NETGEAR®

ReadyNAS Duo and NV+

Hardware Manual

Technical Support

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Getting Started

1

Congratulations on your purchase of a NETGEAR ReadyNAS® storage system. This *ReadyNAS Duo and NV+ Hardware Manual* describes the physical features of the Duo and NV+ storage systems.

This chapter contains the following sections:

- *Additional Documentation*
- *Setup Location*
- *System Requirements*
- *Diskless Units*

Additional Documentation

For detailed information about configuring, managing, and using your ReadyNAS Duo or NV+ storage system, see the *ReadyNAS RAIDiator 4.1 Software Manual*, which is available at *http://www.readynas.com/documentation*.

NETGEAR maintains a community website that supports ReadyNAS products. Visit *http://readynas.com* for reviews, tutorials, a comparison chart, software updates, documentation, an active user forum, and much more.

Setup Location

Your ReadyNAS Duo or NV+ is suitable for use in a home or small office environment where it can be freestanding. The small, compact size makes it suitable for sitting on a desk or on a closet shelf.

Choose a location for your system that meets these criteria:

- Cables can be connected easily.
- Water or moisture cannot enter the case.
- Airflow around the system and through the vents in the side of the case is not restricted.
- The air is as free of dust as possible.
- Temperature operating limits are not likely to be exceeded.
- If you are using an uninterruptable power supply (UPS) for protection, the power cable can be securely and safely connected to the UPS.

System Requirements

Your ReadyNAS Duo or ReadyNAS NV+ requires the following:

- Ethernet connection
- A computer with Microsoft Windows 7, Vista, XP, 2000, Mac OS, UNIX, or Linux operating system
- Microsoft Internet Explorer 7.0+, Apple Safari, 2.0+, Mozilla Firefox 2.0+, Opera 9.5+, or Google Chrome 10+ browser
- Hard disk drive or drives from the NETGEAR Hardware Compatibility List; see *http://www.readynas.com/hard_disk_hcl*.

Diskless Units

If you purchased a ReadyNAS storage system without a preinstalled hard disk drive or drives, follow this procedure before you use your system. This procedure is illustrated with a Duo, but the same steps apply for an NV+.

This procedure configures the disk or disk you install as X-RAID®. If you want to use Flex-RAID, see the *ReadyNAS RAIDiator 4.1 Software Manual*.

➢ **To prepare a diskless system for first use:**

1. Obtain at least one hard disk drive that appears on the NETGEAR Hardware Compatibility List.

   See *http://www.readynas.com/hard_disk_hcl*.

   Note: If you use a formatted disk, the disk will be reformatted, erasing all the data on it. If you want to save the data, copy it to another disk. For more information, see *Previously Formatted Disks* on page 26.
   ---

2. With the system turned off, insert a disk into a drive bay, as follows:

   a. Press the disk tray release latch.
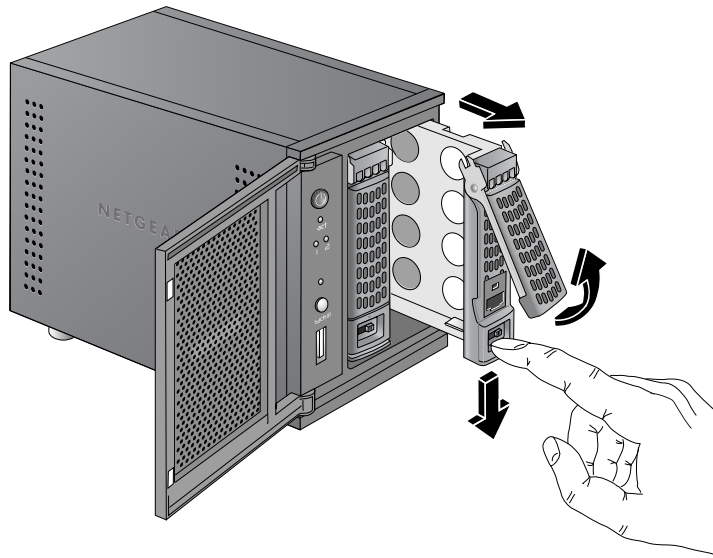
   The tray handle pops out.

b. Pull out the disk tray, place the new disk on the tray, and assemble the disk and tray with the screws that came with your system.

Make sure that the hard disk connectors face the interior of the disk bay.
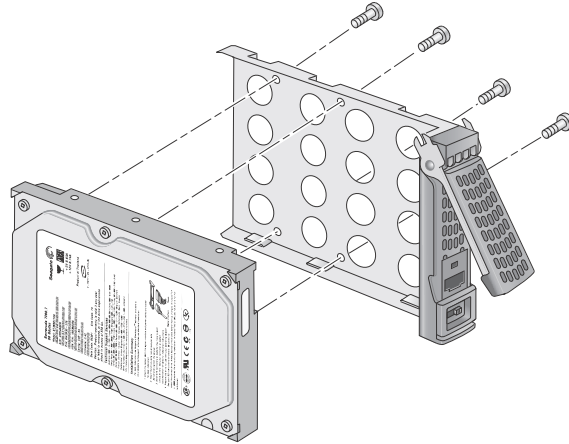
c. Slide the disk tray back into the system and press the handle to secure the disk.

3. If you are using unformatted disks, turn the system on.

If you are using previously formatted disks, perform a factory reset.

a. WIth a straightened paper clip, press and hold the **Reset** button.

b. Press and release the **Power** button to power on the system.

c. Do one of the following:

- If you have a ReadyNAS Duo, continue to hold the **Reset** button until the disk LEDs flash twice (once at 5 seconds and then 25 seconds later), and then release the button.

- If you have a ReadyNAS NV+, continue to hold the **Reset** button until "Factory Reset" appears in the status display screen (after about 30 seconds), and then release the **Reset** button.

The factory reset takes up to 30 minutes. It tests and formats the disks, installs the operating system, and creates a new volume. You can follow the progress in RAIDar. For more information about RAIDar, see the *ReadyNAS RAIDiator 4.1 Software Manual*.

If you are installing multiple disks, your ReadyNAS system synchronizes them next. This might take several hours, depending on the disk size. You can continue to set up and use your ReadyNAS system as it synchronizes the disks.

Follow the instructions in *ReadyNAS RAIDiator 4.1 Software Manual*, which is available at *http://www.readynas.com/documentation*, to finish setting up the ReadyNAS system.

ReadyNAS Duo

2

This chapter provides an overview of the physical features of the ReadyNAS Duo and includes the following sections:

- *Front and Side Panels*
- *Drive Bays*
- *Rear Panel*
- *Status Information*
- *System Shutdown*
- *Boot Menu*

Front and Side Panels

The following figure shows the front and side panels of the ReadyNAS Duo.
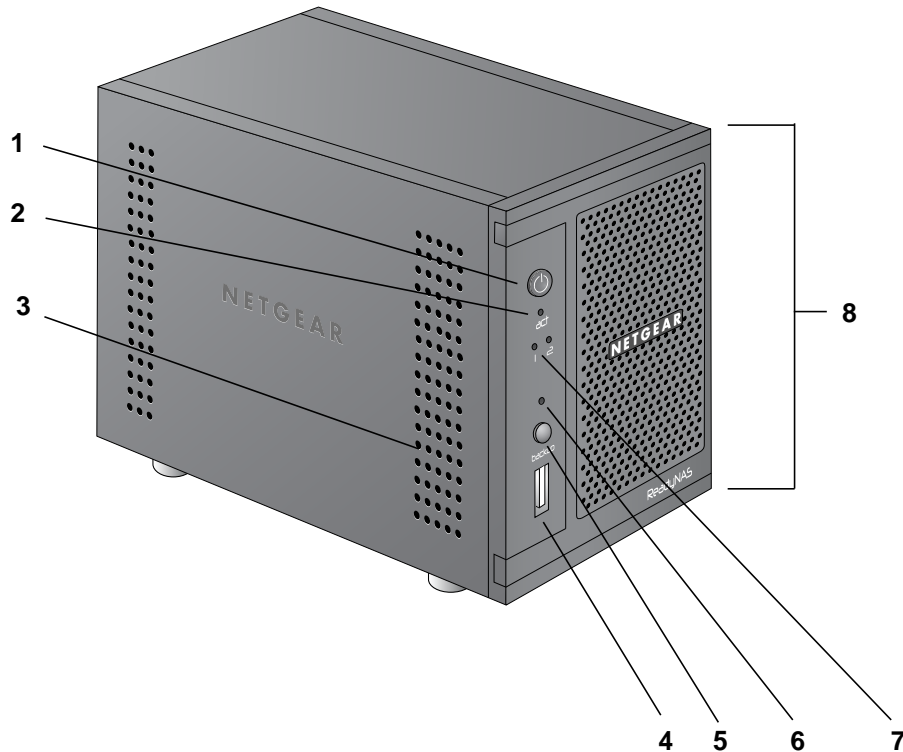
Figure 1. ReadyNAS Duo front and side panels

1. Power button and LED

2. Disk Activity LED

3. Exhaust vent

4. USB 2.0 port

5. Backup button

6. USB and Backup status LED

7. Disk 1 and Disk 2 LEDs

8. Drive bay door

Drive Bays

The following figure shows the drive bays of the ReadyNAS Duo.
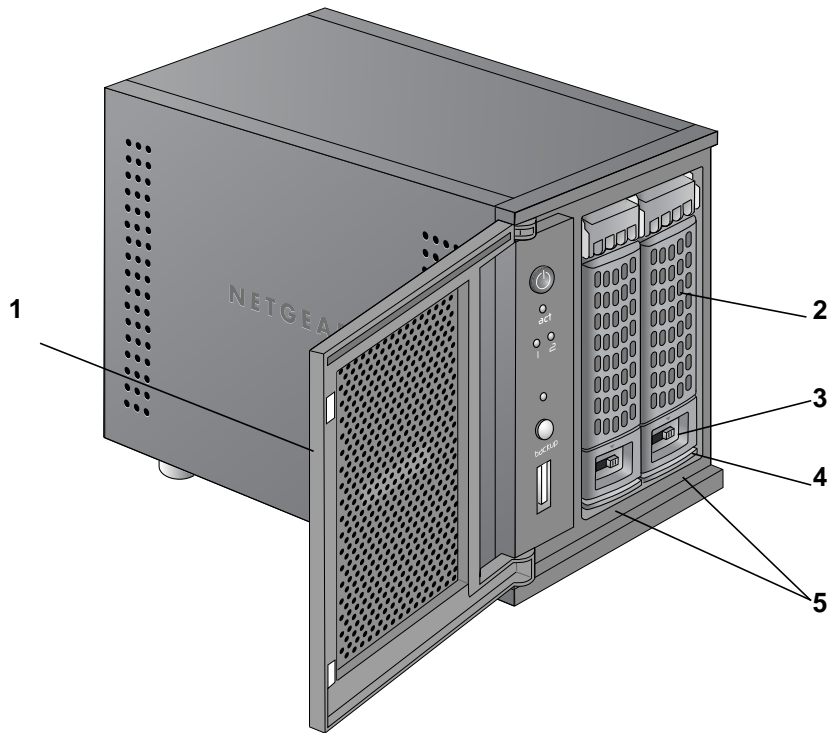
Figure 2. ReadyNAS Duo drive bay

1. Drive bay door

2. Disk tray handle

3. Recessed drive tray locking mechanism

4. Drive tray release latch

5. Drive bays

The following figure shows a ReadyNAS Duo disk tray.
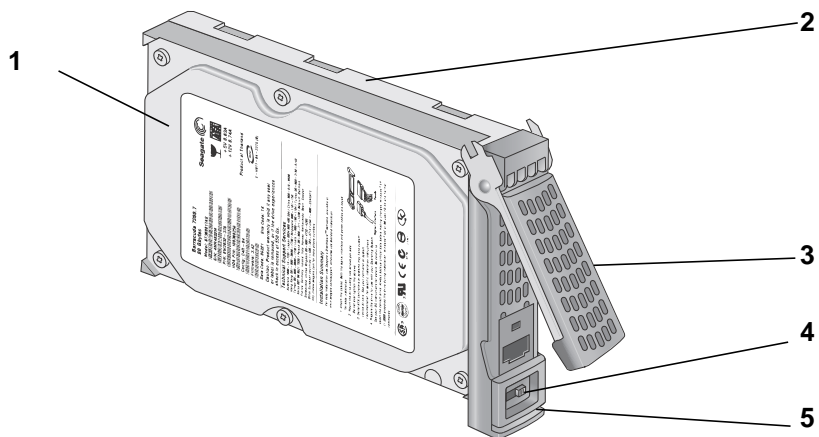
Figure 3. ReadyNAS Duo disk tray

1. Hard drive

2. Disk tray

3. Disk tray handle

4. Recessed disk tray locking mechanism

5. Disk tray release latch

Rear Panel

The following figure shows the rear panel of ReadyNAS Duo.

Figure 4. ReadyNAS Duo rear panel

1. Exhaust fan

2. Kensington lock

3. Reset button

4. USB 3.0 ports

5. 1-gigabit Ethernet port with LED status indicators

6. Power adapter socket

Status Information

You can obtain information about the status of your system by reviewing the indicators listed in the following table.

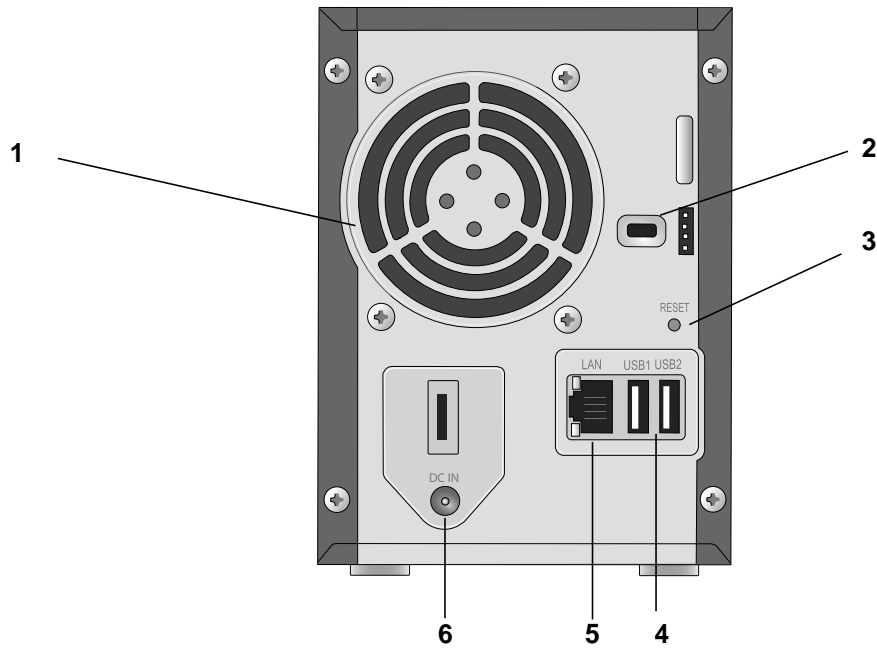| Indicator	Description
Power button and LED	Press this button to turn on the ReadyNAS. The LED has these states: • **Blinking**. Booting or shutting down • **On**. Powered on • **Off**. Powered off
Disk LEDs (1, 2)	Each disk bay has an LED associated with it on the front panel of the system. The Disk LEDs have these states: • **On**. Power is on, and the disk is operating normally. • **Blinking**. The disk was removed, failed, or is resynchronizing. • **Off**. The disk bay is empty.
Disk Activity LED	The Disk Activity LED has these states: • **Blinking**. A disk is active. • **Off**. No disks are active.
Rear panel Ethernet port LEDs	Two LED status indicators are built into this port, one green and one amber. They indicate port speed and activity as follows: • **Green on, amber off**. 1000 Mbps connection speed, no activity • **Green blinking, amber off**. 1000 Mbps connection speed, activity • **Green off, amber on**. 10 Mbps or 100 Mbps connection speed, no activity • **Green off, amber blinking**. 10 Mbps or 100 Mbps connection speed, no activity • **Green off, amber off**. No connection

System Shutdown

You can shut down your system in these ways:

• To shut down the system gracefully, press and hold the **Power** button until the Power button LED flashes (about 5 seconds).

• To force the system to shut down when it is not responding, unplug it.

• To shut down your system from your computer, use FrontView. For more information, see the *ReadyNAS RAIDiator 4.1 Software Manual*, which is available at *http://www.readynas.com/documentation*.

Boot Menu

Use the boot menu to restart or troubleshoot your ReadyNAS system. The ReadyNAS Duo has the following boot modes:

- **Factory reset**. Performs a short disk test and then allows you to reset your system to the factory defaults or switch between X-RAID and Flex-RAID. The system performs the disk test, which takes about 5 minutes, waits 10 minutes, and then restores the system to its factory settings. During the 10-minute window, you can shut down the system to avoid erasing its settings and files, or you can use RAIDar to format the system's disks as Flex-RAID instead of X-RAID. If you do not shut down the system or use RAIDar to reformat the system, the system is reset to factory settings, all files on the system are erased, and the disks are formatted using the same disk configuration that was previously used. (For more information about X-RAID and Flex-RAID, see the *ReadyNAS RAIDiator 4.1 Software Manual*, which is available at *http://www.readynas.com/documentation*.)

- **OS reinstall**. Reinstalls the firmware from the system's internal flash to its disks. Use the OS reinstall boot mode when the system crashes and corrupts some configuration files. OS reinstall boot mode also resets some settings on your system, such as Internet protocol settings and the administrator password, to defaults.

- **Tech support**. Boots into a low-level diagnostic mode. Use the tech support boot mode only when instructed to do so by a NETGEAR technical support representative.

- **Skip volume check**. Bypasses file system checks. After a system crash, the system tries to scan and fix the volume using a file system check. If several problems are found on a disk, this process can stall, causing the system not to boot. Use this option to skip the scan and let the system boot. Use this boot mode only if instructed to do so by a NETGEAR technical support representative. Otherwise, you might lose data.

- **Memory test**. Performs a memory test. The pass or fail result is reported using the system's LEDs. Contact a NETGEAR technical support representative to interpret memory test results.

- **Disk test**. Performs an offline full disk test that can take 4 hours or more, depending on the size of your disks. To view the results of the test, use the RAIDar discovery tool.

- **TFTP boot**. Replaces the firmware on your system with an image from your computer. Use this boot mode only if instructed to do so by a NETGEAR technical support representative. Otherwise, you might lose data.

- **USB boot**. Replaces the firmware on your system with an image from a USB flash drive connected to the system. Use this boot mode only if instructed to do so by a NETGEAR technical support representative. Otherwise, you might lose data.

➤ **To perform an OS reinstall or factory reset:**

1. Power off your system.

2. Using a straightened paper clip, press and hold the **Reset** button.

3. Press and release the **Power** button to power on the system.

4. To perform an OS reinstall, continue to hold the **Reset** button until all Disk LEDs flash once, after about 5 seconds, and then release the button.

   To perform a factory reset, continue to hold the **Reset** button until all Disk LEDs flash twice (once at 5 seconds and then 25 seconds later), and then release the button.

➤ **To perform a skip volume check, tech support mode, or memory test, TFTP boot, or USB boot:**

1. Power off your system.

2. Press and hold the **Power** button until all Disk LEDs flash the correct number of times, and then release the button.

Boot menu mode	Action to select
Skip volume check	Press the **Power** button and continue to press it for 5 seconds; release after all Disk LEDs flash 1 time.
TFTP boot	Press the **Power** button and continue to press it for 10 seconds; release after all Disk LEDs flash 2 times.
Tech support mode	Press the **Power** button and continue to press it for 15 seconds; release after all Disk LEDs flash 3 times.
USB boot	Press the **Power** button and continue to press it for 20 seconds; release after all Disk LEDs flash 4 times.
Memory test	Press the **Power** button and continue to press it for 25 seconds; release after all Disk LEDs flash 5 times.

For example, to perform a skip volume check, press and hold the **Power** button until all Disk LEDs flash once, after 5 seconds. To perform a TFTP boot, press and hold the **Power** button until all Disk LEDs flash twice, once after 5 seconds and then 5 seconds later.

ReadyNAS NV+

3

This chapter provides an overview of the physical features of the ReadyNAS NV+ and includes the following sections:

- *Front and Side Panels*
- *Drive Bays*
- *Rear Panel*
- *Status Information*
- *System Shutdown*
- *Boot Menu*

Front and Side Panels

The following figure shows the front and side panels of the ReadyNAS NV+.
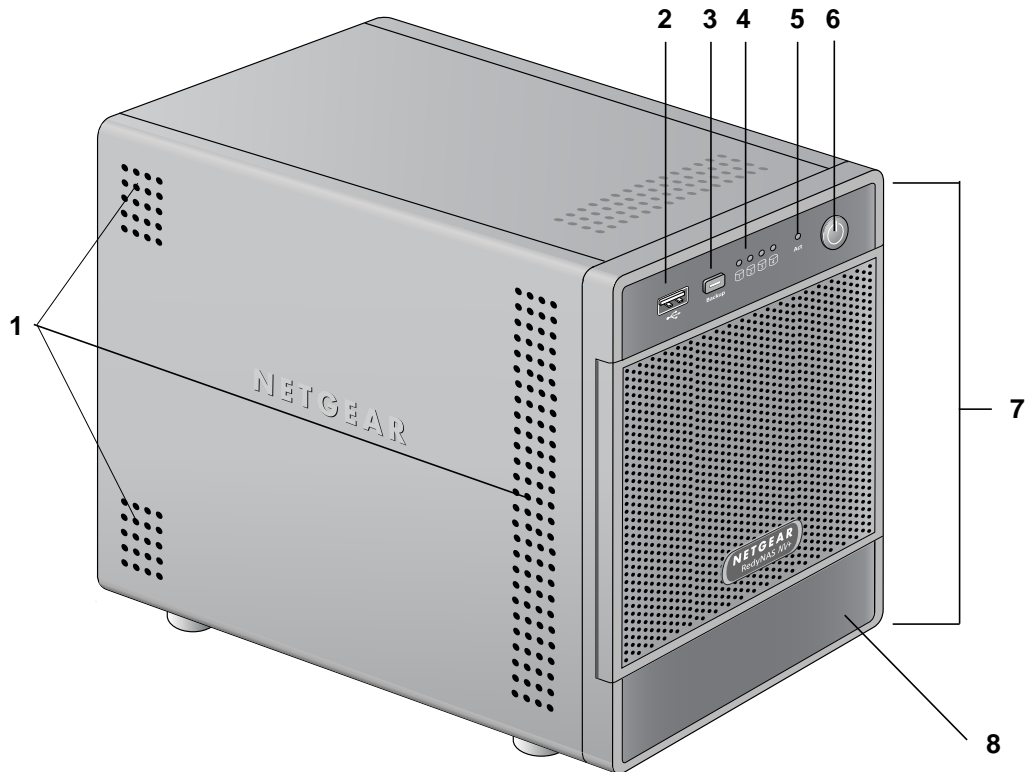
Figure 5. ReadyNAS NV+ front and side panels

1. Exhaust vents

2. USB 2.0 port

3. Backup button and Backup LED

4. Disk LEDs

5. Disk Activity LED

6. Power button and LED

7. Drive bay door

8. Status display screen

Drive Bays

The following figure shows the drive bays of the ReadyNAS NV+.
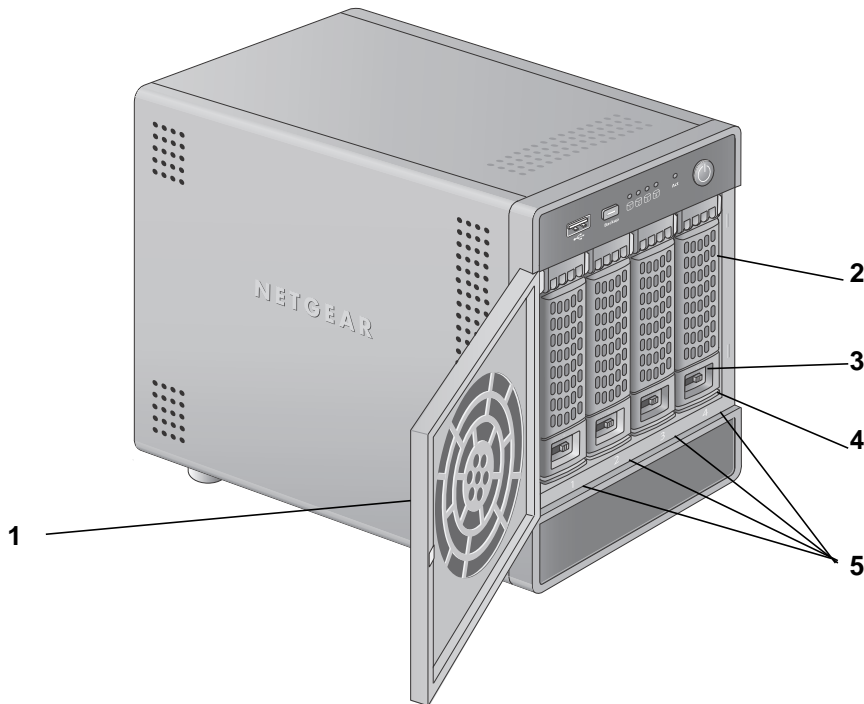
Figure 6. ReadyNAS NV+ drive bay

1. Drive bay door
2. Disk tray handle
3. Recessed drive tray locking mechanism
4. Drive tray release latch
5. Drive bays

The following figure shows a ReadyNAS NV+ disk tray.
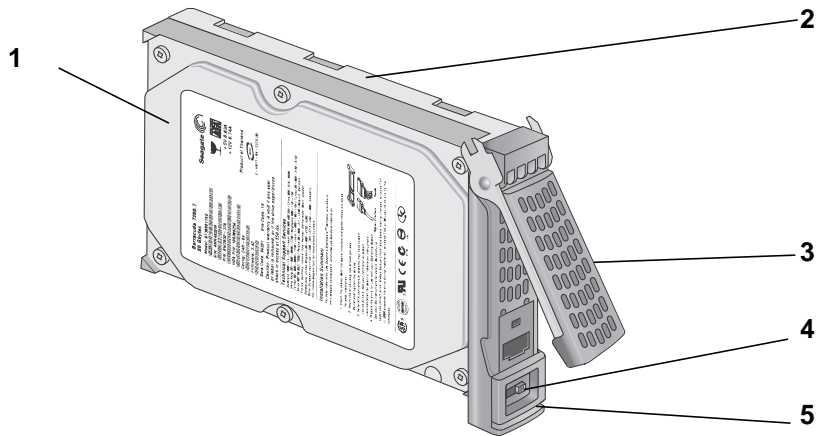
Figure 7. ReadyNAS NV+ disk tray

1. Hard drive

2. Disk tray

3. Disk tray handle

4. Recessed disk tray locking mechanism

5. Disk tray release latch

Rear Panel

The following figure shows the rear panel of the ReadyNAS NV+.

Figure 8. ReadyNAS NV+ rear panel

1. Reset button

2. USB 3.0 ports

3. 1-gigabit Ethernet port with LED status indicators

4. Exhaust fan

5. Power cable socket

6. Kensington lock

Status Information

You can obtain information about the status of your system by reviewing the indicators listed in the following table.

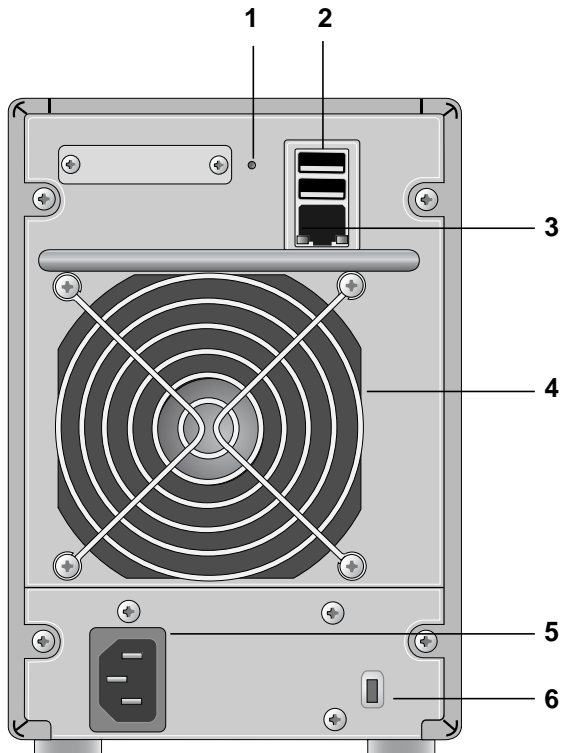| Indicator	Description
Power button and LED	Press this button to turn on your ReadyNAS system. The LED has these states: • **Blinking**. Booting or shutting down • **On**. Powered on • **Off**. Powered off
Disk LEDs (1, 2, 3, 4)	Each disk bay has an LED associated with it on the front panel of the system. The Disk LEDs have these states: • **On**. Power is on, and the disk is operating normally. • **Blinking**. The disk was removed, failed, or is resynchronizing. • **Off**. The disk bay is empty.
Disk Activity LED	The Disk Activity LED has these states: • **Blinking**. A disk is active. • **Off**. No disks are active.
Rear panel Ethernet port LEDs	Two LED status indicators are built into this port, one green and one amber. They indicate port speed and activity as follows: • **Green on, amber off**. 1000 Mbps connection speed, no activity • **Green blinking, amber off**. 1000 Mbps connection speed, activity • **Green off, amber on**. 10 Mbps or 100 Mbps connection speed, no activity • **Green off, amber blinking**. 10 Mbps or 100 Mbps connection speed, no activity • **Green off, amber off**. No connection

System Shutdown

You can shut down your system in one of these ways:

• To shut down the system gracefully, press and hold the **Power** button until the Power button LED flashes and the status display screen displays "Shutting down" (about 5 seconds).

• To force the system to shut down when it is not responding, unplug it.

• To shut down your system from a computer, use FrontView. For more information, see the *ReadyNAS RAIDiator 4.1 Software Manual*, which is available at *http://www.readynas.com/documentation*.

Boot Menu

Use the boot menu to restart or troubleshoot your ReadyNAS system. The ReadyNAS NV+ has the following boot modes:

- **Factory reset**. Performs a short disk test and then allows you to reset your system to the factory defaults or switch between X-RAID and Flex-RAID. The system performs the disk test, which takes about 5 minutes, waits 10 minutes, and then restores the system to its factory settings. During the 10-minute window, you can shut down the system to avoid erasing its settings and files, or you can use RAIDar to format the system's disks as Flex-RAID instead of X-RAID. If you do not shut down the system or use RAIDar, the system is reset to factory settings, all files on the system are erased, and the disks are formatted using the same disk configuration that was previously used. (For more information about X-RAID and Flex-RAID, see the *ReadyNAS RAIDiator 4.1 Software Manual*, which is available at *http://www.readynas.com/documentation*.)

- **OS reinstall**. Reinstalls the firmware from the system's internal flash to its disks. Use the OS reinstall boot mode when the system crashes and corrupts some configuration files. OS reinstall boot mode also resets some settings on your system, such as Internet protocol settings and the administrator password, to defaults.

- **Tech support**. Boots into a low-level diagnostic mode. Use the tech support boot mode only when instructed to do so by a NETGEAR technical support representative.

- **Skip volume check**. Bypasses file system checks. After a system crash, the system tries to scan and fix the volume using a file system check. If several problems are found on a disk, this process can stall, causing the system not to boot. Use this option to skip the scan and let the system boot. Use this boot mode only if instructed to do so by a NETGEAR technical support representative. Otherwise, you might lose data.

- **Memory test**. Performs a memory test. The pass or fail result is reported using the system's LEDs. Contact a NETGEAR technical support representative to interpret memory test results.

- **Disk test**. Performs an offline full disk test that can take 4 hours or more, depending on the size of your disks. To view the results of the test, use the RAIDar discovery tool.

- **TFTP boot**. Replaces the firmware on your system with an image from your computer. Use this boot mode only if instructed to do so by a NETGEAR technical support representative. Otherwise, you might lose data.

- **USB boot**. Replaces the firmware on your system with an image from a USB flash drive connected to the system. Use this boot mode only if instructed to do so by a NETGEAR technical support representative. Otherwise, you might lose data.

➢ **To perform an OS reinstall or factory reset:**

1. Power off your system.

2. Using a straightened paper clip, press and hold the **Reset** button.

3. As you continue to hold the **Reset** button, press and release the **Power** button.

4. When the name of the correct boot mode displays in the status display screen, release the **Reset** button.

   "OS reinstall" displays in the status display in 5 seconds. "Factory Reset" displays 25 seconds later.

➢ **To perform a skip volume check, tech support mode, or memory test, TFTP boot, or USB boot:**

1. Power off your system.

2. Press and hold the **Power** button.

3. When the name of the correct boot mode displays in the status display screen, release the **Power** button.

   The name changes every 5 seconds, and the names display in this order: "Skip volume check," "TFTP boot," "Tech support mode," "USB boot," and "Memory test."

Disks

4

Use only supported disks in your ReadyNAS storage system. If you use nonsupported disks, NETGEAR technical support will not provide assistance. For a list of supported disks, see the NETGEAR Hardware Compatibility List at *http://www.readynas.com/hard_disk_hcl*.

For information about configuring disks on your ReadyNAS storage system, see the *ReadyNAS RAIDiator 4.1 Software Manual*, which is available at *http://www.readynas.com/documentation*.

This chapter includes the following topics:

- *Previously Formatted Disks*
- *Adding a Disk*
- *Failed Disk Notification*
- *Replacing a Disk*

Previously Formatted Disks

You need to take care when using previously formatted disks in your ReadyNAS system, as described in the following table.

Table 1. Previously formatted disk precautions

System Status	Precaution
ReadyNAS system has no disks (diskless)	Turn the system off and insert the disk as described in *Diskless Units* on page 7. Then, perform a factory default reboot as described in *Boot Menu* on page 15. **Note:** This process erases all data and reformats the previously formatted disk to X-RAID. If you want to preserve the data on the disk, you need to move the data to an external drive before using the previously formatted disk in your ReadyNAS system.
ReadyNAS system is operating with one or more disks	With the system running, insert the disk in an empty disk bay as described in *Adding a Disk* on page 27. The system automatically formats the disk in the same format as your existing disks. **Note:** This process erases all data on the previously formatted disk. If you want to preserve the data on the disk, you need move the data to an external drive before using the previously formatted disk in your ReadyNAS system.

To obtain support from NETGEAR technical support, you must use previously formatted disks that appear on the NETGEAR Hardware Compatibility List. The list is available at *http://www.readynas.com/hard_disk_hcl*.
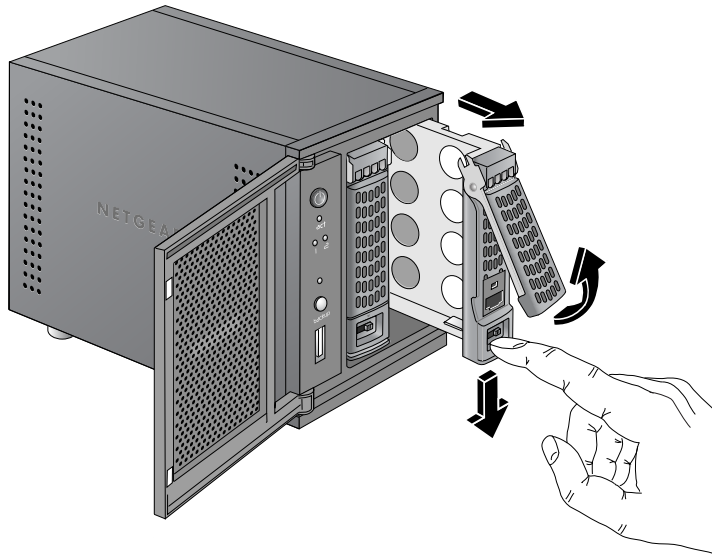
Adding a Disk

You can add a hard disk to an empty disk bay. You do not need to shut down your system before adding a disk.

If you are adding a previously formatted disk to your Duo or NV+, see the precautions in *Previously Formatted Disks* on page 26.
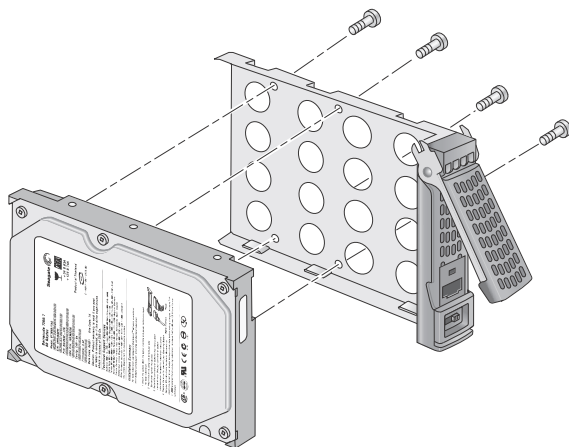
➢ **To add a disk:**

1. Press the disk tray release latch.

   The tray handle pops out.

2. Pull out the disk tray, place the new disk on the tray, and assemble the disk and tray with the screws that came with your system.

   Make sure that the hard disk connectors face the interior of the disk bay.

3. Slide the disk tray back into the system, and press the handle to secure the disk.

The volume automatically synchronizes with the new disk in the background. This might take several hours, depending on the disk size. You can continue to use your ReadyNAS, although access is slower until the volume synchronization finishes. You are notified by email when the process is complete.

If you are adding disks to a diskless system, see the *ReadyNAS RAIDiator 4.1 Software Manual*, which is available at *http://www.readynas.com/documentation*, for information about using RAIDar to discover your system on your local area network for the first time.

Failed Disk Notification

If a disk fails, you are notified by email. Email alerts need to be set up for notifications to be sent. In addition, ReadyNAS FrontView provides information about the failed disk.

NETGEAR recommends replacing a failed disk with the same disk model. Use ReadyNAS FrontView to determine the disk vendor and model used in your system.

For information about setting up email alerts and using ReadyNAS FrontView, see the *ReadyNAS RAIDiator 4.1 Software Manual*, which is available at *http://www.readynas.com/documentation*.

WARNING!

No matter how many hard drives are installed in your system, ensure that all disk trays remain in the drive bays to maintain adequate airflow.

Replacing a Disk

In the case of a failed disk, the system provides email alerts and status messages about the need to replace a disk. Your system supports hot-swap bays, so you do not need to power down your system when replacing a disk.

If you are replacing a disk with a previously formatted disk, see the precautions in *Previously Formatted Disks* on page 26.

➢ **To replace a disk:**

1. Press the disk tray pull release latch.
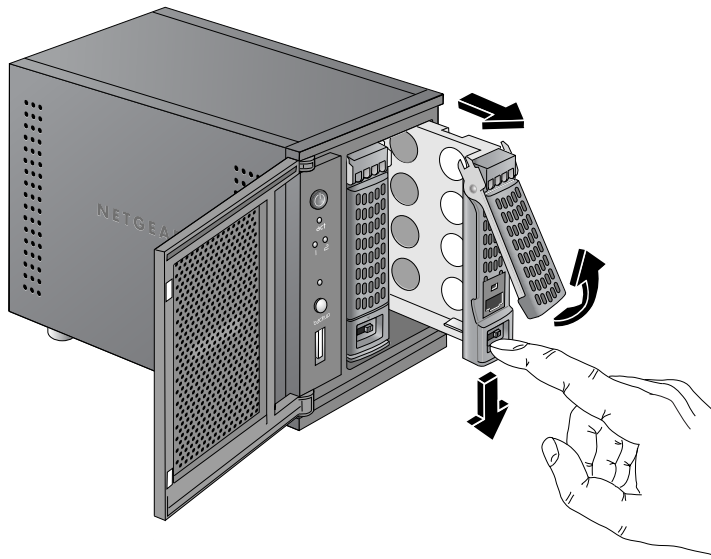
The disk tray handle pops out.

⚠️ **WARNING!**

If you accidentally remove the wrong disk when no other disk is syncing, do not remove the correct disk. Instead, re-insert the disk immediately and wait for the ReadyNAS system to format it and sync it. When it completes syncing, you can remove the correct disk. If you accidentally remove the wrong disk when another disk is syncing, call NETGEAR technical support. They might be able to help you recover your data if the disk you accidentally removed is not defective.

2. Pull out the disk tray and replace the disk.

1   2   3
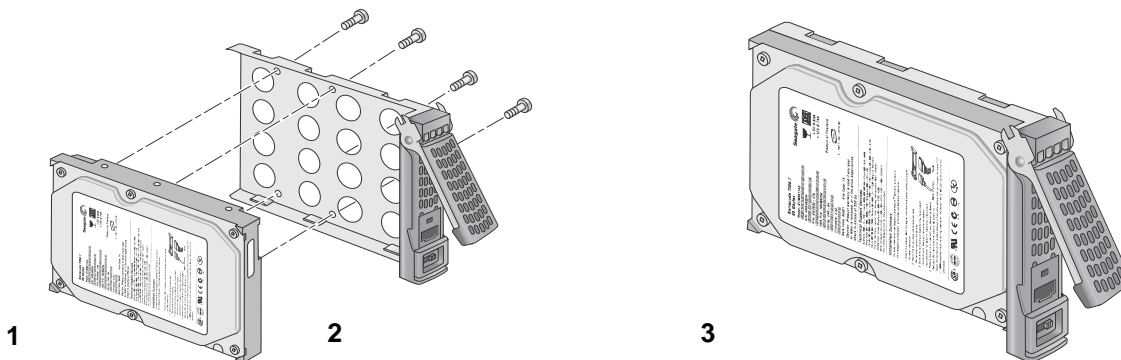
1. Hard drive
2. Empty disk tray
3. Assembled disk tray

Make sure that the hard disk connectors face the interior of the disk bay.

3. Slide the disk tray back into the system, and press the handle to secure the disk.

The volume automatically synchronizes with the new disk in the background. This might take several hours, depending on the disk size. You can continue to use your system, although access is slower until the volume synchronization finishes. You are notified by email when the process finishes.

Defaults and Technical Specifications A

This appendix includes the following sections:

- *Factory Default Settings*
- *Duo Technical Specifications*
- *NV+ Technical Specifications*
- *Safety Warnings*

Factory Default Settings

The following table lists factory default settings for ReadyNAS Duo and NV+.

Feature		Default
Login		
	User login URL when the ReadyNAS is not connected to a DHCP server	https://192.168.168.168/admin
	Admin user name (case-sensitive)	admin
	Admin login password (case-sensitive)	netgear1
Management		
	System configuration	ReadyNAS FrontView web-based configuration and status monitoring
	Discovery, multiunit status monitoring, and formatting utility	RAIDar for Windows, Mac, and Linux
LAN Connections		
	MAC address	See sticker on system
	MTU size	1500
	Ethernet port	Auto Sense 10/100/1000BASE-T, RJ-45
	LAN IP address	DHCP acquired

Duo Technical Specifications

The ReadyNAS Duo storage system meets the following technical specifications:

General:

- 2-bay storage
- SPARC single-core processor
- 256 MB PC2700 DDR-SDRAM SO-DIMM
- One 1-gigabit Ethernet port
- Three USB 2.0 ports (one on the front and two on the back)

Physical dimensions (h x w x d):

- 142 x 101 x 222 mm
- 5.56 x 3.98 x 8.70 inches

Physical weight:

- 2.07 kg / 4.56 lb without disks

Power consumption:

- 35W typical (with 2 x 500 GB disks spinning)
- 27W idle

Electrical:

- Input: DC 12.0V, 5A

Thermal:

- Software controlled 60 mm chassis cooling fan
- High temperature email alert with auto shutdown

Environmental compliance:

- 32° to 95°F
- 20% to 80% humidity (noncondensing)
- FCC, UL, CE, C-tick, IC, RoHS compliance

NV+ Technical Specifications

The ReadyNAS NV+ storage system meets the following technical specifications:

General:

- 4-bay storage
- SPARC single-core processor
- 256 MB PC2700 DDR-SDRAM SO-DIMM
- One 1-gigabit Ethernet port
- Three USB 2.0 ports (one on the front and two on the back)

Physical dimensions (h x w x d):

- 200 x 132 x 222 mm
- 7.9 x 5.2 x 8.7 in

Physical weight:

- 4.6 kg / 10 lb without disks

Power consumption:

- 54W typical (with 4 x 500 GB disks spinning)
- 37W idle

Electrical:

- Input: DC 12.0V, 5A

Thermal:

- Software controlled 92 mm chassis cooling fan
- High temperature email alert with autoshutdown

Environmental compliance:

- 32° to 104°F
- 20% to 80% humidity (noncondensing)
- FCC, UL, CE, C-tick, IC, RoHS compliance

Safety Warnings

1. Install the socket outlet near the equipment in an easily accessible location.
2. Observe the on-board battery precautions.

> **DANGER:**
>
> RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE. DISPOSE OF USED BATTERIES ACCORDING TO THEIR INSTRUCTIONS.

3. Connect the units and their associated LAN connections only to equipment within the same building.

Electrical Safety Precautions

Follow basic electrical safety precautions to protect yourself from harm and the ReadyNAS from damage:

*   Be aware of the locations of the power on/off switch on the chassis as well as the room's emergency power-off switch, disconnection switch, or electrical outlet. If an electrical accident occurs, you can then quickly remove power from the system.
*   Always disconnect power from the system when removing or installing main system components, such as the main board or memory modules. When disconnecting power, first power down the system with the operating system, and then unplug the power cords of all the power supply units in the system.
*   Use only one hand when working with powered-on electrical equipment. This is to avoid making a complete circuit, which will cause electrical shock. Use extreme caution when using metal tools, which can easily damage any electrical components or circuit boards they come into contact with.
*   Do not use mats designed to decrease static electrical discharge as protection from electrical shock. Instead, use rubber mats that have been specifically designed as electrical insulators.
*   Use only power supply cords that include a grounding plug, and plug them into grounded electrical outlets.

General Safety Precautions

Follow these rules to ensure general safety:

- Keep the area around the ReadyNAS clean and free of clutter.
- See the technical specifications in this manual for details about your specific ReadyNAS unit.
- Replace the on-board battery only with the same battery or an equivalent type of battery recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

DANGER:

Installing the battery upside down reverses its polarities and creates a danger of explosion.

- Main board replaceable soldered-in fuses: Only trained service technicians can replace the self-resetting PTC (positive temperature coefficient) fuses on the main board, using only new fuses that are the same as or equivalent to the ones being replaced. Contact technical support for details and support.

Electrostatic Discharge (ESD) Precautions

Electrostatic discharge (ESD) is generated by two objects with different electrical charges coming into contact with each other. An electrical discharge is created to neutralize this difference, which can damage electronic components and printed circuit boards. The following measures are generally sufficient to neutralize this difference before contact is made to protect your equipment from ESD:

- Use a grounded wrist strap designed to prevent static discharge.
- Keep all components and printed circuit boards (PCBs) in their antistatic bags until ready for use.
- Touch a grounded metal object before removing the board from the antistatic bag.
- Do not let components or PCBs come into contact with your clothing, which might retain a charge even if you are wearing a wrist strap.
- Handle a board by its edges only; do not touch its components, peripheral chips, memory modules, or contacts.
- When handling chips or modules, avoid touching their pins.
- Put the main board and peripherals back into their antistatic bags when not in use.
- For grounding purposes, make sure your computer chassis provides excellent conductivity between the power supply, the case, the mounting fasteners, and the main board.

Compliance Notification B

Regulatory Compliance Information

This section includes user requirements for operating this product in accordance with National laws for usage of radio spectrum and operation of radio devices. Failure of the end-user to comply with the applicable requirements may result in unlawful operation and adverse action against the end-user by the applicable National regulatory authority.

This product's firmware limits operation to only the channels allowed in a particular Region or Country. Therefore, all options described in this user's guide may not be available in your version of the product.

FCC Requirements for Operation in the United States

FCC Information to User

This product does not contain any user serviceable components and is to be used with approved antennas only. Any product changes or modifications will invalidate all applicable regulatory certifications and approvals

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC Guidelines for Human Exposure

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance of 20 cm between the radiator and your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

FCC Declaration Of Conformity

We, NETGEAR, Inc., 350 East Plumeria Drive, San Jose, CA 95134, declare under our sole responsibility that the NETGEAR ReadyNAS Duo and NV+ comply with Part 15 of FCC Rules.

Operation is subject to the following two conditions:

- This device may not cause harmful interference, and
- This device must accept any interference received, including interference that may cause undesired operation.

FCC Radio Frequency Interference Warnings & Instructions

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following methods:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an electrical outlet on a circuit different from that which the radio receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Modifications made to the product, unless expressly approved by NETGEAR, Inc., could void the user's right to operate the equipment.

Canadian Department of Communications Radio Interference Regulations

This digital apparatus, NETGEAR ReadyNAS Duo and NV+, do not exceed the Class B limits for radio-noise emissions from digital apparatus as set out in the Radio Interference Regulations of the Canadian Department of Communications.

European Union

The NETGEAR ReadyNAS Duo and NV+ comply with essential requirements of EU EMC Directive 2004/108/EC and Low Voltage Directive 2006/95/EC as supported by applying the following test methods and standards:

- EN55022: 2006 / A1: 2007
- EN55024: 1998 / A1: 2001 / A2: 2003
- EN60950-1: 2005 2nd Edition
- EN 61000-3-2: 2006
- EN 61000-3-3: 1995 w/A1: 2001+A2: 2005

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