

NETWORK MUSIC PLAYER\_



SYSTEM INSTALLATION AND SETUP MANUAL

### **INSTALLATION AND SETUP**

## COPYRIGHT AND ACKNOWLEDGEMENTS

Copyright © 2008 Linn Products Ltd. First edition March 2008.

Linn Products Limited, Glasgow Road, Waterfoot, Eaglesham, Glasgow, G76 OEQ, Scotland, United Kingdom

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior written permission of the publisher.

The content of this manual is furnished for information use only, is subject to change without notice, and should not be construed as a commitment by Linn Products Limited. Linn Products Limited assumes no responsibility or liability for any errors or inaccuracies that may appear in this manual.

Trade marks used in this publication: **Linn**, the **Linn logo** and **Sneaky** are registered trade marks of Linn Products Limited. **Music DS** is a trade mark of Linn Products Limited.

Linn Products Limited disclaims any proprietary interest in trade marks and trade names other than its own.

UK Registered Design no: 4006236

Pack 1395/E

## **INSTALLATION AND SETUP**

# CONTENTS

1	OVERVIEW	1
2	SET UP OF THE NAS	3
3	TWONKY MEDIA	7
4	RIPSTATION MICRO DS	11
5	RIPPING A LARGE COLLECTION OF CDs	11
6	THE WIRELESS CONTROL POINT, AND INSTALLING THE LINN GUI AND CONFIG APPLICATION	12
7	SNEAKY MUSIC DS INSTALLATION	13
8	THE LINN CONFIG APPLICATION	16
9	FINAL STEPS	19
10	TECHNICAL SPECIFICATIONS	20

## **INSTALLATION AND SETUP**

# **1** OVERVIEW

The Sneaky Music DS operates within a standard Ethernet network. There are six components involved in the network.



## **INSTALLATION AND SETUP**

## 1 OVERVIEW (continued...)

The first two components provide network infrastructure.

#### 1. Ethernet switch

This device is the connection point for all other components on the network, allowing them to communicate with each other. Also required for accessing SHOUTcast Internet radio.

#### 2. **WAP**

Plugs into the switch thereby allowing wireless components to communicate with wired ones.

A PC/laptop is required for system installation.

#### 3. PC/laptop

The PC or laptop is a standard computer that is used during setup and configuration of the Sneaky Music DS system. The same, or another computer, may be used after setup to add new music to the NAS. In order for the computer to communicate with the Sneaky Music DS system, it must be connected to the switch.

The final three devices interact together to provide the Sneaky Music DS music experience. They are:

#### 4. **NAS**

Securely stores music on a hard drive array. Additionally, the NAS runs three important pieces of software:

#### a. Media Server

Indexes and allows retrieval of the music from the NAS.

#### b. DHCP Server

Responsible for allocating IP addresses to all devices on the network.

#### c. Network Sharing Protocols

Allows computers to place new music on the NAS.

#### 5. Wireless control point

Allows the user to browse, select, and control the playback of music. It requests information about the location of the music from the Media Server and then passes this information to the Sneaky Music DS.

#### 6. Sneaky Music DS

Follows instructions from the wireless control point to retrieve music from the NAS (and SHOUTcast Internet radio via the Ethernet switch), and then transforms the digitally stored music into high quality analogue audio. The Sneaky Music DS plays WAV, FLAC and MP3 files.

This describes a default network architecture for the Sneaky Music DS. Many other network configurations are possible, depending on specific requirements.

#### Important:

Installation of the Sneaky Music DS requires knowledge of networks and network security. You should not attempt to install the Sneaky Music DS unless you are comfortable working in these areas. Linn Products Limited cannot be held responsible for any network security compromise and/or loss of data due to improper installation.

### **INSTALLATION AND SETUP**

# 2 SET UP OF THE NAS

To make installation easier, here we describe in detail the steps needed to setup an Infrant ReadyNAS NV+. For other NAS devices consult the documentation from your NAS vendor. The instructions below assume that the NAS has been supplied with hard drives pre-installed. The RAID configuration for the Infrant ReadyNAS NV+ is best set at X-RAID. For other manufacturers' devices RAID 5 should be chosen to allow easy future expansion of storage.

- 1. On the installation PC/laptop disable all firewalls and the proxy server.
- 2. Follow the Getting Started Guide supplied with the ReadyNAS, up to and including installing the RAIDar software. Once installed and running, RAIDar will scan the network for the Ready NAS. If the screen below appears, check all connections, ensure all firewalls and the proxy server are disabled, then press 'Rescan'.



When the screen below appears, select the appropriate NAS (if more than one is available), then press 'Setup'.

	MAC Address	Model	Host Name	IP Address	Vol Disk:	1	2	3	4	5	6	7	Tmp	Fan	UPS	Info
Ĩ	00:0D:A2:01:42:39	ReadyNAS NV+ [X-RA	. nas002	10.15.10.0			۲	0	0					•	0	3.01c1-p6

You will be asked for a user name and password. Enter the default user name and password as shown in the ReadyNAS installation guide. After you log in, select 'Next' from the bottom-right corner.



## **INSTALLATION AND SETUP**

# 2 SET UP OF THE NAS (continued...)

#### 3. The 'Clock' screen

Select the appropriate timezone and time for your location. If the 'Synchronize clock...' checkbox is selected, deselect it. Press 'Apply', then 'Next'.



#### 4. The 'Alerts' screen

Enter one or more service email contacts. If there are any problems with the NAS, email notification will automatically be sent from the NAS. This allows the problem to be diagnosed and corrective action taken before the user is aware that a problem exists. Press 'Apply', then 'Next'.

#### 5. The 'Ethernet' screen

Select the IP address assignment appropriate for the network the Akurate DS system is being installed into. Press 'Apply', then 'Next'.

#### 6. The 'Global Network Settings' screen

Select a hostname for the NAS, e.g. 'nas001'. This name should be unique to the network. This name will be used to refer to the NAS from other devices on the network, for example the ripping software (please refer to the *Ripstation Micro DS* section for details). Leave other settings unchanged. Press 'Apply', then 'Next'.

#### 7. The 'Admin Password' screen

Complete the required information. Press 'Apply', then 'Next'.

#### 8. The 'Security Mode' screen

Nothing on this screen needs changed. Press 'Next'.

### **INSTALLATION AND SETUP**

## 2 SET UP OF THE NAS (continued...)

#### 9. The 'Standard File Protocols' screen

Select the NFS checkbox. Leave other settings unchanged. Press 'Apply', then 'Next'.



#### 10. The 'Streaming Services' screen

Nothing on this screen needs changes. Press 'Next'.

#### 11. The 'Share List' screen

Click on the CIFS icon on the line beginning 'media'. This will take you to 'Share Options'...



### **INSTALLATION AND SETUP**

## 2 SET UP OF THE NAS (continued...)

#### 12. The 'Share Options' screen

Set the default access to 'Read/Write'. Repeat this on the 'NFS', 'HTTP/S' and 'Rsync' tabs. Leave the 'AFP' and 'FTP/S' tabs set to 'Disabled'.

Select the Advanced Options tab. Make the following settings: Share folder owner: media Share folder group: nogroup Share folder rights: Read/write Share group rights: Read/write Share folder everyone rights: Read/write Uncheck 'Set ownership and permission for existing files...' Check 'Grant rename and delete privileges to non-owner of files.'

This completes the initial setup of the NAS.

## **INSTALLATION AND SETUP**

## 3 TWONKY MEDIA

### Installing TwonkyMedia Server

To complete the installation of the Infrant ReadyNAS, TwonkyMedia Server software has to be installed onto it. This is a UPnP media server and allows access to all material stored on the NAS.

TwonkyMedia will present the music files to the user in such a way that they will be ordered by Artist, Album, Artist/Album, Genre, etc... It gives various options for searching through the music, as explained below.



### Downloading TwonkyMedia

TwonkyMedia for a PC or NAS other than an Infrant ReadyNAS can be downloaded from the TwonkyMedia website: http://www.twonkymedia. com. If you are using an Infrant ReadyNAS, download the software and installation manual from the Linn website: http://www.linn.co.uk/ds\_ software, then follow the steps below.

### Suggested TwonkyMedia Setup

There are various options for setting up TwonkyMedia which will effect how the information is displayed to the user. This can be customised for each individual customer as required.

- 1. Log onto the NAS. Select 'Advanced Control'. From the menu on the left select 'Services', then 'Streaming Services'.
- 2. Ensure the 'TwonkyMedia' service checkbox is enabled.
- 3. Follow the http link to connect to the TwonkyMedia server and purchase a license from the online shop.

## **INSTALLATION AND SETUP**

## **3** TWONKY MEDIA (continued...)

4. Select 'First Steps' from the menu on the left-hand side.

Rowa	day
	MEDIA TwonkyMedia Configuration: other
0000	
Basic Setup  First steps Sharing Gasta/Coguity	Save Changes Cancel Restart server
<ul> <li>Internet Radio</li> </ul>	Language:
Advanced Setup  External applications Naming	Language in which configuration pages and the navigation tree on the client side will be presented.
<u>Music tree</u> Picture tree	Server name: [%HOSTNAME%jtwonky
Video tree     Miscellaneous	Name of the media server as displayed by client devices. By means of the macro %HOSTNAME% you can add the actual host name, e.g. TwonkyMedia (%HOSTNAME%).
Support  Troubleshooting FAQ	Navigation Tree Setup: Simple default navigation 💌
© TwonkyVision GmbH (2003,2007). All rights reserved	There is the choice of selecting different pre-configured navigation trees or defining a customized tree structure. For small content libraries the simple navigation tree is sufficient. For large content libraries the advanced navigation tree provides a better structured tree which allows faster access to individual items. A customized navigation tree can be defined through the advanced setup.

Here the name of the server can be set. This is necessary for installations where more than one NAS is available. If you change any of the settings, press the 'Restart server' button before continuing.

5. Select 'Sharing' from the left of the page.

Teven	Version 4.4 Beta 5
ic Setup Irst steps haring	Save Changes Cancel Rescan content directories
ternet Radio anced Setup kternal applications aming usic tree ideo tree deo tree iscellaneous	Content Locations:       Music-only       Browse         Immedia/Music       All content types       Browse
port roubleshooting AQ ankyVision GmbH _2007). hts reserved	Rescan in minutes:         60           This option specifies the rescan behavior of the server. If set to 0, automatic rescans are disabled. A positive value specifies the period between rescans of content directories in minutes1 enables the server to watch content directories automatically for new content without the need for rescans.

The settings for 'Content Locations' is important as they will be used when setting up Ripstation Micro DS (the recommended disc ripping software). Use the browse button to set the path to correspond to the directory into which Ripstation will rip CDs - typically, this will be '/ Media/Music'. Set the drop-down menu to 'Music-only'.

Set 'Rescan in minutes' to '60'.

Press 'Save Changes'.

## **INSTALLATION AND SETUP**

## **3** TWONKY MEDIA (continued...)

6. Select 'Naming' from the left of the page.

Tick 'Standardize titles' at the top of the page.

Rund	Nap
911.11.U	MEDIA TwonkyMedia Configuration: Nam
Juice	Version 4.4 Beta 5
Basic Setup  > First steps > Sharing	Save Changes Cancel Restart server
Clients/Security     Internet Radio	Standardize titles:
Katernal applications     Naming     Music tree     Picture tree     Video tree     Miscellaneous	Folder prefix string: Folder prefix string to be prefixed to all folder names in folder navigation to help you differentiate folders from content items at the client device.
Support  Troubleshooting FAQ  TwonkyVision GmbH	All Tracks: Total Tracks Name for 'All Tracks' folder (server default used if left empty).
(2003,2007). All rights reserved	Playlists: Playlists Name of the playlists node in the navigation tree, leave empty if this node shall not be included in the navigation tree.
	Last played: - Last played - Name of the auto generated playlist 'last played', leave empty if this playlist should not be added to the navigation tree.

Teva	Version 4.4 Beta 5
Basic Setup    First steps   Sharing  Clients/Security  Internet Radio	All Pictures: Name for 'All Pictures' folder (server default used if left empty).
Advanced Setup   External applications  Naming Music tree	All Videos: Name for 'All Videos' folder [server default used if left empty].
Picture tree     Video tree     Miscellaneous	Music: Music Name for Music root folder, leave empty to suppress this folder.
Troubleshooting     FAQ     TwonkyVision GmbH (2003,2007).	Pictures: Name for Pictures root folder, leave empty to suppress this folder.
All rights reserved	Videos: Name for Video root folder, leave empty to suppress this folder.
	- ALL -: Title of the - ALL - entry in the nodes of the navigation tree.

Remove the 'Video', 'Pictures' and '-ALL-' directories.

Press 'Save Changes'.

## **INSTALLATION AND SETUP**

## **3** TWONKY MEDIA (continued...)

7. Select 'Music Tree' from the left of the page.

ma	MEDIA		Two	kyMedia Cont	iguration: Music tree
				i	
	Save Changes Car	ncel		Restart server	
Aller unity L R adm		Name	Type	ABC	
d Setup	Music node 1:	Artist	Artist	3 💌	Add level
applications	Music node 2:	Album	Album	¥ 3 ¥	Add level
ree	Music node 3:	Folder	Folder		Add level
1994 1994	Music node 4:	ArtistAlbum	Artist	¥ 3 ¥	
sucous			Album		Add level
uncoline.	Music node 5:	Year/Artist	Year		
CROSSING V		1000 March 1000	Artist		
Eos OmbH			Album	1.1	Add level
atved	Music node 6:			2 . 2	Add level
		Add node			
	An individual music navigab addition an alpha sub-group	on tree with up to 10 nodes may bing may be introduced by specif	be specified by this option. ying the number of characte	for each node the nan rs per group.	te to be presented in the navigation tree and the node type have to be s
	Navigation Tree Setup:	Advanced default naviga	tion 💌		
	There is the choice of selec libraries the simple navigat	ting different pre-configured navi ion tree is sufficient. For large co	igation trees or defining a co ntent libraries the advanced	stomized tree structur navigation tree provid	e. For small content es a beller structured tree

#### Note:

If you wish to add SHOUTcast Internet radio as a source, select Internet Radio from the Basic Setup menu, enable SHOUTcast and select the required genres.

### **INSTALLATION AND SETUP**

## **4** RIPSTATION MICRO DS

Linn recommends the use of Ripfactory's Ripstation Micro DS for ripping CDs to FLAC and sending them to the NAS. This software is available free of charge from Ripfactory's website.

Ripstation Micro DS should be installed on the PC/laptop that will be used for ripping CDs.

#### Installation

Go to the Ripfactory website: http://www.ripfactory.com/rsmicrods.html

Download and install the software.

### Operation

Full details on using the software can be found in the Ripstation Micro DS User Manual, which you will find in the Ripfactory directory that has been added to the PCs Programs menu. A quick start guide is provided in the manual.

# **5** RIPPING A LARGE COLLECTION OF CDs

If you have a large collection of CDs that need to be ripped to the NAS, using the above method may be too time consuming. An alternative method is to use a ripping service, such as Ripfactory (http://www.ripfactory.com/).

### **INSTALLATION AND SETUP**

## 6 THE WIRELESS CONTROL POINT, AND INSTALLING THE LINN GUI AND CONFIG APPLICATION

You may need to fully charge the battery on the control point before continuing with this procedure (see the information supplied with the control point), this may take an hour or longer.

- 1. Update the control point with .NET 2.0, available at www.microsoft.com/net.
- 2. Copy the Linn GUI installer to the wireless control point.\*
- 3. Copy the Linn Config installer onto the installation PC/laptop.\*\*
- 4. Run both the installers. Do not launch the Linn GUI or Linn Config at this time.
- 5. On the control point, disable the 'Auto Right Click' behaviour. This can be done by locating the notification area at the bottom-right of the Windows screen, and clicking the Touchkit: USB Controller icon
  - Select the Setting tab
  - Press the Option button
  - Deselect 'Enable Auto Right Click'.
- 6. The Linn GUI and Linn Config must be given firewall permissions to allow them to operate. If the PC/laptop uses the Windows Firewall the Linn software will be added automatically, providing you have admin rights on the PC/laptop. If a different firewall is used, consult the vendor's manual for instructions on how to add the Linn software to the list of permissions.

#### Note:

Each time you update to a new version of the Linn GUI or Linn Config

software, you must add the new software to non-Windows firewalls' list of permissions.

- 7. To configure the Sneaky Music DS, follow the instructions in *The Linn Config Application* section.
- \* You may wish to add a desktop shortcut to the Linn GUI to make it easier to find.
- \*\* Install the Linn Config on the PC/laptop you will use to rip CDs. This will allow you to make changes to the product's setup and run the diagnostic tools.

## **INSTALLATION AND SETUP**

## **7** SNEAKY MUSIC DS INSTALLATION

This section describes how to connect the Sneaky Music DS into a Linn hi-fi system.

#### Unpacking

The Sneaky Music DS is supplied with the following:

- 2 x red, 2 x black BAF loudspeaker connectors
- mains lead
- 4 feet
- CD-ROM (contains system software, installation manual and owner's manual)

We recommend that you retains all packaging in case you need to transport the Sneaky Music DS at a later date.

### Positioning

The Sneaky Music DS can be positioned almost anywhere, but please consider the following points:

- The unit should be placed on a flat, stable and rigid surface.
- Allow at least 4" (10 cm) free space above and at each side of the unit for air circulation.
- Do not position the unit where sunlight can shine (whether directly, diffused or reflected) on its front surface as the infra-red (IR) radiation in sunlight will be picked up by the unit's IR remote sensor and this can

adversely affect its operation. Similarly, some electrical devices such as plasma TVs, fluorescent lights and energy saving lamps can emit IR which can likewise affect the operation.

- For best performance do not stack the unit with other products. Ideally, position the unit on a shelf by itself or, if proximity to other products is unavoidable, positioning side-by-side is preferable to stacking.
- The unit should not be situated above, or directly adjacent to, sources of heat such as radiators, other power amplifiers etc. Nor should it be enclosed in a cabinet with such devices.

# 7 SNEAKY MUSIC DS INSTALLATION (continued...)

**Back panel** 



#### 1. ETHERNET

For connecting the unit to the network switch

2. FALLBACK

Used when reprogramming the unit

3. RS232 1 - 2

Currently not in use

4. RC5 ACCESSORY

For connecting the unit to a Linn Knekt RCU or Basik 3 IR

#### 5. DIGITAL AUDIO OUTPUT

One SPDIF and one TOSLINK output for connection to a device with digital input capabilities

- 6. ANALOGUE AUDIO OUTPUT For connection to a pre-amplifier
- 7. SPEAKER OUTPUT For connection to loudspeakers
- 8. EARTH GROUND For connecting the unit to an earthing terminal if no mains earth is available
- 9. Mains power inlet

**INSTALLATION AND SETUP** 

## 7 SNEAKY MUSIC DS INSTALLATION (continued...)

### Connecting to the mains supply

The Sneaky Music DS contains an automatic internal mains voltage switch. This switch operates on all worldwide mains voltages from 100 V to 240 V. The unit can be connected to any worldwide mains voltage with no adjustment.

This unit must be earthed. Use the earthed moulded mains lead supplied, or if no mains earth is available, ensure the product's EARTH GROUND connector is connected to an earthing terminal.



### **Amplifier protection**

The Sneaky Music DS features two methods of protecting its internal power amplifier from damage.

#### Short-circuit protection

If the speaker outputs are accidently short-circuited, the power amplifier will shut down instantly and will remain in that state until the short-circuit is rectified.

#### **Over-temperature protection**

If the power amplifier's temperature rises above its safe operating limit, it will cease operation until the temperature drops to a safe level and will then automatically resume.

### **INSTALLATION AND SETUP**

## 8 THE LINN CONFIG APPLICATION

The Linn Config application is used to configure the settings on the Sneaky Music DS.

- 1. Switch on the Sneaky Music DS.
- 2. Launch the Linn Config.

🖁 Linn Configuration	Application					_	
Room	Device Type	Message	Family	Product ID	IP Address	MAC Address	
Lounge	Sneaky Music DS (Source)		Bute	1154010	172.20.4.30	0050c22171ed	
Lounge	Sneaky Music DS (Preamp)			Unknown	N/A	N/A	
				1	1	1	_
Version Auto Configur	e Advanced Configure Diagnostics						
	J					1.2-0.3 : Bute	

3. Highlight the 'Sneaky Music DS (Source)' and wait until the Linn Config connects to the unit. The 'Version' tab contains information on the Sneaky Music DS for use by Linn Service personnel.

Linn Configuration Applic	ation						-1012
Room	Device Type	Message	Family	Product ID	IP Address	MAC Address	
Lounge	Sneaky Music DS (Source)		Bute	1154006	172.20.4.31	0050c22171e9	
Version   Auto Conligure   Adv Soltware Version: 1.00,3	Sneeky Music DS (Preamp)			Unknown	N/A	NA	
Product Id: 1154006 MAC Address: 0050c22171e9 IP Address: 172.20.4.31							
Devel Taxa	n						
PCAS723P1R2	0 8040 IV d40000032518114						
						1.2-0.3 : Bute	

### **INSTALLATION AND SETUP**

## 8 THE LINN CONFIG APPLICATION (continued...)

4. Select the 'Advanced Configure' tab. On this screen you are able to customise aspects of the configuration, for example you may want to change the 'Room Name' or 'Device Name'. The 'Internal Power Amplifier Gain' option is for use if you require more volume (you may want to increase the setting if using the Sneaky Music DS in a large room).

Note: If you are bi-amping the Sneaky Music DS by using the internal power amplifier and an external Linn power amplifier, set the 'Internal Power Amplifier Gain' option to '28.6dB'. Other settings will cause an imbalance in the volume from the speaker drivers.

Linn Configuration Applicati	ion						_ 🗆
oom	Device Type	Message	Family	Product ID	IP Address	MAC Address	
unge	Sneaky Music DS (Source)		Bute	1154006	172.20.4.31	0050c22171e9	
unge	Sneaky Music DS (Preamp)			Unknown	N/A	N/A	
rsion   Auto Configure   Advan I Device Boom Nace	ced Conligure Diagnostics	Lounge	• •				]
Device Name		Speaku Musie	ns			-	
Handset Commands Accenter	8	Yes	00			-	
Rasik 3 Commande Accepted		Yee					
Enable Istand Rower Arelie		Yon				-	
Internal Review Amplification		10.640					8
Enable Internal Volume Coving	1	Yes				Rebool	
Enable Rey Digital Audio Out	a Bul	Yos					- 2
Diantas	part >	106				1	
Trans Const 1 EO, Diff		M-				1	- 1
Tarrent LED Di		NU				Risotore Defaults	
Room Name Enler a name for the room the system	Sneaky Music DS is installed in (e.g	. Launge), for display on	the Linn GUI. This so	elting will remain a	onsistent across a		
						1.2-0.3 : Bu	te

5. The 'Diagnostics' tab contains a number of tests and tools you can use for troubleshooting problems.

	Application				-	-	-
loom	Device Type	Message	Family	Product ID	IP Address	MAC Address	
ounge	Sneaky Music DS (Source)		Bute	1154006	172.20.4.31	0050c22171e9	
ersion   Auto Contigue Description 2 *** Diagnostic Te 2 Test Network: Disco	e Advanced Conligure Diagnostics	•	· · · ·		State Select All/None		
lersion ) Auto Contigue Description ☑ <sup>***</sup> Diagnostic Te ☑ Test Network: Disco ☑ Test Speaku Music	Advanced Configure Diagnostics		• •	, 	State Select All/None Not run		
Version ) Auto Configure Description I Test Network: Disco Test Network: Disco Test Sneaky Music Test Sneaky Music I Test Internal Amolf	Advanced Configure Diognostics      Advanced Configure Diognostics      wor Media Server (NAS)      SF of State     Tempeoture is uniform Reserver.		• • •	, 	State Select All/None Not run Not run		1
Version   Auto Configue Description ☑ *** Diagnostic Te ☑ Test Network: Disco ☑ Test Sneaky Music ☑ Test Internel Ampfre ■ *** Diagnostic Te	e Advanced Configure Diagnostics ester *** vor Moda Sorver (NAS) DS Foll State Temperature is within Normal Operating Par- mile ***	nge	• • •	1	State Select All/None Not run Not run Select All/None		
Version À Auto Configue Description Versi Diagnostic Te Test Network: Disco Test Snecky Music Test Internal Amplifie Versi Diagnostic Te Test Infrance Test A	Advanced Configure Diagnostics  ester  ester ester ester  ester  ester ester  ester  ester  ester  ester  ester  ester  ester ester ester  ester  ester  ester	nge	· · · · ·	1	State Select All/None Not run Not run Select All/None Not run	Bin	
Version   Auto Configue Description 2 *** Diagnostic Te 2 Test Network: Disco 2 Test Snetky Musci 2 Test Internet Ampfrie *** Diagnostic Te 1 Description Sectiu & Description Sectiu &	Advanced Configure Diagnostics      was readed as a server (NAS)      S Foll State     Temperature is within Normal Diperating Bar      obje ***      famula () Frees multiple keys on handset      im DS Ead Deat Do Tex SinceMultipDEF	nge «Dalv(Date Turci data)			State Select All/None Not run Not run Select All/None Not run Not run	Run	
Version Àuto Configui <u>Description</u> <u>*** Diagnostic Te</u> Test Network: Disco <u>Test Internel Ampfri</u> <u>Test Internel Ampfri</u> <u>*** Diagnostic To</u> <u>Dest Intracol input N</u> <u>Dest Sneeky Music</u>	Advanced Configure Diagnostics      Advanced Configure Diagnostics      reterm     vor Meda Server (NAS)     D5 Foll State     Temperature is within Normal Dipersing Plan     objet     ***      fanually (Press multiple keys on handsot)     ture D5 Fol Date To File (SneokyMusicD5F)     D5 Fol Date To File (SneokyMusicD5F)	nge siDala(0 ste_T mei, dota)	· · ·		State Select All/None Not run Not run Select All/None Not run Not run Not run	Run	
Version   Auto Configue Description 2 *** Diagnostic Te 2 Test Network: Disco 2 Test Insteam Ampfre *** Diagnostic Te *** Di *** Diagnostic Te *** Diagnostic Te *** Di *** Di	e Advanced Configure Diagnositics pate *** ver Meda Servet (NAS) DS Fail State er Temperature is within Normal Operating Ran famulaly (Press multiple kays on handset) famula (DS Fail Date To File (SneakyMusicDSFil DS Fail Date	nge eiDala(Dote_Time).dota)			State Select All/None Not run Not run Select All/None Not run Not run Not run	Run	
Version   Auto Configue Description """ Diagnostic TT Test Network: Desc 2 Test Network: Desc 2 Test Network: Desc 2 Test Network: Desc 2 Test Network: Desc """Diagnostic TC Test Network: Desc Desc Snetky Music 4	e Advanced Configure Diagnositics sete *** war Meda Server (MAS) DS Foll State i Tempeature is within Normal Operating Bar obje *** famually (Prese multiple kays on handset) ture DS Foll Date To File (SneakyMusicDSFri DS Foll Date	nge eiDala(Uste_Tme).dsta)			State Select All/None Not run Not run Select All/None Not run Not run	Run	

www.linn.co.uk

### **INSTALLATION AND SETUP**

## 8 THE LINN CONFIG APPLICATION (continued...)

6. From the top window select 'Sneaky Music DS (Preamp)'. On the 'Advanced Configuration' tab you will see the current pre-amplifier settings for the unit. Change the settings, if required.

	1	1	1	-	1	-	-
loom	Device Type	Message	Family	Product ID	IP Address	MAC Address	
unge	Sneaky Music DS (Source)		Bute	1154010	172.20.4.30	0050c22171ed	_
rsion   Auto Conligure   Device   Room Nome	e Advanced Conligure Diagnostics	Lounge		,			
ension   Auto Conligure Born None Device Name Device Name	e AdvancedConigure Diagnostics	Lounge Snecky Music DS					
asion   Auto Conligue Boom Nome Device Name Volume Limit Status Volume End	e Advanced Contigure Diagnostice	Lounge Snecky Music DS 100			<u> </u>		1
rsion Auto Conligure Device Boom Nome Device Name Volume Limit Startup Yolume Enal Startup Yolume Enal	Advanced/Conligure Diagnostics	Lounge Sneoky Musie DS 100 Yes 50					
ersion   Auto Conligure <b>Device</b> <b>Boom Name</b> Device Name Volume Limk Startup Volume Startup Volume	e Advanced Conligure Diagnostice	Lounge Sneoky Music DS 100 Yes 50				Retor	t
etsion Auto Conligues Bon None Device Name Volume Linit Startus Volume Enal Startus Volume	e Advanced Conigure Diagnostice	Lounge Sneoky Music DS 100 Yes 50			· · · · · · · · · · · · · · · · · · ·	Reto: Reto: Defaut	t J
etaion Auto Configure Dorvice Boon Nano Dence Nano Volumo Limit Startue Volumo Enal Startue Volumo Boom Name inter a nome for the r system	e Advanced Conigure Diagnostice	Lounge Snecky Music DS 100 Yes 50	Linn GUI. This se	ting will remain or	mestori across a	Reboo Reboo Default	t s

## **INSTALLATION AND SETUP**

# 9 FINAL STEPS

This section describes the final steps involved in getting your Sneaky Music DS system up and running.

- 1. Turn on the Ethernet switch and the Wireless Access Point.
- 2. Turn on the NAS and wait for it to finish booting.
- 4. Turn on the Sneaky Music DS.
- 5. Turn on the wireless control point and start the Linn GUI.
- 6. Follow the instructions in the *Operation* chapter of the Sneaky Music DS owner's manual.

### **INSTALLATION AND SETUP**

## **10** TECHNICAL SPECIFICATIONS

Date of introduction	March 2008
Туре	Network music player
Supported file types	WAV, FLAC, MP3
Audio sample rates	7.35 k, 8 k, 11.025 k, 12 k, 14.7 k, 16 k, 22.05 k, 24 k, 29.4 k, 32 k, 44.1 k, 48 k, 88.2 k, 96 k, 176.4 k, 192 k
Word depths	16 – 24 bits
Ethernet interface	100Base-T RJ45
Control protocol	Compatible with UPnP <sup>™</sup> media servers, UPnP <sup>™</sup> AV 1.0 control points
Local control	RS232 x 2 RJ11
<b>Connector types</b> optical digital output coaxial digital output line outputs speaker outputs	TOSLINK RCA phono RCA phono Inverted safety 4 mm BFA Sockets
Output impedance line outputs speaker outputs	300 Ω 0.06 Ω
Output voltage line outputs speaker outputs	2.8 V peak, 2 V rms (0 dBFS) 15 V peak, 10 V rms (0 dBFS, 16.6 dB gain, vol. 79)
Output offset line outputs speaker outputs	< 2 mV < 3 mV

Signal-to-noise ratio	
line outputs	Better than -120 dB
Channel balance	Better than +/- 0.2 dB
Channel separation	
line outputs	Better than -120 dB
speaker outputs	Better than -100 dB
Gain range	-80 dB to +20 dB
Gain resolution	1 dB
Unity gain volume	0 dB = volume 80
Dynamic range	120 dB
Damping factor	67
Signal level for clipping	415 mV rms (0 dBFS, +16.6 dB gain, vol. 79)
Harmonic distortion	< 0.03% at 1 kHz at 10 W
Load tolerance	Unconditionally stable into all loudspeaker loads
Frequency response	
– pre	2.5 Hz – 170 kHz (-3 dB)
– power	2.5 Hz – 48 kHz (-3 dB)
Speaker output voltage	15 V peak
Speaker output power	20 W into 4 Ω
Power consumption	
standby	10 W
operational	14 W
maximum continuous	120 W
Mains supply voltage	100 – 120 V ac (±10%) 50 – 60 Hz
(auto-ranging)	200 – 240 V ac (±10%) 50 – 60 Hz

### **INSTALLATION AND SETUP**

# **10** TECHNICAL SPECIFICATIONS (continued...)

Fuse	250 V, T1.6 A (not user replaceable)
Dimensions	345 mm (w) x 44.5 mm (h) x 274 mm (d) 13.6" (w) x 1.8" (h) x 10.8" (d)
Shipping dimensions	440 mm (w) x 115 mm (h) x 380 mm (d) 17.3" (w) x 4.5" (h) x 15.0" (d)
Weight	2.7 kg 6 lb
Shipping weight	3.4 kg 7.5 lb
Control	Remote controllable (handset not supplied)