configured faders or switches. For example this can be a start or stop fort he player or cartwall player.

For the **axum side go to**:   AXUM > Console 1-4 configuration > surface configuration > Node Aircast
Here you can add the fader or switch functions that are needed to control Aircast.

For **Aircast side go to**:   Aircast Controlpanel > Remote control > D&R Axum Mambanet > Configure > assignment.
Here you can assign the functions that you need to control you're Aircast like the Start and Stops for the Cartwall or Players. Each start and stop needs to be configured individual.



D&R AIRCAST 6.0.6 Standard + DBServer [ D&R / 17050 ] - vervalt 15-1-2018

192.168.0.201/config/surface/00000006

Axum » Console 1-4 configuration » Surface configuration » Node 'AIRCAST' Saving changes, please wait...

Object configuration for AIRCAST

| Nr. | Description | Type | Default | Function | Label Local | Label Default | Idle y / n / d | Unkow y / n / |
|---|---|---|---|---|---|---|---|---|
| 1024 | Command0 | A | 0 | Module 1: Fader on/off | none | On | | |
| 1025 | Command1 | A | 0 | Module 2: Fader on/off | none | | | |
| 1026 | Command2 | A | 0 | Module 3: Fader on/off | none | | | |
| 1027 | Command3 | A | 0 | Module 4: Fader on/off | none | | | |
| 1028 | Command4 | A | 0 | Module 5: Fader on/off | none | | | |
| 1029 | Command5 | A | 0 | Module 6: Fader on/off | none | | | |
| 1030 | Command6 | A | 0 | not configured | none | | | |
| 1031 | Command7 | A | 0 | not configured | none | | | |
| 1032 | Command8 | A | 0 | not configured | none | | | |
| 1033 | Command9 | A | 0 | not configured | none | | | |
| 1034 | Command10 | A | 0 | not configured | none | | | |
| 1035 | Command11 | A | 0 | not configured | none | | | |
| 1036 | Command12 | A | 0 | not configured | none | | | |
| 1037 | Command13 | A | 0 | not configured | none | | | |
| 1038 | Command14 | A | 0 | not configured | none | | | |
| 1039 | Command15 | A | 0 | not configured | none | | | |

Configureer D&R AXUM (MambaNet)

Algemeen | Opdrachten

| Actuator | Aan | Uit |
|---|---|---|
| 0 | CARTWALL 1 START | CARTWALL 1 STOP |
| 1 | PLAYER 1-1 START | PLAYER 1-1 STOP |
| 2 | | |
| 3 | | |
| 4 | | |
| 5 | | |
| 6 | | |
| 7 | | |
| 8 | | |
| 9 | | |
| 10 | | |
| 11 | | |
| 12 | | |
| 13 | | |
| 14 | | |
| 15 | | |

C:\Users\Rene\Music

| Name | Duurtijd |
|---|---|
| 01. Alice Cooper - Road Rats.mp3 | 4:49 |
| 01. Gary Glitter - Rock On.mp3 | 3:33 |
| 01. Livin' Blues - Black Panther.mp3 | 3:06 |
| 01. Mungo Jerry - Open Up.mp3 | 3:49 |
| 02. Foghat - I Just Want To Make ... | 4:18 |
| 02. John Lennon & Yoko Ono - Atti... | 2:53 |
| 02. Manfred Mann's Earth Band - C... | 2:45 |
| 02. Shocking Blue - Don't Let Your ... | 2:09 |
| 03. Led Zeppelin - Immigrant Song.... | 2:23 |
| 03. Nazareth - Glad When You're G... | 4:19 |
| 03. Slade - Move Over.mp3 | 3:44 |
| 03. Status Quo - In My Chair.mp3 | 3:10 |
| 04. Alice Cooper - School's Out.mp3 | 3:27 |
| 04. Slade - Born To Be Wild.mp3 | 3:24 |
| 04. Slade - Just A Little Bit.mp3 | 4:01 |
| 04. Steppenwolf - Sookie, Sookie.... | 3:14 |
| 05. David Bowie - Suffragette City... | 3:25 |
| 05. Sweet - Done Me Wrong All Rig... | 2:54 |
| 05. The Beatles - Hey Bulldog.mp3 | 3:09 |
| 05. The Doors - The Changeling.mp3 | 4:18 |
| 06. Geordie - Don't Do That.mp3 | 3:09 |

15:38:44: MambaNet connected

This image shows how the fader of module 1 and fader of module 2 of the Axum can activate and stop a Cartwall player and player one.

# Hotkeys

This article covers the configuration of hotkeys for the remote control of Aircast.

## Local and global (system-wide) hotkeys

Aircast supports two kinds of hotkeys:

- **Local**: Hotkeys only work when Aircast application is in the foreground and focused.
- **System-wide** (global): Hotkeys work regardless of whether the Aircast application is in the foreground or background. System-wide hotkeys are always routed to Aircast, so they cannot be used by any other application anymore.

As a thumb rule, use system-wide hotkeys only for very special shortcuts (e.g. Alt+Ctrl+F1) that are not used in any other software. System-wide hotkeys are often used with programmable POS keyboards.

## Configuration

Go to the *Remotes* page in the standalone config app or the Control Panel, click *Add*, then select either *Hotkeys (local)* or *Hotkeys (system-wide)*. The configuration dialog will look the same for either kind.

To add a new shortcut, click the Shortcut field first, then press the desired key or key combination. It will appear in the Shortcut field. Click *Add* to add it to the list of hotkeys in the upper part of the dialog.

To assign a command to the shortcut, select it from the drop down menu, or type it manually in the table cell next to the shortcut.

# Serial Port Remote Control

The serial port remote control allows you to receive raw remote control commands over a serial port.

## Configuration

First, open the config app, and go to *Misc.* → *Serial Ports* to set up the parameters for the serial port (baud rate etc.).

Then go to the *Remotes* page, and add a new *Serial Port* remote, selecting the desired serial port.

## Usage

Commands - e.g. PLAYER 1-1 START - must be sent as plain ASCII text, terminated with a CR character (ASCII 13) each.

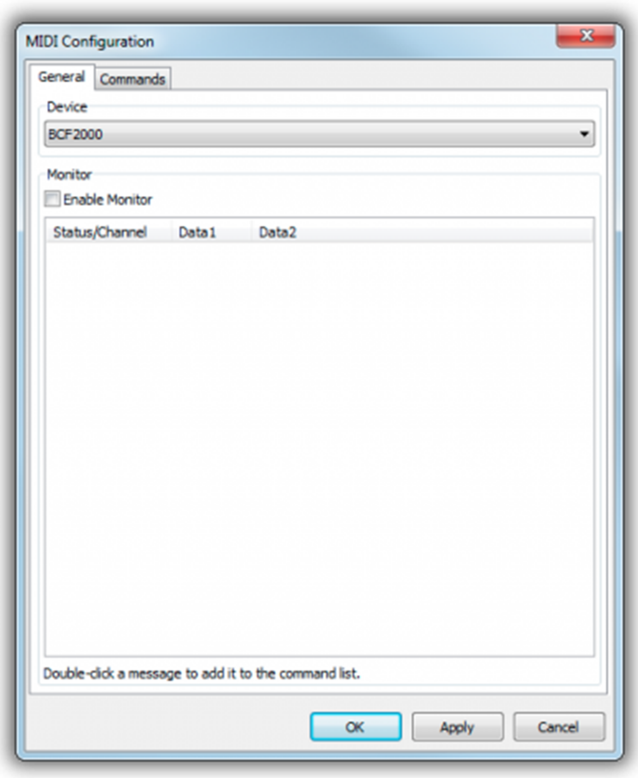
# MIDI Remote Control

Aircast can use any MIDI device for remote control. You can also use scripts to send MIDI messages from Aircast to a MIDI device.

## Configuration

Open the config app or Control Panel, go to the *Remote Control* page, and add a new *MIDI* remote control.

In the dialog that appears, first select the desired MIDI device from the list on the top:



Device: BCF2000

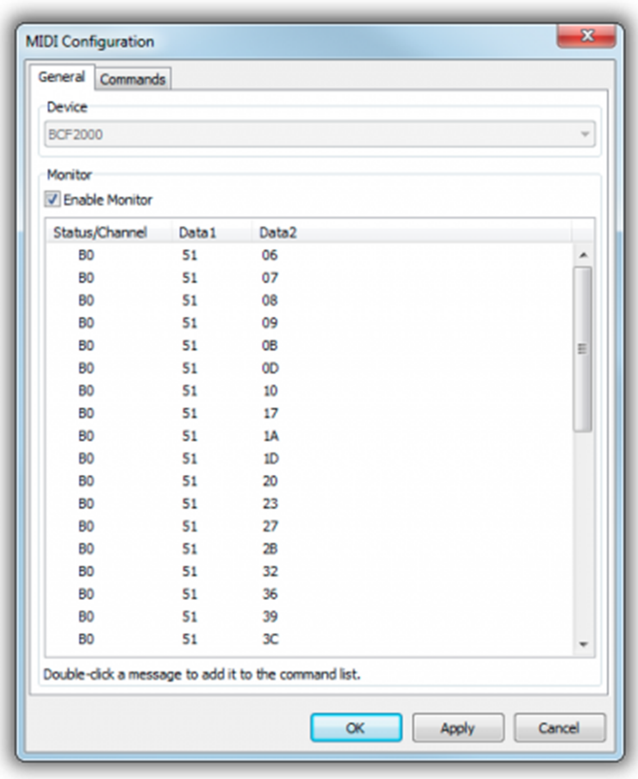
Monitor

☐ Enable Monitor

| Status/Channel | Data1 | Data2 |
|---|---|---|

Double-click a message to add it to the command list.

The *Monitor* function is only available when a valid device is selected. It will always be enabled when you configure an enabled MIDI remote from the Control Panel, i.e., if the Aircast main program is running. All received MIDI messages will be displayed in the monitor list:



Device: BCF2000

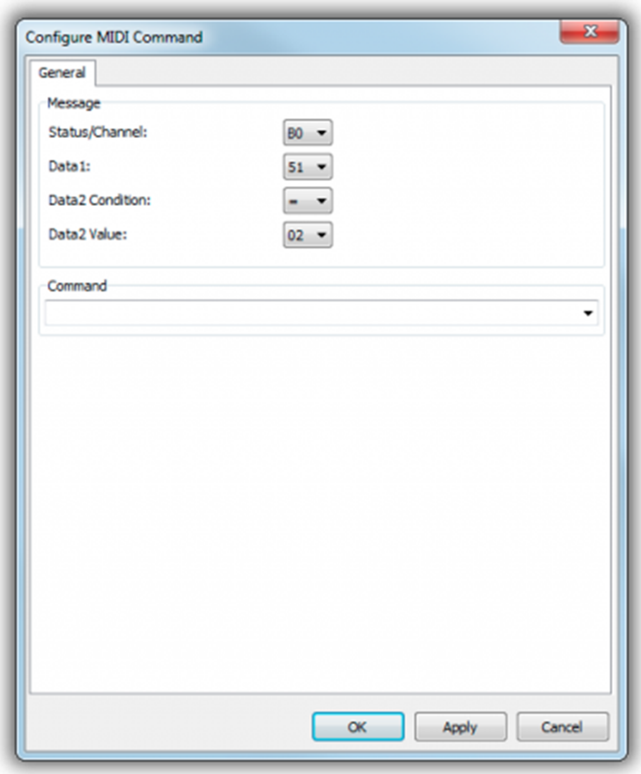
Monitor

☑ Enable Monitor

| Status/Channel | Data1 | Data2 |
|---|---|---|
| B0 | 51 | 06 |
| B0 | 51 | 07 |
| B0 | 51 | 08 |
| B0 | 51 | 09 |
| B0 | 51 | 0B |
| B0 | 51 | 0D |
| B0 | 51 | 10 |
| B0 | 51 | 17 |
| B0 | 51 | 1A |
| B0 | 51 | 1D |
| B0 | 51 | 20 |
| B0 | 51 | 23 |
| B0 | 51 | 27 |
| B0 | 51 | 2B |
| B0 | 51 | 32 |
| B0 | 51 | 36 |
| B0 | 51 | 39 |
| B0 | 51 | 3C |

Double-click a message to add it to the command list.

You can just double-click any message to add it to the commands list and assign a remote control command to it:



Status/Channel: B0
Data1: 51
Data2 Condition: =
Data2 Value: 02

Each MIDI message consists of three values:

- Status (or Channel)
- Data1
- Data2

The values are displayed in hexadecimal format. For Data2, there is an additional *Condition*, so that the remote control command will be executed for a range of Data2 values:

- = - Command will be executed if Data2 equals the specified value.
- != - Command will be executed if Data2 does not equal the specified value.
- < - Command will be executed if Data2 is less than the specified value.
- ⇐ - Command will be executed if Data2 is less or equal the specified value.
- > - Command will be executed if Data2 is greater than the specified value.
- >= - Command will be executed if Data2 is greater or equal the specified value.
- * - Command will be executed regardless of the Data2 value.

When using ranges for Data2, you can include the $DATA2 variable in the remote control command, which will be replaced by the received Data2 value (in the range 0..127, decimal notation). This is particularly useful when you want to use a fader on your MIDI controller to control the volume of a player in Aircast. Just type the following command:

```
PLAYER 1-1 VOLUME $DATA2/127
```

Or for voicetracking player A:

```
VT PLAYER A VOLUME $DATA2/127
```

This will set the volume to the fader position. The /127 parts defines the 0 dB point to be at the upper end of the fader range. You could also use a value like /100 if you want some overhead in the volume.

The VOLUME command will automatically use a reasonable logarithmic scale to convert the fader value to a volume. There is no need for any logarithmic conversions.

# Scripting

Any received MIDI message will also be passed to background scripts, using the following procedure:

```
// Called when a MIDI message is received

procedure OnMidiMessage(Device: integer; Status, Data1, Data2: byte);

begin

end;
```

There is another procedure that will catch all MIDI SysEx messages:

```
// Called when a MIDI sysex is received

procedure OnMidiSysex(Device: integer; Data: string);

begin

end;
```

If you want to send back messages to the MIDI device, you should first enumerate the available devices, as the order of the output devices will not necessarily coincide with the order of the input devices. The following procedure will list all available output devices to the System Log:

```
MidiOutListDevices;
```

At the beginning of your script (or in the OnLoad procedure in case of a background script), you must first use the MidiOutOpen procedure to open the device for output, e.g. the device with index 1:

```
MidiOutOpen(1);
```

Then you can send messages to that device. Note that we use hexadecimal values here, prefixed by $ in the Pascal language.

```
MidiOut(1, $B0, $10, 0); // device, status, data1, data2
```

There is also a procedure to send out SysEx messages:

```
MidiOutSysEx(1, 'somesysexdata');
```

At the end of the script, or in OnUnload, you should close the device again:

```
MidiOutClose(1);
```

# Game Controllers, Joysticks, Gamepads

This article covers the use of game controllers for remote control in Aircast.

## Supported Hardware

Aircast supports any kind of game controller that is compatible with Windows, i.e., that is listed in the *Sound, video and game controllers* section of Windows Control Panel. Noways these are mostly USB devices, including

- USB joysticks,
- USB gamepads,
- special game controllers like the BU0836A and BU0836X.

Aircast specifically uses the **buttons** of these game devices to trigger commands, not the axes.

Modified game controllers are often used to enable fader start for old analog broadcast mixers with potential free contact closures - just connect the fader start contacts of the console to the button contacts of the game device.

## Configuration

Open the standalone config app, or Control Panel, and go to the *Remote Control* section, then click *Add* to add another *Joystick/Gamepad* device.

In the configuration dialog, first select the game device from the list at the top of the dialog.

In the table below the device selector, there will be one row per button on the selected game device. Select a command from the list, or type on manually, to assign it to the button. Switch between the *Button Pressed* and *Button Released* tab to assign commands to either condition.

# IO-Warrior Remote Control

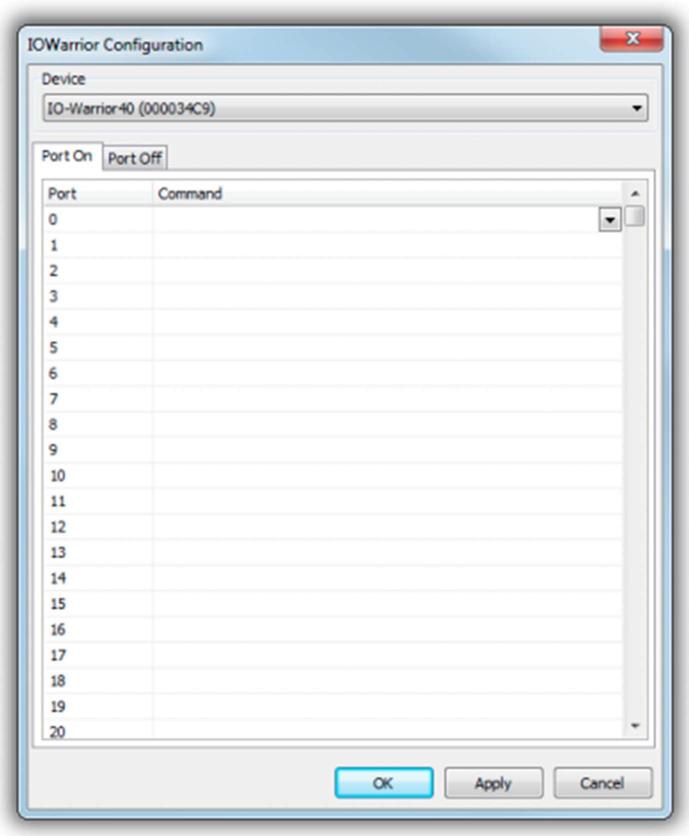
The IO-Warrior is an USB Input/Output device by German manufacturer Code Mercenaries.

It is an HID device that does not require any special drivers, and there are multiple versions with a different number of digital I/O pins available. Each pin can be used as either an input pin (to execute remote control commands), or as an output pin (from a script).

## Configuration

Open the standalone config app or the Control Panel, go to the *Remote Control* page, and add a new *IO-Warrior* remote.

In the configuration dialog, first select the desired IO-Warrior device from the list. Aircast will open the device and query the number of pins, which may take a few seconds.



Device: IO-Warrior40 (000034C9)

| Port | Command |
|---|---|
| 0 | |
| 1 | |
| 2 | |
| 3 | |
| 4 | |
| 5 | |
| 6 | |
| 7 | |
| 8 | |
| 9 | |
| 10 | |
| 11 | |
| 12 | |
| 13 | |
| 14 | |
| 15 | |
| 16 | |
| 17 | |
| 18 | |
| 19 | |
| 20 | |

For each pin, you can select or type a remote control command for the event that the pin goes on or off, respectively.

# Scripting

Pins can be used as output pins from a script. You can access an IO-Warrior remote through the following function which will return a reference to an IIOWarriorRemote interface:

```
function IOWarriorRemote(iIndex: integer): IIOWarriorRemote;
```

Remotes are 0-based, so for example, IOWarriorRemote(0) access the first IO-Warrior remote in the system.

The IIOWarriorRemote interface provides two functions:

```
function GetPort(iPort: integer): boolean;

procedure SetPort(iPort: integer; iValue: boolean);
```

GetPort will return the current state of any port. (The first port has index 0.)

SetPort will set the state of a port, using that pin as an output pin. Note that once this function has been called for a pin, that particular pin will be an output pin and cannot be used as an input pin anymore until you power-cycle the IO-Warrior device.

# Velleman K8055 and K8055N

This article describes remote control for the Velleman K8055 family of USB experiment boards.

# Supported Hardware

Supported Velleman products are:

- K8055N
- K8055 (obsolete old version)
- VM110N
- VM110 (obsolete old version)

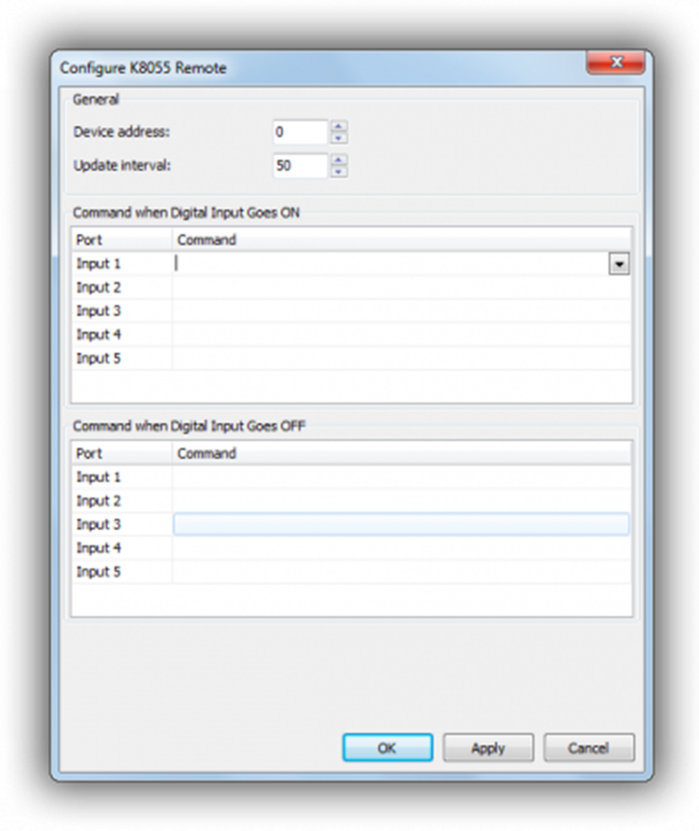
Aircast supports the five digital inputs for the triggering of remote commands.

The digital outputs can be used from a script.

# Configuration

Open the standalone config app, or the Control Panel, go to the *Remote Control* section, and add a new *Vellemann K8055(N)* remote.

The configuration dialog will look like this:



Configure K8055 Remote

General

Device address: 0

Update interval: 50

Command when Digital Input Goes ON

| Port | Command |
|---|---|
| Input 1 | |
| Input 2 | |
| Input 3 | |
| Input 4 | |
| Input 5 | |

Command when Digital Input Goes OFF

| Port | Command |
|---|---|
| Input 1 | |
| Input 2 | |
| Input 3 | |
| Input 4 | |
| Input 5 | |

First, you can set up the **device address** (corresponds to the jumpers on the board) and the **update interval** for polling.

Then you can assign a command for each input 1-5, and for the event that the pin goes ON or OFF, respectively.

# Scripting

To access a K8055 remote from a script, use the following function:

```
function K8055Remote(iIndex: integer): IK8055Remote;
```

iIndex is the number of the K8055 remote set up in the system, with 0 being the first (and often) only one.

The function will return a reference to a `IK8055Remote` interface, which provides amongst others the following methods:

```
procedure SetDigitalChannel(Channel: integer);

procedure ClearDigitalChannel(Channel: integer);

procedure ClearAllDigital;
```