LINN
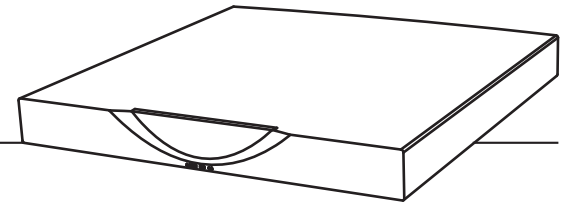
KLIMAX DS
DIGITAL MUSIC PLAYER

SYSTEM INSTALLATION AND SETUP MANUAL

KLIMAX DS SYSTEM

INSTALLATION AND SETUP

CONTENTS

KLIMAX DS SYSTEM

INSTALLATION AND SETUP

1 OVERVIEW

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

5. Wireless Control Point

2. Wireless Access Point (WAP)

4. Network Attached Storage (NAS)

1. Ethernet Switch

3. PC/Laptop

6. Klimax DS

Klimax Kontrol

Artikulat 350A Aktiv Loudspeakers

- ■ Ethernet
- ■ RS232
- ■ Analogue Audio
- 🛜 Wireless

KLIMAX DS SYSTEM
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 all components to communicate with each other.

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

3. The PC or laptop is a standard computer that is used during setup and configuration of the Klimax 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 Klimax DS system, it must be connected to the switch.

The final three devices interact together to provide the Klimax 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 Klimax DS.

6. **Klimax DS**
    Follows instructions from the wireless control point to retrieve music on the demand from the NAS and then transforms the digitally stored music into high quality analogue audio.

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

KLIMAX DS SYSTEM

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.

These instructions 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 install the RAIDar software supplied with the NAS. This will scan the network and allow the user to open the NAS setup screens.

Select the appropriate NAS (if more than one is available), then press 'Setup'.

You will be asked for a user name and password. The default User Name is 'admin', and the password 'Infrant1'.

2. After you login, select 'Setup Wizard'. Progress through the set-up process by following the on-screen instructions on each page, and pressing the 'Next' button to move to the next page.
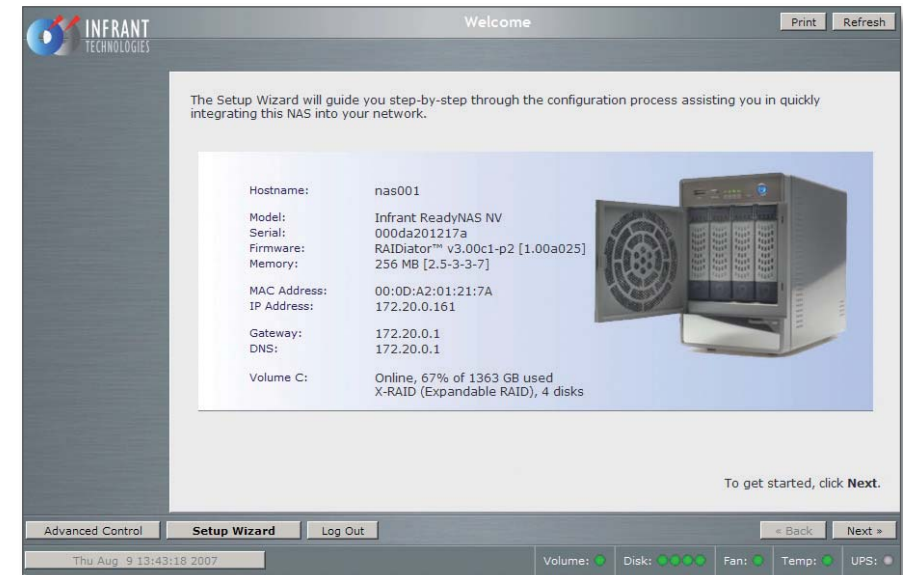
3. **The 'Contact' Page**
    Linn recommends that the Linn installer provides a service email contact in the contact page of the NAS configuration. If there are any problems with the NAS, the dealer will receive an email notification from the NAS. This allows the problem to be diagnosed and corrective action taken before the user is aware that a problem exists.
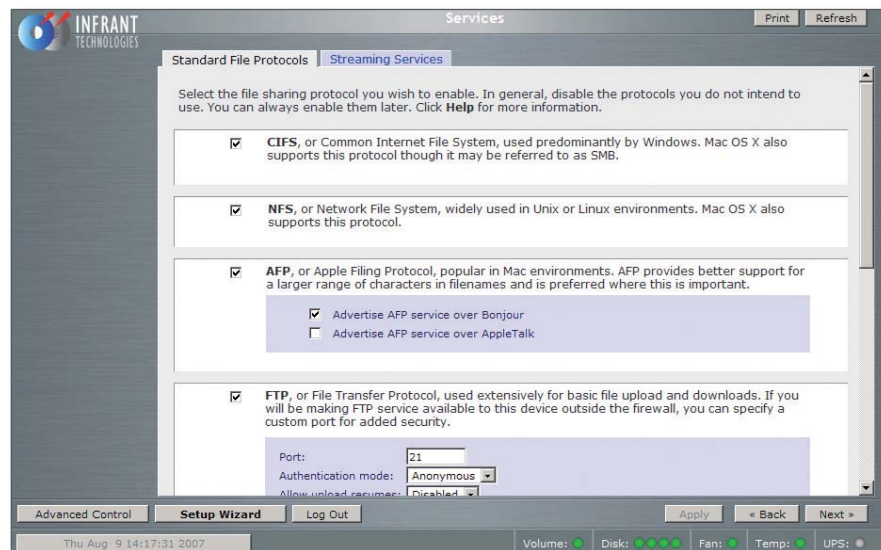
2 SET UP OF THE NAS (continued...)

4. **The 'Ethernet' Page**
   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 *EAC and FLAC Installation* section for details.)

   Select the IP address assignment appropriate for the network the Klimax DS system is being installed into (see *Overview* section). 'Use values from DHCP server' will be appropriate if the installation matches the network architecture described in the *Overview* section.

5. **The 'Standard File Protocols' page**
   Within FTP, set 'Masquerade as' to the NAS hostname (e.g. nas001).

6. **The 'Share List' Page**
   From the Share List click on the CIFS icon on the line beginning 'media'. This will take you to 'Share Options'…
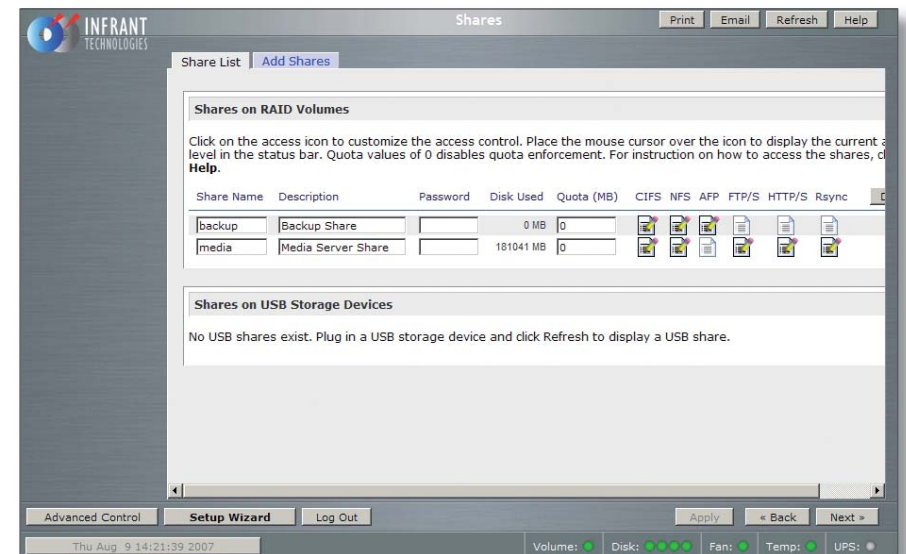
KLIMAX DS SYSTEM

INSTALLATION AND SETUP

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

7.   **The 'Share Options' Page**
     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.

     Set 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.

3 TwonkyMedia

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. For this application we will describe setup for audio material only.

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 and all this is explained below.

Downloading TwonkyMedia

1.   Visit the TwonkyVision website: www.twonkyvision.de

Select 'TwonkyMedia' from the Download selection shown on the far left of the page.

2.   From the download page click 'here' from the first line, taking you to downloads for embedded devices.

Select the download for Infrant ReadyNAS.

Chose to save the file to disc and select 'OK'. The download will begin. Select the 'Installation Guide' for the Infrant ReadyNAS, download the file and open it. This Installation Guide will guide you through the installation of TwonkyMedia onto the NAS.

Suggested TwonkyMedia Setups

There are various options for setting up of TwonkyMedia which will effect how the information is displayed to the user. This can be customised for each individual customer as required.
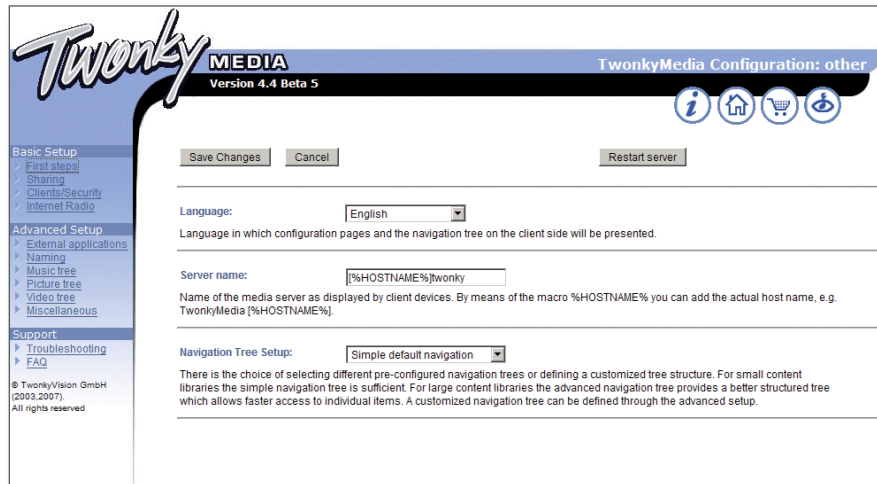
3.   Log onto the NAS. Select the Services page, Streaming Services.

4.   Ensure the 'TwonkyMedia' service checkbox is enabled.

5.   Select 'TwonkyMedia' and follow the http link to connect to the TwonkyMedia server.

KLIMAX DS SYSTEM
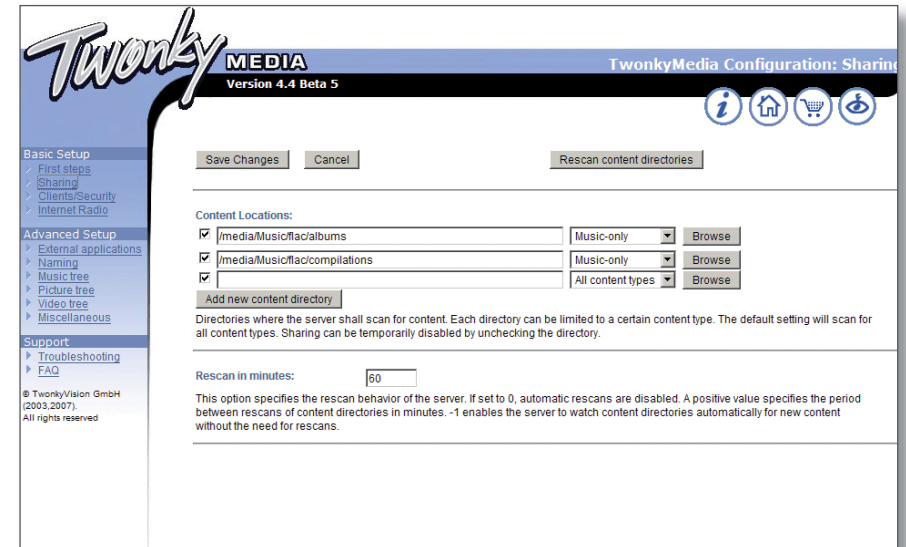
INSTALLATION AND SETUP

3 TwonkyMedia (continued...)

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

Here the name of the server can be set. This is necessary for installations where more than one NAS is available.

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

The settings for Content Location are important as they will be used when setting up EAC. Set these to correspond to the directory into which EAC will rip CDs.

After new CDs are ripped to the NAS, TwonkyMedia will automatically update the control device to enable the new material to be selected for playback.

KLIMAX DS SYSTEM

INSTALLATION AND SETUP

3 TwonkyMedia (continued...)

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

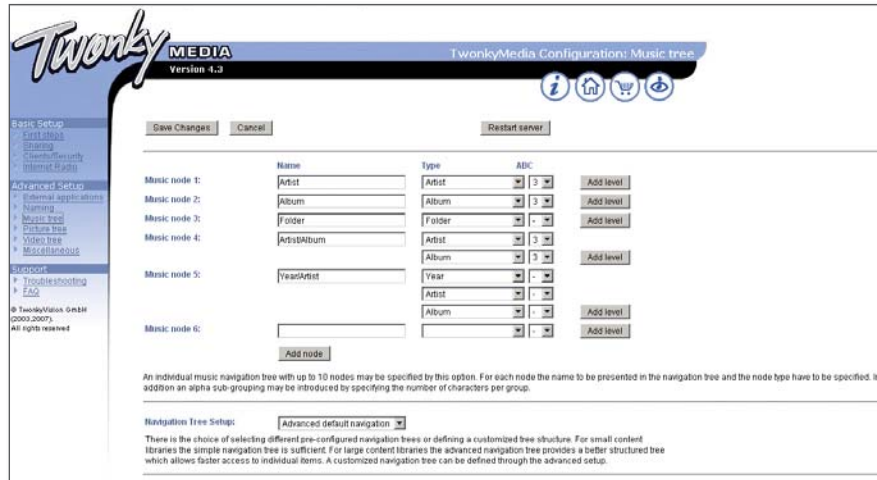In the example above the Video and Pictures directories have been removed.

The '-ALL-' selection is also removed as this can take a lengthy period of time to display if there is a large amount of audio stored on the NAS.

KLIMAX DS SYSTEM
INSTALLATION AND SETUP

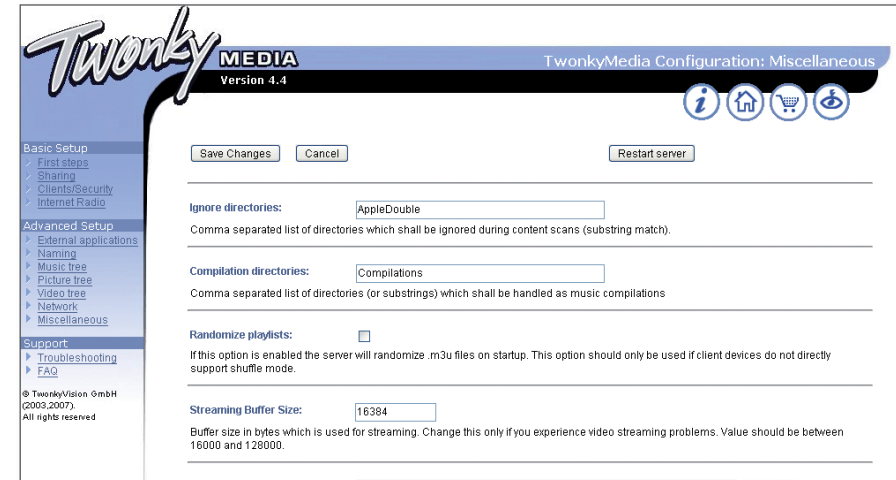## 3 TwonkyMedia (continued...)

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

Apply the above settings.

10.   Select the 'Miscellaneous' link from the left hand panel.

11.   Set the 'Compilations Directory' setting to 'compilations'.

4 EAC AND FLAC INSTALLATION

Linn recommends the use of EAC (Exact Audio Copy) for the ripping of CDs onto the NAS. This software is available free of charge from the Internet.
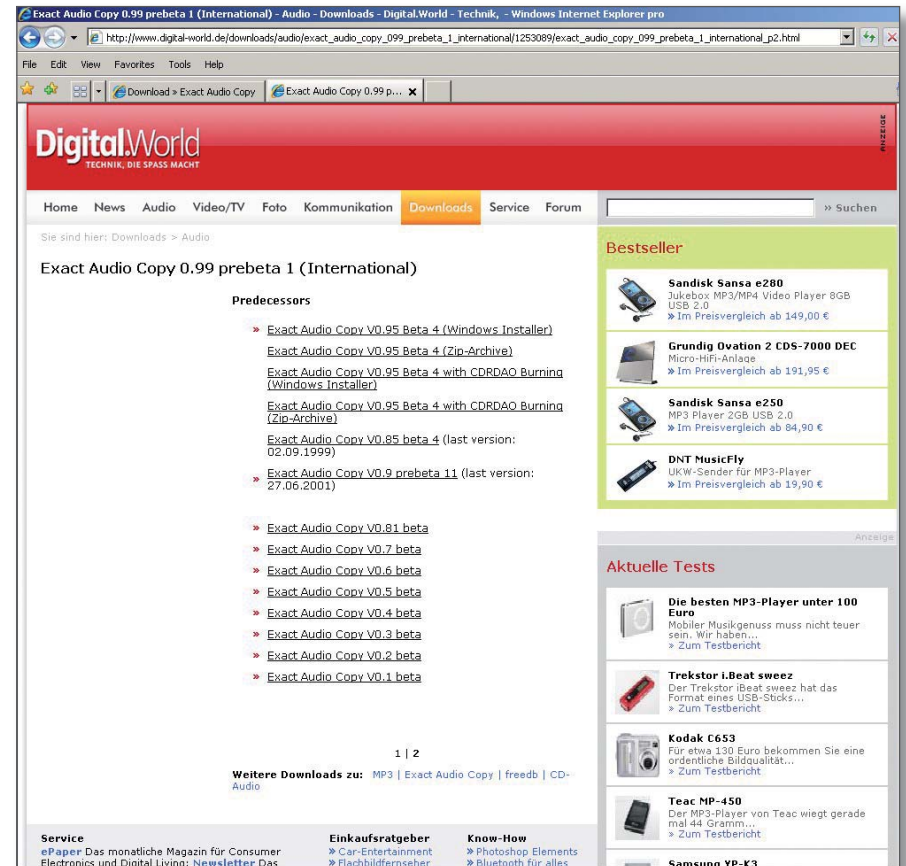
EAC Installation and Setup

This tool will be required for copying CDs to the NAS. Linn have included a configuration file for this tool which contains the recommended setup for accurate, lossless ripping.

EAC Installation

1. Go to the following website:
   http://www.exactaudiocopy.de/en/index.php/resources/download/

2. Select the link for English download.
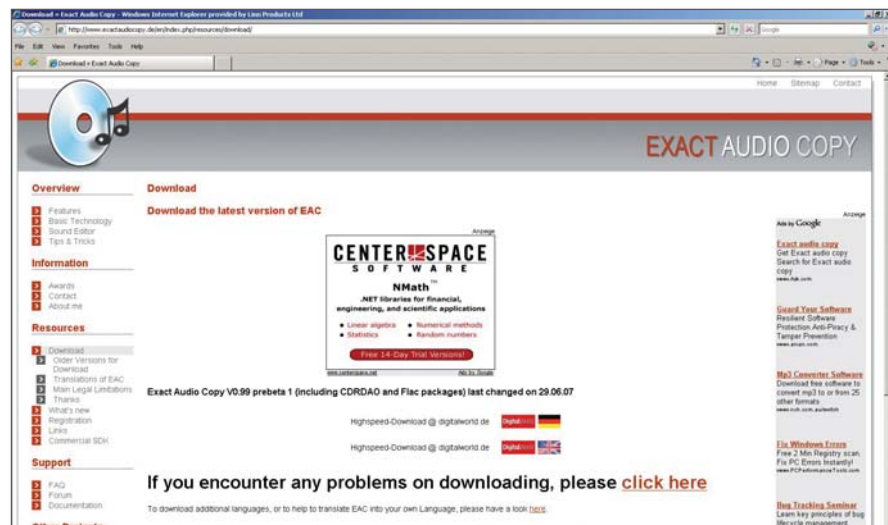
3. Select 'Exact Audio Copy V0.95 beta 4, Windows Installer'. The download will begin. Once the download is complete double-click the downloaded .exe file to start the installation process. Follow the on screen instructions. At the end of the install run EAC.
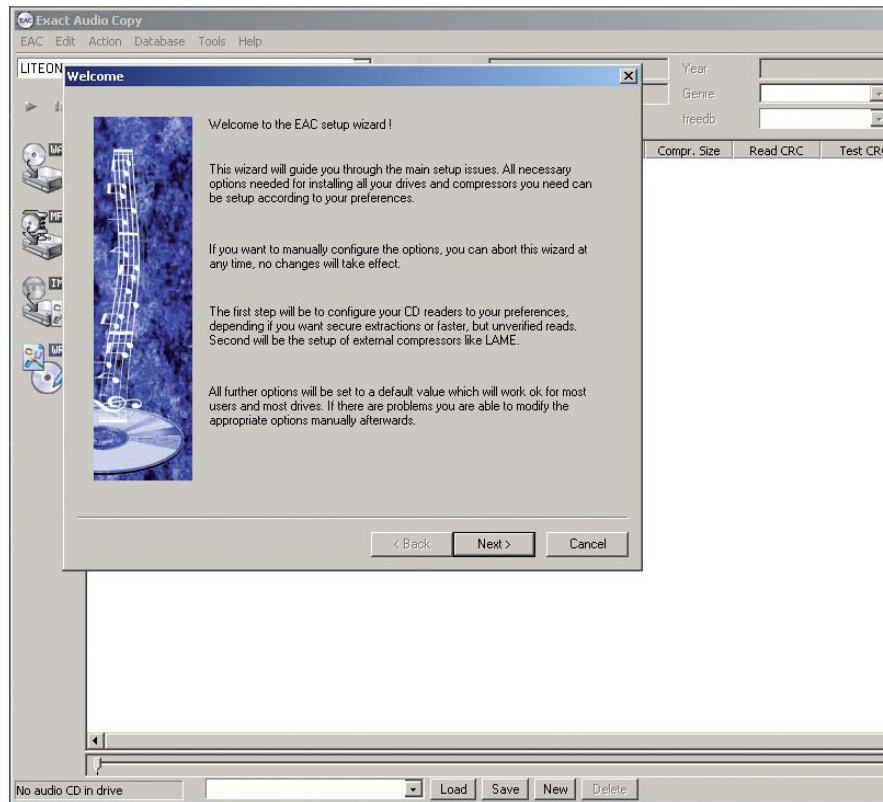
KLIMAX DS SYSTEM
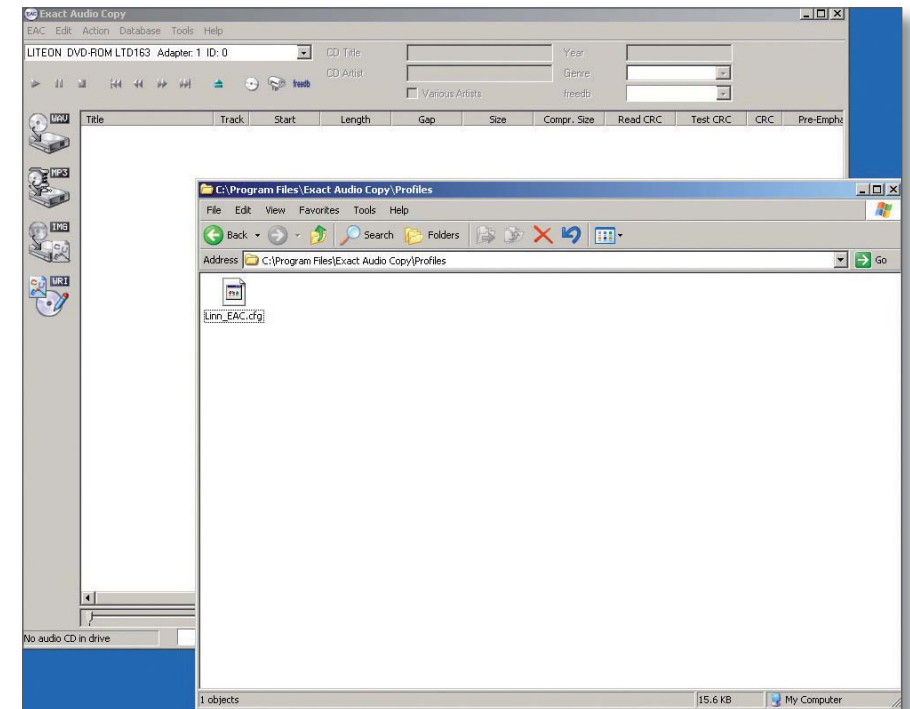## INSTALLATION AND SETUP

4 EAC AND FLAC INSTALLATION (continued...)

4.   EAC will autorun the EAC setup wizard. Select 'Cancel' to prevent this running.

EAC Configuration

5.   Copy the files contained within the 'Profile' directory on the disc supplied with the Klimax DS, onto the hard disk of the installation PC. Using Windows Explorer, copy the files into Program Files\Exact Audio Copy\Profiles.
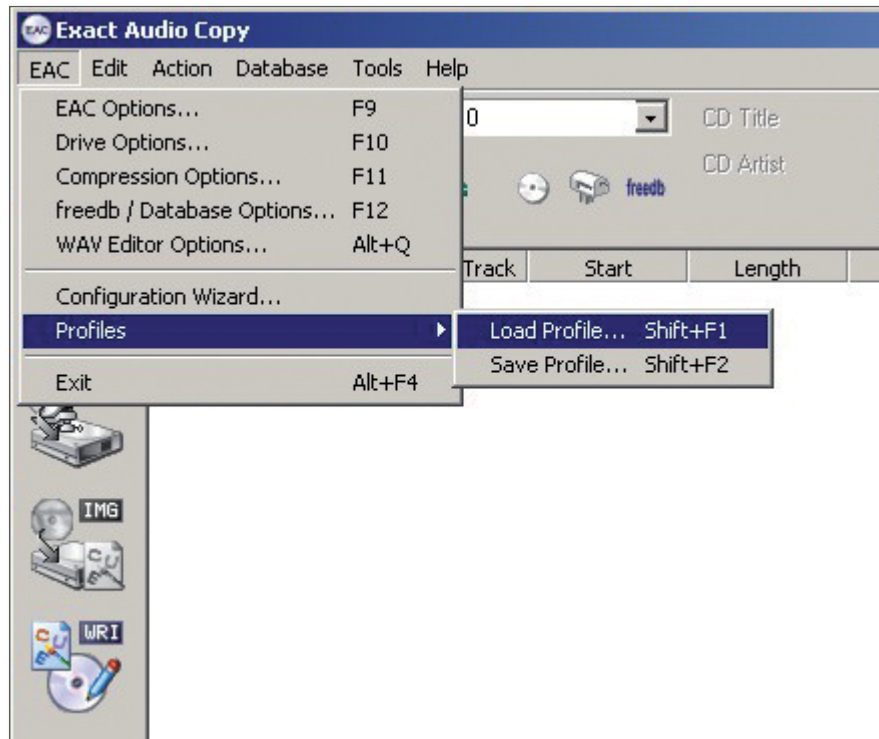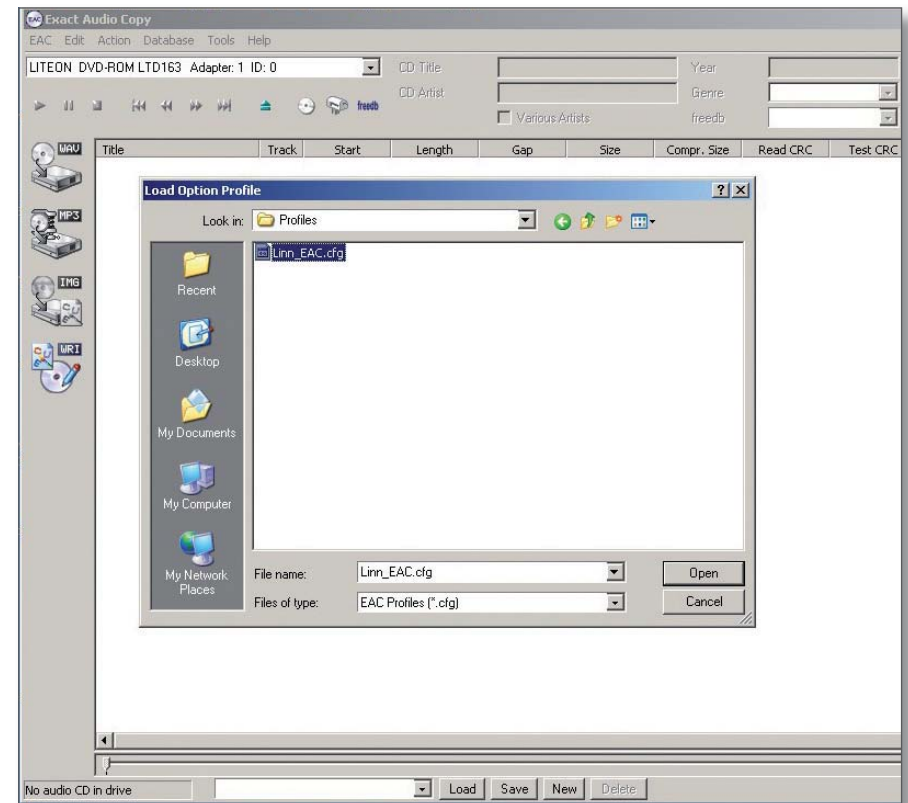
KLIMAX DS SYSTEM
INSTALLATION AND SETUP

4 EAC AND FLAC INSTALLATION (continued...)

6.   From EAC, select 'Load Profile' and browse to Program Files\Exact Audio Copy\Profiles.

7.   Select "Linn_EAC095.cfg" for version 0.95 of EAC. Additional configurations are provided for newer versions of EAC, if required.
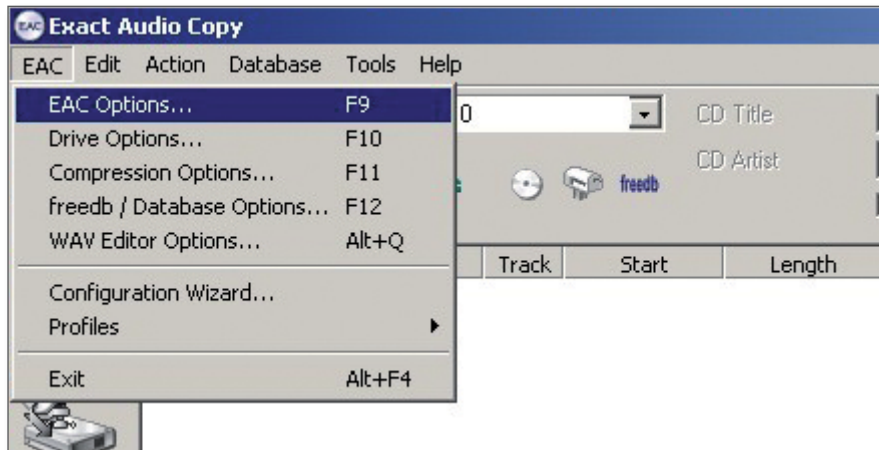
KLIMAX DS SYSTEM
INSTALLATION AND SETUP

4 EAC AND FLAC INSTALLATION (continued...)

8.   Open the EAC Options dialogue.

9.   Select the Directories tab. Click the 'Use this directory' radio button and enter the details of the NAS. This should take the following form:

\\hostname.domain_name\media\music\flac

Where,
Hostname – defaulted to NAS001

Domain Name – automatically generated by any DNS which would have to be on the same network as the NAS

If there is no DNS you may have to map the NAS as a web page within Windows Explorer. When this is complete the directory will have the form:

\\192.168.1.3\media\music\flac

The IP address will be that of the NAS. This is shown on the front panel of the NAS by pressing and releasing the standby switch.

Using the setup wizard lets EAC determine the best setup for your PC's drive.
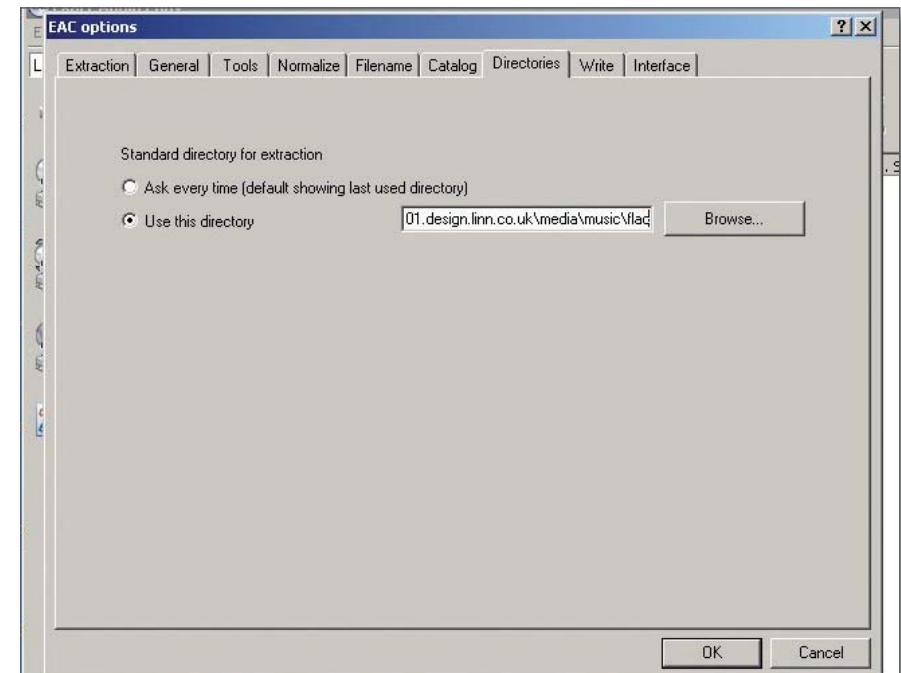
KLIMAX DS SYSTEM
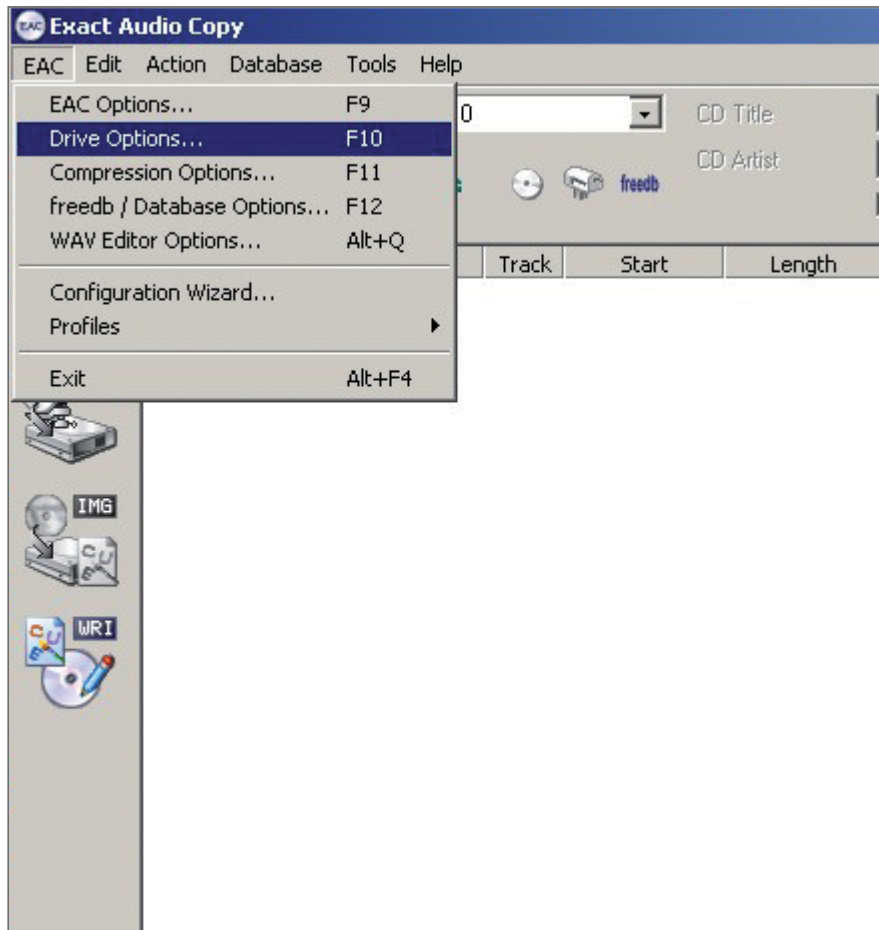**INSTALLATION AND SETUP**

4 EAC AND FLAC INSTALLATION (continued...)

10. Select 'Drive Options' from the menu. Insert an audio CD into the appropriate ROM drive.

11. Click 'Detect Read Features'.

    The test will start.
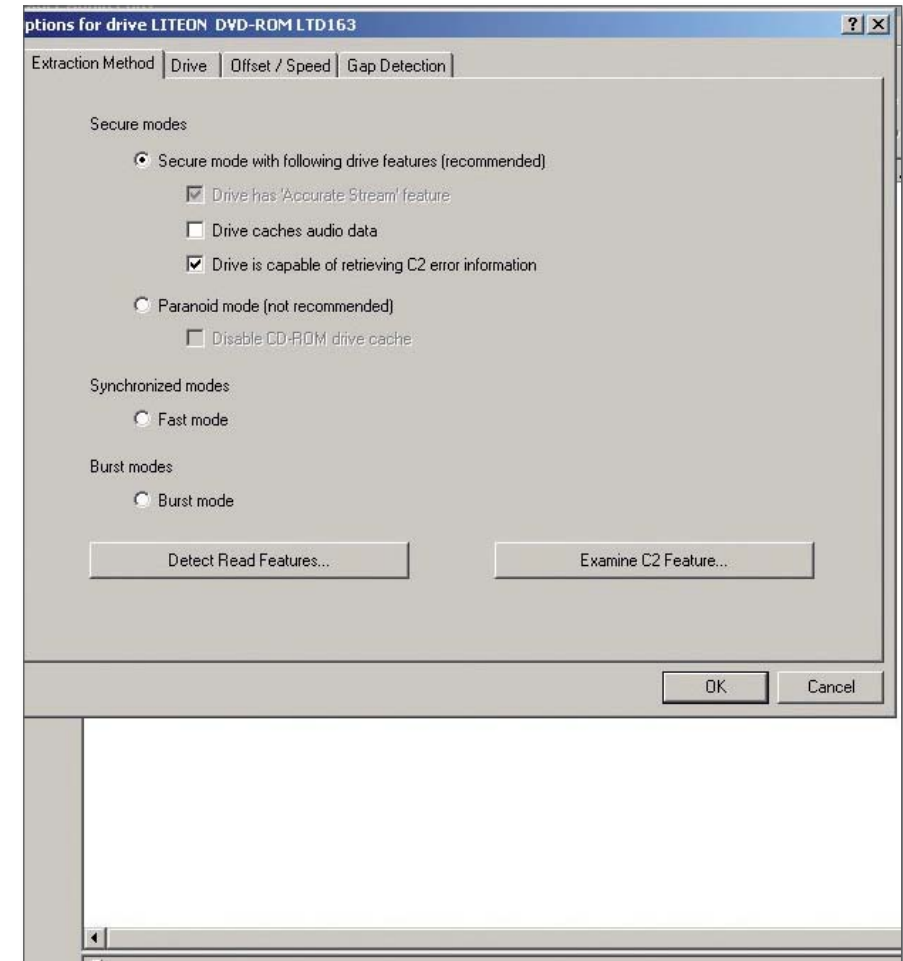
KLIMAX DS SYSTEM

INSTALLATION AND SETUP

4 EAC AND FLAC INSTALLATION (continued...)

12. When complete you will then be asked to apply the results.

13. Click 'Apply'. This will close the current window and take you back to the Extraction Method tab. Select 'OK' from this tab to exit Drive Options. Now, the current configuration will have the correct drive features and be pointing to the desired NAS.

KLIMAX DS SYSTEM
INSTALLATION AND SETUP

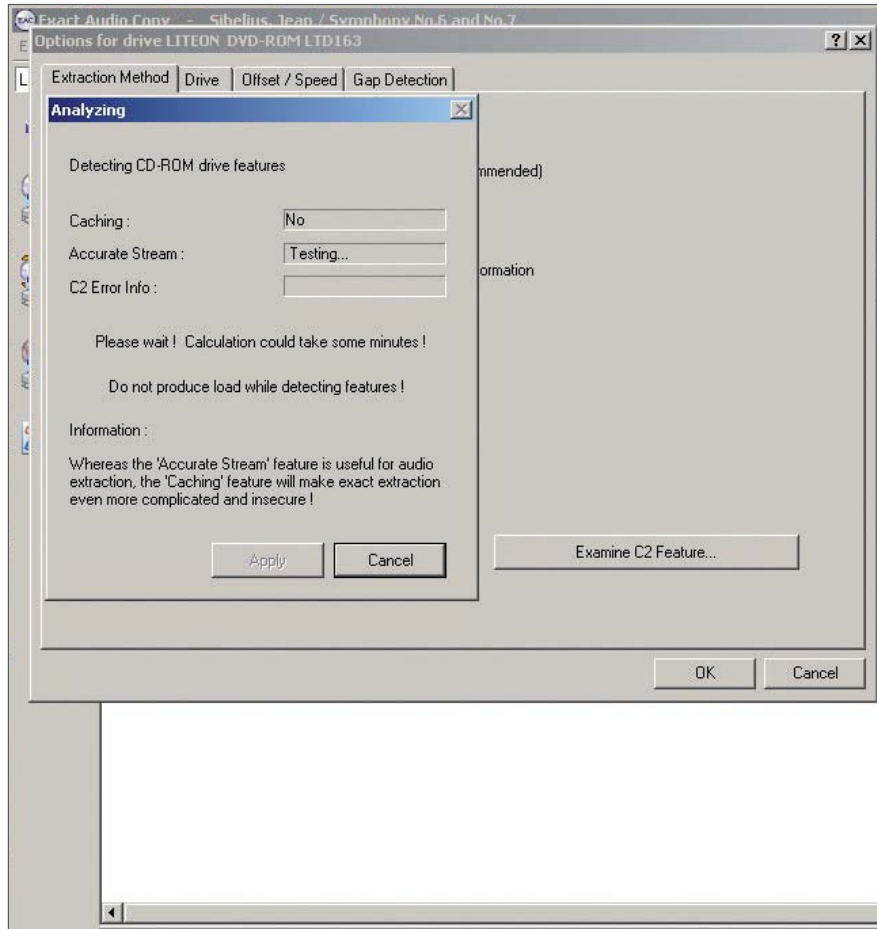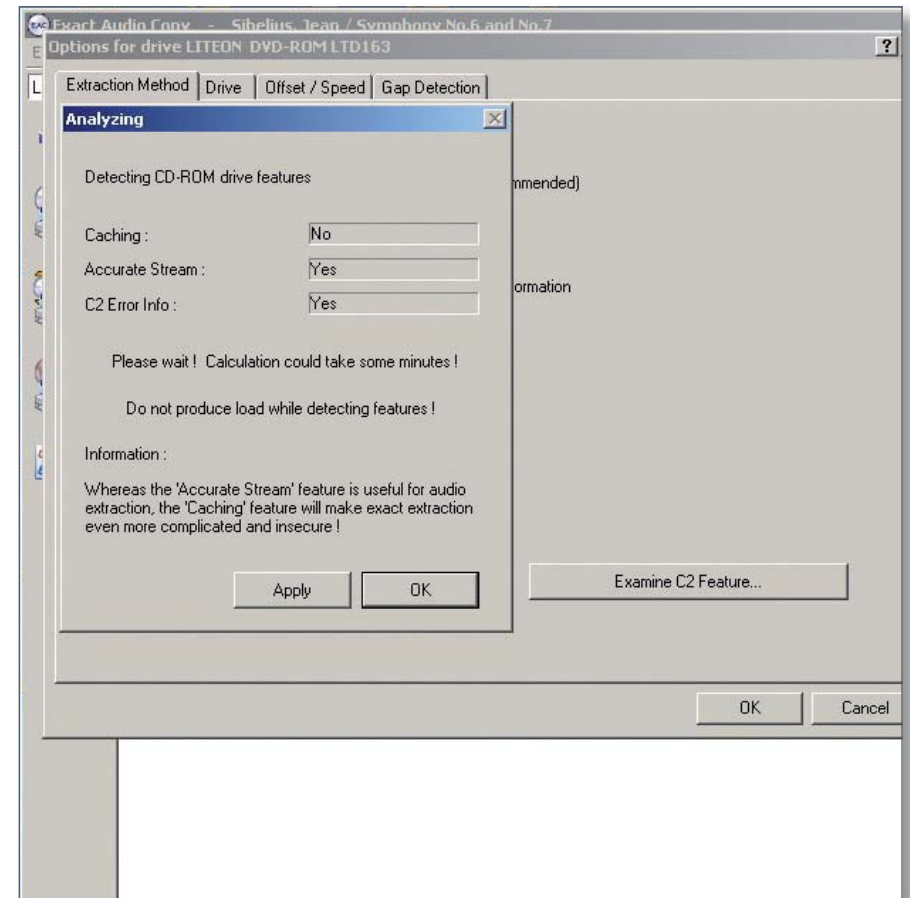### 4 EAC AND FLAC INSTALLATION (continued...)

14.   Save this new configuration.
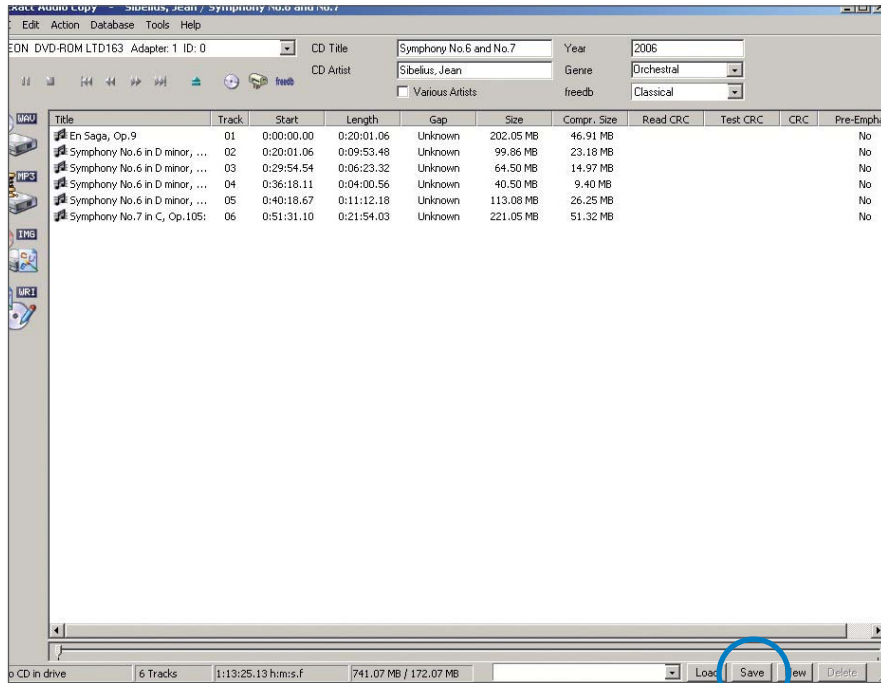
Installing FLAC Encoder
This is used to convert the WAV files, generated by copying a CD, to FLAC files. The encoder is lossless and gives a size reduction of up to 40%.

Go to the website:
http://flac.sourceforge.net/download.html

15.   Select 'FLAC for Windows with installer'. This will redirect you to another site and the download will begin. Once complete, double-click the executable and install the encoder.

Follow the on-screen instructions. EAC will be automatically configured to use this encoder. There are no more steps to follow to make this happen.
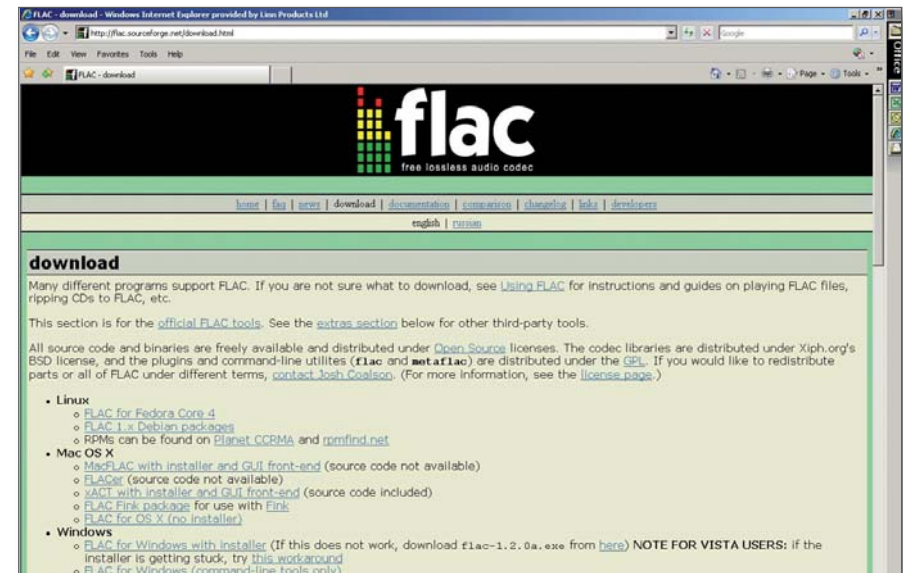
4 EAC AND FLAC INSTALLATION (continued...)

Copying CDs onto the NAS

1. Insert the CD into the PC's drive. Start EAC. The screen will show the disc contents.
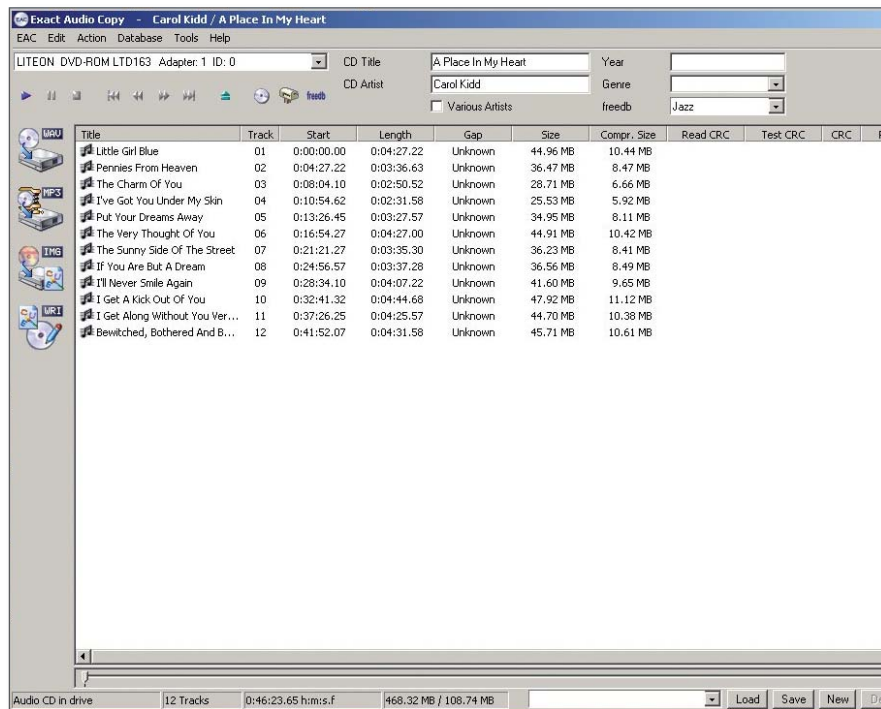
2. To start the process of copying the CD onto the NAS, select 'Action', 'Copy Selected Tracks', 'Compressed'. Alternatively, the key shortcut is Shift + F5.

   Copying will begin.
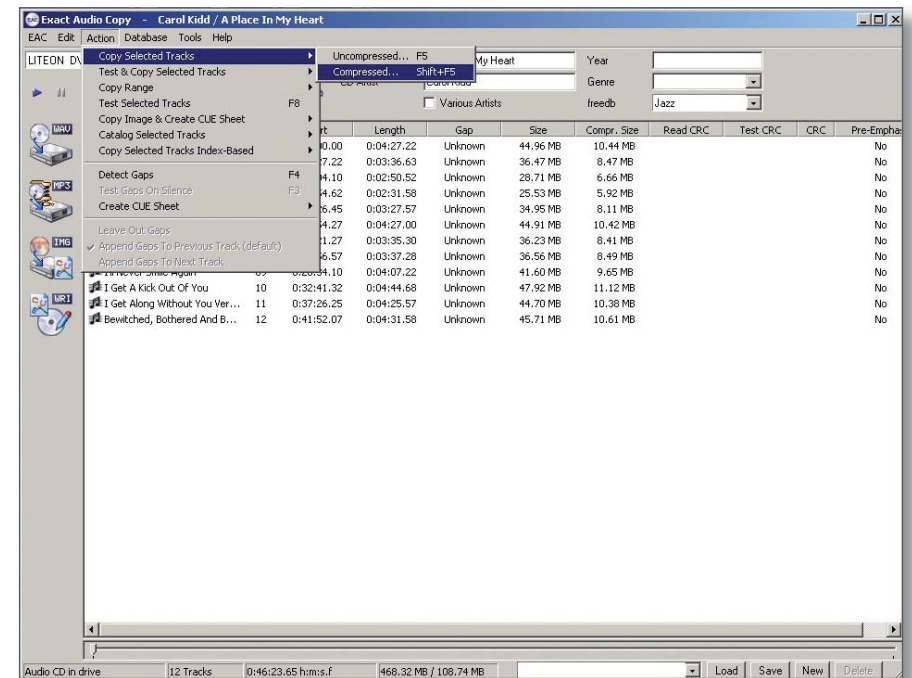
KLIMAX DS SYSTEM
INSTALLATION AND SETUP

4 EAC AND FLAC INSTALLATION (continued...)

3.   On completion the following will be displayed and the disc will be ejected. Select 'OK'.
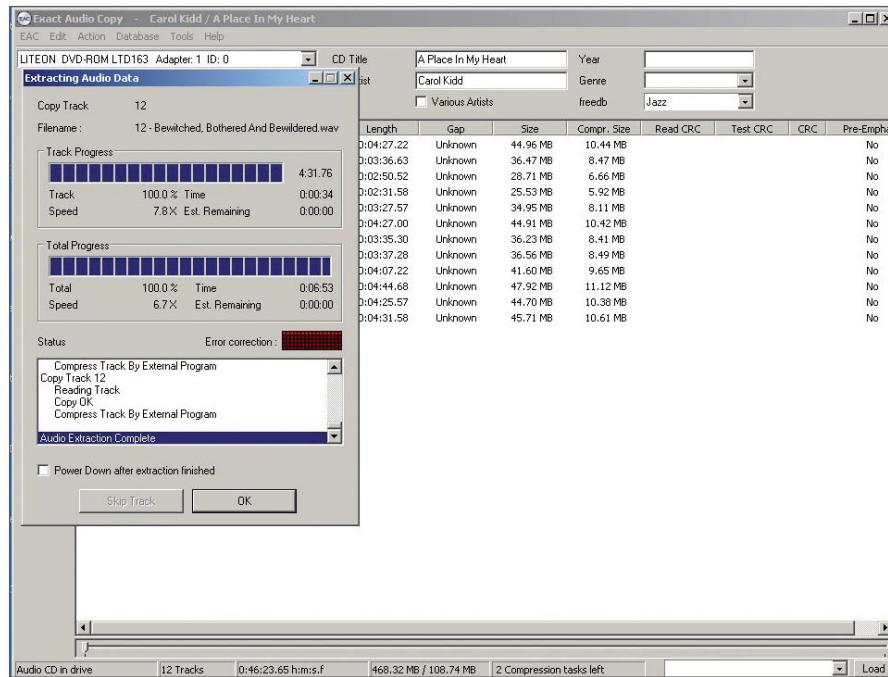
4.   Select 'OK' again. The CD will now be copied onto the NAS. No further actions are required. After a short time, the new content will be available to select and listen to.
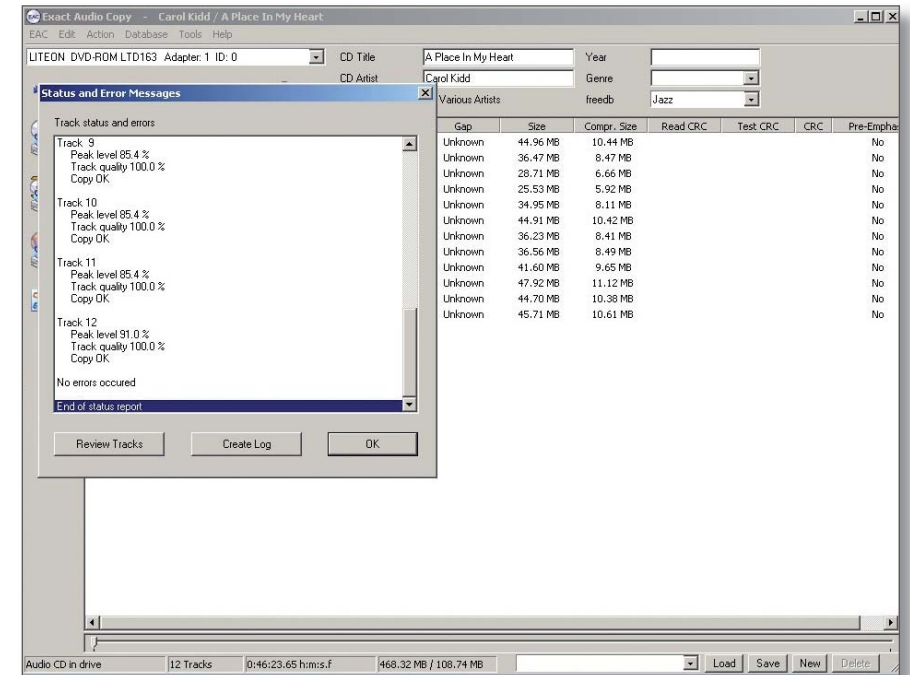
4 EAC AND FLAC INSTALLATION (continued...)

Ripping a large collection of CDs

If the customer has 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, details of which can be found on the Klimax DS product information page on Linfo.

KLIMAX DS SYSTEM

INSTALLATION AND SETUP

5 THE CONTROL DEVICE, AND INSTALLING THE LINN
   GUI AND CONFIG APPLICATION

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

1.   Update the control device with .NET 2.0, available at
     www.microsoft.com/net.

2.   Copy the Linn GUI installer to the control device.

3.   Copy the Linn Config installer onto the installation PC.

4.   Run both the installers. Do not launch the Linn GUI or Linn Config
     at this time.

5.   On the control device, 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.   You must give the PC's firewall permissions for the Linn Config and
     Linn GUI to access the network.

     If the owner uses the Windows Firewall, follow the instructions from
     the following link to add Linn Config and Linn GUI.

     http://www.microsoft.com/windowsxp/using/networking/security/
     winfirewall.mspx

If they use a different firewall, consult the vendor's manual for
instructions.

Note:
If you update the Klimax DS system with new Linn Config or Linn GUI
software, you must add the new software to the firewall permissions.

7.   To configure you Klimax DS system, follow the instructions in the
     Linn Config Application section.

KLIMAX DS SYSTEM
INSTALLATION AND SETUP

6 KLIMAX DS INSTALLATION

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

Unpacking
The Klimax DS is supplied with the following:

- handset

- 2 x AAA batteries for the handset

- 1 pair of silver interconnect cables

- RS232 lead

- mains lead

- CD-ROM

- warranty pack

- owner's manual

We recommend that the owner retains all packaging in case they need to transport the Klimax DS at a later date.

Positioning
The Klimax DS can be positioned almost anywhere, but please consider the following points:

- The unit should be placed on a flat, stable and rigid surface.

- Do not position the unit where sunlight can shine (whether directly, diffused or reflected) on its display 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 otherwise directly adjacent to sources of heat such as radiators, power amplifiers etc. Nor should it be enclosed in a cabinet with such devices.

- The unit itself produces very little heat; however it is advisable to allow a little space to the sides, rear and above the unit (ideally 10 cm / 4") for air circulation which will allow any heat to dissipate.

KLIMAX DS SYSTEM
INSTALLATION AND SETUP

6 KLIMAX DS INSTALLATION (continued...)

Back panel
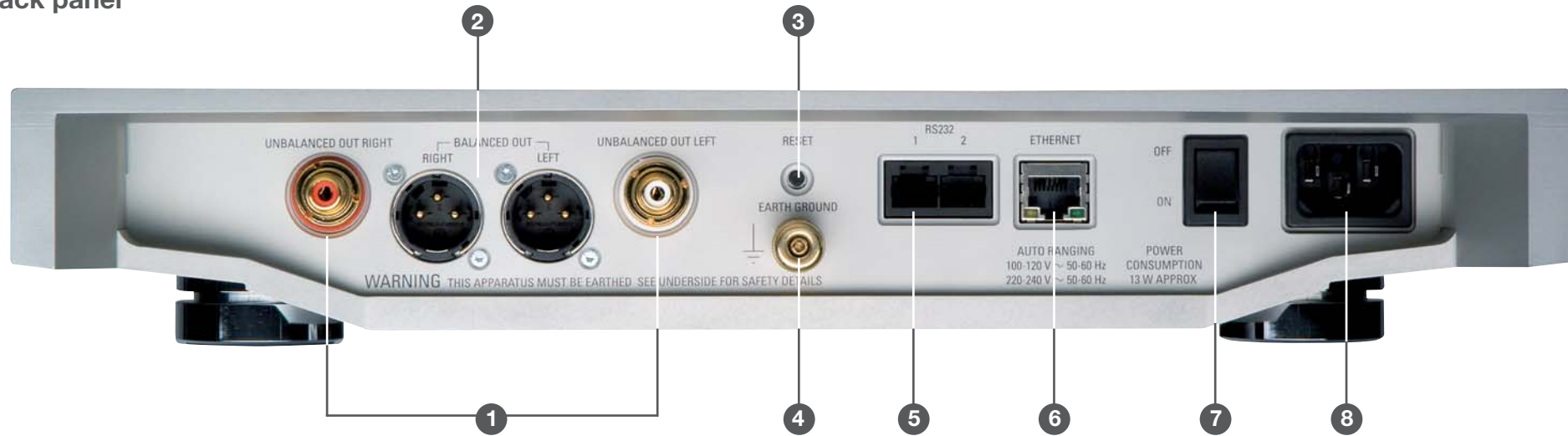
1. **UNBALANCED OUT RIGHT/LEFT**
   For connection to a Linn Klimax Kontrol or other pre-amplifier

2. **BALANCED OUT RIGHT/LEFT**
   For connection to a Linn Klimax Kontrol or other pre-amplifier

3. **RESET**
   Used when reprogramming the unit (see Troubleshooting document)

4. **EARTH GROUND**
   For connecting the unit to an earthing terminal if no mains earth is available

5. **RS232 1, 2**
   Port 1 is for connecting to a Linn CD12, port 2 for a Linn Klimax Kontrol

6. **ETHERNET**
   For connecting the unit to the network switch

7. **OFF, ON**
   Mains power switch

8. **POWER**
   Mains power inlet

KLIMAX DS SYSTEM

INSTALLATION AND SETUP

6 KLIMAX DS INSTALLATION (continued...)

Connecting to the mains supply

The Klimax 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.

RS232 connection on Klimax Kontrol and CD12

For communication to take place between the components in a Klimax DS system, the RS232 connection must be enabled on the Klimax Kontrol and CD12.

Klimax Kontrol

The RS232 Connection user option must be set to 'Enabled'. This is the default setting, so unless it has been changed no alteration is required. If the setting has been changed, or you wish to check it, follow the instructions below.

1. Put the Klimax Kontrol into standby.

2. Hold STANDBY on the front panel until the front panel display shows 'SLEEP DISPLAY'.

3. Repeatedly press SOURCE – until the display shows 'RS232 CONNECTION'.

4. To change the setting, press VOLUME +.

5. Press STANDBY.

CD12

To enable the RS232 connection on the CD12 requires an internal change to the unit. This procedure is detailed in the CD12 Software Pack Version 1.3 document, which can be found within the following software pack CD12 boot-PROM Upgrade Procedure Rev. 2, on Linfo's Sondek CD12 product information page.
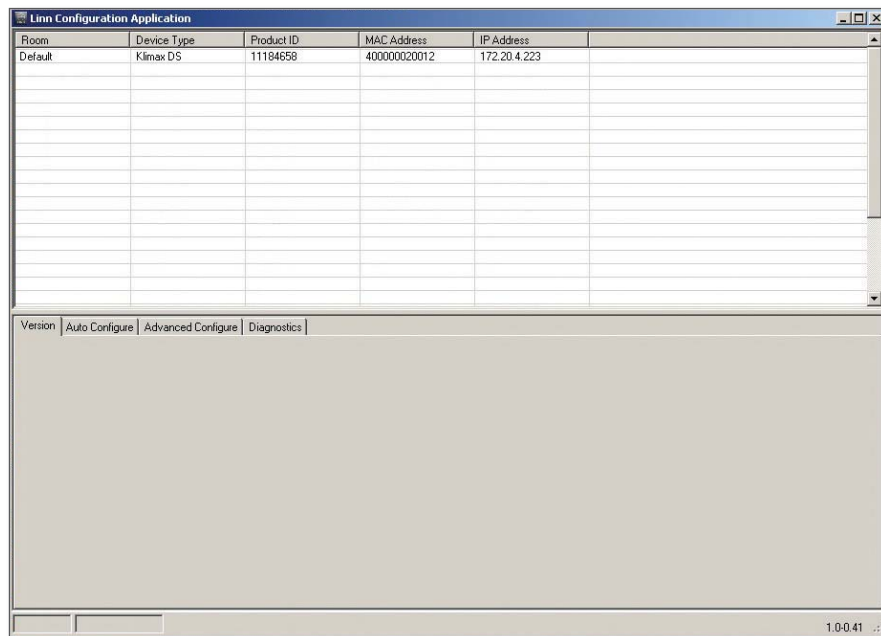
KLIMAX DS SYSTEM
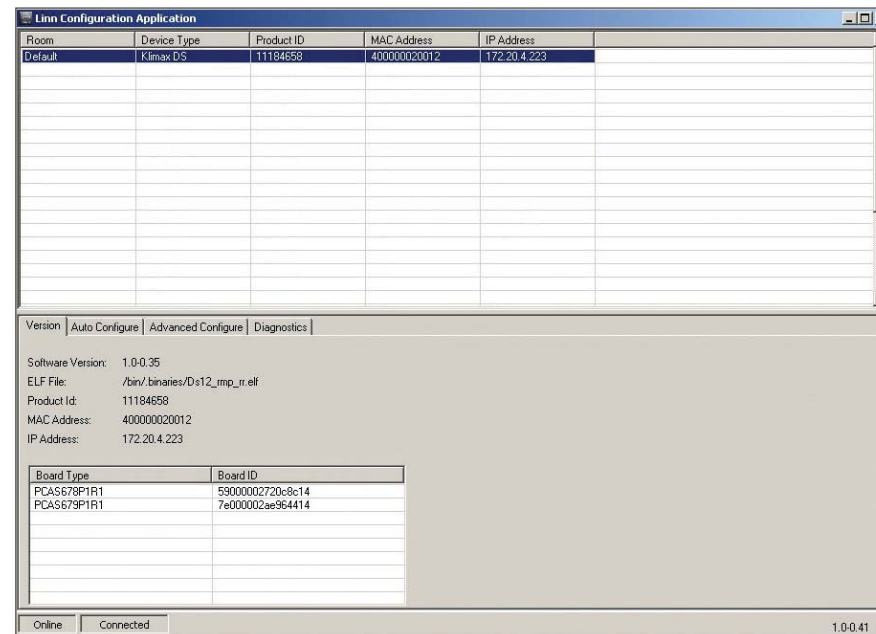## INSTALLATION AND SETUP

7 THE LINN CONFIG APPLICATION

The Linn Config application is used to configure the settings on your Klimax DS as well as a Klimax Kontrol and CD12.

1.   Switch on Klimax Kontrol and CD12.

2.   Switch on the Klimax DS.

3.   Launch the Linn Config if you have not already done so.

4.   Highlight the Klimax DS and wait until the Linn Config connects to the unit. The 'Version' tab contains information on the Klimax DS for use by Linn Service personnel.
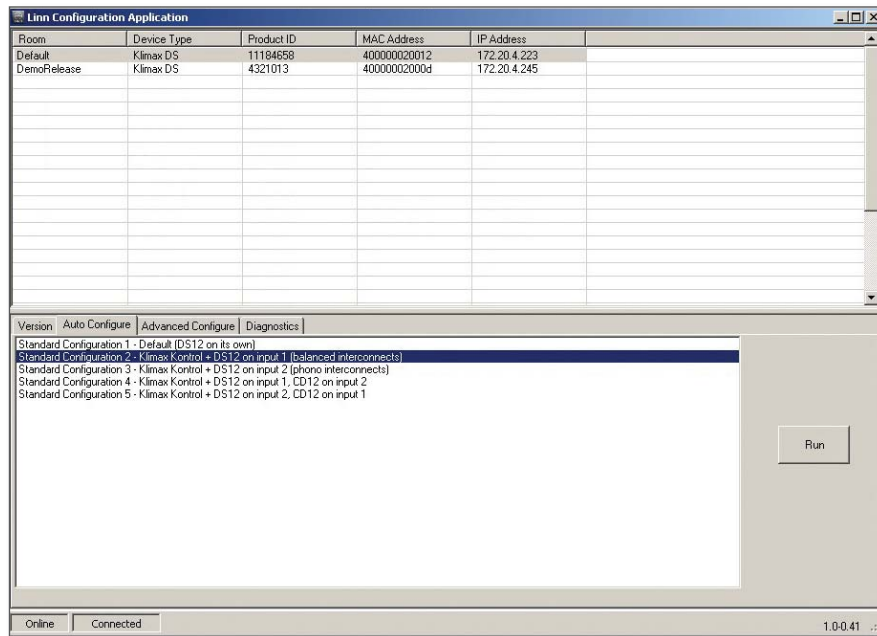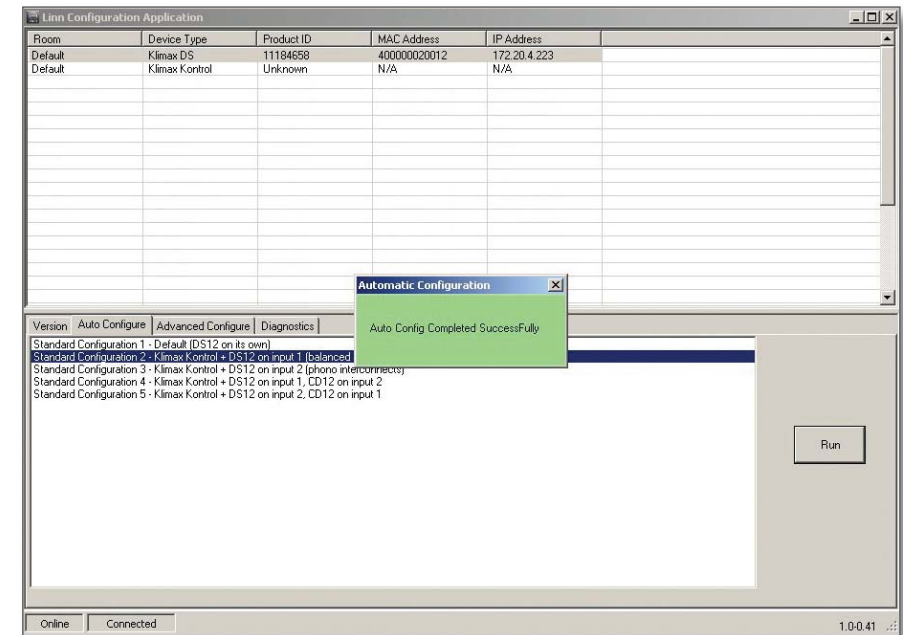
KLIMAX DS SYSTEM
INSTALLATION AND SETUP

7 THE LINN CONFIG APPLICATION (continued...)

5. Select the 'Auto Configure' tab. Select the configuration appropriate for the Klimax DS system, and press 'Run'.

6. Wait until the configuration has completed, then close the Automatic Configuration notice and select the 'Advanced Configure' tab.
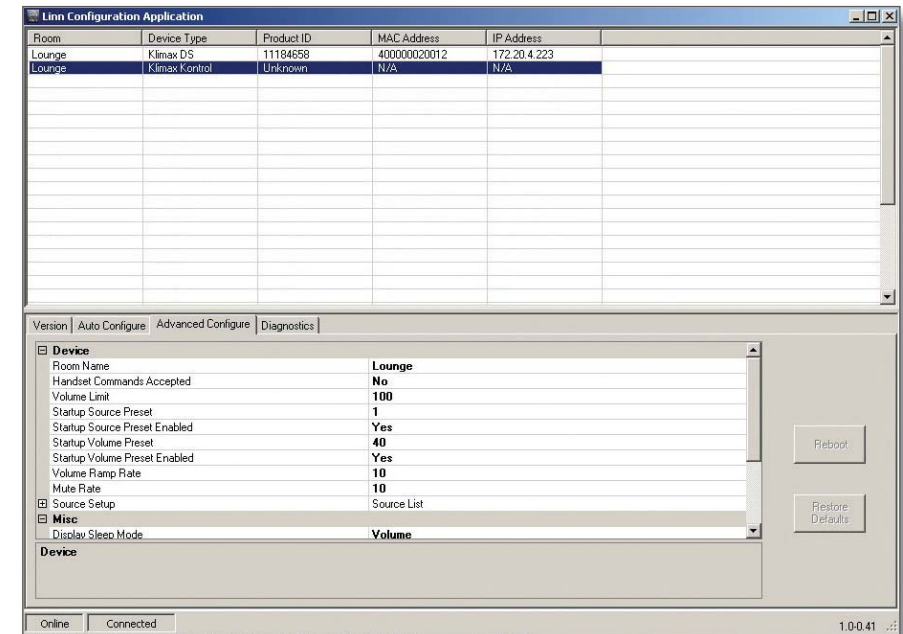
KLIMAX DS SYSTEM
INSTALLATION AND SETUP

7 THE LINN CONFIG APPLICATION (continued...)

7.   On this screen you are able to customise aspects of the configuration, for example you may want to change the Room Name, Device Name or Display Brightness. You are also able to add additional source products that you wish to select from the Linn GUI. If you change items in the 'Advanced Configuration' tab, press 'Reboot'.
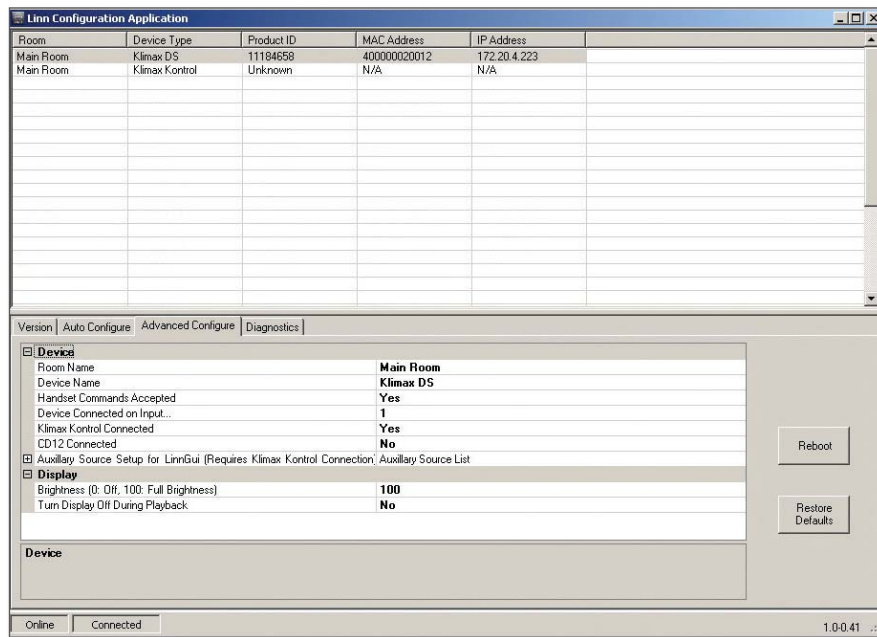
8.   For systems with a Klimax Kontrol.
     From the top window, select Klimax Kontrol. On the 'Advanced Configuration' tab you will see the current configuration settings for the unit. You are able to change the settings, if required.

9.   If a CD12 is part of the Klimax DS system, you can select it from the top window and under the 'Advanced Configuration' tab make changes to its configuration.

8 FINAL STEPS

This section describes the final steps involved in getting the Klimax DS
system up and running.

Final steps

1. Turn on the NAS.

2. Turn on the network switch and the wireless access point.

3. Wait for the NAS to finish booting.

4. Turn on the Klimax DS and the rest of the hi-fi system.

5. Turn on the control device and start the Linn GUI.

6. Follow the instructions in the *Operation* chapter of the Klimax DS'
   owner's manual.

KLIMAX DS SYSTEM

INSTALLATION AND SETUP

9 TECHNICAL SPECIFICATION

Date of introduction	August 2007
Type	Digital music player
Size	(H) 60 mm x (W) 350 mm x (D) 355 mm (H) 2.3 inches x (W) 15 inches x (D) 14.2 inches
Weight	10 kg 22 lb
Supported file types	WAV, FLAC
Audio sample rates	44.1 k, 48 k, 88.2 k, 96 k, 176.4 k, 192 k
Word depths	16 – 24 bits
Analogue audio outputs	Stereo RCA phono sockets, stereo XLR balanced audio outputs
Ethernet interface	100Base-T RJ45
Control protocol	Compatible with UPnP™ media servers
Local control	RS232 x 2 Luminous remote control handset 128 x 32 front panel display
Power supply	Switching power supply with auto-ranging (AC 100 – 120 V @ 50 – 60 Hz) (AC 220 – 240 V @ 50 – 60 Hz)
Power consumption	13 W