OWNERS MANUAL

Tuners

naim

contents

1.0 Equipment installation

Normally your Naim equipment will have been installed by the dealer who sold it to you even if you live outside their immediate vicinity. Your dealer is responsible for making sure that the system sounds exactly as it should and information given here is not intended to reduce this responsibility in any way.

1.1   cables and connections

Please do not modify the standard interconnect cables supplied with your Naim equipment. This is important for safety as well as performance. One end of each cable is marked with a band to establish its correct orientation. The band always marks the end that connects to the signal source.

Loudspeaker leads are also very important. Naim loudspeaker cable is correct for your system and your dealer will make up leads to suit your equipment installation. **The leads should each be at least 3.5 metres long and of equal length.** The recommended maximum is 20 metres. Loudspeaker leads are, like interconnect leads, directional, and should be connected so that the printed arrow points towards the speakers. Using alternative loudspeaker cable will degrade performance, and may even damage your amplifier. An exception to these loudspeaker cable constraints is the **nap 6-50** multi-room power amplifier. The **nap 6-50** is designed to be tolerant of both a wide variety of cable types, and cable runs well in excess of 20m. The loudspeaker connectors supplied with all Naim amplifiers and loudspeakers have been specifically designed to make a robust mechanical connection. It is essential that these are used in order to comply with current European safety regulations.

All the plugs and sockets supplied with your Naim equipment have been chosen because they make the best possible connection for their purpose. A poor contact will degrade the signal substantially and plugs and sockets should look clean and free from corrosion. The easiest way to clean them is to switch off the equipment, pull the plugs out of their sockets, and push them back in again. Special contact cleaners and contact enhancers should not be used as they tend to deposit a film which is very difficult to remove and may degrade the sound.

1

2.0 Getting Started

2.1 switching on and off

Source components and power supplies for cd players, tuners, preamplifiers and crossovers should be switched on before switching on the amplifier(s). Always switch the amplifier(s) off and wait about a minute for its power supply capacitors to discharge before connecting or disconnecting any leads. Always use the power switch on the product rather than a mains outlet switch.

2.2 running in

Your Naim equipment will take a considerable time to run-in before it performs at its best. The duration varies, but under some conditions you will find that the sound continues to improve for as much as five weeks. Better and more consistent performance will be achieved if the system is left switched on for long periods. It is worth remembering however that all electronic equipment can be damaged by lightning. Please read the warnings section.

2.3 mains supply

Where fused plugs are used 13 amp fuses should be fitted. Fuses of a lower rating will fail after a period of use.

A hi-fi system usually shares a mains circuit with other household equipment some of which can cause distortion of the mains waveform. In some Naim equipment such distortion can lead to a mechanical hum from the transformers. The hum is not transmitted through the speakers and has no effect on the performance of the system but is purely local to the transformer itself. A separate fused mains circuit (like that reserved for electric cookers) may reduce transformer hum. Such a circuit (ideally with a 30 or 45 Amp rating) will also have a lower impedance, supply cleaner power, and consequently improve system performance.

Do not wire voltage dependent resistors or noise suppressors into mains plugs. They degrade the mains supply and the sound.

2.4 siting the equipment

Power supplies and amplifiers should be located a reasonable distance away from other equipment. This separation will stop transformer radiation causing hum audible from the loudspeakers. The minimum recommended distance is 300mm (12 inches), and that allowed by the standard interconnect lead is the maximum.

Some Naim equipment is extremely heavy. Ensure than your equipment rack or table can easily support the weight and is stable.

2.5 if you have a problem

Legal consumer protection varies from country to country. In most territories a dealer must be prepared to take back any Naim equipment he has sold you if he cannot make it work to your satisfaction in your own home. A problem may be due to a fault in any part of the system or its installation so it is essential to make full use of your local dealer's diagnostic skills on site. Please contact your local distributor, or Naim at the address in the back of this manual, if any difficulties cannot be resolved. Some Naim equipment is made in special versions for different territories and this makes it impracticable to arrange international guarantees. Please establish the guarantee arrangements with your own dealer at the time of sale. We are always available to offer help and advice.

It is essential that repairs and updates are only carried out by an authorised Naim dealer, or at the factory by Naim itself. Many components are made, tested or matched specially for Naim and appropriate replacements are often unobtainable from non-specialist sources.

3.0 Warnings

Naim equipment is designed to offer the finest sound quality that can be achieved, avoiding compromise wherever possible. This can lead to circumstances that may be unfamiliar. The material that follows contains advice specifically related to Naim equipment as well as more general warnings about the use of domestic audio products. Please read it carefully.

The transformers in Naim power amplifiers and power supplies may sometimes make a mechanical noise caused by distortion of the mains waveform. Naim transformers are large in size and have heavy gauge secondary windings making them relatively sensitive to such distortion. A separate mains circuit for your hi-fi system may reduce the effect while also giving an overall improvement in sound quality. It may be necessary however to take account of mechanical transformer noise when siting your equipment.

In some circumstances, depending on where you live and the earthing arrangements in your home, you may experience radio frequency interference. Controls on broadcasting in some territories allow very high levels of radio frequency radiation and both the choice and exact siting of equipment may be critical. If there is a known problem in your locality it is advisable to arrange for a home demonstration before purchase to find out if Naim equipment is likely to be affected. Susceptibility to radio frequency interference is related to the wide internal bandwidth necessary for high sound quality. Systems incorporating moving coil phono preamplifiers and active crossovers are more likely to suffer. A radio frequency filter kit is available for some Naim equipment but sound quality will be progressively compromised as more elements of the kit are fitted. In situations of extreme radio interference Naim equipment may be unsuitable.

Your Naim hi-fi system can be damaged by lightning. Power amplifiers are particularly at risk and should be turned off when there is risk of lightning strike. For complete protection all mains plugs and any aerial cables should be disconnected when not in use.

Equipment must not be exposed to dripping or splashing and no objects filled with liquid, such as vases, should be placed on the equipment.

important

In order to comply with current European safety regulations it is essential that the Naim loudspeaker connectors supplied with amplifiers and loudspeakers are used.

Do not under any circumstances allow anyone to modify your Naim equipment without first checking with the factory, your dealer, or your distributor. Unauthorised modifications will invalidate your guarantee.

For your own safety do not under any circumstances open Naim equipment without first disconnecting the mains.

The following label is attached to all mains powered equipment:

WARNING
THIS APPARATUS
MUST BE EARTHED

4.0 Connection

4.1 mains lead

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug proceed as follows:

The wire which is coloured **GREEN-AND-YELLOW** must be connected to the terminal in the plug which is marked by the letter **E** or by the safety earth symbol or coloured green or green-and-yellow.

The wire which is coloured **BLUE** must be connected to the terminal in the plug which is marked with the letter **N** or coloured black.

The wire which is coloured **BROWN** must be connected to the terminal in the plug which is marked with the letter **L** or coloured red.

4.2 non-rewireable mains plugs

If a non-rewireable plug is cut from a mains lead (for whatever purpose) the plug MUST be disposed of in a way to render it totally unusable. Considerable shock hazard exists if the cut-off plug is inserted into a mains outlet.

4.3 fuse carrier

Should the plug fuse carrier be damaged or lost, the correct replacement must be obtained from your dealer or from Naim direct. Do not use the plug until the fuse carrier is replaced.

4.4 plug fuses

Replace only with ASTA or BS 1362 approved fuses.

note

This equipment has been tested and found to comply with the relevant EMC and Safety Standards, and, where applicable, also complies with the limits for a class B digital device, pursuant to Part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

• Reorient or relocate the receiving antenna.

• Increase the separation between the equipment and the receiver.

• Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

• Consult your Naim dealer or an experienced radio/TV technician for help.

nat 01 and nat 02 operation

connections

The FM aerial input socket must be connected via 75ohm low-loss coaxial cable to a suitable roof-mounted directional aerial.

aerial requirements

The tuner aerial should be mounted on the roof, clear of obstructions and also as high as possible. Horizontally polarised aerials will respond to all UK broadcasts whilst partially rejecting police and taxi transmissions, and are therefore recommended. Use of an aerial preamplifier will disturb the muting operation of the tuner and may cause crossmodulation problems. Such preamplifiers should only be used as a last resort.

In the UK, BBC and commercial radio broadcasts are usually radiated from different sites even though the target areas of the services may be similar. This means that unless the transmitters are in almost the same direction looking from your house, an aerial aligned on one transmitter will give less than optimum performance on the other. In these circumstances you should fit an aerial rotator, or a less directional aerial if appropriate. The more sensitive and directional the aerial you use, the less good will be the reception in directions other than the one towards which the aerial is pointing. If you are particularly interested in receiving a wide range of VHF transmissions an aerial rotator is a necessity. Your dealer will be familiar with local conditions and will be able to advise you on which stations are capable of being received satisfactorily.

The tuner's audio output is adjustable both for level and channel balance. It is set to 400mV for the nat 01 and 340mV for the nat 02, all at 100% modulation and should match almost any preamplifier without difficulty. Preamplifier load should be more than 10KΩ.

frequency display

The frequency display lights dimly until a station is received and tuned with sufficient accuracy. The display will then brighten and the mute will lift, allowing you to hear the programme. Rock the tuning knob slightly backwards and forwards to check that the tuning is set to the centre of the range over which the station can be heard, or the station may slip off tune.

signal strength indicator

The signal strength indicator will increase in brightness as a broadcast frequency is approached.

stereo indicator

Programmes which are broadcast in stereo carry an inaudible pilot tone, which is used to light the "stereo" indicator. This lights on all stereo broadcasts except those which are extremely weak, when mono operation will be enforced.
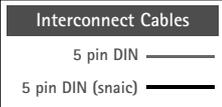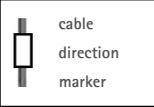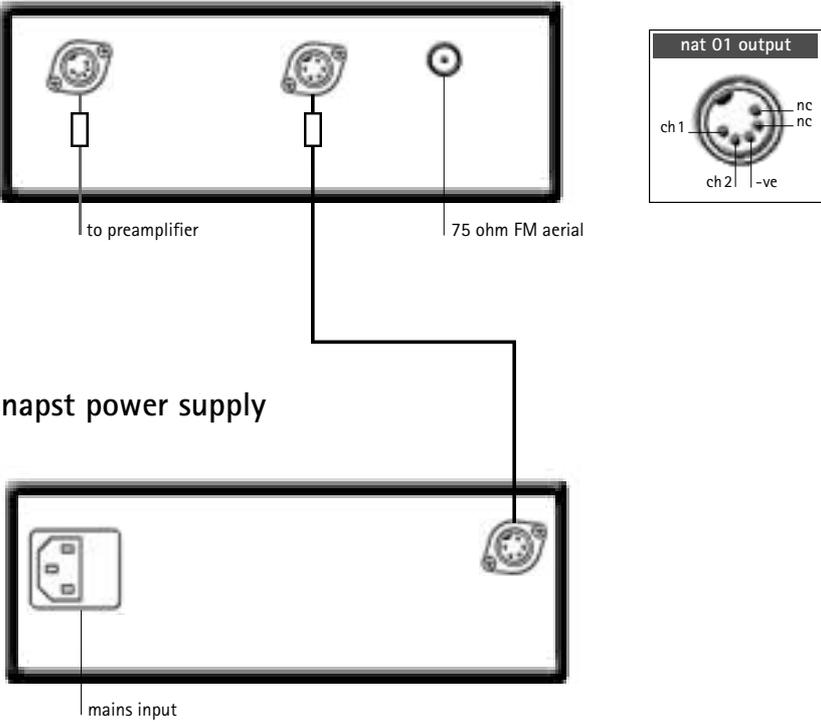
In circumstances of very weak reception, the signal indicator will light while the the stereo indicator remains off, showing that the programme will be received in mono, because stereo reproduction would be too noisy.

As the signal strength increases, so will the stereo effect, until the stereo strength indicator is lit as brightly as the signal indicator. At this point full stereo separation will be reproduced.

nat 01 front

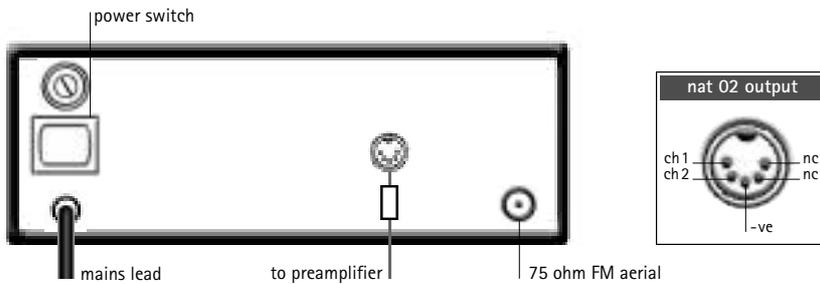## nat 01 rear connected to napst power supply

to preamplifier   75 ohm FM aerial

nat 01 output

ch 1
ch 2   -ve
nc
nc

napst power supply

mains input

cable
direction
marker

Interconnect Cables
5 pin DIN ————
5 pin DIN (snaic) ━━━━

6

nat 02 front

signal

stereo

I 00 3

nat 02 rear

power switch

mains lead

to preamplifier

75 ohm FM aerial

nat 02 output

ch 1 — nc
ch 2 — nc

−ve

Specifications

nat 01 and nat 02

Tuning Range	VHF/FM 87.5 – 108MHz
Output Level	
01	400mV per channel
	at 100% modulation
02	340mV per channel
	at 100% modulation
Mains Supply	100V, 115V, 230V 50 or 60 Hz
CaseSize (H x W x D)	76 x 205 x 300mm

nat 05 operation

connections

The FM aerial input socket must be connected via 75ohm low-loss coaxial cable to a suitable roof-mounted directional aerial.

aerial requirements

The tuner aerial should be mounted on the roof, clear of obstructions and also as high as possible. Horizontally polarised aerials will respond to all UK broadcasts whilst partially rejecting police and taxi transmissions, and are therefore recommended. Use of an aerial preamplifier will disturb the muting operation of the tuner and may cause cross-modulation problems. Such preamplifiers should only be used as a last resort.

In the UK, BBC and commercial radio broadcasts are usually radiated from different sites even though the target areas of the services may be similar. This means that unless the transmitters are in almost the same direction looking from your house, an aerial aligned on one transmitter will give less than optimum performance on the other. In these circumstances you should fit an aerial rotator, or a less directional aerial if appropriate. The more sensitive and directional the aerial you use, the less good will be the reception in directions other than the one towards which the aerial is pointing. If you are particularly interested in receiving a wide range of VHF transmissions an aerial rotator is a necessity. Your dealer will be familiar with local conditions and will be able to advise you on which stations are capable of being received satisfactorily.

The tuner's audio output is adjustable internally both for level and channel balance. It is set to 700mV and should match almost any preamplifier without difficulty. Preamplifier input impedance should be more than 10KΩ.

buttons

mode: Toggles the tuner through three operational modes - **frequency, scan and preset.** Use of **preset** mode is covered overleaf in the **narcom 2** remote handset section.

down: In **frequency** mode, adjusts tuning frequency downwards in 50kHz steps or continuously if held. In **scan** mode, causes the tuner to "scan" down the FM band searching for signals above a preset level. The tuner will stop searching at each tuned station and, using the **narcom 2** remote handset, the option to store the station as a preset will be available. If no satisfactory signals are found during the first scan, a second scan at a lower preset signal level will automatically commence. In **preset** mode, causes the tuner to step sequentially down through previously stored stations.

up: Controls the tuner in a similar manner to the **down** button.

mono: Combines the left and right channels to produce a mono output signal. Switching to mono can reduce background noise with weak stereo signals.

display

main: Displays tuned frequency, selected preset number or **"--"** indicating that no preset number is allocated to a specific tuned frequency. Allocation of tuned frequencies to preset numbers is covered overleaf in the **narcom 2** remote handset section.
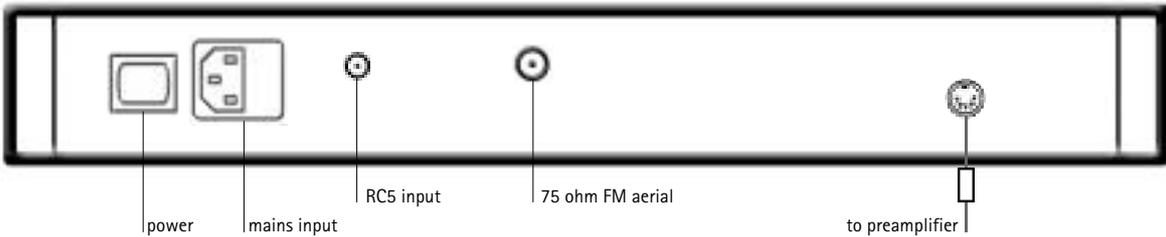
indicators

stereo: Indicates when both a stereo signal is received and stereo operation is selected.

freq: Indicates when the tuner is operating in **frequency** mode.

scan: Indicates when the tuner is operating in **scan** mode.

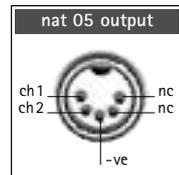**preset:** Indicates when the tuner is operating in **preset** mode.

nat 05 front

stereo		
freq	**92.7**	
scan		
preset		

down   up   mode   mono

nat 05 rear

power   mains input   RC5 input   75 ohm FM aerial   to preamplifier

note

The RC5 input is designed to accept external control signals for multi-room applications. Contact your dealer for further information on its use.

The nat 05 features various technologies to reduce microphonic effects, in particular a compliant mounting for the main circuit boards and the din sockets on the rear. Some movement of the board and sockets when connecting/disconnecting is normal.

nat 05 output

ch 1   nc
ch 2   nc
-ve

Specifications

nat 05

Tuning Range (UK)	VHF/FM 87.5 - 108MHz
(Tuning range regional variants set internally)	
Preset Memory	99 stations
Output Level	700mV per channel
	at 100% modulation
Mains Supply	100V, 115V, 230V 50 or 60Hz
CaseSize (H x W x D)	58.4 x 432 x 301mm

narcom 2 remote handset

NARCOM 2 is a multi-functional remote control handset designed to be used with Naim Audio CD players, integrated amplifiers, pre-amplifiers and preset tuners. The handset control configuration is based around three types of keys: **System Component Keys, Global Keys and Soft Keys.**
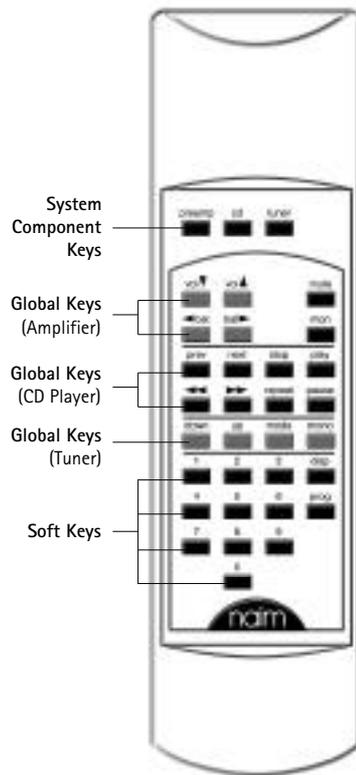
1 System Component Keys

These keys switch the operation of the "Soft Keys" into modes appropriate to each system component (preamp, CD or tuner).

preamp: Switches the action of the Soft Keys to that appropriate for an integrated or pre-amplifier.
cd: Switches the action of the Soft Keys to that appropriate for a CD player.
tuner: Switches the action of the Soft Keys to that appropriate for a preset tuner.

2 Global Keys

These keys operate specific component functions regardless of the System Component Key setting.

System Component Keys

Global Keys (Amplifier)

Global Keys (CD Player)

Global Keys (Tuner)

Soft Keys

preamp

vol (up and down): Adjusts the amplifier output volume and the volume control position.

mute: Reduces the amplifier output volume to zero. A second press restores the volume. The **mute** button on the amplifier will illuminate when mute is selected.

bal (left and right): Adjusts the output channel balance.

Some Naim amplifiers have control of balance available only from the remote handset. On these products the balance will automatically "centre" as it reaches the mid point. Balance centring is indicated by a flashing volume control indicator. To resume adjustment once the balance has centred, **bal** key must be released and re-pressed.

mon: The **mon** button enables the output of a 3-head tape machine to be heard while recording in order to check the "off-tape" signal. The source to be recorded is chosen by the input selector buttons in the normal way.

After pressing **mon**, select the input to which your machine is connected. A second operation of the **mon** key restores normal output.

compact disc

prev: Selects the previous track. From a stopped position **prev** will select the last track.

next: Selects the next track.

stop: Stops the CD. Holding the **stop** key for more than a second will also cancel previously set-up program and display preferences.

play: Plays the CD. Pressing **play** while a track is playing will return the player to the beginning of that track.

<<: Fast reverses the CD when in play mode.

>>: Fast forwards the CD when in play mode.

repeat: Puts the CD into repeat mode. A complete disc or programmed disc selection will repeat until **stop** is pressed.

pause: Pauses a playing CD. Pressing **pause** a second time will start the disc again.

tuner

mode: Switches the tuner sequentially through **"frequency"**, **"scan"** and **"preset"** modes. Modes are indicated on the tuner display.

up & down: These keys both have three possible functions depending upon the selection of the **mode** key. In **frequency** mode the up and down keys adjust the tuning frequency in 50kHz steps. In **scan** mode the up and down keys will cause the tuner to search for stations. In **preset** mode the up and down keys will tune to the next numbered preset.

mono: Toggles between mono and stereo operation. The tuner display will indicate stereo when both stereo operation is selected and a stereo signal is received. The **mono** button on the tuner will illuminate when **mono** is selected.

3 Soft Keys

These keys operate functions depending on the System Component Key setting.

numeric keypad: In **preamp** mode the numeric keys will switch between the amplifier inputs (1 - cd, 2 - tuner, 3 - tape, 4 - av, 5 - aux 1, 6 - aux 2). In **cd** mode the numeric keys will select tracks. In **tuner** mode the numeric keys will select tuner presets or can be used directly to input station frequencies.

prog: In **preamp mode** the **prog** key function varies depending upon the specific amplifier model in use. Firstly, some models incorporate a programmable volume control system that enables different source component output levels to be matched. Secondly, some models incorporate optional automatic source switching which will switch the input of the amplifier as soon as any handset key appropriate to a particular source is operated. For example, if the tuner input is selected on the amplifier and the CD **play** key is operated on the handset, the amplifier will switch to the CD input. Thirdly, if you have a surround sound processor connected to the A/V input, the volume control on the amplifier can be disabled, allowing the processor to take over control of the output level from the power amplifier stage (unity gain).

To program the volume control for each input first set the volume control to a comfortable listening level with the loudest source (probably CD). Enter program mode by pressing and holding the **prog** key until the amplifier volume control indicator flashes. Select the input to be adjusted using the handset and use the vol **up** and **down** keys to set the volume to a comfortable listening level. The amplifier volume control will not rotate during this operation. Select a further input to adjust. To exit program mode press and hold the **prog** key until the volume control indicator stops flashing, or operate any control on the amplifier.

To access automatic source switching enter program mode as described above. Use the handset **mon** key to toggle automatic switching on and off. The **mon** button on the amplifier will illuminate when source switching is automated. Exit the program mode as above.

To utilise the surround sound processor unity gain function, enter program mode as described above. Use the handset **mute** key to toggle the function on and off. The **mute** button on the amplifier will illuminate when unity gain is selected. Exit the program mode as above. **The unity gain function should only be used where the amplifier is used in a correctly configured A/V system. Damage may result if the unity gain feature is used inappropriately.**

To return to the default settings, press and hold the **prog** key until the amplifier volume control indicator flashes. Press and hold **disp** key until the volume control indicator stops flashing.

In **cd mode** the **prog** key enables specific CD tracks and their play order to be selected. To select a play order select a track number from the numeric keypad followed by the **prog** key until the desired selection is complete. During selection, the track number indicated in the player display will be followed by either "P", "-" or a space. "P" indicates that the track is already selected. "-" indicates that the track can be selected. A space indicates that there is no more memory available.

The **prog** key can also be used to delete tracks from a play order. To delete a track, press and hold the **prog** key until the **prog** indicator in the CD display illuminates then delete the track or tracks using the numeric keypad followed each time by a further operation of the **prog** key. During deletion the track number indicated in the player display will be followed by either "C", "-" or a space. "C" indicates that the track is already deleted. "-" indicates that the track can be deleted. A space indicates that there is no more memory available.

The play order can be reviewed by pressing **prog** while the player is either stopped or playing. The player display will then scroll through the selected tracks. The **prog** indicator on the player display will illuminate when a play order has been programmed. To clear memory press and hold the **stop** key.

In **tuner mode** the **prog** key enables specific FM station frequencies to be assigned to preset memory. To assign a station to a preset first tune manually by inputting the station frequency directly from the numeric keypad or by using the **up** or **down** keys (or **scan**). Press and hold the **prog** key on the handset. The tuner is now in **preset programming mode** - the preset indicator will flash and the display will show "– –". Press the desired preset number from the numeric keypad. The display will show "– " or "P" if the preset number is already in use. Exit from program mode and save the new or overwritten preset by pressing and holding the **prog** key. To exit program mode without saving (or overwriting) a preset, select "0 0" on the numeric keypad. To erase a preset number, select the preset and press and hold the **display** key. To clear all preset numbers press and hold the **program** key followed by the **display** key.

display: In **cd mode** the **display** key will scroll through these options: tracks (**"time"** indicator off), time (**"time"** indicator on) and display off. In **tuner mode** the **display key** will simply toggle between on and off.

EC Declaration of Conformity to Appropriate Standards

Manufacturer

Naim Audio Limited
Southampton Road
Salisbury England
SP1 2LN

Products

nat 01, nat 02, nat 05 tuners
napst power supply

Safety

HD 195–S6
EN 60 065

EMC

Emissions Tested to   EN 55013
Sound and television broadcast receivers and associated equiment

Immunity Tested to   EN55020
Electromagnetic immunity of broadcast receivers and associated equipment

In accordance with   CISPR 16–1
Radio disturbance and immunity measuring apparatus

CISPR 16–2
Methods of measurement of disturbances and immunity

IEC 801–2 8KV (air gap)
4KV (contact)
(performance criterion B)

IEC 801–3 3V/m 20dB
(performance criterion A)

IEC 801–4 1KV (AC lines)
0.5KV (signal lines)
(performance criterion B)