

# SichboPVR

## User Manual

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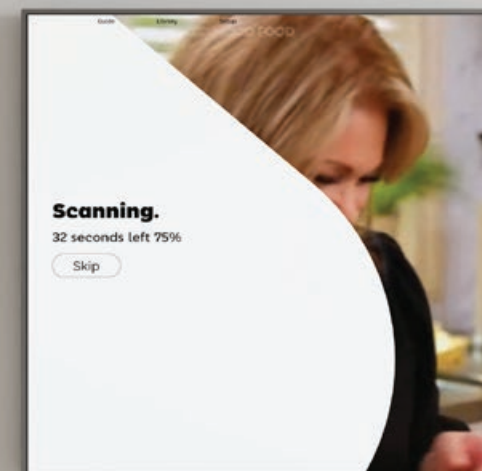
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## Getting set up

## Minimum system requirements

Although it's not apparent, SichboPVR is actually two applications, a server and a client.

### The server needs

Windows 7 or newer or a supported Linux distribution. It will run on pretty much any spec because it doesn't use a lot of resources.

### The client needs

Windows 7 (with the Direct3D11 Platform Update) or newer, or a

supported Linux distribution.

A bare minimum of Intel i-Series Haswell (4th generation, 2013) or a similar spec PC which supports D3D11 and DXVA11. The **recommended** PC is an Intel i3 Coffee Lake (8th generation, 2017) integrated graphics or better.

At least 2GB of RAM is recommended.



## Initial channel scan

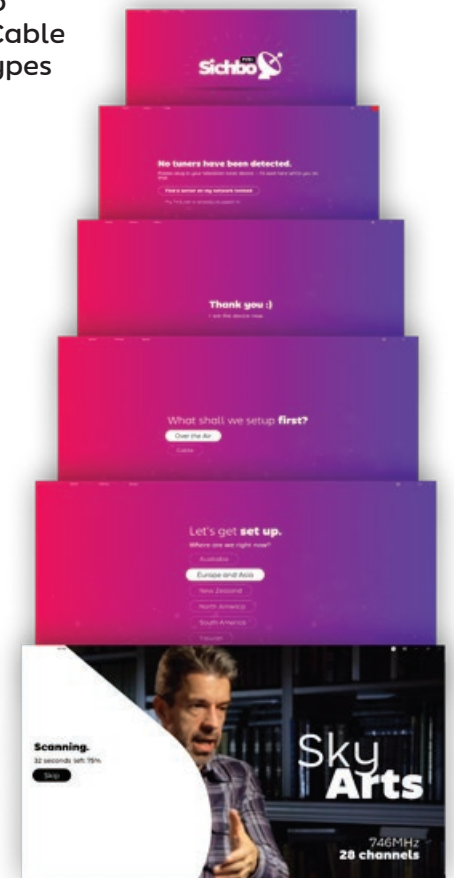
Upon launching the client, it will automatically find your TV tuner if it's plugged in. Otherwise it'll ask you to plug one in.

Once found, you might be asked to select a signal type (Over the Air, Cable or Satellite) if you have multiple types of tuners or a hybrid.

Once a signal type is decided, you will simply select your region or satellite.

Channels will be scanned in and you can skip the process at any time if you think there will be no further channels.

If channels are found you'll be taken straight to the guide and TV will be playing.



# Troubleshooting channel scans

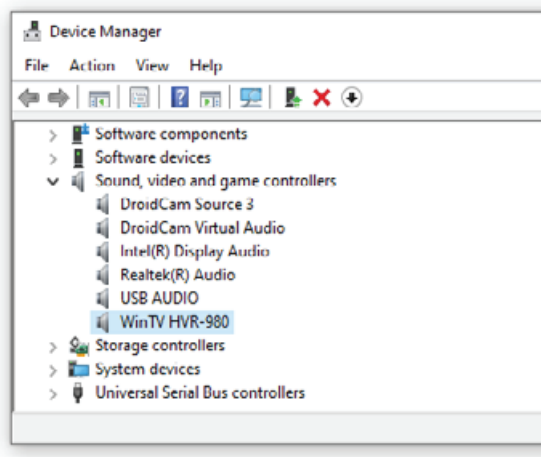
## My TV tuner isn't being detected

SichboPVR will always see your TV tuner as long as you have installed the appropriate driver for it.

Contact your TV tuner device manufacturer and make sure that you have the latest version of their drivers for your operating system.

On Windows, correctly installed TV tuners appear in the Windows Device Manager underneath the Sound, video and game controllers category.

On Linux, "ls /dev/dvb" should have entries for each tuner, each with a "frontend" entry inside of it. If not, check "dmesg | grep dvb" for problems.



## I have no drivers!

TV tuner hardware often comes off ebay or amazon from no-brand OEM manufacturers, or devices collect dust in a closet for 10 years, and the companies that made them go out of business (along with any trace of their drivers.) Here are some tips for finding drivers.

1. In Windows Device Manager, find the USB device, probably showing up under Unknown Devices with warning glyph.

Right-click and select properties > details, and set property to hardware ids.

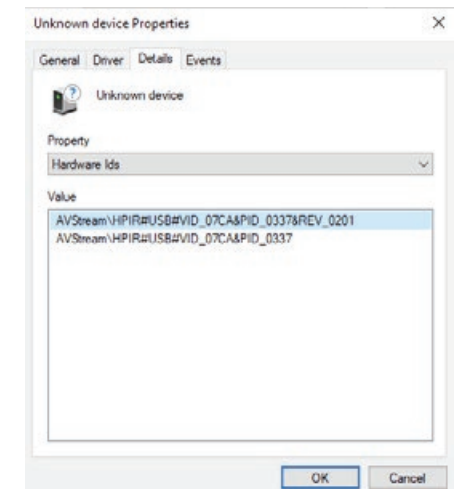
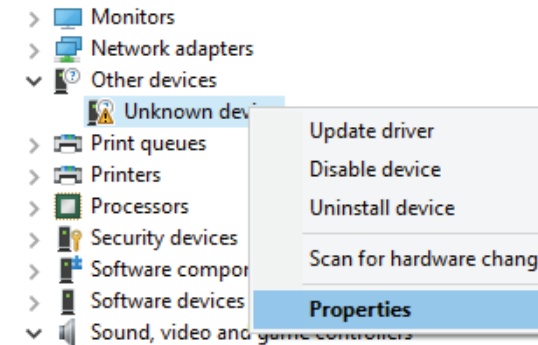
2. Note the top value's VID\_XXXX&PID\_XXXX. You can highlight it and Ctrl+C to copy it to clipboard.

3. Search for "VID\_XXXX&PID\_XXXX" here:

<https://www.catalog.update.microsoft.com/Search.aspx>

If you find a driver here, it will be in .cab format. Use WinRAR to extract it and use the Device Manager > Update Driver > Browse option to point it to the \*.inf file.

While it's possible to also search for "VID\_XXXX&PID\_XXXX drivers" on google, it's not recommended unless you're comfortable discriminating between ad farms and deceptive driver update utilities, masquerading as device drivers.





## No channels are found :(

For over the air television, generally speaking, you need a roof-mounted antenna to pick up stations unless you're fortunate enough to live close to a transmitter. The tiny antennas that come with tuners are not often adequate.

If you're unsure whether or not your antenna is correctly positioned, use the **Setup > F2 Signal test** tool to try and acquire a signal lock for a known valid frequency for your area. You need a lock quality above 80% for a reasonable chance at finding channels.

If other software picks up channels where SichboPVR does not then it might

be because of a bug or unsupported tuner driver. Please get in touch and send along the `service-log.txt` and `*.json` files from your [C:\ProgramData\SichboPVR4](#) folder.



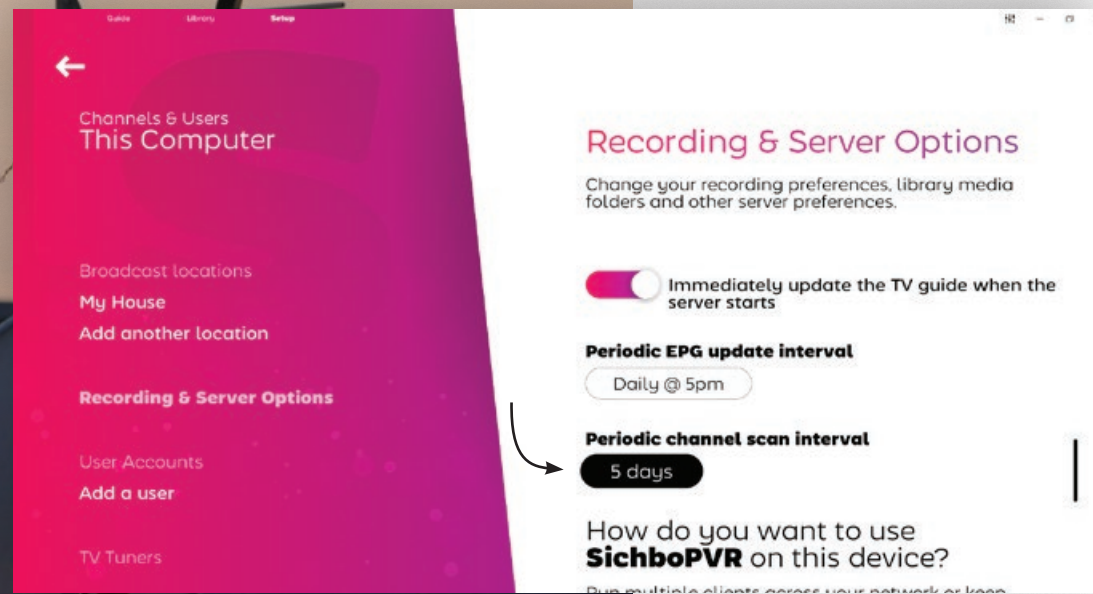
## Rescanning

SichboPVR is always in a continuous state of channel scan, every time it tunes to a frequency, automatically bringing in new stations on that same frequency.

To discover new frequencies, it also performs periodic background channel scans every 5 days, by default.

Ad-hoc channel scans can be performed via **Setup > F1 Quick rescan**, or underneath the **Setup > Channels & Users** section.

The periodic background channel scan can be configured under **Setup > Channels & Users > Recording & Server Options**.



# ON THE ROAD

SichboPVR lets you configure multiple broadcast locations for traveling between countries or cities.

## Adding a new location

1. Look for the location icon in the guide at the top-right of the screen.
2. Select **Add another location**
3. Enter a location name and click **Create**.
4. With your new location selected, click Rescan under the desired Over the Air, Cable or Satellite tuning type.

As you travel back/forth, now all you need to do is toggle the location.



### Select a TV location

#### This Computer

✓ My House

+ Add another location

🔍 Find a SichboPVR server on my network

The location menu is also a quick way to jump between different SichboPVR servers (friends/family.)

You can share your SichboPVR server underneath **Setup > Channels & Users > Recording & Server Options** and setting it to use SichboPVR "over the internet". If sharing over the internet, you'll also need to set up a user account.

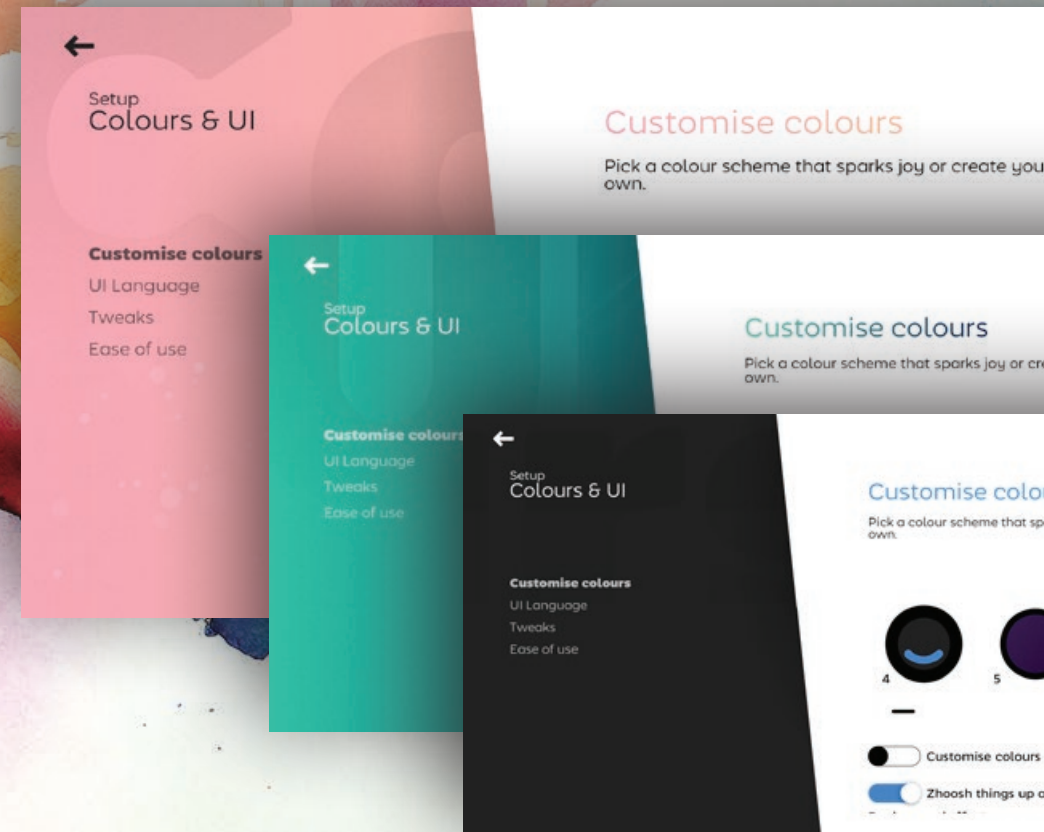


# /02

## Changing colours & effects

Colours and effects can be customised under the Setup > Colours & UI menu.

## Making it yours



If your computer or GPU is struggling to run SichboPVR smoothly, setting the "Background effect" to None and selecting a solid background scheme can sometimes help.

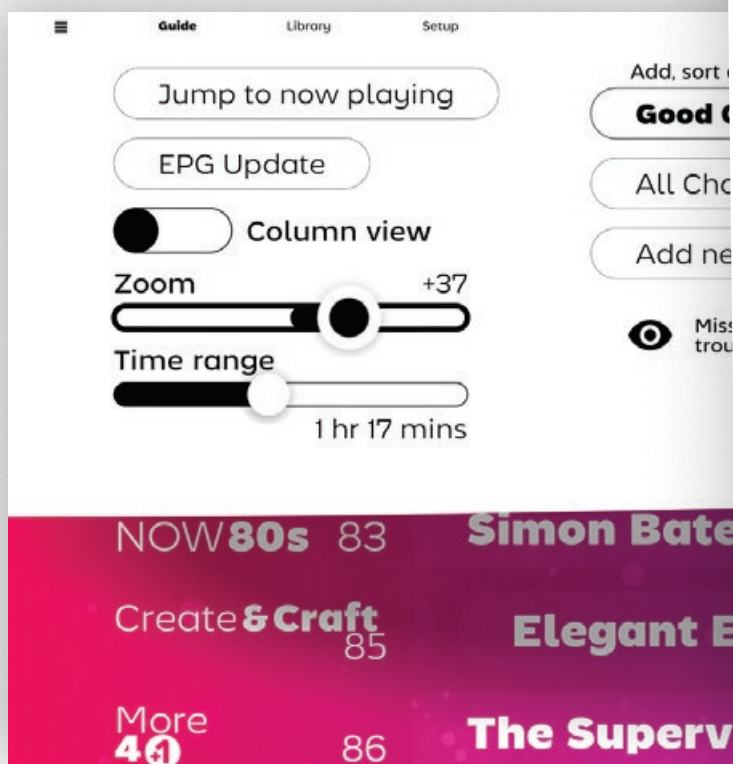
## Increasing text size

### Adjusting text size globally

**Setup > Colours & UI > Ease of use** has a text size slider which scales elements throughout the entire user interface.

### Adjusting the TV guide size

In addition to the global zoom, you can also zoom in/out on the guide by adjusting the zoom slider or holding your Ctrl key + mouse wheel over the guide area.

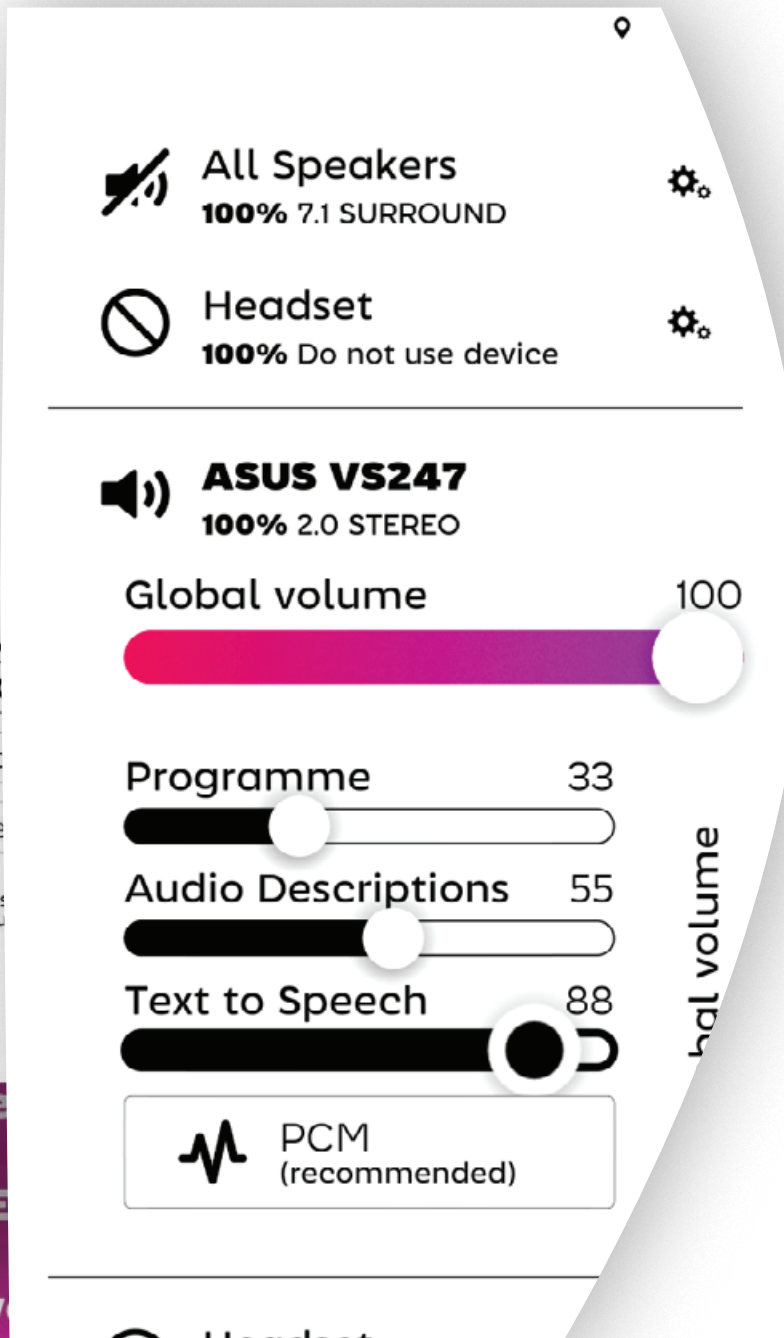


## Text to speech (TTS)

Text to speech modes for audio navigation are available underneath **Setup > Colours & UI > Ease of use**, as well as the top-right **Audio & Video Settings > Volume** tab.

TTS comes in two modes, verbose or succinct, for different personal preferences or levels of familiarity with SichboPVR.

TTS and programme audio descriptions can also be routed to specific sound card outputs via the **Audio & Video Settings > Volume** tab and selecting settings for a each sound device.





## Watching TV

### Using the TV guide

The SichboPVR TV guide is able to scroll through thousands of channels effortlessly, allowing you to zoom in or out like a map, and you can grab and “throw” the grid view around with velocity and inertia to move in any direction quickly.

#### Channel indicators

Because multiple TV stations are often transmitted on the same frequency, the TV guide displays a thin white line on the left in various levels of opacity and thickness to denote an active frequency, a currently in-use channel (for example, by a different user or a background recording) as well as currently playing channels.

##### Thin line

###### Active frequency

You can watch this station without needing to use another TV device.

##### Thick white line

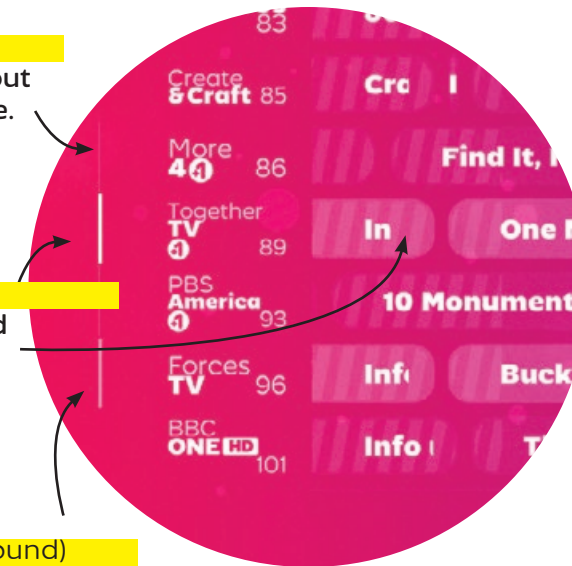
###### Currently playing (by you)

The entire row is also highlighted slightly to make it easier to spot.

##### Thick faint line

###### Currently playing (in the background)

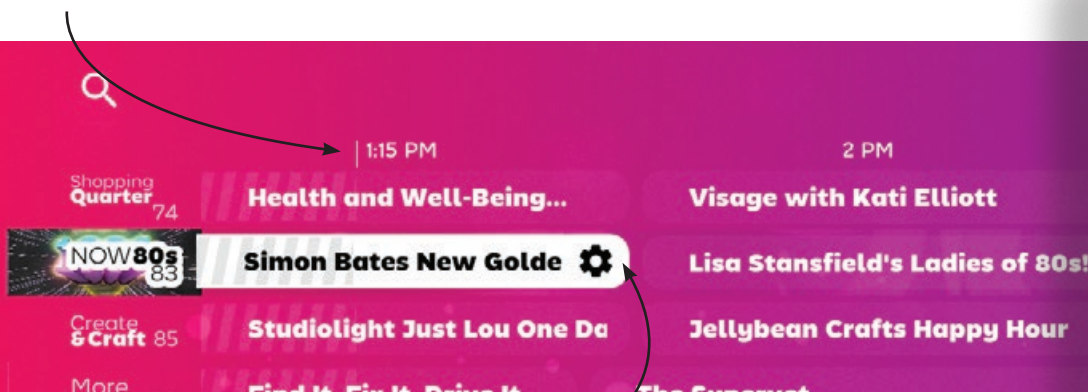
A thick faint line indicates a recording, previewing or another user viewing that station.



## Progress indicators

Passed time is indicated by a shaded region on guide items.

The current time of day is also shown at the top of the grid.



## Series details/recording

On up-coming TV shows, clicking anywhere on the show name will bring up series details and recording or viewing options.

For currently playing episodes, clicking on the show will tune into it to watch. For this reason, a gear icon appears on currently playing timeslots, so that you can also access series details and recording options while it's airing.

## Series details/recording

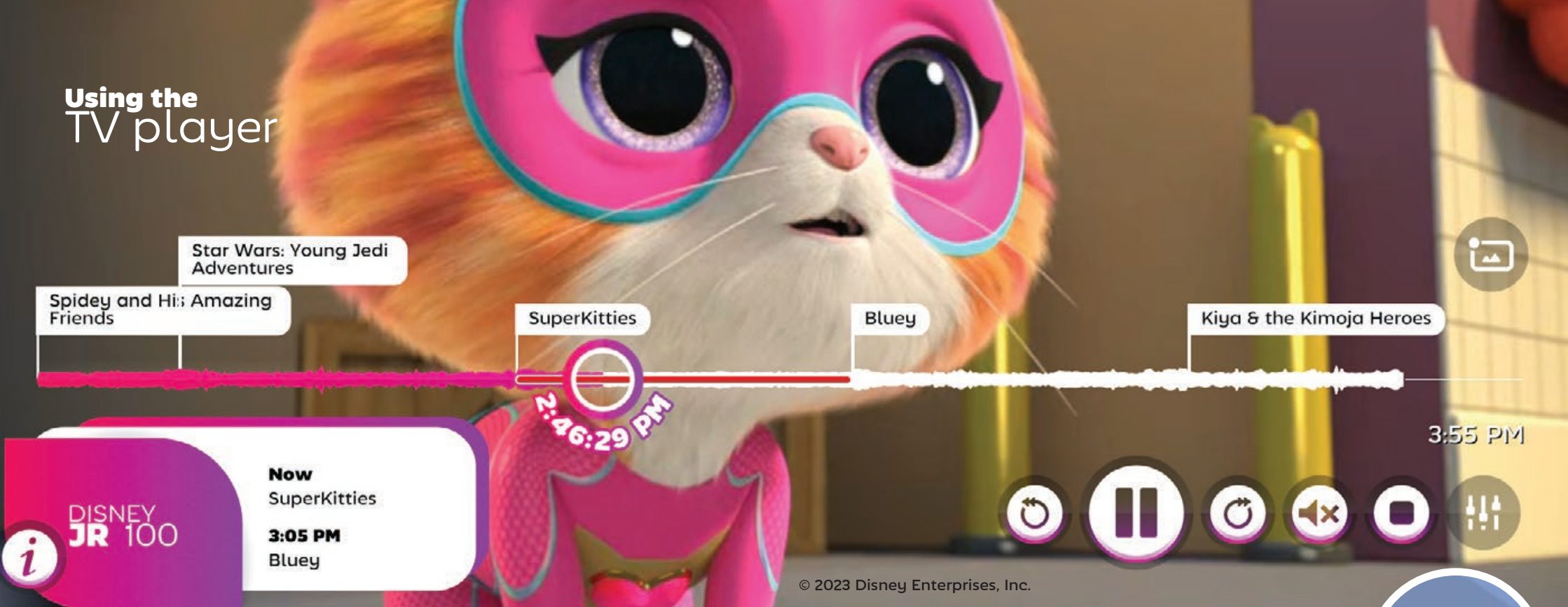
The show settings screen lists all up-coming episodes and allows you to set record or watch states on each.



By default, only channels that are on your guide channel list are shown, omitting airings on lower quality standard-definition stations. Toggle the All Channels option to see airings across all stations, regardless of whether or not they're on your list.



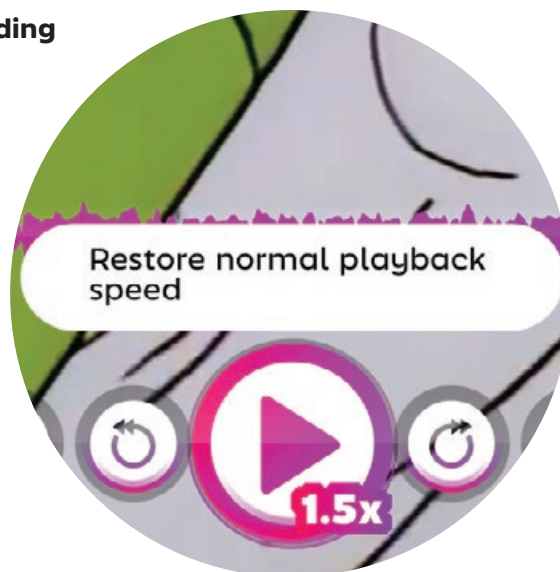
## Using the TV player



Standard playback controls are shown based on the currently playing content.

If timeshifting is enabled or a recording is being watched, skip forward and backward buttons will appear.

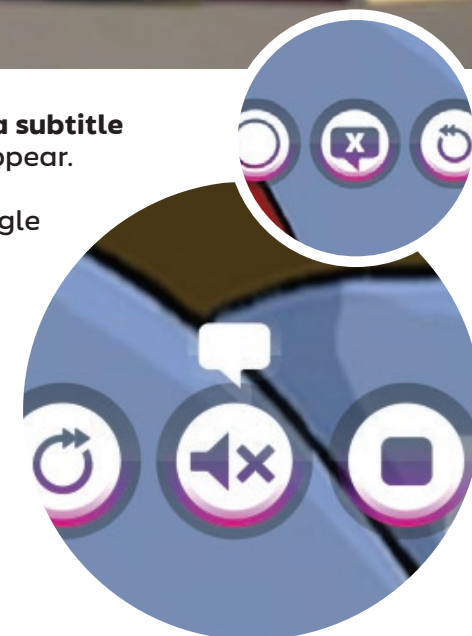
The **play/pause** button is shown at all times. It also accepts mouse wheel input for controlling **playback speed**.

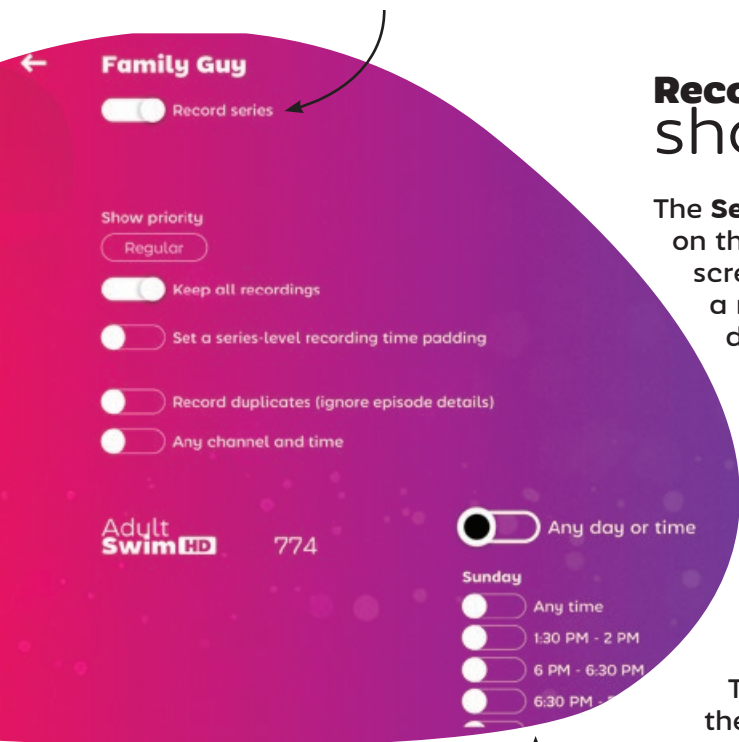


If the current content contains a subtitle stream, a subtitle button will appear.

The **speaker button** lets you toggle mute state, or you can **adjust volume** by scrolling your mouse wheel over it.

When the “show subtitles on mute” feature is causing subtitles to be displayed, a small speech bubble appears over the audio button. You can turn off “subtitles on mute” under the top-right **Audio & Video Settings > Audio** tab.





## Recording shows

The **Series Options** button on the show details screen brings you to a menu that lets you define automatic episode recording preferences.

Simply select **Record series** to grab new episodes from any TV station or timeslot.

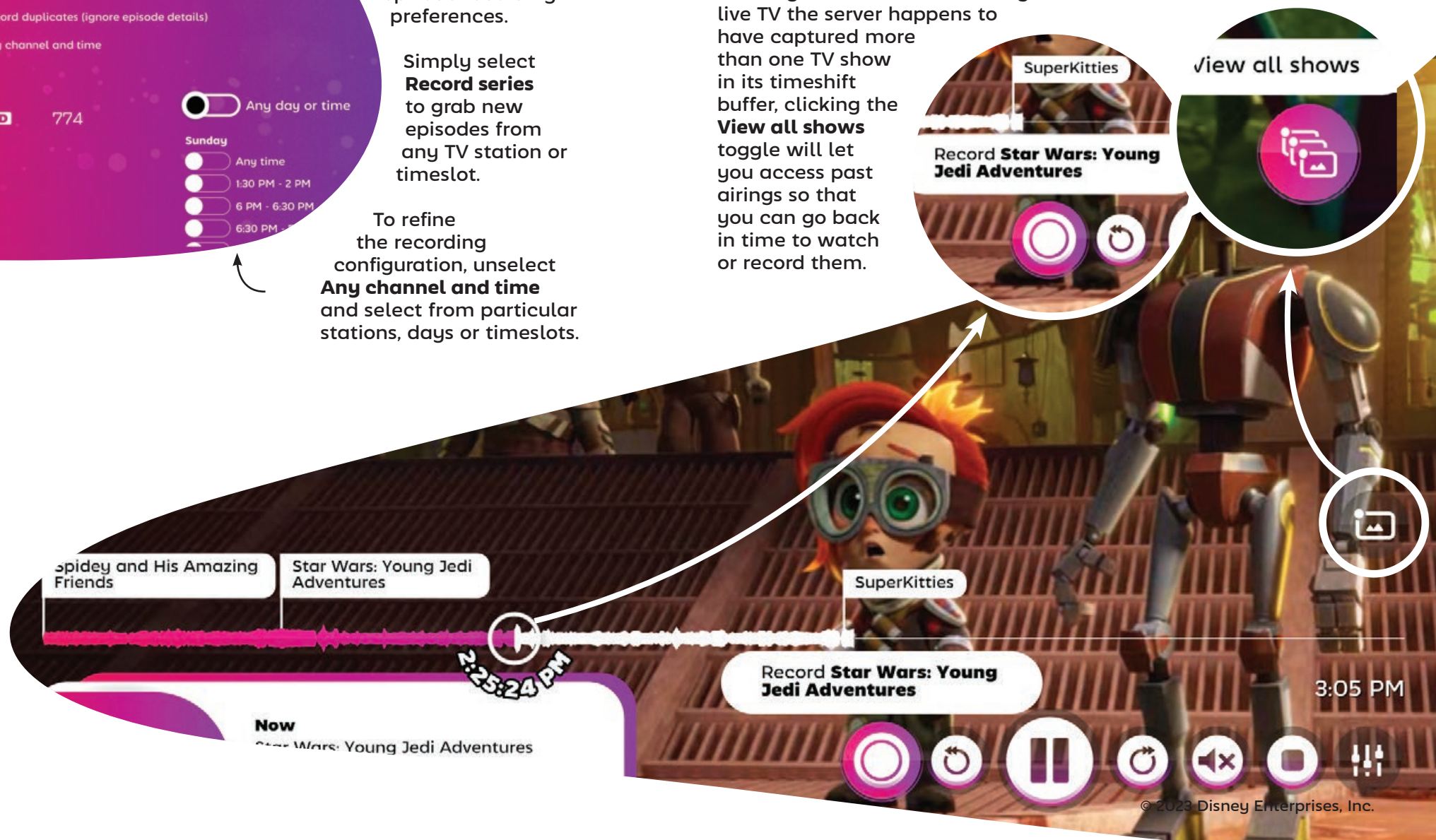
To refine the recording configuration, unselect **Any channel and time** and select from particular stations, days or timeslots.

## Recording while watching

Clicking the record button on the TV player will capture the show at the current playback position.

If during the course of watching live TV the server happens to have captured more than one TV show in its timeshift buffer, clicking the **View all shows** toggle will let you access past airings so that you can go back in time to watch or record them.

The record button will update its label based on the current playback position, indicating which show will be recorded if clicked.



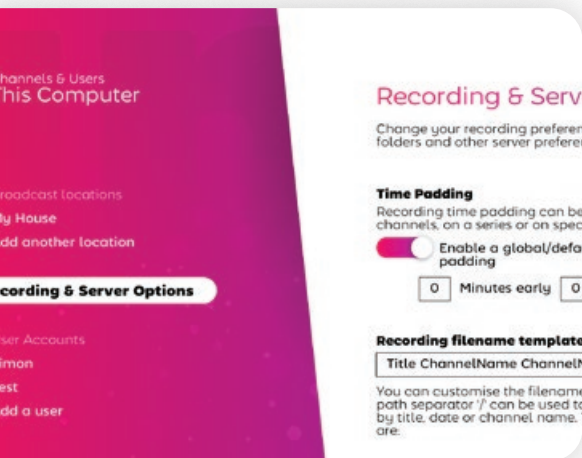


## Recording with time padding

SichboPVR makes an attempt to align its internal clock to that of the broadcaster, which can be some minutes away from your PC clock. Despite its efforts, sometimes EPG listings aren't updated in real-time to reflect last minute changes or delays.

Because many stations or region behave differently, there are four levels of padding in SichboPVR.

**Global Padding**  
Global padding can be configured underneath **Setup > Channels & Users > Recording & Server Options**.



### Channel Padding

Select a station's logo in the **TV guide > Channel Settings > Set a channel-level recording time padding**.

### Series Padding

Select a show in the **TV guide > Series Options > Set a series-level recording time padding**.

### Specific Event Padding

Select a show in the **TV guide > mark an item to record > Use a custom record time padding**.

## Recording without EPG data

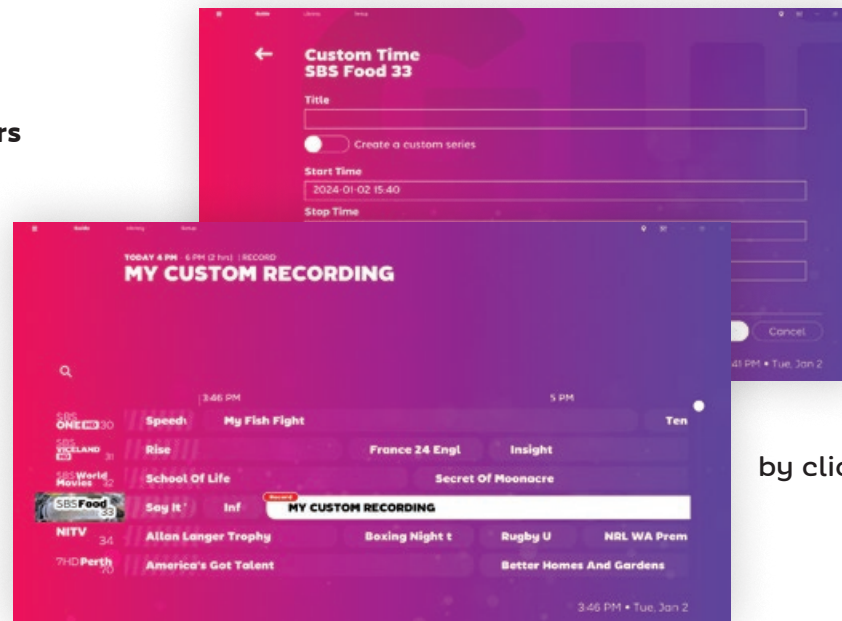
Generally speaking, it's not a great idea to try to record arbitrary time slots. If your region doesn't provide guide data, try using XMLTV from a provider such as [xmltvlistings.com](http://xmltvlistings.com).

You can record arbitrary blocks of time by selecting a **station's logo in the TV guide > Create recording**.

Simply enter a title, start and end time and click **Create**

**Recording**. Your custom defined timeslot will appear in the TV guide and override any in-band guide data.

If you want to create a custom repeating event, select **Create a custom series** and define a set of channels and times by clicking on **Custom Time**.



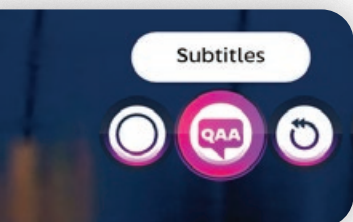
# Changing subtitles

Often times stations will broadcast a mix of captioned and uncaptioned content. **When no subtitle button is present** it means that there have been no subtitles encountered within the current minute.

When available, clicking the subtitle button will cycle through available languages.

## “Why do I sometimes see QAA on the subtitle button?”

Yeah, weird right? The subtitle button normally shows a three letter language code according to ISO 8859-1. For reasons unknown, the standards committee decided that QAA should stand for “the original language of the soundtrack”.



## Supported subtitle formats

SichboPVR supports the following subtitle broadcast formats:

### CEA 608

Usually found in older North American ATSC content.

### CEA 708

Usually found in more recent North American ATSC content.

### ARIB STD B24

Used by Brazil's ISDB-T standard.

### EN 300 706

Used in many countries under DVB-T, DVB-C and DVB-S.

### EN 300 743

Used in many countries under DVB-T2. This format usually comes in as bitmap images instead of customisable text.

## Customising your subtitles

Styling for non-EN 300 743 content can be changed from the top-right **Audio & Video Settings > Video** tab, by select the **override subtitle styling** option.

Colors are in HEX notation #AARRGGBB or #RRGGBB.

Try for example:

Color: #ffffff (white)  
Background: #00ffffff (transparent alpha)  
Outline: #ff000000 (black)  
Outline thickness: 8  
Text size: 80%



# Time shifting

Futurama

Futurama

Now  
Futurama

The SichboPVR server will timeshift live TV by default, allowing you to pause, resume or go back in time.

The TV player displays an audio waveform so that you can see loud or quiet sections of the timeshift buffer. This is sometimes helpful for spotting ad breaks and skipping past them.

## Turning off timeshifting or changing the buffer duration

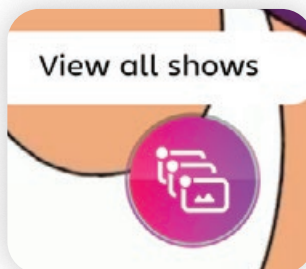
Check out **Setup > Channels & Users > Recording & Server options** to set the timeshift buffer duration to either “No time shifting” or some other number of hours.

You can also modify the

**timeshift folder** or disk drive from the same screen.

## Recording past shows in the timeshift buffer

With the right-hand View all shows button selected, place your playback cursor on a past show and click the record button to capture it.



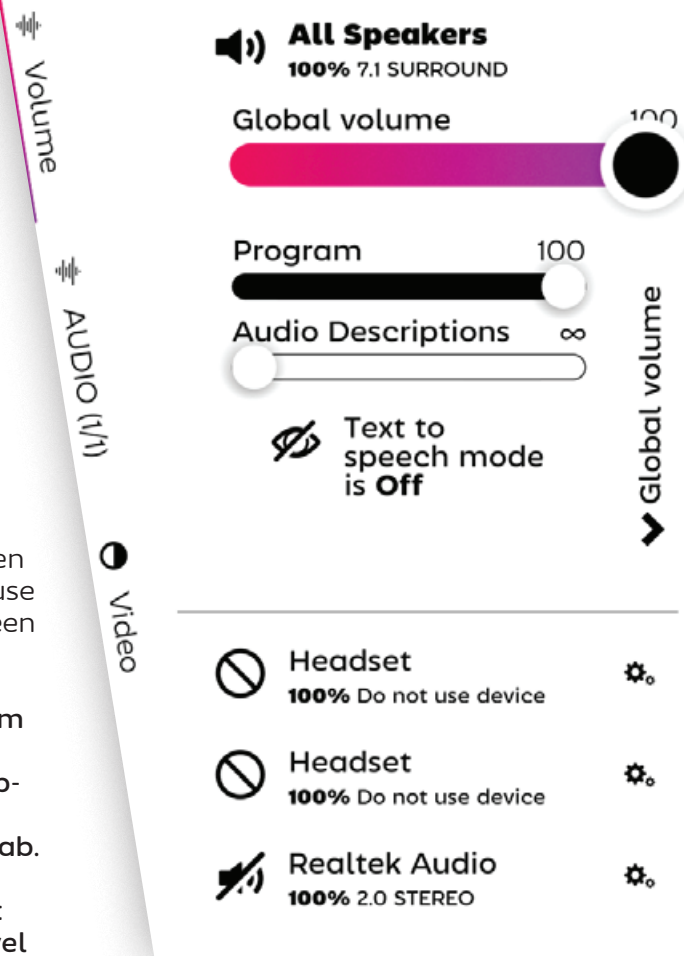
## Adjusting volume

Although volume is usually controlled through buttons on a remote control or at the operating system level, the audio button on the TV player will also adjust SichboPVR's internal volume when hovering with a mouse and moving the screen wheel.

You can also perform granular volume control from the top-right **Audio & Video Settings > Volume** tab.

Levels can be set at global or device level and audio can be sent to multiple audio devices simultaneously with different mixing levels.

One reason why SichboPVR supports multiple outputs and levels is so that visually impaired people can route text to speech and audio descriptions through headphones, with a regular mix on the home theatre system for other people in the room.



SichboPVR always mixes sound in 7.1 space and down-mixes to each device's native format.



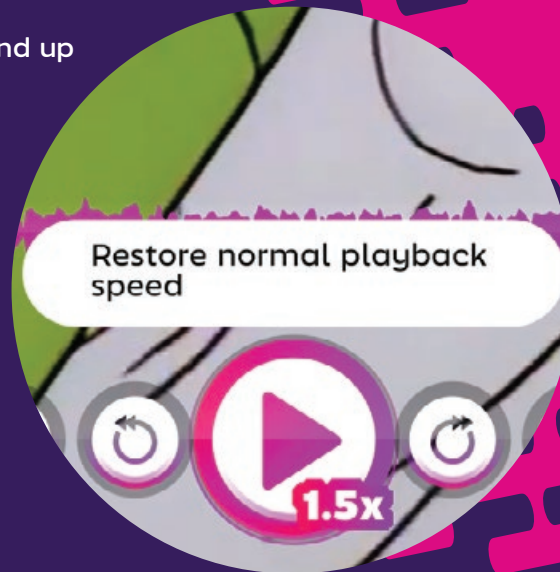
## Adjusting playback speed

Remote control fast forward or rewind buttons are mapped to control playback speed by default.

If you're using a mouse, scrolling your mouse wheel over the play/pause button will also adjust the playback speed.

Sound is pitch corrected down 0.3x and up to 5x.

Playback speed will be restored to normal when clicking the pause/play button.

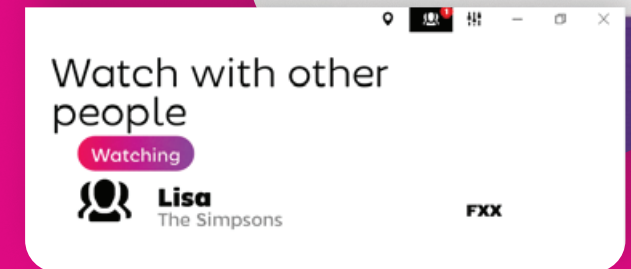
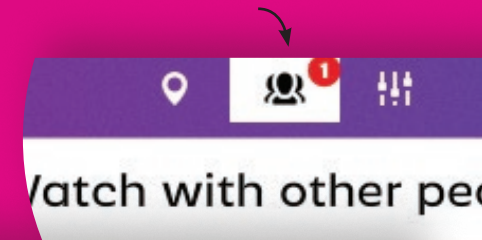


## Watching with other people

Your SichboPVR server can be shared with friends and family by navigating to **Setup > Channels & Users > Recording & Server Options** and setting it to use SichboPVR "over the internet". When sharing over the internet, you'll also need to set up a user account.

When more than one person is connected to your server, a Watch with others icon appears on your title bar.

Select it to follow along with another person.



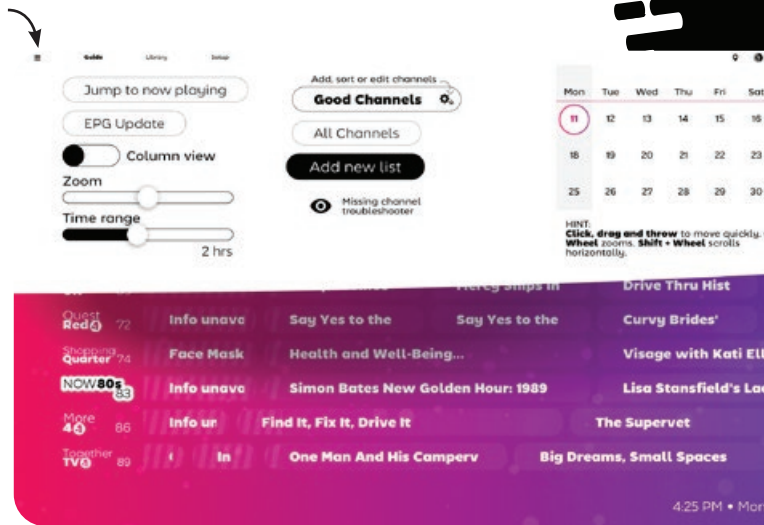


## Defining channel lists

Channel lists allow you to keep unwanted stations out of the TV guide, restrict child accounts to specific stations, or organise them in a manner that suits your personal preference.

By default, SichboPVR automatically establishes a Good Channels list containing de-duped stations, selecting the high-definition editions instead of low-definition copies.

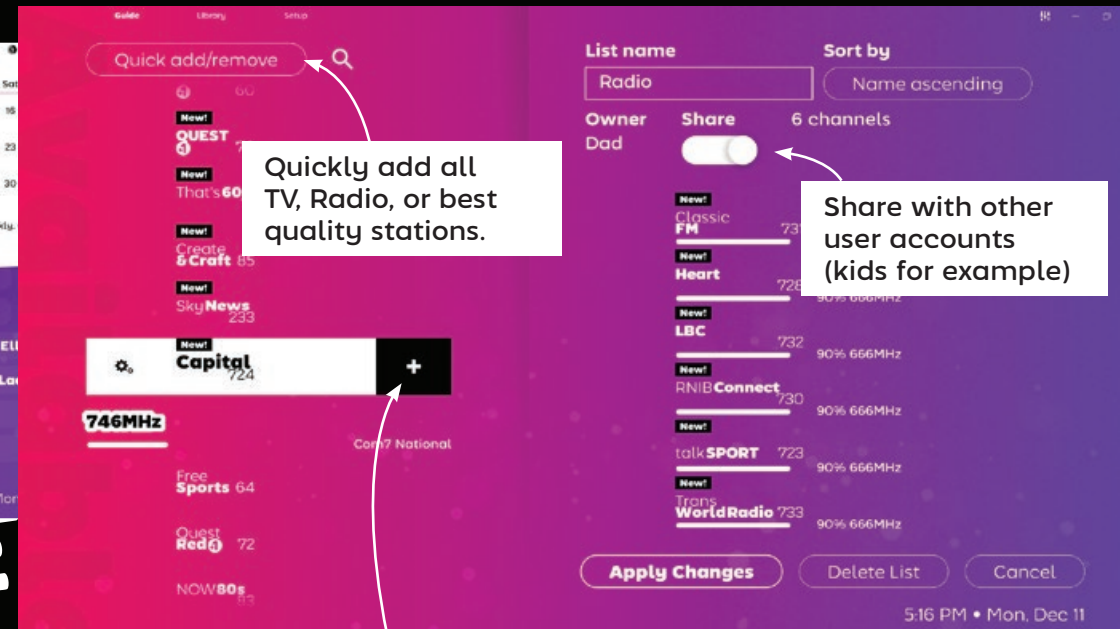
To switch between lists or edit or create a channel list, click on the Guide screen's top-left hamburger menu.



## Using the channel list editor

Available stations are listed on the left.

Added stations are listed on the right.



Quickly add all TV, Radio, or best quality stations.

Share with other user accounts (kids for example)

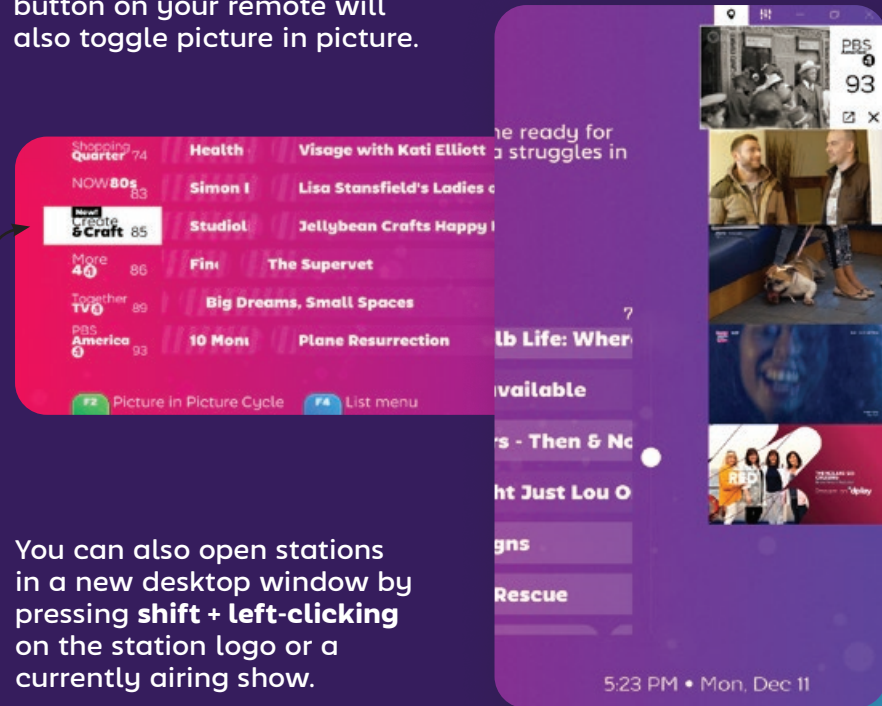
Add a station to the list.

The list sorting order can be set by name, number or "none" for manually placed stations. With Sort by "none" selected, you can drag & drop stations to reorder them in the list.

## Using picture in picture

You can view multiple stations at once by either **right-clicking** or **Ctrl + left-clicking** on station logos.

If navigating by remote control, highlight the station logo and pressing the Green F2 function button on your remote will also toggle picture in picture.



You can also open stations in a new desktop window by pressing **shift + left-clicking** on the station logo or a currently airing show.

## Working on the desktop

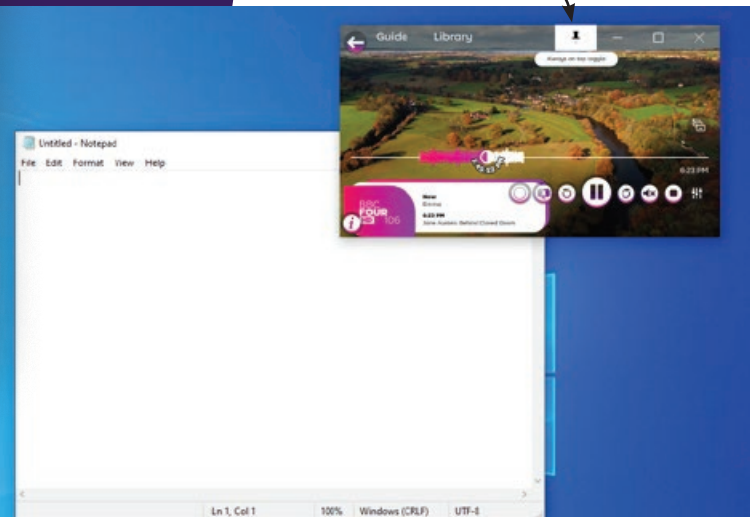
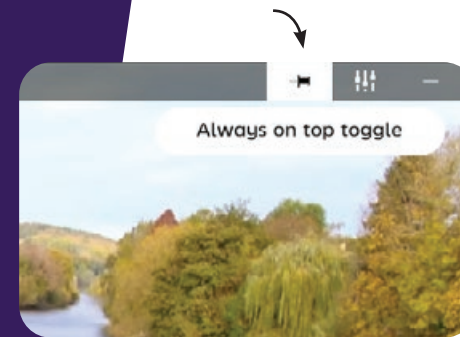
SichboPVR can appear on your desktop above other windows by activating **Always on top** from the TV player screen.

While video is playing, click on the pin icon to activate Always on top.

A small video will appear above all other windows.

You can resize from the edges or click and drag anywhere on the video image to move it around your desktop.

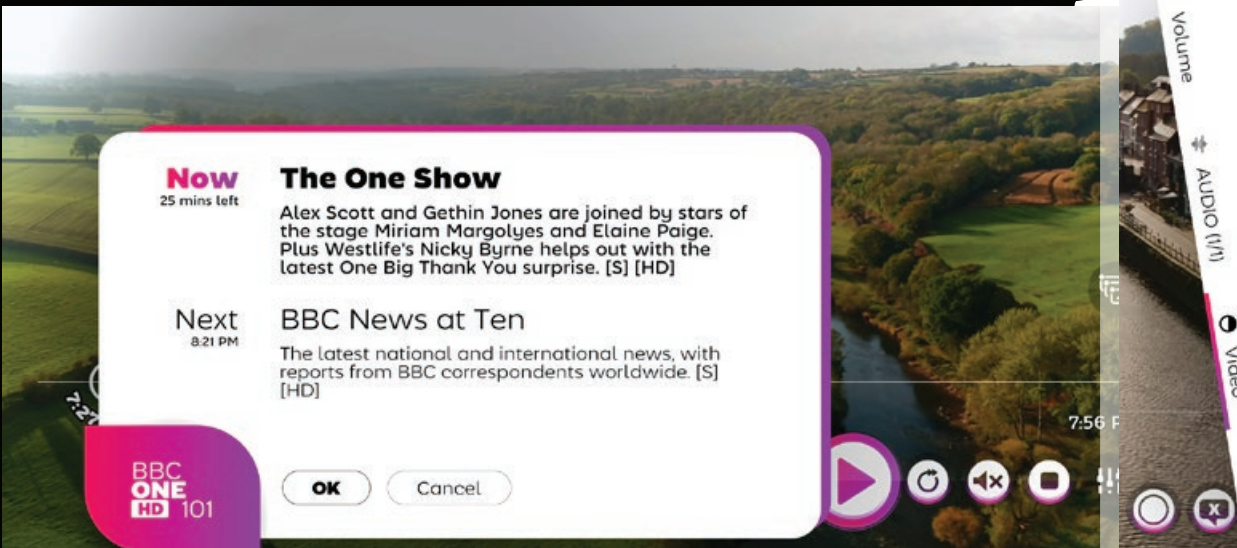
Clicking the pin icon a second time will restore back to the normal view.



## Cycling through channels

For remote control users, channel up and down buttons cycle through stations, bringing up now/next information on each. Selecting OK will commit to the channel change.

For desktop users, the mouse wheel over the TV player video area achieves the same.



## Video settings

Gamma, contrast, saturation, sharpness, aspect ratio and de-interlacing control are available underneath the top-right **Audio & Video Settings** > **Video** tab.



Settings can be assigned globally as well as on a per-station basis, and a live preview is shown so you can see what you're changing, for this reason the Video tab is only shown while video content is actively playing.

## Audio devices & settings

SichboPVR supports audio play-out from multiple devices at the same time, independent from the operating system's audio output configuration.

You can configure audio devices and per-channel (subwoofer, front, sides, back) volume levels under the top-right **Audio & Video Settings > Volume** tab.

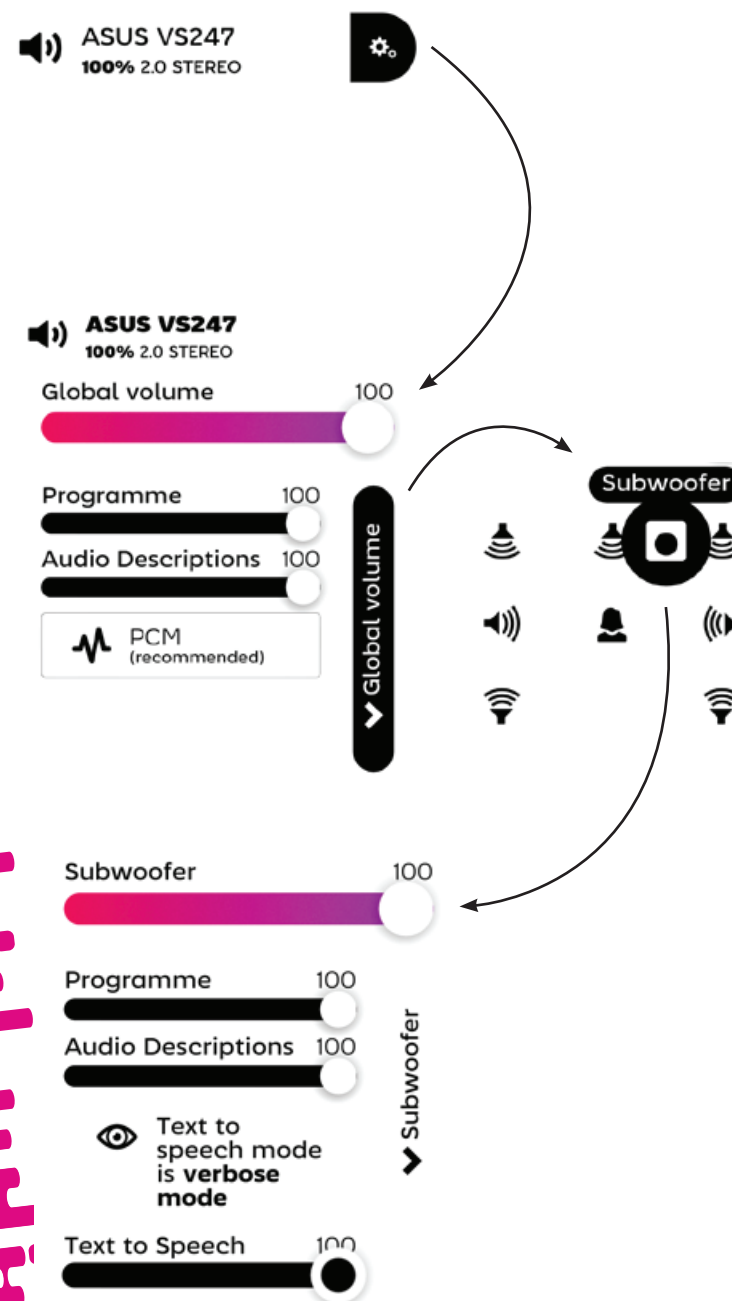
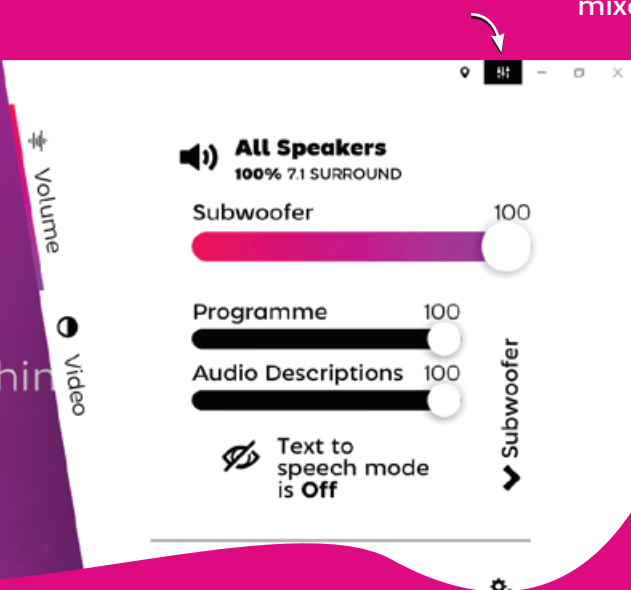
Sound is always mixed in 7.1 space and down-mixed to 5.1, 2.1, 2.0 to each enabled output device.

Available audio hardware is listed beneath the master All Speakers mix.

Selecting the settings/gears icon will open level and audio format settings for that specific device.

Individual audio channel levels can be tweaked by expanding the "Global volume" menu on the far right of the level sliders.

Levels for each channel can be set discretely for Programme, Audio Descriptions (receiver mixed) as well as Text to speech for advanced visually impaired navigation use cases.





# /04

## TV Server

## Parental controls & users



User accounts let you set up time of day or parental rating restrictions for sensitive eyes and ears. They also let friends and family access your TV server over the LAN or internet and allow people in the household to have their own channel lists and recordings.

See **Setup > Channels & Users** to add one or more users.



When accessing your SichboPVR TV server over the internet, a password must be configured.



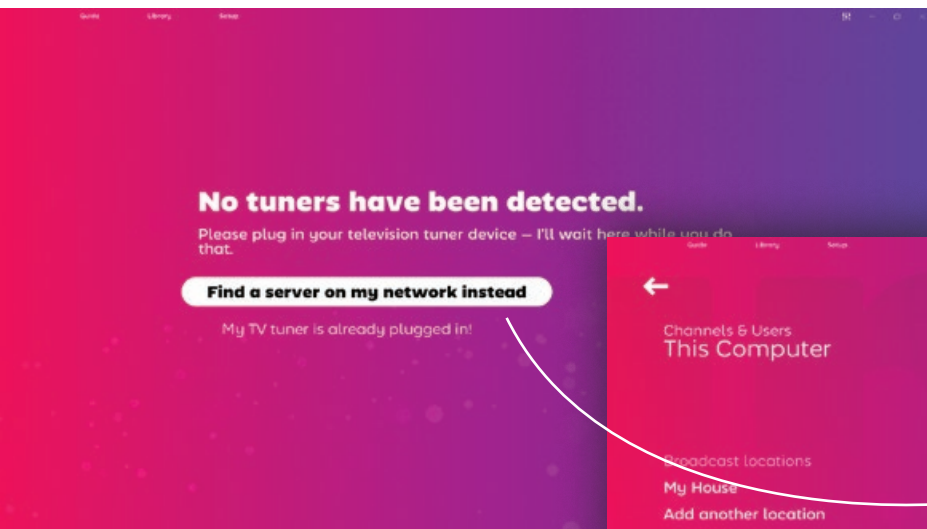
## Watching TV around the home

SichboPVR can be installed on multiple Windows or Linux devices throughout your home, all sharing a single TV server and having an identical experience over the network.

To set up a SichboPVR TV server so that it's always on, see **Setup > Channels & Users > Recording & Server Options** and set it to run "From other computers on my network" or "Over the internet". This unlocks the networking capability.

When networking is unlocked, other computers on your LAN will be able to discover the TV server via Universal Plug & Play (UPnP).

To connect to a server on your network, select "Find a server on my network instead" on the TV guide's "No tuners" prompt, or click on the top-right Location icon in the guide screen and select "Find a SichboPVR server on my network".

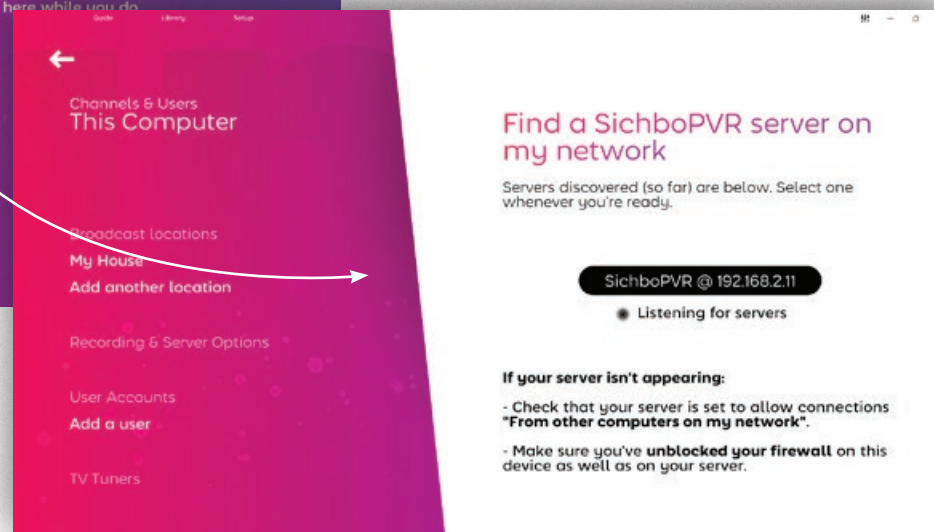


Your TV server should appear in the network scan. Simply click on it to connect and use it.

## Watching TV over the internet

When accessing your SichboPVR TV server over the internet, port forwarding needs to be configured on your router and clients need to connect to your WAN IP address.

The TV server's randomly assigned TCP/IP port is listed under **Setup > Channels & Users > Recording & Server Options**. Here you can also configure the server to work "Over the internet".



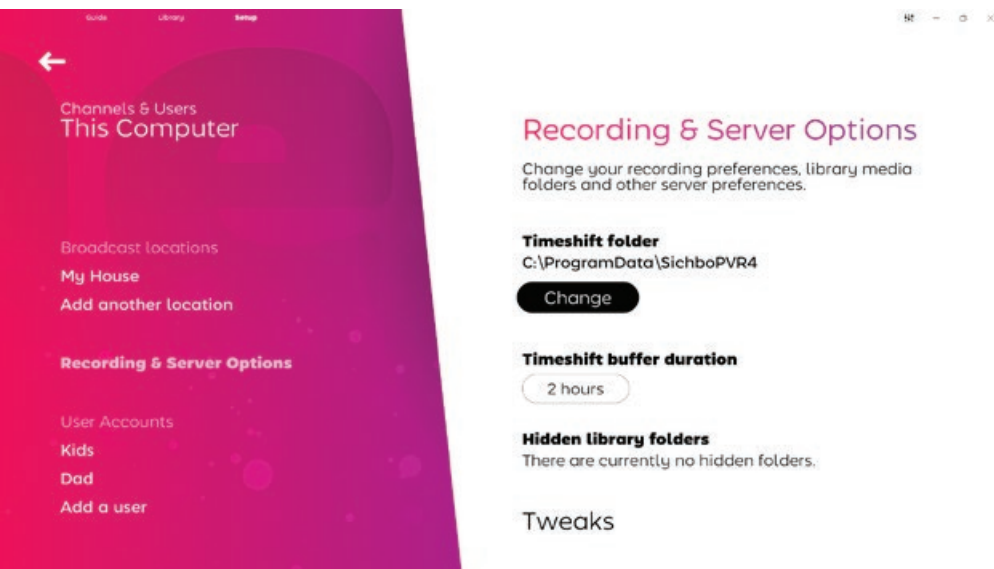


## Changing timeshift settings

The timeshift storage folder and buffer duration can be configured underneath **Setup > Channels & Users > Recording & Server Options**.

A fast disk drive is recommended for timeshifting.

You can disable timeshifting completely by setting the Timeshift buffer duration to “No time shifting”.



## TV tuner settings

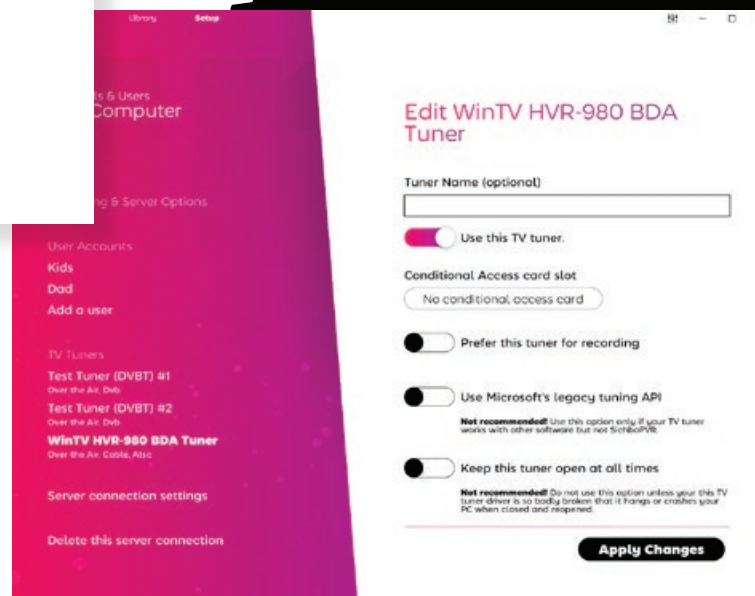
Generally speaking, you should never have to bother with tuner settings in SichboPVR. It will automatically use and assign tuners or change its recording or tuner assignment game-plan as they are inserted or removed on the fly.

Unfortunately the quality of TV tuner products on the market (or more specifically, their drivers) vary wildly.

Tuner settings are available underneath the **Setup > Channels & Users > TV tuners** menu section.

If your TV tuner isn't finding channels and you know your antenna is fine, you might need to toggle on “Use Microsoft's legacy tuning API”.

If your computer blue screens after closing SichboPVR you might need to select “Keep this tuner open at all times” and configure the TV server to Install as a background service (underneath Recording & Server Options.)



For SAT>IP/DVB-HB networked tuners, the TV server needs to be configured to work either “From other computers on my network” or “Over the internet” under **Recording & Server Options**.

For SiliconDust HDHomeRun tuners, they need to be configured using the SiliconDust configuration utility for “Windows Media Center”.

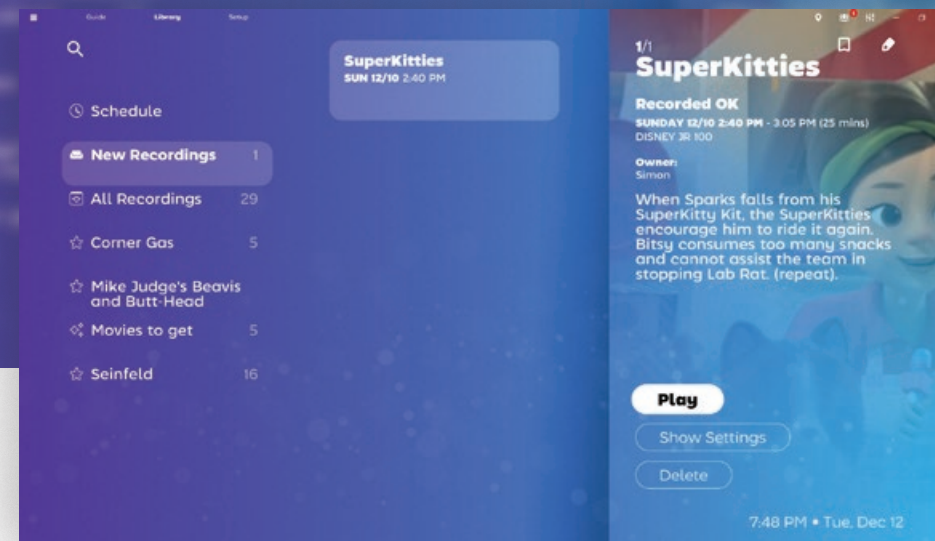


# /05



## The Library

## Library overview



Recorded content, configured TV series, as well as the upcoming recording schedule are all available in the SichboPVR Library.

Folders, TV series, collections and tags are in the left column, while the centre column displays the media results.

Selecting an item will reveal options to play/resume, configure settings or delete.

The SichboPVR TV server is capable of managing not only broadcast recordings,

but also downloaded MP4 or MKV content in the form of Collections.

To add a library collection open the top-left hamburger menu and select **Create a library collection**. You can then Add media folders and set the collection's grouping and sorting preferences.



# Recording wishlists

You can have SichboPVR automatically record things based on search terms, titles or descriptions. We call this a wishlist.

To create a wishlist, select the Library top-left hamburger menu > **Create a wishlist.**

Enter a wishlist title and enter one or more searches, one per line, in the text area provided.

As you type search terms, a search will be performed so that you can immediately test to see if there are any hits.

You can also define recording priority, automatic deletion (Keep all recordings), time padding and channels and times.





## Troubleshooting

## Troubleshooting playback performance

When people talk about playback performance, they sometimes conflate a couple of different problems.

### Corrupt or glitchy video frames

Glitchy video frames are generally caused by packet loss. This problem sits squarely in the TV tuner/antenna domain and is best diagnosed using the Setup > F2 Signal test tool.

### Choppy, juddery or slow frame rates

Juddery video motion and poor playback performance is usually caused by the graphics card (GPU.)

Your TV tuner, motherboard, CPU, RAM, hard disk etc generally do not impact playback performance.

SichboPVR is not a traditional basic video player. It's designed to mix lots of videos simultaneously and features its own high quality de-interlacing technology that runs on the GPU at 60 or 50 fields per second, as well as composites millions of pixels to form a rich and exciting interface presented at your screen's

natural refresh rate, more akin to a computer game than a traditional desktop application or set top box. For this reason, older or low-spec computers can struggle to present 1080i content on time, or motion will be juddery.

The bare **minimum supported graphic chip is Intel i-Series Haswell (4th generation / 2013)** and the **recommended spec is an Intel i3 8th generation**.

If your GPU exceeds the minimum requirement and still exhibits choppy playback then it can also be a display driver-specific quirk (essentially textures not updating/flushing in the Direct3D pipeline, when they should.) If the option is available, try **Setup > Colours & UI > Tweaks > Use the OpenGL rendering engine**, and restart the application.

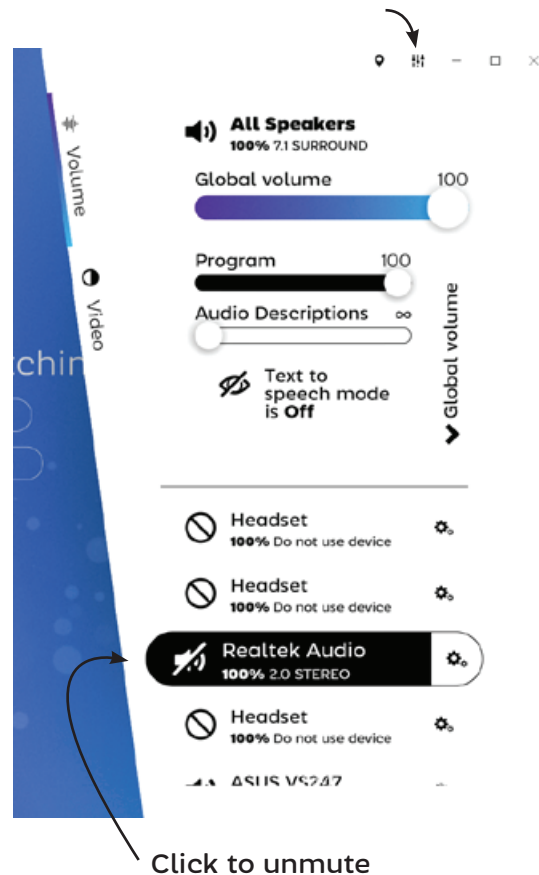
Please get in touch if a performance problem persists and include your C:\ProgramData\SichboPVR4\client-log.txt when writing in.

# Troubleshooting sound problems

Usually when a problem comes up about no sound playing, it's simply because the audio device has been set to mute.

Open the top-right Audio & Video Settings and ensure that the audio output that you expect to hear isn't muted.

Another issue that can happen is setting the audio device Dolby Digital 5.1 when the device doesn't actually support digital bit-streaming, or another bit of software already has exclusive ownership over the audio device.



Change this back to PCM  
(recommended)



## Getting more help

You're welcome to email the author of SichboPVR, Simon Bond if you get stuck on something.

**[simon@sichbo.ca](mailto:simon@sichbo.ca)**

Please send along C:\ProgramData\SichboPVR4\client-log.txt and service-log.txt if the issue seems technical in nature.

I try to get back to people within a day or two.