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High Performance 2-Bay Network Attached Storage and Media Server

Model: NSA320 | Brand: ZYXEL

1. INTRODUCTION

The ZyXel NSA320 is a 2-bay Network Attached Storage (NAS) device designed for home use, functioning as both a high-performance storage solution and a media server. It enables centralized storage, sharing, and streaming of digital media files across a home network to various devices, including UPnP and DLNA-certified devices like game consoles and smart TVs. The NSA320 supports automated file management, PC-independent downloads, and robust data protection features.

2. PRODUCT OVERVIEW

The NSA320 serves as a central hub for your digital content. Key features include:

- **High Performance:** Capable of simultaneous file transfers and multiple high-definition media streams.
- **Media Server Capabilities:** Functions as an iTunes server, SqueezeCenter, personal blog, and photo album server.
- **Automated Downloads:** Supports eMule, BitTorrent, FTP, and HTTP downloads independently of a PC.
- **Automated Uploads:** Allows automatic uploading of files to FTP servers or media sharing websites like Flickr and YouTube.
- **zPilot Functionality:** Simplifies file classification and organization through a drag-and-drop interface.
- **Data Protection:** Features RAID1 mirroring for enhanced data security and a networked recycle bin for accidental deletion recovery.
- **Energy Efficiency:** Includes Wake-on-LAN, hard disk hibernation mode, and power scheduling to conserve energy.



Figure 2.1: Front angled view of the ZyXel NSA320, showing the power button, indicator lights, and front USB port.

3. SETUP

Before operating your NSA320, follow these steps for proper installation:

1. Hard Drive Installation:

The NSA320 requires two 3TB hard drives (sold separately). Refer to the included quick start guide for detailed instructions on how to open the enclosure and securely install the drives into the bays. Ensure drives are properly seated to avoid connectivity issues.



Figure 3.1: Front view of the ZyXel NSA320, highlighting the drive bays behind the front panel.

2. Network Connection:

Connect the NSA320 to your network router using an Ethernet cable. The device requires a direct wired connection to your network for optimal performance and accessibility.



Figure 3.2: Rear view of the ZyXel NSA320, showing the LAN port, USB ports, power input, and reset button.

3. Power Connection:

Connect the provided power adapter to the NSA320 and then to a power outlet. Press the power button on the front of the device to turn it on.

4. Initial Configuration:

Use the user-friendly installation wizard provided with the device (typically on a CD or downloadable from the ZyXel support website) to perform the initial setup. This includes configuring network settings, creating user accounts, and setting up RAID (e.g., RAID1 for mirroring) for data protection.

4. OPERATING INSTRUCTIONS

Once set up, the NSA320 offers various functionalities:

- **File Storage and Access:** Access files stored on the NSA320 from any connected device on your network. Map network drives for easy access to specific folders.
- **Media Streaming:** Stream 1080p high-definition content to UPnP and DLNA-certified devices. The integrated media player allows direct playback and playlist creation for slideshows.
- **Automated Downloads:** Configure the NSA320 to continuously download large files via eMule, BitTorrent, FTP, or HTTP without requiring your PC to be on. RSS feeds can be used for automatic content acquisition.
- **Automated Uploads:** Set up automatic uploads of files to FTP servers or popular media sharing platforms like Flickr and YouTube.
- **zPilot File Classification:** Utilize the zPilot feature by dragging files to a designated icon on your computer's desktop. This automatically classifies and organizes files into appropriate folders (music, photos, videos) on the NSA320.
- **User Management:** Create and manage user accounts and groups to control access permissions and storage quotas.

5. MAINTENANCE

Regular maintenance ensures the longevity and optimal performance of your NSA320:

- **Data Backup and Protection:**
 - **RAID1 Mirroring:** If configured, RAID1 duplicates data across both hard drives, providing redundancy in case one drive fails.
 - **Networked Recycle Bin:** Accidentally deleted files can often be restored from the networked recycle bin.
 - **Remote Replication:** For enhanced protection, data can be replicated to another ZyXEL NSA device using the encrypted Remote Replication feature.
- **Firmware Updates:** Periodically check the official ZyXel support website for firmware updates. Keeping the firmware updated can improve performance, add new features, and address security vulnerabilities.
- **Power Management:**
 - **Hard Disk Hibernation:** Configure the internal hard disks to automatically spin down after a period of inactivity to save power and extend drive life.
 - **Power Scheduling:** Use the power scheduling function to automatically turn the NSA320 on or off based on your usage patterns, further conserving energy.
 - **Wake-on-LAN:** This feature allows you to remotely power on the NSA320 and access files, even when the device is powered off.
- **Physical Cleaning:** Ensure the device's ventilation openings are clear of dust to prevent overheating. Use a soft, dry cloth for cleaning the exterior.

6. TROUBLESHOOTING

This section provides solutions to common issues you might encounter with your NSA320.

Problem	Possible Cause	Solution
Device not powering on.	Power cable disconnected; faulty power adapter; device malfunction.	Check power cable connections. Ensure power outlet is functional. Try a different power adapter if available.
Cannot access NSA320 on network.	Incorrect network configuration; loose Ethernet cable; firewall blocking access; IP address conflict.	Verify Ethernet cable is securely connected to both the NSA320 and router. Check network settings on your computer and the NSA320. Temporarily disable firewalls to test connectivity. Restart router and NSA320.
Slow file transfer speeds.	Network congestion; outdated network drivers; faulty Ethernet cable; hard drive performance issues.	Ensure your network is not heavily utilized. Update network adapter drivers on your computer. Use a high-quality Ethernet cable. Check hard drive health.
Media streaming issues (buffering, stuttering).	Network bandwidth limitations; incompatible media format; device overload.	Reduce network traffic. Ensure media format is supported by the streaming device. Limit simultaneous streams.
Hard drive errors or RAID degradation.	Failing hard drive; improper drive installation; power fluctuations.	Check the status indicator lights for drive errors. If a drive is failing, replace it immediately and allow the RAID array to rebuild. Ensure drives are securely installed.
Software/firmware issues.	Outdated firmware; corrupted installation.	Update the NSA320 firmware to the latest version from the official ZyXel website. If issues persist, consider performing a factory reset (refer to the quick start guide for instructions, as this will erase data).

For more complex issues, consult the official ZyXel support resources or community forums.

7. SPECIFICATIONS

Feature	Detail
Brand	ZYXEL
Model Number	NSA320
Product Dimensions	20.5 x 10.8 x 14.71 cm
Item Weight	1.06 kg
Colour	Black
Size	2-Bay
Compatible Devices	Desktop, Gaming Console, Laptop, Television
Date First Available	Sept. 19 2011
Global Trade Identification Number (GTIN)	00760559119232

8. WARRANTY AND SUPPORT

Specific warranty terms and conditions for the ZyXel NSA320 are typically provided with the product packaging or available on the official ZyXel website. For detailed warranty information, product registration, technical support, and access to the latest drivers and firmware, please visit the official ZyXel support portal. It is recommended to register your product to receive timely updates and support.

For direct support, please refer to the contact information provided in your product's original documentation or on the ZyXel support website.