

GARMIN®

TECHNICAL REFERENCE FOR GARMIN BLUENET™ NETWORK TECHNOLOGY

Garmin BlueNet Technology Overview

This reference provides technical information about Garmin BlueNet technology, Garmin BlueNet components, and general Garmin BlueNet network-building instructions, including best practices when building a Garmin BlueNet network that includes devices using the legacy Garmin® Marine Network technology.

Garmin BlueNet is a standards-based network communications protocol acting as a successor to the current Garmin Marine Network technology used for communication between Garmin marine devices.

Garmin BlueNet technology adds or improves on these networking features:

- It utilizes standards-based network protocols.
- It requires minimal or no configuration.
- It supports a network connection speed up to 1 Gbps. This supports more video streams and better resolutions, and allows for more-advanced sensors and devices.
- It uses compact, water-resistant marine connectors.
- It is compatible with third-party devices, such as IP cameras, without requiring a Garmin Marine Network PoE isolation coupler.
- It is compatible with legacy Garmin Marine Network devices when using a Garmin BlueNet 30 gateway.

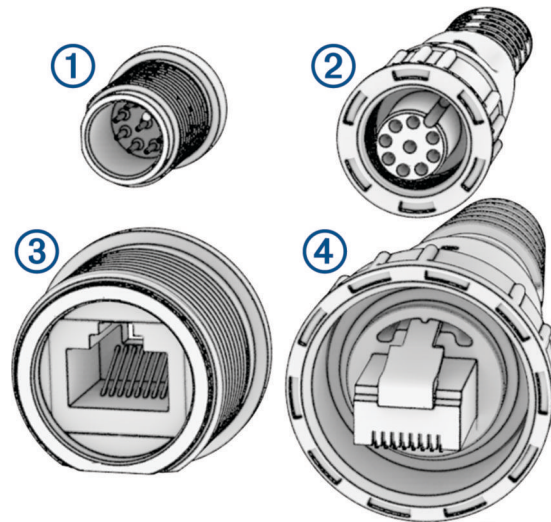
Primary Differences Between the Garmin BlueNet Network and the Legacy Garmin Marine Network

Although the legacy Garmin Marine Network is an Ethernet-based communication protocol, Garmin BlueNet technology improves on it in many ways.

- Cabling
 - Legacy Garmin Marine Network cables consist of 2 twisted pairs for data and 2 twisted pairs for power-on functionality.
 - Garmin BlueNet network cables consist of 4 twisted pairs combined for data and for Wake on Lan (WoL) power-on functionality.
- Connectors
 - The legacy Garmin Marine Network uses standard RJ45 network connectors. Although they are an industry standard, RJ45 connectors are not ideal for use in a marine environment and require large water-resistant locking collars.
 - The Garmin BlueNet network uses compact connectors, similar in size to a NMEA 2000® connector, designed for routing and maintaining connections in a marine environment.

Network Connector Identification

You can identify Garmin BlueNet devices and cables and legacy Garmin Marine Network devices and cables by examining the ports and connectors.



①	Garmin BlueNet device port This port may be all black on some older devices and blue on newer and current devices.
②	Garmin BlueNet cable connector
③	Legacy Garmin Marine Network device port
④	Legacy Garmin Marine Network cable connector

Garmin BlueNet Network Planning

Although Garmin BlueNet technology is fairly straightforward and easy to install, proper planning is helpful, especially when creating a network that contains both Garmin BlueNet devices and legacy Garmin Marine Network devices. Constructing a network incorrectly can prevent the devices from communicating as expected.

NOTICE

You must include a Garmin BlueNet chartplotter, such as a GPSMAP® 9000 series chartplotter, when creating a Garmin BlueNet network. If you do not have an available Garmin BlueNet chartplotter, you must connect all of the devices using legacy Garmin Marine Network cables and adapters.

When you design a network, you should start by creating a diagram of the network. When creating the diagram, be as detailed as possible, observing these considerations.

- You should include all of the devices you intend to connect to the network
 - You should identify which devices support Garmin BlueNet technology and which support the legacy Garmin Marine Network and group the two types of devices by their network type ([Garmin BlueNet Device Compatibility, page 23](#)).
 - You should determine whether the network requires a Garmin BlueNet 30 gateway ([Connecting Legacy Garmin Marine Network Devices to a Garmin BlueNet Network, page 3](#)).
 - You should note the network connector or connectors on each device to determine if any adapters are needed ([Garmin BlueNet Adapter Cables, page 21](#)).
- You should note the approximate location on the boat for each of the connected devices.
- You should measure the distances between the location of each device.

You can refer to the additional guidelines and examples in the following sections when planning a Garmin BlueNet network.

Networks Containing Only Garmin BlueNet Devices

Creating a network consisting of only Garmin BlueNet devices is very straightforward with few considerations.

NOTICE

Connecting a legacy Garmin Marine Network device directly to a Garmin BlueNet chartplotter or a Garmin BlueNet 20 switch is not possible, and will result in poor network performance. If you plan to connect a legacy Garmin Marine Network device to a Garmin BlueNet network, you must install a Garmin BlueNet 30 gateway ([Connecting Legacy Garmin Marine Network Devices to a Garmin BlueNet Network, page 3](#)).

- You should confirm that your device supports Garmin BlueNet network technology by observing the connector type ([Network Connector Identification, page 2](#)) and consulting the compatibility reference in this document ([Garmin BlueNet Device Compatibility, page 23](#)).
- Some devices, such as a GPSMAP 9000 series chartplotter, have multiple NETWORK ports on the back.
 - When a device has multiple Garmin BlueNet NETWORK ports, it acts as a network switch, and you can connect additional Garmin BlueNet devices to open ports on the device.
 - For example, if you have two GPSMAP 9224 chartplotters, they each have four NETWORK ports on the back. After connecting them together using a Garmin BlueNet network cable, you can connect up to six additional Garmin BlueNet devices to the open ports on the chartplotters.
- Some devices, such as a GMR™ xHD3 open-array radar, have a single NETWORK port.
 - When a device has a single Garmin BlueNet NETWORK port, it should connect to another device with multiple ports so the data can be shared with other Garmin BlueNet devices.
 - If needed, you can install a Garmin BlueNet 20 switch if you do not have enough open ports on other devices in the network.

Connecting Legacy Garmin Marine Network Devices to a Garmin BlueNet Network

You can connect many legacy Garmin Marine Network devices to a Garmin BlueNet network using a Garmin BlueNet 30 gateway.

You can refer to these considerations and examples for information about how to organize your Garmin BlueNet network when connecting legacy Garmin Marine Network devices.

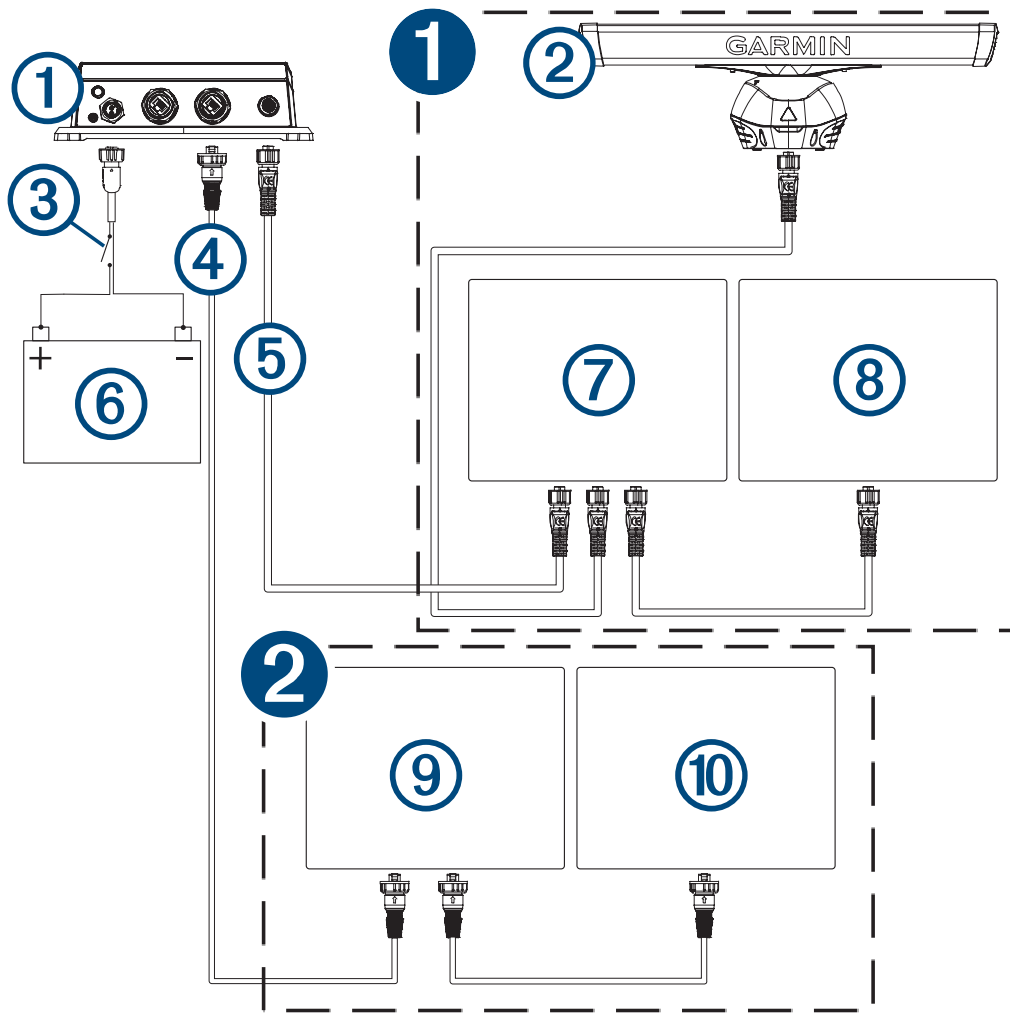
Important Considerations When Using a Garmin BlueNet 30 Gateway

There are important things to consider when connecting legacy Garmin Marine Network devices to a Garmin BlueNet network to ensure the best performance and communication between all devices on the network.

- You must connect only one Garmin BlueNet 30 gateway to a Garmin BlueNet network. Connecting more than one gateway will cause network performance issues.
- You can connect up to two legacy Garmin Marine Network devices directly to the Garmin BlueNet 30 gateway because the gateway has two legacy Garmin Marine Network ports.
- If you have more than two legacy Garmin Marine Network devices you want to connect to the gateway, you must connect them to one another using one or more chartplotters with multiple NETWORK ports or using a GMS™ 10 switch. Only one interconnected chartplotter or the GMS 10 switch needs to connect to the gateway, but you can use both legacy Garmin Marine Network ports on the gateway if that is best for your installation.
- If you have more than one Garmin BlueNet device you want to connect to the gateway, you must connect the devices to one another using one or more chartplotters with multiple Garmin BlueNet NETWORK ports or using a Garmin BlueNet 20 switch. Only one interconnected chartplotter or the Garmin BlueNet 20 switch can connect to the gateway because the gateway has only one Garmin BlueNet NETWORK port.

Garmin BlueNet Network Containing Legacy Garmin Marine Network Devices Example

You can refer to this diagram to better understand how to connect legacy Garmin Marine Network devices to a Garmin BlueNet network using a Garmin BlueNet 30 gateway.



Item	Description	Notes
1	Garmin BlueNet network devices	<p>All Garmin BlueNet network devices must connect to one another or to a Garmin BlueNet 20 switch.</p> <p>Only one Garmin BlueNet network device or Garmin BlueNet 20 switch may connect to the Garmin BlueNet 30 gateway to communicate with the legacy Garmin Marine Network devices.</p> <p>Depending on the types of devices you plan to connect, there are requirements you may need to follow when constructing the network (Specific Garmin BlueNet Device Network Connection Requirements and Considerations, page 5).</p>
2	Legacy Garmin Marine Network devices	<p>If you have more than two legacy Garmin Marine Network devices, these devices must connect to one another or to a GMS 10 switch.</p> <p>Only one legacy Garmin Marine Network device or GMS 10 switch needs to connect to the Garmin BlueNet 30 gateway to communicate with the Garmin BlueNet network devices.</p> <p>If you have only two legacy Garmin Marine Network devices, you can connect them both to the Garmin BlueNet 30 gateway without first connecting them to one another.</p>

Item	Description	Notes
①	Garmin BlueNet 30 gateway	<p>All Garmin BlueNet network devices must be connected on one "side" of the gateway, and all legacy Garmin Marine Network devices must be connected to the other "side."</p> <p style="text-align: center;">NOTICE</p> <p>Only one Garmin BlueNet 30 gateway can be installed in a mixed network. Attempting to install more than one gateway in a network will result in poor performance or no communication between devices.</p>
②	Garmin BlueNet radar	
③	Ignition or power switch (not included)	You should connect the Garmin BlueNet 30 gateway to power through the ignition or another physical switch. The device continues to draw power when the system is off and drains the battery if it is connected directly.
④	Legacy Garmin Marine Network cable	Garmin Marine Network cables have larger connectors that look more like a common RJ45 network connector.
⑤	Garmin BlueNet network cable	<p>Garmin BlueNet network cables have smaller connectors to allow for easier cable routing and installation.</p> <p>NOTE: Although they have a similar appearance, Garmin BlueNet network cables are not the same as NMEA 2000 cables, and you cannot use them interchangeably.</p>
⑥	12 to 24 Vdc power source	The Garmin BlueNet 30 gateway must connect to power using the included power cable.
⑦	Garmin BlueNet 20 switch or Garmin BlueNet chartplotter	If you are using a Garmin BlueNet 20 switch, the best practice is to connect that switch to the gateway. If you are not using a switch, you can connect a chartplotter with multiple Garmin BlueNet network ports or a single Garmin BlueNet chartplotter to the gateway, depending on the types of devices on your vessel.
⑧	Garmin BlueNet chartplotter or other device	NOTE: You must have at least one Garmin BlueNet chartplotter on the boat. The Garmin BlueNet 30 gateway is not necessary without a Garmin BlueNet chartplotter.
⑨	GMS 10 switch or legacy Garmin Marine Network chartplotter	If you are using a GMS 10 switch, it is the best practice to connect that switch to the gateway. If you are not using a switch, you can connect a chartplotter with multiple legacy Garmin Marine Network ports or up to two single legacy Garmin Marine Network devices to the gateway, depending on the types of devices on your vessel.
⑩	Legacy Garmin Marine Network chartplotter or other device	

Specific Garmin BlueNet Device Network Connection Requirements and Considerations

Because there are a few unique device requirements to consider when creating a Garmin BlueNet network that contains legacy Garmin Marine Network devices, those specific situations may be confusing. When creating a Garmin BlueNet network that contains these devices, you must construct the network correctly in order for all of the connected devices to communicate effectively. You can use these examples to better understand how to properly connect specific Garmin and third-party devices to a Garmin BlueNet network.

Garmin Devices with Small Network Connectors

Many Garmin devices were produced with small network connectors prior to the introduction of Garmin BlueNet network technology, and these devices were packaged with an adapter that allowed them to connect to and function on a legacy Garmin Marine Network. When determining how best to connect these types of devices when constructing a Garmin BlueNet network, observe these considerations.

- All Garmin devices with small network connectors should connect to a Garmin BlueNet chartplotter or Garmin BlueNet 20 switch for the best performance.

NOTE: If the device was packaged with an adapter, the adapter is not needed when connecting directly to a Garmin BlueNet chartplotter or Garmin BlueNet 20 switch.

- If you presently have a Garmin device with a small network connector installed and connected to a legacy Garmin Marine Network chartplotter or GMS 10 switch on your boat, it is not necessary to disconnect it and rewire the device so it can connect to a Garmin BlueNet chartplotter. These devices will continue to function as expected when connected through the Garmin BlueNet 30 gateway, although it is preferable to connect to a Garmin BlueNet chartplotter or Garmin BlueNet 20 switch if the installation allows for it.
- The first time you perform a marine software update on a connected Garmin BlueNet chartplotter, all of the connected devices will be updated to communicate properly on the Garmin BlueNet network.

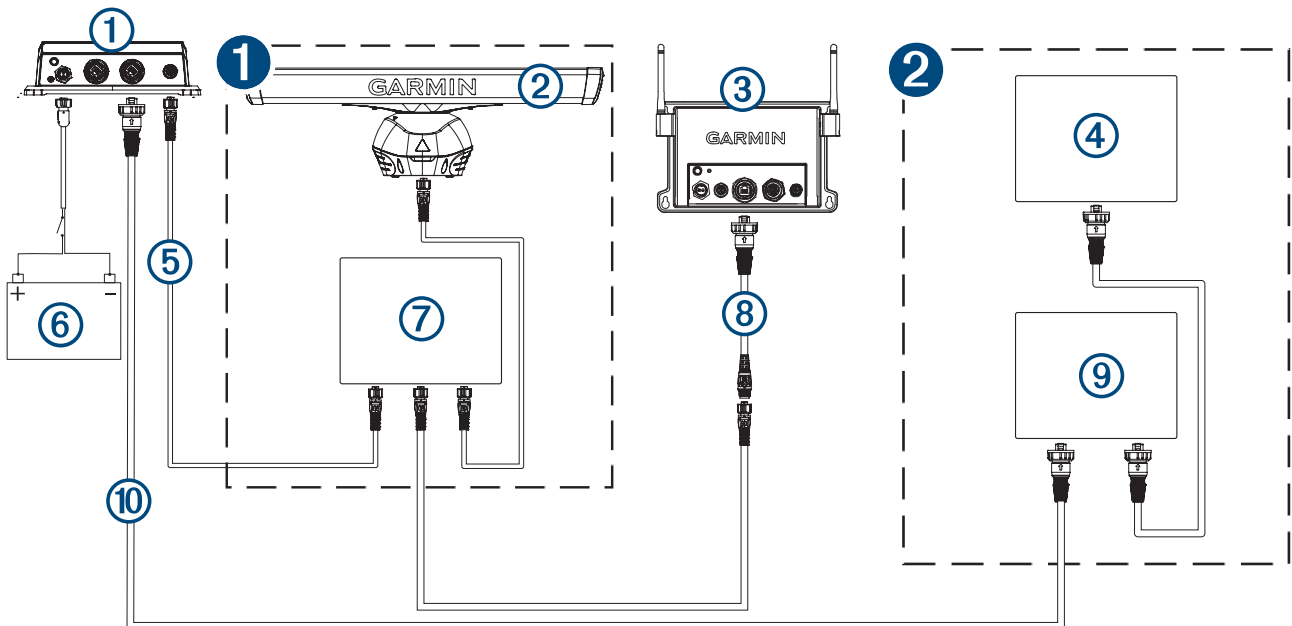
Garmin BlueNet Network with an OnDeck™ GTB 10 hub and Legacy Garmin Marine Network Devices

If your Garmin BlueNet network includes an OnDeck GTB 10 hub and legacy Garmin Marine Network devices, you must connect the OnDeck GTB 10 hub directly to a Garmin BlueNet chartplotter or Garmin BlueNet 20 switch for proper functionality.

You should use the appropriate Garmin BlueNet network to RJ45 adapter cable (010-12531-01) to connect an OnDeck GTB 10 hub directly to a Garmin BlueNet chartplotter or Garmin BlueNet 20 switch.

NOTICE

This is a notable exception to the common requirement for connecting legacy Garmin Marine Network devices through a Garmin BlueNet 30 gateway. Connecting an OnDeck GTB 10 hub to a Garmin BlueNet network through a Garmin BlueNet 30 gateway will result in network performance issues.



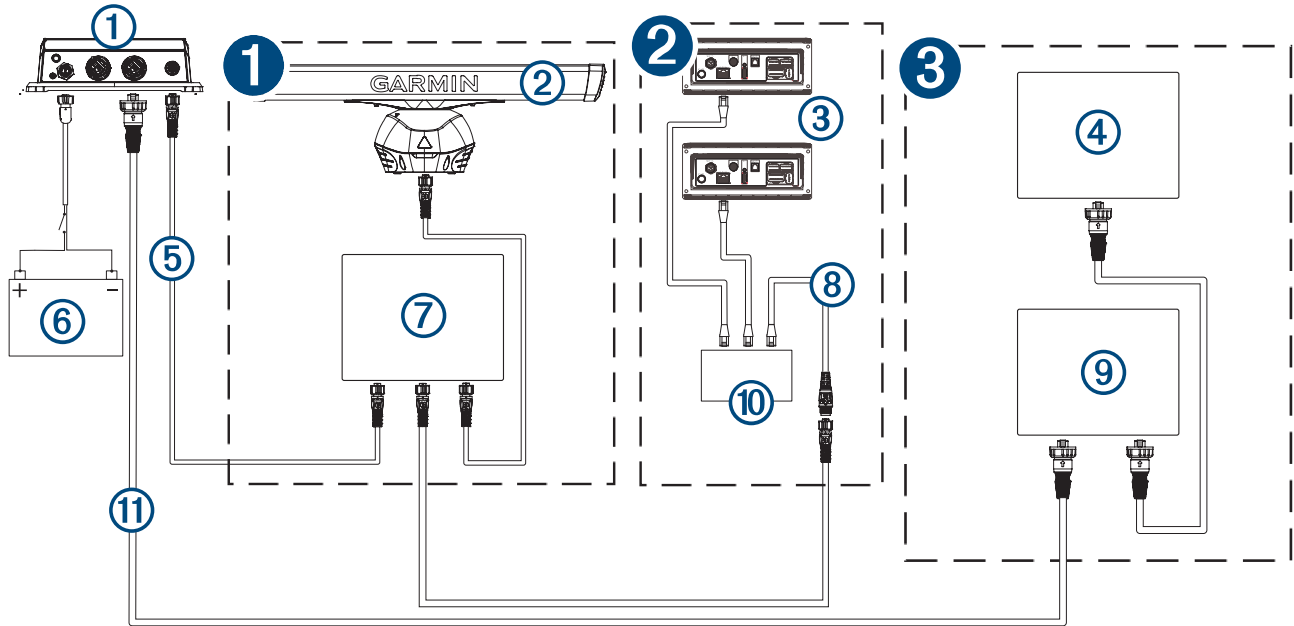
Item	Description	Notes
①	Garmin BlueNet network devices	All Garmin BlueNet network devices must connect to one another or to a Garmin BlueNet 20 switch.
②	Legacy Garmin Marine Network devices	If you have more than two legacy Garmin Marine Network devices, these devices must connect to one another or to a GMS 10 switch. If you have only two legacy Garmin Marine Network devices, you can connect them both to the Garmin BlueNet 30 gateway without first connecting them to one another.

Item	Description	Notes
①	Garmin BlueNet 30 gateway	
②	Garmin BlueNet radar	
③	OnDeck GTB 10 hub	NOTICE You must connect an OnDeck GTB 10 hub directly to a Garmin BlueNet chartplotter or Garmin BlueNet 20 switch. Connecting an OnDeck GTB 10 hub through a Garmin BlueNet 30 gateway will result in poor system performance.
④	Legacy Garmin Marine Network chartplotter or other device	
⑤	Garmin BlueNet network cable	
⑥	Power source	Although not illustrated in this diagram, all devices must connect to power according to the installation instructions provided with the device.
⑦	Garmin BlueNet chartplotter	
⑧	Legacy Garmin Marine Network to Garmin BlueNet adapter cable (010-12531-01)	NOTICE You must not use this cable to connect other legacy Garmin Marine Network devices directly to a Garmin BlueNet device. Other than the OnDeck GTB 10 hub, you must connect other compatible legacy Garmin Marine Network devices to a Garmin BlueNet network using a Garmin BlueNet 30 gateway.
⑨	GMS 10 switch or legacy Garmin Marine Network chartplotter	
⑩	Legacy Garmin Marine Network cable	

Garmin BlueNet Network with Fusion PartyBus™ Stereos and Legacy Garmin Marine Network Devices

If you have connected multiple compatible Fusion® stereos together using Fusion PartyBus networking technology and you want to connect one of them to a chartplotter, you should connect one of the stereos or a third-party switch dedicated to the Fusion PartyBus network stereos directly to a Garmin BlueNet chartplotter or Garmin BlueNet 20 switch for the best performance.

You should use the appropriate Garmin BlueNet network to RJ45 adapter cable (010-12531-02) to connect a Fusion network stereo or third-party switch to a Garmin BlueNet chartplotter or Garmin BlueNet 20 switch.



Item	Description	Notes
1	Garmin BlueNet network devices	All Garmin BlueNet network devices must connect to one another or to a Garmin BlueNet 20 switch.
2	Fusion PartyBus network stereos	You should connect one of the stereos or a third-party switch dedicated to the Fusion PartyBus network stereos directly to a Garmin BlueNet chartplotter or Garmin BlueNet 20 switch for the best performance.
3	Legacy Garmin Marine Network devices	If you have more than two legacy Garmin Marine Network devices, these devices must connect to one another or to a GMS 10 switch. If you have only two legacy Garmin Marine Network devices, you can connect them both to the Garmin BlueNet 30 gateway without first connecting them to one another.

Item	Description	Notes
①	Garmin BlueNet 30 gateway	
②	Garmin BlueNet radar	
③	Fusion PartyBus stereos, such as an Apollo™ RA770	
④	Legacy Garmin Marine Network chartplotter or other device	
⑤	Garmin BlueNet network cable	
⑥	Power source	Although not illustrated in this diagram, all devices must connect to power according to the installation instructions provided with the device.
⑦	Garmin BlueNet chartplotter	
⑧	RJ45 to Garmin BlueNet adapter cable (010-12531-02)	<p style="text-align: center;">NOTICE</p> <p>You must not use this cable to connect other legacy Garmin Marine Network devices directly to a Garmin BlueNet device. Other than Fusion PartyBus stereos and compatible IP cameras, you must connect other legacy Garmin Marine Network devices to a Garmin BlueNet network using a Garmin BlueNet 30 gateway.</p>
⑨	GMS 10 switch or legacy Garmin Marine Network chartplotter	
⑩	Third-party network switch	When creating a Fusion PartyBus network with multiple stereos, you may use one or more third-party network switches to connect the stereos. You should connect the switch to a Garmin BlueNet device. If you have only one Fusion PartyBus stereo using a wired connection, you can connect it to the Garmin BlueNet device without a switch.
⑪	Legacy Garmin Marine Network cable	

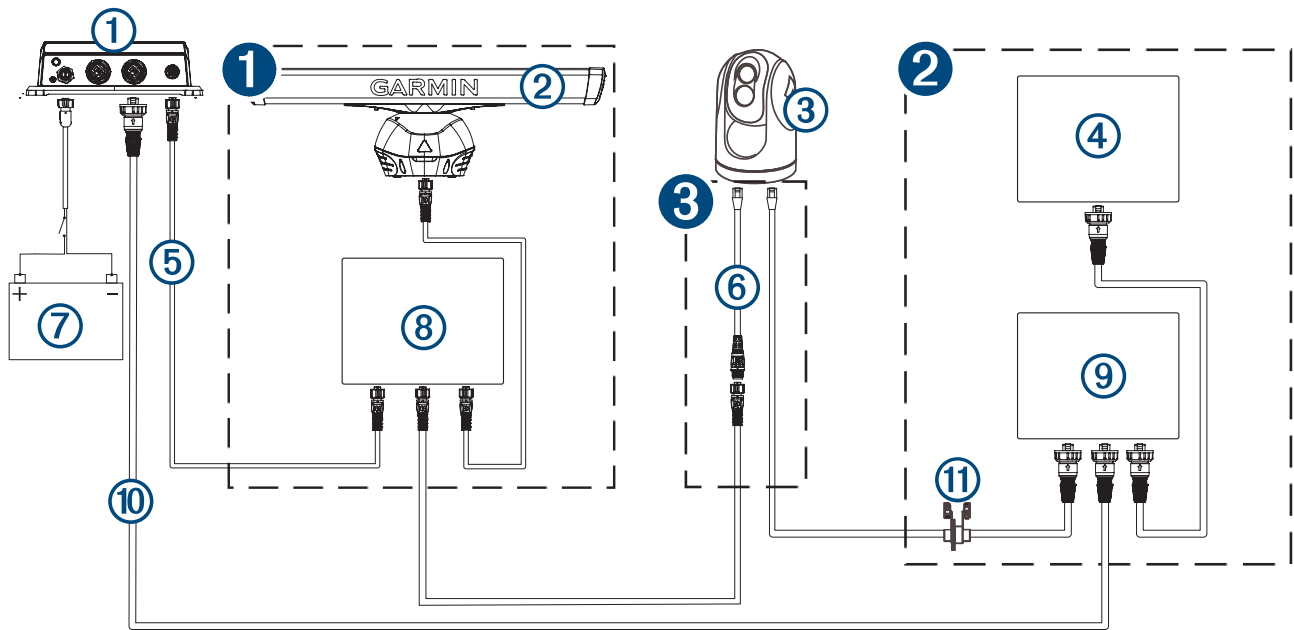
Garmin BlueNet Network with an IP Camera and a Legacy Garmin Marine Network Chartplotter

If your Garmin BlueNet network includes a compatible Internet Protocol (IP) camera and at least one legacy Garmin Marine Network chartplotter, you have two options for connecting the camera, with no performance concerns. You can use the option that is easiest to implement in your network:

- You can connect the camera to either a Garmin BlueNet chartplotter or a Garmin BlueNet 20 switch using a Garmin BlueNet cable **without** a PoE isolator.
- You can connect the camera to a legacy Garmin Marine Network chartplotter or a GMS 10 switch **with** a Garmin Marine Network PoE isolation coupler (010-10580-10).

NOTICE

Some jurisdictions may prohibit or regulate recording audio and video, or taking photographs. Jurisdictions may require that all parties have knowledge of the recording and provide consent before you record audio and video or take photographs. It is your responsibility to know and comply with all laws, regulations, and any other restrictions in your jurisdiction.



Item	Description	Notes
1	Garmin BlueNet network devices	All Garmin BlueNet network devices must connect to one another or to a Garmin BlueNet 20 switch.
2	Legacy Garmin Marine Network devices	If you have more than two legacy Garmin Marine Network devices, these devices must connect to one another or to a GMS 10 switch. If you have only two legacy Garmin Marine Network devices, you can connect them both to the Garmin BlueNet 30 gateway without first connecting them to one another.
3	IP camera connection	If your Garmin BlueNet network includes a compatible Internet Protocol (IP) camera and at least one legacy Garmin Marine Network chartplotter, you can connect it to either a Garmin BlueNet device or a legacy Garmin Marine Network depending on what is easiest to implement in your network. NOTE: You must connect a compatible IP camera to either legacy Garmin Marine Network devices or to Garmin BlueNet devices. You cannot connect a single camera directly to both types of devices even if the camera has two RJ45 ports.

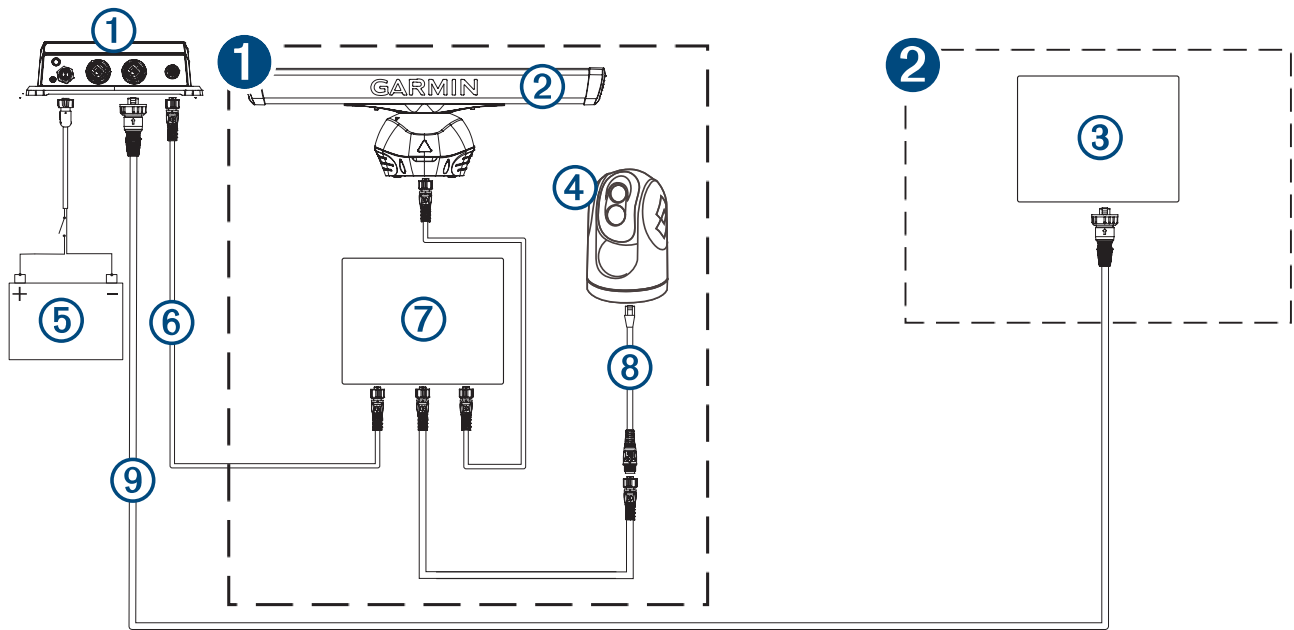
Item	Description	Notes
①	Garmin BlueNet 30 gateway	
②	Garmin BlueNet radar	
③	Compatible IP camera	
④	Legacy Garmin Marine Network chartplotter or other device	
⑤	Garmin BlueNet network cable	
⑥	RJ45 to Garmin BlueNet adapter cable (010-12531-02)	<p style="text-align: center;">NOTICE</p> <p>You must not use this cable to connect other legacy Garmin Marine Network devices directly to a Garmin BlueNet device. Other than Fusion PartyBus stereos and compatible IP cameras, you must connect other compatible legacy Garmin Marine Network devices to a Garmin BlueNet network using a Garmin BlueNet 30 gateway.</p>
⑦	Power source	Although not illustrated in this diagram, all devices must connect to power according to the installation instructions provided with the device.
⑧	Garmin BlueNet chartplotter	
⑨	GMS 10 switch or legacy Garmin Marine Network chartplotter	
⑩	Legacy Garmin Marine Network cable	
⑪	Garmin Marine Network PoE isolation coupler (010-10580-10)	<p style="text-align: center;">NOTICE</p> <p>When connecting a compatible IP camera to a legacy Garmin Marine Network chartplotter or a GMS 10 switch, you must install a PoE isolation coupler (010-10580-10) on the connection from the camera. Connecting a compatible IP camera to Legacy Garmin Marine Network chartplotter or a GMS 10 switch without a PoE isolation coupler can damage the Garmin devices, the camera, or both.</p>

Garmin BlueNet Network with an IP Camera and no Legacy Garmin Marine Network Chartplotters

If your Garmin BlueNet network includes a compatible IP camera, but does not contain any legacy Garmin Marine Network chartplotters, you must connect the camera to a Garmin BlueNet chartplotter or Garmin BlueNet 20 switch for proper functionality (no PoE isolator needed).

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Item	Description	Notes
1	Garmin BlueNet network devices	All Garmin BlueNet network devices must connect to one another or to a Garmin BlueNet 20 switch.
2	Legacy Garmin Marine Network device or devices (not chartplotters)	<p>If you have more than two legacy Garmin Marine Network devices (that are not chartplotters in this instance), these devices must connect to a GMS 10 switch.</p> <p>If you have only two legacy Garmin Marine Network devices (that are not chartplotters in this instance), you can connect them both to the Garmin BlueNet 30 gateway without first connecting them to a GMS 10 switch.</p>

Item	Description	Notes
①	Garmin BlueNet 30 gateway	
②	Garmin BlueNet radar	
③	Legacy Garmin Marine Network device (not a chartplotter)	
④	Third-party IP camera	If you have no legacy Garmin Marine Network chartplotters connected to the Garmin BlueNet network through a Garmin BlueNet 30, you must connect any compatible IP camera to a Garmin BlueNet device for proper functionality.
⑤	Power source	Although not illustrated in this diagram, all devices must connect to power according to the installation instructions provided with the device.
⑥	Garmin BlueNet network cable	
⑦	Garmin BlueNet chartplotter	
⑧	RJ45 to Garmin BlueNet adapter cable (010-12531-02)	<p>When connecting a compatible IP camera to a Garmin BlueNet device, a PoE power isolator is not necessary.</p> <p style="text-align: center;">NOTICE</p> <p>You must not use this cable to connect other legacy Garmin Marine Network devices directly to a Garmin BlueNet device. Other than Fusion PartyBus stereos and compatible IP cameras, you must connect other compatible legacy Garmin Marine Network devices to a Garmin BlueNet network using a Garmin BlueNet 30 gateway.</p>
⑨	Legacy Garmin Marine Network cable	

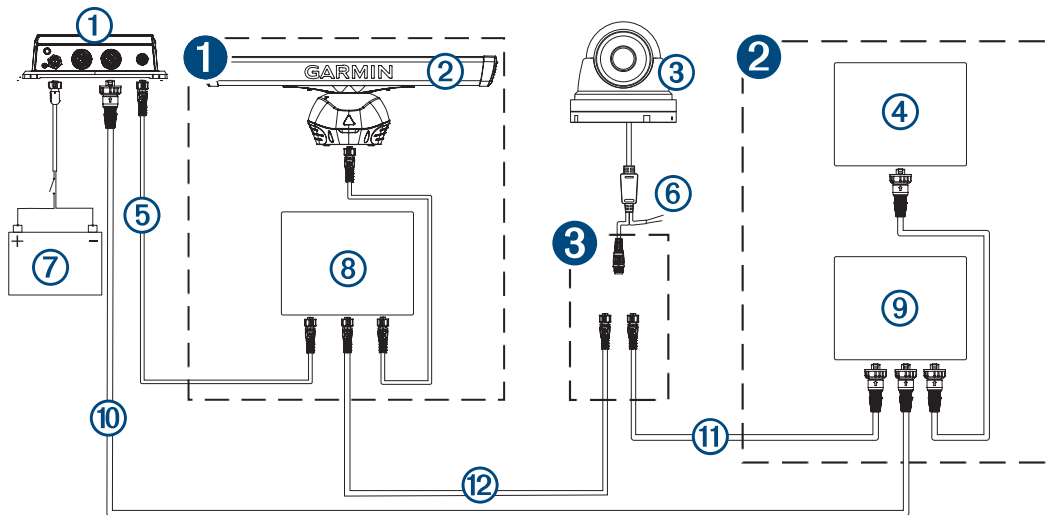
Garmin BlueNet Network with GC™ 200 Camera Without a Power Module

If your Garmin BlueNet network includes a GC 200 camera that does not connect using the optional power module (010-12527-00) and there is at least one legacy Garmin Marine Network chartplotter, you have two options for connecting the camera, with no performance concerns. You can use the option that is easiest to implement in your network:

- You can connect the camera to either a Garmin BlueNet chartplotter or a Garmin BlueNet 20 switch using a Garmin BlueNet cable.
- You can connect the camera to a legacy Garmin Marine Network chartplotter or a GMS 10 switch using an adapter cable (010-12531-01).

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Item	Description	Notes
1	Garmin BlueNet network devices	All Garmin BlueNet network devices must connect to one another or to a Garmin BlueNet 20 switch.
2	Legacy Garmin Marine Network devices	If you have more than two legacy Garmin Marine Network devices, these devices must connect to one another or to a GMS 10 switch. If you have only two legacy Garmin Marine Network devices, you can connect them both to the Garmin BlueNet 30 gateway without first connecting them to one another.
3	GC 200 camera connection	If your Garmin BlueNet network includes at least one legacy Garmin Marine Network chartplotter, you can connect the GC 200 camera to either a Garmin BlueNet device or a legacy Garmin Marine Network depending on what is easiest to implement in your network. NOTE: You must connect a GC 200 camera to either legacy Garmin Marine Network devices or to Garmin BlueNet devices. You cannot connect a single camera directly to both types of devices.

Item	Description	Notes
①	Garmin BlueNet 30 gateway	
②	Garmin BlueNet radar	
③	GC 200 camera	
④	Legacy Garmin Marine Network chartplotter or other device	
⑤	Garmin BlueNet network cable	
⑥	GC 200 camera power wires	The GC 200 camera must connect to power according to the installation instructions provided with the camera.
⑦	Power source	Although not illustrated in this diagram, all devices must connect to power according to the installation instructions provided with the device.
⑧	Garmin BlueNet chartplotter	
⑨	GMS 10 switch or legacy Garmin Marine Network chartplotter	
⑩	Legacy Garmin Marine Network cable	
⑪	Garmin BlueNet to Legacy Garmin Marine Network adapter cable (010-12531-01)	This adapter cable may have been included in the product box with the GC 200 camera.
⑫	Garmin BlueNet network cable	This cable may have been included in the GC 200 camera. You can use a longer Garmin BlueNet network cable (sold separately) or extend the provided cable as needed.

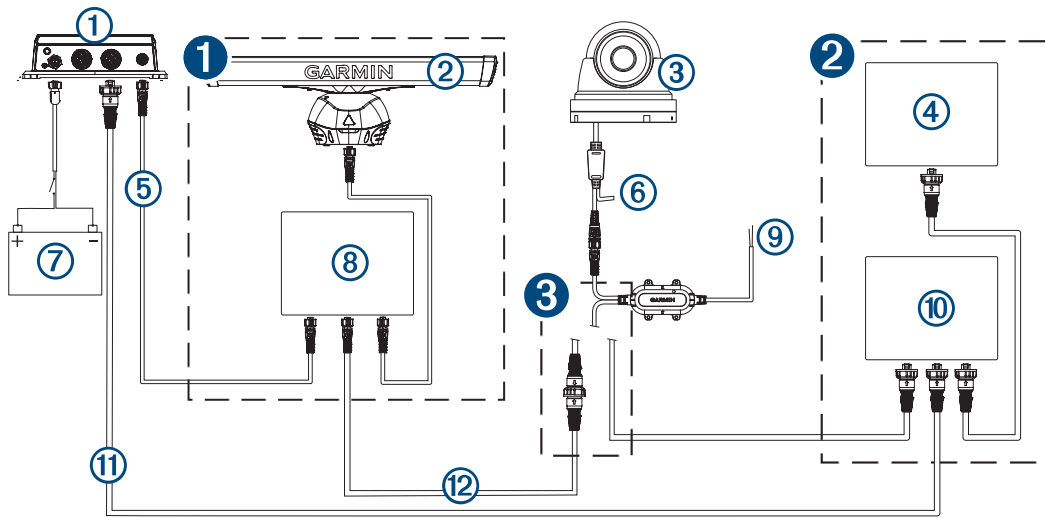
Garmin BlueNet Network with GC 200 Camera Using a Power Module

If your Garmin BlueNet network includes a GC 200 camera that connects using the optional power module (010-12527-00) for a 12 to 24 Vdc system and at least one legacy Garmin Marine Network chartplotter, you have two options for connecting the power module from the camera, with no performance concerns. You can use the option that is easiest to implement in your network:

- You can connect the power module from the camera to either a Garmin BlueNet chartplotter or a Garmin BlueNet 20 switch using an adapter cable (010-13094-00).
- You can connect the power module from the camera directly to a legacy Garmin Marine Network chartplotter or a GMS 10 switch.

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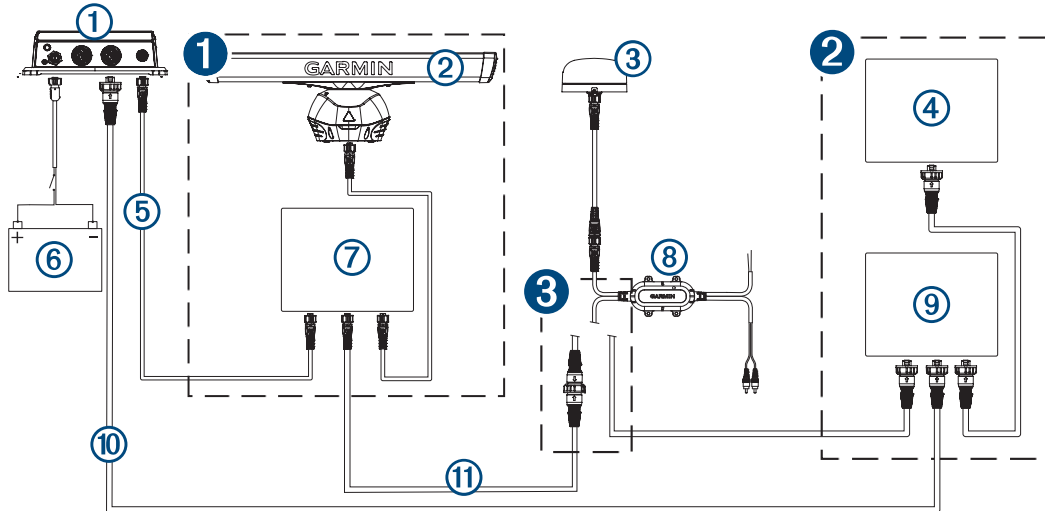
Item	Description	Notes
1	Garmin BlueNet network devices	All Garmin BlueNet network devices must connect to one another or to a Garmin BlueNet 20 switch.
2	Legacy Garmin Marine Network devices	If you have more than two legacy Garmin Marine Network devices, these devices must connect to one another or to a GMS 10 switch. If you have only two legacy Garmin Marine Network devices, you can connect them both to the Garmin BlueNet 30 gateway without first connecting them to one another.
3	GC 200 camera power module connection	If your Garmin BlueNet network includes at least one legacy Garmin Marine Network chartplotter, you can connect the power module for your GC 200 camera to either a Garmin BlueNet device or a legacy Garmin Marine Network depending on what is easiest to implement in your network. NOTE: You must connect a GC 200 camera to either legacy Garmin Marine Network devices or to Garmin BlueNet devices. You cannot connect a single camera directly to both types of devices.

Item	Description	Notes
①	Garmin BlueNet 30 gateway	
②	Garmin BlueNet radar	
③	GC 200 camera	
④	Legacy Garmin Marine Network chartplotter or other device	
⑤	Garmin BlueNet network cable	
⑥	GC 200 camera power wires	<p style="text-align: center;">NOTICE</p> <p>If you are using a power module to connect the camera to a 24 Vdc system, you must not connect the power wires from the camera harness. Only the power module should connect to a power source. Connecting the wires from the camera harness to a 24 Vdc system without using a power module will damage the camera.</p>
⑦	Power source	Although not illustrated in this diagram, all devices must connect to power according to the installation instructions provided with the device.
⑧	Garmin BlueNet chartplotter	
⑨	Power module power wires	You must connect the power module for the GC 200 camera to a 12 to 24 Vdc power source.
⑩	GMS 10 switch or legacy Garmin Marine Network chartplotter	
⑪	Legacy Garmin Marine Network cable	
⑫	Legacy Garmin Marine Network to Garmin BlueNet adapter cable (010-13094-00)	

Garmin BlueNet Network with a GXM™ Antenna

If your Garmin BlueNet network includes a GXM antenna, you have two options for connecting the antenna, with no performance concerns. You can use the option that is easiest to implement in your network:

- You can connect the power and audio module from the antenna to either a Garmin BlueNet chartplotter or a Garmin BlueNet 20 switch using an adapter cable (010-13094-00).
- You can connect the power and audio module from the antenna to legacy Garmin Marine Network chartplotter or a GMS 10 switch.



Item	Description	Notes
1	Garmin BlueNet network devices	All Garmin BlueNet network devices must connect to one another or to a Garmin BlueNet 20 switch.
2	Legacy Garmin Marine Network devices	If you have more than two legacy Garmin Marine Network devices, these devices must connect to one another or to a GMS 10 switch. If you have only two legacy Garmin Marine Network devices, you can connect them both to the Garmin BlueNet 30 gateway without first connecting them to one another.
3	GXM antenna connection	You can connect the power and audio module from the GXM antenna to either a Garmin BlueNet device or a legacy Garmin Marine Network depending on what is easiest to implement in your network. NOTE: You must connect a GXM to either legacy Garmin Marine Network devices or to Garmin BlueNet devices. You cannot connect a single antenna directly to both types of devices.

Item	Description	Notes
①	Garmin BlueNet 30 gateway	
②	Garmin BlueNet radar	
③	GXM antenna	
④	Legacy Garmin Marine Network chartplotter or other device	
⑤	Garmin BlueNet network cable	
⑥	Power source	Although not illustrated in this diagram, all devices must connect to power according to the installation instructions provided with the device.
⑦	Garmin BlueNet chartplotter	
⑧	Power and audio module	You must connect the power and audio module for the GXM antenna to a power source according to the installation instructions provided with the antenna.
⑨	GMS 10 switch or legacy Garmin Marine Network chartplotter	
⑩	Legacy Garmin Marine Network cable	
⑪	Legacy Garmin Marine Network to Garmin BlueNet adapter cable (010-13094-00)	

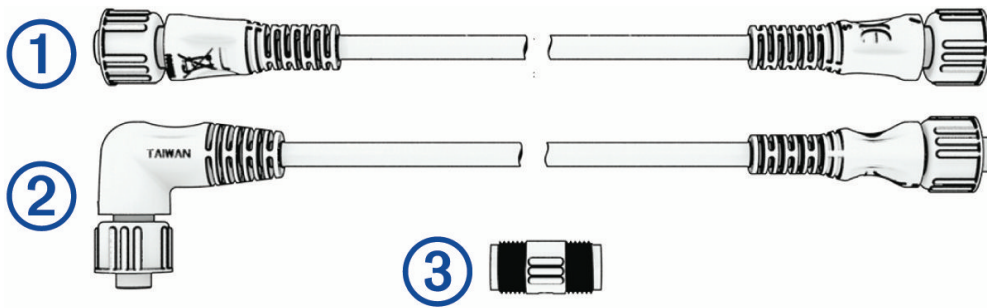
Garmin BlueNet Hardware

You can refer to these diagram and tables when selecting the appropriate cables and adapters for creating a Garmin BlueNet network.

See the device compatibility table for more information on Garmin BlueNet devices and legacy Garmin Marine Network devices ([Garmin BlueNet Device Compatibility, page 23](#)).

Garmin BlueNet Cables

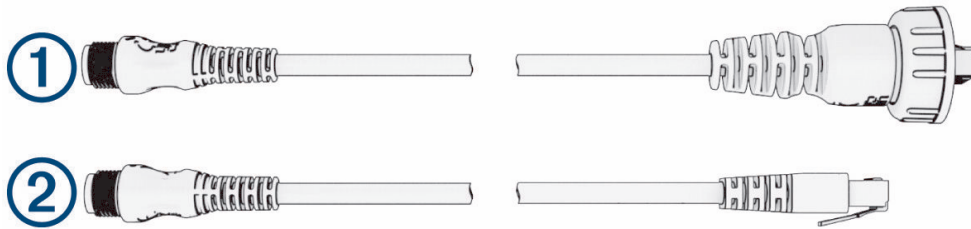
These are the primary cables used when connecting Garmin BlueNet devices.



Item	Description	Garmin Part Number	Notes
①	Standard Garmin BlueNet network cable	010-12528-11: 0.3 m (1 ft.) 010-12528-30: 2 m (6.5 ft.) 010-12528-31: 6 m (20 ft.) 010-12528-02: 12 m (40 ft.) 010-12528-03: 15 m (50 ft.)	This is the basic cable used to connect Garmin BlueNet devices to one another. These cables can be extended using a Garmin BlueNet cable coupler.
②	Right-angle Garmin BlueNet network cable	010-12528-10: 15 m (50 ft.)	This is a standard Garmin BlueNet network cable with a 90-degree connector on one end. It is helpful when the connection to a device must be as low-profile as possible.
③	Garmin BlueNet cable coupler	010-12531-00	This coupler connects two Garmin BlueNet cables together. NOTE: A single Garmin BlueNet network cable run should not contain more than one coupler and should not exceed 87 m (285 ft.)
Not shown	Bulk Garmin BlueNet network cable	010-12528-12: 150 m (500 ft.)	You can use bulk cable to create custom lengths of Garmin BlueNet network cable. You must terminate both ends of the bulk cable using field install connectors. NOTE: A single Garmin BlueNet network cable run should not exceed 87 m (285 ft.) NOTICE Using third-party network cable is not supported because many third-party cables do not meet the minimum performance specifications for network cables. Using anything other than official bulk Garmin BlueNet network cable may result in poor system performance.

Garmin BlueNet Adapter Cables

Some Garmin BlueNet devices may have specific connection requirements, such as an OnDeck GTB 10 hub ([Specific Garmin BlueNet Device Network Connection Requirements and Considerations, page 5](#)). You can refer to the table below to select the appropriate adapter cable when installing these specific devices.



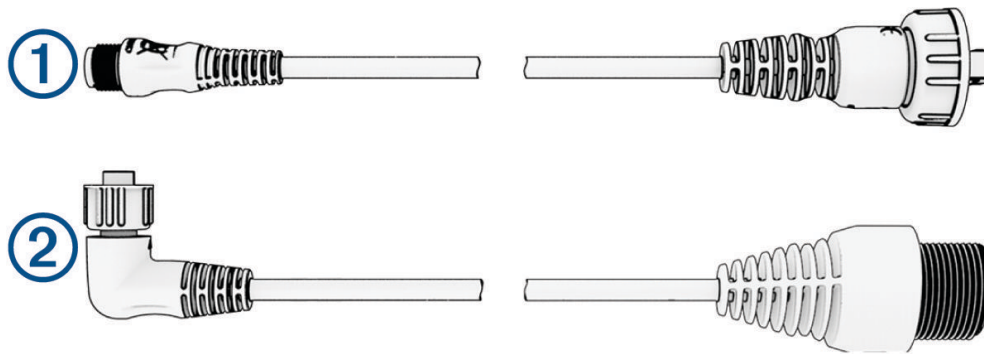
Item	Description	Garmin Part Number	Notes
①	Legacy Garmin Marine Network to Garmin BlueNet network adapter cable	010-12531-01	<p>Connects specific Garmin devices, such as an OnDeck GTB 10 hub, to a Garmin BlueNet device.</p> <p>NOTICE</p> <p>You must not use this adapter cable to connect other legacy Garmin Marine Network devices directly to a Garmin BlueNet device. Except for the OnDeck GTB 10 hub, you must connect all other compatible legacy Garmin Marine Network devices to a Garmin BlueNet network using a Garmin BlueNet 30 gateway.</p>
②	RJ45 to Garmin BlueNet network adapter cable	010-12531-02	<p>Connects a network-compatible Fusion PartyBus stereo to a Garmin BlueNet device.</p> <p>Connects a compatible IP camera to a Garmin BlueNet device.</p> <p>Connects a PC or other compatible third-party network device to a Garmin BlueNet device.</p> <p>NOTICE</p> <p>You must not use this adapter cable to connect other legacy Garmin Marine Network devices directly to a Garmin BlueNet device. Except for a compatible Fusion PartyBus stereo or IP camera, you must connect all other compatible legacy Garmin Marine Network devices to a Garmin BlueNet network using a Garmin BlueNet 30 gateway.</p>

Legacy Garmin Marine Network Adapter Cables

You can connect most Garmin BlueNet peripheral devices to a legacy Garmin Marine Network device using an adapter cable. For example, a GMR Fantom™ radar and various transducers have smaller Garmin BlueNet network connectors that are compatible with Garmin BlueNet network cables, but you might not have a Garmin BlueNet chartplotter, or you may find it is easier to connect the peripheral device to existing legacy Garmin Marine Network devices due to installation constraints. Some of these peripheral devices may be packaged with an adapter cable that allows you to connect it to another legacy Garmin Marine Network device or to a GMS 10 switch. You can refer to the table below to select the appropriate adapter cable, if needed.

NOTICE

You cannot connect a legacy Garmin Marine Network device directly to a Garmin BlueNet chartplotter or Garmin BlueNet 20 switch using these adapter cables. If you want to use both types of devices in a network, you must install a Garmin BlueNet 30 gateway to connect one or more Garmin Marine Network devices to Garmin BlueNet devices ([Connecting Legacy Garmin Marine Network Devices to a Garmin BlueNet Network, page 3](#)).



Item	Description	Garmin Part Number	Notes
①	Garmin Marine Network to Garmin BlueNet network adapter cable. This cable has two network connectors (male to male).	010-12531-01: 500 mm (20 in.)	This Garmin BlueNet network adapter cable is often included with Panoptix™ transducers and sonar modules. When using this adapter cable, you should connect a Garmin BlueNet extension cable to the a Garmin BlueNet device (with a small female network port) and route it to the location of a Garmin Marine Network device or GMS 10 switch. You should then use this adapter cable to connect the Garmin BlueNet extension cable directly to a network port on a Garmin Marine Network device or GMS 10 switch.
②	Right-angle Garmin Marine Network to Garmin BlueNet network adapter cable. This adapter cable has two network ports (female to female).	010-13094-00: 300 mm (12 in.)	This Garmin BlueNet network adapter cable has a 90-degree connector on one end. It is often included with devices such as a GMR Fantom radar. When using this adapter cable, you should connect the Garmin BlueNet connector to the Garmin BlueNet device (with a small male network connector). You should connect the other end of the adapter to a longer legacy Garmin Marine Network cable to connect to other legacy Garmin Marine Network devices.

Garmin BlueNet Device Compatibility

You can use this table to determine which devices can be connected directly to a Garmin BlueNet network and which devices must use a Garmin BlueNet 30 gateway ([Connecting Legacy Garmin Marine Network Devices to a Garmin BlueNet Network, page 3](#)).

NOTICE

If you have a legacy Garmin Marine Network chartplotter or peripheral device that is not listed in this table, it is most likely not compatible with Garmin BlueNet technology. Connecting a legacy Garmin Marine Network device not listed in this table to Garmin BlueNet network may result in poor system performance.

NOTE: Other than the GPSMAP 9000 series chartplotter, Garmin BlueNet 20 switch, and the Garmin BlueNet 30 gateway, all peripheral devices with a Garmin BlueNet connector can connect to a legacy Garmin Marine Network device using the appropriate adapter cable.

Device	Does the Device have a Garmin BlueNet Connector?	Can You Connect the Device Directly to a Garmin BlueNet Device?	Can You Connect the Device to a Garmin BlueNet Network through a Garmin BlueNet 30 Gateway?
GPSMAP 9000 series chartplotter	Yes	Yes	N/A
GPSMAP 8400/8600 series chartplotter	No	No	Yes
GPSMAP 1000/1200 series chartplotter	No	No	Yes
GPSMAP 7400/7600 series chartplotter	No	No	Yes
GPSMAP 7x2/9x2/12x2 series chartplotter	No	No	Yes
GPSMAP 7x3/9x3/12x3 series chartplotter	No	No	Yes
CL7/A7/A12 series chartplotter	No	No	Yes
B7/B9/B12 series chartplotter	No	No	Yes
Garmin BlueNet 30 gateway	Yes	Yes	N/A
Garmin BlueNet 20 switch	Yes	Yes	N/A
GHC™ 50	Yes	Yes	Yes
TD 50 display	Yes	Yes	Yes
GRID™ 10 remote control	No	No	Yes
Garmin card reader	No	No	Yes
GMR HD and xHD2 series radar	No	No	Yes
GMR xHD3 series radar	Yes	Yes	Yes
GMR Fantom 4/6 series radar	No	No	Yes
GMR Fantom 5x/12x/25x series radar	Yes	Yes	Yes
GMR Fantom 18/24 series radome	No	No	Yes
GMR Fantom 18x/24x series radome	Yes	Yes	Yes
GSI™ 10 sensor interface	No	No	Yes
LiveScope™ GLS™ 10 sonar module	Yes	Yes	Yes
Panoptix PS21/PS22/PS30/PS31/PS51/PS60 transducer	No	No	Yes
GCV™ 10/20 sonar module	No	No	Yes
GSD™ 24/25/26 sonar module	No	No	Yes
GSD 28 sonar module	Yes	Yes	Yes
Fusion Apollo stereos (RA770, RA670, WB675, and so on)	No ¹	Yes	No ²

¹ Has a standard RJ45 connector. Requires an adapter (010-12531-02).

² Should connect to a Garmin BlueNet device using the appropriate adapter.

Device	Does the Device have a Garmin BlueNet Connector?	Can You Connect the Device Directly to a Garmin BlueNet Device?	Can You Connect the Device to a Garmin BlueNet Network through a Garmin BlueNet 30 Gateway?
GC 200 camera ³	Yes	Yes ⁴	Yes
GC 100 camera	No	Yes ⁵	N/A
VIRB [®] cameras	No	Yes ⁶	N/A
Surround View camera system	Yes	Yes	Yes
GXM 53/54 antenna	No	Yes ⁷	Yes
Force [®] and Force Kraken trolling motor	No	Yes ⁶	N/A
EmpirBus™ WDU web server	No	No	Yes
EmpirBus WDU v2 web server	Yes	Yes	Yes
OnDeck GTB 10 hub	No	Yes ⁸	No ⁹
Reactor™ 40 autopilot system	No	No	Yes
ActiveCaptain [®] app	N/A	Yes ⁶	N/A

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³ This device has multiple connection options depending on the power source (*Specific Garmin BlueNet Device Network Connection Requirements and Considerations, page 5*).

⁴ For 24 Vdc installations, this can connect to a Garmin BlueNet device using an adapter cable (010-13094-00). For 12 Vdc installations, no adapter cable is needed.

⁵ Uses a Wi-Fi[®] connection.

⁶ Uses a Wi-Fi connection.

⁷ This can connect to a Garmin BlueNet device using an adapter cable (010-13094-00).

⁸ This must connect to a Garmin BlueNet device using an adapter cable (010-12531-01).

⁹ You should not install this device using the gateway (*Specific Garmin BlueNet Device Network Connection Requirements and Considerations, page 5*).

