# NAVIPAC

## REMOTE SUPERVISION

Last update: 25/05/2021
Version: 4.5

# Contents

# 1  Introduction to Remote supervision

More companies wanting to control the survey operation from control centre at land, both for unmanned USV operations and more advanced vessel surveys where they have limited expertise onboard.
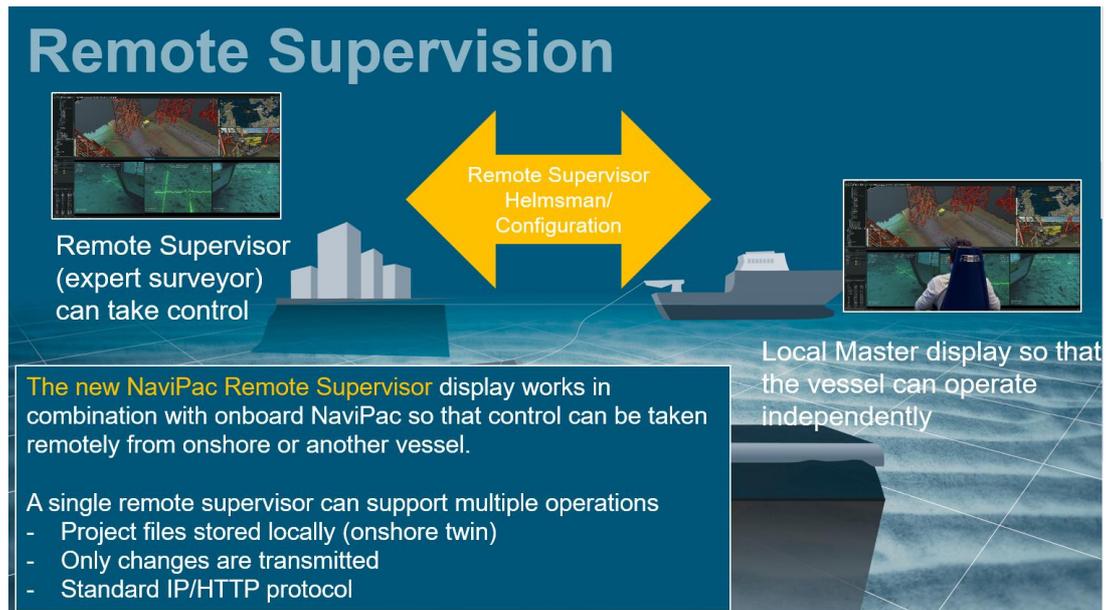


Figure 1 Remote supervision flow

# 2  Workflow

To use the Remote supervision feature, the following actions are required.

A setup consists of two computers:

- **A supervised computer (Survey vessels navigation or USV computer)**
- **A Supervisor computer, onshore computer acting as supervisor**

The remote supervision is done within the Helmsman's display (HMD), where the standard software can connect to any NaviPac as long as it runs on the users internal IP range network.

As soon as the user connects to the server, the Helmsman's Display will start as any ordinary remote, that is via the file sync service download all needed files (project, runlines,

waypoints etc) via HTTPS and receive the live data on the ordinary TCP/IP connection (port 4884). Hereafter the user can switch to become the supervisor:

The HMD modes are

1. **Master**
   The main computer on board the vessel
2. **Remote**
   Any remote connection
3. **Local**
   Not connected to NaviPac – previously known as Line Planner
4. **Supervisor**
   The onshore (or remote) station taking control
5. **Supervised**
   The onboard Master downgraded to Supervised

You will now operate the HMD as on the ordinary master, creating runlines, display lines etc – and when completing upload it back to the onboard system:

## 2.1 Actions to take on the supervised computer

- Install and start **NaviPac**.
  For testing the default project **Test configuration.npp** included in the **NaviPac** installer can be used simulating instruments.

- Enable the **Remoting** feature from the **NaviPac** menu bar / Options
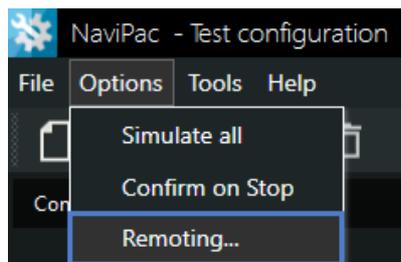


Figure 2 Options Remoting

- The **Remote Settings** view opens, where the computers role can be set.
  In this scenario, choose Master on the supervised computer.
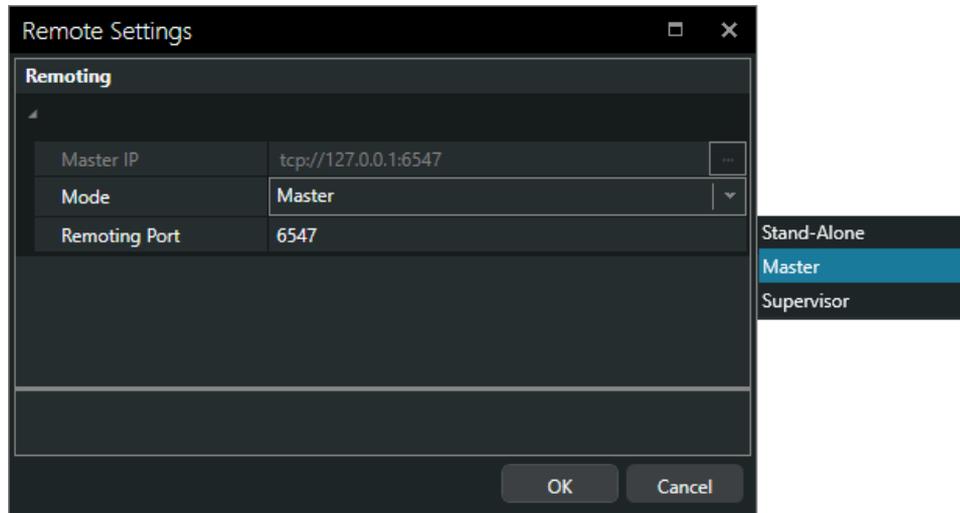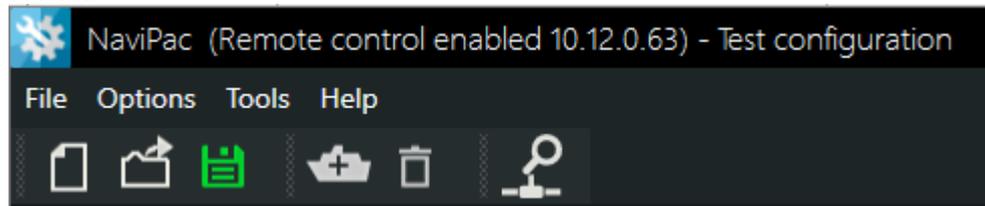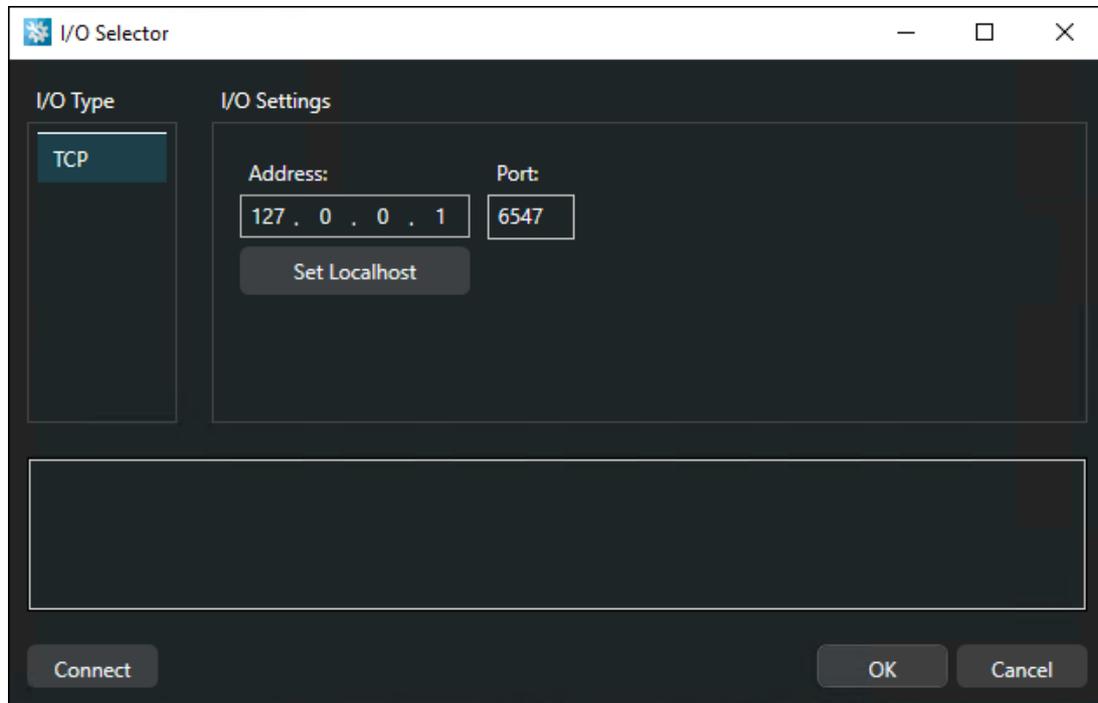- Set the mode to Supervisor and connect

Figure 3 Remote Settings Mode

The options are:

- **Master IP**
  IP address of the computer, default tcp://127.0.0.1:6547
- **Mode**
  **Stand-Alone**: No supervisor computer can access
  **Master**: Allows the supervisor computer to log onto this pc. Enables remote control.



  **Supervisor**: Connect to master
- **Remoting Port**
  Default 6547

Open Helmsman's Display

- Save the project with a sensible name (*.hmp)
- HMD starts in Master Silent mode allowing supervisor to access.
- Should not be silent but in Master mode.

The Silent mode can be started on the Master, or the Remote.

On the Master it stops distribution of the project items, and on the Remote it stops fetching items form the master project.

In both cases there is no syncing.

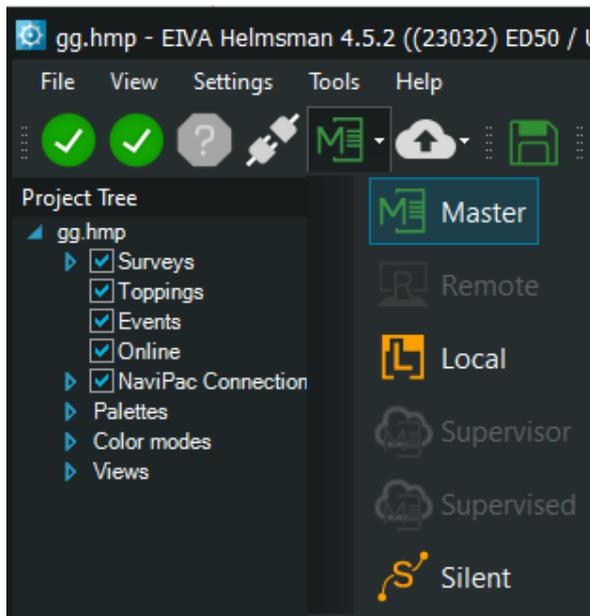Only NaviPac objects are shown, and any item in the users own project file.

Figure 4 Connection bar: Supervised computer with Helmsman's Display set to Master mode

- Check that Helmsman's display is connected to the **NaviPac** connection to the local NaviPac is there.

## 2.2 Actions to take on the supervisor computer

- Install **NaviPac**, Helmsman's display used only.
- Start **Helmsman's display** from the desktop shortcut

- In the Helmsman's Display toolbar, choose the **Connect** option  and connect to the Survey vessel pc.
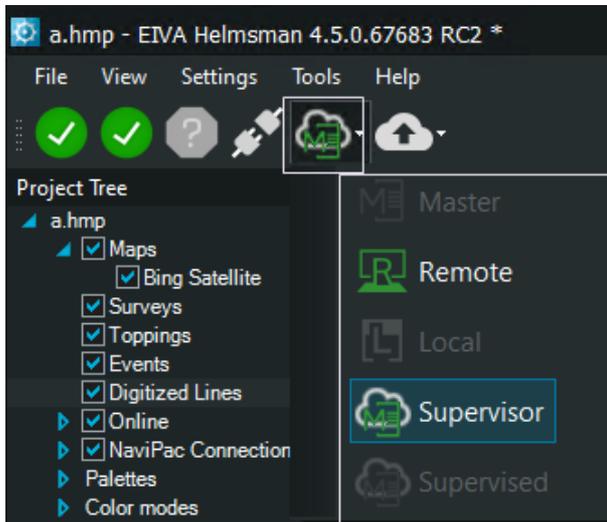- Make this pc the supervisor

Figure 5 Supervisor computer, distribution mode

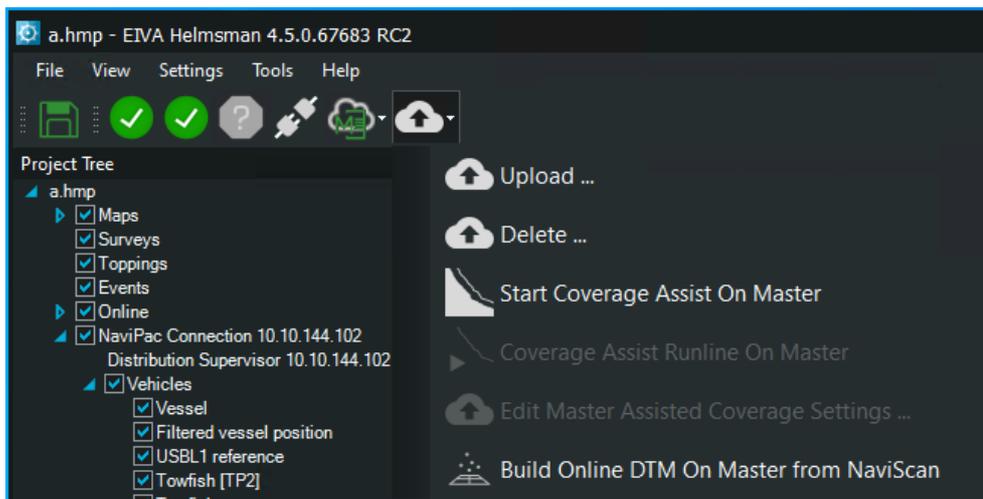- Use the option uploadtomaster to upload runlines, waypoints, etc



Figure 6 Supervisor computer, uploadtomaster options

The HMD will now list all files changed since you to took control and allow you to select what to upload:
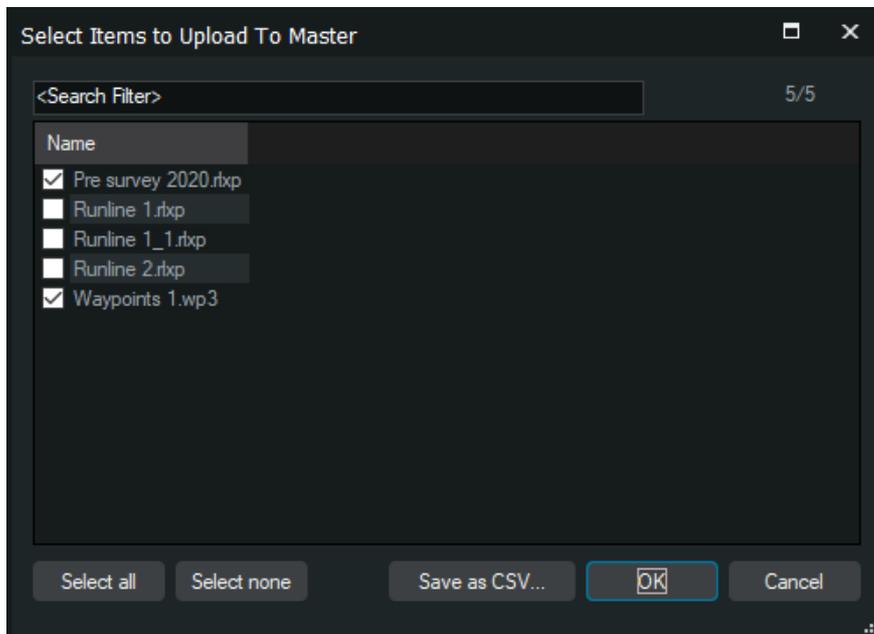
Figure 7 Upload selection

The file and project will now be uploaded to the supervised computer and taken into use right away.

## 2.3 Supervised Master

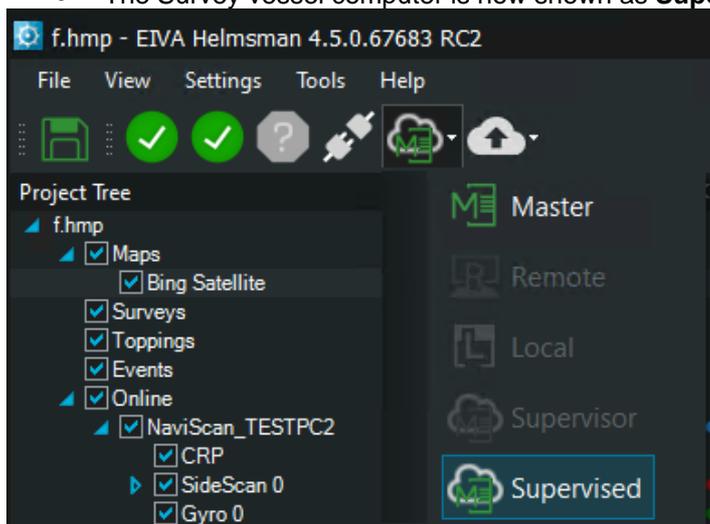- The Survey vessel computer is now shown as **Supervised** computer.



Figure 8 Supervised computer

# 3 Start Logging NaviPac and NaviScan from Vehicle control.

Picture to show the Supervisor mode / pc using Vehicle control.

- Optionally install **NaviScan**.
  Start NaviScan Online. In the Helmsman's display project tree, connect to NaviScan. For testing purposes, replay a test file (Create a playlist and replay an SBD file in a loop)

# 4 Version descriptions

| Version | Date | Author | Description |
|---|---|---|---|
| 4,5 | 25-11-2020 | RJL/ANS | Initial document |
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