

20 Ft. Center Console System Example - Features

This system example depicts a 20ft vessel featuring MPower Digital Switching

- **Easy Connectivity with MPower**

Using NMEA 2000[®] networking the MPower[®] devices connect with either just an NMEA 2000[®] connection or an NMEA 2000[®] connection and main power connection.

- **Operate your Digital Switching System using a Compatible Third-Party MFD**

Using a compatible Garmin[®] MFD, Create single button modes that can quickly switch the circuits you want On to turn On and the ones you want Off to turn Off such as a "Night Mode", "Day Mode" or "Fishing Mode". Receive Bilge Pump "On" signal indication via 127501 Channel 13 signal (will appear on MFD as a switch however will only indicate channel On / Off)

- **Add an Additional Circuit to the CLMD12 "Accessory" (12A Max) Breaker and Rename the Circuit as Desired**

- **Expand your MPower System capabilities easily anytime with NMEA 2000[®]**

20 Ft. Center Console System Example - Setup

N2KAnalyzer

Please read all of the following pages to understand the necessary actions to commission this system design example.
 Maretron's N2KAnalyzer software is necessary to load the system configurations to the MPower devices for this system.
 If you do not have a way to tether N2KAnalyzer to an NMEA 2000 network, the purchase of a Maretron USB100 is recommended.

After wiring and powering your vessel's NMEA 2000 networks and DC Mains, connectivity will need to be made using Maretron's N2KAnalyzer® V3 software in conjunction with either a Maretron USB100 or a Maretron IPG100 connected to the active NMEA2000® network. For information on how to use Maretron's N2KAnalyzer® V3 software or to download the latest version of Maretron's N2KAnalyzer® V3 software please visit:

<https://www.maretron.com/products/N2KAnalyzer.php>

Before attempting to configure your system, always ensure that you are using the latest version of Maretron N2KAnalyzer® V3 and install the latest software / firmware to your MPower devices using N2KAnalyzer® V3. To update software for an MPower device, first compare "Current Software" vs "Available Software", right click an MPower device inside N2KAnalyzer® and click on "Update Selected Device's Software". A Dialog Box will appear showing the software update progress.

Step 1: Compare

Node Address	Manufacturer	Model	Serial Number	Current Software	Available Software	Percentage
00	Carling Tech...	CLMD16	1540225	CLMD16 #32 1.0.0.56	1.0.0.60	1.6%
64	Carling Tech...	CKM12	1606324	2.01.00	-	0.1%
65	Carling Tech...	CKM12	1606691	2.01.00	-	0.1%

Step 2: Right click device then click "Update Selected Device's Software"

- Configure Device
- Update Selected Device's Software**
- Analyze Received PGNs
- Analyze Transmitted PGNs
- Analyze Device Properties
- Configure Installation Descriptions
- Configure Device Instance
- Restore Factory Defaults
- Reset Device

Software Update Progress

Node Address: 0x00 [0]
 Model: CLMD16 Serial Number : 1540225
 Upgrading Software to Version 1.0.0.60

66% Complete
 0:22 Remaining

Step 3: Watch progress until process is complete

Cancel

20 Ft. Center Console System Example - Setup Continued

MPower System Configuration Files

This system example is based off a real life 35ft. Center Console type vessel.

The configuration files provided for this example will need to be loaded to your MPower devices. Below is an instruction on how to load the configurations to your MPower devices using Maretron's N2KAnalyzer.

The following files are provided to you for setup of the MPower devices for this system. Load the configuration files to the respective MPower devices following the instructions below. Repeat this process for each MPower device.

1. "20cc Example_CLMD12 Instance 32.xml"
2. "20cc Example_VMM5(7) Instance 50.xml"

CLMD12 (0x90) 1671808 - Configuration Dialog

General | Flash Map | Discrete I/O | Inputs | Advanced | Installation Description | Control

Label: (Max. 32 Characters) #33 Instance: 33

Input Voltage: 12 VDC Not Configured Serial Number Invalid

Breaker #1
Label: Salon Lights Trip Delay: 100 ms Factory Current Rating: 6 A
State: OFF Inrush Delay: 200 ms Current Rating: 6 A
Default State: OFF Default Dim Value: 100 % Current: 0 A
Default Lock State: Unlocked Current Dim Value: 100 % Voltage: 0 V
Sound Alarm When Tripped: Dimming Allowed: Flash Map: 0
ECB Model: 0 Combine With: none User Config Allowed:

Status
 Short Load Breaker Locked
 Breaker Tripped Breaker ON
 Open Load Communications Error Breaker Communicating

Breaker #2
Label: Map Light Trip Delay: 100 ms Factory Current Rating: 3 A
State: OFF Inrush Delay: 200 ms Current Rating: 3 A
Default State: OFF Default Dim Value: 100 % Current: 0 A

Buttons: Load Config From File... Save Config To File... Restore Factory Defaults
Get Config From Device Put Config To Device Close

RED text indicates a changed parameter that has not yet been put to the device

Maretron N2KAnalyzer V3, Version 3.0.6.0 - VesselName

File Setup Analyze Update Configure Web Help

Expand	Node Address	Manufacturer	Mfg Model ID	Mfg Serial Number	Source	Device Instance	Data Instance	Label	Current Software	Available Software
	50	Maretron	USB100	1171350		0	0		2.1.1.2	2.1.1.2
	01	Garmin	GPSMAP 8617	2795168195		0	0		22.10	-
+	90	Carling Tech...	CLMD12	1671808		33	0	Salon Lights	01.14.10	-
	28	Maretron	TSM810C	1900248					4.1.4.6	-
	65	Carling Tech...	CKM12	1606691					2.01.00	-
+	00	Carling Tech...	CLMD16	1540225					1.0.2.0	1.0.2.0

Context Menu:
 Configure Device
 Update Selected Device's Software
 Analyze Received PGNs
 Analyze Transmitted PGNs
 Analyze Device Properties
 Configure Installation Descriptions
 Configure Device Instance
 Restore Factory Defaults
 Reset Device

Step 1:
Connecting to the live NMEA 2000 bus find an MPower device and right click on the device. Select "Configure Device"

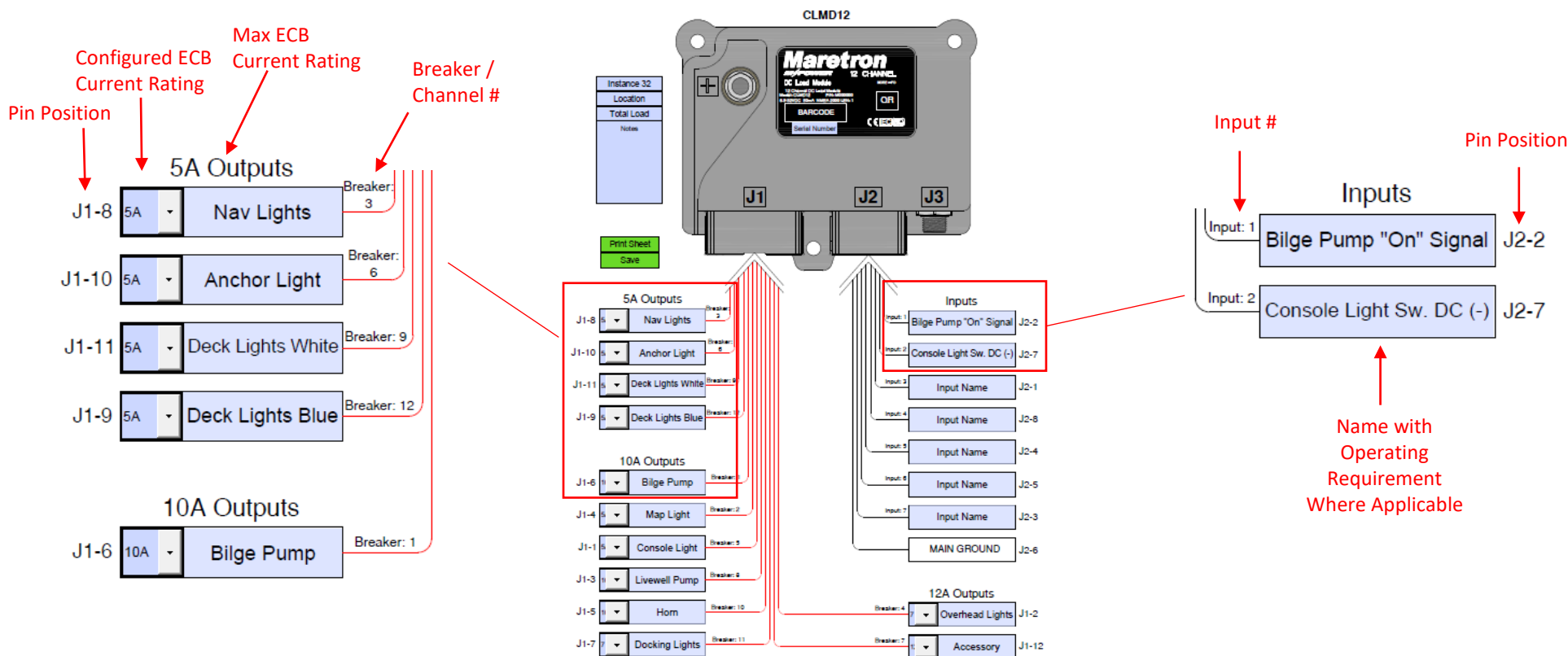
Step 2:
Click "Load Config From File" then select the corresponding device file using the File Explorer dialog.

Step 3:
Click "Put Config. to Device" to apply the configuration file's parameters

20 Ft. Center Console System Example Documentation - Forms

In the File Package provided for this System Example are several documents that are called "Documentation Forms". The following is a description of what these forms can be used for and why they are being provided with this package.

There is a "Documentation Form" for each MPower device used in this System Example. Each Form is Pre-Filled to depict the exact pin description for each connection to be made for the MPower CLMD12. In addition to a description for each pin/ connection is some additional information such as the ECB's max current rating, what the ECB's software current rating is configured to, and other information such as Module Instance Number and location and what type of connection / signal is needed to activate inputs. On the form associated with the VMM6 unit, there is a general description of what each key's function is configured to do. These pre-filled forms can be modified so as you modify the operations of the System Configuration. You can modify the forms to keep track of how you will physically connect the MPower device(s) and add information to them such as installation location and MPower unit Serial Numbers. When configuration is complete, use these forms to print and add to your vessel's User's Manual or simply save a digital copy for your record.



20Ft. Center Console System Example - Displays

Compatible Garmin® MFD

Because of the risk to overwrite user configuration arrangement (known as the “System Profile”), a configuration file for these units are not provided

Many Garmin MFDs are compatible to operate this system. For compatibility, the Garmin MFD software version must be v24.00 or higher.

Below is a list of compatible devices and circuit arrangement information needed to setup Garmin MFDs with this system.

For supplemental information on how to setup Garmin Screens with MPower please visit: [https://www.maretron.com/support/manuals/Garmin%20MFD %20MPower%20Setup%20Guide%20Rev.1.0.pdf](https://www.maretron.com/support/manuals/Garmin%20MFD%20MPower%20Setup%20Guide%20Rev.1.0.pdf)

Garmin Compatible Devices:

- GPSMAP 74xx/xsv series
- GPSMAP 76xx/xsv series
- GPSMAP 8xxx series
- GPSMAP 84xx series
- GPSMAP 86xx series
- GPSMAP 7x2 series
- GPSMAP 9x2 series
- GPSMAP 12x2 series
- GPSMAP 7x2 Plus series
- GPSMAP 9x2 Plus series
- GPSMAP 12x2 Plus series
- GPSMAP 7x3 series
- GPSMAP 9x3 series
- GPSMAP 12x3 series
- GPSMAP A12
- GPSMAP 10x2 series
- GPSMAP 12x2 series
- Volvo Penta Glass Cockpit 8xxx series
- Volvo Penta 76xx/xsv series
- Volvo Penta 86xx series
- Volvo Penta A series
- Volvo Penta B series
- EchoMAP UHD series (*menu structure differs slightly from this document)
- EchoMAP Ultra series (*menu structure differs slightly from this document)

Garmin MFD Switch Setup Information:

- | | | |
|---------------------|---------------------|------------------|
| • Bilge Pump | Garmin Switch “897” | Style: Toggle |
| • Map Light | Garmin Switch “898” | Style: Toggle |
| • Navigation Lights | Garmin Switch “899” | Style: Toggle |
| • Overhead Lights | Garmin Switch “900” | Style: Toggle |
| • Console Light | Garmin Switch “901” | Style: Toggle |
| • Anchor Light | Garmin Switch “902” | Style: Toggle |
| • Accessory | Garmin Switch “903” | Style: Toggle |
| • Livewell Pump | Garmin Switch “904” | Style: Toggle |
| • Dock Lights White | Garmin Switch “905” | Style: Toggle |
| • Horn | Garmin Switch “906” | Style: Momentary |
| • Docking Lights | Garmin Switch “907” | Style: Toggle |
| • Deck Lights Blue | Garmin Switch “908” | Style: Toggle |
| • Bilge Pump “On” | Garmin Switch “909” | Style: N/A |

Note: “Garmin Switch Numbers” are based on MPower device NMEA 2000® Instance number.

If the CLMD12 device Instance has been changed from the configuration provided, the above provided “Garmin Switch Numbers” will be inaccurate.

Maretron[®]

MPOWER[®]



Enjoy the Power of MPower!