Chyron

# ZXY TRACKING
# Race Day Workflow

SINCE DAY ONE.

# ZXY TRACKING

# Race Day Workflow

## Version 2.0

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# REVISIONS

| Rev | Description | Who | Date |
|---|---|---|---|
| 1.0 | Rework of all documentation | Stian Dahl | 2022-05-04 |
| 1.1 | Added instructions to 🅿️ Start transponders | Stian Dahl | 2023-02-02 |
| 1.2 | Updated firmware and 🅿️ Checking transponders | Stian Dahl | 2023-09-28 |
| 1.3 | Updates and refactoring | Stian Dahl | 2024-02-16 |
| 1.4 | Added daily check for Operators to check graphics server | Stian Dahl | 2024-02-19 |
| 2.0 | Rewrite/rebrand to Chyron | Stian Dahl | 2025-06-20 |

# DOCUMENT AND SOFTWARE VERSIONS

This document is valid for the following versions of the ZXY TRACKING components.

| Component | Version |
|---|---|
| ZXY Transponder Info | 2.0.0-99adc7e |
| ZXY Transponder Firmware | B18DDD00 |
| Coordinator | rikstoto-2021.06.01-0-g008d9ac |
| Caprino | v0.1.16-5c7aea4 |
| HTS Bridge | |
| Chyron Prime | 3.7.3.300 |

# ZXY TRACKING RACE DAY WORKFLOW

This document provides a detailed overview of the workflow during a race day.

## Roles and Responsibilities

Responsibilities are categorized into four distinct roles:

| | | | |
|---|---|---|---|
| 🅿️ | **PR** | = | **Personnel at the race track** |
| 🅾️ | **LS** | = | **Operator and live support** |
| 📞 | **RS** | = | **Remote support expert** |
| 🔧 | **ES** | = | **Engineering support team** |

Each task outlined in this document is associated with a specific responsible role.
In the event of an issue or if the designated tasks cannot be executed, the individual assigned to the responsible role must reach out to the remote support expert 📞 **RS**.
The 📞 **RS** will then assume responsibility for troubleshooting to resolve the issue.
If the 📞 **RS** is unable to resolve the issue, they are responsible for escalating it to the engineering support team 🔧 **ES**, who will then take charge of the troubleshooting process.

Details regarding the methods of contacting support and the corresponding response times are outlined in the SLA/SQA document.

# Between race days

## 📅 Daily

### 🅿️ Check transponders

Verify transponder charging by observing the LED status indicator:

- **Pulsating orange:** Charging
- **Constant green:** Charging complete

| Transponder LED charging patterns |
| --- |
| **Pulsating orange**<br>  <br>Charging batteries |
| **Constant green**<br>  <br>Charging complete |

### 🅾️ Check graphics server

- Verify remote connection.
- Monitor computer health (HDD, memory, CPU).
- Verify Prime responsiveness.

### 📞 Check tracking system

- Verify tracking systems uptime, stability, power, connection, and device status for all race tracks.
- Ensure cloud platform data delivery is functioning correctly.

# Before the races

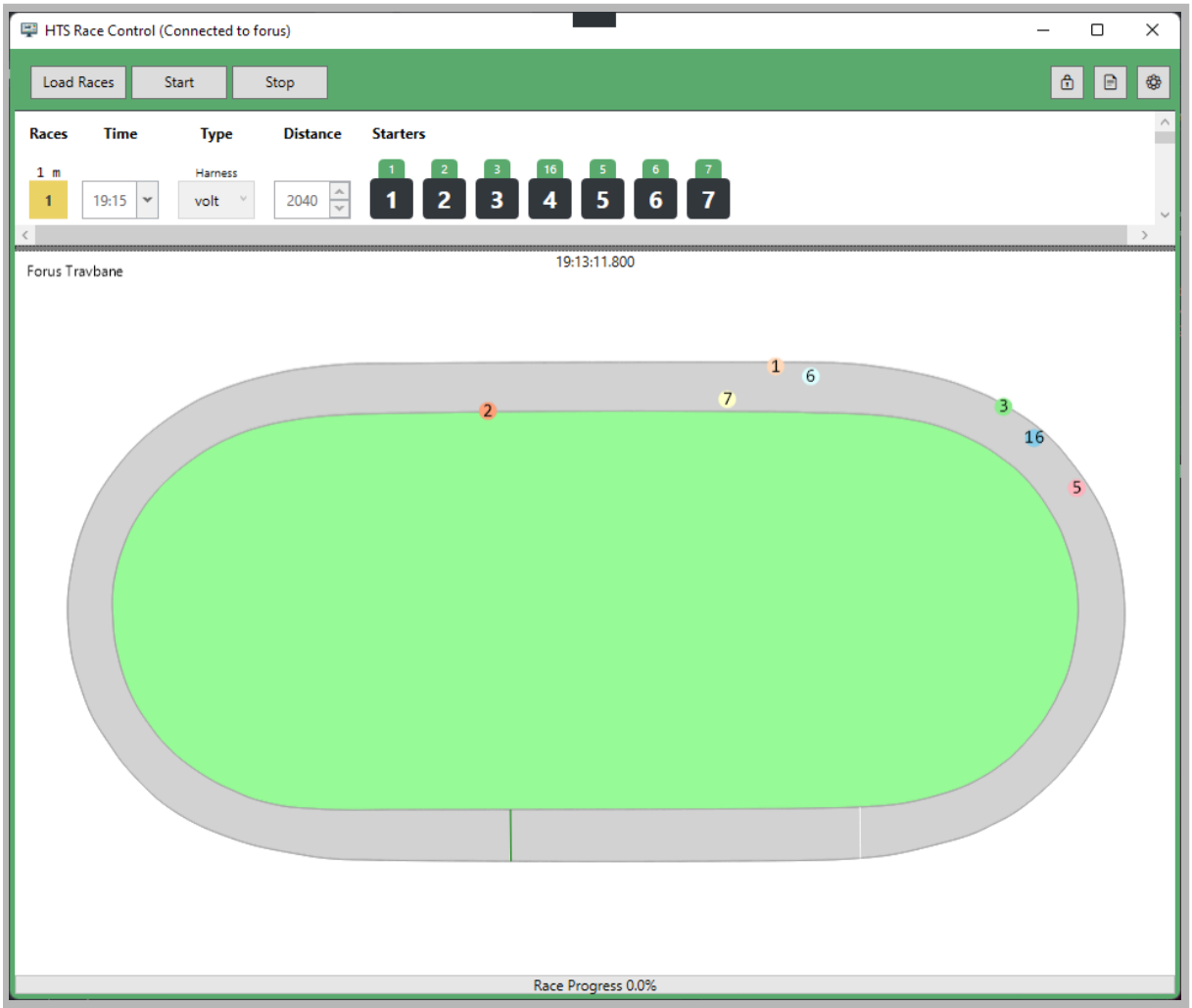
## ⏱️ 2 Hours before the first race

### ⭕ Check tracking system status

- Log in to the **ZXY Transponder Info** for the relevant track (E.g. http://bjerke.zxy.no)
- Check the system for errors, which are indicated by a red flashing icon next to the logo.
- If this icon is flashing, navigate to the **System** tab to identify the problematic service.

### ⭕ Prepare tracking server

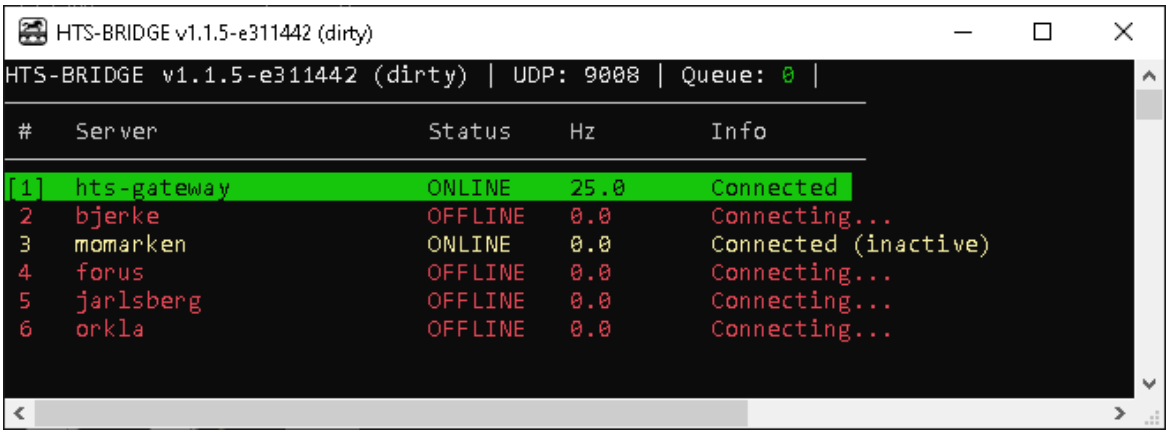
- Start **Caprino**
    - Make sure there are no errors on startup.
- Start **HTS Race Control**
    - Make sure it's connected to Caprino
    - Download the race schedule by pressing "Load Races"
    - If needed, do any transponder swaps.
        - click the number above the start number button
        - select the transponder number




HTS Race Control

## 🅾️ Prepare graphics server

- Launch **Chyron PRIME** with the appropriate settings.
  - Choose the track name, race type, colors, and other elements for the graphics layout.
- Launch **HTS Bridge**
  - Make sure it is running and has selected the relevant server (track).
  - If everything is **OFFLINE**, check the VPN status.
  - If the target server is **OFFLINE**, make sure **Caprino** is running on that tracking server.
  - The Hz should be stable at **25**
  - If problems persist or are not resolved, contact 🔧 **ES**




## ⏱️ 30 Minutes before the first race

### 🅿️ Check in

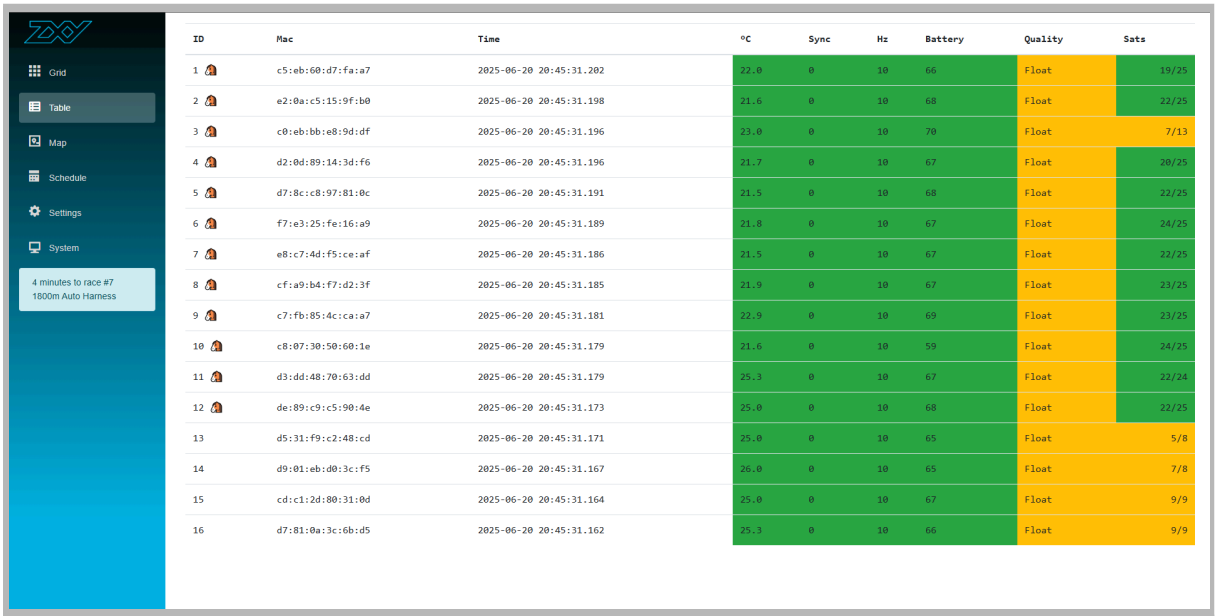
- Check in with 🅾️ so they know who is working today.

### 🅿️ Start transponders

- Activate the transponders by holding the power button for one second.
- Bring the Transponders outside with a clear view to the sky
- Verify that the LED starts to blink green.

### 🅾️ Verify transponder status

- Log in to the **ZXY Transponder Info** and verify that the Transponders are working by looking at the **Table** view
    - The Time should be updated from today
    - The Hz should be ~10
    - The Temperature should be below 50 °C
    - The Battery should be above 80%
- In the case of a malfunctioning Transponder, contact 🅿️ for troubleshooting.
    - Tell 🅿️ to hold down the power button for at least 3 seconds to do a hard reboot of the Transponder.
    - If the problem persists, communication must be done between the live support and personnel at the race track on which transponder ID should be used as a replacement.




| ID | Mac | Time | °C | Sync | Hz | Battery | Quality | Sats |
|---|---|---|---|---|---|---|---|---|
| 1 | c5:eb:60:d7:fa:a7 | 2025-06-20 20:45:31.202 | 22.0 | 0 | 10 | 66 | Float | 19/25 |
| 2 | e2:0a:c5:15:9f:b0 | 2025-06-20 20:45:31.198 | 21.6 | 0 | 10 | 68 | Float | 22/25 |
| 3 | c0:eb:bb:e8:9d:df | 2025-06-20 20:45:31.196 | 23.0 | 0 | 10 | 70 | Float | 7/13 |
| 4 | d2:0d:89:14:3d:f6 | 2025-06-20 20:45:31.196 | 21.7 | 0 | 10 | 67 | Float | 20/25 |
| 5 | d7:8c:c8:97:81:0c | 2025-06-20 20:45:31.191 | 21.5 | 0 | 10 | 68 | Float | 22/25 |
| 6 | f7:e3:25:fe:16:a9 | 2025-06-20 20:45:31.189 | 21.8 | 0 | 10 | 67 | Float | 24/25 |
| 7 | e8:c7:4d:f5:ce:af | 2025-06-20 20:45:31.186 | 21.5 | 0 | 10 | 67 | Float | 22/25 |
| 8 | cf:a9:b4:f7:d2:3f | 2025-06-20 20:45:31.185 | 21.9 | 0 | 10 | 67 | Float | 23/25 |
| 9 | c7:fb:85:4c:ca:a7 | 2025-06-20 20:45:31.181 | 22.9 | 0 | 10 | 69 | Float | 23/25 |
| 10 | c8:07:30:50:60:1e | 2025-06-20 20:45:31.179 | 21.6 | 0 | 10 | 59 | Float | 24/25 |
| 11 | d3:dd:48:70:63:dd | 2025-06-20 20:45:31.179 | 25.3 | 0 | 10 | 67 | Float | 22/24 |
| 12 | de:89:c9:c5:90:4e | 2025-06-20 20:45:31.173 | 25.0 | 0 | 10 | 68 | Float | 22/25 |
| 13 | d5:31:f9:c2:48:cd | 2025-06-20 20:45:31.171 | 25.0 | 0 | 10 | 65 | Float | 5/8 |
| 14 | d9:01:eb:d0:3c:f5 | 2025-06-20 20:45:31.167 | 26.0 | 0 | 10 | 65 | Float | 7/8 |
| 15 | cd:c1:2d:80:31:0d | 2025-06-20 20:45:31.164 | 25.0 | 0 | 10 | 67 | Float | 9/9 |
| 16 | d7:81:0a:3c:6b:d5 | 2025-06-20 20:45:31.162 | 25.3 | 0 | 10 | 66 | Float | 9/9 |

**ZXY Transponder Info - Table View**

### ⭕ Check in with Production

- Check in to the **slack channel** and inform if everything is working as intended.
    - In case of any malfunction, give status updates on the troubleshooting progress.

## ⏱️ 10 Minutes before the first race

### 🅿️ Attach transponders

- Gather the Transponders that will be used in the upcoming race.
    - Communicate to the operator ⭕ if you're using any replacement transponders.
    - Make sure the transponders are turned on and that the status indicator is OK.
    - Take the transponders to the designated mounting spot on the race track.
- As the horses enter the race track, attach the correct transponder to the corresponding number plate based on their number.

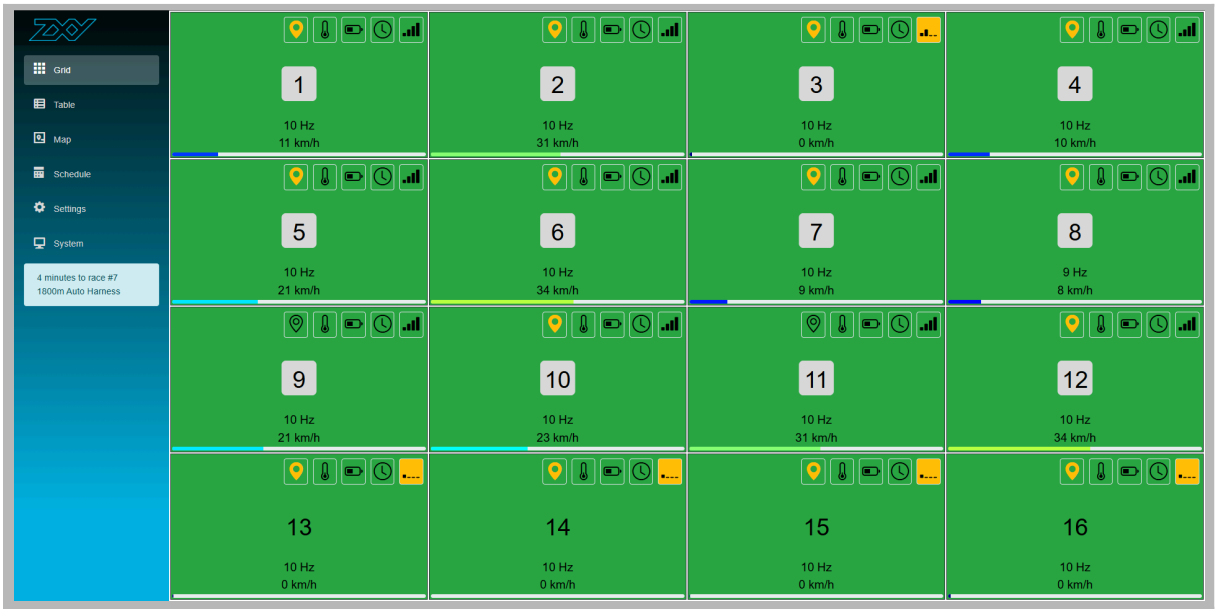
# During the races

## ⏱️ 10 to 5 minutes before each race

### 🅾️ Check transponders

Verify Transponder Functionality:

1. Access the Grid View within **ZXY Transponder Info.**
2. Each cell signifies a Transponder.
3. Cells displaying a horse icon represent Transponders designated for the upcoming race.
4. Confirm all active Transponder cells are green.




**ZXY Transponder Info - Grid View**

## ⏰ For each race

### 🅾️ Monitor race

Continuously monitor status indicators:

- **Connection State:**
  - Green: Connected
  - Red: Disconnected
- **Transponder State:**

    - Green: On the track (data detected)
    - Yellow: Not on the track
    - Red: No data
- **Race State:**
    - Green: Race detected
    - Yellow: Race upcoming
    - Blue: Race finished

Verify that the races are detected automatically.

- If not detected, start manually.

# After the races

## 🏁 When all transponders are collected

### 🅿️ Power off and inspect transponders

- Power off by holding down the power button until the LED stops flashing.
- Clean off any excess dirt and dust
- Check for any damages to the casings
    - In case of any damage, contact 🔧 support for repair.
- Place on the charging station
    - Verify that they are charging

## ABOUT CHYRON

Chyron is ushering in the next generation of storytelling in the digital age. Founded in 1966, the company pioneered broadcast titling and graphics systems. With a strong foundation built on over 50 years of innovation and efficiency, the name Chyron is synonymous with broadcast graphics. Chyron continues that legacy as a global leader focused on customer-centric broadcast solutions. Today, the company offers production professionals the industry's most comprehensive software portfolio for designing, sharing, and playing live graphics to air with ease. Chyron products are increasingly deployed to empower OTA & OTT workflows and deliver richer, more immersive experiences for audiences and sports fans in the arena, at home, or on the go.

## ABOUT ZXY TRACKING

ZXY Tracking is Norwegian based, Chyron's advanced GNSS-based positional and speed tracking system that delivers real-time, centimeter-accuracy data with under 150 ms latency—ideal for live sporting and racing events.

## CONTACT SALES

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