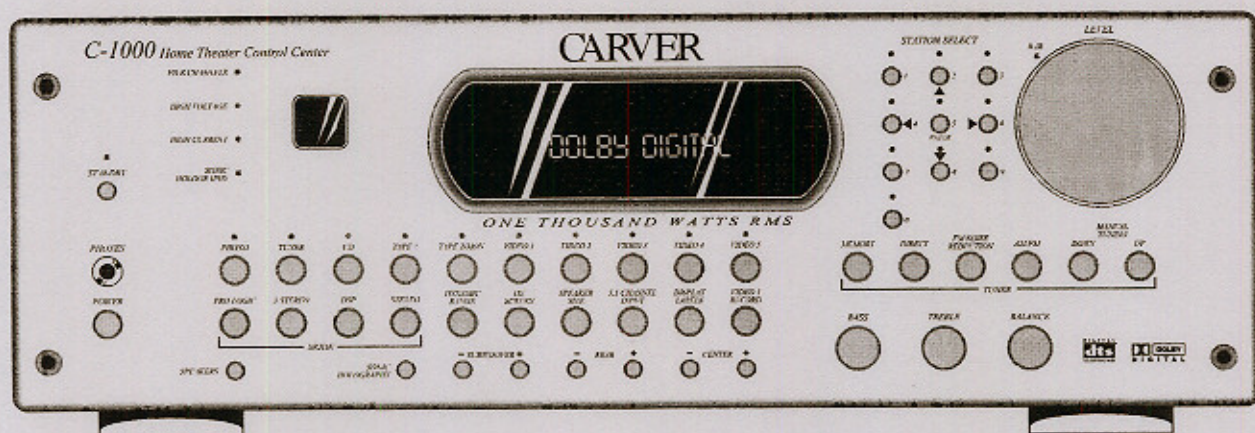


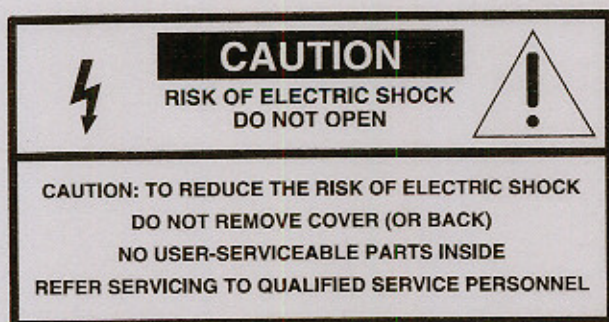
CARVER

Powerful • Musical • Accurate



C-1000
Home Theater Control Center

Owner's Manual



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 of the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Safety Instructions

1. Read Instructions — All the safety and operation instructions should be read before the Carver Component is operated.

2. Retain Instructions — The safety and operating instructions should be kept for future reference.

3. Heed Warnings — All warnings on the Component and in these operating instructions should be followed.

4. Follow Instructions — All operating and other instructions should be followed.

5. Water and Moisture — The Component should not be used near water - for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, etc.

6. Ventilation — The Component should be situated so that its location or position does not interfere with its proper ventilation. For example, the Component should not be situated on a bed, sofa, rug, or similar surface that may block any ventilation openings; or placed in a built-in installation such as a bookcase or cabinet that may impede the flow of air through ventilation openings.

7. Heat — The Component should be situated away from heat sources such as radiators, or other devices which produce heat.

8. Power Sources — The Component should be connected to a power supply only of the type described in these operation instructions or as marked on the Component.

9. Power Cord Protection — Power-supply cords should be routed so that they are not likely to be walked upon or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit the Component.

10. Cleaning — The Component should be cleaned only as recommended in this manual.

11. Non-use Periods — The power cord of the Component should be unplugged from the outlet when unused for a long period of time.

12. Object and Liquid Entry — Care should be taken so that objects do not fall into and liquids are not spilled into the inside of the Component.

13. Damage Requiring Service — The Component should be serviced only by qualified service personnel when:

- A. The power-supply cord or the plug has been damaged; or
- B. Objects have fallen, or liquid has spilled into the Component; or
- C. The Component has been exposed to rain; or
- D. The Component does not appear to operate normally or exhibits a marked change in performance; or
- E. The Component has been dropped, or its cabinet damaged.

14. Servicing — The user should not attempt to service the Component beyond those means described in this operating manual. All other servicing should be referred to qualified service personnel.

PORTABLE CART WARNING



Carts and stands - The Component should be used only with a cart or stand that is recommended by the manufacturer.

A Component and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the Component and cart combination to overturn.

15. To prevent electric shock, do not use this polarized plug with an extension cord, receptacle or other outlet unless the blades can be fully inserted to prevent blade exposure.

Pour prévenir les chocs électriques ne pas utiliser cette fiche polarisée avec un prolongateur, un prise de courant ou une autre sortie de courant, sauf si les lames peuvent être insérées à fond sans laisser aucune partie à découvert.

16. Grounding or Polarization — Precautions should be taken so that the grounding or polarization means of the Component is not defeated.

This apparatus does not exceed the Class A/Class B (whichever is applicable) limits for radio noise emissions from digital apparatus as set out in the radio interference regulations of the Canadian Department of Communications.

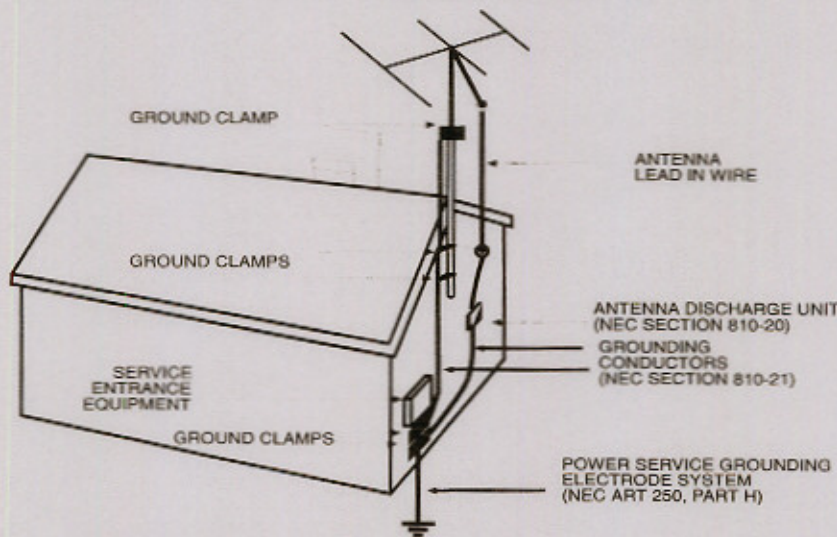
ATTENTION — Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de class A/de class B (selon le cas) prescrites dans le règlement sur le brouillage radioélectrique édicté par les ministere des communications du Canada.

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 ÉVITER LES CHOCS ÉLECTRIQUES, INTRODUIRE LA LAME LA PLUS LARGE DE LA FICHE DANS LA BORNE CORRESPONDANTE DE LA PRISE ET POUSSER JUSQU'AU FOND.

EXAMPLE OF ANTENNA GROUNDING ACCORDING TO NATIONAL ELECTRICAL CODE INSTRUCTIONS CONTAINED IN ARTICLE 810—"RADIO AND TELEVISION EQUIPMENT"



NEC NATIONAL ELECTRICAL CODE.

NOTE TO CATV INSTALLER

This reminder is to call the CATV system installer's attention to Article 820-40 of the NEC that provides guidelines for proper grounding and in particular, specifies that the cable ground shall be connected to the grounding system of the building as close to the point of cable entry as practical.

OUTSIDE ANTENNA GROUNDING

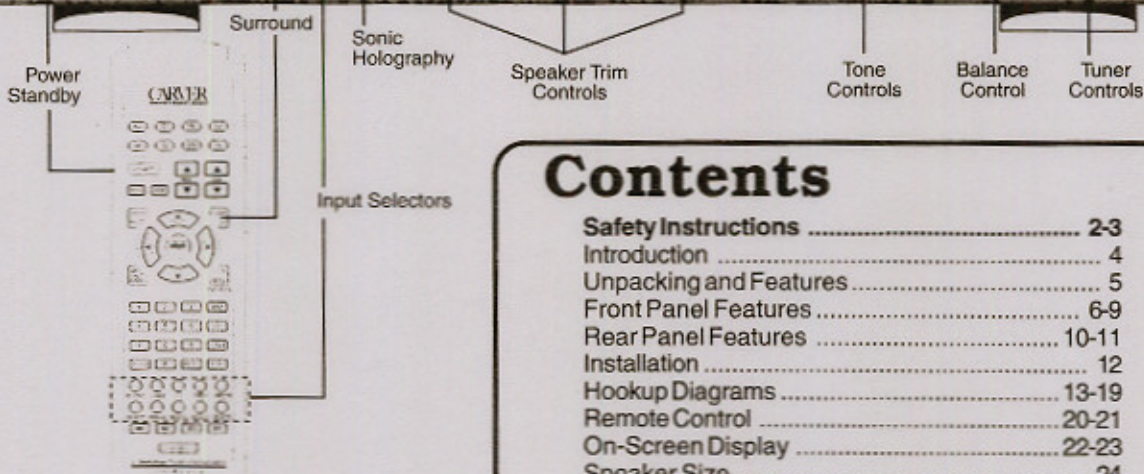
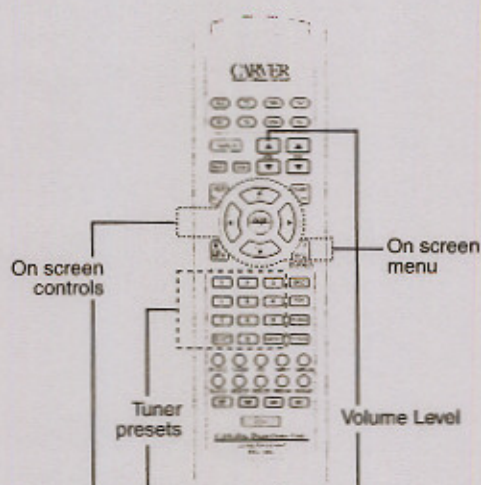
If an outside antenna is connected to the receiver, be sure the antenna system is grounded so as to provide some protection against voltage surges and built-up static charges. Article 810 of the National Electrical Code, ANSI/NFPA 70, provides information with regard to proper grounding of the lead-in wire to an antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode. See Figure above.

Introduction

Thank you for purchasing a Carver C-1000 Home Theater Control Center. It has been designed to give you the best in home theater entertainment, with Dolby Digital® and DTS® processing, our patented Sonic Holography® and five huge power amplifiers. We hope that it will give you many years of enjoyment.

Most features of the C-1000 can be operated by the remote control. The TV on-screen display and the front panel display will help you select the inputs, surround modes, change volume levels and make adjustments.

For the best home theater performance, please follow the calibration and delay adjustment procedures on page 25.



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Unpacking

Your Carver C-1000 Home Theater Control Center should reach you in perfect condition. If you do notice any shipping damage, please contact your Carver Dealer immediately.

Gently lift out the unit and remove all the packing material and accessories. It is important to save all the packing materials and the box in case your Carver C-1000 ever needs to be moved or shipped for repair.

Make sure that you keep your sales receipt. It is the only way to establish the duration of your Limited Warranty and it may come in useful for insurance purposes.

Please take a moment to fill out and mail the Carver Warranty Registration card. Also read the serial number located on the rear panel and record it here:

Serial Number: _____
 Purchased at: _____
 Date: _____

Features

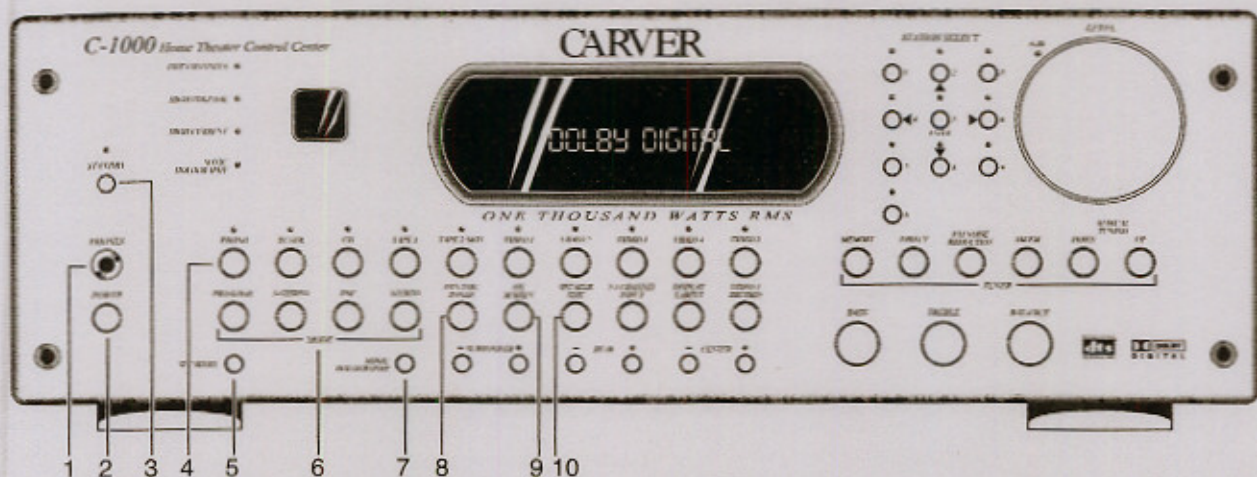
- Dolby Digital®, Dolby Pro Logic® and DTS® decoding modes
- Sonic Holography enhances spatial positioning in the stereo mode
- DSP "simulated" surround modes: Theater, Stadium, Hall and Church
- Five internal power amplifiers, with high current/high voltage design
- Five sets of VIDEO inputs, each with audio, S-video and composite video
- One set of VIDEO record outputs, with audio, S-video and composite video
- One S-video TV monitor output
- One composite video TV monitor output
- CD input (analog and digital)
- Phono input for turntables equipped with Moving Magnet (MM) cartridges
- TAPE 1 standard tape input and output
- TAPE 2/MON tape input and output monitor loop

- Three optical digital inputs
- Four coaxial digital inputs
- Pre-out/Main-in loop for front left and right channels
- Ext-out for front left and right channels
- Center pre-out
- Rear left and right pre-outs
- Subwoofer pre-out
- 5.1 channel DB25 input
- 5.1 channel DB25 output
- Heavy duty speaker binding posts
- IEC detachable linecord
- Power button standby feature
- Stereo headphone jack
- Treble and Bass tone controls
- Balance control
- Rear, center and subwoofer level adjustments from front panel
- Speaker size adjustable with bass management, to match the C-1000 to your speakers.
- Front panel display shows all operating levels, settings and adjustments
- TV on-screen display with multi-level menus
- AM/FM tuner with 30 presets
- FM noise reduction circuitry
- Direct station frequency entry

Remote Features

- LEARN feature allows it to operate a wide range of remote controlled equipment
- Illuminated buttons
- Macro feature lets you program a sequence of control steps
- Eight different banks
- Easy operation of the on-screen display menus

Front Panel Features



1. Phones

This allows you to plug in a set of stereo headphones. It accepts a standard 1/4" stereo phone jack. In surround modes, the headphone output is a mix of all the operating channels. Use the **SPEAKER** button to turn off the C-1000's amplifiers for headphone-only listening.

2. Power

With this button **IN**, AC power is supplied to the C-1000. It will not actually turn on until you press **STANDBY**, or the remote's **POWER** button.

If the **POWER** button is **OUT**, the C-1000 cannot be turned on. This position is good if you will not be using the C-1000 for a while, although the internal settings and tuner preset memory may have to be reset.

3. Standby

If the **POWER** button is **IN**, the **STANDBY** button can be pressed to turn the C-1000 on or off. This is identical to the remote control's **POWER** button. When the C-1000 is turned off, the **STANDBY** LED will light.

If the **POWER** button is **OUT**, the **STANDBY** button will have no effect, and the C-1000 cannot be turned on, even with the remote control.

4. Input Selectors

The audio inputs: **PHONO**, **TUNER**, **CD**, **TAPE 1** and **TAPE 2/MON**, allow you to select the audio to be heard in your system. The video inputs: **VIDEO 1** through to **VIDEO 5**, will also select the video picture shown on your TV.

CD and **VIDEO 2, 3, 4** and **5** have digital and analog inputs. When one of these input buttons is pressed, the C-1000 can automatically select the digital input if there is a digital signal present, otherwise the analog signal will be selected.

PHONO selects the special input only used for record players.

TUNER selects the C-1000's internal tuner.

CD selects either the analog CD input, or the digital (optical) CD input.

TAPE 1 selects the tape deck to play.

TAPE 2 /MON selects a second tape deck. This is a true "tape monitor loop," and is useful for tape decks such as three-head designs which can play and record at the same time. For example, if you wanted to record from an LP record to your tape deck, you would select **PHONO** and then select **TAPE 2/MON**. While recording onto the tape, what you listen to will be the output from the tape deck. An equalizer can be used here instead of a tape deck, so, in this example, you could listen to the equalized sound of an LP record.

VIDEO 1 through VIDEO 5 select audio and video signals. The audio is selected from either the digital or analog inputs (VIDEO 1 has no digital input). If the video signal from your source component is connected to the C-1000, then it will be routed to the C-1000's monitor output to your TV screen.

5. Speaker

This turns off the C-1000's amplifier output to the speakers.

6. Mode Controls

DOLBY PRO LOGIC activates the Dolby Pro Logic processing, which operates with surround encoded source material. It can also be used to enhance stereo programs.

THREE CHANNEL STEREO adds a center channel to the left and right front channels.

DSP (Digital Signal Processing) simulates the effects of rear reflections and ambience from four different venues: **THEATER, HALL, STADIUM** and **CHURCH**. Press DSP repeatedly to step through these modes. Each will add various rear speaker delay and ambience effects to enhance non-surround encoded programs.

STEREO This is the standard two channel stereo mode. The display will show that the surround is off.

7. Sonic Holography

This circuit adds a three dimensional effect, especially to stereo listening. It gives more definition to the spatial positioning of musicians and sound effects. See page 29 for more details.

8. Dynamic Range

The dynamic range of a program is the difference in level between the loudest and quietest passages. This button allows you two options, **MIN** and **MID**, which decrease the wide dynamic range offered in Dolby Digital playback. This is useful for quieter listening sessions.

- Leave the **DYNAMIC RANGE** button **OFF** for the widest dynamic range.
- For quieter listening, press once for **MID**.
- Press again to select **MIN**, the minimum dynamic range (i.e. most compression of high peaks).

9. On-screen

This activates the on-screen display which shows the settings and details of the C-1000 on your TV screen. The TV's video input must be connected to the Monitor output on the C-1000's rear panel.

Once the on-screen display is shown, you can use the front panel **STATION SELECT** buttons to navigate and change the C-1000's settings. See page 22 for more details.

10. Speaker Size

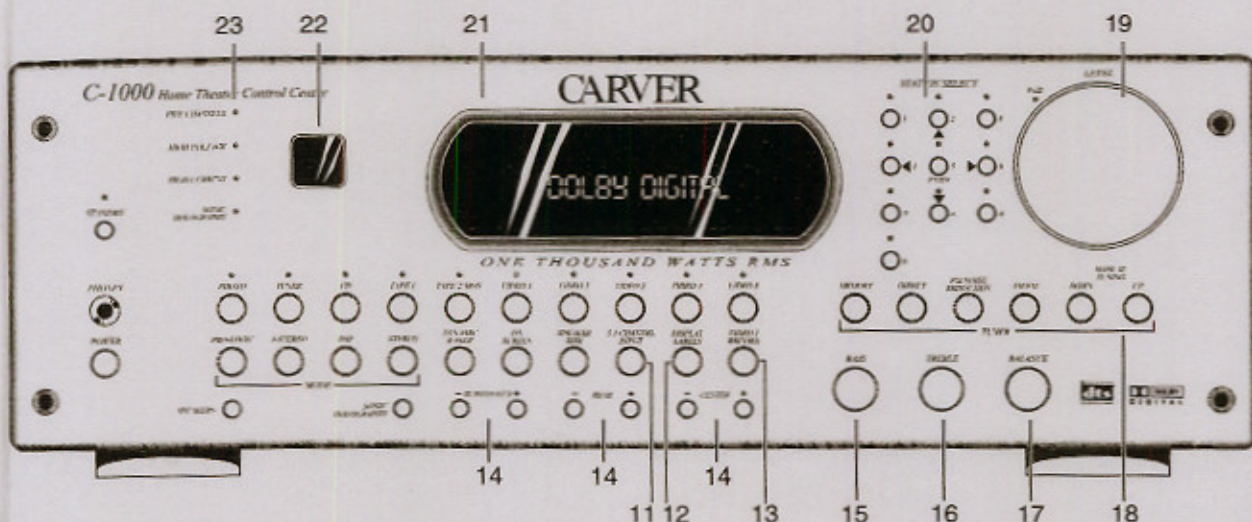
Press this repeatedly to show the speaker size settings in the C-1000's display window. The speakers and options are as follows:
 Front speakers: Large or Small
 Rear speakers: Large, Small or None
 Center speaker: Large, Small or None
 Subwoofer: Yes or No

If you hold down the Speaker Size button for two or more seconds, you can change the settings. For example: to change the Front speakers to Large: Hold down the Speaker Size button for two seconds. Then let go and press it again a few times. You will see the size alternate between Small and Large. When it is set to Large, press the front panel **MEMORY** button in the **TUNER** control section. The setting is then memorized and will apply to all surround or stereo modes. After a few seconds, the C-1000 will return to normal operation.

Details for choosing the speaker size are discussed in the speaker size, bass management section on page 24. Normally, the size settings are done once, when you first set up your system. If you change speakers, or want to add a powered subwoofer, then these size settings can be adjusted at that time.

continued..

Front Panel, continued



11. 5.1 Channel Input

This selects the 5.1 Channel input, which is the DB25 input connector on the rear panel. This input is used, for example, if you have a DVD player with its own digital processor and DB25 output. The C-1000 will have control over the volume and tone of the 5.1 channels of analog audio coming from your DVD's processor. The C-1000's digital processor, surround modes and sonic holography circuits are bypassed, and have no effect.

12. Display Label

This allows you to re-label the five VIDEO inputs, to make it easier to remember which source component is in operation. For example, if you have a DVD player connected to VIDEO 3 inputs, you can change the C-1000's display to show "DVD PLAYR" instead of just "VIDEO 3."

To do this: Hold down DISPLAY LABEL for two seconds until the C-1000's display changes to a row of 9 horizontal dashes. Then use the Tuner section's UP and DOWN buttons to select the letters or numbers you would like to use. When the first character is correct, press the Tuner section's MEMORY button. Repeat this until all 9 characters are memorized.

13. Video 1 Record

The rear panel VIDEO 1 output connections allow you to record audio and video signals onto a VCR. Pressing this button will let you record a program independently of the source playing in the C-1000. For example, you can record a VCR tape from your DVD player, while listening to your satellite TV.

Each time you press this button, the C-1000's display will show which VIDEO source can be recorded.

The audio recording is based on the analog inputs, not digital. If you have a digital source component, you should also connect the analog audio outputs if you ever want to record from it.

14. Subwoofer, Rear and Center Trim

For the best home theater experience, the levels of all speakers should be equal, and you can set them using the TEST TONE submenu of the on-screen display. However, you may want to adjust the levels while a particular movie is playing, and you can do this with these buttons. They allow you to change the volume level of the subwoofer, rear and center speakers. The settings will be memorized and in-operation for all surround or stereo modes.

15. Bass

Rotate this control clockwise to increase the bass level, and counter-clockwise to decrease it. The dB level will appear in the display; at 0dB, there is no bass cut or boost.

16. Treble

Rotate this control clockwise to increase the treble level, and counter-clockwise to decrease it. The dB level will appear in the display; at 0dB, there is no treble cut or boost.

17. Balance

Rotate this control clockwise to increase the level of the right speaker, and rotate it counter-clockwise to increase the level of the left speaker. The dB level will appear in the display; at 0dB, both speakers play at the same level. This control is useful if you are sitting closer to one speaker than the other, you can adjust them to play at the same level.

18. Tuner Controls

MEMORY stores the currently tuned station into preset memory.

DIRECT is used to enter a station's frequency directly using the 0 - 9 keys.

FM NOISE REDUCTION is used to reduce FM noise and will help lock on to weaker stations.

AM/FM selects between the AM or FM band.

UP/DOWN is used to switch to stations above or below the frequency of the current station. If repeatedly pressed, the tuner will move up or down one frequency step each time. If held down for a second or more, the tuner will automatically tune to the nearest station.

19. Level

This control adjusts the volume of all the speakers in your system at the same time, and the C-1000's display will show the level. Make sure that the level is low when first turning on your system.

The 0dB indicator is an aesthetic enhancement only, and is on all the time.

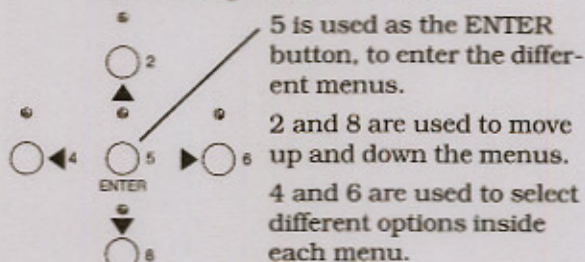
20. Station Select

Tuner Presets:

- If you enter a number which has been previously memorized as a radio station's preset, the C-1000 will automatically select the internal tuner, and tune to that station.
- The buttons can be used in a number of ways to operate the tuner: save a station as a preset number, recall a preset station, and directly enter a station's frequency. These details are explained on page 27

On-screen Display:

- If you press the ON-SCREEN button, you can use the keypad to navigate through the menu on your TV screen, in a similar way to using the remote control.



21. Display

The display shows many useful features such as: input selection, surround mode, dB level, and radio station frequency. It makes it easier to make adjustments and operate the C-1000, as the adjustment levels and status can be seen.

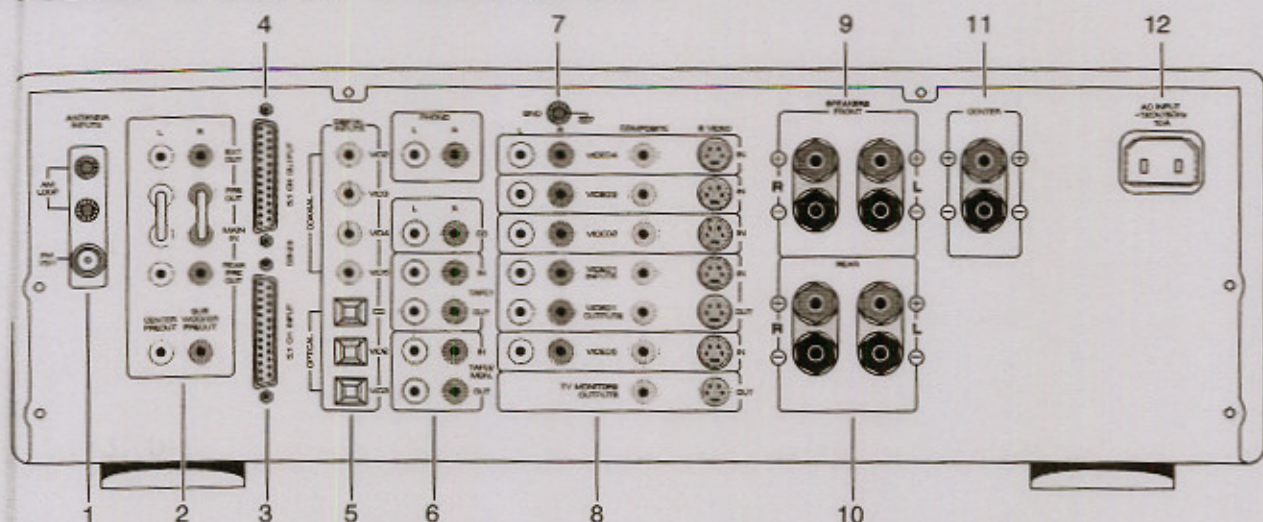
22. Remote Window

This window should be clean and free from obstruction for the remote control to work correctly.

23. Indicators

The SONIC HOLOGRAPHY LED will light if this circuit is engaged. The other three LEDs indicate key features of the C-1000 and are on all the time.

Rear Panel Features



1. Antenna Connections

The supplied FM dipole antenna fits over the lower "F-type" connector. Other antennas can be fitted for improved reception, including roof top antennas and powered indoor types.

The AM loop antenna connects to the two screw terminals. Other antennas can be fitted for improved reception, but they must be loop designs.

2. Pre-outs, Ext-out and Main in

These audio input and output connections allow your system to be expanded by adding external amplifiers or a powered subwoofer. In normal operation, using the C-1000's amplifiers to power your speakers, nothing is connected to the rear or center PRE OUTs, or the EXT OUT. The PRE OUT and MAIN IN are connected with U-shaped jumpers. If these are missing, there will be no sound from the front speakers. The use of a good quality powered subwoofer is recommended, it can receive its input signal from the SUBWOOFER PRE OUT.

EXT OUT

This line-level audio output can connect to the inputs of an external amplifier, which can power speakers in another room, for example. It is identical to the PRE OUT.

PRE OUT

These are the line level, left and right front, audio output of the C-1000's preamplifier section, normally connected to the MAIN INs with two U-shaped jumpers.

If you have an external equalizer for your front speakers, then it can fit between the PRE OUT and the MAIN IN. Remove the U-shaped jumpers, and connect the PRE OUTs to the equalizer inputs, and the equalizer outputs to the MAIN INs.

MAIN IN

This is the input stage of the C-1000's front left and right power amplifiers. Normally, it receives the signals from the PRE OUTS using the two U-shaped jumpers which connect them.

REAR PRE OUT

This pair of outputs can be connected to the inputs of an optional external amplifier powering the rear speakers.

CENTER PRE OUT

This output can be connected to the inputs of an optional external amplifier powering the center speaker.

SUBWOOFER PRE OUT

This output can connect to the input of a powered subwoofer. The use of a good quality subwoofer is recommended for the best home theater experience.

3. 5.1 CH Input

This audio input can connect to the output of an external surround processor, such as a DVD which has its own surround decoder. If you select the 5.1 CHANNEL INPUT on the front panel, the 5.1 channels of analog audio from your DVD will pass into the C-1000. This bypasses the internal digital signal processing of the C-1000.

4. 5.1 CH Output

This audio output connection allows the 5.1 channels processed by the C-1000, to be sent to another sound system. These are line level audio signals, essentially the same as found at all the PRE OUTS.

5. Digital Inputs

These inputs connect to the digital outputs of your CD player or video components. The CD input is optical, VIDEO 4 and 5 are coaxial, and VIDEO 2 and VIDEO 3 have both optical and coaxial inputs.

Whenever one of these inputs is selected from the front panel or remote, the C-1000 will automatically select the digital input if there is a signal present, otherwise it will select the corresponding analog input. This can be changed using an option in the on-screen OTHER OPTIONS display, and the C-1000 will look at the analog inputs only.

6. Audio connections

These analog audio inputs connect to the outputs of your audio source components. There are two sets of audio outputs which connect to the inputs of tape decks to allow recording.

Any standard audio component can be connected to CD, TAPE 1 or TAPE 2 inputs, but only a turntable (Moving Magnet) can be connected to the PHONO input.

As TAPE 2 is a true monitor loop, this is a good place for a three head deck, or a stereo equalizer.

7. Chassis Ground Screw

This is commonly used to connect the ground wire of a turntable to prevent hum.

8. Audio/Video Connections

This section is where you connect the audio and video outputs of your video source components, such as VCR, LD or DVD.

There are connections for analog audio, composite video, and S-video. When one of these VIDEO inputs is selected, the audio will be heard in the speakers, and the video seen on the TV.

VIDEO 1 also has audio and video outputs which can connect to the record inputs on your VCR, allowing you to record programs.

The lower composite video and S-video connections are outputs which connect to the video output of your TV monitor. This will allow you to see the selected video programs on the TV, and also view the on-screen display generated by the C-1000.

There is no internal connection between the composite and S-video inputs, so if you put in composite video, then only composite video will be available to the TV.

9. Front Speaker Outputs

These posts are where you connect your two front speakers. They can accept bare wire, spade terminals, and dual or single banana connectors.

The top post of each pair is the positive output, and connects to the positive (red) post of your speaker. The bottom post of each pair is the negative, and connects to the negative (black) post of your speaker.

10. Rear Speaker Outputs

These posts are where you connect your two rear (surround) speakers.

11. Center Speaker Outputs

These posts are where you connect your center speaker.

12. IEC Linecord Socket

A detachable linecord connects here. Make sure that it is connected to a mains power supply of the correct voltage for your model.

Installation

Observe the following precautions when choosing a location for your C-1000:

- Protect it from prolonged exposure to direct sunlight and other direct sources of heat, such as heating vents and radiators.
- Do not expose the unit to rain or moisture. If fluid or a foreign object should enter the unit, immediately turn off the power and contact your Carver Dealer.
- Avoid excessive exposure to extreme cold or dust.
- Do not place heavy objects on top.
- Do not place magnetic audio or video tapes or computer storage media near the C-1000. They may be erased by the magnetic fields of the power transformer.

Ventilation

- Allow at least 3 inches of free space above the top of the C-1000, and 2 or more inches at the sides.
- Allow good ventilation to the C-1000 by having no obstruction to the front panel. It is not designed to be operated in a sealed or enclosed space.
- A ventilation fan may help cool down the C-1000's amplifiers.

AC Power Considerations

Ensure that the unit is plugged into an outlet capable of supplying the correct voltage specified for your model.

For the US model, the outlet or power strip should have a rating of 15 amps.

Care

If you need to clean the front surface, first turn off the power and then use a slightly dampened cloth, rubbing with the grain. Be careful not to scratch the display window.

Connection Tips

Before setting up your new system, please consider the following:

- Always make sure that your components are all turned OFF before making or changing any connections.
- Whenever possible, keep the power cords away from the signal cables or speaker wires, to prevent any hum or interference being heard in the speakers.
- Choose reliable hookup cables, also called patch cords or RCA cables. They should be fully shielded and as short as possible for the job.
- Some patch cords can be a very tight fit and there is usually a preferred method of getting them off, some have to be removed with a twisting action. Be gentle or you may damage the jacks of your C-1000 or your other components.
- Some special patch cords can only be hooked up in one direction, these are usually marked with arrows.
- It is usual for the right channel patch cord plugs to be red and the left channel connections to be white, grey or black. Video connections are usually yellow.
- Do not use audio cables for the coaxial digital inputs, use special digital cables.

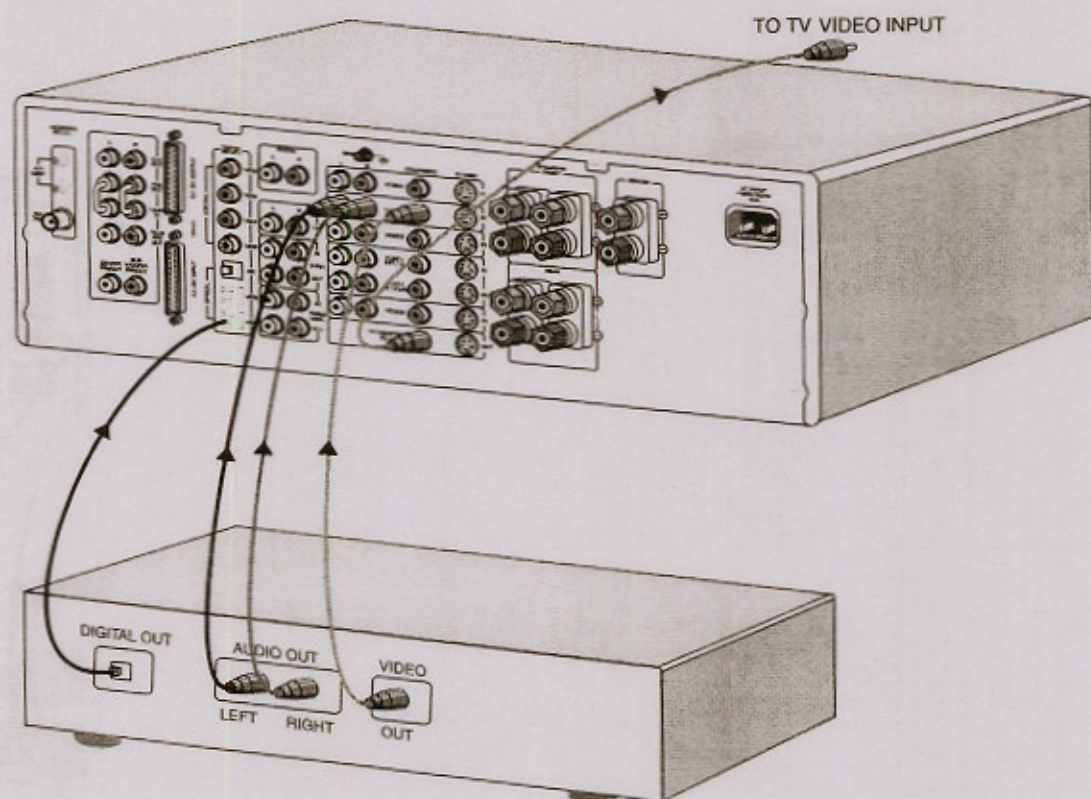
Video Connections

The C-1000 has two types of video connections: composite video and S-video. There are no internal connections between these different types; if you put a composite video signal in, you will only get composite video out. Choose S-video if your video system supports it, this will give better picture quality than composite video.

When an audio/video component is selected, the audio will play in your system and the video is switched to a video input of your TV monitor. This is useful if you have more than one video source, as the C-1000 can do the video switching for you. Also, the on-screen display can be seen on the TV, to help you operate the C-1000.

System Configurations

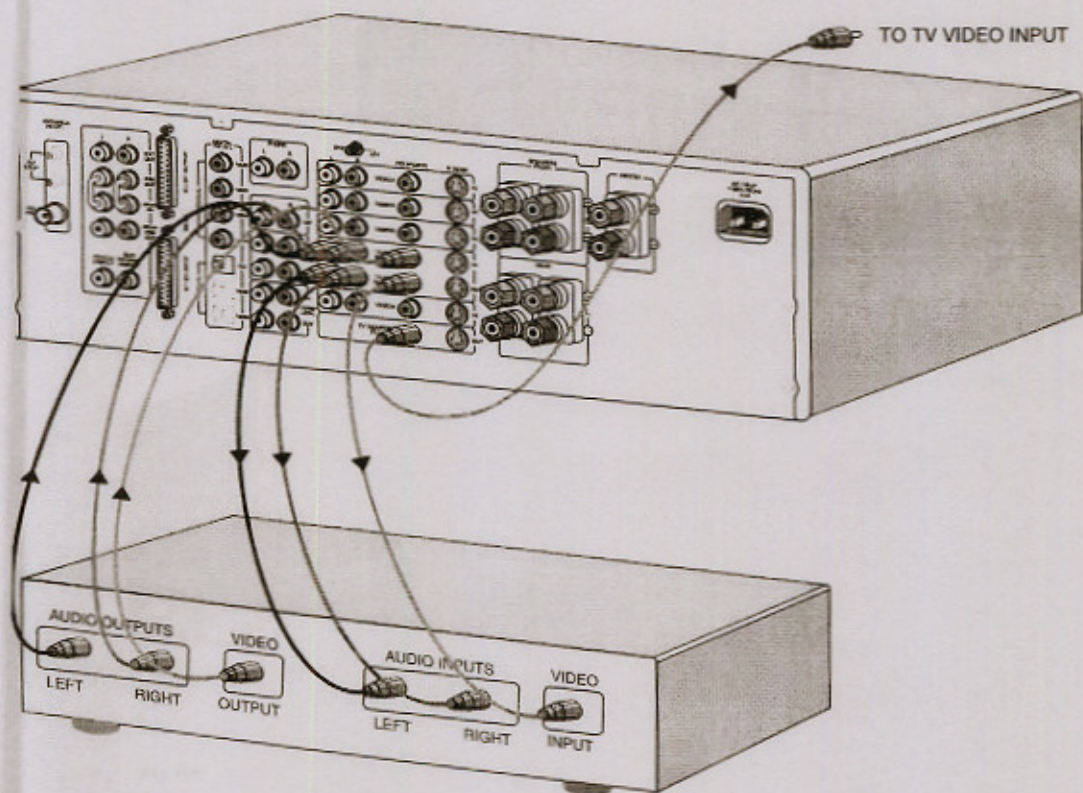
The following pages show some typical connections that you might make in your installation. They show how the inputs and outputs of the C-1000 are connected to various audio and video components.



The DVD player is shown connected to the VIDEO 3 input. When this input is selected on the front panel or the remote control, the DVD's audio will play in your system and the video will be sent to your TV.

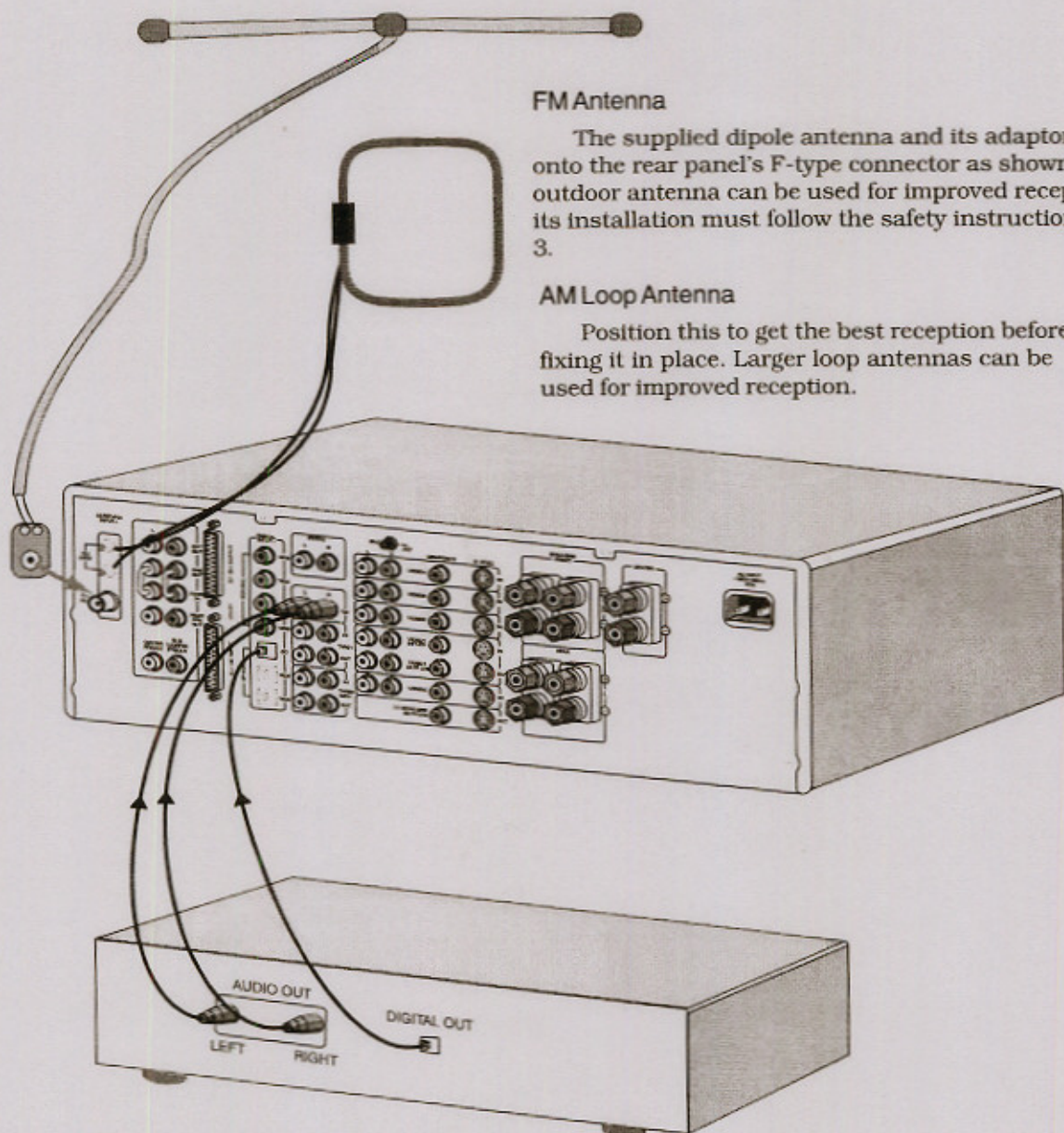
As with all the video connections that follow, you must make sure that your TV monitor is set to look at its correct video input or you will not see the picture or on-screen display.

DVD Player Connections-audio and composite video



VIDEO 1 is the best position to connect a VCR, because there are outputs which allow recording. The VCR can record the audio and video of whichever VIDEO input is selected by the front panel VIDEO 1 REC control.

VCR Connections-analog audio and composite video



FM Antenna

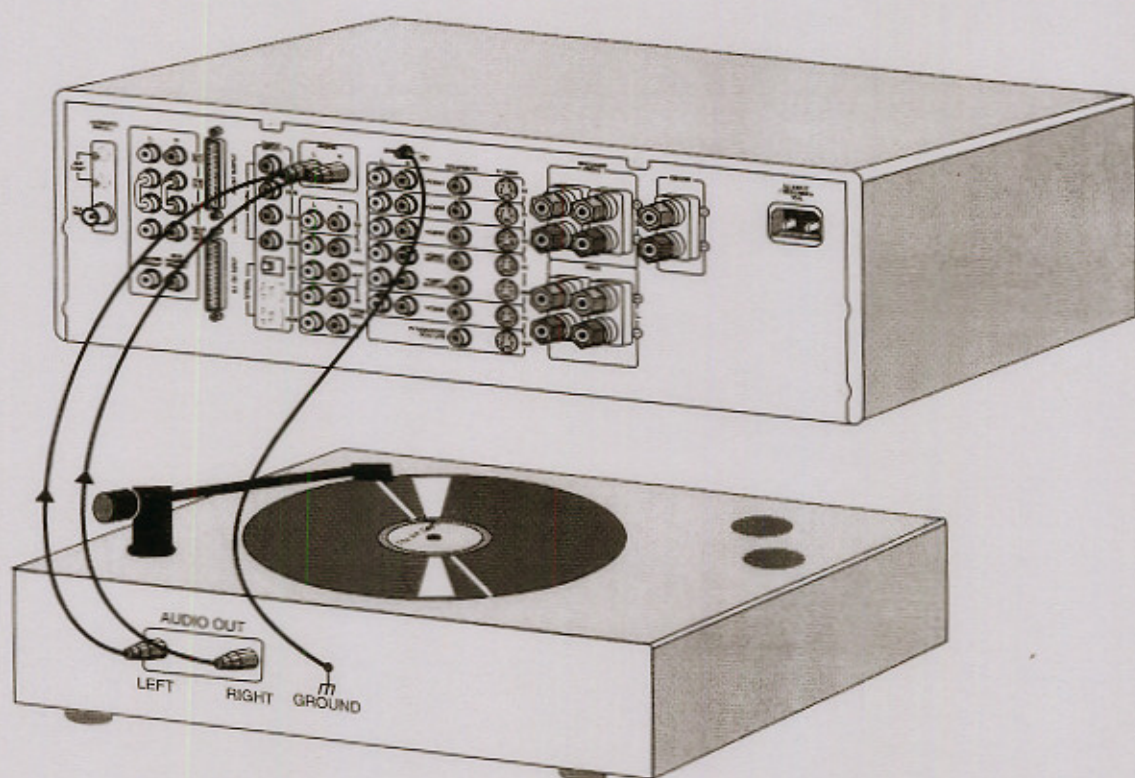
The supplied dipole antenna and its adaptor push onto the rear panel's F-type connector as shown. An outdoor antenna can be used for improved reception but its installation must follow the safety instruction on page 3.

AM Loop Antenna

Position this to get the best reception before fixing it in place. Larger loop antennas can be used for improved reception.

If your CD has a digital output, connect it to the C-1000's digital CD input as shown. You can still connect the analog audio outputs, as this will allow recording onto tape.

CD and Antenna Connections

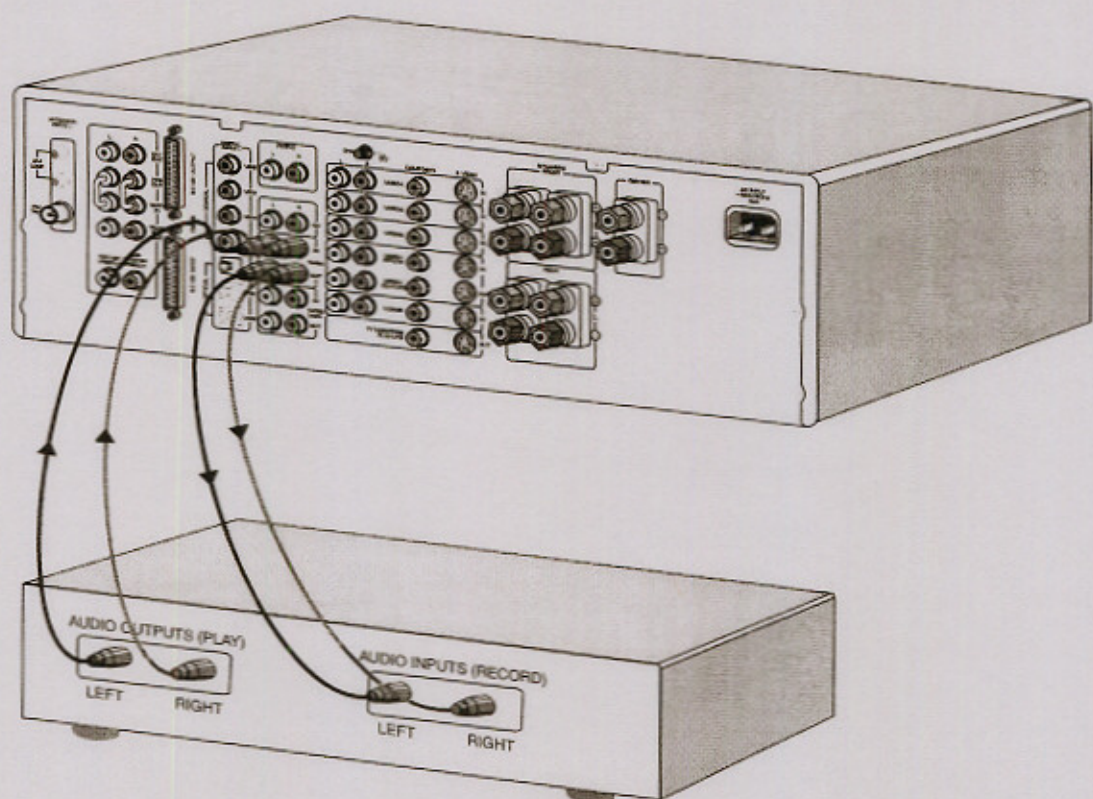


Only a Turntable should be connected to the PHONO inputs. In most cases, you should also connect the ground wire to reduce any hum through the speakers.

The PHONO input is designed for moving magnet cartridges and high output moving coil cartridges.

Turntable Connections

System Configurations

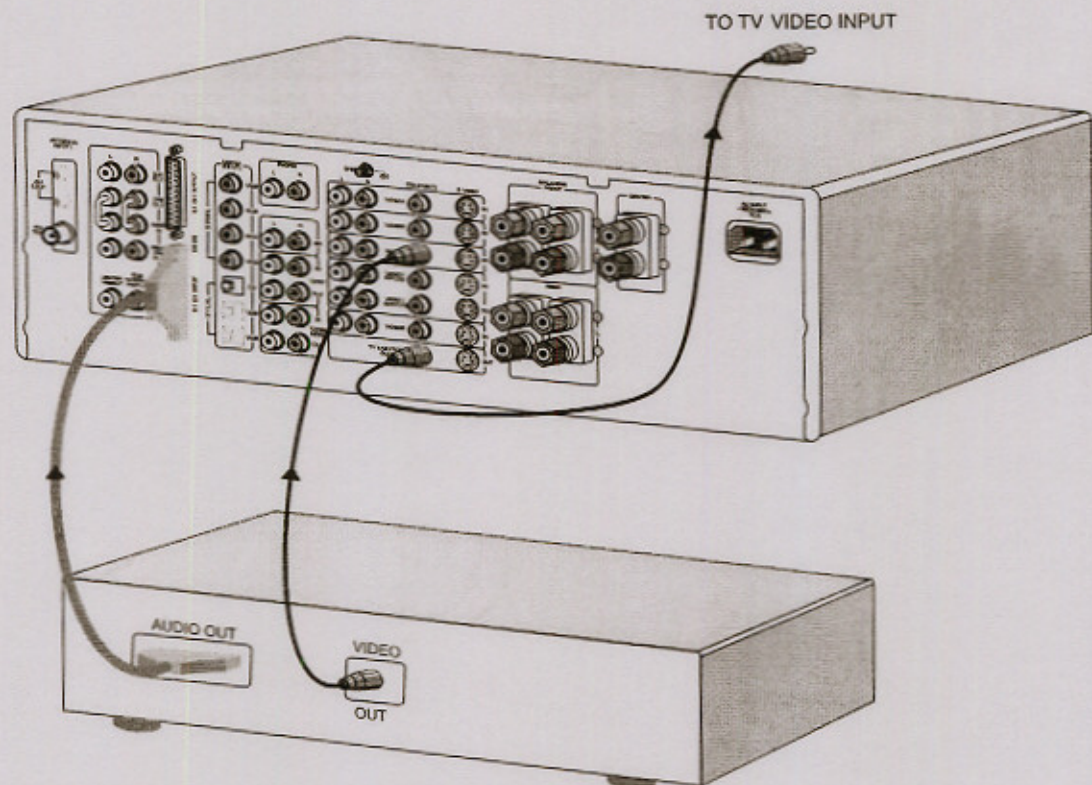


Tape Player Connections-analog audio

This tape deck is shown connected to TAPE 1 input and output.

TAPE 2/MON is a true monitor loop, so it is a good position to connect a three-head tape deck, or an equalizer.

The tape player can record the audio from whichever analog source is selected. Note that there is no direct connection from the digital inputs to the TAPE 1 or TAPE 2/MON outputs. If you have a digital source component, you should also connect the analog audio outputs if you ever want to record from it.



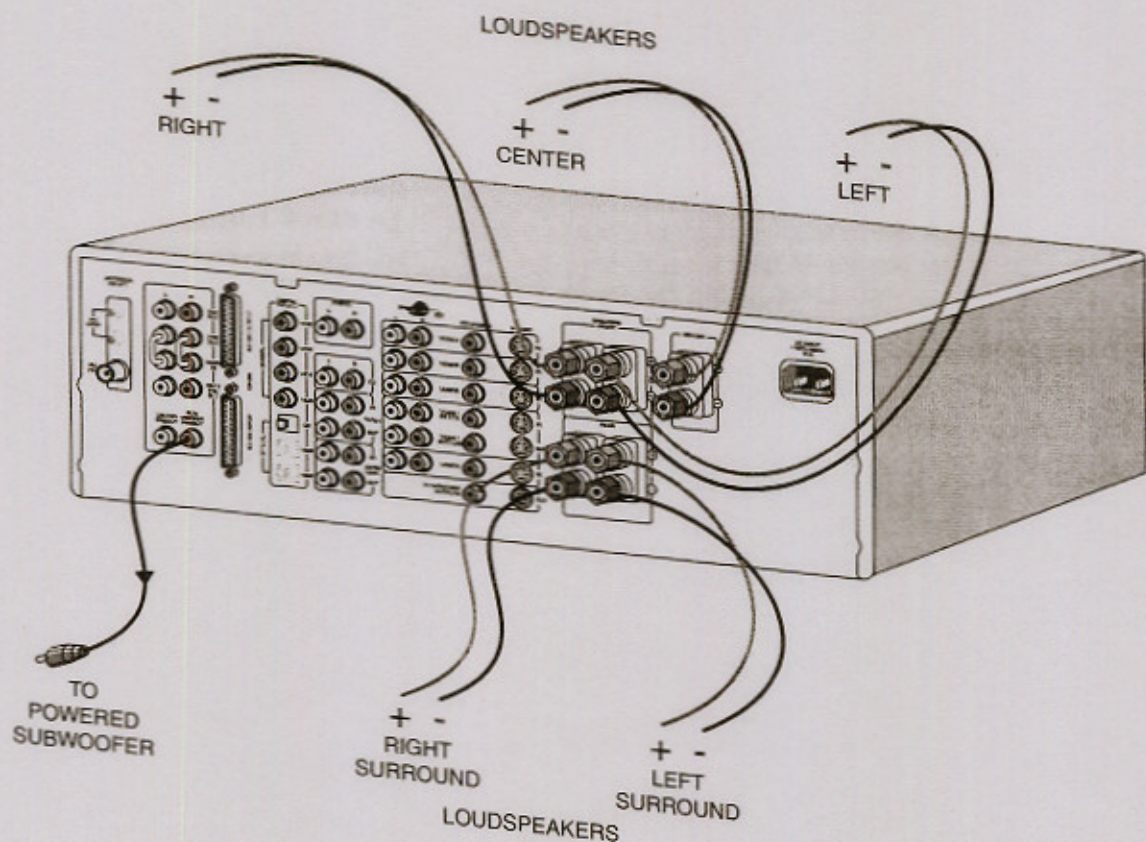
If your DVD player has its own surround processing circuits and a DB25 output connector, you can connect it as shown. If it has six RCA outputs, you can use a common adaptor cable which has RCA at one end and DB25 at the other.

An external surround processor can also be connected like this. You will have to connect some of your sources to the external processor, so it can process the original signals.

5.1 CH Input Connections-analog audio

NOTE: The 5.1 channels of analog audio from the DVD player's processor will bypass the DSP circuits inside the C-1000. The volume and tone controls will work, but the surround modes and sonic holography will have no effect.

The DB 25 connector uses industry-standard wiring for 5.1 audio connectors. You should use audio quality connecting cables, rather than computer cables.

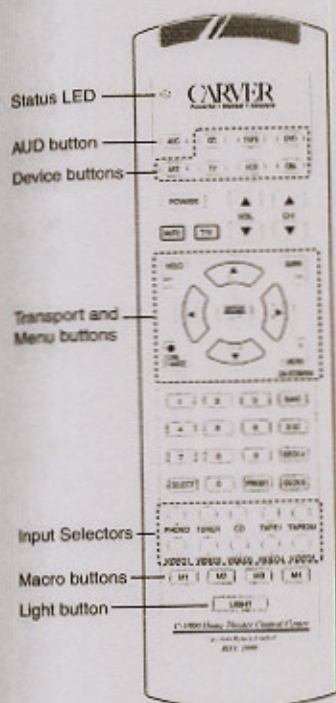


Use good quality speaker cables to connect your speakers to the C-1000's outputs. For each speaker, make sure that the positive (+, red) input post connects to the C-1000's positive output post, and negative (-, black) connects to negative. This will ensure that all of the speakers are in phase.

A powered subwoofer can be connected using an RCA cord, to the C-1000's subwoofer pre out as shown. This is an unbalanced line-level connection, and you should use a good quality cord, especially if the subwoofer is placed a long distance away.

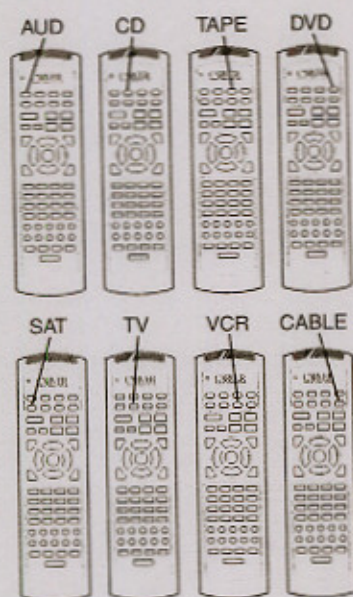
Speaker Connections

The Remote Control



Eight remotes in one

Think of the Carver remote as eight remotes in one. The AUD and Device buttons allow you to select between these eight remotes.



In AUD mode, the remote is pre-programmed to operate the C-1000.

New commands can be taught to any button in the CD, TAPE, DVD, SAT, TV, VCR and CABLE modes, except for the LIGHT button. The learn procedure allows you to transfer commands from your original remote to the Carver remote.

LEARN procedure

The following example shows how to teach the Carver remote the stop command from a CD player's remote control. The Device button is CD in this example.

You will need your CD player's original remote control. Make sure it operates the CD player correctly and it has fresh batteries.

1. Place the source remote and the Carver remote on a flat surface and point them towards each other, about two inches apart.
2. Press the Carver remote's Device button and ENTER button simultaneously.
 - Status LED: turns orange
 - Device button: turns red
3. Press the Carver remote's STOP button once.
 - Status LED: blinks orange
 - Device button: off
4. Press the source remote's STOP button once.
 - Status LED: one green flash, then blinks orange again
5. Press the source remote's STOP button again.
 - Status LED: two green flashes, then steady orange
 - Device button: turns red

If the Status LED flashes red instead of green, the command has not been learned correctly, so repeat steps 3 to 5.

Repeat 3 to 5 for any other buttons to be taught in this Device mode.

6. Press the Device button and ENTER button simultaneously:
 - Status LED: two orange flashes and then turns off.
 - Device button LED: off

The commands are now saved.

Use the other Device modes to learn remote control commands from other components such as VCR, TV or TAPE.

To erase commands from a button:

1. Press the Device button and the ENTER button simultaneously.
 - Status LED: turns orange
 - Device button: turns red
2. Press the button to be erased.
 - Status LED: blinks orange
 - Device button: off
3. Press the LIGHT button.
 - Status LED: two green flashes, then steady orange
 - Device button: turns red

Repeat 2 and 3 for any other buttons to be erased in this Device mode.

4. Press the Device button and ENTER button simultaneously:
 - Status LED: two orange flashes and then turns off.
 - Device button LED: off

To erase all commands in one Device mode:

1. Press the Device button and ENTER button simultaneously.
 - Status LED: turns orange
 - Device button: turns red
2. Press and hold the LIGHT button.
 - Status LED: five red flashes,
 - Device button: turns off
3. Release the LIGHT button.
 - Status LED: two green flashes, then steady orange
 - Device button: turns red

All the learned commands in this Device mode will have been erased.

4. Press the Device button and ENTER button simultaneously:
 - Status LED: two orange flashes and then turns off.
 - Device button LED: off

To erase all commands in all Device modes:

Note: This procedure will erase all learned commands on all buttons in the CD, TAPE, SAT, TV, VCR and CABLE Device modes.

1. Press and hold the TV Device button and LIGHT button simultaneously.
 - Status LED: multiple red flashes, then one green flash, then one orange flash and then turns off.

Release both buttons and all of the learned commands in all Device modes will have been erased.

MACRO buttons

The M1-M4 and POWER buttons can be programmed as macros to send out up to 10 commands with one button press.

Macro buttons programmed using the AUD Device button will operate exactly the same in four Device modes (AUD, CD, Tape and DVD). Macro buttons programmed using the SAT Device button will operate the same in four Device modes (SAT, TV, VCR and Cable).

For example: If the M1 button is programmed in the AUD Device mode section to turn on the TV, turn on the audio receiver, turn on the VCR and turn on the satellite receiver, it will perform the same series of commands when the M1 button is pressed in the AUD CD, Tape or DVD Device modes.

Programming the Macros

1. Press the Device button (either AUD or SAT) and the MUTE button simultaneously
 - Status LED: turns red
 - Device button: turns red
2. Press a macro button (M1, M2, M3, M4 or POWER).
3. Select and press up to 10 previously learned buttons you wish to store in the macro. Pressing a Device button to change device modes is considered a command.
4. Press the Channel UP button to save the selection.
 - Status LED: blinks red twice and turns off
 - Device button: blinks red twice and turns off

Note: To add a POWER (On/Off) command to the macro, during programming you must press the MUTE button in the desired Device mode. The CH + /- buttons cannot be used in a macro sequence.

Playing a Macro

If you press a Macro button, the remote will playback the learned commands one at a time, and the Device button will flash once for every transmitted command. Make sure you keep the remote pointed at your equipment until all the commands are played back.

Erasing a macro

1. Press the Device button (AUD or SAT) and MUTE button simultaneously.
 - Status LED: red
 - Device button: red
2. Press the macro button to be erased (M1, M2, M3, M4, or POWER).
3. Press the Channel UP button.
 - Status LED: blinks red twice then turns off
 - Device button: blinks red twice then turns off

Volume punch through

The remote control can be programmed so the AUD or TV volume controls (volume up, down and mute) will operate in any of the eight device modes.

1. Press the Device button and MUTE button simultaneously.
 - Status LED: red
 - Device button: red
2. Press the Volume UP button.
3. Press either the AUD or TV Device button, depending on whether Audio volume or TV volume is desired for the particular Device mode.
 - Status LED: blinks red twice, then turns off
 - Device button: blinks red twice, then turns off

For example: If you wish to have the Audio volume operate in the VCR mode, you would press the VCR Device button in Step 1 and the AUD Device button in Step 3.

On-Screen Display

To see the on-screen display, your TV monitor must be connected to one of the Monitor outputs on the rear panel.

On the next page, there are some diagrams showing the on-screen displays available.

- Press ON-SCREEN, either on the front panel or the remote control.
- A TV screen showing SYSTEM STATUS will appear, giving an overview of the C-1000.



- Press ENTER on the remote or front panel.
- The MAIN MENU will appear. This gives access to six submenus.
- Use the up or down buttons to highlight a submenu, then press ENTER to go there.

Once you are in a submenu, you can use the up and down buttons to highlight an option, and use the left or right buttons to make a change. You can also change some items by using the front panel or remote control. For example, if you press the Phono input selector while you are in the Input Select submenu, you will see the audio change to Phono. Alternatively, you can use the left or right arrow buttons to change to Phono.

Input Select

This shows which audio and video inputs are selected for listening, and recording.

If INPUT SOURCE is set to AUTO, the C-1000 will look at the digital inputs first, whenever you select an input with a digital option. If a digital source is playing, the C-1000 will select it. If not then it selects the analog inputs.

If INPUT SOURCE is set to ANALOG, the C-1000 selects the analog inputs, and ignores all the digital inputs even if a signal is present.

Note: if you have TAPE 2/MON engaged, then the INPUT SOURCE is set to ANALOG for all inputs.

Surround Mode

This shows which surround mode you are in, and gives you the option of changing the DELAY time of the CENTER or REAR speakers.

To adjust the DELAY, make sure you are in a surround mode, and that the rear and center speakers are not set to OFF in the SPEAKER SIZE submenu. The CENTER delay can only be adjusted when playing a source in Dolby Digital mode. See page 25 for more details.

Test Tone

This menu is very important as it allows you to calibrate your system. An internal test noise is sent to each highlighted speaker and you can then adjust them until they all play at the same volume level. See page 25 for more details.

Tone/Balance

The BASS, TREBLE and BALANCE can all be adjusted, either with the left and right arrow buttons, or the front panel controls.

Speaker Setup

This menu allows you to set the speaker size. See the bass management section on page 24 for more details.

FRONT can be Large or Small.

REAR can be Large, Small or Off

CENTER can be Large, Small or Off

SUB can be Yes or No

Other Options

This menu allows you to:

Adjust the Dynamic Range to MID, MIN or OFF. This is only available for Dolby Digital playback.

Select the 5.1 channel DB25 input. This overrides the other inputs and the internal digital signal processing.

Set the MENU DISPLAY to SCREEN or OFF:

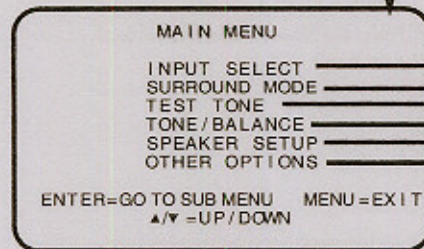
If it is set to SCREEN, then every time you change something on the C-1000, an on-screen display will appear showing the details.

If it is set to OFF, then no display will appear at that time. The on-screen display can still be selected when needed, by using the ON-SCREEN button on the front panel and remote control.

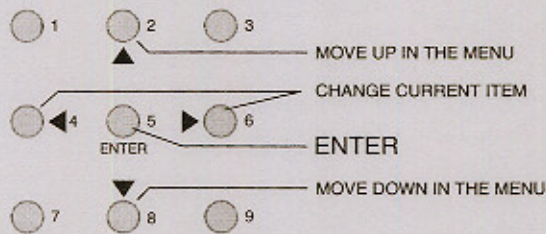
This is the TV display which appears when the ON SCREEN (MENU) button is pressed on the remote or the front panel.



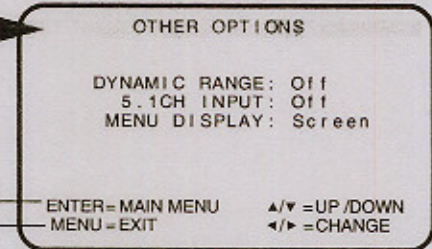
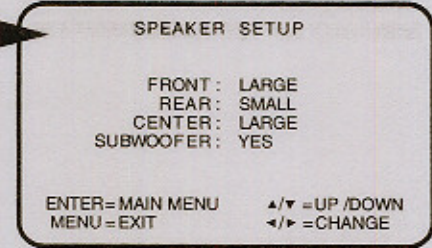
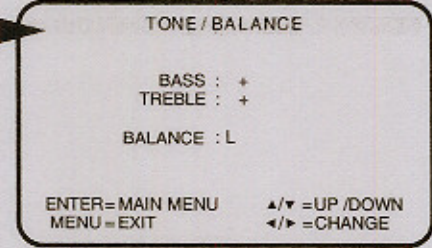
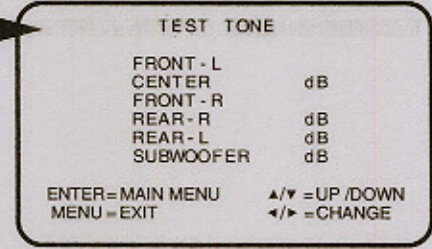
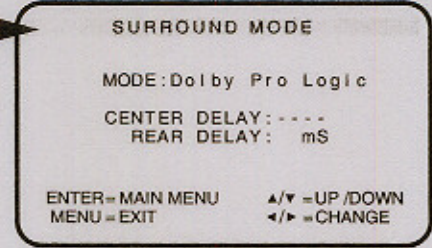
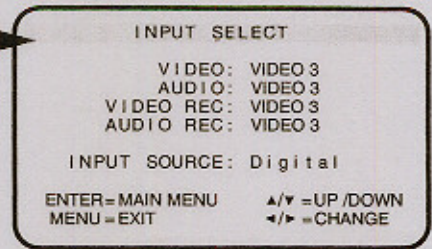
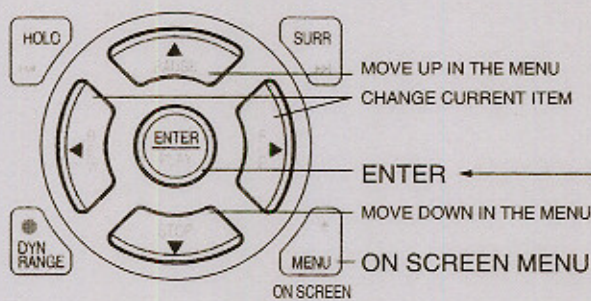
PRESS ENTER



FRONT PANEL BUTTONS



REMOTE CONTROL BUTTONS



Speaker Size (bass management)

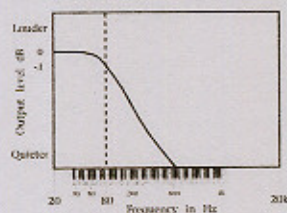
The principle behind bass management is that unlike higher frequencies, it is difficult to discern exactly from which direction lower bass is coming from. The C-1000 has a bass management system which allows you to choose whether your speakers will play the full frequency range, or if the bass will be redirected to a powered subwoofer.

NOTE: Dolby Digital and DTS modes are designed especially for complete systems with front, center and rear speakers and a powered subwoofer present. You need to have all the speakers to get the best performance from your home theater.

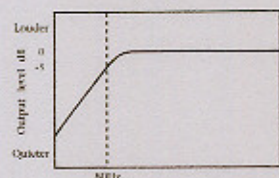
The advantages of redirecting the bass to a powered subwoofer are :

- The overall bass of the system is improved as subwoofers are specially designed for this frequency range.
- The subwoofer can simultaneously play the bass from all of the speakers, in addition to it's own low frequency effects channel (LFE).
- There is no loss in perception of the position of movie or music sound effects.
- Smaller speakers can be used for front, center and surrounds, as they do not have to reproduce the low frequency range. This leads to a saving in expense and room space. Note that a subwoofer is definitely required if the front speakers are set to SMALL.
- The amplifiers within the C-1000 will not have to reproduce the low frequency power.

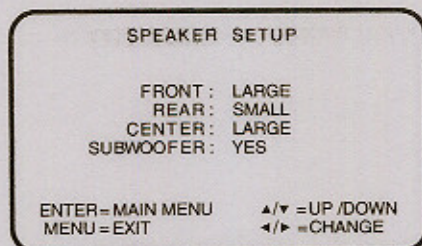
The C-1000 has an electronic crossover, splitting the audio range into two parts:



The bass frequency range below the crossover point.






The frequency range above the crossover point.



The **SPEAKER SIZE** button on the front panel, or the **SPEAKER SETUP** submenu, allow you to select the following speaker options:

LARGE or SMALL

With a few exceptions, this option can be applied independently to the main, center and surround speakers.

- Set to **LARGE** if your speakers are capable of good bass performance. They will then receive the full frequency range. 
- Set to **SMALL** if your speakers, are not capable of good bass performance. They will then receive the higher frequency range above the crossover point.  The lower frequencies will be redirected to the front speakers if they are set to **LARGE**, or to a powered subwoofer if the front speakers are set to **SMALL**. 
- If you do have a powered subwoofer, try using **SMALL** even if your speakers are large.
- If the main speakers are set to **SMALL**, no speakers can be set to **LARGE**. A powered subwoofer is needed or the bass information will be lost, so in this case, the **SUBWOOFER** output is automatically set to **YES**.

CENTER OFF

- In the **OFF** position, the center channel information is redirected to the fronts. This is a "PHANTOM" center channel and it also works in Dolby Pro Logic.

REAR OFF

- Select **OFF** if you have no surround speakers.

SUBWOOFER YES/NO

- Select **YES** if you have a subwoofer. It will then receive any LFE signals (in 5.1 modes), and the bass from any channels set to **SMALL**.

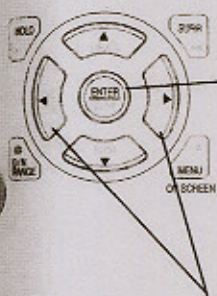
Test Tones

TEST TONE	
FRONT - L	
CENTER	dB
FRONT - R	
REAR - R	dB
REAR - L	dB
SUBWOOFER	dB
ENTER=MAIN MENU	▲/▼ = UP /DOWN
MENU=EXIT	◀/▶ = CHANGE

The on-screen display's TESTTONE submenu allows you to adjust the volume level of each speaker until they are all equal. This will give the best home theater performance.

You should only do this calibration when you are sitting in your usual listening/viewing position.

Preliminary: Play a movie or music program in a surround mode which uses all the speakers in your system. Adjust the volume for a comfortable listening level. The initial volume of the test noise is linked to the setting of the volume control, so if the test noise is too quiet, turn the main volume up a little and retry.



1. Touch the ON-SCREEN button on the remote control.
2. Press ENTER to display the MAIN MENU.
3. Select the TEST TONE submenu.
4. While the test noise is playing in each speaker, the volume can be adjusted using the left or right buttons on the remote control. Adjust the speakers until they are all equal in volume.
5. The best results are obtained if you use a Sound Pressure Level (SPL) Meter. This is a hand held meter which will accurately measure and display the sound level. We recommend that you adjust all of the speakers until they are playing within 1 dB of each other, as measured on the SPL meter scale. Without a meter, you can still obtain good results with careful listening.
6. Touch ON-SCREEN again to finish this procedure.

When all of the speakers are adjusted, the main volume control can move all of the speakers up and down at the same time. They will keep the same relative levels, that is, playing as loud or as quiet as each other.

Delay Time

The delay time adjustment allows the center and rear speakers to be delayed in time relative to the front speakers. This should be done after the volume level calibration has been completed.

Sound travels approximately one foot per millisecond (mS). If your center speaker is 2 feet closer to you than the main speakers, then its sound will reach you 2 mS before the sound from the main speakers does. In this case, you should set the center delay to 2 mS.

If your surrounds are 5 feet closer to you than the main speakers, set the surround delay to 5 mS.

The adjustment procedure is as follows:

1. Touch the ON-SCREEN button on the remote control.
2. Press ENTER to display the MAIN MENU.
3. Select the SURROUND submenu.
4. Select the Center or Rear speakers, and adjust the delay time with the left and right arrow buttons. Note that the Center delay adjustment is only available when the C-1000 is in Dolby Digital mode. In this case, make sure a Dolby Digital source is playing.
5. When you are listening in Dolby Pro Logic, the C-1000 will automatically add 15mS to the surround channel delay time, per Dolby Laboratories' standards.

SURROUND MODE	
MODE:Dolby Pro Logic	
CENTER DELAY:----	
REAR DELAY: mS	
ENTER=MAIN MENU	▲/▼ = UP /DOWN
MENU=EXIT	◀/▶ = CHANGE

Note:


The Dolby Digital, Dolby Pro Logic and DTS soundtracks are designed to be played back in a calibrated home theater. The sounds that you hear from your movie will be at the correct relative level and timing, as the movie sound director designed them. You should repeat the calibration of level and delay time, if you change any of the speakers or move them, or if you alter the SPEAKER SIZE settings. It is also a good test that all speakers and amplifiers are working correctly.

Surround Modes

The user selectable surround modes are:

DOLBYPRO LOGIC
3-CHANNEL
DSP: THEATER, HALL, STADIUM, CHURCH
STEREO

DOLBYPRO LOGIC

This mode is used when you are playing source programs which are encoded in Dolby Surround. You should look for the Dolby Surround Logo  on Video tapes, LaserDiscs, DVDs, CDs and on the opening titles of TV programs.

The source signals are decoded by the C-1000 into separate channels: left and right channels for off-screen imaging, a center channel for most on-screen dialog, and a surround channel for ambience and special effects. The surround speakers are in mono and the subwoofer is derived from the front channel bass.

3-CHANNEL

This mode is used if you do not have surround speakers. It allows the left, right and center channels to play and is used primarily when listening to Dolby Surround sources. The center channel will produce most of the program dialog. The 3 channel mode can also be used when listening to stereo sources but the center channel imaging is not as accurate or predictable as with Dolby Pro Logic.

DSP: THEATER, HALL, STADIUM, CHURCH

In these DSP modes, the rear speakers simulate the ambience caused by rear reflections and effects of the different venues. These are useful for adding surround sound effects to stereo sources. Select whichever sounds best to you.

STEREO

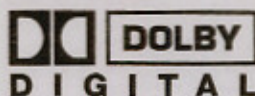
This is the conventional two-channel stereo mode with sound from your left and right speakers. We recommend that you should engage SONIC HOLOGRAPHY to add more depth and realism to stereo playback.

5.1 SURROUND MODES

Dolby Digital and DTS are "5.1" surround systems with five main channels: left, center, right, left surround and right surround. Each channel can play the full frequency range and is independent of the other channels. The ".1" denotes the subwoofer channel which plays the low frequency effects (LFE), also independent of the other channels. The subwoofer can also play the bass from other channels, as determined by the bass management system (see page 24).

The C-1000 will automatically detect and decode these digital signals, and there is no manual surround mode selection required.

DOLBY DIGITAL



This mode is automatically engaged if the C-1000 detects a Dolby Digital encoded

signal is present at one of its digital inputs. You must first select the correct input, then the C-1000 will look at the digital input, and lock on if a Dolby Digital encoded signal is present. The front panel display will show "Dolby Digital."

You should look for the Dolby Digital Logo on DVDs, LaserDiscs and other sources.

Many DVDs have the option of a Dolby Pro Logic, Dolby Digital or Stereo soundtrack. You must follow the instructions in the DVD player's manual to select the Dolby Digital soundtrack. This is sometimes labeled "5.1" or "AC-3".

DTS



This mode is automatically engaged if the C-1000 detects that a DTS encoded signal is present at one of its digital

inputs. You must first select the correct input, then the C-1000 will look at the digital input, and lock on if a DTS encoded signal is present. The front panel display will show "DTS."

Look for the DTS Logo on DVDs, LaserDiscs, CDs and other sources.

Make sure that your DVD player has selected the DTS soundtrack.

Tuner Operation

The Tuner is selected either by the TUNER input selector or the STATION SELECT numbers on the front panel, or the remote control.

The front panel display will show the FM or AM frequency, and show if a station is TUNED or in FM stereo (ST).

The FM Tuner can tune stations from 87.5 MHz to 107.9 MHz in steps of 0.1 MHz (in .05 MHz steps for some international models).

The AM Tuner can tune stations from 520 kHz to 1710 kHz in steps of 10 kHz (in 9 kHz steps for some international models).

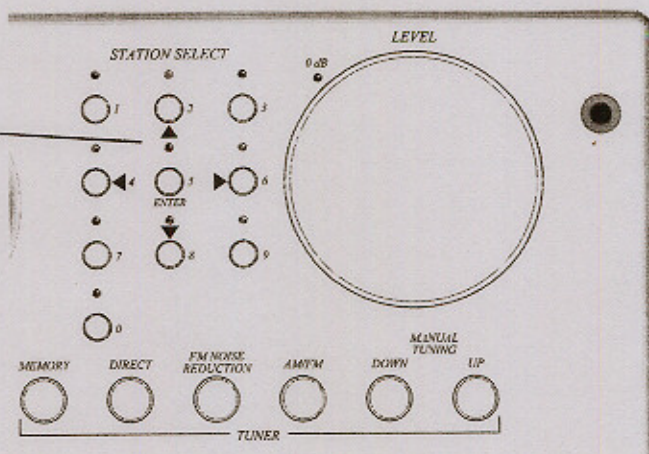
Tuning Stations Manually

Use the AM/FM button to select either the AM or FM band and then use one of the following ways to tune stations manually:

1. Press the UP or DOWN buttons once to change the tuner by one frequency step and then release. Repeat this to step up or down the band until a station is picked up, then TUNED will appear in the front panel display, and ST if it is an FM stereo station.
2. Press and hold UP or DOWN for a second or two, then release to invoke the automatic scanning feature. AUTO will appear in the front panel display, and the C-1000 will scan to the next tunable station. Repeat this until you find a station you like.
3. Press and hold UP or DOWN for an extended period to make the tuner speed across the band without stopping on a station. The tuner will begin scanning for stations when you release the button.
4. Once you have tuned to a station, it can be set as a preset for easy recall.

Tuning Stations Directly

Use the AM/FM button to select either the AM or FM band and then press the DIRECT button. Within a few seconds, enter the station's frequency by using the STATION SELECT buttons. For example, to tune to radio station 97.3, press DIRECT, then 9, then 7 and then 3. The front panel display will show the numbers as you enter them. If the frequency entered is valid, it will be tuned in.



Setting the Presets

Once you have tuned in a station, press MEMORY, followed by a number from 1 to 30, using the STATION SELECT numbers. For example:

Press	Result
5	Preset 5
+10, 0	Preset 10
+10,+10, 7	Preset 27

Once the preset number is entered, it is automatically saved.

Recalling a Preset Station

Once you have selected the Tuner, you can quickly recall a station by pressing its preset number, either on the front panel or on the remote. The C-1000 will automatically switch to TUNER when a preset number is entered.

The remote's CHANNEL UP and DOWN buttons can also be used to step through the presets.

FM Noise Reduction

Select this button to improve the reception of noisy or weak FM stations. This is useful for tuning in weak stations that would otherwise not be tunable.

The reception is in mono even for strong stations (ST will not appear in the front panel display). Make sure this is off if you want to listen to stereo stations.

Recording

Recording to a tape player

Analog input signals from an audio source playing in the C-1000 can be recorded using the left and right audio outputs of TAPE 1 or TAPE 2. The tape player will receive a straight copy of the analog source signal going in, unaffected by the volume, tone or any surround modes.

- Manually select the source to be recorded, such as CD, and play it through your system.
- Set your tape player to record and adjust the input levels for the best performance. Once the levels are correct, you can reset your source to the beginning and make your recording.
- Do not select another input while you are recording.
- If you are using Tape 2 with a three head tape deck, you will be able to monitor the exact sounds going onto the tape. Any adjustments you make on the tape deck will be heard.

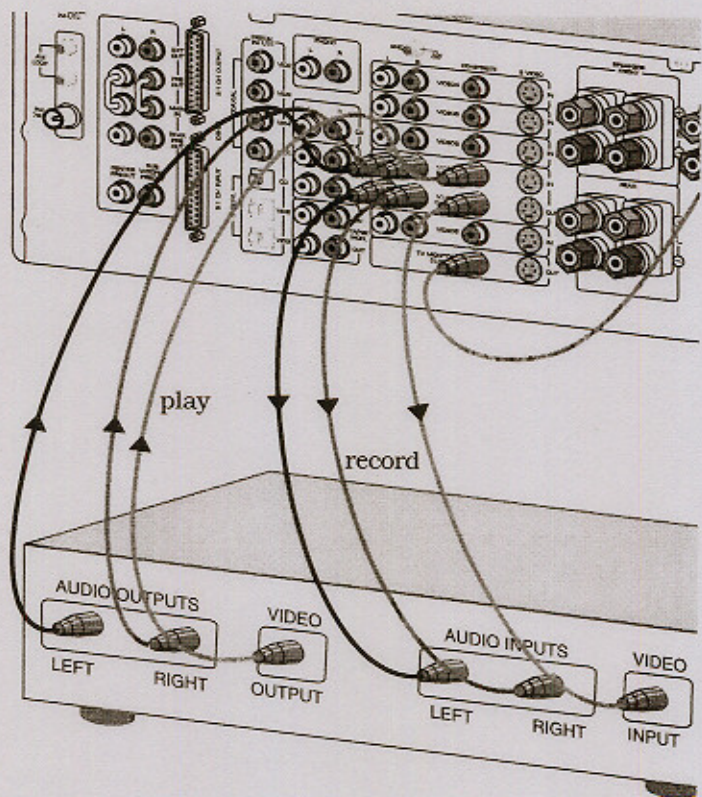
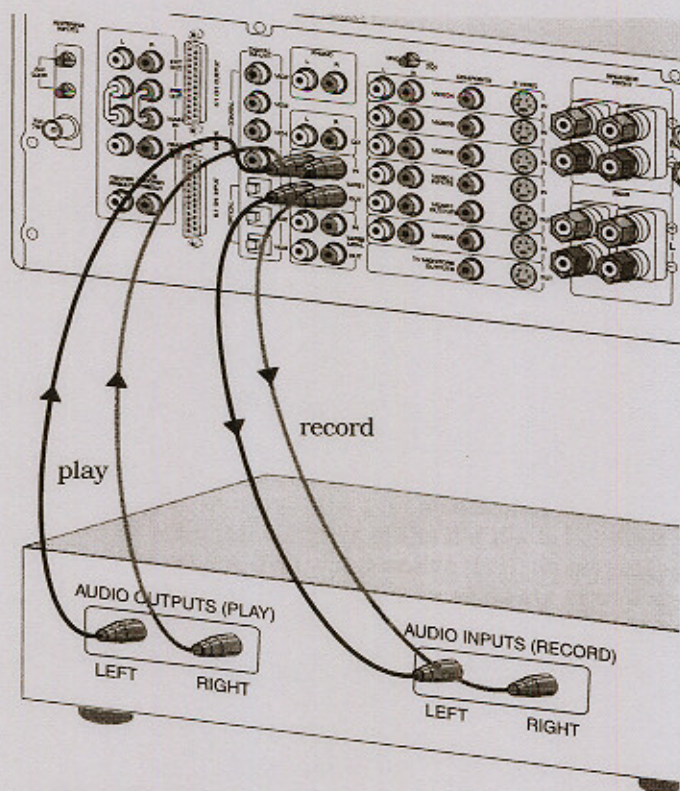
Recording to a VCR

Any video source playing in the C-1000 can be recorded using the left and right analog audio outputs and video outputs of VIDEO 1. The VCR will receive a straight copy of the source signal going in, unaffected by the volume, tone or any surround modes.

- Select the video source and play it through your system to make sure it is working OK.
- Use the VIDEO 1 REC button on the remote to select this source.
- Set your VCR to record.
- If you like, you can select a different source to play in your system, independent of the source being recorded.

Note

Only analog audio signals can be recorded. To record from a source component which has a digital output, you must make sure that its analog outputs are also connected. Then use the on-screen display's INPUT SELECT submenu to set the INPUT SOURCE to ANALOG. This will ignore any automatic selecting of digital inputs.



Sonic Holography

Sonic Holography is a unique circuit which enhances the three-dimensional effects and realism of stereo sound.

This circuit was designed to overcome a problem in obtaining accurate sound reproduction:

In a stereo system, both ears will hear the output from both speakers. The left ear hears sound from the left speaker and from the right speaker. To see a problem with this, compare what happens when listening to a live musical performance:

During a concert, each ear will receive one direct sound arrival. For example, a cymbal crashes, both your ears will hear it and the brain tells you accurately the position of the musician. In a stereo recording of the concert, this cymbal crash will be heard from both speakers. The left ear will hear the left speaker, which is fine, but it will also hear the crash from the right speaker. These extra sounds tend to confuse the sense of sound source location.

The stereo effect in a good pair of headphones is enhanced because the left ear only hears the left headphone, and the right ear hears only the right headphone. There are no extra sound arrivals.

To summarize :

1. A real musical event will create only two direct sound arrivals, one at the left ear and one at the right.
2. Stereo playback will give four arrivals, as both speakers are heard by each ear. These second sound arrivals reduce our naturally accurate sense of positioning.

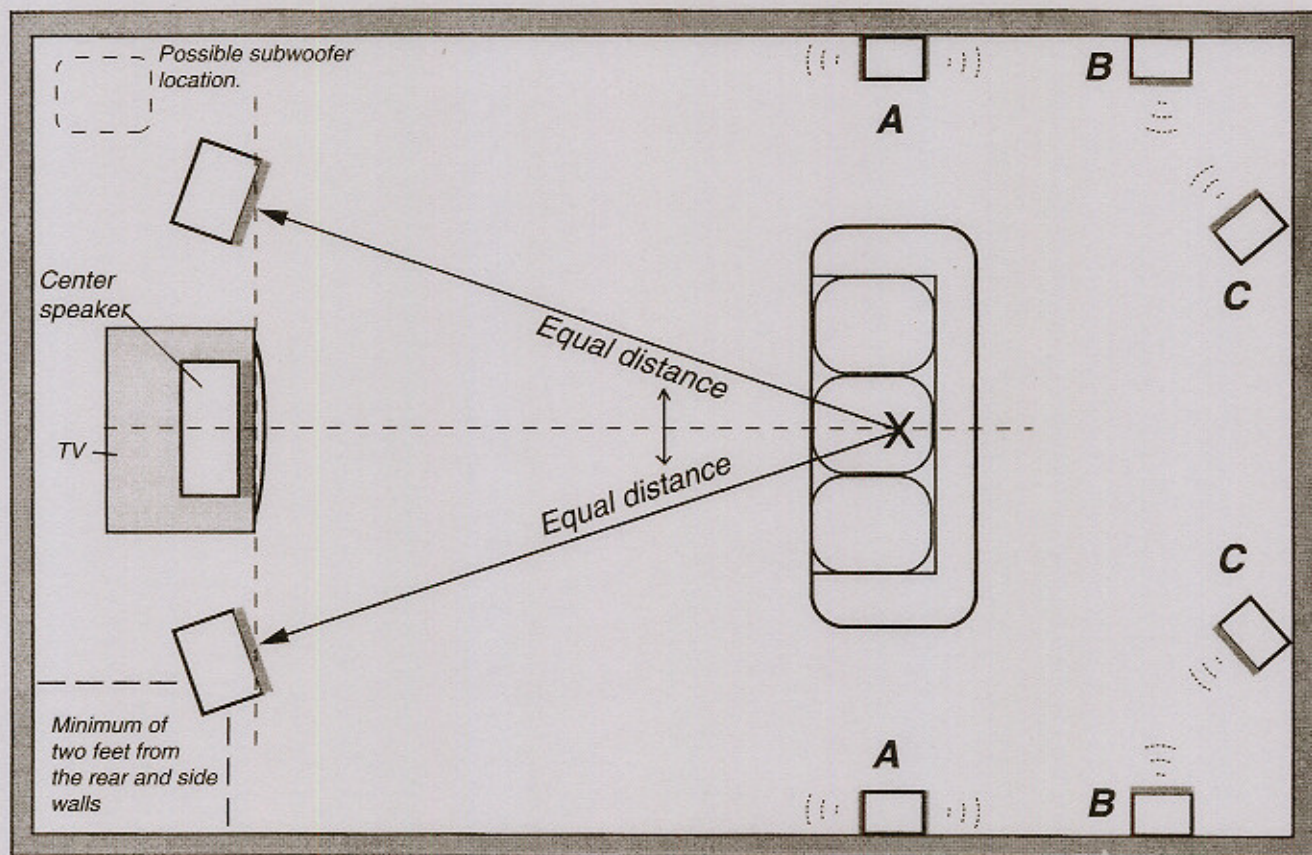
The Sonic Holography circuit was designed to cancel out the unwanted second arrivals. The left ear will mainly hear the left speaker and the right ear mainly hears the right speaker. This is accomplished by sending a complex crosstalk signal from the left and right speakers in addition to the normal program. These extra signals are virtually identical to the unwanted second sound arrivals but they are out-of-phase with them and they cancel each other out.

The result is a more three-dimensional and wider soundstage, where the positioning cues are restored. In a way, the musicians have been freed from the confines of the flat plane between the speakers. You will perceive them as playing forward or playing behind the speakers or to one side or the other, not just somewhere in between. We recommend that you experiment with its effect, remember that you are listening for a more accurate sense of the location of the different musicians.

Because Sonic Holography works by phase cancellation of the unwanted second sound arrivals, accurate speaker positioning is required. You must make sure that the left speaker is the same distance away from you as the right speaker. Follow the front speaker placement on the next page to get the best results. This is the same as any standard stereo system, only with more care taken to position the left and right speakers accurately.

The Sonic Holography circuit can be engaged using the remote control or pressing the front panel button. There is a short mute period until the circuit is fully engaged or disengaged.

Speaker Placement



Front Speakers

The left and right front speakers should be positioned so that your TV is exactly centered between them. This will help focus your attention towards the screen.

For the best Sonic Holography effect, the left speaker should be set exactly the same distance and angle away from your listening position as the right speaker. It is recommended that you use a tape measure to set them up to be the same distance away, within about half an inch tolerance.

If you have a smaller TV, the speakers should be no more than two feet away from the sides of the TV.

If possible, have the center, left and right speakers at the same height (within two feet). This will help give a smooth transition when sound effects move from speaker to speaker.

Ideally, the front speakers should be no closer than two feet from the rear and side walls, in order to reduce any reflections that might upset the imaging. If your speakers are closer than this, you can experiment by adding sound deadening material such as drapes on the walls to reduce any unwanted reflections.

Center speaker

Most movie dialog will come from the center speaker, so careful positioning is an important part of a good home theater system. Your eyes and ears should focus your attention towards the center of the screen.

The center speaker can sit on top, or directly underneath the TV, as long as it is located on the centerline and not off to one side. Position the front face of the speaker close to the front edge of the TV cabinet. (The sound waves may otherwise reflect off the top of the TV cabinet and distort the center imaging).

Rear speakers

Place each rear speaker to be an equal distance away from your central listening position and keep them at least one or two feet above ear level. The diagram shows three examples of rear speakers (only one pair is needed):

- A** Dipole speakers. These radiate forwards and backwards and create an overall surround field.
- B** Conventional speakers positioned to reflect across the rear of the room.
- C** Conventional speakers angled to reflect from the side walls.

For options B and C, the speakers do not point directly at the listener but cause reflections from the sidewalls. This broadens the rear soundstage. You should not be able to detect that the sounds are coming from a small box on the wall; it should appear that the sounds surround you.

Powered Subwoofer

The best location for a powered subwoofer can be found by proceeding as follows:

1. Place the subwoofer at your normal listening position.
2. Use the SPEAKER SIZE menu to set your other speakers to SMALL, and then play some heavy bass music.
3. Leaving the subwoofer in this position, walk over to a few likely locations in your room, where the subwoofer might fit and find a point where the deep bass sounds the best. This is usually somewhere close to the corners of the room. Try locations fairly close to the front speakers.
4. When you have found the best practical location, move your subwoofer to this point. The bass will now sound the best when you sit in your normal listening position.

Troubleshooting

The C-1000 is expertly designed and built to provide years of trouble-free performance. Most problems that occur can usually be solved by checking your setup or making sure that the audio and video components connected to the C-1000 are on and fully operational.

The following information will help you deal with some common problems you may experience. If the problems persist, please contact your Carver Dealer for assistance.

The C-1000 shuts down

- Make sure there is plenty of ventilation around the C-1000, and a minimum of three inches of free space above it. A fan may be used to help ventilate and cool it down.
- The speaker impedance must not drop below 4 ohms for each amplifier channel.
- Protection circuits will turn off the C-1000 if any channels are overextended. This is more likely to happen during high intensity bass passages, such as Apollo 13 blasting off from your living room. For those who like lots of heavy bass, a powered subwoofer is recommended, and setting all the speakers to SMALL will take some pressure off the C-1000's amplifiers.

No sound from one or more speakers

- Speaker cables may have come undone. Turn off your system and check the cables.
- The volume level is low for the channels concerned. Recheck the Calibration procedure on page 25.
- The Remote's Mute switch is on.
- The correct surround mode is not selected.
- Check that the PRE-OUT and MAIN-IN connections on the rear panel are joined together with the U-shaped jumpers.
- Check the SPEAKER SIZE, make sure the speakers concerned are not set to OFF.

No sound from the subwoofer

- Your subwoofer's amplifier may be off.
- SUB is set to NO in the SPEAKER SIZE menu.

Poor Tuning of Radio Stations

- The antenna may be incorrectly fitted.

- Stations are not correctly tuned in.
- The station is weak or has gone off-air.
- You can improve reception by using different antennas. Some cable TV feeds offer FM reception as well.
- A loop antenna is required for AM reception, as it forms part of the front-end tuned circuit. One wire of the loop may have come undone.

Surround Settings and Input Settings do not work correctly

- The C-1000 is a microprocessor controlled device and there may be occasions when interference or power failure of the AC line may cause it to lock up or act erratically. We suggest you unplug the power cord from the mains supply, and leave it unplugged for a time. The C-1000 will discharge, and it may reset itself back to normal operation when plugged back in.

Hum is heard in your speakers

- This problem is more than likely caused by a "ground loop" in your system, rather than a fault in the C-1000. Follow these steps to isolate the main cause of the hum, there may even be more than one. Remember to turn off all components in your system, before disconnecting or connecting any cables.
- Disconnect all cables which come from outside the room, such as cable TV, satellite TV, or roof top antennas. Make sure that they are disconnected where they first enter the room, so they are making no connection to the C-1000 or the TV, or any other component. If the hum is caused by the cable TV line, then you will need a "ground loop isolator." This is an inexpensive device fitted in line with the coaxial cable feed. Contact your cable company or your Carver Dealer for assistance. If this does not work then try the following ideas, and check if the hum has gone after each step:
 - Disconnect all connections from the C-1000 to your TV.
 - Disconnect any component which has a grounded power cord.
 - Disconnect all the source components one at a time from the back of the C-1000, until you identify the problem.
- There are ground loop isolators available for audio lines and video. You can ask your Carver Dealer for assistance.

- If the hum persists, try moving the speaker cables away from any power cords. Try just one speaker, connecting it to different channels and see if an amplifier channel is bad.

Other causes of noise

- Speaker noise may also be caused by interference or noise on your AC line. Make sure there are no large appliances sharing the line, or halogen lamps or light-dimming devices.
- Try connecting all of your low power source components, such as CD players, DVD players, to a single power strip. Make sure that the power strip is capable of safely supplying the power to these components.
- Try connecting your system to another AC socket on a separate line.
- If the hum is heard from within the C-1000 and not through the speakers, this may also be caused by interference on the AC line. The C-1000's power transformer may turn this into an audible noise. Internal hum can be made worse by a shelf or cabinet resonating, so try moving the C-1000 to another shelf.
- Try moving your components further away from your C-1000. There may be some effect from the magnetic fields which surround the C-1000's power transformer.
- Try moving your components further away from the TV, especially if you ever notice the screen has changed color in the area closest to the component.
- If you have very high efficiency speakers, these may show up noise which other speakers may not.

No picture is seen on the TV monitor

- Make sure that the video input of your TV monitor is connected to the Monitor Output on the rear panel of the C-1000.
- Check that your Monitor is selecting it's correct video input.
- Check the video connection from your selected component into the C-1000.
- Make sure that you are using the same video connections. For example, if your source is connected using S-video, then the TV monitor must also use S-video connections.
- If in doubt, try connecting the video output from your source directly to your TV monitor. This will help you narrow down the problem.

The Sonic Holography does not work

- It is essential that your front speakers are positioned correctly. Follow the speaker placement notes on page 30.
- The Sonic Holography is most effective in 2-channel operation and the results may be masked if you are in a surround mode.

No audio signal is recorded onto tape or video tape

- TAPE 1, TAPE 2 and VIDEO 1 will only record the analog audio, not digital. You should connect the audio outputs of your source components as well as the digital outputs.

There is no Dolby Digital or DTS playback

- Some DVDs have a number of different options, such as Dolby Digital or Dolby Pro Logic. Make sure that you have selected the correct mode on your player's menu.
- Check that your player has a digital output which is connected to the appropriate digital input of the C-1000.
- There is no AC-3 RF input connection for LaserDisc players. You will need an external RF demodulator.
- Look for the Dolby Digital or DTS Logo on the source program's box or sleeve.
- Check the calibration procedure (on page 25) from time to time. This is an excellent way of checking that all speakers are working correctly.

Noise bursts are heard in DTS playback

- When a DTS source, such as a DVD, is paused or stopped, you may have to reselect the C-1000's input when restarting the program.

A TV display appears every time something is changed

- This can be turned off by using the OTHER OPTIONS submenu of the on-screen display. Set the MENU DISPLAY option to OFF, not SCREEN. See page 22.

Resetting the C-1000

- To reset the C-1000 to its factory default settings, press and hold down the following three buttons simultaneously, while turning the power on: Display Label, Video Record, and Center +. These are all on the front panel.

Specifications

Power Output:

200 watts continuous, per channel, any three channels driven, from 20 to 20 kHz with no more than 0.5% THD.

Power at clipping:

200 watts per channel, all channels driven into eight ohms.

300 watts per channel, all channels driven into four ohms.

(Time limited basis)

Frequency Response:

+/- 0.5 dB, 20-20 kHz, CD in stereo

Signal to noise ratio:

>95 dB, relative to full power, A-weighted, CD in

>87 dB, relative to full power, A-weighted, Phono in

Input sensitivity:

CD: 300 mV

Phono: 3 mV

Tone control effect:

Bass: +/- 9 dB @ 30 Hz

Treble: +/- 8 dB @ 20 kHz

FM Tuner:

Useable sensitivity (Mono)

1.6uV (75 ohms)

15.2 dBf (75 kHz Dev, 30 dB)

50 dB quieting sensitivity (Stereo):

31.6 uV (75 ohms)

41.2 dBf

Audio output frequency range:

30 Hz to 15 kHz, +0.5, -3 dB

AM Tuner:

Useable sensitivity (30% mod, S/N 20 dB):

16 uV (600 uV/meter)

Signal to noise (30% mod., 1 mV input):

48 dB

Power requirements:

120 VAC model

120VAC 50-60 Hz, 10A

230 VAC model

230VAC 50-60 Hz, 5A

Dimensions:

Height: 6 1/16"

Width: 17 1/4"

Depth: 19"

(includes knobs and installed line cord)

Net weight:

38 lbs

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DTS is a trademark of DTS Technology.

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Manual part number : 913-015-00 Rev A

Limited Warranty

Carver Corporation is proud of its products which have been built with care using advanced technology and premium component parts. Your unit has been crafted to perform properly for many years. Carver Corporation offers the following Warranty to you, the owner of a new Carver product:

The Carver Corporation Warranty for the C-1000 Home Theater Control Center is in effect for TWO years from the date of original retail purchase. The Carver Corporation Warranty covers defects in materials and workmanship. The following, however, are excluded:

- a) Damage caused during shipment.
- b) Damage caused by accident, misuse, abuse of operation contrary to the instructions specified in the Carver Corporation user's manual.
- c) Units where the serial number has been defaced, modified or removed.
- d) Damage resulting from modification or attempted repair by any person not authorized in writing by Carver Corporation.

The Carver Corporation Warranty extends to the original owner or subsequent owner(s) during the two year warranty period, so long as the original dated purchase receipt is presented whenever warranty service is required.

All implied warranties, including warranties of merchantability and fitness for particular purposes, are limited in duration to the two year length of this Warranty, unless otherwise provided by state law.

Carver Corporation's liability is limited to the repair or replacement, at our option, of any defective product and shall not in any event include property or any other incidental or consequential damages which may result from the failure of this product.

Some states do not allow limitations on how long an implied warranty lasts and/or do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions 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. We suggest that you attach your purchase receipt to this Warranty and keep these in a safe place. Thank you for your choice of a Carver Corporation product.

Service Assistance

We suggest that you read the Limited Warranty completely to fully understand your Warranty/Service coverage.

If your Carver Corporation product ever requires service, write to us or call:

Carver Corporation
 Technical Services Department
 P.O. Box 1589
 5210 Bickford Avenue,
 Snohomish, WA 98290
 Tel (425) 335-1978
 Fax (425) 377-0727

You will be directed to an authorized Carver Corporation Service Station or receive instructions to ship the unit to the factory. Please save the original shipping carton and packing materials in case shipping is required. Please do not ship Parcel Post.

NOTE: Before sending in your unit for repair, you must call Carver for return authorization.

Include a complete description of the problem, indicating how you have it connected, the associated equipment in your system and a copy of your purchase receipt. Initial shipping costs are not paid by Carver Corporation; return ground shipping costs will be prepaid if repairs were covered by the scope of this Warranty.