



**RPVSUSB software for RPVS Room Panel**

**Designed and Manufactured by  
Baldwin Boxall Communications**

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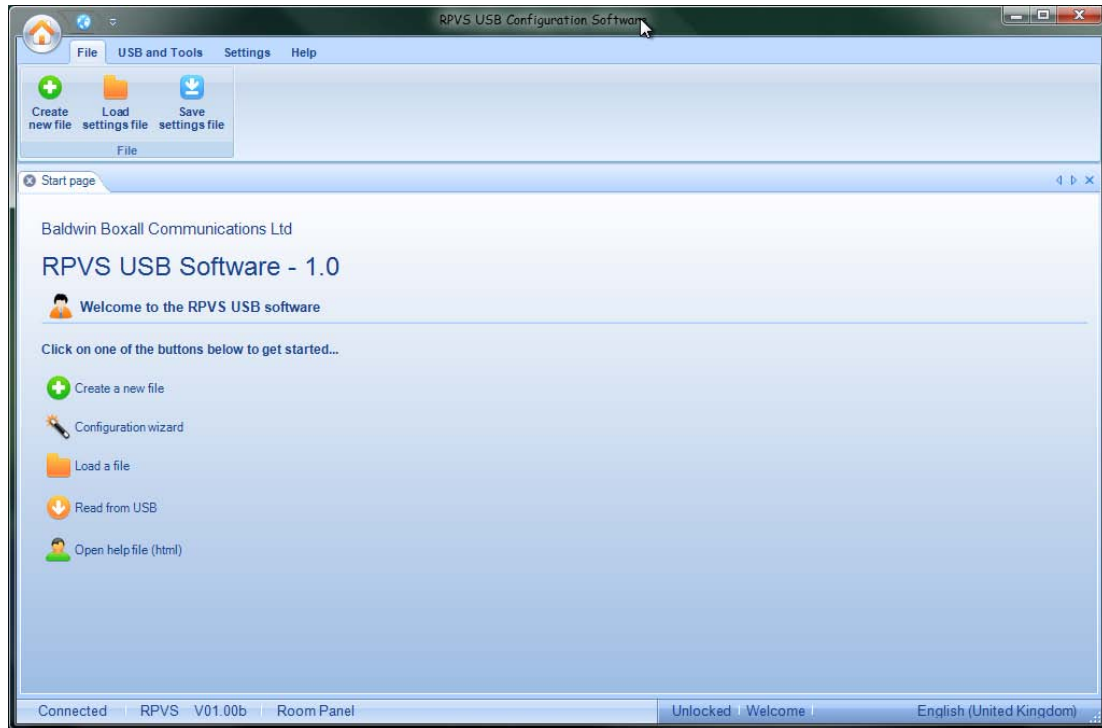
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## 1 Welcome

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Welcome to the RPVSUSB Help file. This help file contains information concerning the USB configuration software used by the RPVS room panel, designed and manufactured by Baldwin Boxall Communications.



### What is the RPVS room panel ?

The RPVS consists of an RS485 based 6 way route selector and a volume control. Each of the 6 selectable routes are configurable via USB and will interact with the BVR range of audio routing matrices. Each selector position allows for the routing of any individual input source to any number of zone outputs. The volume control allows for the adjustment of the selected source on Type 2 and Type 3 protocols.

With the RPVSUSB configuration software it is possible to open a configuration file from a previously configured BVRD microphone and use the input, zone and button strings assigned to the microphone. This is to make setting the RPVS routing a little easier.

### I am new to this software, where do I start ?

If you are new to this software or the device in question, please go to the '**Getting Started (Section 3.1)**' section

### I have used this software before

please feel free to browse the topics within the '**How Do I (Section 2)**' section for quick reference

## 2 How Do I

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Use this section as a quick reference to particular topics within software

### *Application*

#### **How Do I...**

1. **Create a new file (Section 4.3)**
2. **Load a previously saved file (Section 4.3)**
3. **Save the current file (Section 4.3)**
4. **Upload configuration to the device (Section 4.4)**
5. **Download configuration from the device (Section 4.4)**
6. **Close the USB port (Section 4.4)**
7. **Use the configuration wizard (Section 4.4)**
8. **Enter or change the system password (Section 4.4)**
9. **Use the browser window (Section 4.4)**
10. **Use the diagnostics tool (Section 4.4)**
11. **Change the language used by the software (Section 4.5)**
12. **Modify the application style (Section 4.5)**
13. **Choose my auto-read settings (Section 4.5)**
14. **Choose my auto-backup settings (Section 4.5)**
15. **Reset my application settings (Section 4.5)**

### *Configuration*

#### **How Do I...**

1. *(File information)* **Change the installation name (Section 5.2)**
2. *(File information)* **Change the other information string (Section 5.2)**
3. *(System settings)* **Change the RS485 protocol type (Section 5.3)**
4. *(System settings)* **Change the RS485 baud rate (Section 5.3)**
5. *(System settings)* **Change the RS485 parity (Section 5.3)**
6. *(System settings)* **Change the RS485 data bits (Section 5.3)**
7. *(System settings)* **Change the RS485 stop bits (Section 5.3)**
8. *(System settings)* **Change the RS485 poll rate (Section 5.3)**
9. *(System settings)* **Change the maximum BVR address (Section 5.3)**
10. *(System settings)* **Change the module ID (Section 5.3)**
11. *(System settings)* **Change the retransmission constant (Section 5.3)**
12. *(System settings)* **Enable/disable the selection latch (Section 5.3)**
13. *(Names and strings)* **Edit the button names (Section 5.4)**
14. *(Names and strings)* **Edit the input channel names (Section 5.4)**
15. *(Names and strings)* **Edit the DVA/Message names (Section 5.4)**
16. *(Function keys)* **Configure selector switch position routes (Section 5.5)**

### *Diagnostics*

#### **How Do I...**

1. *(Device Test)* **Test the RPVS room panel functionality (Section 6.1)**

**3** Getting started

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## 3.1 Getting Started

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After starting the program you are going to need a configuration file to work on. You can obtain a file in one of four ways

1. Creating a new file
2. Using the configuration wizard
3. Loading a previously saved file ... or
4. Reading the configuration file from the device



Immediately after boot, the software will display the start page. This page contains quick buttons which include buttons for creating a new file, opening the configuration wizard, loading a file and reading from the USB device

Click on one of the links to get started

- **Create a new file (Section 4.3)**
- **Using the configuration wizard (Section 4.4)**
- **Load a previously saved file (Section 4.3)**
- **Reading the configuration file from a connected device (Section 4.4)**
- **Getting started with the configuration (Section 5.1)**

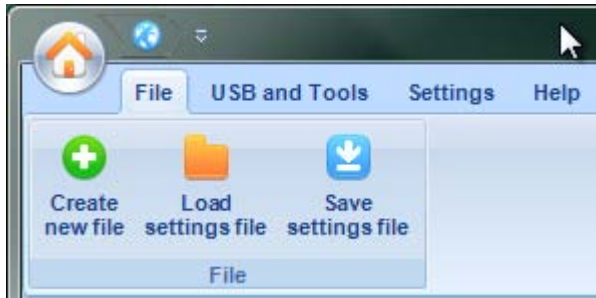
**4**    Navigation and software tools

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## 4.1 Interface overview

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The Software interface can be split into three main areas which include the ribbon bar, bubble bar and the multi window viewer



### Ribbon bar

The ribbon bar along the top contains various tools and menus, these include

- 1) File
- 2) USB and Tools
- 3) Settings
- 4) Help

The ribbon bar also contains a home button in the top left hand corner which allows the user to create a new file, load a previously saved file and save the current file. It also will store the last four files saved for quick loading.

### Bubble bar



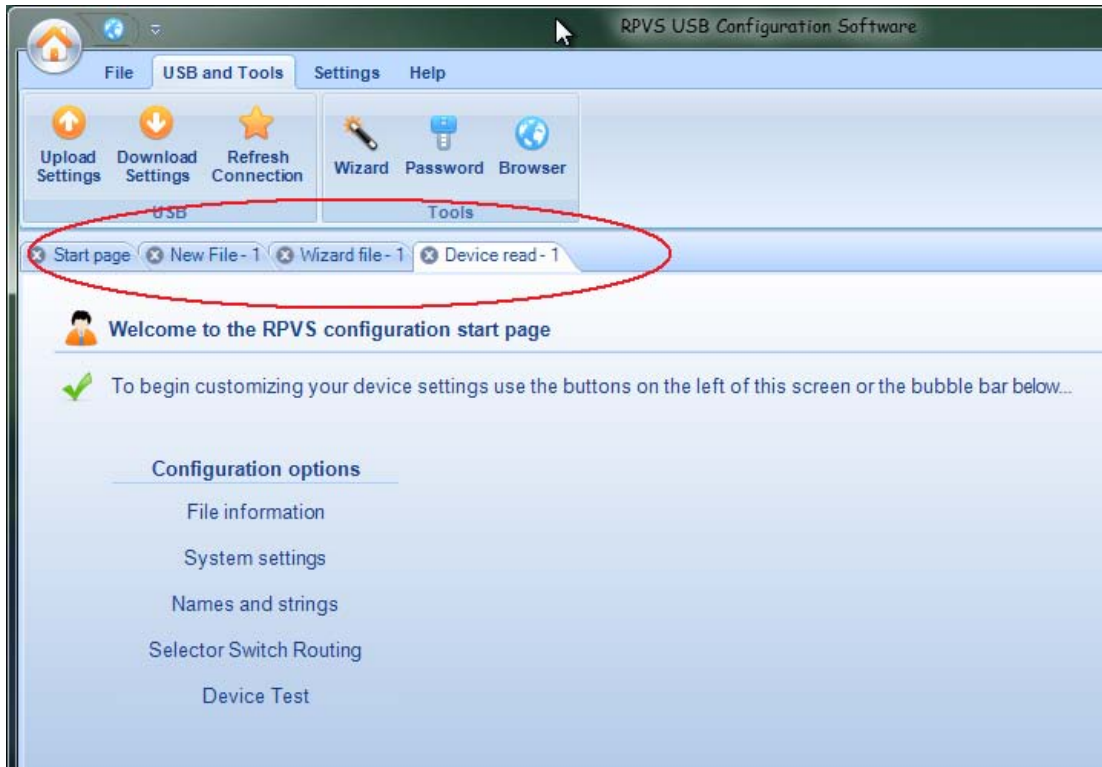
The bubble bars along the bottom of each of the file windows contain navigation options for each configuration section and diagnostics. A complete list of available options are as follows

- 1) File information (Device Configuration)
- 2) System settings (Device Configuration)
- 3) Names and strings (Device Configuration)
- 4) Selector Switch Routing (Device Configuration)
- 5) Device Test (Real time feedback)

### Multi window viewer

After the creation of a selected file (either new/wizard, loaded or read from USB) a new tab window will open, the corresponding settings/options will appear in the centre of this window. Each of the corresponding tabs can be relocated for ease of use. You may open several files at any one time.

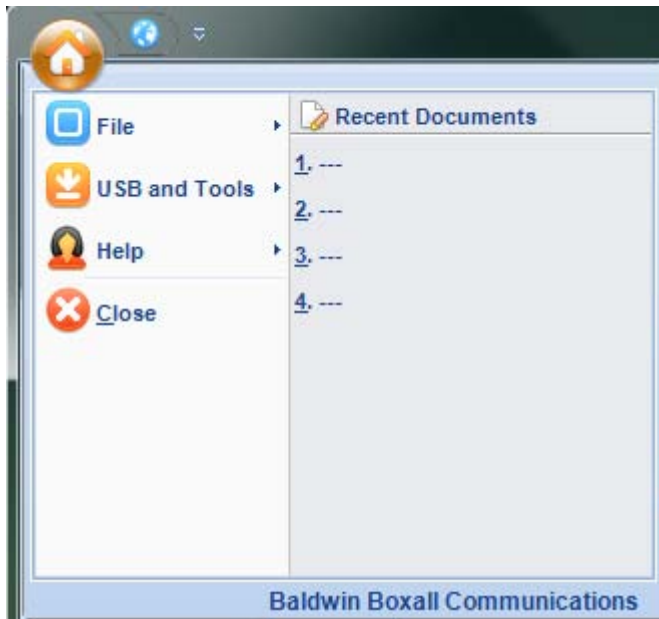




## 4.2 Home button

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The home button contains options similar to the file tab on the ribbon bar, however it also contains a history of the last four saved files for quick loading




### **New**

When you click on the button labelled 'New' the system will create a default file which should be compatible with the default configuration file for a BVRD2M, however any further settings will need to be setup manually.


### **Open**

When you click on the button labelled 'Open' the system will ask you to select the required configuration file. After selecting this file the software will open the required configuration settings within a new tab in the configuration viewer (centre of the screen), however it will not write to the device unless instructed to do so.

 Recent documents - On the right on the Home window, there is a list containing recent documents, this list is cleared if the application settings are reset, clicking on any of these links will load the corresponding file.

### **Save**

When you click on the button labelled 'Save' the system will ask you to name of the configuration file. After clicking OK the current file is saved.

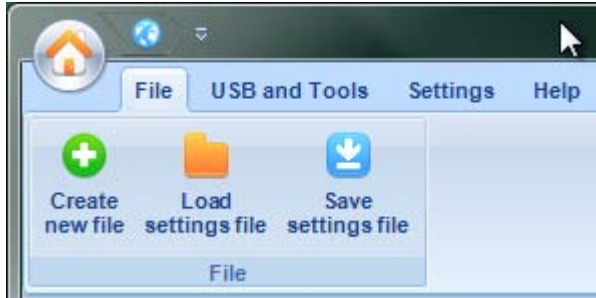
 When saving it is possible to overwrite an existing file, although system will prompt you, care must be taken when saving as it is an irreversible action.

## 4.3 File

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The file tab on the ribbon bar contains controls for the following

- Creating a new file
- Loading a previously saved file ... and
- Saving the current file



### **Create New File**

When you click on the button labelled 'Create New File' the system will create a default file which should be compatible with the default configuration file for a BVRD2M, however any further settings will need to be setup manually.

### **Load settings file**

When you click on the button labelled 'Load settings file' the system will ask you to select the required configuration file. After selecting this file the software will open the required configuration settings within a new tab in the configuration viewer (centre of the screen), however it will not write to the device unless instructed to do so.

### **Save settings file**

When you click on the button labelled 'Save settings file' the system will ask you the name of the configuration file. After clicking OK the current file is saved.

**⚠** When saving, it is possible to overwrite an existing file, care must be taken when saving as it is an irreversible action.

## 4.4 USB and Tools

The USB and tools tab on the ribbon bar contains controls for the following

- Uploading a configuration file
- Downloading a configuration file
- Closing the USB connection
- Configuration wizard
- Password entry
- Browser
- Diagnostics



### Upload settings file

When you click on the button labelled 'Upload settings file' the system will write the current configuration file to the device.

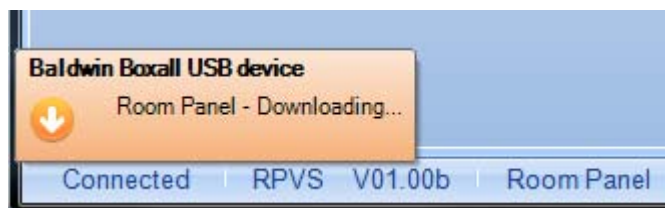


It will then verify by reading out and if an error is detected then the fault is reported to the user



### Download settings file

When you click on the button labelled 'Download settings file' the system will read all of the configuration data from the connected device, the system will then prompt you if you wish to save the file.



💡 After a read it is recommended that you save your file to somewhere safe before modifying the data

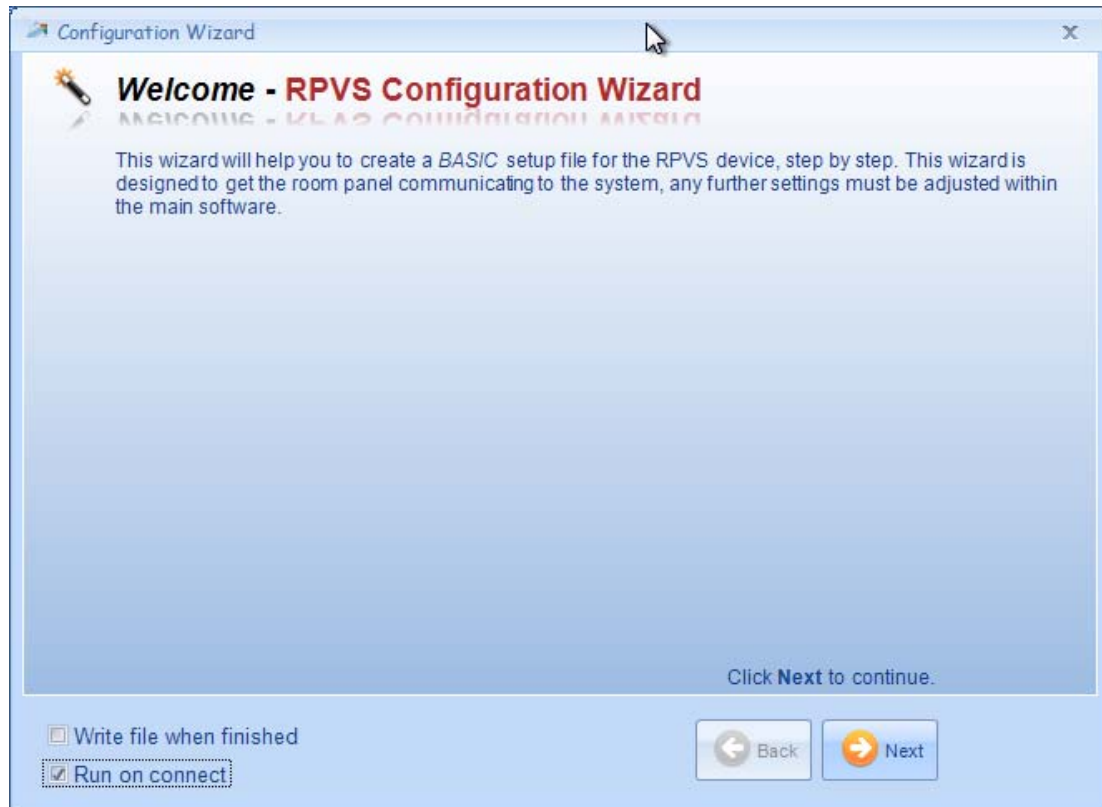
### Close USB

When you click on the button labelled 'Close USB' the system will close the USB communications port. This is a useful tool if the USB malfunctions, the system will reconnect if device is still available.



### Configuration wizard

When clicking on the button labelled 'Wizard' the system will open the configuration wizard start page. The configuration generated will be application specific but will be fully supported by the system. After generating the file the system will display the settings within a new tab window in the configuration viewer (centre of screen).



#### ▶ [Click here for a tutorial of using the the wizard](#)

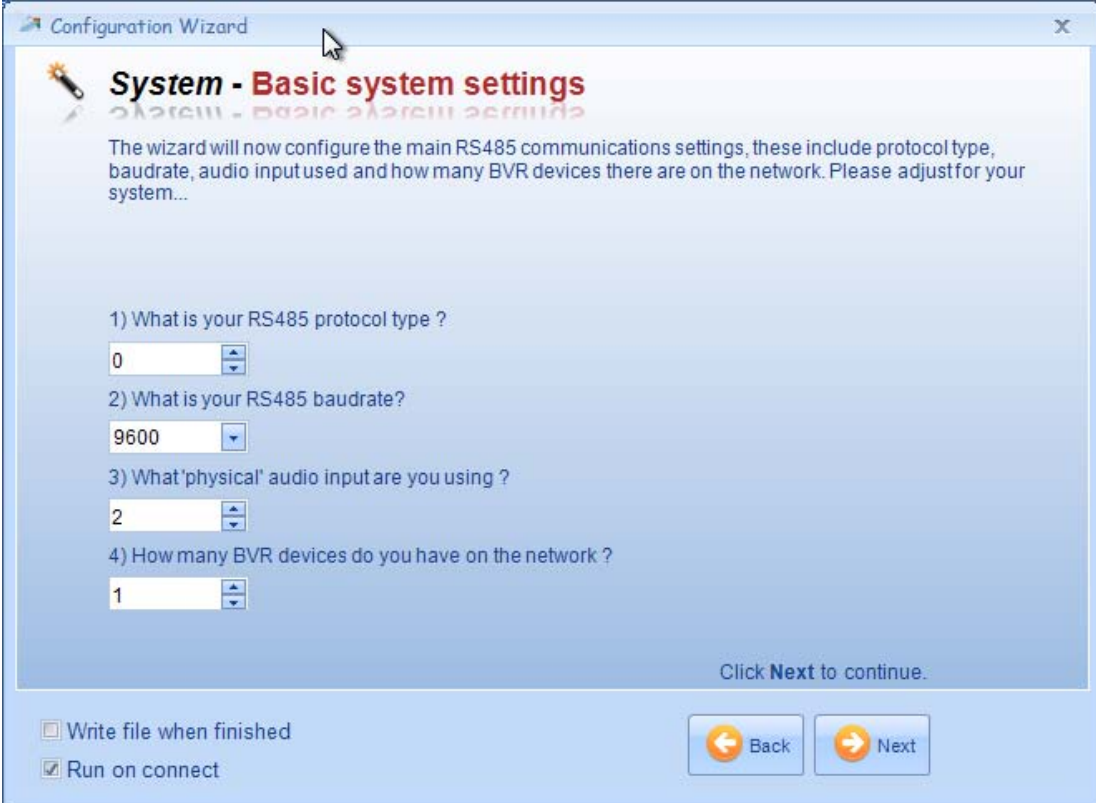
1. After the wizard opens click 'Next' to continue



2. Select what type of BVR devices you have on your network, click 'Next' to continue



3. Next select your RS485 protocol type, baud rate, audio input being used and number of BVR devices on the system, click 'Next' to continue



Configuration Wizard

## System - Basic system settings

The wizard will now configure the main RS485 communications settings, these include protocol type, baudrate, audio input used and how many BVR devices there are on the network. Please adjust for your system...

1) What is your RS485 protocol type ?  
0

2) What is your RS485 baudrate?  
9600

3) What 'physical' audio input are you using ?  
2

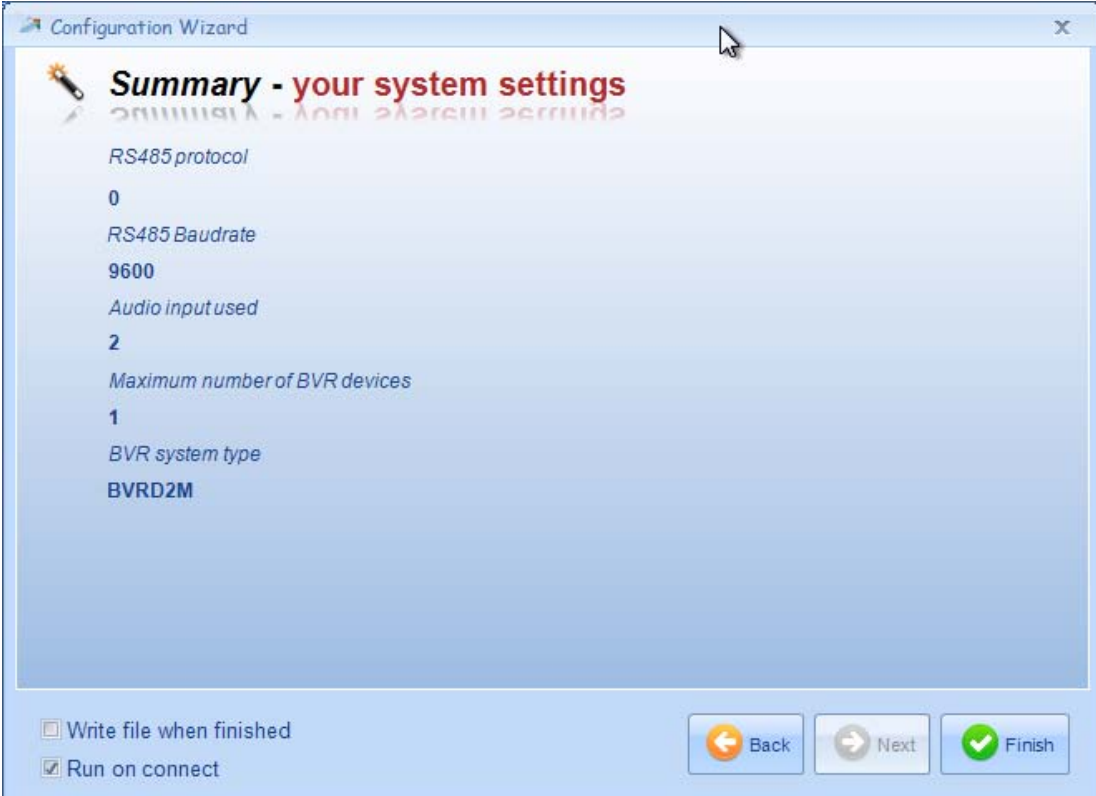
4) How many BVR devices do you have on the network ?  
1

Click **Next** to continue.

Write file when finished  
 Run on connect

Back Next

4. The system summary will make you aware of the basic system setup which the wizard will initialize, click 'Finish' to create file



Configuration Wizard

## Summary - your system settings

RS485 protocol  
0

RS485 Baudrate  
9600

Audio input used  
2

Maximum number of BVR devices  
1

BVR system type  
BVRD2M

Click **Next** to continue.

Write file when finished  
 Run on connect

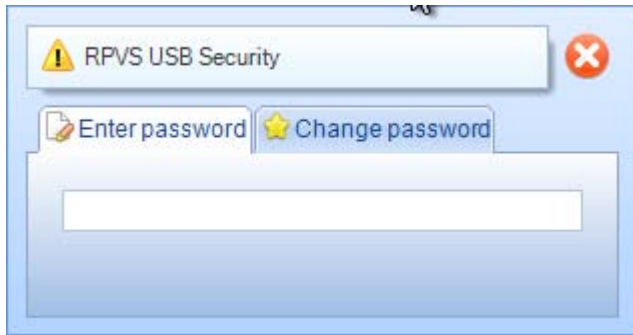
Back Next Finish

Once you click on the button labelled 'Finished', the system will create a new configuration file with settings supplied to the wizard. This file will not be written to the system until prompted.

### Password

When you click on the button labelled 'Password' the system will open the RPVS - Password window.





Enter you password and press 'Return/Enter' on the keyboard.

💡 The default password for each device is **'letmein'**

#### Changing the password

Open the Password window as above, then click the tab on the left labelled **'Change Password'**. You will then be asked to enter a new password enter this and press return. Next enter the password again for confirmation and press return. The software then updates the password on the currently connected device.

⚠️ If password is lost or forgotten then contact vendor

#### Browser

When you click on the button labelled **'Browser'** the system will open a new window for internet and file exploring. The default location will be **www.baldwinboxall.co**. (<http://www.baldwinboxall.co.uk/>)uk.



**Home button** - Clicking on the browsers home button will display the users internet home page

**Folder button** - Clicking on the folder button will display a list of file starting from root C




## 4.5 Settings

Application settings are specific to the currently installed version of RPVSUSB software. These settings allow for customization of software and device interface to meet user needs.



Available settings are...

1. **Languages (Requires a software restart)**
  - USB software - Allows for you to change the current language used within the USB software
  - Device system - Allows for you to change the device system strings to suit desired language (only UNICODE character set supported)
    -  As updates become available new languages will be included within future releases
2. **Application style** - Allows for custom color system to be used within software
  - Office 2007 - Blue
  - Office 2007 - Black
  - Office 2007 - Silver
  - Vista Glass
  - Custom scheme
3. **Auto-read** - Allows system to automatically read device configuration on connect
  - Always auto read
  - Prompt user
  - Never auto read
4. **Auto-backup** - Allows system to automatically back up device configuration within default backup directory
  - Always auto backup
  - Prompt user
  - Never auto backup
5. **Reset settings (Requires a software restart)** - Allows system to reset back to default settings

5 Configuration settings

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## 5.1 Configuration overview

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Device configuration is split into 5 separate sections, these sections are:

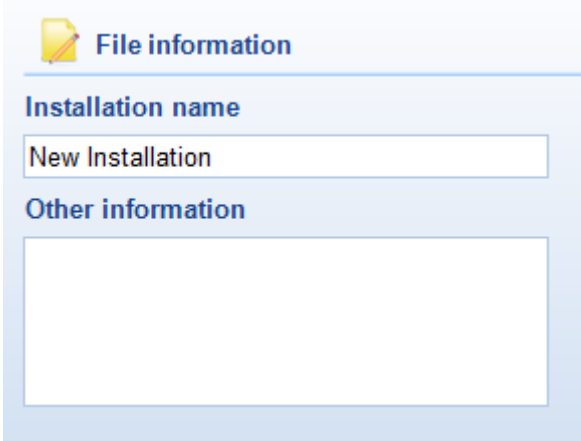
1. *File information*
  - Contains installation name and any other information that you may wish to include, this could be date and time for when the configuration file was installed for example.
2. *System settings*
  - Primarily RS485 communications related.
3. *Names and strings*
  - Contains all names for Buttons/zones, inputs and DVA's. These are all selectable and configurable in line with UNICODE. These are only provided to aid the setting of the Selector Switch routing to make it easier to see what is routed where.
4. *Selector Switch Routing*
  - Each RPVS selector switch position can be configured to set a particular routing.
5. *Device Test*
  - The selector switch position and volume control setting are graphically illustrated in real time.

Each of these settings are accessed via the bubble bar at the bottom of each configuration tab window



## 5.2 File information

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The screenshot shows a window titled "File information" with a yellow folder icon. It contains two sections: "Installation name" with a text box containing "New Installation", and "Other information" with a larger empty text box.

The file information can be split into two sections

### **Installation name**

Enter an name into the text box which better reflects the configuration file.

### **Other information**

Enter installation specific information in the text box labelled "Other information", this could for example include configuration file date and time or the installer information

## 5.3 System settings

System Settings can be split into three sections, each section can be accessed via the '**Options**' bar on the left of the system settings window

### Settings Summary

#### Primary Settings

- **Maximum Dual Channel Inputs (Section 5.3)**
- **RS485 protocol type (Section 5.3)**
- **Baud rate (Section 5.3)**
- **Parity (Section 5.3)**
- **Data bits (Section 5.3)**
- **Stop bits (Section 5.3)**
- **Poll rate (Section 5.3)**
- **Maximum BVR address (Section 5.3)**
- **Module ID (Section 5.3)Retransmission constant (Section 5.3)**

#### Primary Settings

The screenshot shows the 'System settings' window with the 'Primary settings' section selected. The settings are as follows:

Setting	Value
Maximum dual channel inputs	8
RS485 protocol type	2
BVR20 network enable	<input type="checkbox"/>
Baud rate	9600
Parity	Even
Bits - On=8, Off=7	<input checked="" type="checkbox"/>
Stop bits - On=2, Off=1	<input type="checkbox"/>
Poll time (sec)	0.500
Maximum BVR address	0
Module ID	2
BVRD2M input number	2a
BVR20 input number	-
Channel number	3
Retransmission constant	0

#### Maximum Dual Channel Inputs

Sets the maximum number of inputs that will be assigned dual channels.

Available settings are...

1. 8 Inputs (default)
2. 16 Inputs
3. 24 Inputs
4. 32 Inputs


5. 38 Inputs (all available 76 inputs set to dual channel)

### RS485 protocol type

Communications protocol type used by the microphone to transmit to and receive from all the BVR devices on the network.

Available settings are...

1. Type 0
2. Type 1
3. Type 2
4. Type 3

 Changing the protocol type will reset the module ID to 1, you will therefore need to setup the module ID when finished

### Baud rate

Data speed of packets sent and received on the RS485 communication network.

Available settings are...


1. 1200
2. 2400
3. 4800
4. 9600
5. 19200
6. 38400
7. 57600
8. 115200

### Parity

Most basic form of data checking per byte.

Available settings are...

1. None (Off)
2. Odd
3. Even


 Usually parity is set to even on most BVR systems

### Bits

Number of bit per byte within packet sent over RS485 communications channel.

Available settings are...

1. 8 bits
2. 7 bits


 Usually bits are set to 8 on most BVR systems

### Stop bits

Number of bits that follow each byte on RS485 communications channel

Available settings are...

1. 1 bit
2. 2 bits

 Usually set to 1 bit on most BVR systems

### Poll rate

The rate at which the RPVS room panel will transmit packet data across the RS485 communications channel

Available settings range from 0.041 to 2 seconds with the default at 1 second, adjust to suit application

#### **Maximum BVR Address**

Represents the maximum number of BVR devices on the network minus 1, system will use this number during data polling and analysis

Available settings range from 0-127 (maximum number of BVR devices on the system is 128)


#### **Module ID**

Usually set to the audio input being used on the BVR devices, the table to the right of the module ID represents the actual input on either a BVRD2M or on a BVR20. These number will also vary between protocol used

- Available settings for type 0 protocol
  1. ID's 1-12
- Available settings for type 1 protocol
  1. ID's 1-4
  2. ID's 9-16
- Available settings for type 2 and type 3 protocols
  1. ID's 1-68

#### **Retransmission constant**

Represents the number of non-poll retransmission of packets. Used primarily for route setting and clearing, to overcome data collisions and corruption the system can send packets multiple times under certain circumstances. Increase number to improve communications performance, decrease number to increase communications speed

 Usually a constant value of 3 is adequate for most situations

## 5.4 Names and strings

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The names and strings section contain configurable strings for

- Button/Zone names
- Input names
- DVA/Message names ...and

Note: that these strings are only provided to make setting the analogue input and zone selections easier in the selector switch routing configuration.



### **Button/Zone names**

Represents the button/zone names that will be displayed on a BVRD microphone (Only the allocated buttons as per each BVR device will be displayed with names). To change the string simply navigate to the appropriate name using the +/- buttons and enter a new name.

### **Input names**

Represents the Input names that will be displayed on the BVRD microphone when a route is detected in a given zone. To change the string simply navigate to the appropriate name using the +/- buttons and enter a new name.

### **DVA/Message names**

Represents the DVA/Message names that will be displayed on the BVRD microphone when a route is detected in a given zone. To change the string simply navigate to the appropriate name using the +/- buttons and enter a new name.



## 5.5 Selector Switch Routing

Each RPVS room panel has six selector position on board. Each position is selectable from the a navigation bar on the left of the selector switch window.

Available settings are...

1. Off
2. Assign Channel & Zone

### The modes

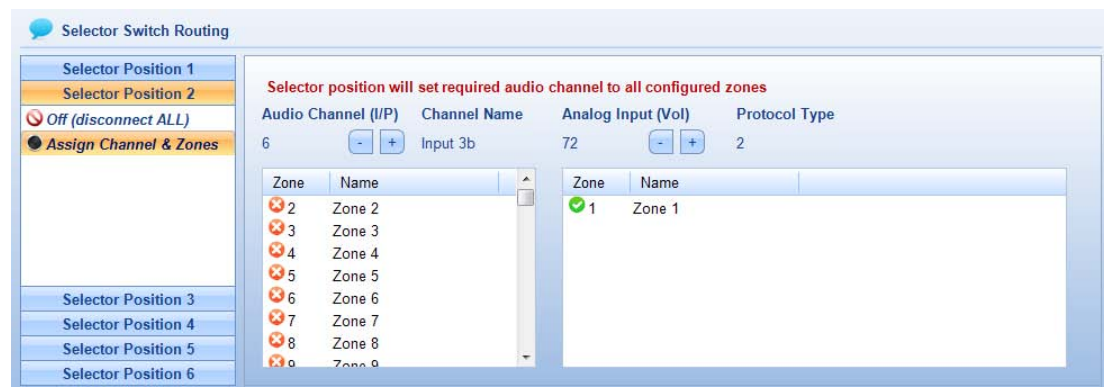


### Off

In this mode the selector position will not do anything when selector by the user and remains dormant.

### Assign Channel & Zone

In this mode the selector position will allow the user to select a pre configured audio channel to pre configured zones. Any audio channel, including messages, can be set through this position depending upon setup.



### Assign Channel & Zone options

As can be seen above, when selecting 'Assign Channel & Zone' there are three more options which become available.

1. Audio Channel - Use the +/- buttons to select required audio input channel. The audio input channels are followed on by the DVA's. Next to the channel number is the channel name for easy identification.
2. Analog Input - Use +/- buttons to select required analog input to use for the volume control mechanism.
3. Zone tables - To include a zone within the allowed list simply drag and drop from the left to the right table. To deselect a particular zone simply drag and drop it from the right to the left table.

Note: the RS485 protocol type. This is there as a reminder as each protocol type will react differently to different channel numbers.

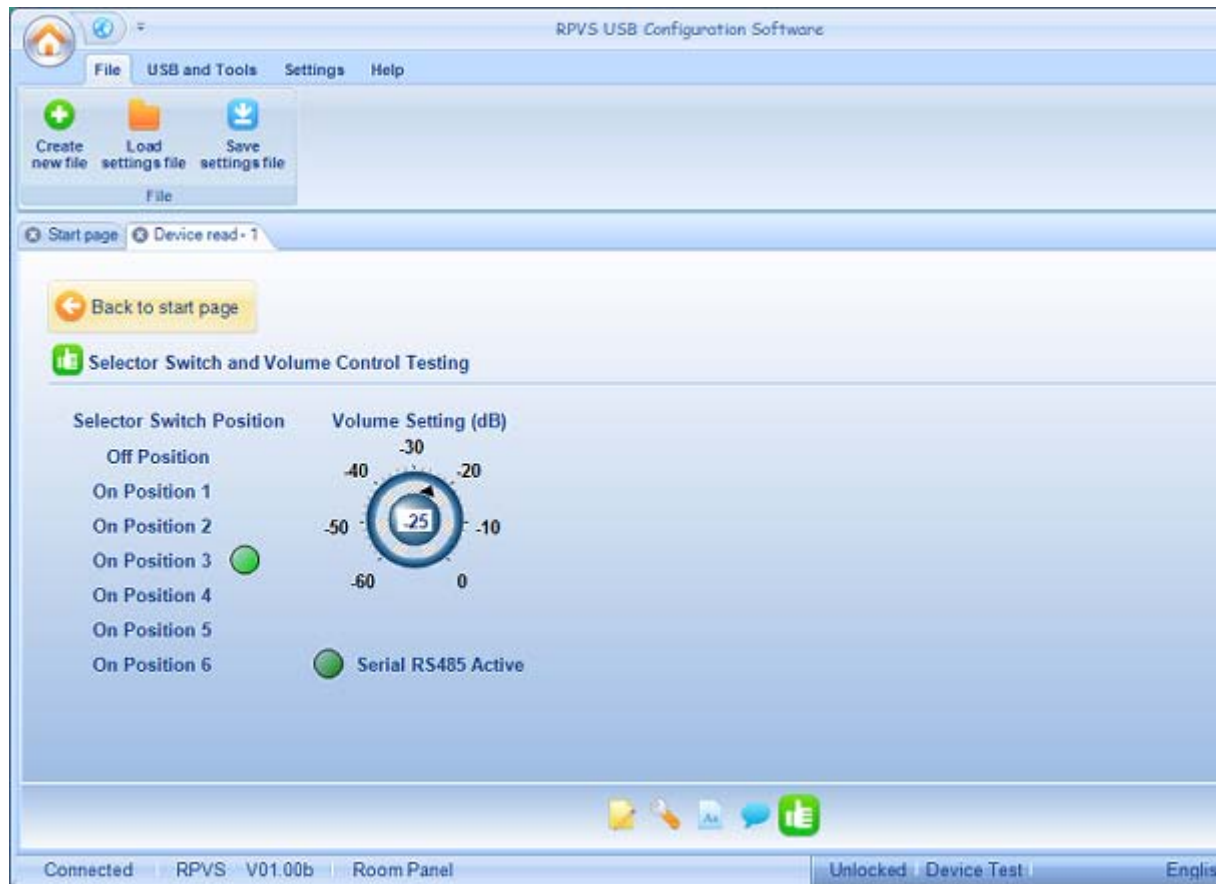


6 Diagnostics

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## 6.1 Device Test

Once connected and downloaded, selecting the Device Test option will initiate the real time data transfer of the current selector switch position, the current volume setting and the status of the RS485 communications link.



Rotate the selector switch to each position and check that the green indicator moves to the selected position. Allow time for the selection to take place. This will depend primarily on the poll time set elsewhere in the configuration.

Rotate the volume control slowly from one extreme to the other and check that the change is smooth, linear and covers the full range of the volume setting as displayed (0 to -60).

The serial RS485 active indicator will be green when serial communications is OK and red otherwise.

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