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# Introduction

## About This Document

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This document summarizes the network specifications of Yamaha professional audio products. It explains the internal network configuration and control of each product, the signal routing of a Dante network, the maximum number of connections for each application, IP address assignment, and more. For product specifications not listed in this document, refer to the manuals for the corresponding products.

## Note

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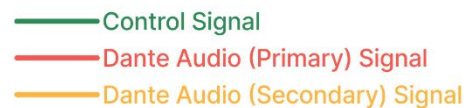
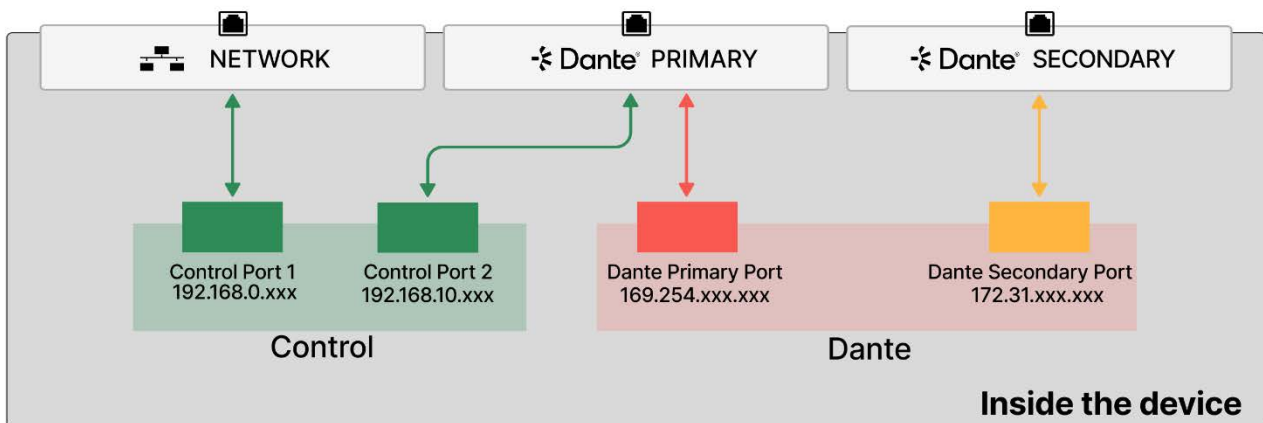
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# Network Configuration

This chapter explains network configuration for each product. Yamaha network audio products are categorized into several types depending on the number of physical connectors and the network interface configuration.

## About Illustrations

In this document, the network configuration of each product is described using illustrations and tables similar to the ones below. This section explains the illustrations and tables.



The diagram above is a simplified diagram of the device's internal network configuration. It shows the signal flow from the NETWORK connector, Dante PRIMARY connector, and Dante SECONDARY connector. Green squares represent network interfaces used to control peripheral devices and from controllers. The red square represents Dante Primary network interface, and the yellow square represents Dante Secondary network interfaces.

Control Application	Maximum Number of Connections
ProVisionaire Control PLUS ProVisionaire Kiosk 3rd Party Device	64
OSC	8
ADM-OSC	8
ProVisionaire Design	1
Sound xR Image Controller	10

The table above shows the maximum number of connections per communication protocol for each application. For example, in the above example, a total of 64 units can be connected via ProVisionaire Control PLUS, ProVisionaire Kiosk, and 3rd Party Devices, and up to 8 units can be connected via OSC.

## Device List

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The products described in this document are listed below.

### New CIS Ecosystem

Category	Product Number	Network Specifications Link
Processor	DME10, DME7	<a href="#">Type1</a>
	DME5, DME3	<a href="#">Type2</a>
Power amplifier	XMV series (non-Dante model)	<a href="#">Type6</a>
	XMV series (Dante model)	<a href="#">Type3</a>
	XMS series (Dante model)	<a href="#">Type2</a>
	XMS series (non-Dante model)	<a href="#">Type6</a>
Speaker	VXL1-16P	<a href="#">Type4</a>
	VXC2P	<a href="#">Type4</a>
Microphone	RM-CG	<a href="#">Type4</a>
	RM-TT	<a href="#">Type4</a>
	RM-WAP-16, RM-WAP-8	<a href="#">Type4</a>
Control Hardware	CTL-BN1	<a href="#">Type6</a>
	MCP1	<a href="#">Type6</a>
	MCP2	<a href="#">Type6</a>
	TCD10	<a href="#">Type6</a>

### Related Products

Category	Product Number	Network Specifications Link
Interface	Rio3224-D3, Rio1608-D3	<a href="#">Type1</a>
	Tio1608-D2	<a href="#">Type3</a>
Speaker	DZR series (Dante model)	<a href="#">Type5</a>

## Type1

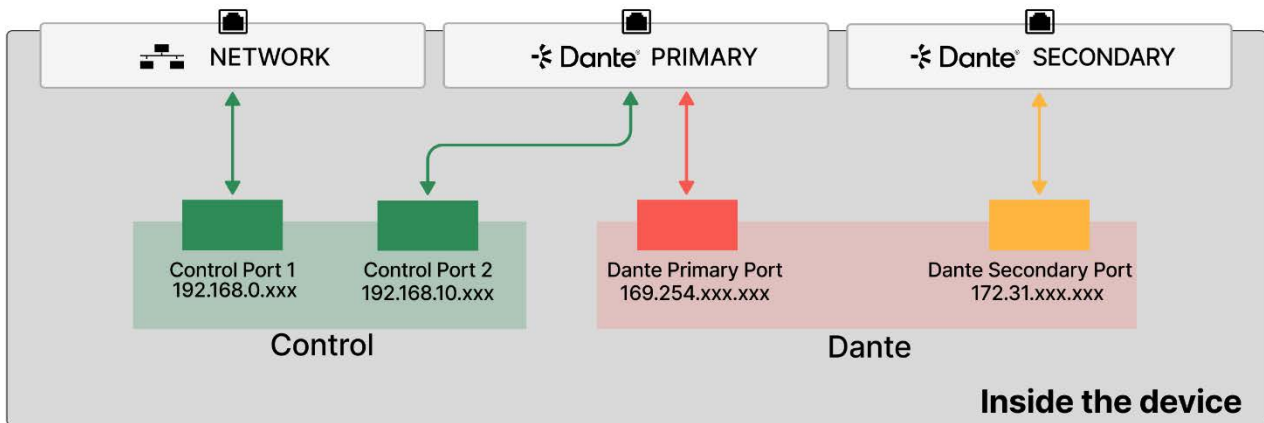
**Applicable Products:** DME10, DME7, Rio3224-D3, Rio1608-D3

**Physical Network Connectors:** NETWORK connector, Dante PRIMARY connector, Dante SECONDARY connector

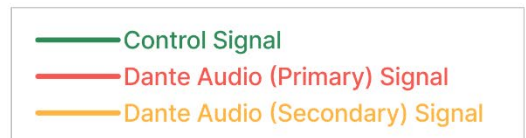
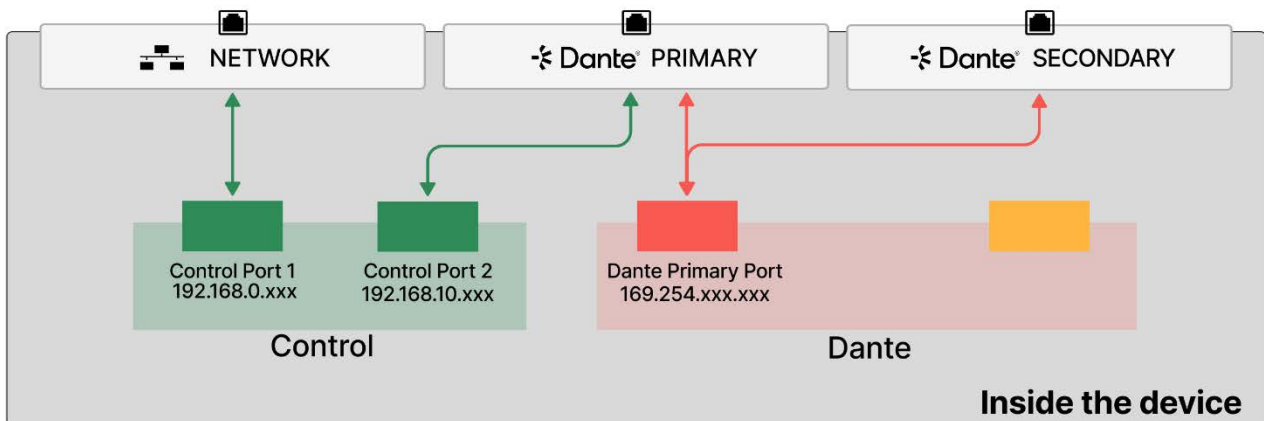
**Number of Control Network Interfaces:** 2

### Internal Network Configuration

#### Redundant



#### Daisy Chain



## Maximum Number of Connections for Each Application

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### ■ DME10, DME7

Control Application	Maximum Number of Connections
ProVisionaire Design	1
ProVisionaire Control PLUS ProVisionaire Kiosk 3rd Party Device	64
OSC	8
ADM-OSC	8
Sound xR Image Controller	10

### ■ Rio3224-D3, Rio1608-D3

Control Application	Maximum Number of Connections
ProVisionaire Design ProVisionaire Control PLUS ProVisionaire Kiosk R-Remote	6

## Type2

**Applicable Products:** DME5, DME3, XMS series (Dante model)

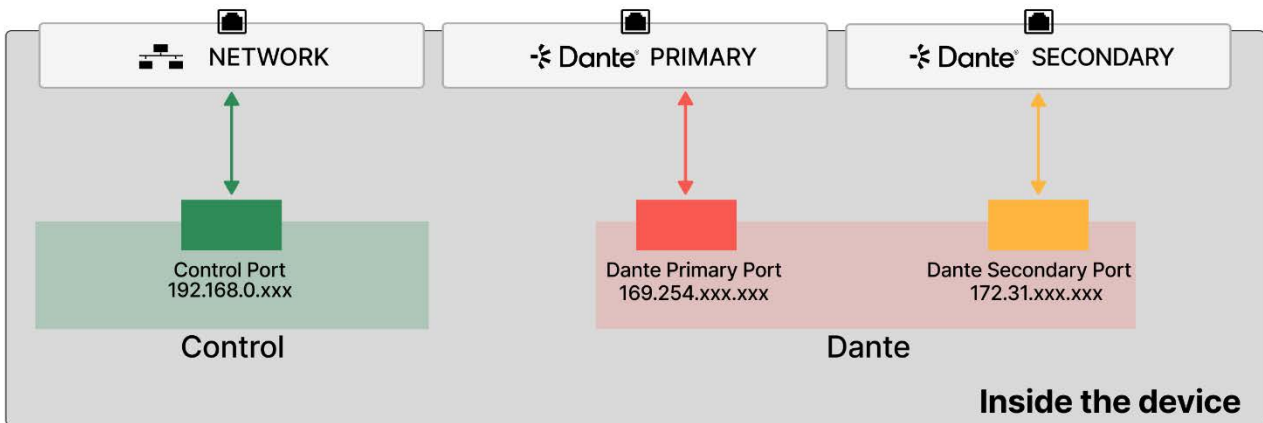
**Physical Network Connectors:** NETWORK connector, Dante PRIMARY connector, Dante SECONDARY connector

**Number of Control Network Interfaces:** 1

### Internal Network Configuration

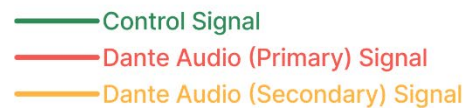
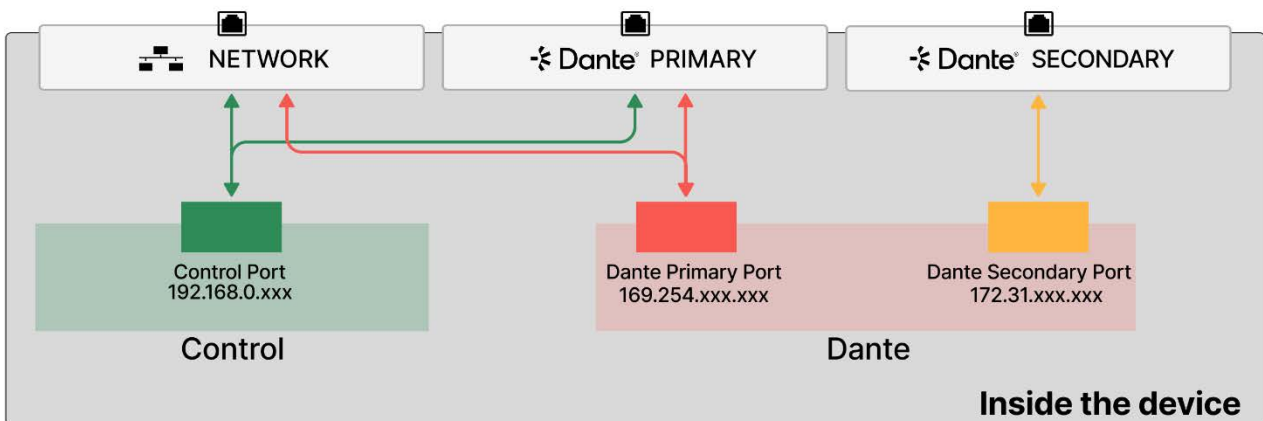
Redundant

When "Control Separated" is selected:



Redundant

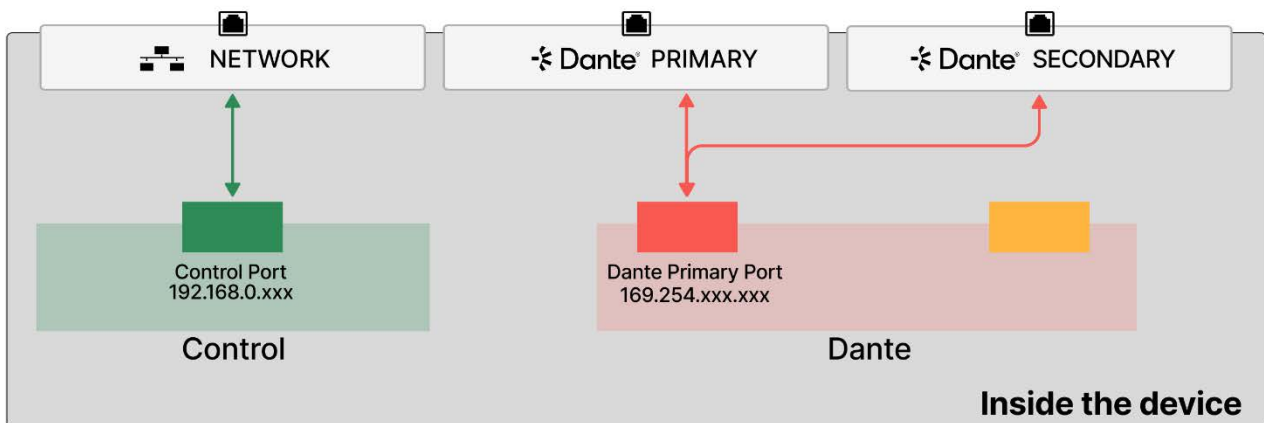
When "Control Merged" is selected:



When "Control Merged" is selected, the NETWORK and Dante PRIMARY connectors are internally connected to each other and perform the same function. Take care when making connections to avoid network loops.

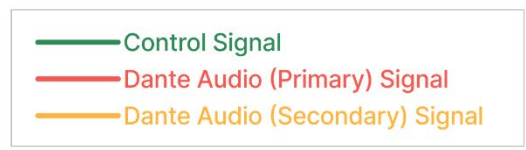
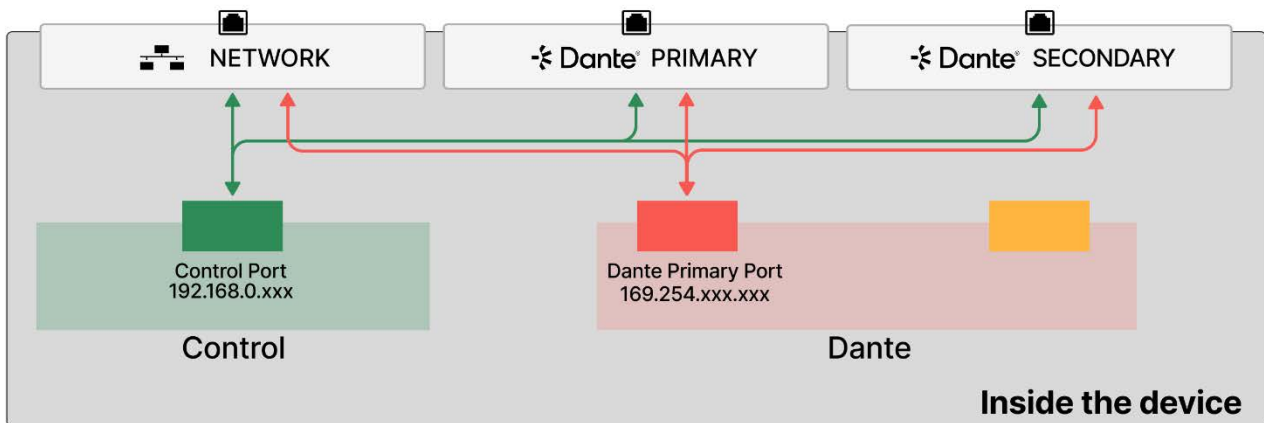
Daisy Chain

When "Control Separated" is selected:



Daisy Chain

When "Control Merged" is selected:



When "Control Merged" is selected, the NETWORK , Dante PRIMARY, and Dante SECONDARY connectors are internally connected to each other, and perform the same function. Take care when making connections to avoid network loops.

## Maximum Number of Connections for Each Application

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### ■ DME5, DME3

Control Application	Maximum Number of Connections
ProVisionaire Design	1
ProVisionaire Control PLUS ProVisionaire Kiosk 3rd Party Device	64
OSC	8
Custom Control Panel	No restriction

### ■ XMS series (Dante model)

Control Application	Maximum Number of Connections
ProVisionaire Design	1
ProVisionaire Control PLUS ProVisionaire Kiosk	8

## Type3

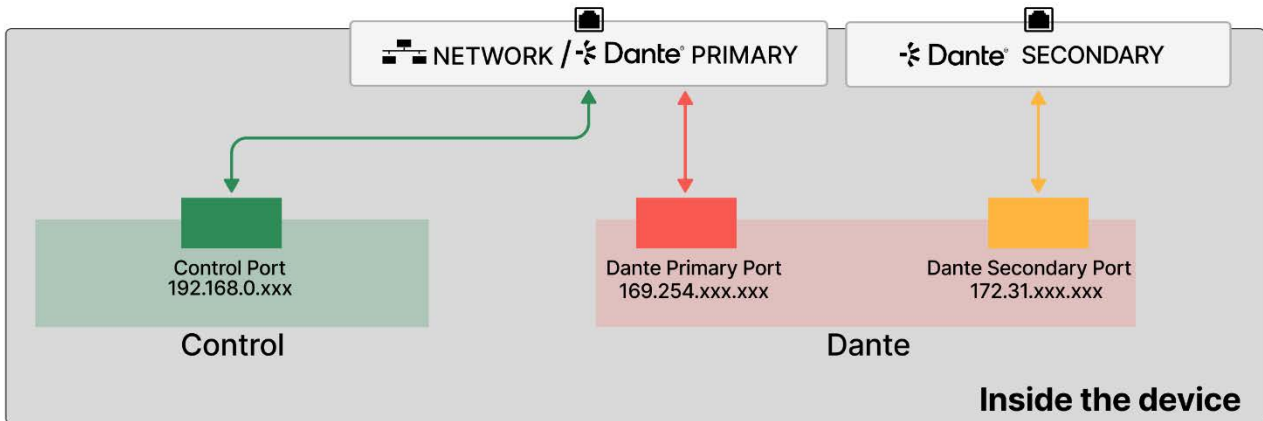
**Applicable Products:** Tio1608-D2, XMV series (Dante model)

**Physical Network Connectors:** NETWORK/Dante PRIMARY connector, Dante SECONDARY connector

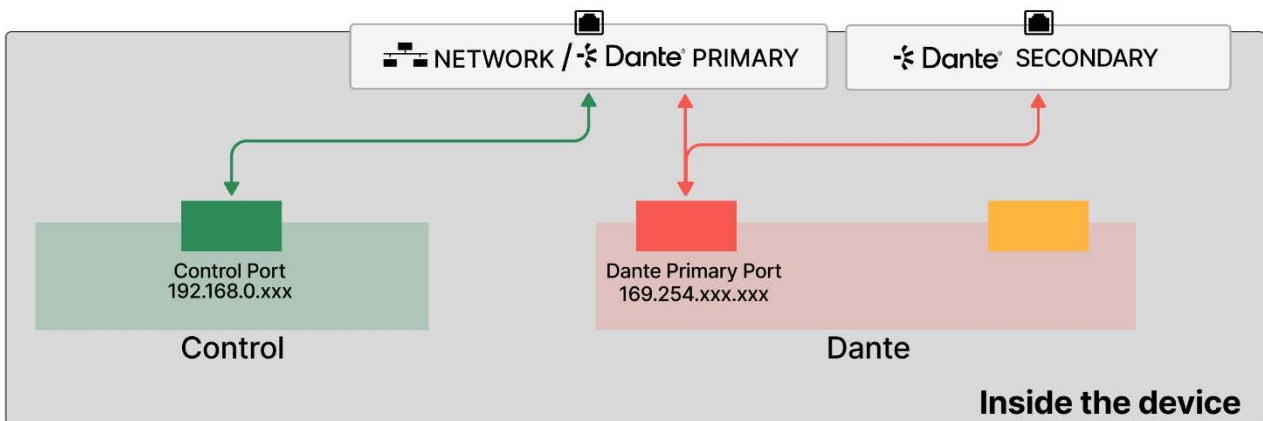
**Number of Control Network Interfaces:** 1

### Internal Network Configuration

#### Redundant



#### Daisy Chain



- Control Signal
- Dante Audio (Primary) Signal
- Dante Audio (Secondary) Signal

## Maximum Number of Connections for Each Application

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### ■ Tio1608-D2

Control Application	Maximum Number of Connections
ProVisionaire Design ProVisionaire Control PLUS ProVisionaire Kiosk R-Remote	6

### ■ XMV series (Dante model)

Control Application	Maximum Number of Connections
ProVisionaire Design	1
ProVisionaire Control PLUS ProVisionaire Kiosk 3rd Party Device	8

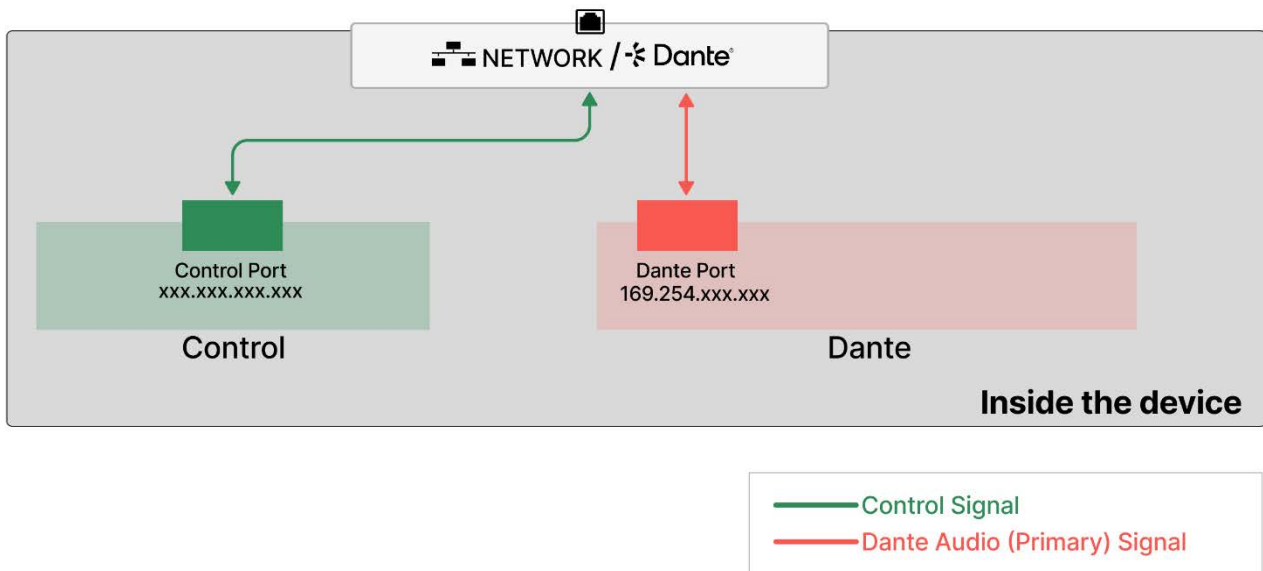
## Type4

**Applicable Products:** VXL1-16P, VXC2P, RM-CG, RM-TT, RM-WAP-16, RM-WAP-8

**Physical Network Connectors:** NETWORK/Dante connectors

**Number of Control Network Interfaces:** 1

### Internal Network Configuration



## Maximum Number of Connections for Each Application

### ■ VXL1-16P, VXC2P

Control Application	Maximum Number of Connections
ProVisionaire Design ProVisionaire Control PLUS ProVisionaire Kiosk RM-CR RM Device Finder	5

### ■ RM-CG, RM-TT

Control Application	Maximum Number of Connections
ProVisionaire Design ProVisionaire Control PLUS ProVisionaire Kiosk RM-CR RM Device Finder	8

### ■ RM-WAP-16, RM-WAP-8

Control Application	Maximum Number of Connections
ProVisionaire Design ProVisionaire Control PLUS ProVisionaire Kiosk 3 <sup>rd</sup> Party Device (Q-SYS Plug In, AMX, Crestron etc.) RM-CR RM Device Finder	8

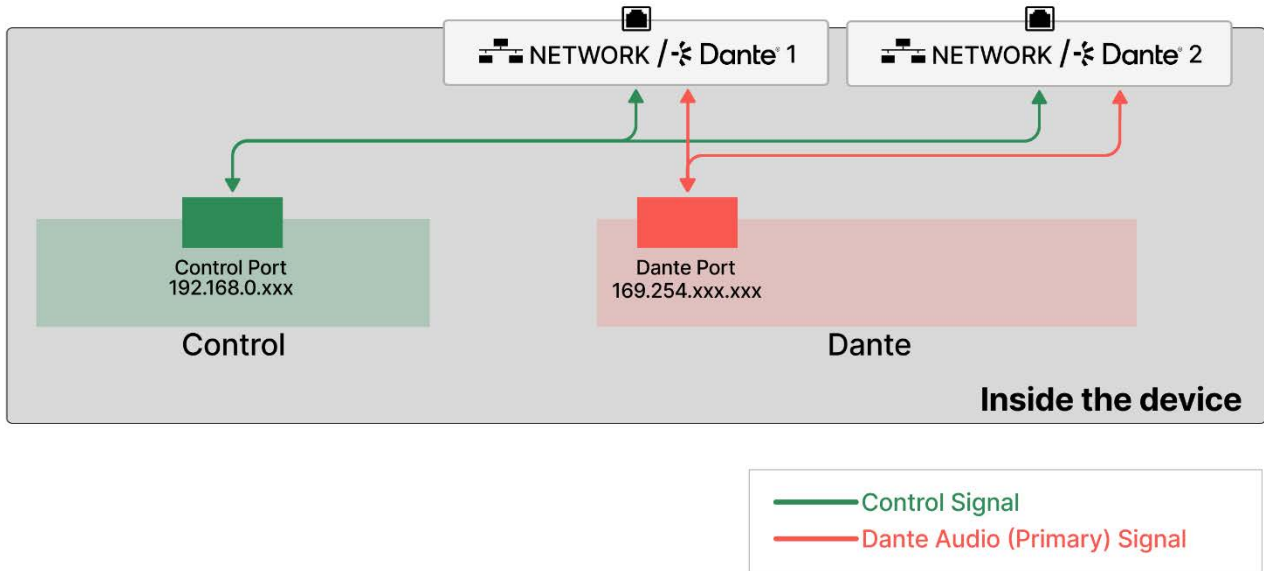
## Type5

**Applicable Products:** DZR series (Dante model)

**Physical Network Connectors:** NETWORK/Dante1 connector, NETWORK/Dante2 connector

**Number of Control Network Interfaces:** 1

### Internal Network Configuration



### Maximum Number of Connections for Each Application

■ DZR series (Dante model)

Control Application	Maximum Number of Connections
ProVisionaire Design ProVisionaire Control PLUS ProVisionaire Kiosk	5

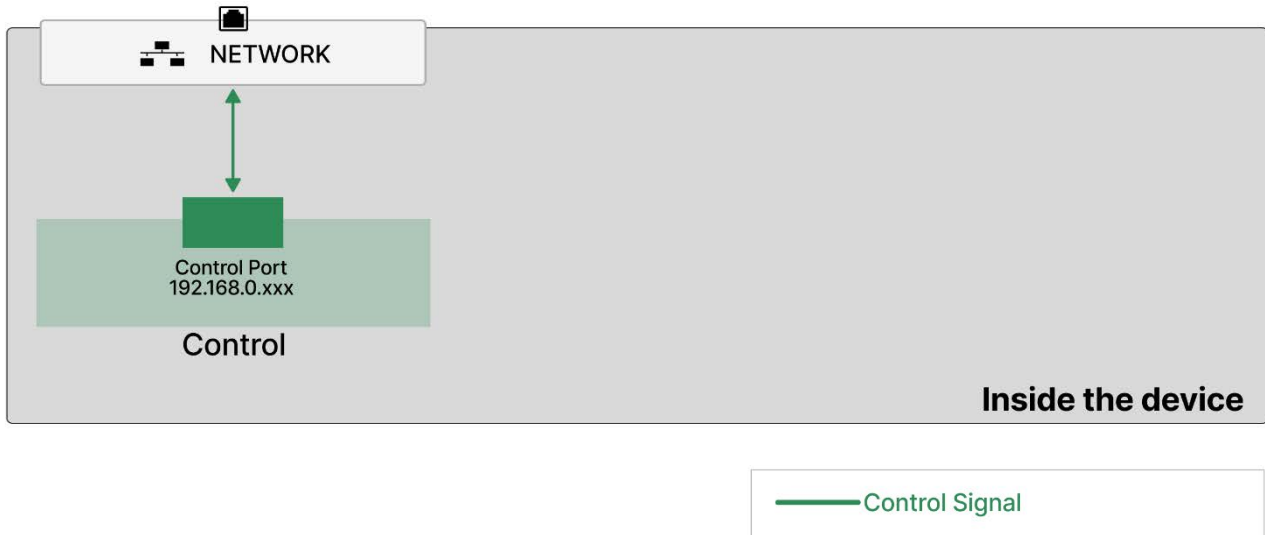
## Type6

**Applicable Products:** XMV series (non-Dante model), XMS series (non-Dante model), CTL-BN1, MCP1, MCP2, TCD10

**Physical Network Connectors:** NETWORK connector

**Number of Control Network Interfaces:** 1

### Internal Network Configuration



## Maximum Number of Connections for Each Application

### ■ XMV series (non-Dante model)

Control Application	Maximum Number of Connections
ProVisionaire Design	1
ProVisionaire Control PLUS ProVisionaire Kiosk 3rd Party Device	8

### ■ XMS series (non-Dante model)

Control Application	Maximum Number of Connections
ProVisionaire Design	1
ProVisionaire Control PLUS ProVisionaire Kiosk	8

### ■ CTL-BN1

Control Application	Maximum Number of Connections
ProVisionaire Design ProVisionaire Control PLUS ProVisionaire Kiosk 3rd Party Device (AMX, Crestron, etc.) RM-CR RM Device Finder	1

### ■ MCP1

Control Application	Maximum Number of Connections
ProVisionaire Design	1
3rd Party Device (AMX, Crestron, etc.)	8

### ■ MCP2

Control Application	Maximum Number of Connections
ProVisionaire Design	5

### ■ TCD10

Control Application	Maximum Number of Connections
DME5, DME3	5

# IP Address Assignment

## Control IP Address Assignment

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The IP addresses used to control Yamaha network devices are as follows. For more information on how to set IP addresses, refer to the respective product manuals.

- **Automatic assignment**
  - **DHCP**  
If the network features a DHCP server, the IP address will be assigned to the device automatically.
  - **Auto IP**  
If the network does not feature a DHCP server, the device will automatically assign a link-local address.
- **Manual assignment**
  - **Unit ID**  
The Unit ID value is used as the IP address. The Unit ID is the fourth octet of the IP Address (192.168.0.Unit ID). You can set the Unit ID using the hardware DIP switches or rotary switches, the device's screen, ProVisionaire Design, etc.
  - **Manual**  
You can set the IP address as you wish.

## Dante IP Address Assignment

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The IP addresses for Dante are as follows. Use Audinate's Dante Controller to assign them. For more information, refer to the Audinate website.

- **Automatic assignment**

If the network features a DHCP server, the IP address will be assigned automatically.

If your network does not feature a DHCP server, link-local addresses (Primary IP 169.254.x.x/16, Secondary IP 172.31.x.x/16) will be automatically assigned.
- **Manual assignment**

You can also assign the IP addresses manually.

## Control IP Address Assignment List

The IP address assignment used to control each device is as follows. For products not listed in the table below, refer to the respective product manuals.

### New CIS Ecosystem

Category	Model	Automatic		Manual		Default
		DHCP	Auto IP	Unit ID	Manual	
Processor	DME10, DME7	✓	*1	✓	✓	Unit ID
	DME5, DME3	✓	✓	✓	✓	Automatic*2
Power amplifier	XMV series (non-Dante model)	✓		✓	✓	Unit ID
	XMV series (Dante model)	✓		✓	✓	Unit ID
	XMS series	✓	✓	✓	✓	Automatic*2
Speaker	VXL1-16P	✓	✓*4	✓	✓	Unit ID
	VXC2P	✓	✓*4	✓	✓	Unit ID
Microphone	RM-CG	✓	✓		✓	Automatic*2
	RM-TT	✓	✓		✓	Automatic*2
	RM-WAP-16, RM-WAP-8	✓	✓		✓	Automatic*2
Control Hardware	CTL-BN1	✓	✓		✓	Automatic*2
	MCP1	✓	✓	✓	✓	Unit ID
	MCP2	✓	✓		✓	Automatic*2
	TCD10	✓	✓		✓	Automatic*2

### Related Products

Category	Model	Automatic		Manual		Default
		DHCP	Auto IP	Unit ID	Manual	
Interface	Rio3224-D3, Rio1608-D3	✓	✓	✓	✓	*3
	Tio1608-D2	✓	✓		✓	Auto IP
Speaker	DZR series (Dante model)	✓	✓	✓	✓	Automatic*2

\*1: Control Port 1 (NETWORK connector) does not support Auto IP, while Control Port 2 (Dante Primary connector) does.

\*2: If a DHCP server is present on the same network, it will use DHCP; if not, it will use Auto IP.

\*3: Control Port 1 (NETWORK connector) uses Manual [192.168.0.2], and Control Port 2 (Dante Primary connector) uses DHCP/Auto IP.

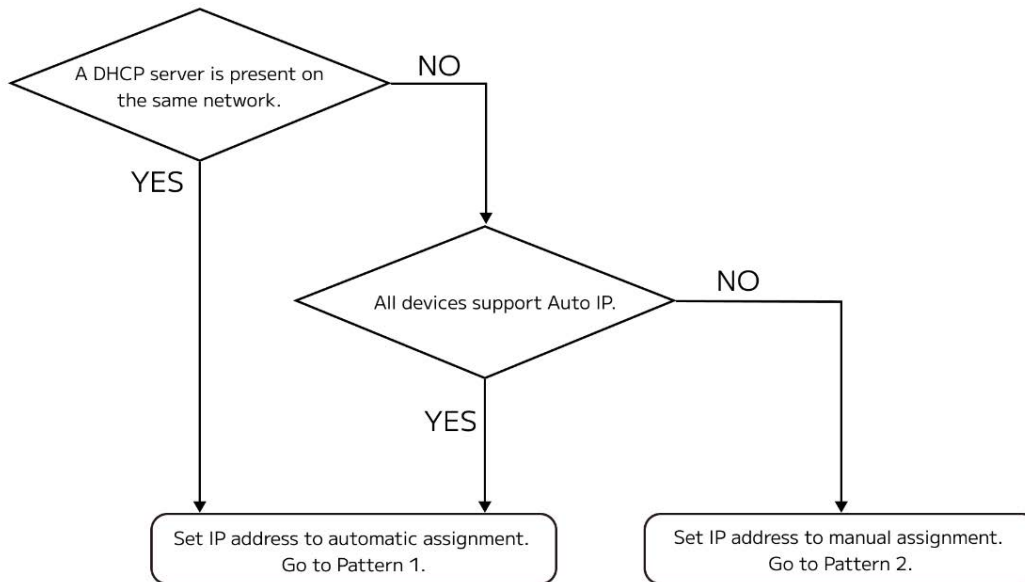
\*4: When using VXL1-16P and VXC2P in IP address auto-assignment mode (PC mode), set DIP switch 6 to OFF and restart the device.



## Network Connection Method

This section explains how to connect factory-shipped devices to the control network and enable communication via ProVisionaire Design.

First, follow the flow chart below to check the system specifications. To find out whether your device supports Auto IP, refer to the ["IP Address Assignment List."](#)



All devices listed in this manual, except for the XMV series, support Auto IP. If a DHCP server is present on the network, or if the system is configured using only Auto IP compatible devices, we recommend that you use automatic IP address assignment.

### Pattern 1 If a DHCP server is present or all devices support Auto IP

IP address auto-assignment will be applied, and the IP addresses of all devices will be automatically set to the same network. Simply connect devices to the same network using the following procedure to set up communication with ProVisionaire Design without manual assignment.

#### Network connection procedure

1. **If any devices have their default IP address assignments set to manual mode, change them to automatic mode and restart the devices.**  
You can switch modes using the device's DIP switches, etc. For more information, refer to the manual for each device.
2. **Set the PC's IP address to automatic assignment.**
3. **Connect all devices, the PC, and the DHCP server (if any) to the network.**
4. **Launch ProVisionaire Design.**
5. **In the "Network Setup" dialog, select the checkbox for the network card that will communicate with the devices, and then click the [OK] button.**  
When the file selection dialog appears, click [X] to close the screen.
6. **Make sure that all devices are displayed in the network area of ProVisionaire Design.**
7. **Assign unique Unit IDs in ProVisionaire Design.**

## Pattern 2

### If a DHCP server is not present, and some devices do not support Auto IP

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You must manually set the IP addresses of all devices to static IP addresses.

For a smoother connection, first connect Auto IP-compatible devices to ProVisionaire Design with their IP addresses set to Auto IP, change them to static IP addresses, and then connect non-Auto IP-compatible devices.

#### Network connection procedure

- 1. Set the PC's IP address to automatic assignment.**
- 2. Connect the Auto IP-compatible devices and the PC to the network.**  
Do not connect non-Auto IP-compatible devices yet.
- 3. Launch ProVisionaire Design.**
- 4. In the "Network Setup" dialog, select the checkbox for the network card that will communicate with the devices, and then click the [OK] button.**  
When the file selection dialog appears, click [X] to close the screen.
- 5. Make sure that the devices are displayed in the network area of ProVisionaire Design.**
- 6. In ProVisionaire Design, go to System menu > IP Settings > IP Address and set the IP address of each device to a fixed IP address [192.168.0.xxx/255.255.255.0].**



Be careful not to duplicate IP addresses.



You can also use a function in ProVisionaire Design to set fixed IP addresses all at once. For more information, refer to the "Auto-Assign IP Addresses dialog box" section in the "Provisionaire Design User Guide."

- 7. After changing the IP addresses, restart the device to apply the changes.**
- 8. Set the PC's IP address to a fixed IP address [192.168.0.xxx/255.255.255.0].**
- 9. Set a device that does not support Auto IP to Unit ID mode, and then set the Unit ID.**  
The device's IP address will be set to "192.168.0.Unit ID/255.255.255.0".  
You can switch modes and set the Unit IDs using the device's DIP switches or on the device's screen. For more information, refer to the manual for each device.



Be careful not to duplicate the IP address of another device that you have already set in step 7.

- 10. Connect the non-Auto IP-compatible devices to the network.**
- 11. Make sure that all devices are displayed in the network area of ProVisionaire Design.**

