

ProkBox5g

User Guide

Version 0.7.0-alpha

Firmware for the iPod Video (5th generation and 5.5)

Contents

1. Introduction
2. Getting started
3. Music
4. Audiobooks
5. Video
6. USB and syncing
7. Settings
8. Troubleshooting
9. Going back to Apple's firmware
10. Making videos that play well

Introduction

Welcome to ProkBox5g. This guide covers everything from installing it to listening to your first audiobook. Read it in order the first time, or jump to the chapter you need.

Getting started

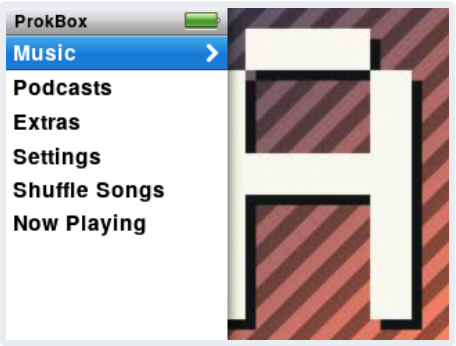
What ProkBox is

ProkBox5g is free, community-made software for the iPod Video (5th generation and 5.5). It replaces the music player on your device with a fresh one that looks and feels familiar, plays almost any audio file, and treats audiobooks properly.

With it you can:

- drag music onto the player from your computer, with no sync program, and drag it back off again;
- play almost any common music format;
- listen to audiobooks with chapters, a saved place in every book, and a speed you choose;
- watch videos you have converted for the small screen.

ProkBox5g is not Apple software. It is an independent, community-driven fork of Rockbox, and Apple Inc. has not made, approved, endorsed or supported it in any way. For help, ask the ProkBox community (prokbox.project@gmail.com), not Apple.



Pick the right download

Each release comes as several zip files. Choose the one that matches your player. You need to answer three questions.

Question	Choices
Is the battery original or a bigger replacement?	Stock, or modded
Is the storage a hard drive, or flash (an SD, CF or similar adapter)?	Hard drive, or flash
How much memory?	32 MB or 64 MB

Not sure? These tips help:

- **Hard drive or flash:** if you opened the player and swapped the drive for a memory-card adapter, it is flash. If you never opened it, it is a hard drive.
- **32 or 64 MB:** the 30 GB models have 32 MB. The 60 GB and 80 GB models have 64 MB. Flash-modded players keep the memory they started with, so go by the original capacity.
- **Battery:** if you have never replaced it, choose stock.

> **Tip**
>
> If you picked the wrong one, install the right one over it. Your music stays where it is.

Before you install

> **Warning**
>
> Back up your music first. If anything on the player exists nowhere else, copy it to your computer before you start.

1. Charge the player.
2. Make sure it is formatted for Windows (FAT32). If it is not, the install steps will tell you, and changing it erases the player.

Install

There is no installer app yet. You install in two parts, by hand: first the start-up program, then the ProkBox files. Set aside about 15 minutes. You need the free `ipodpatcher` tool, which is available for macOS, Windows and Linux.

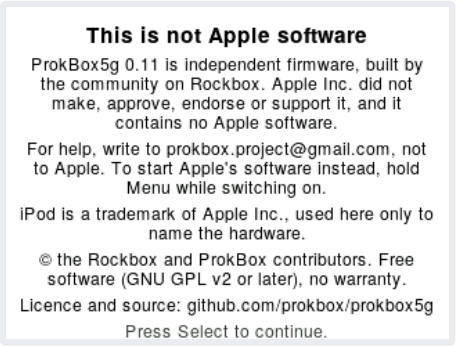
1. Download the zip that matches your player and unzip it on your computer.
2. Connect the player and make sure its drive shows up. Check it is formatted for Windows (FAT32).
3. **Save a copy of the original start-up files.** In a terminal, run `ipodpatcher -r ProkBox-backup.bin` and keep that file somewhere safe. It is what lets you undo the install later.
4. **Install the start-up program.** Run `ipodpatcher -a bootloader-ipodvideo.ipod`, using the `bootloader-ipodvideo.ipod` file from the zip. It asks for your computer's administrator password.
5. **Copy the ProkBox files.** Open the zip's folder and copy everything in it onto the top level of the player's drive, including the folder whose name starts with a dot. Those folders are hidden by default, so turn on "show hidden files" first (Finder: **Cmd+Shift+.**; Windows Explorer: View › Show › Hidden items).
6. Eject the player from your computer and unplug it. It restarts into ProkBox.

> **Note**
>
> Apple's own software stays on the player. If you ever want it back, see Going back.

First start

The first time you start, and again after each new version, you see a short notice. It says ProkBox is independent software, who to ask for help, and where the licence and source code are. Read it, then press **Select**. The button does nothing for the first 3 seconds, so you can't skip past it by accident. You can read it again later in **Settings › Legal**.

Then you see the main menu. Move with the wheel, press **Select** to choose, and press **Menu** to go back.



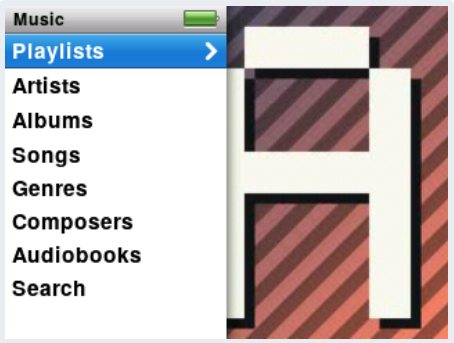
Music

Finding something to play

Choose **Music** on the main menu. You will see these lists:

- **Playlists** (including On-The-Go, described below)
- **Artists**, **Albums**, **Compilations**, **Songs**, **Genres**, **Composers**
- **Audiobooks** (see Audiobooks)
- **Search**

Turn the wheel to move, press **Select** to open something, and **Menu** to go back. In a long list, spin the wheel fast and a big letter appears so you can jump to that part of the alphabet. A small speaker mark on the right shows which song is playing.

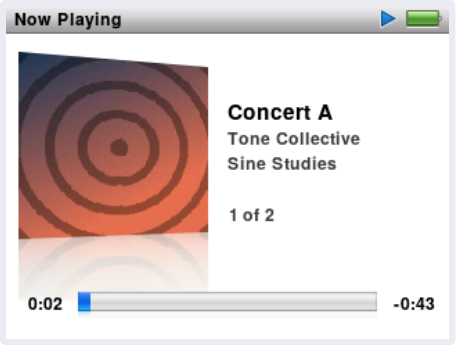


Search: pick **Search**, then use the wheel to choose letters. Results appear as you type.

Shuffle Songs is on the main menu. Choose it to play your whole library in random order.

Now Playing

Start a song and you land on **Now Playing**. It shows the cover, title, artist, album, how far through the song you are, and the time left.



- **Wheel:** volume.
- **Play/Pause:** pause and resume.
- **Next** / **Previous:** tap to skip. Press and hold to fast-forward or rewind inside the song.
- **Select:** step through extra controls, in this order:

    1. **Scrubber.** Turn the wheel to slide to another point in the song. It jumps there when you stop turning.
    2. **Rating.** Turn the wheel clockwise to give 1 to 5 stars, or counter-clockwise to remove them.
    3. **Shuffle.** Choose **Off**, **Songs** or **Albums**.
    4. **Lyrics**, only if the song has lyrics saved in it. Turn the wheel to scroll.
    5. **Visualiser** (see below).
    6. Back to normal.

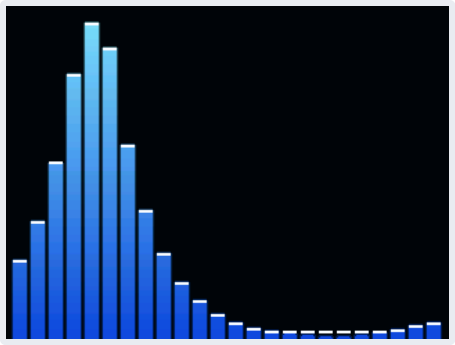
    If you do nothing for a few seconds, it returns to the normal view by itself.

If you leave a menu untouched while music plays, Now Playing comes back on its own after a short while. Press **Menu** to return to where you were.

The visualiser

The visualiser fills the screen with moving pictures that follow the music. To use it, press **Select** on Now Playing until the extra controls reach the visualiser step. The screen stays lit while it shows.

- **Change the style:** press and hold **Select** to pick one of five: Bars, Mirror, Scope, Spectrogram and Radial. The player remembers your choice.
- **Volume:** turn the wheel; a volume bar shows for a moment.
- **Leave:** press **Select**.



Showing the visualiser uses more battery than normal playing, because the screen stays on.

Ratings

Rate songs on Now Playing as described above. Ratings are saved on the player and show up in the song's info.

On-The-Go playlists

An On-The-Go playlist is one you build on the player itself.

1. Find a song and press and hold **Select** on it (or on Now Playing). A menu opens.
2. Choose **Add to On-The-Go**.
3. Open **Music › Playlists › On-The-Go** to play or look at your list.

The same hold menu also has **Browse Album** and **Browse Artist**, to jump straight to the rest of that album or artist, and **Cancel**.

Shuffle and repeat

Set them on Now Playing (**Select**, shuffle step), or any time in **Settings** (see Settings). Shuffle can be **Off**, **Songs** or **Albums**.

Audiobooks

Audiobooks have their own list, and ProkBox remembers where you are in every book separately.

Listening

1. Choose **Music**, then **Audiobooks**. (You can also add Audiobooks to the main menu in **Settings › Main Menu**.)
2. The book you listened to most recently is at the top, so getting back to it never needs scrolling.
3. Choose a book. Its page lists the chapters. Once you've listened to part of it, a **Resume** row appears at the top.
4. Choose **Resume** to carry on where you stopped, or choose a chapter to start there.



Starting a book plays only that book, not the whole list.

On Now Playing



- The bar covers the **whole book**, with small tick marks where chapters start.
- The line under the title shows the current chapter, and a counter such as "3 of 12".
- If a book has pictures for its chapters, you see the one for the current chapter.

- **Next** / **Previous** jump a whole chapter, not a few seconds.
- **Select** steps through the scrubber and the rating (no shuffle for books). Turning the wheel quickly in the scrubber snaps from chapter to chapter, which is handy for crossing a long book.
- Turn the wheel in the normal view for volume.

Resume

Close the book, play music, switch the player off: your place in each book is kept. Open the book again and choose **Resume**.

Speed

1. Go to **Settings › Audiobooks**.
2. Choose **Slower**, **Normal** or **Faster**.

The voice speeds up or slows down without changing pitch, so it does not sound squeaky or deep.

Video

> **Note**
>
> Video is switched off in 0.7.0-alpha: the **Videos** menu isn't shown yet. It arrives in 0.8.0, and this chapter describes it as it will work then.

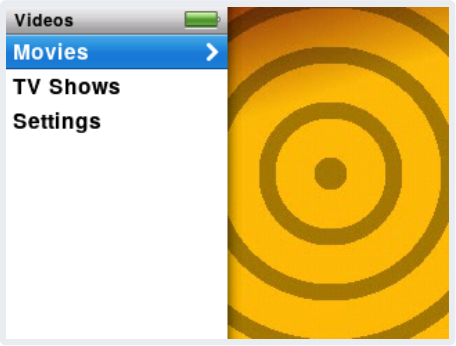
The player's picture is small, so it plays videos best when they are converted first. Converting is quick and free; see Making videos that play well. Videos you have converted show up on their own after you copy them over.

Finding and playing

Choose **Videos** on the main menu. It has:

- **Movies**: a list with posters.
- **TV Shows**: pick a show, then a season, then an episode.
- **Settings**: video options (below).

Podcasts that are videos appear in the **Podcasts** list among the audio ones, marked with a small screen symbol.



Choose a title to start. Videos remember where you stopped, and by default start again from that spot.

The controls



- **Play/Pause:** pause and resume.
- The wheel: volume.
- **Select**, while paused: show or hide a bar at the bottom with the time played, the time left and chapter marks. Press it again to slide to another point with the wheel.
- **Next** / **Previous:** jump to the next or previous chapter, if the video has chapters.
- **Menu:** stop and go back to the list. Your place is kept.

> **Note**
>
> Videos need to be converted first. Anything else may show the Can’t Play Video screen.

Settings for video

Go to **Videos › Settings**:

- **Start Playing: Where Left Off** (the default) or **From Beginning**.
- **Fit to Screen:** on or off. Videos made with our converter are already the right size, so you will see no difference.

Making videos

Use the converter. It handles movies, TV episodes and podcasts, can fill the screen or add black bars, and can burn subtitles into the picture. Step-by-step: Making videos that play well.

If a video won’t play

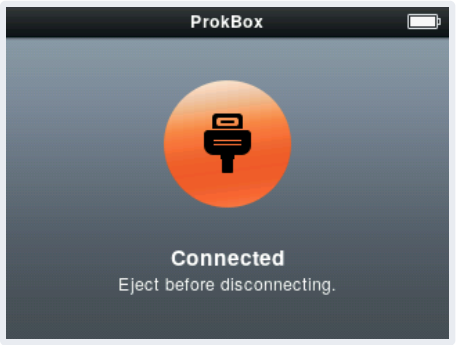
You see **Can’t Play Video** and a short reason. The converter page explains each one, and what to do next. If it keeps happening, see Troubleshooting.

USB and syncing

You don’t need a sync program. The player shows up on your computer as an ordinary drive, and you move files by dragging them.

Put music on the player

1. Connect the player to your computer.
2. The player shows a **Connected** screen with the words “Eject before disconnecting.” Your computer shows a new drive.
3. Open the drive and drag in your music, audiobooks and converted videos. Folders are fine; you don’t need a special layout.
4. **Eject** the drive from your computer (right-click it, or use the eject button).
5. Unplug the cable.



While files are being copied, the symbol on the screen turns into two spinning arrows. When it settles, the copy is finished.

Copy music back off, or share it

It works the same way in reverse. Connect the player, open the drive, and drag the files to your computer. There is no hidden or protected copy to worry about.

The library updates itself

After you unplug, the player notices the new files and updates its lists. A small “Updating Library…” row shows while it works. You can keep using the player, and playback is not interrupted. The first update after a big copy takes longest.

New cover pictures appear a little after the songs do.

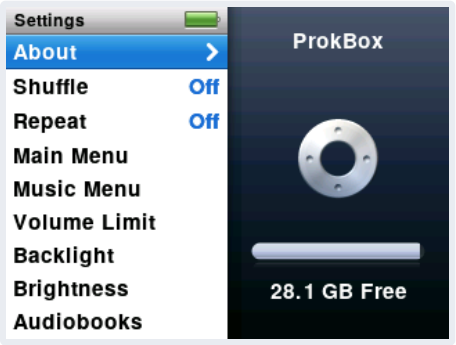
Good habits

- Always eject before unplugging. Pulling the cable early can leave a file half-copied.
- If you are listening to music while you plug in, that is fine; the player takes care of it.
- The player charges over USB while connected.

If a song doesn’t show up, see Troubleshooting.

Settings

Choose **Settings** on the main menu. Turn the wheel to pick a row; the right side of the screen shows a short description or the current value.



Setting	What it does
About	Shows how full the player is, counts of songs and more, and the version. The last page has **Save Diagnostics** (see Troubleshooting). Use **Next** and **Previous** to change pages.
Shuffle	Off, Songs or Albums. Press **Select** to change.
Repeat	Choose how repeat works. Press **Select** to change.
Main Menu	Choose which items appear on the main menu, such as Audiobooks.
Music Menu	The same for the Music menu.
Volume Limit	Set a top volume so it can’t go too loud.
Backlight	How long the screen stays lit: Off, 2, 5, 10, 20 or 30 seconds, or Always On.
Brightness	Turn the wheel to make the screen brighter or dimmer.
Audiobooks	Playback speed: Slower, Normal or Faster.
EQ	Choose a sound preset.
Sound Check	Evens out loudness between songs.
Clicker	The small tick you feel and hear as you scroll. On or Off.
Date & Time	Set the clock.
Sort By	How lists such as artists and albums are ordered.
Language	Choose the language.
Legal	Reads the licence notice again.
Reset Settings	Puts every setting back to how it started. Your music is not touched.

Video options are under **Videos › Settings** (see Video).

The screen when idle

When the backlight turns off, the screen switches to a plain black-and-white clock you can read in daylight, with a battery symbol and a play or pause mark. Press any button to wake it. After about a minute of that, the screen goes fully dark to save power.

Sliding the **Hold** switch on locks the buttons.

Troubleshooting

Quick fixes

The player is frozen or acting strangely. Slide the **Hold** switch on and off, then hold **Menu** and **Select** together for about 8 seconds until it restarts. Your music and settings are safe.

A song or book I copied doesn't appear.

1. Make sure you ejected the drive on your computer before unplugging.
2. Wait a minute; a small "Updating Library…" row may still be working.
3. Check the file is a normal audio file. If you can't tell, try playing it on your computer.
4. Plug the player in again and copy the file once more.

Cover pictures are missing. They are made after the songs show up. Give it a little while, and leave the player alone on its own for a bit.

A video won't play. Read the reason on the **Can't Play Video** screen, then see Making videos that play well.

The battery runs down fast. The visualiser and a backlight set to Always On use the most power. Shorten **Settings › Backlight**.

Your computer doesn't show the drive. Try another USB cable or port. Wait for the **Connected** screen to appear first.

Send us a report

If something is wrong and the fixes above don't help, we want to know. The player can write a short report for you.

1. Choose **Settings › About**.
2. Move to the last page (press **Next** until the page shows **Save Diagnostics**).
3. Press **Select**. It says "Saving…", then "Saved".
4. Connect the player to your computer. At the top level of the drive you'll find a text file called `ProkBox Report.txt`.
5. Email it to **prokbox.project@gmail.com**, or attach it to an issue on the project's tracker. Tell us what you were doing, what you expected, and what happened.

The report has the version, the hardware details (storage, memory, battery), how many songs, podcasts and audiobooks there are (counts only), and a short log. It never contains your music, file names or personal information. It only ever saves when you ask, and each save replaces the last.



Still stuck, or want Apple’s software back

See Going back.

Going back to Apple's firmware

You can always return. There are three ways, from gentlest to most complete. Read this page before you install, so you know your way out.

1. Just for now (nothing is erased)

1. Restart the player: hold **Menu** and **Select** together for about 8 seconds.
2. As soon as the screen goes dark, hold **Menu**.
3. Apple's own software starts for this session.

Restart again without holding anything to come back to ProkBox. Your music is untouched.

2. Remove ProkBox for good, keep your music

This puts the original start-up files back. It needs the `ProkBox-backup.bin` file you saved when you installed.

1. Connect the player.
2. In a terminal, run `ipodpatcher -w ProkBox-backup.bin`.
3. Eject and restart the player.

Apple's software then runs again with your files still on the drive, but its library looks empty until you sync with Apple's own tools. You can delete the ProkBox files from the drive afterwards (turn on "show hidden files" to see them).

> **Note**
>
> If you have lost the backup file, use route 3 below instead.

3. Full restore (erases everything)

Use this if the player won't start at all.

1. Restart: hold **Menu** and **Select** for about 8 seconds.
2. Right away, hold **Select** and **Play** until Disk Mode appears.
3. Connect to a computer and use Apple's own restore tool:
   - **Mac:** Finder (macOS 10.15 or later).
   - **Windows:** iTunes, or the Apple Devices app.
4. Choose **Restore**. This erases the player and puts back Apple's software, formatted for that computer.

> **Warning**
>
> A full restore erases everything on the player. Back up your music first if you can.

> **Note**
>
> Apple has no restore tool for Linux. Use a Mac or Windows computer for this route, or ask us for help at prokbox.project@gmail.com.

Then what?

After a restore the player is stock. You can install ProkBox again whenever you like by following Getting started.

Making videos that play well

> **Note**
>
> Video is switched off in 0.7.0-alpha: the **Videos** menu isn't shown yet. It arrives in 0.8.0, and this chapter describes it as it will work then.

Your player has a small 320 x 240 screen and a modest video chip. It plays one kind of video very well, so the easy way to get a good result is to convert your videos first. This page shows how, using the converter that comes with ProkBox5g: `prokbox-convert.py`.

What the converter does

For each video you give it, the converter makes a new copy that is:

- 320 x 240 pixels (the screen's size),
- H.264 video, Baseline profile,
- AAC sound,
- saved as a `.m4v` file with a title, and a poster picture if you provide one.

It then files the copy into a tidy folder: `Movies`, `TV Shows/<Show>/Season N`, or `Podcasts/<Show>`. Your original files are never changed or deleted. Nothing is uploaded anywhere; everything stays on your computer.

If you run it twice on the same files, it skips the ones it already finished, so it is safe to re-run after adding more.

What you need

- **Python 3**
- **ffmpeg** (this also installs `ffprobe`, which the converter uses)

How to get them:

- **macOS:** install Homebrew (brew.sh), then in Terminal run `brew install python ffmpeg`.
- **Linux:** use your package manager, for example `sudo apt install python3 ffmpeg` (Debian, Ubuntu) or `sudo dnf install python3 ffmpeg` (Fedora).
- **Windows:** install Python 3 from python.org (tick "Add Python to PATH") and ffmpeg (for example `winget install ffmpeg`). Open a new Command Prompt afterwards. Use `python` where the examples below say `python3`.

To check, run `ffmpeg -version` and `python3 --version`. Both should print a version number.

The script is `prokbox-convert.py`, in the `scripts` folder of the ProkBox5g download. The examples assume your terminal is inside that folder; otherwise put the full path in front of the script name.

Common jobs

Converted files go to a folder called `ProkBox Videos` on your Desktop unless you choose another with `-o`.

A movie

```
python3 prokbox-convert.py --movie "My Movie.mkv"
```

Add `--title "A Better Title"` if the file name makes a poor title (this works only when you give one file). Add `--poster cover.jpg` to give it a poster.

A TV episode

```
python3 prokbox-convert.py --tv --show "My Show" --season 1 --episode 3 "episode3.mkv"
```

The result is filed under `TV Shows/My Show/Season 1/`. If your file names already look like `My Show S01E03.mkv`, the converter can often work out the show, season and episode itself, so `--tv` alone may be enough.

A podcast

```
python3 prokbox-convert.py --podcast --show "Show Name" "episode.mp4"
```

Black bars, or fill the screen

Most films are wider than the 4:3 screen. By default the converter keeps the whole picture and adds black bars above and below (“letterbox”). To fill the screen instead and lose the edges, add `--fill`:

```
python3 prokbox-convert.py --movie --fill "My Movie.mkv"
```

`--fill` crops from the centre to 4:3, so try one file first.

Subtitles you can see

Subtitles you can switch on and off during playback are not supported yet. Instead you can “burn” them into the picture so they are always shown:

```
python3 prokbox-convert.py --movie --burn-subs auto "My Movie.mkv"
```

`auto` uses the first subtitle track in the file, or a matching `.srt` / `.ass` file with the same name sitting next to it. To use a specific subtitle file:

```
python3 prokbox-convert.py --movie --burn-subs "My Movie.en.srt" "My Movie.mkv"
```

> **Note**
>
> Burning in text subtitles needs an ffmpeg built with “libass” (the Homebrew one has it). If yours does not, the converter says so and converts nothing.

A whole folder, or many files at once

Give it a folder and it converts every video inside, sub-folders included:

```
python3 prokbox-convert.py --tv --show "My Show" --season 1 "Season 1 Folder"
```

It works on 2 videos at a time; `-j 4` raises that if your computer is fast. `-o "/path/to/folder"` chooses where the results go.

See the plan first

```
python3 prokbox-convert.py --dry-run --movie "My Movie.mkv"
```

This prints what would happen and writes nothing. `--force` redoes files that were already finished.

Check a file you already have

```
python3 prokbox-convert.py --check "some video.m4v"
```

This tells you whether the file will show pictures on the player and, if not, why.

Where to copy the files

1. Connect the player to your computer with USB and wait for it to appear as a drive.
2. Open the converter's output folder (`ProkBox Videos` on your Desktop, or the one you chose).
3. Drag the folders inside it (`Movies`, `TV Shows`, `Podcasts`) onto the player's drive. Merging them with folders that are already there is fine.
4. Eject the player from your computer, then unplug it.

The player updates its library after you disconnect, and your videos then appear under Videos.

If a video won't play

When a video can't be played, the player shows a **Can't Play Video** screen with a short reason:

- **Format not supported:** convert the file with the converter and copy it again.
- **Video too large:** the video is too big or too long. Convert a smaller or shorter version.
- **File damaged:** the copy may have been interrupted. Copy it again, and eject properly next time.
- **Video didn't start:** try once more, then convert the file again.

Still stuck? Please tell us, so we can fix it:

1. On the player, go to **Settings › About**, move to the last page and choose **Save Diagnostics**. This writes a small text file, `ProkBox Report.txt`, to the top level of the player's drive.
2. Connect the player to your computer and find that file.
3. Email it to **prokbox.project@gmail.com** (or attach it to an issue on the project's tracker). Tell us the video's name, where it came from, and the command you used to convert it. If you can, run `--check` on the converted file and include what it says.

The report holds the version, hardware details, and a short log. It does not contain your music or videos.

ProkBox5g is not Apple software. It is an independent, community-driven fork of Rockbox, and Apple Inc. has not made, approved, endorsed or supported it in any way. It contains no Apple software. iPod is a trademark of Apple Inc.

Free software under the GNU GPL v2 or later. This guide is licensed CC BY-SA 4.0. Source code and the latest guide: github.com/prokbox/prokbox5g · prokbox.project@gmail.com