

Thank you for selecting the DF2 compact disc player as a source for your audio system. With it, we think you will find yourself enjoying the musical content of your CDs more than ever.

At conrad-johnson, we expect our products to be a source of satisfaction and of pride to their owners for many years to come. Accordingly, circuit designs, parts and materials for all conrad-johnson products are selected with a view to maintaining optimal performance over the years. Our reputation for producing among the industry's most reliable components is a natural consequence of this engineering approach.

Although the DF2 has been designed so that its basic operation is intuitively apparent, it has a number of sophisticated features which are fully explained in this manual. Please take a few minutes to read the manual to better understand the features and capabilities of your DF2.

In closing, we'd like to welcome you to the family of conrad-johnson owners. We want you to enjoy your conrad-johnson product to the fullest. To this end, our staff stands ready to answer any questions you may have about the function and application of your DF2, and to provide any needed service both during, and after the warranty period. Our goal is to heighten your enjoyment of recorded music.

Limited Warranty For Conrad-Johnson Components

conrad-johnson design, inc. will provide service under warranty to the original owner on products sold new in the United States for the lesser period of three years from the date of purchase by the original purchaser, or five years from the date of shipment to the authorized conrad-johnson dealer. During the warranty period, conrad-johnson will repair defective units without charge for labor or parts (with the exception of vacuum tubes and batteries).

Exclusions. The following are not covered under this warranty:

- a) Units which have been damaged by misuse, abuse, or accident.
- b) Units which have been modified, altered, or improperly repaired by anyone not specifically authorized by conrad-johnson design, inc.
- c) Units not purchased from an authorized conrad-johnson dealer in the United States for use in the United States.
- d) Normal wear.
- e) Incidental or consequential damages are not covered under this warranty. Some states do not allow the exclusion of incidental or consequential damages, so this exclusion may not apply to you.

Obtaining Warranty Service: To obtain warranty service, the unit must be shipped, along with evidence of purchase, in factory packing to conrad-johnson design (or designated service center) with freight and insurance prepaid by the owner. After repair, the unit will be returned with freight and insurance prepaid by conrad-johnson design to any destination in the United States.

All implied warranties, including merchantability and fitness for a particular purpose are limited in duration to the duration of this express warranty. Some states do not allow limitations on the duration of implied warranties so the above limitations may not apply to you.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

Conrad-Johnson products purchased outside the United States are covered by warranty terms of the importing distributor in the country in which the product was originally purchased, which may differ from the terms set out herein. Importing distributors are not obligated to provide warranty service for products originally purchased outside their country. Conrad-Johnson will provide warranty service for products outside the

United States, but the customer must pay all shipping, handling and customs costs both to and from our Service Department.

Questions about this warranty should be addressed to:

Service Department
conrad-johnson design, inc.
2733 Merrilee Drive
Fairfax, VA 22031

The Service Department can also be reached by phone at 703-698-8581, or by fax at 703-560-5360

Box and Packing

It is recommended that you save the box and packing for your product so that it can be properly protected in the event it needs to be shipped for service.

Service

If your conrad-johnson audio component requires service, repack it using the original box and packing material and ship to the Service Department address above. Boxes and packing materials can be obtained from our service department for a nominal charge, if you no longer have yours. Include with the unit a note describing the problem you are having in as much detail as possible. It is especially important for our technician to know if the problem is intermittent. If you want an estimate of cost for out of warranty service, be sure to request it in this note. Be aware that requesting an estimate will delay service to your unit as we will have to contact you for your approval before commencing service.

Registering The Warranty

Please return the enclosed card to the factory within 30 days of purchase to register the warranty.

***I*nstallation**

Because the DF2 dissipates very little heat, ventilation is not an important consideration, allowing greater flexibility for custom or built-in installations. Of course, reasonable judgement must be exercised to see that the DF2 does not obstruct ventilation required by amplifiers or other equipment in the system. The DF2 is designed to be mounted horizontally.

All DF2s sold in the United States are configured for operation on a 60Hz ac power line producing between 108 and 126 volts. Export versions of the DF2 will have the correct operating voltage and frequency clearly marked on the back panel of the unit, near the ac power cord. In all cases, the actual line voltage should be within + 5/- 10% of the nominal rated voltage.

Electromagnetic Interference (EMI)

Considerable care has been taken in the design of the DF2 to minimize its susceptibility to radio frequency interference and other forms of EMI. Choice of materials, physical layout, grounding practice, and power supply design have all been specified with a view to reducing the impact of electromagnetic fields on the performance of this unit, and to assure that it does not radiate fields that might interfere with the operation of other units.

Care in installation can often avoid EMI induced problems. The following practices should generally be observed in any application, and will be especially important where EMI may be a problem.

Audio interconnect cables should be kept as short as possible (3 meters or less), and shielded cable should be used (cable which has two center conductors, and a separate external shield connected at only one end).

Physical location and cable "dress" can be an important factor in minimizing hum pickup. The installation should situate the DF2 away from the preamplifier and other sources. Power (ac mains) cords should be dressed to remain at least 4" (100mm) away from audio signal cables, and from coaxial digital cables.

Connection

DIGITAL OUTPUT: An RCA type connector is provided to send the digital signal out to another digital device (for example, digital tape recorder).

ANALOG OUTPUTS: These are the audio outputs, to be connected to a line-level input on your preamplifier.

Controls

display: This switches the display on and off.

|| (PAUSE): Pressing this button interrupts play. PAUSE will light up on the display. To resume play, press a second time.

o/c (OPEN/CLOSE): Pressing this button will open the CD tray. Press again to close.

> (PLAY): Pressing this button starts playback of the chosen track. If a track is already playing, pressing it will restart playback from the beginning of the track being played. If the CD tray is open, pressing > will close the tray, and initiate playback.

■ (STOP): Pressing this button during play will stop playback. Pressing it while programming will clear (erase) the program.

<< AND >> : These buttons can be used to select another track during play or to select the track to start play with. Briefly pressing the >> button will move to the next track, while pressing << will move to the previous track. Pressing and holding these buttons during play will enable fast search (forward >> or backward <<). These buttons are also used to set edit parameters (see instructions for tape dubbing, below).

prgm (PROGRAM): This button is used to initiate and then to close programming of playback.

phase: Pressing this button will switch between "phase correct" playback and playback with **180** degrees of phase shift (inverted) to compensate for phase incorrect recordings. The led will light when phase shifted playback is selected.

pk/fade (PEAK/FADE): Pressing this button when machine is not playing will cause player to scan the entire CD for the loudest passage, and when found, will play that passage repeatedly, from two seconds before the peak to two seconds after, allowing recording levels to be set. Press STOP to end PEAK playback. Pressing this button while the machine is playing a CD will gradually reduce the sound level (fade out) and pause the machine. Pressing the button again will resume play and gradually increase the sound to the original level (fade in).

repeat: Press once before or during play to cause the displayed track to play continuously. REPEAT 1 will light on the display. Pressing a second time before or during play will repeat the entire CD, and REPEAT will light on the display. Pressing a third time will end the repetition.

time: This button is used to select between the program time display options. During playback, the display initially reads the elapsed time of the track being played (TRACK TIME will be lit above the time display). Press time once to switch the display to read the time remaining for the current track (REM TRACK TIME). Press time again to display time remaining for the entire CD (TOTAL REM TIME). Pressing once again will return to the initial display of elapsed track time.

Remote Control

PLAY, STOP, PAUSE, <<, >>, and REPEAT are duplicated on the remote control. These keys on the remote function in exactly the same way as the front panel controls. The following additional controls are available only on the remote control:

NUMBER KEYS 0-9: These keys can be used for direct selection of a different track during play, a track to begin play with, and tracks for a program. The second digit in two digit numbers (eg: 12) must be entered within 2 seconds.

SCAN: Press to automatically play the first ten seconds of each track. To play a full track, press again, or press PLAY.

VOLUME (+ and -): Digitally adjusts the playback level. Important Note: when playing HDCD encoded discs with an external HDCD D/A converter, volume level must be set to maximum for the HDCD decoder to operate. The volume control is a convenience feature which we believe you will find useful. Be aware, however, that volume should be set to the maximum level for best sonic performance.

SHUFFLE: Press before or during play to play tracks in random order. SHUFFLE will light on the display. Press again to return to normal play. If you elect to repeat the entire cd in SHUFFLE mode, the tracks will be played randomly each time, except that playback will always begin with the same track.

The handheld remote is a battery operated device, using two 1.5 volt AAA (or RO3, UM4) batteries. Expected battery life is approximately one year. Dispose of exhausted batteries correctly, in accordance with local requirements. Do not dispose of batteries with your household waste.

Display Messages ---

The DF2 is equipped with a six character alpha-numeric display. This display shows track and time information during normal playback. It also is used to provide other information and instructions regarding the status and operation of the machine. Some of the messages you may see are described in this section.

OPEN: cd tray is open

CLOSE: cd tray is being closed.

READ: the CD's contents are being scanned.

NODISC: there is no CD in the player.

NO AUDIO DISC: disc in player is a non-audio CD (CD-ROM, CD-I, or CDV).

WRONG TRAC: a non-existent track number has been selected.

FULL: you have attempted to program more than 30 tracks.

GO TO PLAY: you have attempted a function which requires that you first start play.

GO TO STOP: you have attempted a function which requires that you first stop play.

CD Playback

Standard Playback

To play a cd:

- press display, if not already turned on;
- press o/c to open the cd tray;
- place a 3" or 5" audio cd in the tray, printed side up;
- press o/c to close the cd tray. After initializing, the display will show the number of tracks and total time of the cd;
- press > to begin play from the beginning of the cd, or
- select a track to begin play by pressing >> as many times as needed to get to the desired track number, and then press play, or simply select a track number directly by using the 0-9 keys on the remote control (the second digit of a two digit number must be entered within two seconds of the first digit).
- the track being played will be displayed under TRACK
- play will stop after the final track is completed.

Programming

The DF2 can be programmed to play up to thirty tracks on a CD in any desired sequence. To enter a program:

- if cd is playing, press **STOP** ;
- press **prgm** (PROGRAM lights up and flashes);
- briefly (less than .5 seconds) press >> or << keys until desired track number appears under TRACK
- press **prgm** to enter this track into the program memory
- repeat this process for each track to be entered into the program. The number of tracks and total playing time of your program will be shown under TRACK and TOTAL TIME.
- press > (**PLAY**) to begin playing the program

You can erase the program while playing by pressing **o/c**, or by pressing **STOP** twice. You can erase a program that is not playing by pressing **o/c**, or **STOP** (once).

Getting The Most From Your DF2

In a system of commensurate high quality components, the Conrad-Johnson DF2 offers an extraordinary level of sophistication and refinement in music reproduction. To get the best performance out of any audio system, there are a number of important details which must be attended to.

Absolute Phase

Musical notes are heard through the ear's response to waves of alternating rise and fall of air pressure. Musical transients are almost exclusively positive: that is, the initial effect is a rise in pressure. The ear is capable of distinguishing these positive transients from the musically unnatural alternative of a negative transient (an initial fall in air pressure). In terms of your stereo system, these transients are created by your loudspeakers. If the speakers respond to musical transients by first moving out, they are creating a rise in pressure, and the system is said to be phase correct. If they respond by moving in, they create a fall in pressure and the system is said to be phase inverting.

Each component in the stereo system either preserves the phase of the incoming signal, and is said to be phase correct, or inverts the phase and is said to be phase inverting. It is unimportant whether an individual component is phase correct or phase inverting, as long as the system as a whole is phase correct. This will be the case if the number of phase inversions is even (or zero). A system with an odd number of phase inversions can be corrected by adding one more inversion by reversing the positive and negative speaker leads.

We recommend that you connect your system for correct absolute phase, and use the phase invert switch on the DF2 to correct for phase inverted recordings.

The Importance Of Wires

Interconnect and speaker wires are an important element in your stereo system. Interconnects are available which will permit a reference quality system to blossom and fulfill its promise of musical reality. Others will strangle the system to the point where it becomes little better than

average. To complicate matters, our experience suggests that the choice of interconnects will be system dependent - those that are top ranked on one system may be a poor choice for a different system. Consult your conrad-johnson dealer for recommendations for your specific system.

Questions: If you have questions about the installation or function of your DF2 do not hesitate to call Customer Service at (703) 698-8581.

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Specifications

Output @ 0 dB: 1.3V
Frequency Response: 5Hz to 20kHz +0,- .75 dB
Hum and noise: 92dB below 1.0V output
Output impedance: less than 200 ohms

Digital Output Connector: one 75 ohm coaxial (RCA connector).

Dimensions: 13.125"D x 19"W x 3.315"H
Net Weight: 18 lbs.

Fuses

The transformer in the DF2 is protected by two fuses, mounted on the pc board, near the transformer. Failure of either of these fuses is a symptom of a more serious problem, and a competent service technician should be consulted. **In no event should these fuses be replaced with a value or type different than that originally supplied.** The correct fuse value and types are shown below:

digital circuits (two fuses) . 1.5 amp "fast blow"