

INTERNET RADIO RECORDER CD

RRCD 3760 WEB

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SET-UP AND SAFETY





Please note the following instructions when setting up the system:

This device is designed for the playback of audio signals. Any other use is expressly prohibited.

If you want to set up the device on wall shelves or in cupboards, please ensure that the device is adequately ventilated. There must be at least 10 cm space at the side, above and at the back of the device.

Do not cover the device with newspapers, table cloths, curtains, etc.

When setting up the device, remember that furniture is often coated with various types of varnish and plastic, which often contain chemical additives. These additives may cause corrosion to the feet of the unit. This may leave stains on the surface of the furniture which can be difficult or impossible to remove.

If the device is exposed to sudden changes in temperature, for example when taken from the cold into a warm room, wait at least two hours before using the device.

The device is designed for use in dry rooms. Protect the device and the CDs from rain, moisture (dripping or splashing water), sand and heat (heaters or direct sunlight, etc).

Only use the device in a moderate climate.

Do not place any vessels containing liquids (for example, vases) on the device. Do not insert any foreign objects in the CD compartment.

Do not place any naked flames such as candles on the device.

Never open the device under any circumstances. Warranty claims are excluded for damage resulting from improper handling.

Do not use any cleaning agents as they may damage the housing. Clean the device with a clean dry cloth.

Thunderstorms are a danger to all electrical devices. Even if the device is switched off, it can be damaged by a lightning strike to the mains or the antenna cable. Always remove the power plug during a thunder storm.

If malfunctions occur due to static electricity charges or brief mains voltage surges, reset the device. To do this, pull out the power supply unit and connect it again after a few seconds.

Note:

Do not connect any other equipment while the device is switched on. Switch off the other devices as well before connecting them. Make sure the power plug is freely accessible.

Controls



ON/OFF

Switches the device in and out of standby mode and from standby mode to the last input source selected.

Infrared sensor for remote control signals (left, next to the display).

POWER •

Mode indicator. Lights up red during operation.

- +

Adjust the volume.

M

Opens the main menu of the device, for example, to select the CD, SD, FM, Internet radio, Client, USB and tape input sources.

In the menus: moves the cursor upwards. In FM mode: selects the next preset.

In the menus: moves the cursor down.
In FM mode: selects the previous preset.

In the menus: opens the options.

In client mode: selects the next track.

In CD mode: press briefly to select the next track, press and hold down to start the forward search.

In FM mode: press and hold down to start the forwards frequency search. Press briefly to change the frequency in small steps.



In the menus: switches one menu level back. M

In client mode: selects the previous track.

In CD mode: press briefly to select the previous track, press and hold down to start a reverse search.

In FM mode: press and hold down to start the reverse frequency search. Press briefly to change the frequency

backwards in steps.

P/RANDOM In standby: activates and saves the settings for the time, day and date.

> In Internet and FM mode: stores radio stations as presets. In CD mode: stores CD tracks to create a playlist, plays tracks in random order.

INTRO/ REPEAT (1) In standby mode: activates the setting for the switch-on

In CD mode: for playing the intros to CD tracks. For repeating a track or the whole CD.

In MP3/WMA, CARD and USB mode: for repeating the

tracks on an album.

■ CLR In Internet mode: deletes favourite stations and letters/

characters during text input. In client mode: ends playback.

In CD mode: interrupts and stops playback. Deletes a

playlist.



▶II In CD, CARD, Client and USB mode: starts and pauses

playback.

DISPLAY In standby: controls the brightness of the display and

selects demo mode.

In Internet mode: switches the display between the Internet station information and the time/day/date. In FM mode: switches the display between the radio ticker text, station type and the time/day/date.

DSC/UBS Briefly press to open the menu for the sound settings

(myEQ, Classic, Pop, Jazz, Rock and myEQ again); press and hold down to open the setting for the Ultra

Bass-System (ON and OFF).

OPEN ▲ Opens and closes the CD compartment.

USB interface for connecting an MP3 player or a USB

memory stick.

This interface is not suitable for connecting up to PCs.

SD/MMC Card slot for inserting a memory card (MMC or SD).

Headphone jack for connecting a stereo headphone set

with a jack plug (3.5 mm).

This automatically switches off the loudspeakers.



Tape Tape compartment. Press here to close.

Pauses playback and recording.

■ ▲ Ends playback/recording of the tape and opens the tape

compartment.

Fast forwards the tape to the end.

Rewinds the tape to the beginning.

■ Starts playback.

Starts recording.

Antenna Telescopic antenna for FM (VHF) reception.

LAN Socket for connecting to the Ethernet network via LAN

cable on the back of the device.

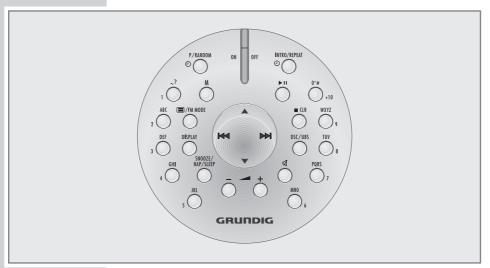
AC ~ Socket for connecting the power supply unit on the back

of the device.

The only way to fully disconnect the device from the

mains is to pull out the plug.

The remote control



ON OFF Switches the device to standby mode and from standby

mode to the last input source selected.

▶II In music archive, CD, USB and SD/MMC modes:

starts and pauses playback.

■ CLR In Internet mode: deletes favourite stations and

letters/characters during text input.

In CD mode: interrupts or ends playback of a

MP3/WMA CD or audio CD;

press twice to delete the playlist of a CD.

DSC/UBS Briefly press to open the menu for the sound settings

(myEQ, Classic, Pop, Jazz, Rock and myEQ again); press and hold down to open the setting for the Ultra

Bass-System (ON and OFF).

Switches the loudspeakers of the device to mute and

back on again.

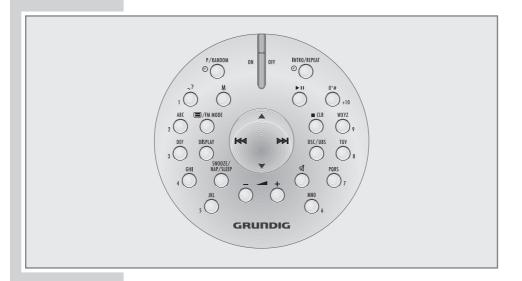
+ Adjust the volume.

SNOOZE/ Interrupts the alarm function for approx. 5 minutes.

Sets the reminder timer. Interrupts the reminder timer.

Sets the sleep timer.

AUF EINEN BLICK



DISPLAY

In standby: controls the brightness and contrast of the display and selects demo mode.

In FM mode: switches the display between the radio ticker text, station type and the time/day/date.

In CD-DA mode: switches the display between track number, elapsed playing time and time/week/day. In MP3/WMA mode: switches the display between track information, elapsed playing time, ID3 tag infor-

mation and time/day/date.

■/
FM MODE

M MOD

M

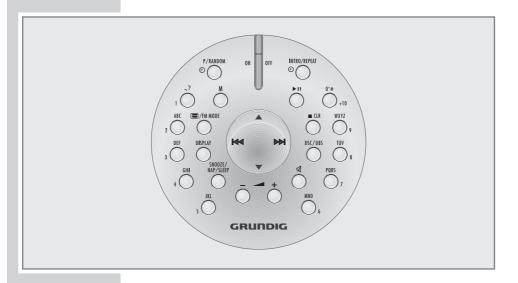
In FM mode: switches between mono reception and automatic mono/stereo.

Opens the main menu of the device, for example, to select the CD, SD, FM, Internet radio, Client, USB and tape input sources.

P/ RANDOM (*) In standby mode: sets the time/day/date manually.
In Internet mode: saves Internet radio stations to presets.
In FM mode: saves radio stations to presets.

In CD mode: saves tracks to a playlist, plays back tracks in random order.

AUF EINEN BLICK



 Number buttons for selecting presets directly; for entering numbers/letters in Internet mode and during installation.

+ 10 Selects the tens for presets from 10 to 40 or for track numbers from 10 upwards.

INTRO/
REPEAT (2)

In standby mode: activates the setting for the switch-on timer.

In CD mode: plays back the intros of tracks of a CD, repeats one track, all tracks of a CD or all tracks of an album.

For navigating the menus.

In FM mode: pressing and holding down starts the forwards or reverse frequency search, pressing briefly switches the frequency back or forwards in steps.

In CD mode: press briefly to select albums or tracks for-

In CD mode: press briefly to select albums or tracks forwards or backwards; press and hold down to search forwards or backwards for a particular passage.

For navigating menus; for entering capital letters and special characters during installation.

In tuner mode: select stored radio stations.

In MP3/WMA mode: switch to select albums and tracks.

Power supply

Mains operation

Check that the mains voltage on the type plate (on the bottom of the device) corresponds to your local mains supply. If this is not the case, contact your specialist dealer.

- Plug the power cord supplied into the »AC ~« socket on the back of the device.
- 2 Plug the power cord into the wall socket.

Caution:

The device is connected to the mains with the power cord. Pull out the power plug when you want to completely disconnect the device from the mains.

Unplug the mains plug to disconnect the device from the mains. Make sure the power plug is easily accessible during operation and not hindered by other objects.

The socket should be directly by the device and freely accessible.

Battery operation

- Open the battery compartment by pressing »OPEN« underneath the device and pushing the lid in the direction of the arrow (» «).
- 2 Insert six batteries (6 x 1.5 V, type LR20/AM1/D size), observing the polarity marked in the battery compartment.

Note:

During battery operation in standby mode, it is not possible to switch the device on with the remote control.

Notes:

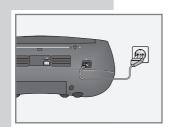
Do not expose the batteries to extreme heat, caused for example by direct sunlight, heaters or fire.

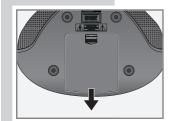
Remove the batteries when they are flat or when you know that the device will not be used for a long period of time. The manufacturer accepts no liability for damage caused by leaking batteries.

The batteries are switched off during mains operation.

Environmental note:

Batteries, including those which do not contain heavy metal, should not be disposed of with household waste. Always dispose of used batteries in accordance with local environmental regulations.





Connecting an MP3 player or a USB memory stick

The device supports most USB memory sticks or MP3 players.

Note:

The device must be switched off while the USB connection is being made. If it is not switched off, data can be lost.

- 1 Switch off the device by pressing »ON/OFF«.
- 2 Connect the USB interface of the MP3 player to the »USB« socket on the device, using a standard USB cable

or

insert the USB plug of the USB memory stick in the ${\tt *USB}$ « interface on the device.

Note:

To remove the MP3 player or the USB memory stick, switch off the device and pull out the cable for the data medium.

Inserting a memory card

The device supports SD and MMC memory cards.

Note

The device must be switched off while the memory card is being inserted. If it is not switched off, data can be lost.

- 1 Switch off the device by pressing »ON/OFF«.
- 2 Insert the memory card carefully into the »SD/MMC« card slot with the contacts facing down until it latches into place.

Note:

Do not use excessive force when inserting the memory card. Only apply slight pressure.

The memory cards are resistant to dirt and moisture, but may only be inserted into the device in a dry and clean condition.

Never remove memory cards during operation. This can damage the memory card. This type of damage will invalidate your warranty.

Removing the memory card

- 1 Switch off the device by pressing »ON/OFF«.
- 2 Remove the memory card from the card slot by pressing the card inwards slightly until the latch is released. Then pull out the card.





Connecting earphones or headphones

- Insert the headphone plug (3.5 mm) into the »\(\Omega\)« socket on the device.
 - This switches off the loudspeakers.

Note:

Excessive volume levels when using headphones or earphones can damage your hearing.

Note:

You can also use the » Ω « socket to connect the device to a hi-fi system.

Putting batteries in the remote control

- Open the battery compartment by turning the lid of the compartment to the right and lifting it off.
- 2 Observe the polarity marked on the base of the battery compartment when inserting the batteries (2 x 1.5 V LR 03/AM 4/AAA type).

Notes:

Do not expose the batteries to extreme heat, caused for example by direct sunlight, heaters or fire.

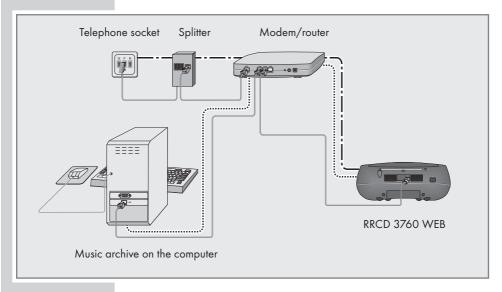
If the device no longer reacts properly to remote control commands, the batteries may be flat. Always remove used batteries. The manufacturer accepts no liability for damage caused by leaking batteries.

Environmental note:

Batteries, including those which do not contain heavy metal, should not be disposed of with household waste. Always dispose of used batteries in accordance with local environmental regulations.



LAN connection to the Internet



Note:

Switch off the device before you connect it to the Internet.

- 1 Connect the Ethernet socket of the modem/router to the »Ethernet« socket of the device using a standard network cable (Twistedpair, RJ45 plug).
 - The data throughput level is 10/100 MBIT.

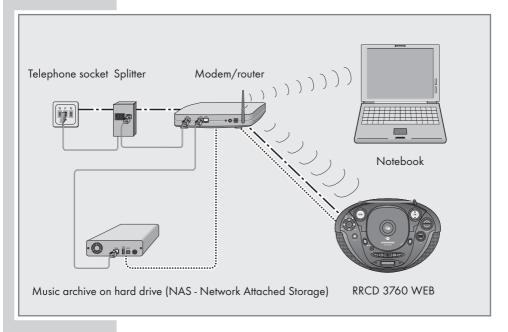
Note:

WLAN connection to the Internet

Note:

The quality of the radio signal depends on the distance of your device to your modem/router.

The substance of the building at the installation site can also affect this.



Note: The lines represent the function. — - — Internet radio Music archive (audio streaming - client) WLAN

Automatic station search for FM radio stations

After connecting the device to the mains power for the first time, the automatic station search begins. It searches for radio stations and can save up to 40 presets.

- Display: the preset (»CH«) and the frequency in rapid runthrough.
- The search has started. After the search, the demo mode is started automatically. This shows you the functions of the device. The demo mode can be interrupted with »ON/OFF«. The device then switches to the main menu. Afterwards, you can save the radio stations as presets of your choice.

Notes:

The device first saves RDS stations and then normal FM stations.

The automatic station search can also be interrupted by pressing »ON/OFF«. It starts again the next time the system is switched on.

You can repeat the automatic station search at any time by opening the main menu with »M« and selecting » • « from »Setur«. In the setup menu, press » • « select the »AT5« item and press » • « to confirm. Confirm the »Start« function with » • « The search starts and previously stored stations are deleted.

Some RDS stations transmit an RDS time signal. If the selected RDS station transmits time information, the time is updated automatically, if you have set »CT« to »QN«. This takes about five minutes.

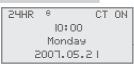
Setting the time

The following settings may only be performed in standby mode.

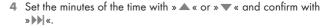
- 1 To set the time, press and hold down »P/RANDOM O«.
 - Display: » $\mathbb{Z}^{\mathsf{HHR}}$ «, the time, the day of the week and the date.
- 2 Select hours format (12 or 24 hours) with » ▲ « or » ▼ « and confirm with » ▶) «.
 - Display: »≥4HR« or » I≥HR« (»AM« stands for first half of the day), time and date, the hours flash.
- 3 Set the hours of the time with » ▲ « or » ▼ « and confirm with » ▶ » «.
 - The minutes flash.

CHO| FM 87.50 MHz Searchin9 Please Wait...

Alarm Network Config → ATS ← 4/5







- The year flashes.
- 5 Set the year with » ▲ « or » ▼ « and confirm with » ▶) «.
 - The month flashes.
- 6 Set the month with » ▲ « or » ▼ « and confirm with » ▶ | «.
 - The day flashes.
- 7 Set the day with » ▲ « or » ▼ « and confirm with » ▶) «.
 - »CT UN« flashes. CT is the display for RDS time synchronisation.
- 8 Activate RDS time synchronisation with » ▲ « or » ▼ « and confirm with » ▶ N «.
- 9 Quit the setting with »P/RANDOM O«.

Notes:

The time must be reset after a power cut or if the mains plug is disconnected or updated afresh using the RDS time synchronisation.

If an RDS station which supports time synchronisation is saved on preset 1, the device synchronises automatically after the power comes back on.

During operation, you can also set the time/day/date using the main menu (press »M« to open) \rightarrow »Set.up« \rightarrow »Time«.

Further settings for FM radio stations

Automatic station search

- Start the automatic station search in FM mode by pressing and holding down » | ◀◀ « or » » ▶) «.
 - The search stops when a station is found.

Manual station search

- Start the manual station search in FM mode by repeatedly pressing » | | « or » > > | «.
 - The frequency changes in steps of 50 kHz.

2HHR

PHHR

20: IS

Monday

2007.05.21

20: 15

Tuesday

2007.06.05

CT ON

CT ON

Storing stations as presets

You can save radio stations that have been found with the automatic station searches or the manual station search to the preset channel of your choice.

Note:

If stations are already stored on the presets, they are overwritten. You can search for these stations again afterwards using the automatic station search.

- In FM mode, select the station with » ▲ « or » ▼ « and press »P/RANDOM ⊙ « to highlight.
 - The preset display »CH« is set to »OO« the digits flash.
- 2 Select the preset number with » ▲ « or » ▼ «.
- 3 Press »P/RANDOM O« to save the station.
- 4 To save more stations, repeat steps 2 to 4.

Note

If the device is disconnected from the mains for a long time, all the presets are deleted.

Restoring the settings (Reset)

You can delete all settings, such as stored radio stations, the time and alarm and network access data with the reset function.

You should use the reset function if the device needs to be connected to another network.

- 1 Press »M« to open the main menu.
- 2 Select »Setup« with » ▲ « or » ▼ « and press » ▶) « to confirm.
- 3 Select »System Reset « with » ▲ « or » ▼ « and press » ▶) « to confirm.

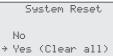
Note:

If you confirm the reset function in step 4, all settings will be

- 4 Select the »Yes (Clear all) « menu item with » ▲ « or » ▼ « and press » ▶) « to confirm.
 - Display: "System Reset..." (after a short time the device switches to standby.



Network Confi9 ATS → System Reset ← 5/5



Registering the device with the WLAN router

Perform the registration process in the proximity of the router in order to avoid problems with the WLAN range.

Open the main menu, establish the network connection in the setup menu and start the configuration wizard.

During this registration procedure, the device checks the configuration of the WLAN router (e.g. network encryption) and displays it.

The following three criteria are important:

- Automatic (dynamic) or static use of the IP address in your network.
- Network with or without proxy server.
- Encoded or unencoded network.
- Switch on the WLAN router.

Notes:

The network name (SSID) must be visible and the MAC address of the device must be enabled in the WLAN router.

You can find the MAC address (unique product ID) in the main menu at → »Setur« → »Network Config« → »Device Status« → »MAC Address«.

- 2 Press »M« to open the main menu.
- 3 Select »Setup« with » ▲ « or » ▼ « and press » ▶) « to confirm.
- 4 Select »Network Config« with » ▲ « or » ▼ «« and press » » N « to confirm.
 - Display: »Initialization Please wait«, the connection to the WLAN router is being established. Afterwards, the configuration menu is displayed.
- 5 Select »Config Wizard« with » ▲ « or » ▼ « and press » » N « to confirm.
 - The configuration wizard appears.
- 6 Start the registration process with » >>> «.
 - Display: »Select Network: «, the available networks are displayed.

Note:

If the network name (SSID) is suppressed on the WLAN router for security reasons, the network cannot be found and must be entered manually using the »Enter Network SSID« menu item.

Main Menu USB TAPE → Setup

Time Alarm → Network Config ← 3/5

Configuration
Device Status
→ Config Wizard
Advanced Setup

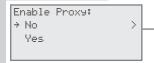
>

Select Network: → 9rinternet > GIMWPAWLAN GIMDSL

Select Network: → GIMDSL [encrypted]>

Enter security code

Network IP Settings: > Automatic (DHCP) > Static IP Address



7 Confirm network (GIMDSL in this example) with »▶▶ «.

If several networks are available, select the required network with » A « or » « and confirm with » » «.

- Display: »Network IP Settings: «.

Note:

If the network is encrypted, »<code>Lencrypted1</code> « is displayed after the network address.

Press»»» « and enter the network key (WEP or WPA) with the number buttons »1 ... 9«. The sequence of entries of the number button »2«, for example, is 2, A, B, C. After the input the cursor moves to the next input position.

You can select special characters and capital letters with » \blacktriangle « or » \blacktriangledown «.

Note:

At »Network IP Settings: « you can find the setting "Automatic (DHCP)" or "Static IP Address" depending on how you have configured your network.

If you select automatic assignment, your device is automatically assigned an IP address by the router (or its integrated DHCP server).

If you have configured your network with a static IP, use the setting described on pages 56 and 57, in the section on registering the device with the WLAN router with individual settings in the network (see steps 8 and 9).

8 Select »Automatic (DHCP) « with » ▲ « or » ▼ « and confirm with » ▶) «.

- Display: »Enable Proxy: «.

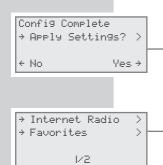
Note

If you do not have a proxy server installed in your network select $\mbox{ } \mbox{ } \mbox{$

If you have a proxy server installed in your network, use the setting described on pages 56 and 57, in the section on registering the device with the WLAN router with individual settings in the network (see steps 13 and 14).

Select »No« with » ▲ « or » ▼ « and press » ▶) « to confirm.

- Display: »Config Complete«.



- 10 To confirm the settings, select »Yes« with » ▲ « or » ▼ « and confirm with » ▶) «.
 - Display: »Confi9 Wizard Applyin9 Settin9s«, the settings are saved.

Note:

If the settings should not be saved, select the »Na option and press » A confirm. The settings are cancelled.

-11 After successful registration, the available »Internet Radio« and »Favorites« menu items appear and access to the WLAN router and therefore the Internet is available.

GENERAL FUNCTIONS

Switching on and off

CHO| 0 RDS ST FM 100.60 MHz ANTENNE ns bester Musikmix:

Good Bye

Main Menu → Internet Radio

Client.

FM

- 1 Switch on the device from standby with »ON/OFF«.
 - The last input source used is automatically selected.

Note:

If the last input source used was the Internet radio, »Initial-ization Please wait« appears and the connection to the Internet is established.

- 2 Switch the device to standby with »ON/OFF«.
 - Display: briefly »Good Bue«, then the current time, day and date.

Note:

The only way to disconnect the device from the mains supply is to pull out the plug.

Selecting the input source

- 1 Press »M« to open the main menu.
- Select the input source (»Internet Radio«, »Client«, »FM«, »CD«, »USB«, »SD« or »TAPE«) by pressing »▲« or »▼« and press »▶)« to confirm.

Adjusting the volume

- 1 Adjust the volume with »- +«.
 - Display: briefly »Volume« (»Min«, » I« to »39«, above »Max«).

Volume 15

Muting

You can switch the device speakers to and from mute mode with this function.

- - Display: for muting »MUTE«.

Selecting sound settings

You can choose between the sound settings Classic, Pop, Jazz and Rock and your own customised setting (my EQ).

- 1 Open the sound settings menu by briefly pressing »DSC/UBS«.
- 2 Select the sound setting with » | < < or » > > | «.
 - Display: »MYEQ«, »Classic«, »Pop«, »Jazz« or »Rock«.

MIITE

GENERAL FUNCTIONS

Setting the custom equalizer

The "myEQ" sound setting allows you to make your own personal equaliser settings.

- 1 Open the audio menu by pressing »DSC/UBS« briefly.
- 2 Select the »MY EQ« sound setting with » (or ») «.

Note:

If you do not press any button within five seconds, the device will automatically quit the setting.

- 3 Select the »BASS« with » ▲ « or » ▼ « and select the required value (min. »¬Ч«, max. »+Ч«) with » | ◀ « or » ▶ » | «.
- 4 Select the »TREBLE« with » ▲ « or » ▼ « and select the required value (min. »¬Ч«, max. »+Ч«) with » | ◀ « or » ▶ ▶ | «.
 - The sound setting menu is switched off after approx. 5 secs and the set value is stored.

← BASS 0 → TREBLE 0

Digital Sound

Digital Sound

muFD

BASS

TREBLE

myEQ

0

0

Switching the Ultra Bass System on and off

- Select the »UE5« sound setting by pressing and holding down »DSC/UBS«.
- 2 Switch the ultra bass system on and off with » (◄ « or » ▶) «.
 - Display: »UBS OH« or »UBS OFF«.

UBS ← 0N →

Digital Sound

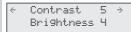
Setting the display

- 1 Press and hold down »DISPLAY« to open the function.
 - Display: the menu for the display.
- 2 Select the »Contrast« with » ▲ « or » ▼ « and select the required value (min. » I«, max. »8«) with » I◀ « or » ▶▶) «.
- 3 Select the »Brightness« with » ▲ « or » ▼ « and select the required value (min. » I«, max. »H«) with » | (4 « or » ») | «.
 - The display menu is switched off after approx. 5 secs and the set values are stored.

Notes:

In standby, the brightness of the display is one level darker than when operating.

In battery operation, the backlighting in the display switches off after approx. five seconds.



Selecting the Internet radio input source

Main Menu SD FM → Internet Radio

- 1 Press »M« to open the main menu.
- 2 Select »Internet Radio« with »▲ « or »▼ « and confirm with »▶) «.
 - Display: »Initialization Please Wait«, the connection to the Internet is being established.

Note:

Initialisation usually takes up to a minute. If the network is very busy, this may take longer.

3 Select »Internet Radio« with » ▲ « or » ▼ « and confirm with » ▶) «.

Note:

The following sections offer more explanation on using the equipment, from step 1.

Navigating and searching in the Internet menu

The structure of the radio stations on the Internet is very dynamic. Stations are usually selected by continent or region, and then by country.

- 1 Select the Internet menu by pressing » ▲ « or » ▼ «.
- 2 Press » ▲ « or » ▼ « to select the menu item.
- 3 Confirm the selected menu item and thereby the function with »>>|«.
- 4 Press » | **4** ≪ to switch back up to the next menu.
- 5 Press »DISPLAY« to switch between the current station information, the date/day/time menus and back to the station information.

Notes:

If »Wait« appears in the display, the system is searching for a selection. Operation is not possible while this is displayed.

If »Track not found« appears in the display, the radio station or the track are not currently available.

A quick search according to genres, countries and radio programmes is possible using the letters of the number buttons »1 ... 9«.

After entering the letters, in this example "B", it is displayed and after a short time a selection is available.

→ Internet Radio Favorites 1/2

Selecting Internet radio stations according to search criteria

Selecting Internet radio stations according to genres

- Select »Gennes« with »▲« or »▼« and press »▶▶|« to confirm.
 - The first three genres are displayed, the numbers in the last line show the selected genre and the number of available genres (e.g. 3 from 7).
- 2 Select the genre with » ▲ « or » ▼ «.
- 3 Open the genre with »▶▶ «.
 - A country selection is displayed.
- 4 Select the country with » ▲ « or » ▼ «.
- 5 Confirm the country with » >> | «.
 - The first radio stations of the selected country are displayed.
- 6 Select the radio station with » ▲ « or » ▼ « and confirm with » ▶ N «.
 - The radio station appears and can be heard when »Wait« disappears from the display.

Notes:

To select the next radio station press » >> | «.

To select another radio station press » DISPLAY« to return to the station selection and press » • « or » • « to select the radio station and confirm with » • • | «.

To switch backwards in the menu structure, press »DISPLAY« and select the menu with » | • • «.

Searching for Internet radio stations by country

- Select »Countries« with » ▲ « or » ▼ « and press » ▶) | « to confirm.
 - The first three available country groups are displayed, the numbers in the last line show the selected country group and the number of available country groups (e.g. 5 from 10).
- 2 Select the country group with » ▲ « or » ▼ «.
- 3 Confirm the country group with »▶► «.
 - The first countries of the selected country group are displayed.
- 4 Select the country with » ▲ « or » ▼ «.



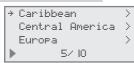


→ 18 | FM Mellow Gold 4 3WK Classic Under9 4 975 Pirate Radio 4 ► 1⁄188

WMGK Classic Hits
102.9 WMGK

00:00:02



















Notes:

The subdivision can differ depending on country group. For example, for the North America country group, you can choose between Canada, Mexico and the United States, and afterwards the different states can be selected.

- 5 Confirm the country with » >>> («.
 - The three first available genres are displayed.
- 6 Select the genre or all stations with » ▲ « or » ▼ «.
- 7 Open the genre with » >> | «.
 - The first radio stations of the selected country are displayed.
- 8 Select the radio station with » ▲ « or » ▼ « and confirm with » ▶) «.
 - The radio station appears and can be heard when »Wait« disappears from the display.

Notes:

To select the next radio station press » >>> | «.

To select another radio station press »DISPLAY« to return to the station selection and press » • « or » • « to select the radio station and confirm with » • • «.

To switch backwards in the menu structure, press »DISPLAY« and select the menu with » | • «.

Selecting Internet radio stations which the Internet provider has added recently

- 1 Select the »New Stations« menu item with »▲ « or » ▼ « and confirm with »▶▶ «.
 - The first three new radio stations are displayed, the numbers in the last line show the selected radio stations and the number of available radio stations (e.g. 1 from 82).
- 2 Select the radio station with » ▲ « or » ▼ « and confirm with » ▶ N «.
 - The radio station appears and can be heard when »Wait« disappears from the display.

Note:

See the notes above for navigating the menus.

Selecting the most popular Internet radio stations

You can use this function to select radio stations that are most frequently listened to.

- 1 Select »Most Popular Stati« with » ▲ « or » ▼ « and confirm with » ▶ ▶ | «.
 - The first three radio stations are displayed, the numbers in the last line show the selected radio stations and the number of available radio stations (e.g. 1 from 83).
- 2 Select the radio station with »▲ « or » ▼ « and confirm with »▶) «.
 - The radio station appears and can be heard when »Wait« disappears from the display.



1/83

Observer Radio

→ Most Popular Stati>

þ

ď

Countries

New Stations

Saving Internet radio stations on presets

You can fill 40 presets with the Internet radio stations of your choice.

- 1 Select a radio station (see previous chapter) and highlight it with »P/RANDOM ©«.
- 2 Select preset 1 to 9 with the number buttons »1« to »9«. Select presets 10 to 40 by first entering the tens with the »+10« number button and then the units with »1« to »9«.

Note:

If stations are already stored on the presets, they are overwritten.

- 3 Store the radio station with »P/RANDOM ©«.
- 4 To store more radio stations, repeat steps 1 to 4.

Opening preset Internet stations

If you are listening to a radio station, you can select the 40 presets directly with the number buttons »1 « to »9 «.

- Select preset 1 to 9 with the number buttons »1« to »9«. Select presets 10 to 40 by first entering the tens with the »+10« number button and then the units with »1« to »9«.
 - Display: »Play Preset « and the number of the preset.

Selecting Internet radio stations for the favourites list

You can find out how to create a list of favourite Internet radio stations in the chapter on special settings on pages 49 to 51.

- Select the »Internet favourites « menu item with » ▲ « or » ▼ « and confirm with » ▶ I «.
 - Display: Folder with favourite radio stations.
- 2 Select the folder with » ▲ « or » ▼ « and confirm with » ▶ » «.
 - The stored favourite radio stations are displayed.
- 3 Select the favourite radio station with » ▲ « or » ▼ « and confirm with » ▶ N «.
 - The radio station appears and can be heard when »Wait« disappears from the display.

Note:

See the notes on page 27 for navigating the menus.

Selecting manually added Internet radio stations

You can find out how to add these radio stations in the chapter on special settings on page 52.

- 1 Select »Added Stations« with » ▲ « or » ▼ « and confirm with » ▶ » «.
 - The three first available radio stations are displayed.
- 2 Select the radio station with » ▲ « or » ▼ « and confirm with » ▶) «.
 - The radio station appears and can be heard when »Wait« disappears from the display.

Note:

See the notes on page 27 for navigating the menus.



→ Internet Favorites>

1/7

>

>

Added Stations

Genres



MUSIC ARCHIVE

Audio streaming

This function enables you to play back tracks from a music archive in MP3 and WMA format on the device.

The music archive can be a PC or an external hard drive and must be administered by a UPnP server.

Selecting by artist and track, but also by album, genre, etc., depends on the structure of the music archive and on the UPnP server software in use (e.g. Nero Media Home, Windows Media Player 11). Access times can lengthen depending on the size of the music archive, and this makes using it inconvenient. While the UPnP server is importing the complete music archive, the device can only be operated in a limited fashion, if at all.

If the tracks in the music archive are stored with the ID3 tag format (track, artist, album, genre, etc.), the information is also displayed on the device. Tracks can then be selected using this information.

Depending on the configuration of the PC or the hard drive, the device must be enabled on the PC or the hard drive. The UPnP server must be approved in any firewalls that may be installed. Several UPnP servers can be used in parallel.

Selecting the input source music archive (Client)

- 1 Press »M« to open the main menu.
- 2 Select »Client« with »▲« or »▼« and press »▶▶|« to confirm.
 - The available music archives are displayed.
- 3 Select the music archive with » ▲ « or » ▼ « and confirm with
 - The available music archives (UPnP servers) are displayed.
- 4 Depending on the structure of the music archive, press » ▲ «, » ▼ «, » ▶) « and » | ◀ « to navigate to the selection menu.
- 5 Start playback of the track with » ▶ | « or » ▶ II«.

Main Menu → Client USB TAPF

Internet Radio → Nero Media Home Favorites 2/3

Drama → Rock Blues

ИH

Navigating the music archive menu

You can easily search through the structure of the folders and tracks:

- 1 Select the folder/track with » ▲ « or » ▼ «.
- 2 Press » >> | « to switch to the next available subfolder.
- 3 Press » ◄ « to switch back up to the next folder.

Note:

A quick search can be made using the letters of the number buttons $\gg 1 \dots 9$ «.

Playback functions

- 1 Press »►II« to pause playback.
- 2 Press »▶II« to resume normal playback.
- 3 Select the previous or next track by pressing » | ◀ « or » ▶ » | «.
- 4 Press »■ CLR« to end playback.

FM MODE

Selecting the FM input source

- 1 Press »M« to open the main menu.
- 2 Select »FM« with » ▲ « or » ▼ « and press » ▶) « to confirm.
 - The most recently selected station is played (Last Station Memory).
 - Display: the preset number, the frequency and the station name.

Selecting presets in steps

- Select the preset with » ▲ « or » ▼ «.
 - Display: »CH« and, for example, »Z« with the frequency and the station name.

Selecting presets directly

- 1 Select presets 1 to 9 directly with the number buttons »1 « to »9 «.
 - Display: »CH« and, for example, »OZ« with the frequency and the station name.
- 2 Select presets 10 to 40 by first entering the tens with the number button »+10« and then the units with »1« to »9«.
 - Display: »CH« and, for example, »25« with the frequency and the station name.

Stereo/mono reception

If the device is receiving a stereo broadcast, »ST« appears in the display. If the signal from the stereo channel is weak, you can improve the sound quality by switching to mono reception.

- 1 Switch to mono reception with » FM MODE«.
 - Display: »Mono«.
- 2 To switch back to stereo, press » FM MODE« again.
 - Display: »5T«.

Notes:

If the device is set to stereo reception and is receiving a mono signal, »Auto« appears in the display.

The mono/stereo setting is stored for each preset.



RDS

FM 97.90 MHz

ENERGY
The most actual rad

CHOS @

CHO2 0 RDS Mono FM 97.90 MHz ENERGY The most actual rad

RDS information

RDS (Radio Data System) is an information system which is transmitted additionally by most FM stations.

When the device receives an RDS station, the station name appears in the display, for example »FANTASY« and »RDS«.

Notes:

It may take some time before all the RDS information is transmitted.

GRUNDIG has no influence on the correctness of this information.

Searching for RDS stations

- Search for the RDS station by pressing » ▲ « or » ▼ « repeatedly until an RDS station is received and »RDS « appears in the display.
 - If the reception is strong enough, the station name appears after a short time.

RDS time synchronisation

Some RDS stations transmit an RDS time signal. If reception is good, this time information updates the time automatically if you have selected this function (display »CT«). Refer to the section on setting the time on page 17/18.

Time synchronisation can take several minutes, and even with good reception the accuracy depends on the time signal being transmitted. The automatic setting is always activated if the device is switched on from standby to radio mode and a suitable RDS station can be received (if an RDS time signal is expected, the » 🖺 « symbol flashes in the display. It lights up constantly when RDS time synchronisation has been performed).

Viewing RDS information

If an RDS station is being received, the frequency briefly appears in the display followed by the station name and the radio text as ticker text.

- 1 Press »DISPLAY« once.
 - The programme type appears in the display (PTY).
- 2 Press »DISPLAY« once again.
 - The current time, the day and the date appear in the display.
- 3 Press »DISPLAY« for a third time.
 - The radio text appears again in the display.

CD MODE





The device is suitable for music CDs bearing the logo shown here (CD-DA), and for CD-Rs and CD-RWs with audio data or MP3/WMA formats.

In MP3/WMA mode, the terms "album" and "file" are very important. "Album" corresponds to a folder on a PC, "file" to a file on a PC or a CD-DA track. An MP3/WMA CD may not contain more than 999 tracks/folders in total.

The device displays the albums or tracks in the order you stored them on the data medium. Depending on the copying program or multi session CDs, this can mean that the albums and titles are not displayed or played back in alphabetical order. You may have to put albums/tracks in the right order before you copy them. You can do this by numbering them.

When burning CD-R and CD-RWs with audio files, various problems may arise which could lead to problems with playback. This can be caused by faulty software or hardware settings or by the CD being used. Should such problems arise, contact the customer services of your CD burner or software manufacturer or look for relevant information, for example on the Internet.

When you are making audio CDs, observe all legal guidelines and ensure that the copyright of third parties is not infringed.

Always keep the CD compartment closed to prevent dust from collecting on the laser optics. Do not attach adhesive labels to CDs. Keep the surfaces of CDs clean.

You can play standard 12 cm CDs as well as 8 cm CDs on your device. An adapter is not necessary.

Selecting the CD input source

- 1 Press »M« to open the main menu.
- 2 Select »CD« with » ▲ « or » ▼ « and press » ▶) « to confirm.
 - If there is no CD in the compartment, »No Disc« appears in the display.
 - If a CD has been inserted, it is scanned and »Reading Disc« flashes in the display. With an MP3/WMA CD, the total number of albums and files is then displayed; for an audio CD, the total number of tracks and the total playing time.

Main Menu TAPE Setup → CD

Folder: 006 File : 087 CD-ROM

> CD Track 10 42:50

CD MODE

Inserting a CD

OPEN

1 Press »OPEN ▲« to open the CD compartment.

- Display: »OPEH«.

2 Insert your CD in the compartment with its label facing upwards.

3 Press »OPEN ▲« to close the CD compartment.

- Display: »CLOSE«, afterwards »Reading Disc«.

- The CD is being scanned.

 Display in MP3/WMA mode: the total number of albums and tracks.

 Display in CD-DA mode: the total number of tracks and the overall playing time.

Folder: 006 File : 087 CD-ROM

My faunrites

Lenny Kravitz

Fly away

35 - Lenny Krav MP3

00:00:01

00:00:15

Playing back a CD

Press »►II« to start playback.

 Playback always starts with the first track of the first album (MP3/WMA) or with the first track (CD-DA).

 Display in MP3/WMA mode: the number of the current file, then the track name and the elapsed playing time of the track.

 Display in CD-DA mode: the number of the current track and the elapsed playing time of the track

<u>or</u>

in MP3/WMA mode, open the selection menu with » >>> | «.

2 To pause playback, press »▶II«.

- Display: »II«, the elapsed playing time of the track flashes.

3 Press »►II« to resume playback.

4 To stop playback, press » ■ CLR« twice.

Mp3GoDs Top- 100 MP3

Pausing and resuming playback

1 To pause playback, press » ■ CLR« once.

2 To resume playback at the beginning of the same track, press »>II«.

My favorites 35 - Lenny Krav MP3 ← File: 006/087 →

Repeating the current track

1 During playback, briefly press » 44«.

- The track is repeated from the beginning.

CD MODE

Selecting another track

My favorites 39 - Bryan Adam MP3

- During playback, press » | ◀ « or » ▶ » | « repeatedly until the number of the track appears in the display.
 - Playback of the selected track starts automatically.

Note:

You can also select tracks in stop mode.

Searching for a passage within a track

- During playback, press »Idd« or »>>I« and hold down until the passage has been found.
 - Playback begins if you release » | ◀◀ « or » ▶▶ | «.

Note:

During the search, the volume is reduced.

Selecting albums and tracks (only MP3/WMA)

1 Press » ■ CLR« to end playback.

- 2 Press » A « to switch the cursor to the album item.
- 3 Select the album with »Idd« or » >> I«.
- 4 Press » ▼ « to switch the cursor to the »File« item.
- 5 Select the track by pressing » (« or ») «.
 - Playback of the track starts automatically after a short time.

Selecting information (only MP3/WMA)

This function enables you to open folders and tracks, as well as switching to the time, day and date.

- Standard information on the artist, the album and the track appears, if such information is stored on the CD.
- 1 Press »DISPLAY« once.
 - Display: time, date and day.
- 2 Press »DISPLAY« once again.
 - Display: folder and track name.
- 3 To return to the standard display (artist, album, track), press »DISPLAY« for a third time.

26-Metallica

File: 066/087

My favorites

CD MODE

Repeating a track (Repeat One)

- CD Track O∣ of IO ▶ ६∣ OO:O∣
- 1 During playback, keep pressing »INTRO/REPEAT 🖰 « until » 🗔 l « appears in the display.
 - The current track is played back repeatedly.
- 2 To quit this function, keep pressing »INTRO/REPEAT ④« until » 🗔 « disappears.

Repeating all the tracks on an album (only MP3/WMA)

- My favorites 39 - Bryan Adam MP3 ▶ 4 ▷ 00:00:0|
- 1 During playback, keep pressing »INTRO/REPEAT ⁽¹⁾« until » ⁽²⁾ « appears in the display.
 - All the tracks on the current album are played back repeatedly.
- 2 To quit this function, keep pressing »INTRO/REPEAT ©« until » 4 disappears.

Repeating all the tracks on a CD (Repeat All)



Lenny Kravitz

F1ч ашач

Mp3GoDs Top- 100 MP3

RND 00:00:05

- During playback, keep pressing »INTRO/REPEAT ⊕« until » ⊊ Ĥ« appears in the display.
 - The CD is repeated from the beginning.
- 2 To quit this function, keep pressing »INTRO/REPEAT ⊕« until the repeat symbol » ⊊ « disappears from the display.

Note:

If a playlist is stored (see pages 38/39), all the tracks of the CD inserted are repeated when the Repeat All function is selected.

Playing back tracks in random order

- 1 Press »P/RANDOM @«.
 - Display: »RND«.
 - All the tracks on the CD are played back in random order.
- 2 To quit the function, press »P/RANDOM O«.
 - »RND« disappears from the display.
 - The tracks are played back in numerical order.

CD MODE

Playing the start of each track (intro)

- 1 In stop mode, press »INTRO/REPEAT 🕹 «.
 - Display: »INTRO«.
 - Playback starts automatically. The first ten seconds of each track are played.
- 2 To quit this function, keep pressing ****INTRO/REPEAT **O**** until ****INTRO*** and ****G*** disappear from the display.
 - The current track and subsequent tracks are played to the end.

Creating a playlist

You can create a track memory of up to 40 tracks from different albums (MP3/WMA) or up to 40 tracks (CD-DA) on the current CD in any order you choose and then play them back in that sequence. A track may be saved more than once. Programming is only possible in stop mode.

Selecting and storing tracks (MP3/WMA only)

- 1 Press »P/RANDOM ©« to select the function.
 - Display: the track »000/ 12 I« and »0 I« for the first preset.
- 2 Select the track with » | (or ») | « and press » P/RANDOM
 © « to save.

Note:

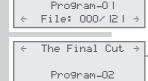
To select the next album, press » \triangle « to switch to the title line of the album and select the album with » $| \blacktriangleleft$ « or » \triangleright » «. Press » \bigvee « to switch to the »File« item, select the track with » $| \blacktriangleleft$ « or » \triangleright » and press » \triangleright (RANDOM \bigcirc « to save.

3 To store more tracks, repeat step 2.

Selecting and storing tracks (CD-DA only)

- 1 Press »P/RANDOM ©« to select the function.
 - Display: the track »Track OO« and »O I« for the first preset.
- 2 Select the track with »|((« or »))| « and press »P/RANDOM
 © « to save.
- 3 To store more tracks, repeat step 2.





File: 043/121



CD MODE

CD Track 04 of IO 00:00 PROG

Playing back a playlist

- Start playlist playback with »▶II«.
 - Display: »PROG«.
 - Playback begins with the first programmed track.
- 2 Press »■« to end playback.
- 3 To play the playlist again, press »P/RANDOM O« and then

Checking the playlist

- In stop mode, keep pressing »P/RANDOM O«.
 - The stored tracks are displayed.

Deleting the playlist

1 Press »OPEN ▲« to open the CD compartment

or

in playlist mode, press » ■ CLR«

<u>or</u>

select another input source from the main menu.

Track 04 Program-05 42:50

USB AND SD/MMC MODE

Playing the contents of an MP3 player or USB memory stick

- 1 Switch the device to standby with »ON/OFF«.
- 2 Connect the USB interface of the MP3 player to the »USB« socket on the device, using a standard USB cable

10

insert the USB plug of the USB memory stick in the **»USB**« interface on the device.

- 2 Switch on the device by pressing »ON/OFF«.
- 3 Press »M« to open the main menu.
- **4** Select »USB« with » ▲ « or » ▼ « and press » **>>** | « to confirm.
 - Display: »Initialization Please wait«. Afterwards, the first three folders of the USB medium are displayed.
 The last line shows the number of the selected folder and the available folders.
 - If no USB source is connected, »No Device« appears in the display.
- 5 Select the album with » ▲ « or » ▼ «.
- 6 Press »►II« to start playback.
 - Playback starts with the first track of the first album.

Playback functions

The following playback functions are available in USB mode, as well as in CD mode (see pages 34 to 38):

- Repeat one (»INTRO/REPEAT ©«)
- Repeat all (»INTRO/REPEAT ©«)

The following playback functions are not available:

- Resume (» CLR«)
- Repeat album (»INTRO/REPEAT ()«)
- Random (if you press »P/RANDOM ©« in Internet mode, the current tracks at »Favour ites « are saved in the favourites list)
- Intro (»INTRO/REPEAT 🕹 «)

Notes

The USB interface on the device does not have a connection for a USB extension cable and is not designed for directly connecting up to a computer.

USB AND SD/MMC MODE.

Notes:

The USB interface of this device is a standard interface. All currently known MP3 chip concepts were taken into account when it was developed. Due to rapid developments in MP3 technology and new manufacturers appearing every day, the compatibility of MP3 players/USB memory sticks can only be partially guaranteed.

If USB operation is impaired or is not possible, this does not indicate a malfunction of the device.

Note:

Bi-directional data transfer as defined for ITE devices in EN 55022/EN 555024 is not possible.

USB transfer is not in itself an operating mode. It is only an additional function.

USB AND SD/MMC MODE

Playing the contents of an SD/MMC memory card

- 1 Switch the device to standby with »ON/OFF«.
- 2 Insert the memory card in the slot with the contacts facing »SD/MMC« until it latches into place.
- 3 Switch on the device by pressing »ON/OFF«.
- 4 Press »M« to open the main menu.
- 5 Select »SD« with » ▲ « or » ▼ « and press » ▶) « to confirm.
 - Display: the total number of folders and the total number of tracks.
 - If no memory card is inserted, »No SD« appears in the display.
- 6 Select the album with » ▲ « or » ▼ «.
- 7 Press »►II« to start playback.
 - Playback starts with the first track of the first album

or

press » • « to open the selection menu.

Playback functions

The following playback functions are available in SD/MMC mode, as well as in CD mode (see pages 34 to 38):

- Repeat one (»INTRO/REPEAT ©«)
- Repeat all (»INTRO/REPEAT 🕹 «)
- Repeat album (»INTRO/REPEAT 🕹 «)
- Random (»P/RANDOM ©«)
- Intro (»INTRO/REPEAT Ů«)

The following playback functions are not available:

Resume (» ■ CLR«)

TAPE MODE

Selecting the TAPE input source

- Main Menu Client USB → TAPE
- 1 Press »M« to open the main menu.
- 2 Select »TAPE« with » ▲ « or » ▼ « and press » ▶ » « to confirm.
- 3 Press » ▲ « to open the tape compartment.
- **4** Put a tape in the compartment with the open side facing upwards and the full reel on the right side.
- 5 Close the tape compartment.

Tape playback

- Start playback with »
 - Playback ends at the end of the side.
- 2 Press »II« to pause playback.
- 3 Press »II« to resume normal playback.
- 4 Press »■ ▲« to end playback.
- 5 Press »■ ▲« again to open the tape compartment.

Fast forward and reverse search

- 1 In stop mode, press » « or » «.
 - » « fast forwards to the end, » » « rewinds to the beginning.
- 2 Press »■ ▲« at the position you want.

Recording onto tape

Erase protection

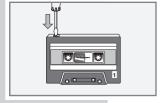
Each new recording writes over the previous recording.

You can protect your recordings against inadvertent deletion by breaking the protection tab in the opening in the spine of the tape. Purchased recordings on music tapes are already protected against accidental deletion.

If you wish to record on a protected tape, seal the opening with adhesive tape.

Notes:

Only use NORMAL-type tapes (IEC I) for recording. CHROME (IEC II) or METAL (IEC IV) tapes are not suitable.
The Ultra Bass System does not affect recording.



TAPE MODE

Recording from the Internet radio, Client, FM radio or USB input sources

- Insert a tape without deletion protection and search for the tape position with » ◀◀« or » ▶▶ «.
- 2 Press »M« to open the main menu.
- 3 Select »Internet radio«, »Client«, »FM« or »USB« with » ▲ « or » ▼ « and confirm with » ▶▶ «.
- 4 Select the station or medium.
- 5 Press » « to start recordina .
 - The playback button is automatically engaged.
 - The device automatically stops recording at the end of the tape.
- 6 Press »II« to pause recording.
- 7 Press »II« to resume recording.
- 8 Press » ▲ « to stop recording.

Recording from the CD or SD input sources

- 1 Insert a tape without deletion protection and search for the tape position with » ◀◀« or » ▶▶ «.
- 2 Press »M« to open the main menu.
- 3 Select »CD« or »SD« with » ▲ « or » ▼ « and press » ▶ » (to confirm.
- 4 Pause the medium during playback at the position you want by pressing »>II«.
- 5 Press » « to start recording.
 - The playback button is automatically engaged and medium playback starts automatically.
 - The device automatically stops recording at the end of the tape.
- 6 Turn the tape over and continue recording with » «.

TAPE MODE

Synchro recording

- 1 Insert a tape without deletion protection and search for the tape position with » ◀◀« or » ▶▶ «.
- 2 Press »M« to open the main menu.
- 3 Select »CD« or »SD« with »▲« or »▼« and press »▶►) « to confirm.
- 4 Press » « to start recording.
 - The playback button is automatically engaged. Playback starts automatically from the beginning of the medium or from the beginning of the stored playlist, if a playlist has been created.
 - The device automatically pauses at the end of the tape.

TIMER MODE

Your device has three timer modes:

- The switch-on timer, which switches the device on at a preset time and wakes you with the input source you selected.
- The reminder timer (NAP), which reminds you by sounding the signal tone at a preset time.
- The sleep timer, which switches the device off at a preset time.

Switch-on timer

Setting the switch-on timer

The time must be set on the device. Timer settings can only be performed in standby mode.

When this setting is being made, if no button is pushed for more than 10 seconds, the device will end the process automatically. You then have to start again.

- 1 Press and hold down »INTRO/REPEAT ©«.
 - Display: the switch-on time (»D:: OO«), the alarm and the alarm volume. »WEC« means that the alarm is switched off at weekends (see next page).
- 2 Enter the hours of the switch-on time with » ▲ « or » ▼ «.
- 3 Press » » » | « and enter the minutes of the switch-on time with » ▲ « or » ▼ «.
- 4 Press » ▶ | « twice and select the alarm tone (CD, memory card, signal or FM radio station) with » ▲ « or » ▼ «.

Notes:

If you select the CD or SD/MMC alarm input source, make sure you have inserted or connected the appropriate medium.

If CD was selected, press » ▶ ▶ | « and select the track with » ▲ « or » ▼ «. The Repeat All mode is set automatically.

If FM was selected, press »▶▶| « and select the preset with » ▲ « or » ▼ «.

5 Press » • | « and set the volume with » – — +«.

Alarm: 0:00 WEC OFF Off Volume 20

Alarm: 0:00 WEC OFF Buzzer Volume 20

Alarm: 0:00 WEC OFF Buzzer Volume 25

- 6 Press »INTRO/REPEAT ©« to finish the setting.
 - Display: time, day and date and the » « symbol for waking up to music or the »

 « symbol for waking up to the signal tone.
 - The device switches on at the preset time with the selected signal source (maximum alarm duration 90 minutes).

Note:

The volume of the signal tone, FM radio station and CD alarm types increases continually from zero onwards until an individually set maximum volume is reached.

Interrupting the alarm

- 1 During the alarm, press »SNOOZE/NAP/SLEEP«.
 - The alarm signal (signal tone, radio station, CD or SD/MMC) stops.
 - The alarm goes off again at five-minute intervals. The full duration of the alarm is 90 minutes.

Cancelling the alarm for the day

- Switch the device to standby with »ON/OFF« when the alarm goes off.
 - The switch-on timer is activated for the next day.

Switching off the alarm for the weekend

You can switch off the alarm function over the weekend. The entered alarm times are saved.

- 1 In standby, press and hold down »INTRO/REPEAT 🕹 «.
- 2 Press » » « twice and switch off the switch-on timer for the week-end with » A « or » V « (»WEC OFF«).

Activating and deactivating switch-on timer

- 1 To deactivate the switch-on timer in standby, briefly press **INTRO/REPEAT **O**.
 - Display: »△« or »J« disappear.
 - The switch-on timer is deactivated, the set alarm time is stored.
- 2 To activate the switch-on timer in standby, briefly press »INTRO/ REPEAT ①« again.
 - Display: » △ « or » J«.

Alarm: 0:00 WEC OFF Off Volume 20

TIMER MODE

Reminder timer



- SLEEP 00mins NAP 90mins →
- 1 Open the function with »SNOOZE/NAP/SLEEP«.
- 2 Select »HAP« with » ▲ « or » ▼ «.
 - Display: »MAP« and »00 mins«.
- 3 Enter the reminder time with » <a> or » >> <a> (in 10-minute steps from 10 to 120 minutes).
 - After the set time has expired, a signal tone sounds (for max. 90 minutes).

Note:

To select the currently remaining time, e.g. »MAP 20 mins« briefly press »SNOOZE/NAP/SLEEP«.

4 Switch off the signal tone with »ON/OFF«

or

press »SNOOZE/NAP/SLEEP«, select »NAP« with » ▲ « or » ▼ « and set the time with » Idd « or » DI « to » OO mins «.

Sleep timer

Setting the sleep timer

- 1 Switch on the device with »ON/OFF« and select the input source.
- 2 Open the function with »SNOOZE/NAP/SLEEP«.
- 3 Select »SLEEP« with » ▲ « or » ▼ «.
 - Display: »SLEEP« and »OO mins«.
- 4 Set the switch-off time in steps of 10 minutes (from 10 to 90 minutes) with » | | « or » | » | «.
 - The device switches off after the selected time has elapsed.

Ending the sleep timer prematurely

1 To deactivate the sleep timer prematurely, press »ON/OFF« and switch the device to standby

press »SNOOZE/NAP/SLEEP«, select »SLEEF« with » A « or » ▼ « and set the time with » Idd « or » ▶ I « to » OO mins «.



SLEEP 40mins ⇒ NAP 00mins

Registering on the GRUNDIG homepage

You need to perform a one-time registration of your device on the GRUNDIG page "GRUNDIG INTERNET RADIO TUNING SERVICE" stating the MAC address of your device. You can search for stations on this web page and listen to them.

If you wish to create a favourites list for your favourite radio stations, then you also need to register your e-mail address and the password of your choice. This takes you to the members' area.

- 1 Start the Internet browser on your PC.
- 2 Enter the address "www.grundig.radiosetup.com".
 - The "GRUNDIG INTERNET RADIO TUNING SERVICE" page appears.
- 3 Enter the twelve-digit MAC address of your device and click the » N w button.

After initialisation, you can find the MAC address (unique product ID) in the main menu at → »Setup« → »Network Config« → »Device Status« → »MAC Address«.



Creating favourite lists

You can copy radio stations, which the V-Tuner Internet service provides for GRUNDIG customers, into a favourites list. This gives you swift access to your favourite radio stations.

You can only conduct this process on a PC.

The current list is loaded when the device is switched on.

Preparation

- 1 Start the Internet browser on your PC.
- 2 Enter the address "www.grundig.radiosetup.com".
 - The "GRUNDIG INTERNET RADIO TUNING SERVICE" page appears.
- 3 Enter your e-mail address and password and click the » \(\bullet \) « button.

If several devices are registered, click on the MAC address.

Note:

Radio stations can only be played back in MP3 and WMA format

You have several options for searching for radio stations for a favourites group:

In the "Search" search field you can search for radio stations by name or you can select radio stations using search criteria such as "Music, "Location" and "Language".



Sie können hier Ihre eigenen Radiostationen hinzufüge Wenn Sie eine Radiostation finden, die nicht in unsere Suchen Þ Suchen nach Musikrichtungen, Ort oder Sprache Sender nach Musikrichtungen sortieren Musik Ambient (28) Hard Rock (41) Big Band (7) Hip Hop (119) Bluegrass (7) Independent (201) Blues (30) Jazz (115) Campus-Radio (396) Keltisch (3) Christlich aktuell (201) Klassik (181) Christlicher Rock (24) Latino (348) Classic Rock (192) New Age (17)



Selecting radio stations with the search function

- 1 In the "Search" field, enter the name of the provider (station name or radio programme) and then click the » w button.
 - If the radio station is available, it is displayed.

Notes:

You can listen to the music playback of the radio station with the »»« button. This is provided you have suitable software installed (e.g. Nero MediaHome, Windows Media Player).

- 2 Highlight the radio station with the »♥ +« button.
 - The "Favourite Stations" menu is displayed.

Note:

You can now create a new favourites group or add the selected radio station to an existing favourites group.

3 Enter the name of a new favourites group in the entry field and confirm with the » w b w button

or

open the name field, select the favourites group and confirm with the » N « button.

- The radio station is stored in the favourites group.
- 4 Close the "Favourite Stations" menu.
- 5 Repeat the procedure for additional stations.

Note:

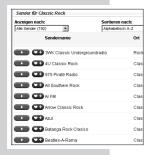
To check the radio stations, select the start page and click on the favourites group. You will see the new radio stations.

6 Exit the "GRUNDIG INTERNET RADIO TUNING SERVICE" Internet page with the »Logout« button.

Note:

Radio stations that are no longer required can be deleted from the favourites group. To do this, select the radio station and then click on the » — « button.

Suchen nach Musikrichtungen, Ort oder Sprache Sender nach Musikrichtungen sortieren Sender nad Ambient (28) Hard Rock (41) Big Band (7 Bluegrass (7) Independent (201) Blues (30) Campus-Radio (396) Jazz (115) Keltisch (3) Christlich aktuell (201) Klassik (181) Christlicher Rock (24) Classic Rock (192) New Age (17) Öffentlich-Re Oldies (406) Country (287) Dance (480) Feiertags-Radio (2) Filmmusik (14) Pop (1303) R&B (177) Folk (73) Reggae (30) Rock (464)





Selecting a radio station from the genres

- 1 Select the genre in the "Music" table.
 - A list of the radio stations of the selected style is displayed.

Note:

Instead of the search criterion "Music", you could also click "Location" or "Language" and search for radio stations. Several search criteria can be combined.

- 2 Select the radio station from the list and highlight it with the » +« button.
 - The "Favourite Stations" menu is displayed.

Note:

You can now create a new favourites group or add the selected radio station to an existing favourites group.

3 Enter the name of a new favourites group in the entry field and confirm with the » N w button

or

open the name field, select the favourites group and confirm with the » N « button.

- The radio station is stored in the favourites group.
- 4 Close the "Favourite Stations" menu.
- 5 Repeat the procedure for additional stations.

Note:

To check the radio stations, select the start page and click on the favourites group. You will see the new radio stations.

6 Exit the "GRUNDIG INTERNET RADIO TUNING SERVICE" Internet page with the »Logout« button.

Note:

Radio stations that are no longer required can be deleted from the favourites group. To do this, select the radio station and then click on the » — « button.

Searching for radio stations that are not provided by V-Tuner

You can also add radio stations to your favourites list that are not provided by the V-Tuner Internet service.

You can find information on this on the Internet. In Windows Media Player you can select the parameters of these (for example, the URL) in the Properties submenu.

You can only conduct this process on a computer.

You cannot play back every radio station on your device that you can listen to on your computer. These radio stations require a special media player that can only be installed on a PC.

- 1 Start the Internet browser on your PC.
- 2 Enter the address "www.grundig.radiosetup.com".
 - The "GRUNDIG INTERNET RADIO TUNING SERVICE" page appears.
- 3 Enter your e-mail address and password and confirm.
- 4 Click the "My added radio stations" line

or

if radio stations are already available, click the » \ « button after the line "Add another radio station".

- The "My added radio stations" menu is displayed.
- 5 Enter the station name, URL of the radio station, location and music genre and confirm with the » « button.
 - The new radio station is displayed in the overview under "My

Note:

If details of the radio station need to be changed, click **Edit**« and make the changes in the "My added radio stations" menu.

Note:

On the device, you can select these radio stations from the »Main Menu« \rightarrow »Internet Radio« \rightarrow »Added Stations«.





Changing the device name

You can change the name of the device. This name is displayed in your network and on the UPnP server. The name can be max. 18 letters/characters long and must be written in capital letters.

- 1 Press »M« to open the main menu.
- 2 Select the »Seture « menu item with » ▲ « or » ▼ « and press » ▶) « to confirm.
- 3 Select the »Network Config« menu item with »▲« or »▼«« and press »») « to confirm.
 - Display: »Initialization Please Wait«, the connection to the Internet is being established.
- 4 Select the »Advanced Setur « menu item with » ▲ « or » ▼ « and press » ▶) « to confirm.
- 5 Select »Device Name« and confirm with » >>> | «.
 - The current name of the device appears, in this example, »Internet Radio«.
- 6 To change the name, press »▲« or »▼« to select the »Change« menu item and confirm with »▶▶ «.
 - The cursor is at the first place of the name.
- 7 Delete the current name by moving the cursor to the last position with »>>>| « and deleting the characters individually with » CLR«.
- 8 Select the first letter with » ▲ « or » ▼ « then move the cursor to the next position with » ▶ ▶ | « and make your next entry.

Notes:

Letters, digits and symbols can also be entered with the number buttons »1 ... 9«. The sequence of entries of the number button »2«, for example, is 2, A, B, C. After the input the cursor moves to the next input position.

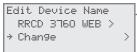
To correct entries, the cursor can be moved to the right with ** and to the left with ** $| \P \P$.

9 Save the new name by pressing »>>>| « again after entering the last character.





Confi9uration
Device Status
Confi9 Wizard
→ Advanced Settin9s>





Edit Device Name → PETER Change

Selecting information

Main Menu USB TAPE → Setup

Time Alarm → Network Config ← 3/5

Configuration
Advanced Settings
Device Status
Config Wizard

Device Status Device Name → RRCD 3760 WEB You can display information on your device and the network in use. Settings cannot be made in this menu.

- 1 Press »M« to open the main menu.
- Select the »Seture menu item with » A « or » W « and press » » « to confirm.
- 3 Select the »Network Config« menu item with » ▲ « or » ▼ «« and press » ») « to confirm.
 - Display: »Initialization Please Wait«, the connection to the Internet is being established.
- 4 Select »Device Status« with » ▲ « or » ▼ « and press » » N « to confirm.
 - The name of the device appears, in this example, »Internet Radio«.
- 5 Select other information with » ▼ «.

You can switch back to the previous information by pressing * * «.

- You receive information on the name of the device, the firmware, the hardware, etc.
- »Device Name«, »Firmware Ver.«, »Bootloader Ver.«, »Hardware Ver.«, »Network SSID«, »Network Type«, »Encryption«, »WiFi Signal«, »WiFi Channel«, »MAC Address«, »DHCP«, »IP Address«, »Subnet Mask«, »Gateway IP«, »DNS Server I«, »DNS Server 2«, »Proxy Server«, »Proxy Hostname«, »Proxy Port«.
- Further explanations of this information can be found in the glossary starting on page 63.
- 6 Close the status display with »M«.

Registering the device with the WLAN router with individual settings in the network

These settings require advanced knowledge of the configuration of networks.

- 1 Press »M« to open the main menu.
- 2 Select the »Set.4F« menu item with »▲« or »▼« and press »▶»|« to confirm.
- 3 Select the »Network Config« menu item with » ▲ « or » ▼ «« and press » ») « to confirm.
 - Display: »Initialization Please Wait«, the connection to the Internet is being established.
- 4 Select the »Config Wizard« menu item with » ▲ « or » ▼ « and press » ▶) « to confirm.
 - The configuration wizard appears.
- 5 Start the registration process with » >>> | «.
 - Display: »Select Network: «, the available networks are displayed.
- 6 Select the network with »▲ « or » ▼ « and confirm with »▶▶ «.
 - Display: »Metwork IP#«.

Notes:

If the network is encrypted, »[encrypted] « is displayed after the network name.

Press »»» « and enter the network key with the number buttons »1 ... 9«. The sequence of entries of the number button »2«, for example, is 2, A, B, C. After the input the cursor moves to the next input position.

Special characters and capital letters can be selected with » ▲ « or » ▼ «.

To correct entries, the cursor can be moved to the right with ** and to the left with ** 4.

- 7 Select »Static IP« with » ▲ « or » ▼ « and press » ▶ » « to confirm.
 - Display: »IP Address«.

Notes:

For the entries in the following operating steps, please observe the following:

The cursor can be moved to the right with $\gg \gg \parallel \ll$ and to the left with $\gg \parallel \ll \ll$.

Enter letters, digits and symbols with the number buttons »1 ... 0«. The sequence of entries of the number button »2«, for example, is 2, A, B, C. After the input the cursor moves to the next input position.



Time Alarm → Network Config ← 3/4

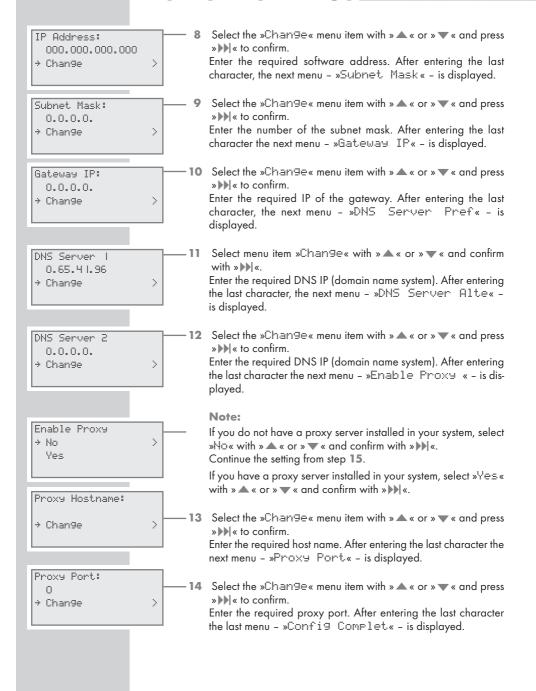
Configuration
Advanced Settings
Device Status
+ Config Wizard

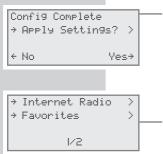
Select Network: → GIMDSL >

Select Network: > GIMDSL [encrypted]>

Enter WEP codes I:

+ Cancel





- 15 To confirm the settings, select »Y∈s« with » ▲ « or » ▼ « and confirm with » ▶ | «.
 - Display: "Config Complete Applying Settings", the settings are saved.

Note:

If you do not want to save the settings, select »N□« with » ▲ « or » ▼ « and confirm with »▶▶ «. The settings are cancelled.

-16 After successful registration, the menu items »Internet Radio« and »Favourites« are displayed and access to the Internet has been established.



Technical data

This device is noise-suppressed according to the applicable EU directives. This product fulfils the European directives 2006/95/EC and 2004/108/EC.

This device conforms to the safety regulation DIN EN 60065 (VDE 0860) and therefore the international safety regulation IEC 60065.

Never open the device casing. No warranty claims are accepted for damage caused by improper handling.

This device may be used in the following countries:

Belgium Latvia Portugal Spain Denmark Liechtenstein Romania Czech Republic Lithuania Germany Russia Hungary Estonia Luxemburg Sweden Finland The Netherlands Switzerland France Norway Slovenia Italy Austria Poland Croatia

Further information can be found under the following Internet addresses:

http://ec.europa.eu/enterprise/rtte/weblinks.htm

System

Power supply:

Operating voltage: 230 V~

Mains frequency: 50/60 Hz

Max. power consumption: 31 W

Power consumption in standby: ≤ 3,8 W

Battery operation: 6 x 1.5 V

(LR20/AM1/D size)

Amplifier unit

Output:

Sine wave power: 2 x 2.0 W Audio power: 2 x 2.5 W

Receiver unit

Reception range: FM 87.5 ...108.0 MHz

WLAN

Network standard: IEEE 802.11b IEEE 802.11g Transfer rate:

802.11b: 11, 5.5, 2, 1 Mbps 802.11g: 54, 48, 36, 24, 18, 12, 9, 6 Mbps

Operating channels: 13 (based on the router)

Security:

Hardware-WEP-Engine (64/128-Bit); WEP-Weak-Key-Avoidance (WEPplus), TKIP, Hardware-AES-Engine with support for CCM and OCB, 802.1x, SSN WPA, WPA2

USB

USB 2.0 compatible for format FAT 32/16

Memory cards

SD and MMC

Dimensions and weight

Device dimensions: W x H x D 420 x 166 x 280 mm Device weight: approx. 3.2 kg

Technical and design modifications reserved.

CLASS 1 LASER PRODUCT



General information on laser devices

Your device is a CLASS 1 LASER PRODUCT. This means that the laser is designed in such a way as to ensure that the maximum permissible emission value cannot be exceeded under any circumstances.

Caution

If operating devices or methods other than those specified here are employed, it may lead to dangerous exposure to emissions.

This device emits laser radiation. Because of the danger of eye injuries, the unit may only be opened or serviced by trained personnel.

If settings other than those stated here are used or other procedures are carried out, this may lead to dangerous exposure to radiation.

Troubleshooting

Not every kind of sound interference is caused by a defect in your device. Cables that have accidentally been disconnected, damaged CDs and flat batteries for the remote control will impair functioning. If the following measures do not resolve the problem satisfactorily, please visit www.grundig.com, product range: audio, CD radio recorder or contact your specialist dealer.

General faults

Problem	Possible cause/remedy
No sound.	The volume setting is too low - increase the volume. The head- phones are plugged in - disconnect the headphones. Power cable is not properly connected, connect the power cable properly. Mute is activated, deactivate mute.
The device does not respond to button commands.	Static electrical discharge. Switch off the device, disconnect the power cable and plug it in again after a few seconds.
The remote control does not work.	The batteries are flat. Replace the batteries. The remote control is out of range of the device.
Poor radio reception.	Weak FM stereo signal, switch to mono. Interference from electrical devices such as televisions, video recorders, computers, neon lamps, thermostats or motors. Keep the device away from such equipment.
Tracks on a CD are skipped.	The CD is damaged or dirty – replace the CD or clean it. The PROGRAM (playlist) or RANDOM functions are active. Deactivate the functions.
CD-Rs or CD-RWs are not played back, or are played back incorrectly.	Faulty software or hardware settings during burning or the CD itself. Check the components of your CD burner/software or change the CD being used.

INFORMATION _____

Internet faults

Problem	Possible cause/remedy
WLAN network not found.	WLAN network is deactivated, switch on the WLAN network. SSID is suppressed on the router; display SSID on the router. Distance to router is too large; reduce distance to router.
Connection to router not established.	 MAC address of the device is not enabled on the router; enable MAC address on the router. Data transfer from the router is encrypted; enter the network key (WEP or WPA) on the device (see p. 21). If this does not help, check the entire router configuration.
Music playback is briefly interrupted.	High network usage on the radio station server.

Messages from the device

Message	Possible cause/remedy
Network problem check config.	 WLAN network is deactivated; switch on the WLAN network. Range problem: move the device closer to the router or install an external repeater. Other networks are transmitting on the same channel; change channel settings on the router, then repeat the registration procedure (p. 20).
Wait	- Indicates a search in the network for the selected radio station. When this is displayed, navigation in the menu is not possible.
Track not found	The selected radio station is currently not available. The broadcaster has ceased operation or only broadcasts at certain times. The maximum permitted number of users has been reached. The selected track is currently not available. The track has been deleted, moved or renamed on the storage medium.

Streaming faults

Problem	Possible cause/remedy
The music archive (UPnP server) is not displayed in the »Client« menu.	- Switch on the PC or external hard drive (NAS). - Start UPnP server.
The music archive (UPnP server) is displayed in the »Client.« menu, however no connection is made.	 Check the setting of the firewall (if installed) for the UPnP server and correct if necessary. Enable the device on the UPnP server in use.
The music archive is empty.	- Enable the folder on the UPnP server.
Display »Unsorted List«	The list of the music archive is not completely sorted. Please wait until the UPnP server software in use has completely sorted the music archive.

Cleaning the CD and CD unit

If the device is unable to scan CDs properly, use a standard, commercially available cleaning CD to clean the laser optics. Other cleaning methods may damage the laser optics.

Use a lint-free cloth for cleaning the CD and always wipe it from the inside out in a straight line. Do not use cleaning agents for conventional vinyl discs, nor any solvents or abrasive cleaners.

Cleaning the tape drive

To guarantee good recording and playback quality, clean the parts shown after every 50 hours of use, or once a month.

Open the tape compartment, moisten a cotton swab with alcohol or a special head-cleaning fluid and clean the idler, the capstan and the magnetic heads. Close the tape compartment. You can also play a cleaning cassette to clean the magnetic heads.

Protect your tapes against moisture, dust, heat and cold.

Do not store your tapes near devices with strong magnetic fields such as television sets or stereo speakers.

After using a tape, put it back in its protective case.

Environmental note

This product is manufactured from high-quality parts and materials which can be reused and recycled.

Therefore, do not dispose of the product along with normal household waste at the end of its service life. Take it to a collection point for the recycling of electrical and electronic equipment. The symbol on the product, in the operating manual or on the packaging indicates that recycling is possible.

Please find out about collection points operated by your local authority. Help protect the environment by recycling used products.



CE declaration of conformity

You can find the CE declaration of conformity for the RRCD 3760 WEB in the form of a pdf file on the enclosed CD-ROM.

Licence conditions

This product is protected by the intellectual property rights of NEMS and BridgeCo. The use or distribution of such technology outside of this product is prohibited unless under licence from NEMS and BridgeCo or an authorised subsidiary.

This product is protected by the intellectual property rights of the Microsoft Corporation. The use or distribution of such technology outside of this product is prohibited unless under licence from Microsoft or an authorised subsidiary.

Content providers use the digital rights management technology for Windows Media contained in this device ("WM-DRM") to protect the integrity of their content ("Secure Content") so that their intellectual property, including copyright, in such content is not misappropriated. This device uses WM-DRM software to play Secure Content ("WM-DRM Software"). If the security of the WM-DRM software in this device has been compromised, owners of Secure Content ("Secure Content Owners") may request that Microsoft revoke the WM-DRM software's right to acquire new licenses to copy, display and/or play Secure Content. This revocation does not affect the ability of the WM-DRM software to playback unprotected content. A list of revoked WM-DRM software is sent to your device whenever you download a license for Secure Content from the Internet or from a PC. Microsoft may, in conjunction with such licenses, also download revocation lists onto your device on behalf of Secure Content Owners.

Glossary

Boot loader version

Boot loader is a software application that is loaded by the firmware of a device from a boot-capable medium and then executed. The boot loader then loads further parts of the operating system.

Domain name system

The domain name system (DNS) is one of the most important services on the Internet. Its main function is to convert Internet address into the corresponding IP address.

Firmwareversion

Firmware is the term used for software that is embedded in a programmed chip (microcontroller). It is mostly stored in a flash memory, an EPROM or an EEPROM.

The firmware contains functions for the control of the Ovation.

Gateway IP

A gateway allows networks, which may be based on completely different protocols, to communicate with each other.

In the home area, a combination of the router and the DSL modem are used as an Internet gateway.

Hardware version

Hardware in this context means the device. This includes all components such as processor, display, etc.

IP address

An IP address (Internet protocol address) is used to uniquely identify the address of computers and other devices in an IP network. The most well-known network in which IP addresses are used in the Internet. Here, for example, web servers are addressed using the IP address.

The IP address can be provided automatically by the router (automatic address) or it is entered manually in the router (staticaddress). If it is entered manually, this address must also be entered in the device.

NAS (network access storage)

The abbreviation NAS is used for devices that provide data from a hard drive to a network.

Network name (SSID)

The network name (SSID – service set identifier) is the term used for the identification of a wireless network that is based on IEEE 802.11. Every wireless LAN has a configurable SSID, which uniquely identifies the wireless network.

The character sequence of the network name can be up to 32 characters in length. If is configured in the base station (access point) of a wireless LAN and set on all clients which access it.

Network mask

The network mask or net mask, also sometimes referred to as subnet mask is a bit mask that separates an IP address into a network part and a device/host part. It is used in IP networks to make routing decisions.

Private IP address

Private IP address belong to particular IP address ranges that are not routed in the Internet. The can be used by anybody for private networks such as LANs.

Many computer networks require complete connectivity at IP level, but only limited access to the Internet. If such a computer network has a private IP address range, it forms an intranet which cannot be accessed from the Internet as the Internet routers ignore private address ranges. A gateway or router that is placed in this private network and which also has a public address in the Internet as well as a private IP address, makes the connection to the Internet. This can be performed by a proxy or using NAT/PAT/Masquerading. As the used address range can only be seen within the private network, the same range can also be used in other private networks. The unique nature of an IP address required by the Internet protocol, is ensured by this restricted visibility.

Proxy server

A proxy or proxy server is a service program for computer networks that administers data transfer. It makes data transfer faster, can also increase security by implementing access control mechanisms.

The transfer is conducted between computers or programs in computer networks. On the server side, the proxy acts as a client, on the client side it acts as a server

Router

A router is a network component that links several computer networks.

The router analyses (on the basis of layer 3 information) the network packages of a protocol it receives and forwards it to the intended destination network.

Conventional routers work on layer 3 of the application layer. A router has an interface for every network connected to it. When data is received, the router determines the correct path to the destination and thereby the suitable interface via which the data can be transferred. For this it uses a locally available routing table that specifies via which router connection a particular network can be reached

Security (WEP/WPA)

WEP (wired equivalent privacy) is the standard encryption algorithm for WLAN. It controls both access to the network as well as ensuring the confidentiality and integrity of data. This procedure is seen as insecure nowadays.

For this reason, more modern WLAN installations should use the more secure WPA encryption.

V-Tuner

Service provider that provides Internet radio stations.

Wi-Fi

The Wi-Fi Alliance is an organisation that has taken on the task of certifying products from different manufacturers on the basis of the IEEE-802.11 standard and thereby ensuring that different wireless devices can operate in parallel.

On 31 October 2002 the consortium announced a new encryption technology – Wi-Fi Protected Access (WPA) – a part of the (then) forthcoming IEEE standard 802.11i which would replace the WEP encryption procedure which was already regarded as insecure before the new standard came into force. After 802.11i came into force, the Wi-Fi group coined the term WPA2.

IEEE 802.11e is an industrial standard of the Institute of Electrical and Electronics Engineers (IEEE) and a supplement to the wireless LAN standard IEEE 802.11 for supporting quality of service.

802.11e works according to a similar principle to the QoS procedure DiffServ. Data packages in the WLAN are marked by the sender and the access point is stopped in order to handle packages with higher priority.

With the aid of 802.11e real-time application such as Voice over IP are better supported as they require a certain bandwidth in the network so that the connection is not interrupted if other network traffic places too great a burden on the available data transfer rate.