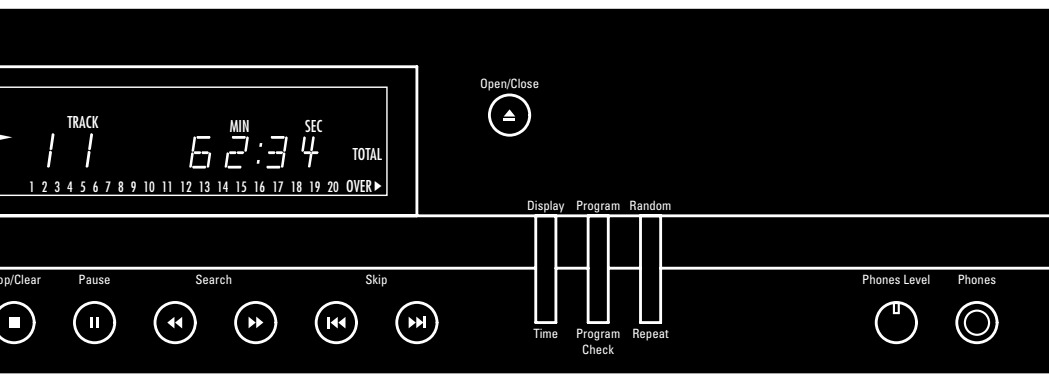


Harman Kardon HD720 Compact Disc Player



Owner's Manual

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Owner's Manual

HD720 Compact Disc Player

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harman/kardon

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H A Harman International Company

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Introduction

1

Thank you for choosing the Harman Kardon HD720 CD player. The HD720 is an exceptionally well-engineered product that offers high performance and ease of use.

We ask that you take a few minutes to read through this Owner's Manual to familiarize yourself with the controls and functions. This brief investment of time will yield dividends in the form of years of listening pleasure.

If you have any questions about this product, its installation or operation, please contact your dealer, as they are your best source of local information.

Description and Features

- **Digital Output for Direct Connection to Outboard Digital-to-Analog Converters**
- **Sophisticated Programming Features to Automatically Play Tracks in Preprogrammed or Random Order**

- **Intro Search to Automatically Scan a Brief Portion of Each Track to Quickly Locate Your Favorite Selections**
- **Sophisticated Digital-to-Analog Processing Using Premium-Grade 1-Bit Circuits with Multilevel Delta-Sigma Conversion**

Safety Information

2

Important Safety Information

Verify Line Voltage Before Use

Your HD720 has been designed for use with 120-volt AC current. Connection to a line voltage other than that for which it is intended can create a safety and fire hazard, and may damage the unit.

If you have any questions about the voltage requirements for your specific model, or about the line voltage in your area, contact your selling dealer before plugging the unit into a wall outlet.

Do Not Use Extension Cords

We do not recommend that extension cords be used with this product. As with all electrical devices, do not run power cords under rugs or carpets or place heavy objects on them. Damaged power cords should be replaced immediately by an authorized service depot with cords meeting factory specifications.

Handle the AC Power Cord Gently

When disconnecting the power cord from an AC outlet, always pull the plug, never pull the cord. If you do not intend to use the unit for any considerable length of time, disconnect the plug from the AC outlet.

Do Not Open The Cabinet


There are no user-serviceable components inside this product. Opening the cabinet may present a shock hazard, and any modification to the product will void your guarantee. If water or any metal object such as a paper clip, wire or a staple accidentally falls inside the unit, disconnect it from the AC power source immediately, and consult an authorized service station.

CAUTION: The HD720 uses a Laser System. To prevent direct exposure to the laser beam, do not open the cabinet enclosure or defeat any of the safety mechanisms provided for your protection. **DO NOT STARE INTO THE LASER BEAM.** To ensure proper use of this product, please read this Owner's Manual carefully and retain it for future use. Should the unit require maintenance or repair, please contact your local Harman Kardon Service Station. Refer servicing to qualified personnel only.


Installation Location

■ To assure proper operation, and to avoid the potential for safety hazards, place the unit on a firm and level surface. When placing the unit on a shelf, be certain that the shelf and any mounting hardware can support the weight of the product.


- Make certain that proper space is provided both above and below the unit for ventilation. If this product will be installed in a cabinet or other enclosed area, make certain that there is sufficient air movement within the cabinet.
- Do not place the unit directly on a carpeted surface.
- Avoid installation in extremely hot or cold locations, or an area that is exposed to direct sunlight or heating equipment.
- Avoid moist or humid locations.
- Do not obstruct the ventilation slots on the top of the unit, or place objects directly over them.




CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN



CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

CAUTION: TO PREVENT ELECTRIC SHOCK, MATCH WIDE BLADE OF PLUG TO WIDE SLOT, FULLY INSERT.

ATTENTION: POUR EVITER LES CHOCS ELECTRIQUES, INTRODUIRE LA LAME LA PLUS LARGE DE LA FICHE DANS LA BORNE CORRESPONDANTE DE LA PRISE ET POUSSER JUSQU'AU FOND.

Safety Information

Cleaning

When the unit gets dirty, wipe it with a clean, soft dry cloth. If necessary, wipe it with a soft cloth dampened with mild soapy water, then a fresh cloth with clean water. Wipe dry immediately with a dry cloth. NEVER use benzene, aerosol cleaners, thinner, alcohol or any other volatile cleaning agent. Do not use abrasive cleaners, as they may damage the finish of metal parts. Avoid spraying insecticide near the unit.

Moving The Unit

Before moving the unit, be certain to disconnect any interconnection cords with other components, and make certain that you disconnect the unit from the AC outlet.

Important information for the user

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. The limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communication. However, there is no guarantee that harmful 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 the equipment 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 receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept interference received, including interference that may cause undesired operation.

NOTE: Changes or modifications may cause this unit to fail to comply with Part 15 of the FCC Rules and may void the user's authority to operate the equipment.

Unpacking

The carton and shipping materials used to protect your new receiver during shipment were specially designed to cushion it from shock and vibration. We suggest that you save the carton and packing materials for use in shipping if you move, or should the unit ever need repair.

To minimize the size of the carton in storage, you may wish to flatten it. This is done by carefully slitting the tape seams on the bottom and collapsing the carton down to a more two-dimensional appearance. Other cardboard inserts may be stored in the same manner. Packing materials that cannot be collapsed should be saved along with the carton in a plastic bag.

If you do not wish to save the packaging materials, please note that the carton and other sections of the shipping protection are recyclable. Please respect the environment and discard those materials at a local recycling center.

Typographic Conventions

In order to help you use this manual with the remote control, front panel controls, rear panel connections and on-screen menus, certain conventions have been used.

EXAMPLE – (bold type) indicates a specific remote control or front panel button, or rear panel connection jack

EXAMPLE – (OCR type) indicates a message that is visible on the front panel information display

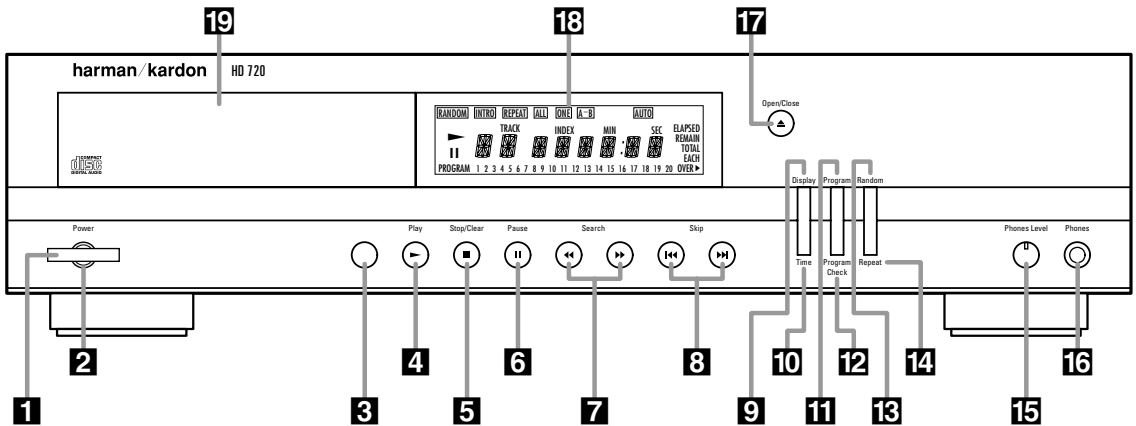
1 – (number in a square) indicates a specific front panel control

1 – (number in an oval) indicates a button or indicator on the remote

1 – (number in a circle) indicates a rear panel connection

Front Panel Controls

4



- 1** Power Switch
- 2** Status Mode Indicator
- 3** Remote Sensor Window
- 4** Play Button
- 5** Stop/Clear
- 6** Pause Button
- 7** Search Buttons

- 8** Skip Buttons
- 9** Display Button
- 10** Time Button
- 11** Program Button
- 12** Program Check Button
- 13** Random Button
- 14** Repeat Button

- 15** Headphones Level
- 16** Headphones Jack
- 17** Open/Close
- 18** Information Display
- 19** Disc Drawer

Front Panel Controls

5

1 Power Switch: Press this switch to apply power to the HD720. When the switch is first turned on, the **Status Mode Indicator** light **2** surrounding the switch will turn green. Once the unit has been turned on with this switch it may be operated from either the front panel or remote control. Press the switch again to turn the unit completely off.

2 Status Mode Indicator: When the HD720 is in the ON mode, this indicator will glow green. When the unit has been placed in the Standby mode by pressing the **Off** button **1** on the remote, the indicator will glow amber, indicating that the unit is still connected to the AC main supply and is ready to be turned on from the remote control.

3 Remote Sensor Window: The sensor behind this window receives commands from the remote control. Keep this area clear if you wish to use the HD720 with a remote control.

4 Play Button: Press this button to start the playback of a CD. If the CD drawer is open, pressing this button will automatically close the drawer.

5 Stop/Clear: Press this button to stop the disc currently being played. During programming functions, this button is also used to clear the system memory (see page 13).

6 Pause Button: Press this button once to momentarily stop a disc. When the button is pressed again, the disc will resume play at the point it was stopped.

7 Search Buttons: Press one of these buttons to search forward **▶▶** or backwards **◀◀** through a disc to locate a particular portion of the selection.

8 Skip Buttons: Press one of these buttons to move to the next track **▶▶|**, or to move back to the previous track **|◀◀**.

9 Display Button: Press this button once to dim the brightness of the display. Press it again to turn the display off completely. An additional press of the button will return the display to normal brightness.

10 Time Button: Press this button to select the time display. In normal operation, the display will show the running time of a track being played. Press the button once to check the time remaining for the track in play. Press the button a third time to view the total time remaining for the disc in play.

11 Program Button: This button is used to program the playback of a disc in a particular order. (See page 13 for complete instructions on programming the HD720.)

12 Program Check Button: Press this button to check the order of tracks programmed into the HD720's memory. (See page 13 for complete information on programming the HD720.)

13 Random Button: Press this button to put a disc into play, and to have all of the tracks played in a random order. (See page 10 for more information.)

14 Repeat Button: Press this button once to continually repeat all tracks on a disc. Press it again to repeat only the track currently being played. (See page 14 for more information.)

15 Headphones Level: Turn this knob to increase or decrease the volume level for headphones connected to the HD720's **Headphones Jack** **16**. Note that changing this level will not change the sound level for the unit's main output, as that remains constant.

16 Headphones Jack: Connect a set of standard headphones to this jack for private listening.

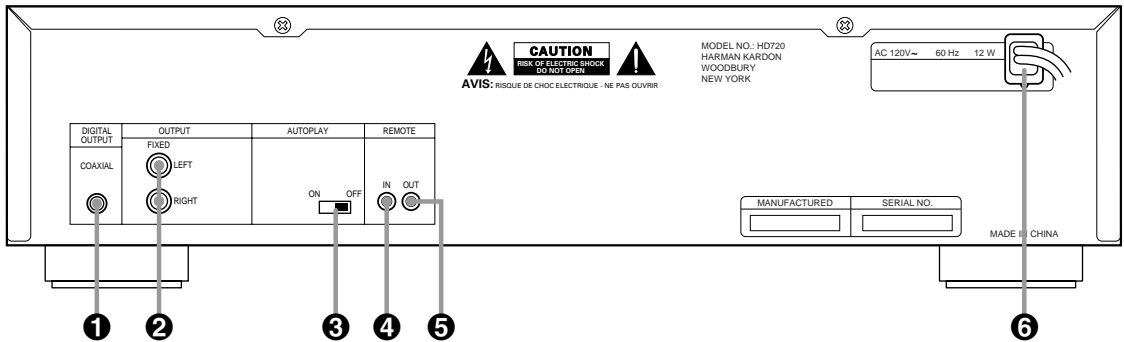
17 Open/Close: Press this button to open or close the disc drawer. The drawer may also be closed by pressing the **Play** button **4** **10**, or by gently pressing the edge of the drawer. However, we do not recommend pushing the drawer, as damage to the transport mechanism may result.

18 Information Display: This display provides details about the operation of the HD720.

19 Disc Drawer: To play a disc, open the drawer by pressing the **Open/Close** button **17** and place a full-size (5") or CD single (3") disc in the drawer with the printed side facing upwards. Press the **Play** button **4** **10** to close the drawer and begin playback.

Rear Panel Connections

6



1 Coaxial Digital Output
2 Fixed Audio Outputs

3 Autoplay Switch
4 Remote Control Input

5 Remote Control Output
6 AC Power Cord

1 Coaxial Digital Output: Connect this jack to the coaxial digital input of an external digital-to-analog converter for direct access to the digital signals of the HD720. DO NOT connect this jack to the standard audio inputs of any device.

2 Fixed Audio Outputs: Connect these jacks to the CD audio inputs of your receiver, surround processor or preamplifier.

3 Autoplay Switch: When this switch is in the "ON" position, the HD720 will automatically go into the Play mode whenever the power is turned on and a disc is in the CD drawer. To disable the Autoplay function, put the switch in the OFF position. (See page 14 for more information.)

4 Remote Control Input: Connect the output of a remote infrared sensor or the remote control output of another compatible Harman Kardon product. This will

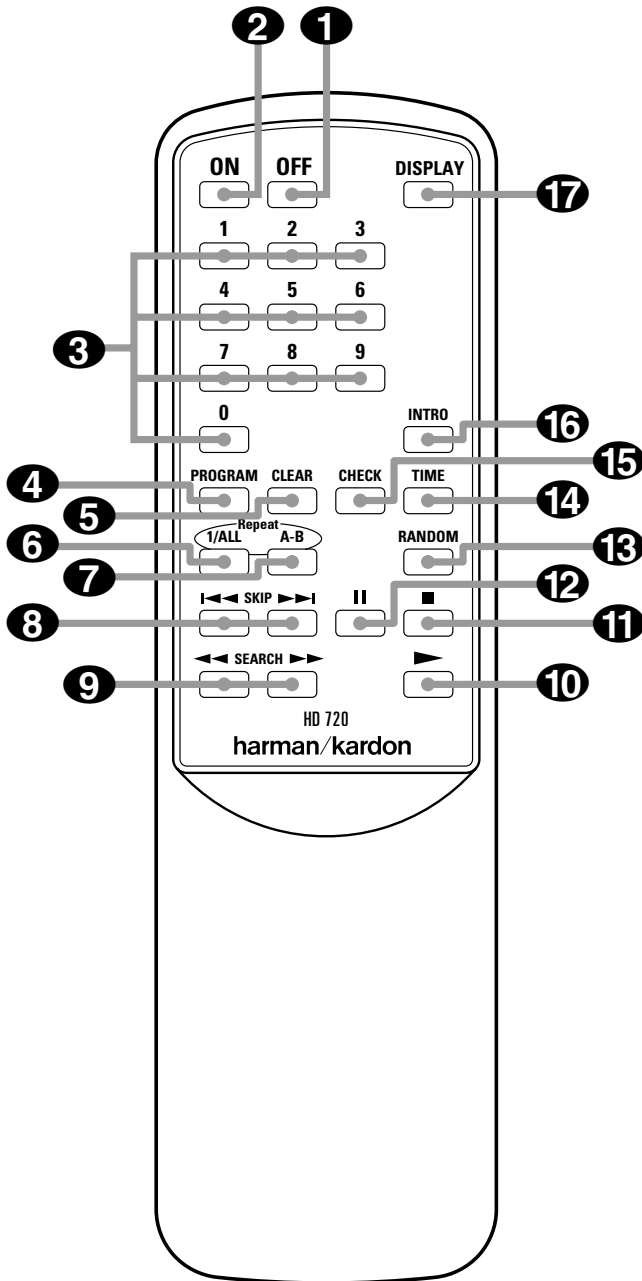
enable the remote control system to operate even when the front panel **Remote Sensor 3** is blocked. It will also allow use of the HD720 with optional, external control systems.

5 Remote Control Output: Connect this jack to the input of another compatible Harman Kardon remote controlled device to have the remote sensor on the HD720 provide signals to other products.

6 AC Power Cord: Connect this plug to an AC outlet. If the outlet is switch controlled, make certain that the switch is in the ON position.

Remote Control Functions

7



- ❶ Power Off
- ❷ Power On
- ❸ Numeric Controls
- ❹ Program Button
- ❺ Clear Button
- ❻ Repeat 1/All Button
- ❼ Repeat A-B Button
- ❽ Skip Buttons
- ❾ Search Buttons
- ❿ Play Button
- ⓫ Stop
- ⓬ Pause Button
- ⓭ Random Button
- ⓮ Time Button
- ⓯ Check Button
- ⓰ Intro Button
- ⓱ Display Button

Remote Control Functions

8

1 Power Off: Press this button to put the unit in the Standby mode.

2 Power On: Press this button to turn on the HD720. Note that in order for the Power On button to operate, the front panel **Power Switch 1** must be pressed, and the **Status Mode Indicator 2** should glow amber. (See page 11 for more information.)

3 Numeric Controls: Press these buttons to select a specific track on a disc. The unit will immediately search for the track and begin to play it. For tracks 1 through 9 on a disc, you need only press the desired number. For tracks 10 and above, the second digit of the number must be entered within two seconds of the first digit. (See page 10 for more information.) These buttons are also used to enter track numbers into the memory for pre-programmed play lists. (See page 13 for complete information on programming the HD720.)

4 Program Button: Press this button to begin the process of programming the HD720 to play the tracks on a disc in a specific order. Once the button is pressed, enter each of the desired track numbers in quick succession using the **Numeric Controls 3**. When you have entered the tracks to be played, press the **Play button 10** to begin the programmed sequence. (See page 13 for complete information on programming the HD720.)

5 Clear Button: Press this button to remove tracks from a programmed sequence. Each press of the button will remove one track, starting with the last track programmed to play. (See page 13 for complete information on programming the HD720.)

6 Repeat 1/All Button: Press this button once so that the **REPEAT** and **ALL** indicators are illuminated to repeat all tracks on the disc. Press the button a second time to repeat only the track that is currently being played, and note that the **REPEAT** and **ONE** indicators will light in the **Information Display**. (See page 14 for more information on Repeat Play.)

7 Repeat A–B Button: Press this button to repeat a segment of the disc. Press the button once to mark the start of the portion to be repeated. Press it again at the end of the desired sequence. The marked passage will not play continuously until the **Stop button 11** is pressed. (See page 14 for more information on Repeat Play.)

8 Skip Buttons: Press one of these buttons to move to the next track **▶|**, or to move back to the previous track **◀|**.

9 Search Buttons: Press one of these buttons to search forward **▶▶** or backwards **◀◀** through a disc to locate a particular portion of the selection being played.

10 Play Button: Press this button to start the playback of a CD. If the CD drawer is open, pressing this button will automatically close the drawer.

11 Stop: Press this button to stop the disc currently being played.

12 Pause Button: Press this button once to momentarily stop a disc. When the button is pressed again, the disc will resume play at the point it was stopped.

13 Random Button: Press this button to put a disc into play, and to have all of the tracks played in a random order. (See page 10 for more information.)

14 Time Button: Press this button to select the time display. In normal operation, the display will show the running time of a track being played. Press the button once to check the time remaining for the track in play. Press the button a third time to view the total play time remaining for the disc in play.

15 Check Button: Press this button to check the order of tracks programmed into the HD720's memory. (See page 13 for complete information on programming the HD720.)

16 Intro Button: Press this button to put the HD720 in the Intro Scan mode. When you press the button, the unit will play the first 15 seconds of each track on the disc, and then move to the next track. Press the button again to defeat the function and continue full play of the current track. (See page 12 for more information.)

17 Display Button: Press this button once to dim the front panel display to half brightness. Press it again to turn the display lights off completely. Another press will return the display to normal brightness.

Installation

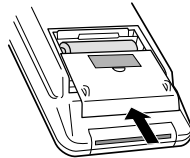
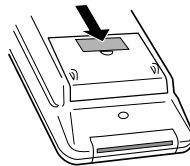
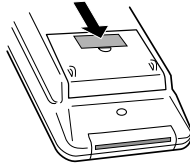
9

To prevent possible damage to your speakers and other components in your audio system, it is important that ALL components, including the HD720 and receivers are turned off and unplugged from their AC power source when installing any new component.

Connecting the HD720 to your audio system is simple. Using standard RCA-to-RCA interconnect cords, connect the left and right **Fixed Audio Output** jacks ❷ on the rear panel to the CD input jacks on your receiver, surround processor or preamplifier.

If your system includes an optional, external digital-to-analog converter, or if you are using a receiver or other processor that has the capability to decode PCM digital input signals, connect the **Coaxial Digital Output** jack ❶ to the Datastream Digital input on the decoder. Make certain to use a coaxial-style interconnect cable, as standard audio cables will not perform as well.

Install the two AA batteries supplied with the HD720's remote by turning the remote over so that you are holding the bottom side up. Press lightly on the embossed arrow on the cover, and gently slide the cover towards you in the direction of the arrow. Insert the batteries inside the compartment, being careful to follow the **+** and **-** polarity indications at the bottom of the compartment. Replace the cover by placing it on the remote and sliding it back towards the top of the remote.



NOTE: When replacing batteries it is always a good idea to replace both at the same time. When the unit will not be used for an extended period of time, it is also a good idea to remove the batteries so that the potential for corrosion or damage is avoided.

Connect the power to a non-switched AC wall outlet, or to the accessory outlet on the rear of another audio device in your system and you are ready to go!

NOTE: When using the accessory outlet on another product to power the HD720 make certain that it has the ability to power a device that draws at least 14 watts of current in addition to the requirements of other devices that may be plugged into the accessory outlets. If you use a “switched” outlet, it is important to remember that the host product must be turned on in order for the HD720 to operate.

Operation

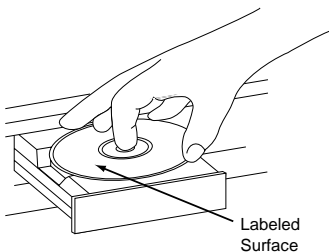
10

Normal Play

To play a disc, first turn the HD720 on using the **Main Power Switch 1**. If the unit has previously been turned on with the Main Power Switch, but then turned off using the remote control, the **Status Mode Indicator 2** will glow amber. In that case, the HD720 may be turned on using the **Power On button 2** on the remote control.

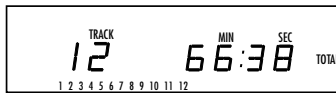
To load a disc, first press the **Open/Close button 17**, taking care to make certain that the space in front of the drawer is not obstructed. Note that if the drawer is blocked when attempting to open it, it will automatically close within five seconds to protect the mechanism.

Load the disc in the tray with the printed (label) side facing up. Make certain that the disc is centered in the tray. Either 5" or 3" discs may be used. When a 3" disc is played, it should be carefully centered within the smaller ridges inside the cassette drawer.



To retract the drawer back into the player after loading a disc, press the **Open/Close button 17**.

After a brief pause, the Information Display will show the total number of tracks on a disc and the total running time of the disc. The number of tracks will be shown in a large number within the display, and all of the available tracks will light in the smaller boxed number indicators at the bottom of the display.



NOTE: When there are more than 20 tracks on a disc, the **OVER ►** indicator will light in the bottom right corner of the display.

NOTE: If a disc with CD-ROM data or other information that is not compatible with a CD player is used, the display will indicate **NO AUDIO**.

When a mixed CD Audio and CD-ROM disc is played, the HD720 will automatically bypass the data portion of the disc and search for the CD Audio section.

To play all of the tracks on the disc in order, press the **Play button 4 10**. A play indication ► will appear in the **Information Display 18**.

To play all of the tracks in random order, press the **Random button 13 13**. The **RANDOM** indicator will light when that mode is in use.

You may also select a specific track directly by entering the track number via the **Numeric Controls 3**. Simply enter the track number by pressing the buttons that correspond to the desired track and the unit will automatically find it and begin play. Note that when a two-digit track number is being entered, the second digit of the number must be pressed within two seconds of the first digit.

Operation

11

While the disc is playing, the track being played will show both as a large number in the middle of the display and as a smaller, flashing number at the bottom of the display. The elapsed time of the track being played will also appear in the display. As a disc plays, the track numbers will change, and the time will reset to $\square:\square\square$ at the start of each new track.

To momentarily pause the play of a disc, press the **Pause** button **6** **12**. Note that a Pause indication **||** will appear in the display to remind you that the disc is paused. Press either the **Play** button **4** **10** or the **Pause** button **6** **12** to resume normal play.

To stop the disc, press the **Stop/Clear** button **5** **11**. When the Stop button is pressed the display again will show the total number of tracks and total running time of the disc.

To remove a disc from the player, press the **Open/Close** button **17**. To prevent dirt and dust from entering the unit, do not leave the disc tray open.

To place the unit in a Standby mode, press the **Power Off** button **1** on the remote. The **Status Mode Indicator** **2** will glow amber, indicating that the unit is off, but ready to accept a Power On command from the remote. If the disc drawer is open, it will automatically close when the unit is placed in the Standby mode. This ensures that the unit will not be harmed from dust, dirt or inadvertent damage to the drawer mechanism.

Note that the unit is not removed from AC main power when it is in the Standby mode. During long periods of inactivity, it is recommended that the **Main Power Switch** **1** be used to turn the unit off. The Status Mode indicator will not be lit when the unit is totally turned off. Remember to turn the unit back on with the **Main Power Switch** **1** in order to use the remote control.

Disc-Handling Notes

When loading or unloading discs, it is best to hold them by the edges.

While Compact Discs are very reliable, rough handling may damage them. Avoid scratching the bottom (non-printed) side of discs, or any handling which will leave fingerprints.

To avoid damage to the disc and player, always seat discs so that they are centered in the tray.

Do not lift the player while the disc tray is opening or closing, as this may cause the disc to unseat from the tray and possibly jam.

Headphone Listening

You may listen to the output of the HD720 through headphones by plugging a set of standard headphones with a 1/4" headphone plug into the front panel **Headphones Jack** **16**. The volume of the headphone output may be adjusted with the **Headphones Level** knob **15**. Note that changing the headphone level will not change the volume for the main audio output. This is a fixed output, and it is changed using the volume control on your receiver, preamplifier or surround processor.

Display Dim

In some instances, it may be desirable to reduce the brightness of the display or to turn it off completely. To do this, press the **Display** button **9** **17** once to dim the display to half brightness. Press it again to turn the display off. A third press will return the display to normal level.

Time Display

The HD720's time display is capable of showing a wide range of information about a CD.

In normal operation the display will show the total running time of a CD after the disc is first put in the unit. When the disc is played, the display will show the running time of a track in play. Each time the track changes, the time display will reset to $\square:\square\square$ and begin to increase again as the disc plays.

To view the time remaining on an individual track, press the **Time** button **10** **14** once. The display will now show the time left in the track in play, and the **REMAIN** indicator will light next to the time display as a reminder of the display's status.

To view the total time remaining to play on the disc, press the time button twice. The **REMAIN** and **TOTAL** indicators will light to remind you of the function in use.

NOTE: When a disc contains more than thirty (30) tracks, the time display may read “- - : - -”. This is normal and it does not indicate any problem with the disc or the HD720.

Program Search

12

The HD720 is equipped with a variety of functions that make it easy to search for specific parts of any CD.

Search

If you wish to quickly scan through a disc to locate a particular passage or program, press the **Search** buttons **7** **9**. The **Forward Search** button **▶▶** plays the disc forward in high speed, while the **Reverse Search** button **◀◀** plays the disc backwards in high speed. When the desired part of the disc is heard, release the **Search** button to resume normal play speed.

Skip

To move from one track on the disc to another, press one of the **Skip** buttons **8** **8**. Pressing the **Forward Skip** button **▶▶|** will move you forwards through the disc, one track at a time, while pressing the **Reverse Skip** button **|◀◀** will move you back one track at a time.

The Skip buttons may be used when the HD720 is either playing or stopped. If the unit is stopped, the Skip buttons may be used to locate the first track to be played. The **Play** button **4** **10** must be pressed to begin play. If the Skip buttons are used while the unit is already playing, the audio output will stop while the new track is located, and play will automatically resume after the Skip button is released.

Intro Search

This feature lets you locate a track by playing the first 15 seconds of each track. When the **Intro** button **16** is pressed, the unit will play only 15 seconds of each track, and then automatically move to the next track. When you have reached a track that you wish to listen to in its entirety, press the Intro button again to resume normal operation. When the Intro feature is activated, the **INTRO** indicator will illuminate in the **Information Display** **18** to remind you that Intro Search is in use.

Programmed Play Operation

13

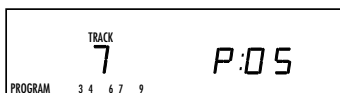
The HD720's advanced programming capability enables you to preset the order in which tracks play, to repeat one track or all tracks, and to repeat any portion of a disc without regard to track numbers.

Programmed Play

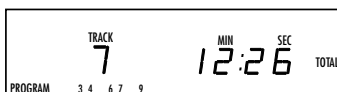
To program the order in which the tracks on a disc play, begin by pressing the **Program** button **11** **4**. Note that the **PROGRAM** indicator will light in the **Information Display** **13**. The total number of tracks and total disc playing time is also displayed.

You may now begin to enter the tracks in the order in which you wish to have them play. When entering track numbers from the remote control, simply enter the numbers using the **Numeric Controls** **3**. Be certain to enter the second digit of track numbers 10 and above within two seconds of the first number. Tracks may also be entered from the front panel or remote by pressing the **Skip** buttons **8** **8** until the desired track number appears. Press the **Program** button **11** **4** to enter the track to memory, and then proceed to select the next track you wish to program.

As tracks are entered, two displays will appear in the display. The first will indicate the total number of tracks that have been programmed along with the last track number entered.



The second display will show the total cumulative running time of all tracks entered along with the last track number programmed. After 5 seconds, only this display will appear if no other track number is entered.



As each track is added to the program list, its number will illuminate at the bottom of the display.

When you have entered all the tracks that you wish to program, press the **Play** button **4** **10** to begin playback of the programmed sequence. The tracks will now play back in the order in which they were programmed.

When the complete set of programmed tracks has played, the unit will stop. The program will remain and may be started again by pressing the **Play** button **4** **10**. The program will remain in the player's memory as long as the disc is not removed.

NOTE: Once the disc drawer is opened, the program information is lost, and must be re-entered even if the same disc is placed back in the machine.

Checking Program Contents

To check the contents of a program, press the **Check** button **12** **15**. Each press of the button will show the actual track number, the position the track occupies in memory (e.g., second track to play) and the cumulative time for all tracks that have been programmed up to the one that is indicated.

Clearing Program Tracks

To clear one or all tracks from a program, first press the **Stop** button **5** **11**.

Pressing the **Clear** button **5** on the remote, or the **Stop/Clear** button **5** on the front panel will remove tracks from the program sequence one at a time, starting with the last track programmed. For example, if track #6 was the last selection in the program order, it will be the first to be deleted from the program, regardless of how many tracks are on the disc, and how many individual tracks have been programmed.

To clear all tracks at once, press and hold either the **Stop/Clear** button **5** on the front panel, or the **Clear** button **5** on the remote until the **PROGRAM** indicator goes out and the display of the disc's total running time and number of tracks appear. You may also clear the total contents of a track programming sequence by pressing the **Open/Close** button **17**, or by turning the unit off.

Programmed Play Operation

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To remove tracks from the middle of a previously programmed sequence, press the **Check** **12** **15** button, and then press the **Skip** buttons **8** **8** until the desired track number appears in the display. Press the **Clear** **5** or **Stop/Clear** **5** button to remove the track from the sequence.

Repeat Programmed Play

The HD720's programming system enables you to repeat either a single track, the entire disc or a specially programmed passage that you select.

Repeat All

To repeat all of the tracks on a disc, press the **Repeat 1/All** button **6** or the **Repeat** button **14** once until the **REPEAT** and **ALL** indicators light up. When you see these indicators, the entire disc will play through to the end, and then start again from the beginning. The disc will play continually until the **Stop** button **5** **11** is pressed.

Repeat One

To repeat the track in play, press the **Repeat 1/All** button **6** or the **Repeat** button **14** twice. The **REPEAT** and **ONE** indicators will light and the track will continue to play over and over again continuously. If the track is changed by pressing the **Skip** buttons **8** **8** while the Repeat function is in use, the newly selected track will be repeated. To stop the repeat play, press the **Stop** button **5** **11** or press the **Repeat** button **14** **6** until the **REPEAT** indicator goes out.

Repeat A-B

The HD720 may be programmed to repeat any section within a track, or a complete passage or program that includes material in a series of tracks.

To program the unit for A-B play, first locate the point on the disc where you wish to begin the repeated section. At that point, press the **Repeat A-B** button **7**. The **REPEAT** and **A** indicators will light in the **Information Display** to show that the program process has started. Let the disc continue to play until you have reached the end of the section to be repeated. When the end point is reached, press the **Repeat A-B** button **7** again. Note that the **REPEAT** and **A-B** indicators will now be illuminated.

Once the **Repeat A-B** button **7** is pressed for the second time to complete the programming, the HD720 will automatically go to the start of the selected passage and continue to play the section over and over.

To resume normal play press the **Repeat A-B** button **7** again. The **REPEAT** and **A-B** indicators will go out, and the rest of the disc will play normally.

Auto Play

The HD720 may be programmed to automatically go into the play mode when the unit is turned on.

To use this feature, insert a disc in the drawer and close the drawer as explained on page 10. Next, locate the **Autoplay** switch **3** on the rear panel. Place the switch in the ON position and then either turn the unit off by pressing the front panel **Power Switch** **1** until the **Stature Mode Indicator** **2** goes dark, or place the unit in the Standby mode by pressing the **Power Off** button **1** on the remote.

When the HD720 is turned on using either the **Power Switch** **1** or the **Power On** button **2** the unit will automatically go into the Play mode and the disc will play through from the first track to the last.

To return the unit to normal operation, put the **Autoplay** switch **3** in the OFF position.

Troubleshooting

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Troubleshooting Guide

<i>SYMPTOM</i>	<i>CAUSE</i>	<i>SOLUTION</i>
No lights on Front Panel	<ul style="list-style-type: none">• No AC power	<ul style="list-style-type: none">• Make certain AC power cord is plugged into a live outlet.
Remote does not appear to operate	<ul style="list-style-type: none">• Main Power Switch turned off• Weak batteries• Blocked sensor	<ul style="list-style-type: none">• Turn on Main Power Switch.• Install fresh batteries, observing polarity indications.• Remove obstructions from the front panel sensor or connect a remote sensor to the Remote In jack on the rear panel.
Front panel lights, but CD does not play	<ul style="list-style-type: none">• Disc upside down	<ul style="list-style-type: none">• Reload disc with label side facing up.
Play indicator lights, but no sound is heard	<ul style="list-style-type: none">• Poor connections• Wrong source connected	<ul style="list-style-type: none">• Make certain connections are secure and made to the correct (e.g., CD) input.• Select CD source on receiver or preamp.
Sound skips or stutters during play	<ul style="list-style-type: none">• Disc may be damaged• Surface vibrations	<ul style="list-style-type: none">• Try another disc.• Isolate the unit from vibration by placing it on a firm surface or move it further away from speakers.
Sound is continually distorted	<ul style="list-style-type: none">• Incorrect input	<ul style="list-style-type: none">• Make certain that the HD720 is connected to a line-level audio input, NOT a digital audio or phono input.

Technical Specifications

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Signal Format

Sampling Frequency	44.1 kHz
D/A Conversion	1-bit, Multilevel Delta-Sigma Conversion
Oversampling	8 times

Discrete Analog Output Section

Error Correction	CIRC System
Frequency Response	8Hz to 20kHz \pm 1 dB
Total Harmonic Distortion (THD)	0.006%
Dynamic Range	96dB
Signal-to-Noise Ratio	105dB
Channel Separation	92dB
Line Output Level	2.0V RMS

General

Power Requirement	AC 120V/60Hz
Power Consumption	12 Watts
Dimensions	
Width	17.3" (440 mm)
Height	4.3" (110 mm)
Depth	9.1" (232 mm)
Weight	9.3 lbs (4.2 kg)

All features and specifications are subject to change without notice.

harman/kardon HD 720

COMPACT
DISC
DIGITAL AUDIO

Power



Play



St