

Operating Manual for the Sonic Frontiers SFCD 1 Compact Disc Player

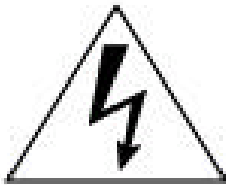


Operating Manual for the Sonic Frontiers SFCD 1 Compact Disc Player

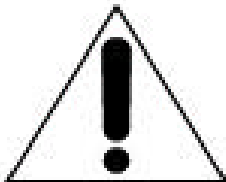
We at Sonic Frontiers hope you will derive many years of listening pleasure with your new SFCD 1. This Operating Manual contains important information regarding the operation and care of this player. Be sure to read this manual carefully and follow these instructions in order to keep it performing and sounding its best. Please contact Sonic Frontiers if you have any questions - a Customer Service Representative will be pleased to assist you.

Contents

Unpacking.....	1
Quick Setup.....	2
Reference Diagrams	3
Installing the Tubes	6
Controls, Functions and Connections.....	7
Care and Maintenance.....	10
Troubleshooting.....	10
Warranty.....	12
Specifications.....	13



This symbol 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.



This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Sonic Frontiers Inc. can be reached at:
2790 Brighton Road, Oakville, Ontario, Canada L6H 5T4
Tel: (905) 829-3838 Fax: (905) 829-3033
E-Mail: SFI@sonicfrontiers.com WWW: <http://www.sonicfrontiers.com>

Unpacking

At this point we can assume that you have successfully opened the box flaps and found this manual. These boxes were designed to ensure the safe transport of the SFCD 1. Sonic Frontiers strongly recommends the storage of these boxes in a safe, dry place. In the event that the SFCD 1 may have to be shipped in the future, the original boxes are the best means for the protection and safety of the player during transportation.

Here is a chart listing what you will find in the box:

	SFCD 1
Tube Complement:	2-6922
Phillips Screwdriver	1
Power Cord	1
Cotton Gloves	1 pair
Extra Fuse	2
SFCD 1 Compact Disc Player	1
SFCD 1 Top Cover	1
Warranty Card	1
Operating Manual	1

If after your inspection of the contents there is a discrepancy, contact your dealer or Sonic Frontiers immediately.

Quick Setup

At this point we urge you to read and understand this manual in its entirety. But if you desire immediate action and have skill and/or past experience with tube hardware, follow these steps.

1. Place the player on a hard, flat, level surface.

2. Place the 6922 tubes in the tube sockets and secure the cover in place with air vents situated at the front of the unit.



THE SFCD 1 IS NOT TO BE OPERATED WITH THE COVER OFF. THERE IS INVISIBLE LASER RADIATION WHEN THE COVER IS OFF. AVOID DIRECT EXPOSURE TO THE LASER BEAM.

3. Connect the SFCD 1's left and right balanced, or single-ended outputs, to the left and right inputs of your preamplifier or integrated amplifier.

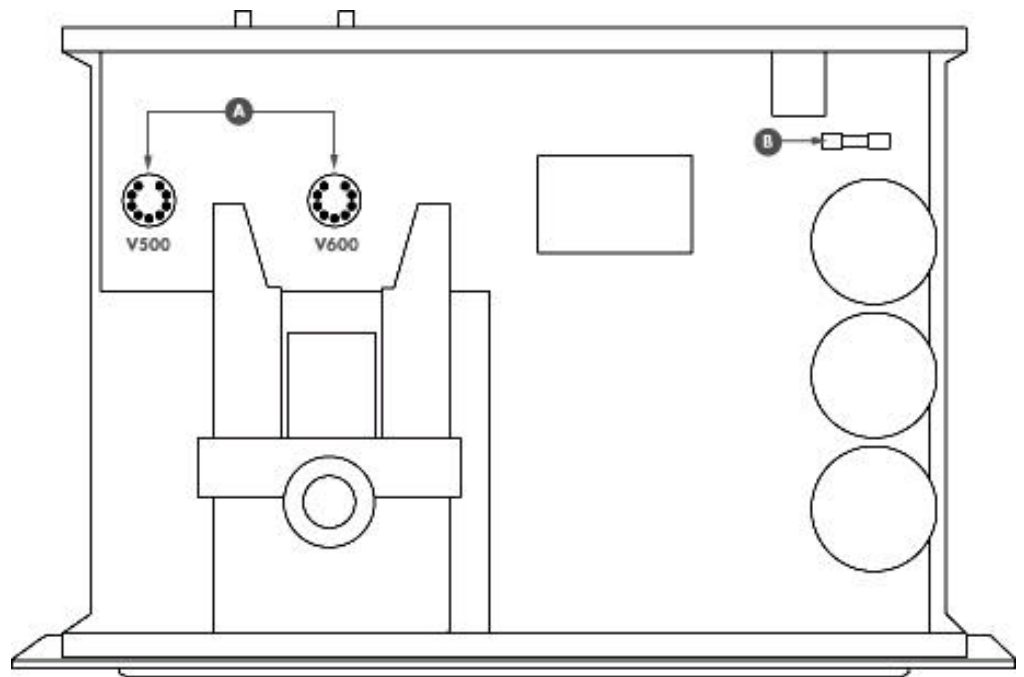
4. Plug the detachable power cord into the SFCD 1 and into your power source.

5. Place the Power Switch at the rear of the chassis in the "on" position.

6. Press the Standby switch located on the front panel of the SFCD 1 - "no disc" should appear in the Display Window.

7. Load and play your favorite discs.

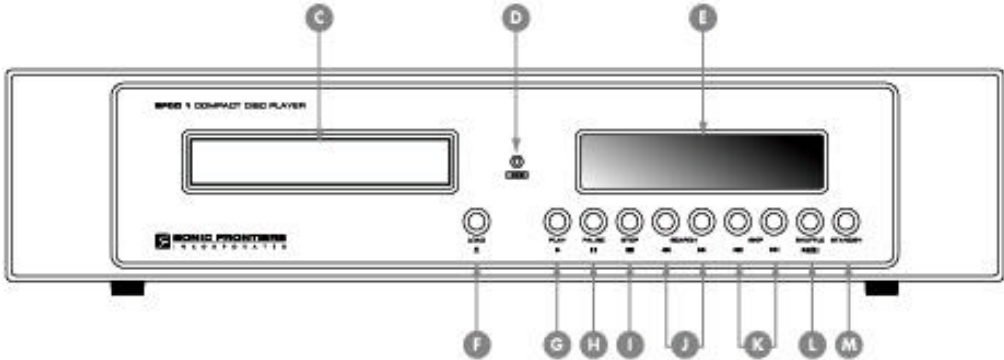
Reference Diagrams



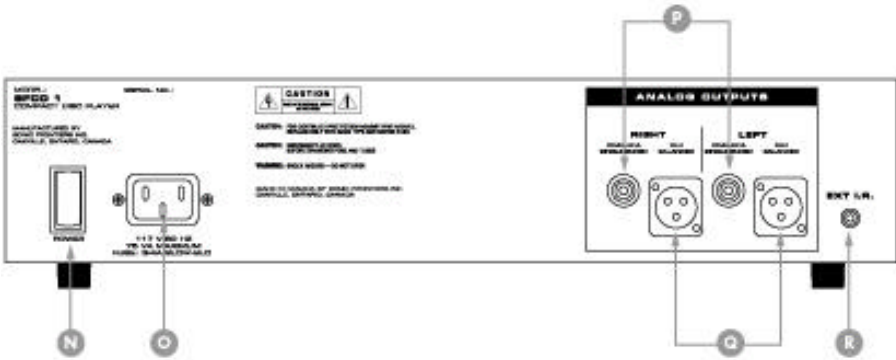
This drawing is referred to as the "Chassis" within the instructional text.

- A "A" indicates the tube socket location for the 6922 tubes labeled V500 and V600. Inspection of the printed board around the tube sockets reveals labels designating the sockets V500 and V600.
- B "B" designates the location of the already installed fuse.

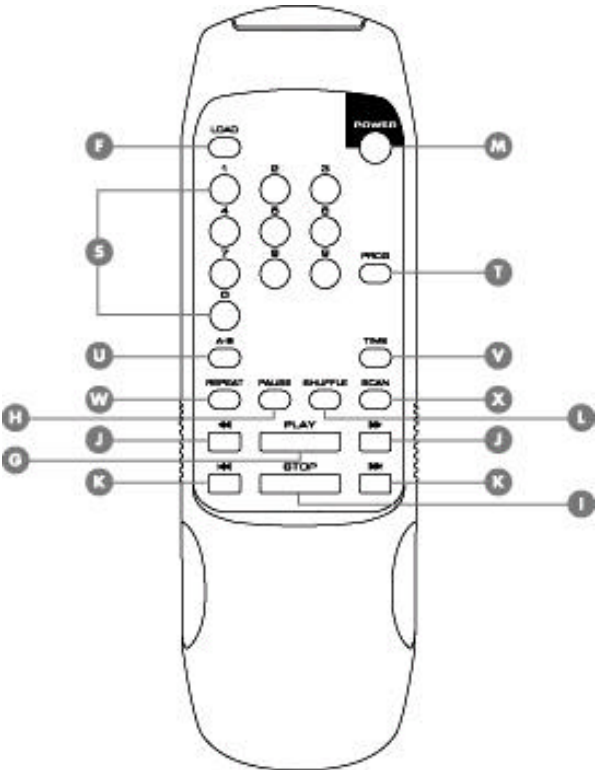
This drawing is referred to as the "Front Panel" within the instructional text.



This drawing is referred to as the "Rear Panel" within the instructional text.



This drawing is referred to as the "Remote Control" within the instructional text.



Reference Diagram Labels

C Loading Drawer

D HDCD® LED

E Display Window

(Controls F thru M are also situated on the Remote Control)

F Load Button

G Play Button

H Pause Button

I Stop Button

J Search Forward and Reverse Buttons

K Skip Forward and Reverse Buttons

L Shuffle Button

M Standby/Power Button

N Main Power Switch

O Detachable Power Cord Socket

P Left and Right Channel RCA Single-Ended Audio Output Connectors

Q Left and Right Channel Balanced XLR Audio Output Connectors

R External Infrared Remote Input

S Numeric Keypad*

T Program Button*

U A-B Sample Button*

V Time Button*

W Repeat Button*

X Scan Button*

* (on the remote only)

Installing the Tubes

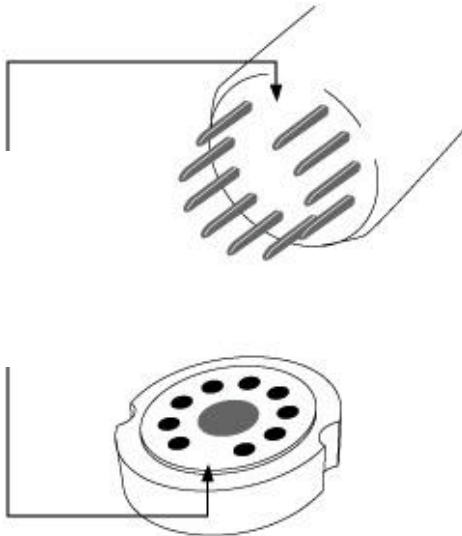


Be sure the SFC D 1 is OFF (Main Power Switch on the rear panel in the "off" position) and the AC power cord is detached before installing any tubes or when any of the tube sockets are empty.

Wearing the cotton gloves provided with the SFC D 1 when handling tubes will prevent skin oils from depositing on the glass surface of the tubes. The oils could cause the tubes to become "gassy" and fail prematurely.

Inspecting the tube boxes that come with the player, you will notice that the boxes are labeled V600 and V500 to correspond with the socket labels. See Reference Diagram of the open Chassis for further clarification. Insert each tube in the corresponding socket in the chassis, as labeled on the printed board and in the diagram.

When installing these 9 pin, small signal tubes (6922s), pay extra attention to the tube pins and socket holes. You will notice an open space where an imaginary tenth pin or hole would be. This is for proper tube alignment. Be sure pins are in line with holes when installing tubes. Gently rock the tube into the socket until the tube is firmly seated.



Note the larger space between two of the pins and holes for proper alignment of tube and socket.



ONCE THE TUBES ARE IN PLACE SCREW DOWN THE COVER. THE SFC D 1 IS NOT TO BE OPERATED WITH THE COVER OFF. THERE IS INVISIBLE LASER RADIATION WHEN THE COVER IS OFF. AVOID DIRECT EXPOSURE TO THE LASER BEAM.

Controls, Functions and Connections

Front Panel	Refer to Reference Diagrams.
C Loading Drawer	This is the mechanism for loading CDs for play in the SFCD-1. The drawer is opened by depressing the LOAD (F) button. A CD is placed in the tray's circular depression, label side up and lying flat. The drawer is closed, and the CD is loaded for play, by depressing the LOAD (F) or PLAY (G) buttons. Although the drawer will also close by pushing gently on the drawer front, it is recommended that a button control be exclusively used for this function.
D HDCD® LED	This LED will light when an HDCD (High Definition Compatible Digital) encoded digital track is being played. The HDCD decoding is switched automatically by the SFCD 1 circuitry, and no user adjustments are necessary.
E Display Window	The display window gives the operating status of the SFCD-1. When a CD is loaded, the total number of tracks and total time will be displayed. When the SFCD1 is put in play mode, the track being read is displayed with an arrow indicating play and is followed by the time of the individual track. Also displayed are: NO DISC, when power is on and no CD is in the drawer; and OPEN, TIME, TOTAL TIME, TOTAL REM(aining) TIME, REM(aining) TIME, PROGRAM, SCAN, SHUFFLE, A->B, REPEAT, REPEAT 1 and PAUSE, when these functions are selected.
F thru M also on Remote Control	
F Load Button	When depressed, this button will open and close the LOADING DRAWER (C). It will also clear any set functions such as programming, repeat or shuffle, from memory.
G Play Button	When depressed, this button will put the player in play mode. During play mode, the CD is being read, the digital datastream is then converted to an analog signal which is then amplified - all within the player.
H Pause Button	When depressed, this button will stop the transmission of the digital datastream at the precise moment it is engaged, and will hold that position until play is resumed by depressing the PAUSE or the PLAY (G) button again.
I Stop Button	When depressed, this button will stop all functions, taking the CD out of play mode and aligning the player to the first track or the first programmed track. Depressing the STOP button when the CD is not in play mode will clear programmed tracks from memory or clear other selected functions such as SHUFFLE and REPEAT.
J Search Reverse and Forward Buttons	When depressed and held, these buttons allow a 10 second audible fast forward or reverse search of a track in play mode. After the 10 second audible search, the SFCD 1 will mute and proceed in a faster search. The time positioning and the track are shown in the DISPLAY WINDOW (E).
K Skip Reverse and Forward Buttons	When depressed, these buttons will position the laser to read the start of the track either before (skip reverse) or after (skip forward) the original position of the laser. The transport may be in the play, pause, or stop mode. Play will continue forward from this chosen track.
L Shuffle Button	When depressed before the PLAY button (G), this button will randomize the order in which the tracks on the CD are played.

M Standby Button
(Power Button on
the remote control)

When depressed, this button will allow power to the player for full-function control. When this button is "off" and the MAIN POWER SWITCH (N) is "on", a small amount of current will remain flowing through the tubes and certain sections of the player. This reduces power consumption and extends tube life during periodic short term use. This feature will keep optimal warm-up times shorter. For listening sessions spanning more than 3 days apart, the player should be turned "off" via the MAIN POWER SWITCH (N)

Rear Panel

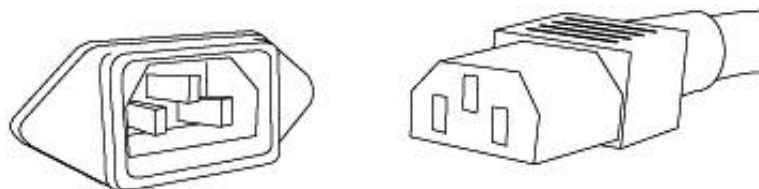
Refer to Reference Diagrams.

N Main Power Switch

This switch must be in the "on" position for the SFCD 1 to operate. When the STANDBY button (M) has rendered the unit's control functions off, this switch allows power to continue to circulate to sections of the player so the unit will operate at maximum efficiency with less warm-up time required.

O Detachable Power
Cord Socket

Plug the detachable Power Cord into this socket. The SFCD 1 compact disc player is configured for the country's operating voltage in which it is sold. See shipping box or check the rear of the chassis for voltage settings. If a different operating voltage is required, please contact an authorized Sonic Frontiers dealer or the factory directly.



P Left and Right Channel
RCA Single-Ended
Audio Output Connectors

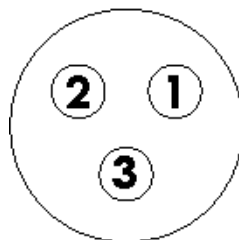
audio outputs should be used when connecting the SFCD 1 to the RCA single-ended audio inputs of a line level preamplifier, integrated amplifier or receiver, left channel to left, right channel to right.

Q Left and Right Channel

If the balanced connections are available for use on your existing preamplifier, integrated amplifier or receiver, a connection made with these outputs will yield optimum sonic performance. Connect the left channel of the SFCD 1 to the left channel of the control unit and right channel to right.

Note: The XLR pin configurations are as follows:

Pin#1- Ground
Pin#2- Positive
Pin#3- Negative



R External Infrared
Remote Input

An infrared remote extension unit may be connected to this 3.5 mm phone connector to allow control access via the Remote Control from other rooms or when the SFCD 1 is obstructed from direct view of the Remote (ie. the SFCD 1 is in a closed cabinet).

Remaining Remote
Control Functions

Refer to Reference Diagrams and to Front Panel Control descriptions.

- S Numeric Keypad* This keypad allows tracks to be selected directly. Punch the desired track number and then the next function (either PLAY or PROGRAM) to complete the selection.
- T Program Button* Tracks selected through the KEYPAD (S) or SKIP (K) buttons may be programmed for desired playback order by selecting a desired track then pushing the program button. Up to 20 tracks may be programmed into memory for playback. Tracks may only be programmed once; attempting to program a track twice will clear the track from memory. To clear the programmed material from memory, press the STOP (I) button once before programmed play has begun, or twice consecutively during play.
- U A-B Sample Button* This button will sample a portion of a track for repeat playback. This function is extremely useful for musicians. When the A-B button is depressed once during normal playback of a CD, the SFCD 1 will use that position in the playing track as a starting point of the sample and A-> will appear in the DISPLAY WINDOW. Press the A-B button a second time and the SFCD 1 will use this point in the playing track as an ending point. A->B will appear in the DISPLAY WINDOW and the SFCD 1 will repeat play the sampled selection between the start and ending points.
- V Time Button* This button toggles between the following four time displays. When the unit is first powered up it displays TIME of the current track (starts at 0:00 at the beginning of each track). Pressing the button once displays the TOTAL TIME elapsed on the current CD or programmed selection of tracks (starts at 0:00 at the beginning of the disc). Pressing the button a second time displays TOTAL REMAINING TIME on the current CD or programmed selection of tracks (counts down to reach 0:00 at the end of the disc). Pressing this button a third time displays the REMAINING TIME of the current track (counts down to reach 0:00 at the end of the track). Pressing this button a fourth time returns it to TIME of the current track (starts at 0:00 at the beginning of each track).
- W Repeat Button* When depressed once, this button will cause a CD in play mode to repeat the tracks in the order they appear on the CD or to repeat a programmed selection of tracks in the order they are programmed. When pressed twice, the Repeat One mode will be activated, causing the currently selected or playing track to be repeatedly played. Pressing this button a third time will clear this function.
- X Scan Button* When depressed, this button will cause the transport to scan the CD. During this scan the transport will play the first 10 seconds of each track.

* (on the remote only)

Care and Maintenance

Placement

The SFCD 1 must be placed on a hard, flat, level surface with plenty of unobstructed space around the player to allow for free movement of air for proper cooling. At no time should the air vents be covered or obstructed in any way.

How do I know when to replace the tubes?

Small signal tubes such as the 6922s generally age very slowly. A lack of dynamics or a channel that mysteriously stops working are some indications which could point to a malfunctioning tube. If you need help determining these factors or sourcing replacement tubes, contact your Sonic Frontiers dealer, Sonic Frontiers or The Parts Connection (a division of Sonic Frontiers, 1-800-769-0747 in the U.S. or Canada, (905) 829-5858 elsewhere) for further assistance.



Cleaning

Sonic Frontiers recommends only a dry cloth be used to clean the SFCD 1 Compact Disc Player. Sonic Frontiers does not warranty damage done through liquids spilled on circuitry.

Troubleshooting

If at any time the SFCD 1 should fail to work, follow these steps:



1. Check that all tubes are fully seated in their proper sockets; turn the MAIN POWER SWITCH (N) "off" first, disconnect the AC power cord and wait for 5 minutes for any stored capacitance to discharge.
2. Check all connections at the rear panel.
3. Check that the SFCD 1 is not in PAUSE mode.
4. Check that the CD is loaded and placed in the LOADING DRAWER (C) properly.
5. Check that the SFCD 1 is NOT in STANDBY mode.
6. Check other equipment and connections to that equipment in your system, from speakers to source.
7. Check that no fuses are blown in all equipment and/or breaker switches in the home.

If this checklist fails to be fruitful, contact your dealer or Sonic Frontiers directly.

Servicing

If the CD player ever requires servicing in or outside of the warranty limitations, contact your Sonic Frontiers dealer or Sonic Frontiers directly.

Break-in Time

As with all audio electronic products, the ultimate sonic character of the SFCD 1 will not be realized until and unless the unit receives a minimum of approximately 150 hours of signal break-in time (i.e. the SFCD 1 is on and outputting a signal).

Safety Instructions

1. Water and Moisture - This product should not be used near water. To prevent fire or shock hazard, do not expose this product to rain or moisture.
2. Heat - This product should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances which produce heat.
3. Power Sources - This product should be connected to an AC power source of the proper rated voltage. The original shipping container will stipulate the AC voltage this unit can operate with correctly.
4. Servicing - Do not open this product for any reason. No user serviceable parts inside. Refer servicing to an authorized service technician.
5. Non-Use Periods - The power cord of this product should be unplugged from the outlet when left unused for an extended period of time.



6. Do not remove the top cover while the unit is "on", or connected to an AC power source. Cover screws could fall through the ventilation slots and cause electrical damage to the player and the may player may leak invisible laser radiation if the cover is removed. Avoid direct exposure to the laser beam.

Warranty

Disclaimer of Liability

Under no circumstances does Sonic Frontiers, Inc. assume liability or responsibility for injury or damages sustained in the use or operation of this equipment or for damages to any other equipment connected to it. Sonic Frontiers, Inc. reserves the right to make design changes or improvements without the obligation to revise prior versions. All specifications are subject to change without notice.

Limited Five Year Warranty

Sonic Frontiers, Inc. warrants to the purchaser that each CD player is free of manufacturing defects for a period of five (5) years from the date of purchase. This five (5) year limited non-transferable warranty excludes all vacuum tubes and the CD player mechanism, which we warrant for a period of twelve (12) months. To receive this warranty, the original purchaser must complete and mail to Sonic Frontiers, within thirty (30) days from the date of purchase, the enclosed Warranty Registration Card. Sonic Frontiers, Inc. will then validate the warranty to the original purchaser. This warranty is subject to the following conditions and limitations:

1. Warranty applies only to the original purchaser.
2. This warranty is void and inapplicable if the product has been handled other than in accordance with the instructions in this Owner's Manual, abused or misused, damaged by accident or neglect or in being transported, or the defect is due to the product being tampered with, modified or repaired by anyone other than Sonic Frontiers, Inc. or an authorized Sonic Frontiers repair depot.
3. Warranty does not cover normal maintenance.
4. Sonic Frontiers, Inc. shall not be responsible in any way for consequential or indirect damages or liabilities resulting from the use and operation of the product covered herein or resulting from any breach of this warranty or any implied warranty relating to said product.

During this period, Sonic Frontiers, Inc. will repair or replace any defective components free of charge. A Return Authorization Number (RA Number) is required before any product is returned to our factory for any reason. This number must be visible on the exterior of the shipping containers for Sonic Frontiers to accept the return.

Units shipped to us without a Return Authorization Number or without a visible RA Number on the exterior of the shipping containers will be returned to the sender, freight collect.

Units to be repaired by Sonic Frontiers, Inc. must be sent shipping and insurance prepaid by the original purchaser in the original packing material. A returned product should be accompanied by a written description of the defect. Repaired units will be returned by Sonic Frontiers, Inc. shipping and insurance prepaid.

All other warranties or conditions either written or implied are void.

Note: In foreign markets (anywhere outside of Canada and the USA), the warranty is supplied by the authorized International Distributor. Exact terms and conditions may vary.

Specifications

Note: Specifications ratings based on the nominal power line input.

Intrinsic Jitter	<8ps measured over bandwidth from DC to 40kHz
Power Supply	3 toroidal power transformers featuring 12 stages of regulation
Transport Mechanism	Philips CDM 12.4 and L1210 loader
D/A Converter	UltraAnalog D20400A (1 Dual)
Tube Complement	2-6922/E88CC (in a high-speed vacuum tube buffer configuration)
Analog Outputs	1 pair single-ended RCA; 1 pair balanced XLR connector
HDCD Filter/Decoder	Pacific Microsonics PMD100
Frequency Response	0.5Hz to 20kHz +/-0.3 dB
"A" weighted S/N Ratio	>107 dB (balanced) from 20Hz to 20kHz
Crosstalk	>100 dB from 20Hz to 20kHz
THD	<0.05% 20Hz to 20kHz
Maximum Output Level	Approx. 4.0 Volts (HDCD/s.e.), approx. 8.0 Volts (HDCD/bal.) Approx. 2.0 Volts (non-HDCD/s.e.), approx. 4.0 Volts (non-HDCD/bal.)
Dimensions	19" (48 cm) W x 12" (31 cm) D x 4" (13 cm) H
Weight	27 lbs (12 kg) - unpacked
Warranty	5 years parts and labor on the electronics 1 year on the tubes and transport mechanism

Sonic Frontiers continually strives to improve their products; specifications are subject to change without notice.