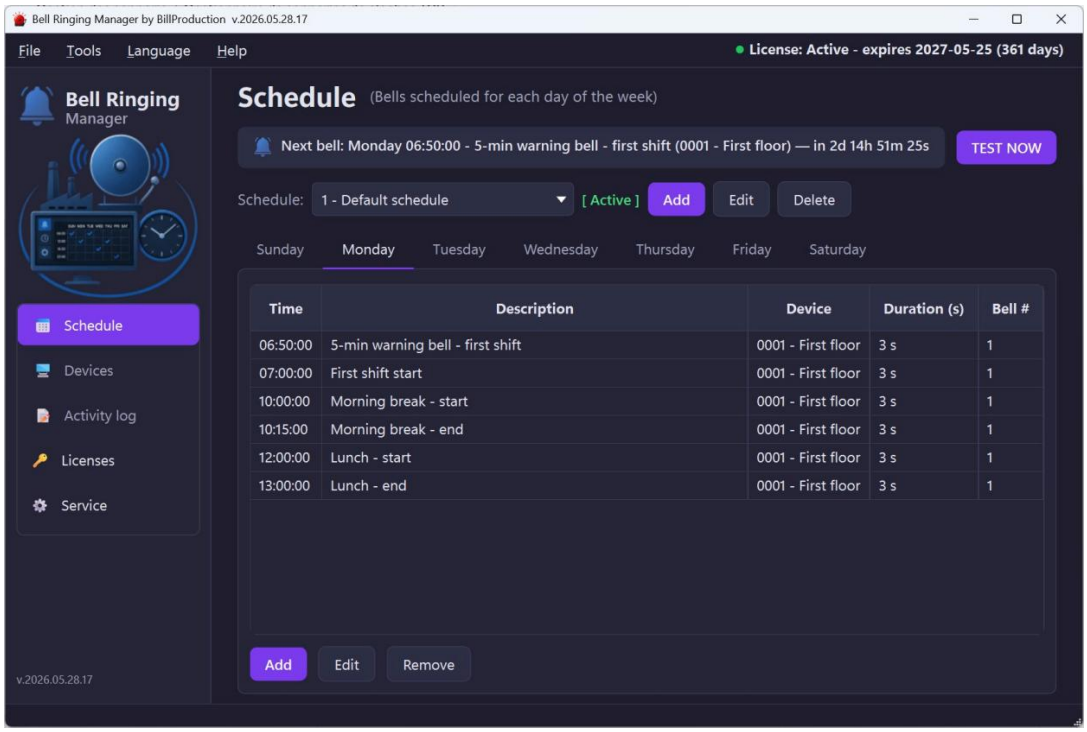
Bell Ringing Manager

User Manual



Version 2026.05.28.17

BillProduction

https://bellalarm.billproduction.com/

Table of Contents

1. Introduction

Welcome

Bell Ringing Manager is a Windows application designed to schedule and trigger network-controlled bells, sirens and relays. It is commonly used in schools, factories, sports facilities and any environment where audible signals must be played at precise times throughout the week.

The application is built around four core ideas:

- A weekly schedule of bell events grouped by day of the week.
- A list of network devices (relays and bridges) that produce the actual sound or trigger external equipment.
- A licensing system that enables full operation on each PC.
- An optional Windows service that runs the schedule in the background even when no user is logged in.

Key features

- Multiple parallel schedules (regular schedule, exam weeks, summer programs, etc.) with start/end dates.
- Support for Generic TCP devices, Symcod Bridge-IP, and Waveshare 8-relay Modbus modules.
- Non-blocking network operations: a non-responding device never freezes the application.
- Test mode with visual progress indicator (3-second timeout per device).
- Multi-language interface (English, French, Spanish) - switchable at any time.
- Live license-status indicator at the right of the menu bar (a colored LED next to the wording).
- Dedicated Activity log page with Copy / Save to file / Clear actions.
- Backup of configuration and licenses to a single ZIP archive.
- Import of legacy Symcod configuration files (CLOCHE.* format).
- Windows service option for fully unattended 24/7 operation.

System requirements

- Windows 10 or Windows 11 (64-bit).
- Network connectivity to the controlled bell devices.
- Administrator rights required only for service installation/management.
- A valid license code for each PC that will run the application.

2. Main window overview

The application opens on the Schedule page by default. The window is divided into two main areas: a sidebar on the left and a content panel on the right.

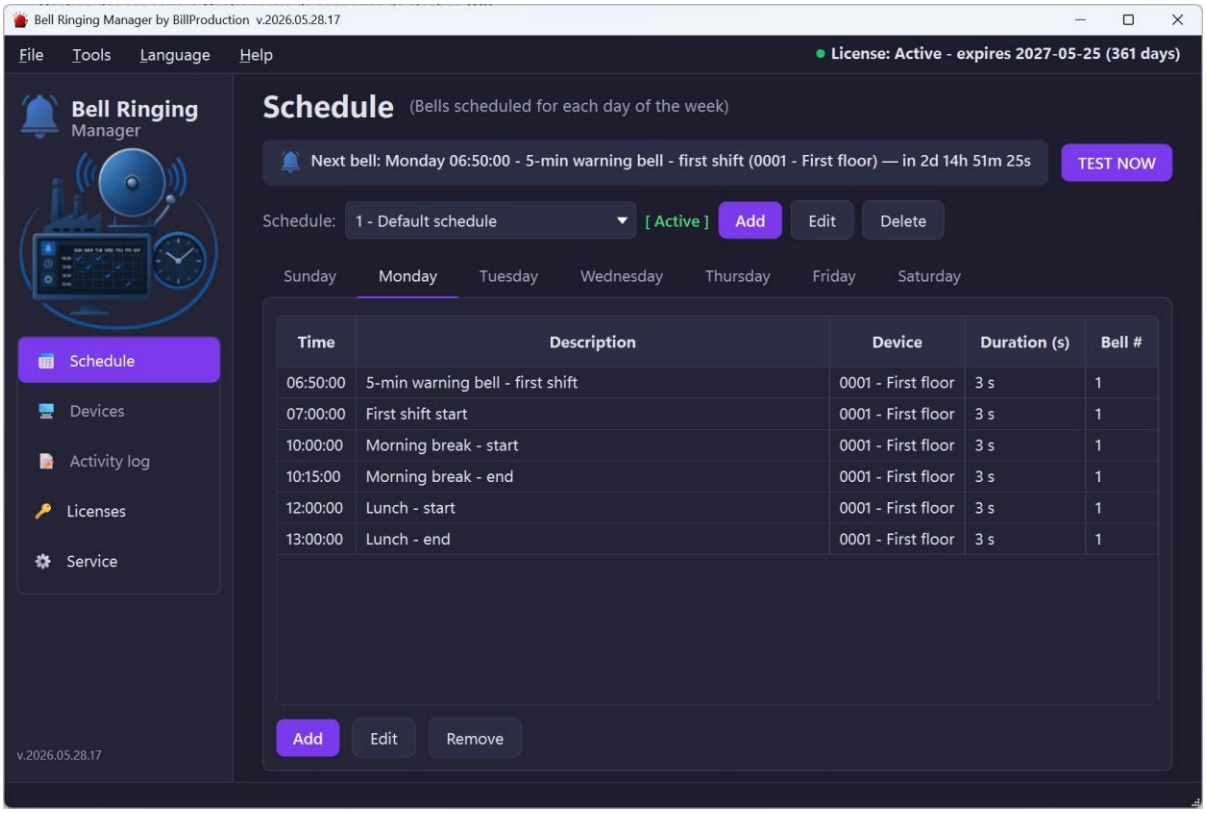


Figure 1 - Main window showing the Schedule page.

The sidebar

On the left side of the window you will find:

- The product logo and name (Bell Ringing Manager).
- The navigation menu with five sections: Schedule, Devices, Activity log, Licenses, Service.
- The current version number at the bottom (e.g. v.2026.05.28.17).

Click any section to switch the right-hand panel to that page.

Navigation alerts

Some menu items can display a pulsing warning icon to indicate that your attention is needed:

- Licenses entry pulses if no valid license is active or the trial period is about to expire.
- Service entry pulses if the Windows Service is not installed or not running.

The menu bar

The top menu bar contains four menus plus a permanent license indicator on the right:

Field	Description
File	Import / export schedules from CSV or XLS files; Exit.
Tools	Copy a day across schedules, copy an entire schedule, import legacy Symcod configuration, install / uninstall the Windows Service.
Language	Switch between English, French and Spanish (applies instantly).
Help	Open the Licenses page directly, view the About dialog with version and copyright information.
License indicator	Always visible at the right edge of the menu bar. A colored dot (LED) plus a "License: ..." text shows the current entitlement state. The text matches exactly the banner on the Licenses page.

NOTE: The license LED color follows the state: green = active, light green = expiring with a future renewal, amber = expiring soon, red = expired or blocked, gray = 15-minute trial mode.

3. Schedule page

The Schedule page is where you define when each bell rings throughout the week. It supports multiple parallel schedules, so you can keep your regular weekly bells separate from special events like exams or summer hours.

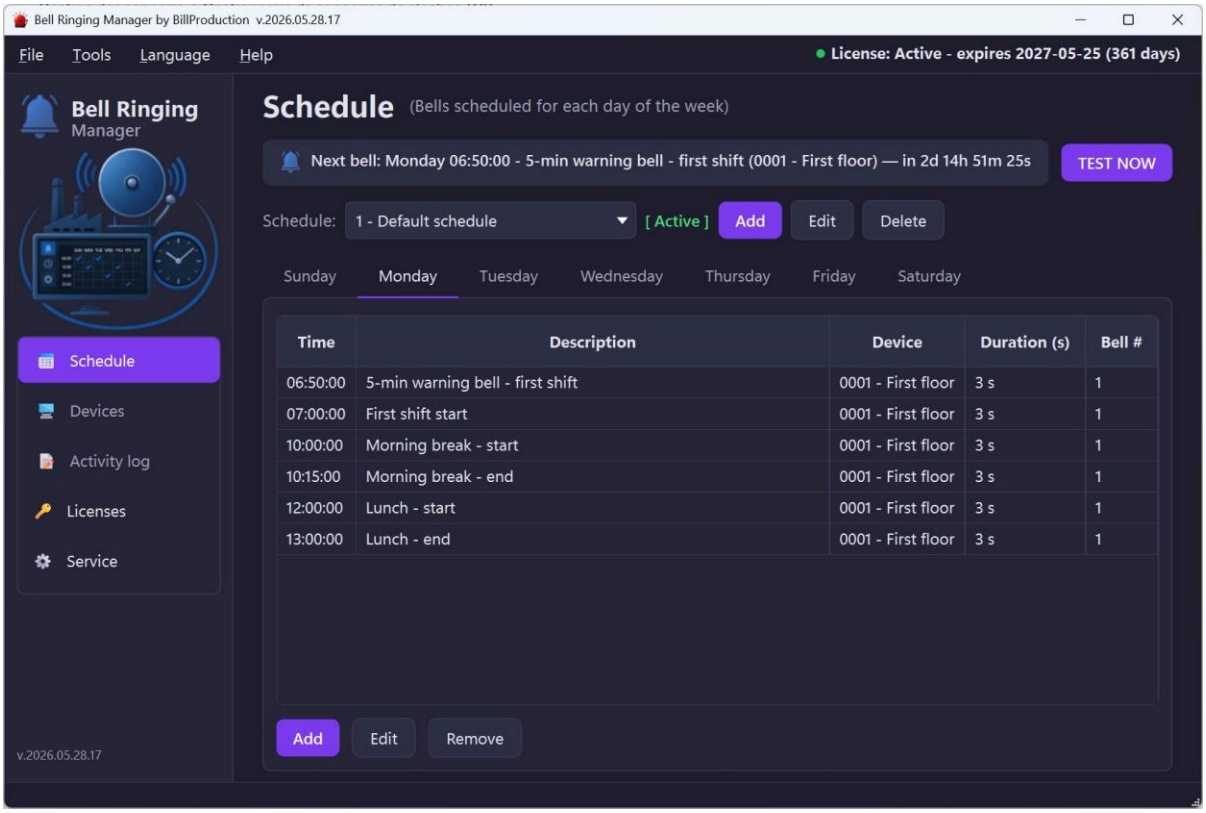


Figure 2 - Schedule page with the default schedule loaded.

Page title

At the top of the page the large "Schedule" title is followed by a short description in parentheses ("Bells scheduled for each day of the week"). The title appears in all five sidebar pages with a similar inline description.

Next bell banner

Just below the title, a banner shows the next scheduled bell along with a live countdown. It updates every second.

- Bell icon on the left.
- Day of week, time, description and device id of the upcoming bell.
- Countdown text (e.g. "in 2d 14h 51m 25s").
- TEST NOW button on the right: immediately fires the next scheduled bell (useful for verifying without waiting).

> **NOTE:** If no event is scheduled, the banner displays "No upcoming bell scheduled" with a silent bell icon.

Schedule selector

Below the banner is the schedule picker row. It lets you switch between schedules and manage them.

- Schedule dropdown - lists all available schedules with their ID and description.
- Status indicator - shown next to the dropdown in brackets:
  - **[Active]** - this schedule always fires.
  - **[Inactive]** - this schedule is paused (events stored but never fire).
  - **[Period 2026-09-01 -> 2026-12-20]** - this schedule fires only between the dates shown (green if active today, gray otherwise).
- Add / Edit / Delete buttons - create, modify or remove a schedule.

> **WARNING:** The default schedule (ID 1) cannot be deleted. Its name and status can be edited, but it must always exist.

Day-of-week tabs

Under the schedule picker, seven tabs (Sunday through Saturday) let you view and edit the events for each day. The currently displayed tab corresponds to the events listed in the table below it.

Events table

Each row represents one bell event scheduled on the selected day. Columns are:

Field	Description
Time	The exact moment the bell rings, in HH:MM:SS format.
Description	A free-text label up to 50 characters (e.g. "5-min warning bell - first shift").
Device	The device ID and description that will produce the bell.
Duration	How long the bell rings, in seconds. Default is 3 seconds.
Bell #	Bell number for multi-bell devices (Symcod relay 1 or 2, Waveshare relay 1 to 8). Use 1 if the device has a single output.

Under the table are three action buttons:

- Add - opens the Bell Event dialog to create a new event.
- Edit - modifies the selected event. With multiple rows selected, edits the first one.
- Remove - deletes the selected event(s). Multi-selection is supported (Ctrl+click, Shift+click).

> **NOTE:** Double-clicking a row also opens it in Edit mode.

Adding a bell event

Click the Add button below the events table. The Bell Event dialog opens:

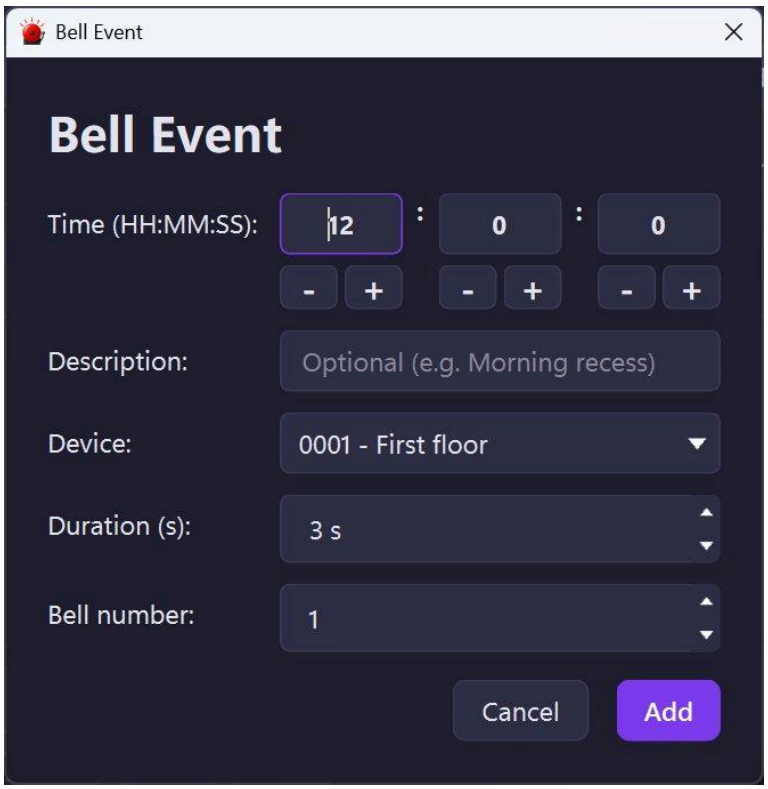


Figure 3 - Bell Event dialog (add mode).

Field	Description
Time (HH:MM:SS)	Hour, minute, second using either direct typing or the - / + buttons under each field.
Description	Optional text (up to 50 characters). Helpful when reviewing the schedule later.
Device	Pick from the dropdown list of configured devices.
Duration (s)	Duration in seconds. Default is 3.
Bell number	Bell number, default 1.

Click Add to save and add the event to the current schedule, or Cancel to discard.

4. Managing schedules

You can create as many schedules as you need. The application supports the following statuses:

Field	Description
Active	Always firing. Use for your normal weekly schedule.
Inactive	Never firing. Use to pause a schedule without losing its events.
Period	Fires only between a start date and an end date (inclusive). Use for exam weeks, summer programs, special events.

NOTE: Multiple active schedules can run in parallel. If the same time, device and bell number appears in more than one active schedule, the application fires only ONE bell to avoid duplicates.

Add a new schedule

Click the Add button next to the schedule dropdown. The Add schedule dialog opens:

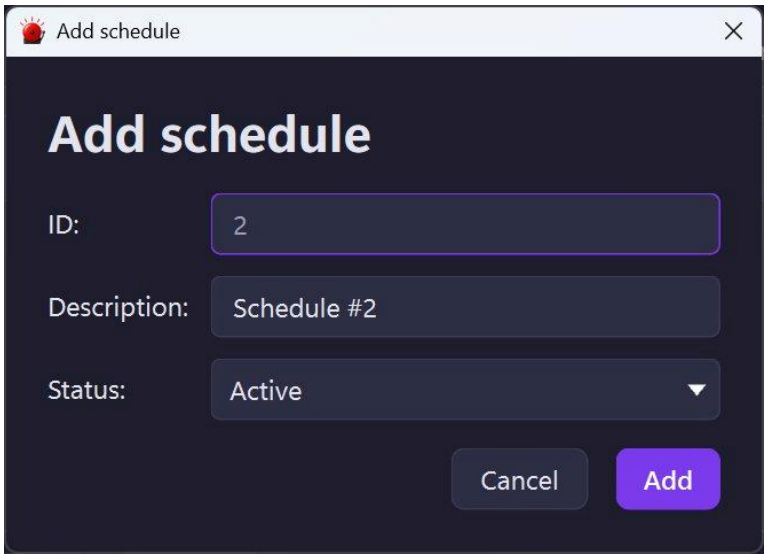


Figure 4 - Add schedule dialog with Active status.

Field	Description
ID	Read-only. Automatically assigned (always greater than 1 for new schedules).
Description	A descriptive name (up to 50 characters).
Status	Active, Inactive or Period.
Start date	Only when status is Period. The first day the schedule fires.
End date	Only when status is Period. The last day the schedule fires (inclusive).

When you choose the Period status, two date fields appear with a small calendar icon for date picking. The schedule will only fire bells on days that fall within the Start date and End date (inclusive).

Edit a schedule

Select the schedule in the dropdown, then click Edit. The dialog opens with the current values pre-filled. You can change the description, status and dates - the schedule's events are untouched.

Delete a schedule

Select the schedule, then click Delete. A confirmation dialog appears showing the number of events the schedule contains. Confirming permanently removes the schedule and all its events.

> **WARNING:** Deleting a schedule cannot be undone. If you only want to pause it temporarily, change its status to Inactive instead.

Copy a day between schedules

From the Tools menu, choose Copy day... to clone events from one day to another - across schedules if needed. The dialog has two sections:

- Source - pick the source schedule and the day to copy from.
- Destination - pick the destination schedule and check one or more days to receive the copy.

> **NOTE:** Events on the selected destination day(s) are replaced. If source and destination are the same schedule, the source day is automatically grayed out in the destination list.

Copy a whole schedule

From the Tools menu, choose Copy schedule to another... to replace the events of one schedule with a copy from another. The destination schedule's description, status and dates are preserved - only the events are replaced.

This is useful for example to base an "Exam week" schedule on the regular schedule and then make a few adjustments.

5. Devices page

The Devices page lists the network-connected hardware that produces the actual bell sound. Every event you create on the Schedule page references one of these devices.

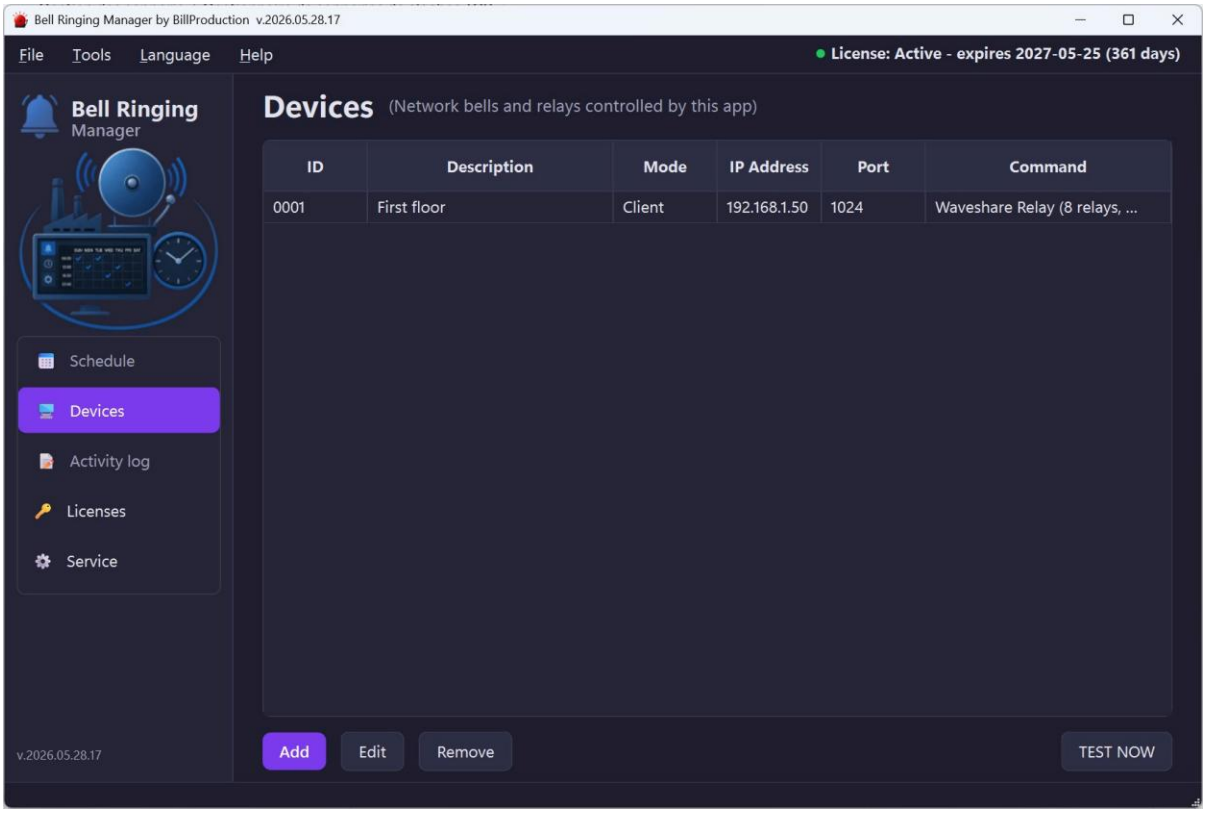


Figure 5 - Devices page.

Devices table

Field	Description
ID	A short identifier you assign (typically 4 characters, e.g. 0001, BLDG-A).
Description	A human-readable label shown alongside the ID throughout the app (up to 50 characters).
Mode	Client (this app initiates the TCP connection to the device) or Host (the device connects to this app - rarely used).
IP Address	The device's IP on your local network (Client mode only).
Port	TCP port (e.g. 1024 for Symcod Bridge-IP, manufacturer-specific for others).
Command	For Generic devices, the raw hex command sent on the wire (e.g. FF 01 02). For Symcod and Waveshare devices, this column shows the

Field	Description
	device type name - the command is auto-generated from the event's bell number and duration.

Action buttons

Below the table:

- Add - create a new device.
- Edit - modify the selected device. With multiple rows selected, edits the first one.
- Remove - delete the selected device(s). Multi-selection supported.
- TEST NOW - fire the selected device immediately (uses bell number 1 and a short duration). Use this for quick verification of an already-saved device.

Adding a device

Click Add to create a new device. The Device dialog opens:

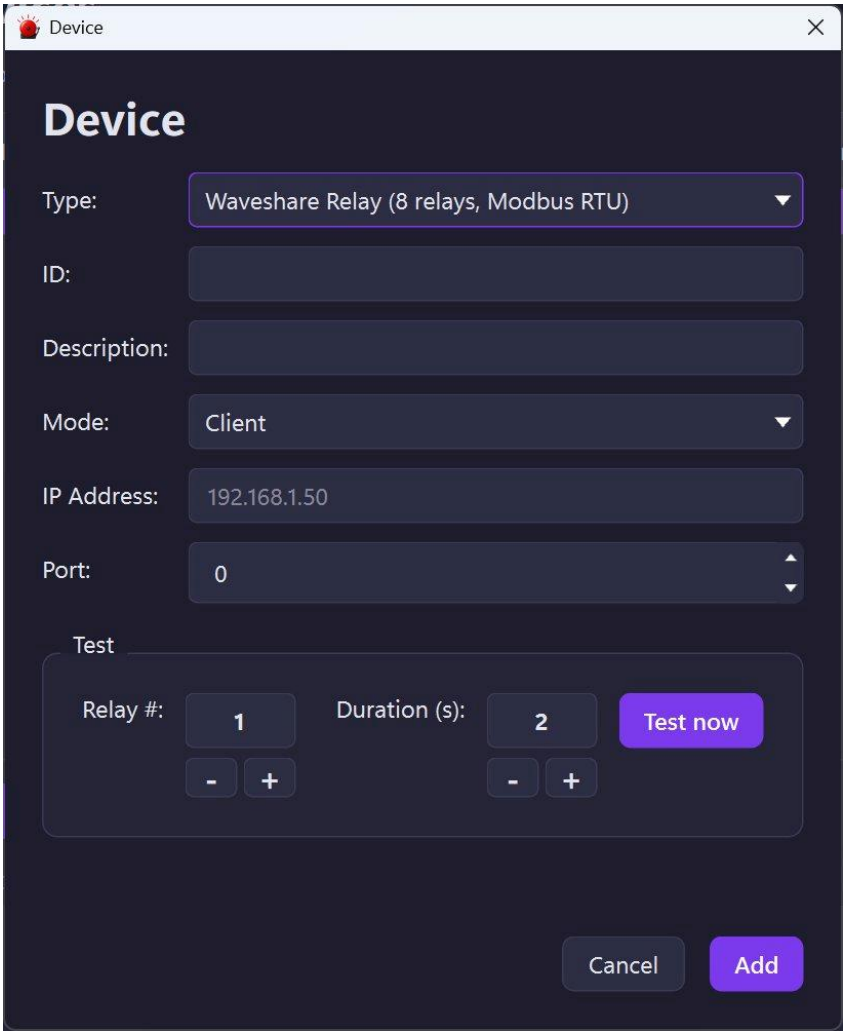


Figure 6 - Device dialog (Waveshare type).

Field	Description
Type	Generic (custom hex command), Symcod Bridge-IP (2 relays), or Waveshare Relay (8 relays, Modbus RTU).
Command	Visible only for Generic devices. Enter the hex bytes to send (e.g. FF 01 02). Hidden for Symcod and Waveshare types because the command is auto-built per event.
ID	Unique short identifier (max 16 characters).
Description	Human-readable label (max 50 characters).
Mode	Client (most common) or Host.
IP Address	Device IP for Client mode. Hidden in Host mode.
Port	TCP port. Default 1024 for Symcod, varies for others.

Test (in the Device dialog)

A Test section at the bottom of the Device dialog lets you fire the device immediately without saving the configuration:

- Relay # - the relay number to activate (1 for single-relay devices).
- Duration (s) - how long to keep the relay closed.
- Test now button - sends the command using the values currently entered in the dialog above.

When you click Test now, a progress bar fills over a maximum of 3 seconds. The result is shown next to the bar:

- **Green check** - the device responded successfully.
- **Red cross** - the device did not respond (timeout) or returned an error. Check the Activity log page for details.

NOTE: The 3-second timeout applies to TCP connect. A non-responding device never freezes the application - other schedules and devices continue working normally.

Editing and deleting devices

WARNING: When you delete a device, events that reference it remain in the schedule but will fail at runtime (the activity log will report "device not found"). The application warns you with a count of affected events before deletion.

6. Activity log page

The Activity log page (third entry in the sidebar) shows a real-time chronological list of everything the application does: bells fired, network successes and failures, configuration changes, license events, etc.

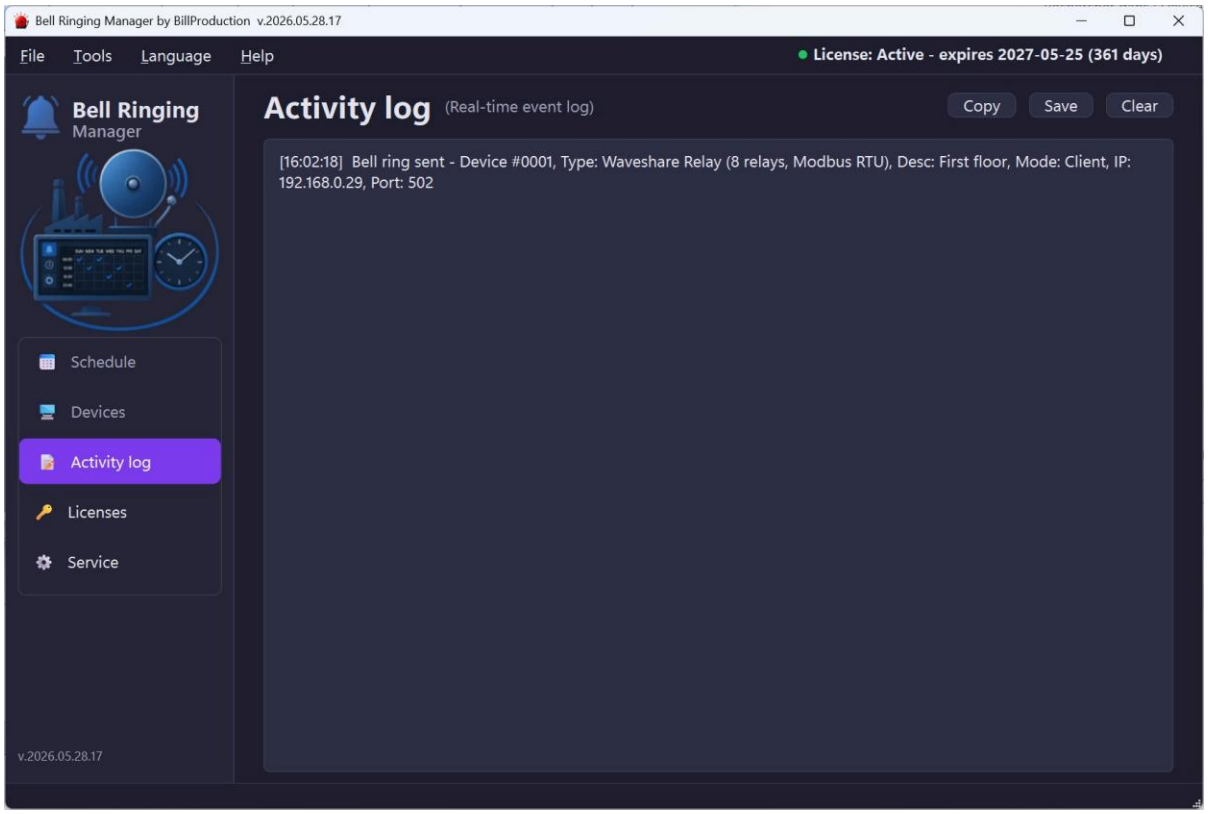


Figure 7 - Activity log page.

Layout

The page is a single full-screen log view. At the top right are three buttons:

Field	Description
Copy	Copies the entire log to the clipboard so you can paste it into an email, ticket, or text file.
Save	Saves the log to a .txt file. A standard "Save as" dialog opens with a suggested filename that includes a timestamp (e.g. BellRingingManager_log_2026-05-28_16-30-15.txt). The file is encoded as UTF-8 with a BOM so accented characters appear correctly in Notepad.
Clear	Clears the log on screen. The file (if you saved one) is unaffected.

Log entry format

Each entry starts with a [HH:MM:SS] timestamp followed by a free-text description. Example bell-fire entry:

[16:02:18] Bell ring sent - Device #0001, Type: Waveshare Relay (8 relays, Modbus RTU), Desc: First floor, Mode: Client, IP: 192.168.0.29, Port: 502

NOTE: The log is kept in memory only. To preserve it across restarts, click Save and store the .txt somewhere safe. The log is shared between the GUI and the Windows Service - when both run, the GUI receives a copy of every event the service logs.

7. Licenses page

Bell Ringing Manager requires a license to operate. Each license is tied to a specific PC via its hardware identifier (PC ID).

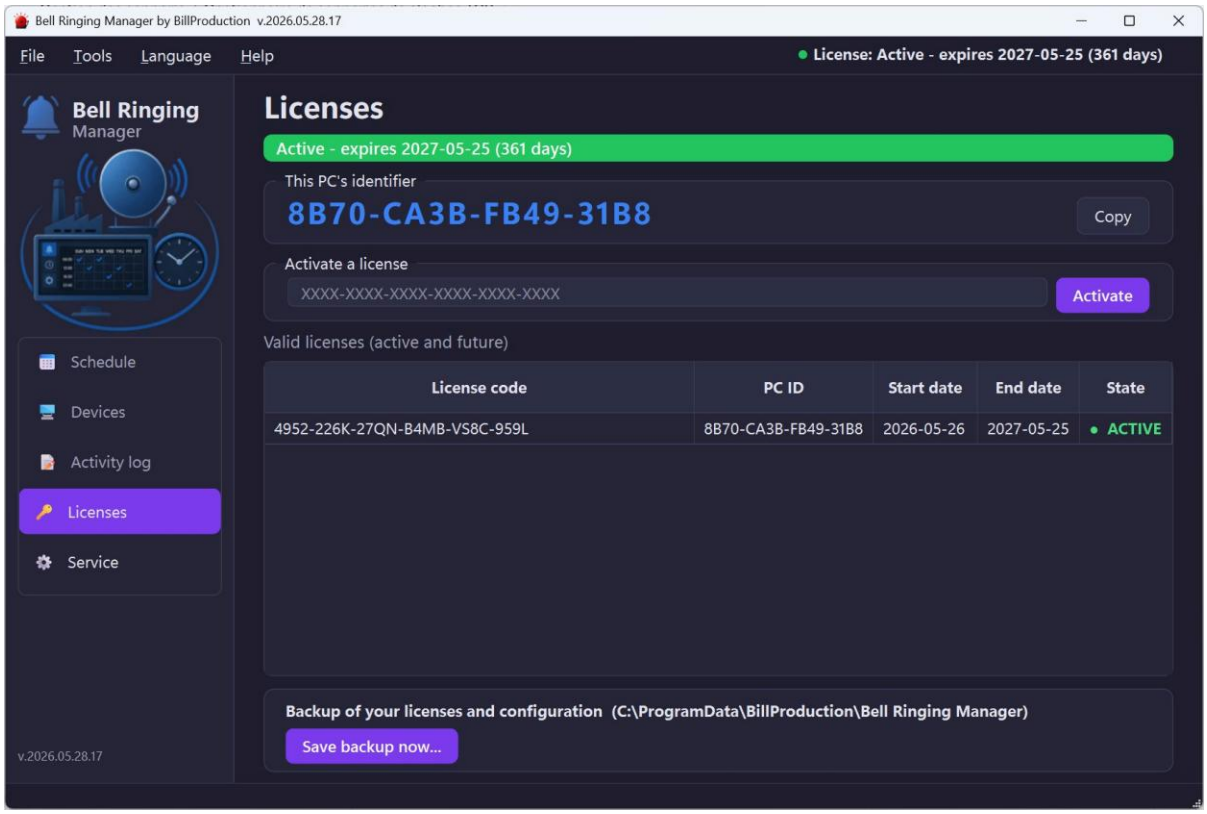


Figure 8 - Licenses page with an active license.

Status banner

The colored banner at the top of the page summarizes the current license state. This is the SAME text that appears in the menu-bar "License:" indicator at the top right of every page (only the prefix differs):

Field	Description
Active	A valid license is active. The banner shows the expiry date and number of remaining days.
Expires soon (warning)	License expires within 30 days. Plan to renew.
Trial mode	No license active - the application runs for a 15-minute trial period with a live countdown.
Expired / blocked	No commands will be sent. Activate a new license code to resume operation.

This PC's identifier

The PC ID is a unique 16-character code identifying this computer. It is required to generate a license code for this machine.

- Click the Copy button on the right to copy the PC ID to the clipboard.
- Send the PC ID to your vendor; they will return a license code that matches.

Activating a license

Paste your license code (24 characters, formatted XXXX-XXXX-XXXX-XXXX-XXXX-XXXX) into the input field and click Activate. If the code is valid for this PC, it appears in the table below and the banner turns green.

Valid licenses table

Lists all valid licenses currently stored on this PC (active and future). Columns are:

Field	Description
License code	The 24-character code as entered.
PC ID	The PC identifier the license is bound to. Should match this PC's identifier.
Start date	First day the license is valid.
End date	Last day the license is valid.
State	Active, Future, Expired or Other PC.

Backup

Click Save backup now... to create a ZIP archive containing your full configuration and license files. The archive is saved to a location you choose. Keep a copy in a safe place (USB key, network share, cloud drive).

> **NOTE:** The backup includes config.json, all license records and the activity log file (if you previously saved one). Restoring is as simple as extracting the ZIP into %PROGRAMDATA%\BillProduction\Bell Ringing Manager.

8. Windows Service

To ring bells reliably 24/7 - even when no user is logged in - you can install Bell Ringing Manager as a Windows service. The service runs in the background, reads the same configuration file, and fires the schedule independently of the visible application window.

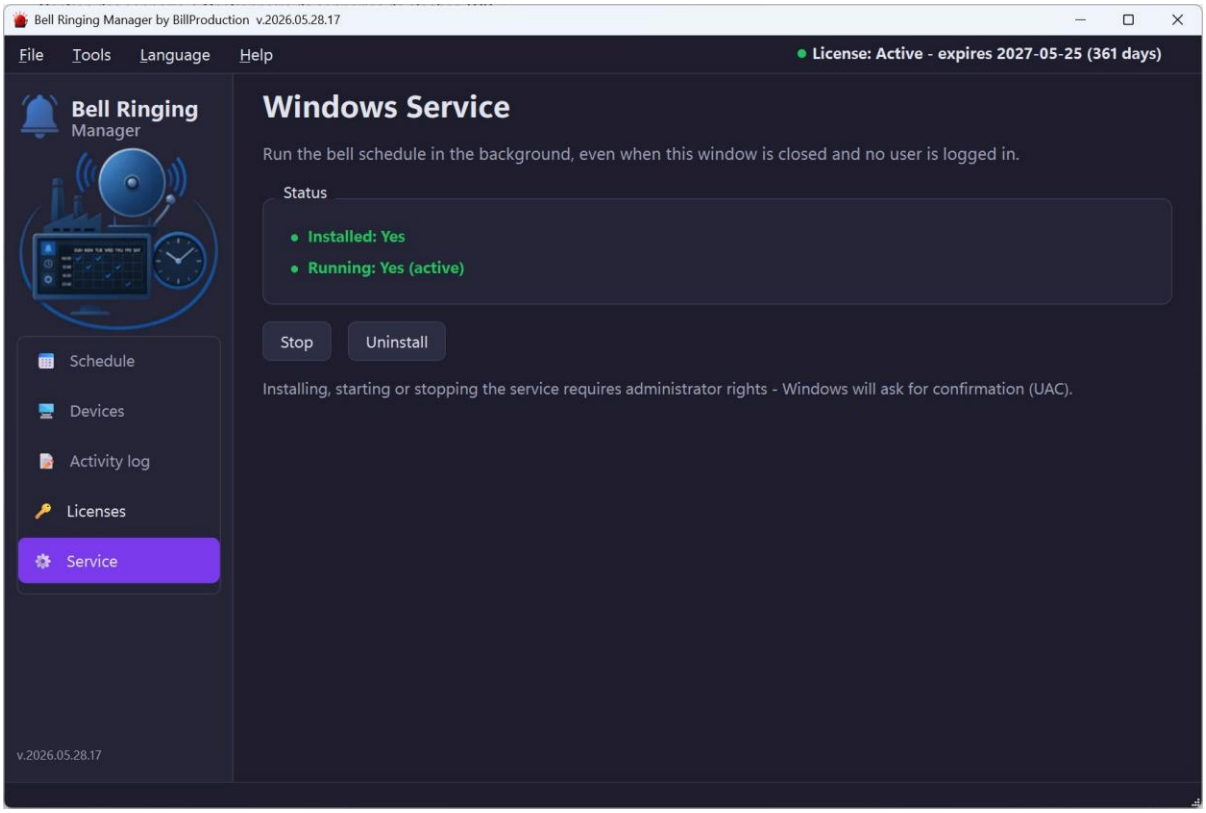


Figure 9 - Service page with the service installed and running.

Status panel

Two indicators show the current state of the service:

- **Installed: Yes / No** - whether the service is registered with Windows.
- **Running: Yes / No / -** - whether the service is actively running. Shows "-" when the service is not installed.

Action buttons

Visible buttons change based on the current state:

Field	Description
Install	Not installed - registers the service with Windows. Requires UAC confirmation.
Start	Installed, stopped - launches the service.

Field	Description
Stop	Installed, running - stops the service. Bells will no longer ring until you start it again or run the application.
Uninstall	Installed - unregisters the service. Stops it first if it is running.

WARNING: Installing, starting or stopping the service requires administrator rights. Windows will display a UAC confirmation prompt when you click these buttons.

Coordination between the application and the service

When both the desktop application AND the service are running, the application detects this automatically and steps aside to let the service handle the scheduled bells. This avoids double-rings.

When the service is stopped (or not installed), the application takes over and fires bells while its window is open.

NOTE: The service uses the same config.json file that the application edits, so any changes you make in the application (events, devices, schedules) are picked up by the service within a few seconds.

Installation via the installer

The Inno Setup installer (BellRingingManagerSetup.exe) automatically installs and starts the Windows service during installation, configured for automatic start-up at every Windows boot - even before any user logs in. The service runs under the LocalSystem account.

9. The Tools menu

Copy day...

Open a dialog to copy events from one day to one or more other days, optionally across schedules. See Section 4 (Managing schedules) for details.

Copy schedule to another...

Open a dialog to copy ALL events from one schedule into another. The destination's description, status and dates are preserved - only the events are replaced.

Import Symcod configuration...

Import a legacy Symcod configuration (CLOCHE.1 through CLOCHE.7 files). The application:

1. Auto-detects standard locations (C:\symcod.cfg\TCP_LIB_IP, billproduction folders) and asks for confirmation.
2. Falls back to a folder picker if no standard location is found.
3. Parses the files, summarizing how many events and new devices will be created.
4. On confirmation, REPLACES all events of the currently selected schedule with the imported set and auto-creates devices for any new terminal IDs.

Auto-created devices have these defaults:

Field	Description
Type	Symcod Bridge-IP
Port	1024
IP address	192.168.1.100 (placeholder - you must edit each one with the real IP)
Mode	Client
Description	"Terminal <ID> (Symcod import)"

WARNING: The Symcod import replaces the currently selected schedule's events. If you want to keep the existing schedule, add a new schedule first and select it before running the import.

Install service / Uninstall service

Shortcuts to the same Install / Uninstall buttons available on the Service page. See Section 8.

10. The File menu

Import schedule...

Import events from a CSV or XLS file into the currently selected schedule. The application detects the format from the file extension. When opening the file, you are asked whether to:

- Replace - drop existing events and load the imported ones.
- Add - keep existing events and append the imported ones.
- Cancel - abort the import.

Export schedule...

Export the events of the currently selected schedule to a CSV or XLS file. A small dialog first asks which format you want, then a standard save-file dialog asks for the location.

> **NOTE:** Export uses the currently displayed schedule only. To back up all schedules at once, use the Backup feature on the Licenses page instead.

Exit

Close the application. If the Windows Service is installed and running, bells continue to fire normally.

11. Language settings

Bell Ringing Manager supports three interface languages:

- English (default)
- French / Français
- Spanish / Español

To change the language, open the Language menu in the menu bar and select your preferred language. The change is applied instantly to every visible element: menus, dialogs, table headers, status labels, banners, the next-bell countdown, the schedule and device dialogs, and the license indicator at the top right of the menu bar.

> **NOTE:** Your language choice is saved in the configuration file, so the application will reopen in the same language next time.

12. Troubleshooting

A bell did not ring at its scheduled time

Click the Activity log entry in the sidebar to see what happened. Common causes:

- No valid license (LED next to "License:" in the menu bar is red or gray; banner on the Licenses page confirms).
- The device IP is wrong or the device is offline (look for network error 10060 in the log).
- The schedule's status is Inactive, or it is a Period schedule outside its date range.
- The event's "enabled" flag was unset (rare; events are enabled by default).
- The application is closed AND the service is not installed/running.

"Network error 10060"

This means the application tried to connect to a device but received no response within the 3-second timeout. Verify:

- The device is powered on and connected to the network.
- The device IP address is correct.
- No firewall blocks the connection from this PC to the device.
- You can ping the device from this PC: open a Command Prompt and type "ping 192.168.1.50" (substitute the actual IP).

The application freezes briefly when sending a command

This should not happen with current versions. If it does, open the Activity log page, click Save to capture the log, and send the file to your vendor.

The service does not start

Make sure you have administrator rights. Open the Services console (services.msc) and look for "BellRingingManagerSvc". If it is in the "Stopped" state with no clear error, check the Windows Event Viewer for application logs.

I lost my license code

Restore from your latest backup ZIP (the licenses are stored in the same configuration folder). If you have no backup, contact your vendor with your PC ID to request a replacement.

Resetting to factory defaults

Close the application, then delete:

- %PROGRAMDATA%\BillProduction\Bell Ringing Manager\config.json (your devices and schedules)
- %PROGRAMDATA%\BillProduction\Bell Ringing Manager\licenses.dat (your activated licenses)

On next startup, the application will recreate a fresh default schedule and prompt you to activate a license.

> **WARNING:** Resetting the configuration deletes all events, devices and schedules permanently. Always take a backup first.

13. Appendix

File system locations

Field	Description
Installation	C:\Program Files\BillProduction\Bell Ringing Manager
Configuration	%PROGRAMDATA%\BillProduction\Bell Ringing Manager\config.json
Licenses	%PROGRAMDATA%\BillProduction\Bell Ringing Manager\licenses\
Service logs	Windows Event Log under "Application" with source "BellRingingManagerSvc"

Supported device types

Field	Description
Generic	Sends a raw hex command on TCP connect. Use for any device that accepts a fixed byte sequence.
Symcod Bridge-IP	2-relay TCP/IP bridge. Default port 1024. Command auto-built from event's bell number and duration.
Waveshare Relay	8-relay Modbus RTU over TCP. Command auto-built from event's bell number and duration.

Keyboard shortcuts

Field	Description
Ctrl+click	Add or remove a row from the current selection (in any list).
Shift+click	Select a range of consecutive rows.
Ctrl+A	Select all rows in the current table.
Double-click on row	Open the row in Edit mode.
Alt+F4	Close the application window.

Contact and support

For technical support, license renewal, or feature requests, contact:

BillProduction

Email: info@billproduction.com

Website: https://bellalarm.billproduction.com/

Version history

Version 2026.05.28.17 - Multi-schedule support, JSON configuration, multi-row selection in tables, dedicated Activity log page, menu-bar license indicator with colored LED, compact Licenses page, parenthesized page subtitles, install via Inno Setup with automatic Windows service installation and auto-start at boot, full FR/EN/ES translation.