

# Raymarine MFD Integration

## 1. Introduction

This document explains how to connect to Raymarine MFDs using an Ethernet connection. The integration technology used is called [LightHouse Apps](#) by Raymarine.

Make sure to also study the [Marine MFD Integration by App chapter in the manual](#).

Note that there is an alternative method to connect, which is NMEA2000. See the [NMEA2000 chapter in the main manual](#).

## 2. Compatibility

The MFD integration is compatible with the Axiom, Axiom Pro and Axiom XL MFDs running on LightHouse 3. The eS & gS Series multifunction displays which have been upgraded to LightHouse 3 are **not** compatible.

Raymarine MFDs need at least LightHouse v3.11 for compatibility, which was released in November 2019.

## 3. Wiring

The MFD needs to be connected to the [GX device](#) using ethernet. It is **not** possible to connect over Wi-Fi. For the ethernet connection, a RayNet adapter is required.

The RayNet adapters can be purchased from Raymarine:

- A62360 - RayNet (F) to RJ45 (M) - 1m
- A80151 - RayNet (F) to RJ45 (M) - 3m
- A80159 - RayNet (F) to RJ45 (M) - 10m
- A80247 - RayNet (F) to RJ45 (F) Adapter
- A80513 - RayNet male to RJ45 adaptor cable

To connect the [GX device](#) to the internet as well, use Wi-Fi. If the Axiom MFD is connected to internet (using Wi-Fi), it will automatically share its connection with the GX device over ethernet.



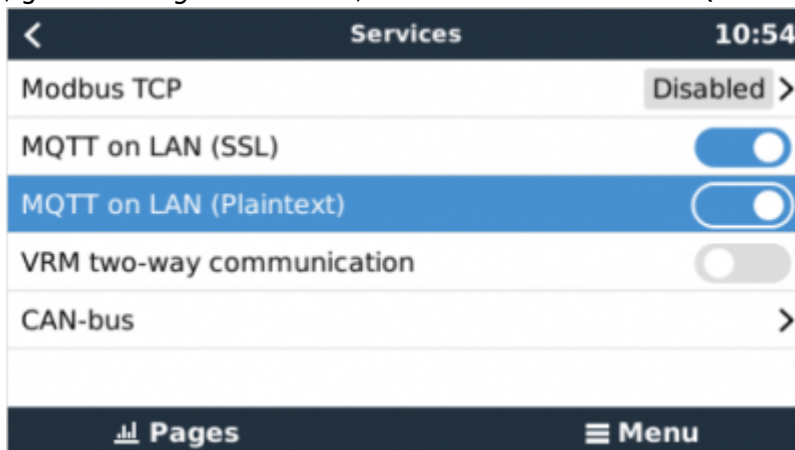
Connecting a Axiom MFD to a network router over Ethernet leads to IP address conflicts, due to the integrated DHCP server.



It is not possible to use a [GX GSM](#), due to the integrated DHCP server of the Axiom MFD.

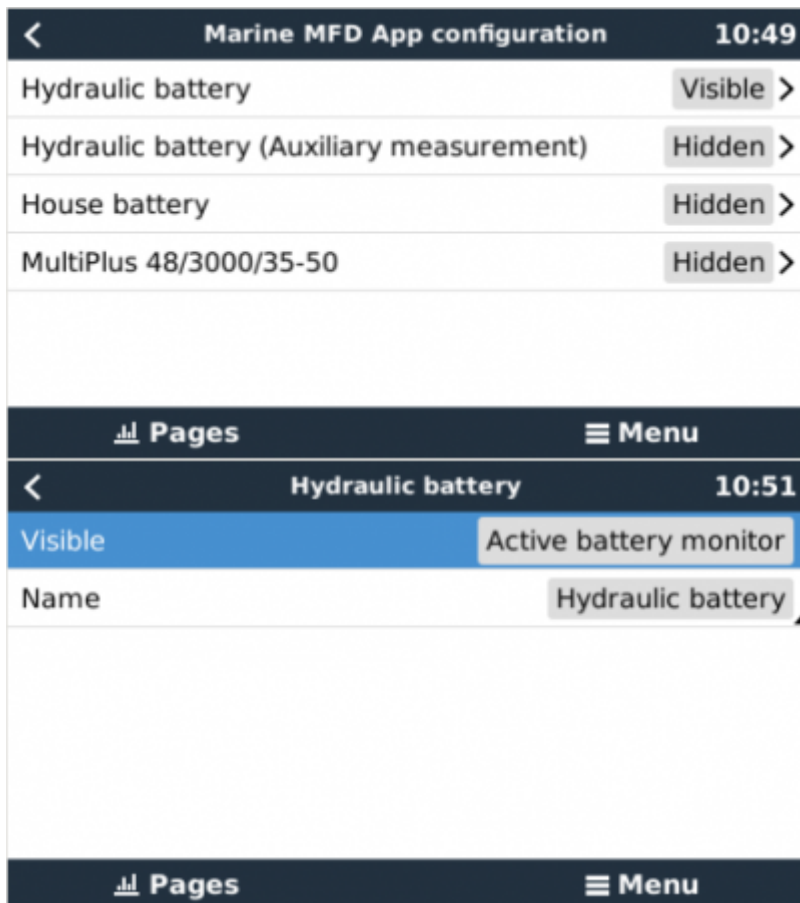
## 4. Configuration

On the Victron GX Device, go to *Settings* → *Services*, and there enable both *MQTT on LAN (SSL)* and



*MQTT on LAN (Plaintext)*.

Next, go to *Settings* → *System Setup* → *Scroll to the bottom* → *Marine MFD App configuration*. And there set up what batteries you want to see on the MFD; and by what name.



No other settings, such as IP addresses or similar are required, since the Axiom MFDs have an integrated DHCP server.

## 5. Configuring Multiple Battery Measurements

This video explains how to setup multiple battery measurements, and naming them.



## Video

### 6. Step by Step





Step 2: Connect RJ45 into Victron Venus GX, Color Control GX or Octo GX.



Then go to Apps and select the Victron logo.





The screenshot shows the Victron Energy Remote Console interface with the following data:

- DC Loads:** 26.1A, 1357W
- AC Loads:** 230V, 0.7A, 113W
- Battery (Hydraulic battery):** 52.0V, -15.6A, -822W, Discharging 5 hours, 100%
- Inverter / Charger (MultiPlus):** SOA, with buttons for 'ON', 'OFF', and 'Charger only'
- Shore Power:** 230V, 1.9A, 387W
- Generator:** Stopped
- Solar:** 4.3A, 245W

Annotations on the left side of the screenshot:

- DC Loads →
- Battery information →
- Shore Power →
- Solar →

Annotations on the right side of the screenshot:

- ← AC Loads
- ← Inverter Control
- ← Generator

All information can now be viewed on one screen.




## Video

## 7. NMEA 2000

The MFD can also be connected to the GX device using NMEA 2000, see [NMEA2000 chapter in the main manual](#).

In order to properly display the NMEA 2000 data from Victron equipment, you need to change the data instances of the PGNs that are sent out. See [here](#) for more information about changing instances.

To setup the data sources on the MFD, go to *Settings > Network > Sources > Advanced...*

The following Victron related PGNs are supported:

- 127505 - Fluid level (tanks)
- 127506 - DC Detailed Status; State-of-charge, Time-to-go

- 127508 - Battery Status

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