Prayer Clock User Guide - 4-inch model (ESP32-S3)

November 2026 - firmware 1.3.5

Introduction

The prayer clock has a 4-inch square touch screen (480 × 480). It shows the time, the Hijri and Gregorian dates, and five daily times: Fajr, Sunrise, Dhuhr, Sunset and Maghrib.

- The azan plays by itself at Fajr, Dhuhr and Maghrib, each with its own sound file.
- The clock calculates the times itself from the city location and the calculation method, so it needs no internet after setup.
- WiFi is used to set the time, search for cities, install updates and control the clock from a phone.
- The SD card holds the azan, alarm, music and wallpaper files.
- A built-in clock (RTC) keeps the time when the internet or the power is off.

Main screen



The main screen

The main screen shows the time in large digits, the next prayer and how long until it. From top to bottom:

1. **The salawat banner** at the top.
2. **Status line:** the city on the left, the WiFi network on the right (green = connected).
3. **The time** in hours and minutes, with the seconds small in blue beside it.
4. **The Gregorian date**, then **the Hijri date** in teal.

5. **The next prayer** in yellow, for example: Next: Maghrib at 17:09 (in 0h 43m).
6. **The five prayer cards:** Fajr, Sunrise, Dhuhr, Sunset, Maghrib. The green card is the next prayer.
7. **The tab bar** at the bottom.

The background is a picture from the /wallpaper folder on the SD card; turn it on or off with the "Clock picture" switch in Settings. During the azan, a picture from the /images folder is shown instead, then the wallpaper returns.

When the azan or an alarm plays, a small player appears with a Stop button. Alarms also have a Snooze button that rings again after 5 minutes.

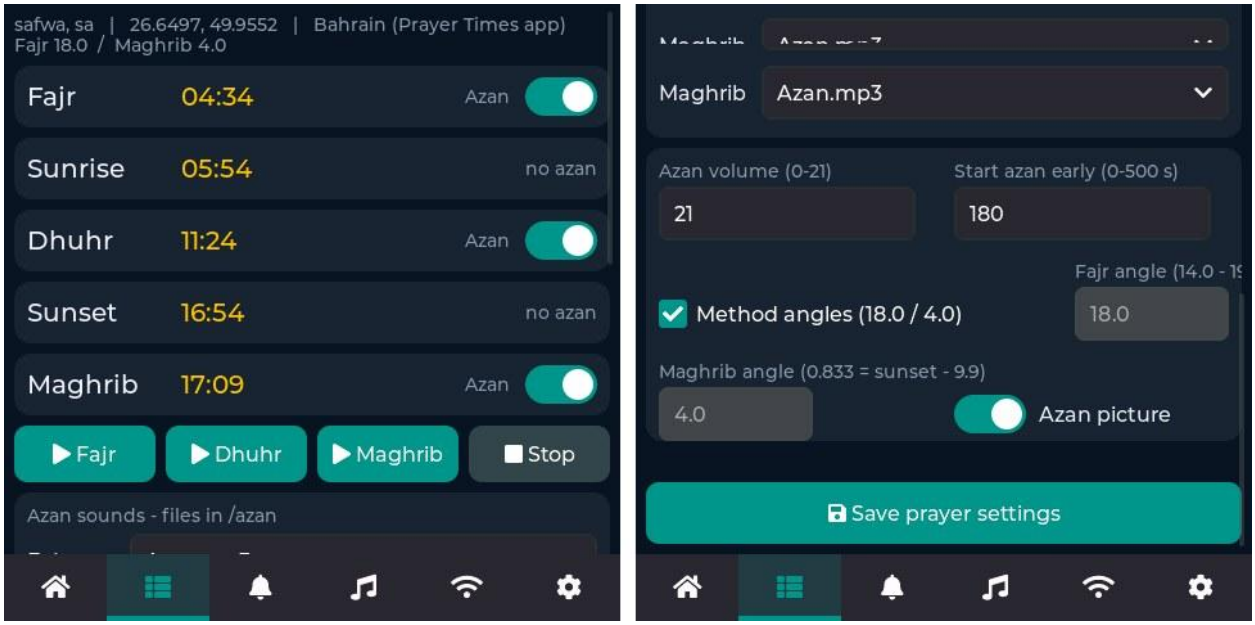
Screen lock: when "Auto-lock" is set in Settings, the clock screen locks after that many seconds without a touch and a red X appears at the top left. Hold the X for one second to unlock. The lock never stops you from stopping the azan or an alarm.

Tabs

The six buttons at the bottom of the screen open the tabs. The open tab is shown in green. On long screens, swipe up or down to see the rest.

Icon	Tab	What it has
House	Clock	The time and today's prayer times
List	Prayer	Today's times, azan on/off, azan sounds, angles
Bell	Alarms	40 alarms, each with its own sound and volume
Note	Music	Play audio files from the SD card
WiFi	WiFi	Internet connection and maintenance (OTA) mode
Gear	Settings	City, time zone, calculation method, brightness, PIN, updates

Prayer tab and azan

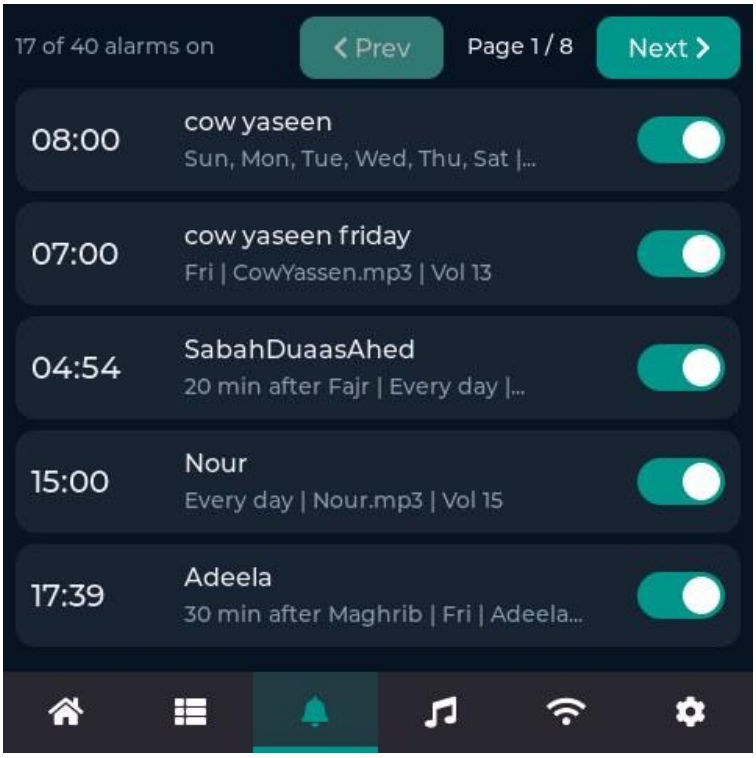


Prayer tab: top (left) and bottom after scrolling (right)

This tab controls the azan, its sounds and the calculation angles. The top line shows the city, its coordinates, the calculation method and the Fajr / Maghrib angles.

- **Today's times:** Fajr, Dhuhr and Maghrib each have an "Azan" switch to turn their azan on or off. Sunrise and Sunset have no azan.
- **Test buttons:** ▶ Fajr, ▶ Dhuhr and ▶ Maghrib play that prayer's azan; Stop stops it.
- **Azan sounds:** choose the azan file for each prayer from the /azan folder.
- **Azan volume:** 0 to 21.
- **Start azan early:** the azan starts this many seconds before the time (0 to 500).
- **Method angles:** when ticked, the method's angles are used (the two fields are grey). Untick it to type your own angles: Fajr 14.0 to 19.9, Maghrib 0.833 (= sunset) to 9.9.
- **Azan picture:** shows a picture from the /images folder during the azan.
- Tap **Save prayer settings** at the bottom of the tab to keep the changes.

Alarms

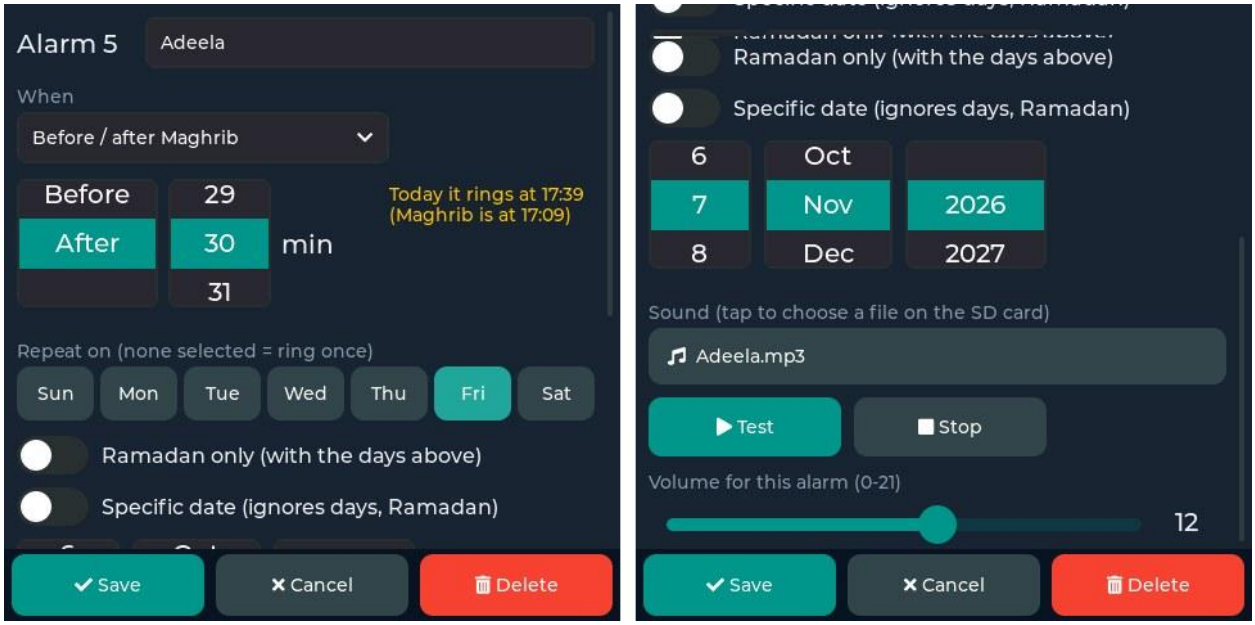


The alarm list

The clock keeps 40 alarms on several pages. Each alarm has its own time, days, sound and volume.

The list: each row shows the ring time, the alarm name and a summary (days | file | volume). The switch on the right turns the alarm on or off. "Prev" and "Next" change pages. Tap an alarm to edit it.

Editing an alarm



The alarm editor: top (left) and bottom after scrolling (right)

1. **Name:** type it in the field next to "Alarm N".
2. **When:** a fixed time, or before / after one of the prayers. For a prayer, pick Before or After and the minutes with the two wheels. Today's ring time is shown in yellow, for example: Today it rings at 17:39.
3. **Repeat on:** tap the days (Sun … Sat). With no day selected the alarm rings once.
4. **Ramadan only:** the alarm rings only in Ramadan (on the selected days).
5. **Specific date:** the alarm rings on one date chosen with the wheels (day / month / year) and ignores the days and Ramadan.
6. **Sound:** tap the sound button (for example ♪ Adeela.mp3) to open the file browser, see below.
7. **Test / Stop:** play and stop the sound.
8. **Volume for this alarm:** 0 to 21.
9. Tap **Save** to keep it, **Cancel** to leave without saving, or **Delete** to remove the alarm.

Choosing the alarm sound



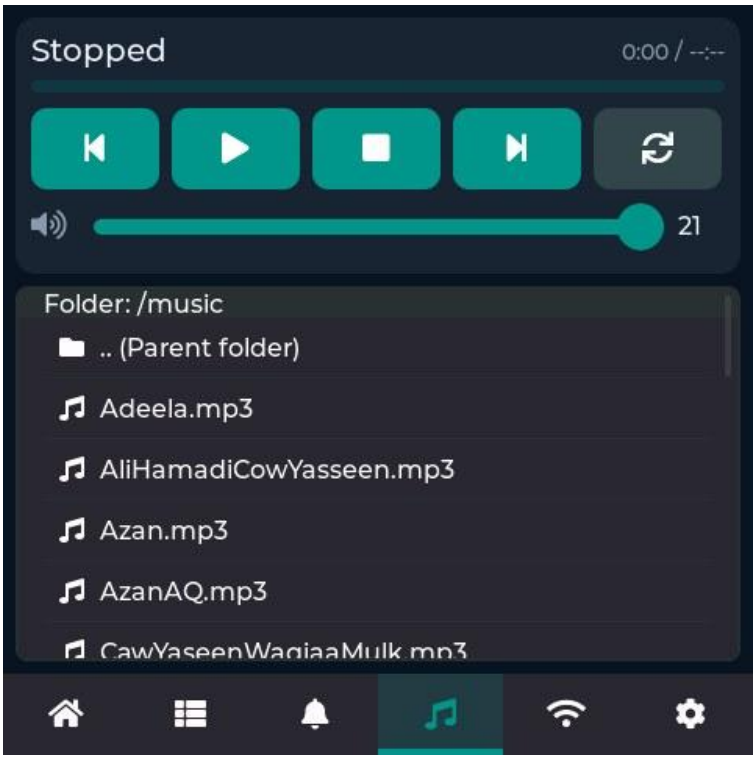
The alarm sound browser

The browser opens in the folder of the current sound, or in /alarms. The chosen sound has a ✓.

- Tap a file to choose it, or a folder to open it.
- **.. (Parent folder)** goes up one folder.
- **Refresh** reads the SD card again (for example after uploading new files).
- **Default** goes back to the default sound, alarm.mp3.
- **Cancel** closes the browser without a change.

Note: a file whose path is longer than 95 characters is refused; move it to a shorter folder or rename it.

Music player



The music player

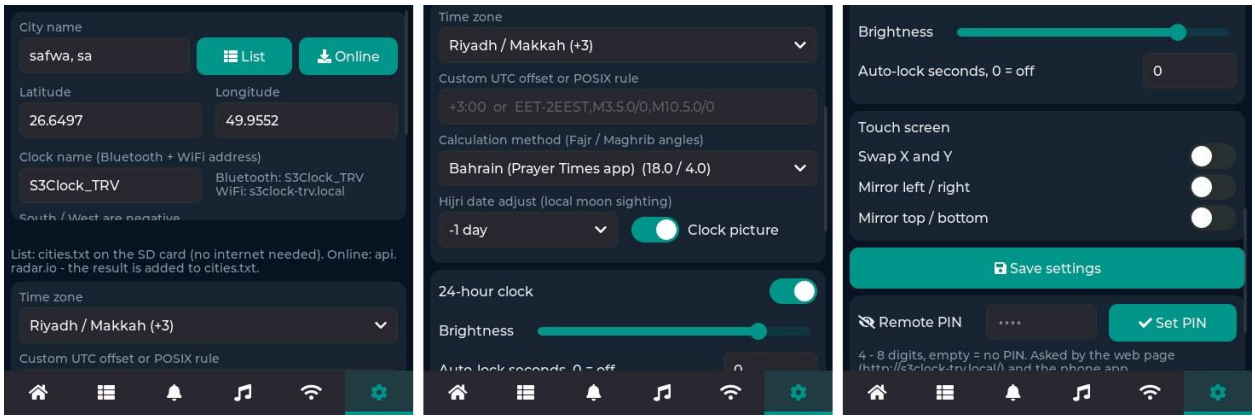
Plays any audio file (mp3 and others) from any folder on the SD card, starting in /music.

- **Top:** the file playing (or Stopped), the time played and the length.
- **Buttons:** previous, play / pause, stop, next. The grey button with two arrows reads the folder again.
- **Volume slider:** 0 to 21.
- **The list:** tap a file to play it, a folder to open it, or ".. (Parent folder)" to go back.

The azan and alarms come first: the music stops when they start.

Settings and WiFi

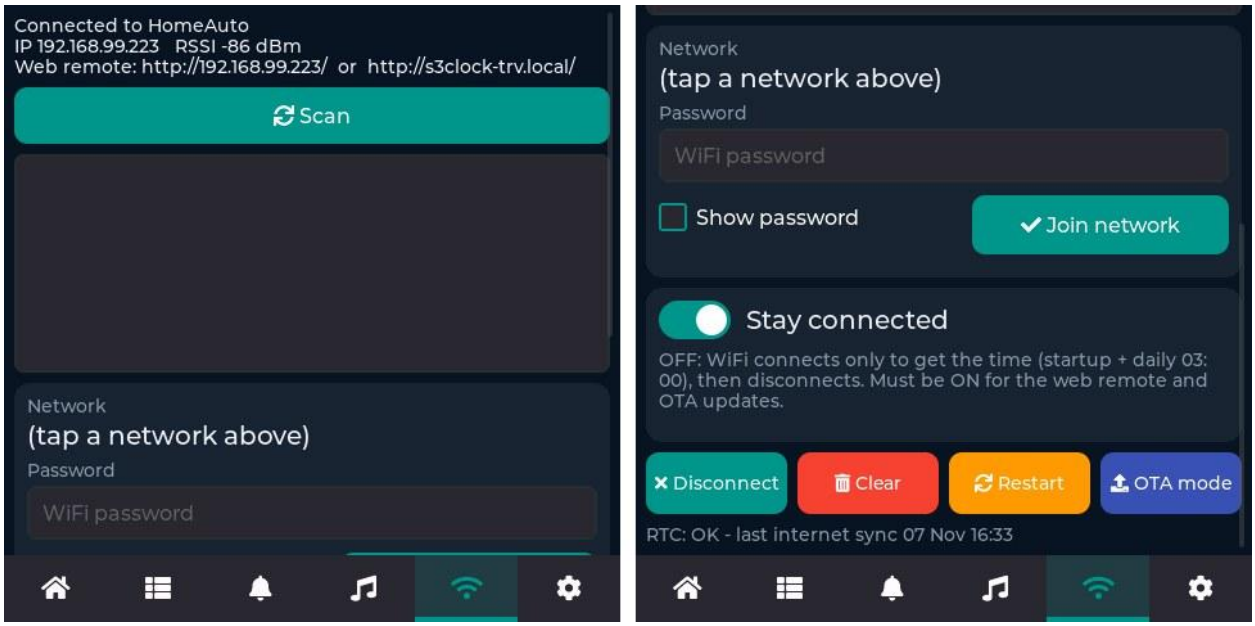
Settings tab



The Settings tab from top to bottom (the PIN is hidden in the picture)

- **City name:** type the city, then tap **List** to search cities.txt on the SD card (no internet needed) or **Online** to search the internet. The clock fills in the latitude and longitude and adds the result to cities.txt.
- **Latitude / Longitude:** can also be typed by hand. South and West are negative.
- **Clock name:** the clock's Bluetooth name and network address (for example s3clock-trv.local).
- **Time zone:** for example Riyadh / Makkah (+3). "Custom UTC offset" is for a zone that is not in the list.
- **Calculation method:** the method with its Fajr / Maghrib angles, for example Bahrain (Prayer Times app) (18.0 / 4.0).
- **Hijri date adjust:** moves the Hijri date by a day or more to match the local moon sighting.
- **Clock picture:** shows the wallpaper on the clock screen.
- **24-hour clock**, **Brightness** and **Auto-lock** (seconds before the screen locks, 0 = off).
- **Touch screen:** fixes the touch direction if touches land in the wrong place. Leave it alone in normal use.
- Tap **Save settings** to keep the changes.
- **Remote PIN:** 4 to 8 digits, asked by the web page and the phone app. Tap **Set PIN** to keep it.
- **Check for updates:** looks for new firmware. If there is one, tap Update; the clock downloads it and restarts. The clock also checks by itself. The current version is shown above the button.

WiFi tab



The WiFi tab: top (left) and bottom (right)

The top line shows the connected network, the IP address and the address of the remote control page.

1. Tap **Scan** to list the networks.
2. Tap your network and type the password ("Show password" shows it).
3. Tap **Join network**. The network is saved after a successful connection.

- **Stay connected:** ON = always connected (needed for the remote control and updates); if the connection drops, the clock tries again every 5 minutes. OFF = it connects only to set the time at start-up and at 03:00 every day.
- **Disconnect:** disconnect. **Clear:** forget the saved network. **Restart:** restart the clock.
- **OTA mode:** maintenance mode for fast upload of new firmware or big files. The clock and the azan pause until you go back to normal mode.
- The last line shows the built-in clock (RTC) and the last time it was set from the internet.

Remote control

You can set up the clock from a phone or computer instead of the small screen.

- **Web page:** open the address shown on the WiFi tab in a browser, for example http://192.168.99.223/ or http://s3clock-trv.local/. The phone must be on the same network and "Stay connected" must be ON.
- **Phone app (Android):** connects over WiFi or Bluetooth and shows the clock by its Clock name.
- The page and the app ask for the **PIN** set in Settings.

From the page you can:

- Change the city, calculation method, azan and the other settings.
- Edit the alarms. The sound list browses folders like the clock: pick a folder (📁) to open it; "↻ Refresh list" reads the card again.
- Manage the SD card files: upload, download, delete and create folders. A file bigger than 20 MB is uploaded through maintenance mode by itself, because it is faster.
- Update the firmware online from the "Online update" card.

SD card folders:

Folder	Contents
/azan	Azan sounds
/alarms	Alarm sounds (sounds from any other folder can be chosen too)
/music	Music and recordings
/images	Azan pictures
/wallpaper	Clock screen wallpapers
/config	Settings, alarms and cities.txt (do not delete)

Troubleshooting

Problem	What to do
Prayer times differ from the local timetable	Check the city, coordinates, time zone and calculation method in Settings.
The Hijri date is a day off	Change "Hijri date adjust" in Settings.
No azan	Check that the Azan switch is ON on the Prayer tab and the volume is not 0; try the ▶ button.
Wrong time	Connect to WiFi to set the time, and check the time zone.
A new file is not in the list	Tap Refresh in the browser, or the refresh button in the music player.
The screen ignores touches	It may be locked: hold the red X at the top left for one second.
The web page does not open	Check the phone is on the same network and Stay connected is ON; try the IP address instead of .local.
An update failed	Try again with Check for updates. If new firmware fails after it is installed,

	the clock goes back to the previous version by itself.
The clock is in maintenance mode	Choose to go back to normal mode on the maintenance page, or restart the clock.