LINN DS SYSTEM

Requirements and specifications for a Linn DS system

This document provides details on the non-Linn components and software that are required for a Linn DS system.

The function of each non-Linn component in a Linn DS system is as follows:

NAS
- Stores the audio files
- Provides a DHCP server to the network
- Hosts the selected media server
- Presents the audio file system over open file sharing protocols

Ethernet Switch
- The connection point for all other components on the network allowing them to communicate with each other.

Wireless Access Point
- Connects the wireless control point to the Ethernet network.

Wireless Control Point
- Via the Linn GUI, provides the user interface for accessing music and controlling playback.

Installation/ripping PC/laptop
- For installing the necessary software and configuring the system.
- Required by the user for ripping CDs.

Media Server
- Indexes the audio files and allows retrieval of the files from the NAS.

CD ripping software
- Ensures CDs are ripped accurately to the NAS.

Specific products approved* for use

The section below details specific components and software that have been tested as being suitable for use in a Linn DS system. The list will be updated as more products are tested. General specifications for each component are contained in the next section.

NAS
- Infrant ReadyNAS NV+

Ethernet Switch
- Netgear Switch FS108
- Netgear Switch FS108P
- Netgear Switch FS116
- Netgear Switch GS108
- Netgear Switch GS116
- Netgear Switch FSM726

Wireless Access Point
- Linksys wap200
- D-Link Dwl-3200AP

Wireless Control Point
- Samsung Q1 (NP-Q1/V000/SUK) or (NP-Q1/M02/SUK) or (NP-Q1/S000/SUK) or (NP-Q1/UF000/SUK) running Microsoft Windows XP Tablet PC edition 2005, Version 2002 and Service Pack 2
- ASUS Notebook R2H Series, 1Gb 900Mhz Celeron M, running Windows Vista Home Premium

Installation/ripping PC/laptop
- Any PC/laptop running Windows XP Professional 2002

Media Server
- TwonkyMedia 4.4

CD ripping software
- Exact Audio Copy V0.99

* An *approved* device is one that meets all the system requirements for that product type, and has additionally been tested by Linn. Many other non-approved devices will work perfectly well with a Linn DS player. However, it is possible you will encounter issues with poorly implemented third-party products that impact the performance of the Linn DS system.

General specifications for components in a Linn DS system

If you do not wish to choose any of the above components or they are unavailable, the section below details general specifications for all the non-Linn components.

NAS
Minimum requirements:
- DHCP server
- Raid (at least levels 1 or 5)
- Supports Twonky 4.4 (for UPnP AV 1.0)
- High end read throughput (> 15 Mbps)
- Gigabit Ethernet
- Samba/CIFS server
- Easy configuration
- Scriptable remote configuration/setup
- Easy installation of TwonkyMedia Server

Ethernet Switch
Minimum requirements:
- Must be a dedicated, stand alone switch. Linn recommends against using the switches built into consumer grade ADSL routers, cable modems, or wireless access points. The processing power of such devices is often shared between its various functions and is therefore not always capable of full performance.
- Must be either a 100 Mbps or 1000 Mbps full duplex switch.
- Must be capable of fully utilising all ports simultaneously. On vendor's specification pages, this is sometimes listed under a category called the "switch backplane" or the "switch bandwidth". For an 8 port 100 Mbps switch, this "switch bandwidth" should be 1.6 Gbps. This number comes from 100 Mbps in, plus 100 Mbps out, times the 8 ports. For a 16 port gigabit switch, the "switch bandwidth" would be 32 Gbps. (2*16*1000 Mbps).

Wireless Access Point
Linn recommends using a standalone wireless access point. Wireless access points built into switches and other consumer grade products are frequently (but not always) of a lower quality.

Minimum requirements:
- "Enterprise grade"
- Wireless G
- Robust connection quality

and optionally
- Power over Ethernet (PoE)

Wireless Control Point

UMPC (ultra-mobile PC)
Minimum requirements:
- 800 x 480
- Microsoft Windows XP Tablet PC edition 2005
- 800 MHz processor or greater

Windows PC
Minimum requirements:
- Windows XP Professional 2002
- 800 MHz processor or greater

Installation/ripping PC/laptop

Minimum requirements:
- Windows XP Professional 2002
- CD-ROM drive

Media Server

Currently, TwonkyMedia 4.4 is the only media server that Linn believe is fully compatible with a Linn DS system, therefore we do not wish to provide minimum requirements for media servers.

CD ripping software

Ripping software is not part of the system specification. However, the chosen ripper should meet the following requirements:

- Supports "accurate ripping" (ie. guarentees the integrity of the rip)
- FLAC support
- Supports Linn Media Meta-data Standard (available from Klimax DS and Akurate DS product information pages on Linfo).