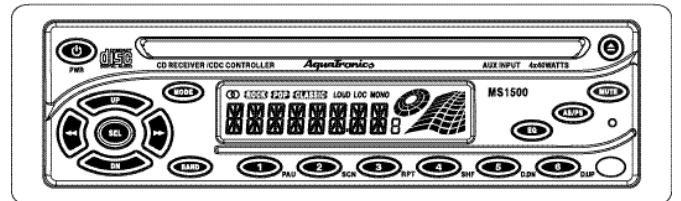


AquaTronics®

OWNER'S MANUAL
AND
INSTALLATION GUIDE



MS1500

**MARINE HIGH POWER AM/FM STEREO RADIO WITH
COMPACT DISC PLAYER, CDC SHUTTLE CONTROLS,
AND WIRED REMOTE CAPABILITY**

ASA
The Mobile Electronics Company
AUDIOVOX SPECIALIZED APPLICATIONS, LLC
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MADE IN CHINA

INSTALLATION

Preparation

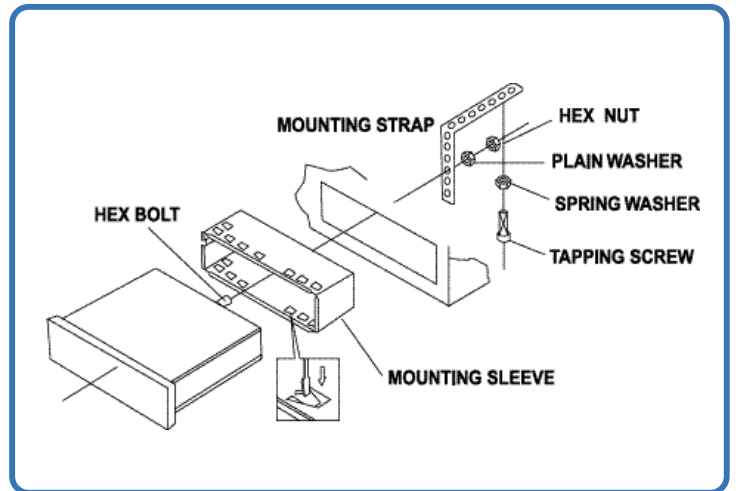
Please read entire manual before installation.

Before You Start

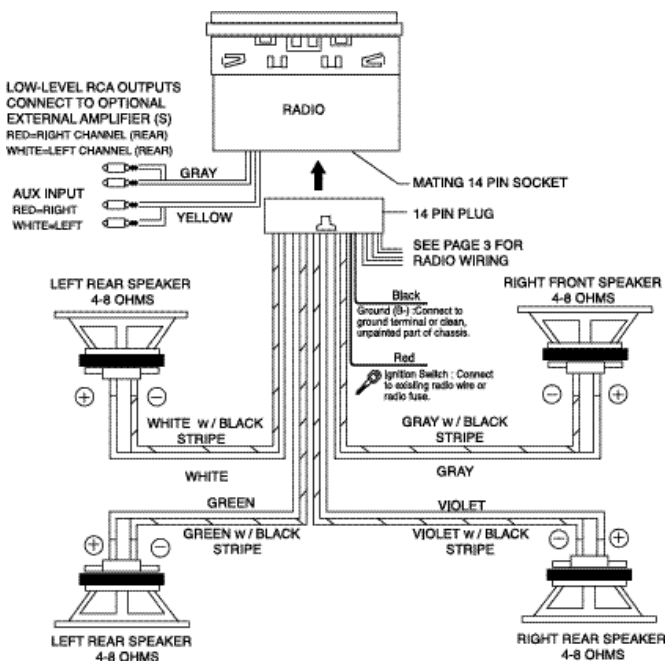
1. Disconnect negative battery terminal.
(consult a qualified technician for instructions)
2. Avoid installing the unit where it would be subject to high temperatures, such as from direct sunlight, or where it would be subject to dust, dirt or excessive vibration.

Getting Started

1. Remove 2 transit screws located on top of the unit.
2. Insert the supplied keys into the slots as shown, and slide the unit out of the mounting sleeve.
3. Install mounting sleeve into dash opening, bending tabs to secure.
4. Some vehicles may require an installation kit and/or wiring harness adapter. (sold separately)
5. Ensure that the MS1500 is installed horizontally.
6. Attach speaker and power wires to the mating harness pigtails supplied with the MS1500.
7. Carefully double check the wiring, then plug the pigtails into the radio harness, and the harness into the rear of the radio. Plug the antenna into the antenna connector.
8. Test for correct operation, then slide the MS1500 fully into the mounting sleeve.

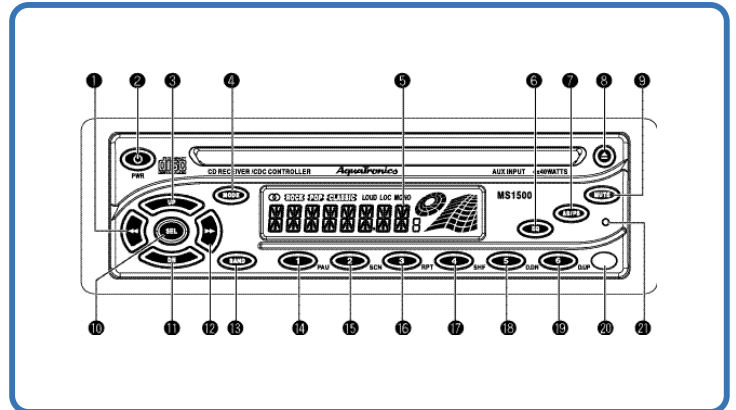


WIRING DIAGRAM



The MS1500 is designed to not require a constant voltage supply to maintain station memories or operational settings. Do not connect to a voltage source which is constantly hot to prevent draining the battery.

CONTROL LOCATIONS



- | | | |
|------------------------|---------------------|--------------------------|
| Tune/Track Down | Eject | ⌂ Preset 2/CD Scan |
| Power | Mute | ⌂ Preset 3/CD Repeat |
| Volume Up | Audio Selector | ⌂ Preset 4/CD Shuffle |
| Mode | ⌂ Volume Down | ⌂ Preset 5/CDC Disc Down |
| LCD Display | ⌂ Tune/Track Up | ⌂ Preset 6/CDC Disc Up |
| EQ | ⌂ Band/Loudness | ⌂ IR Remote Sensor |
| Auto Store/Preset Scan | ⌂ Preset 1/CD Pause |) Reset |

BASIC OPERATION

Power (PWR)

Press **PWR** or any other button (except **EJECT**) to turn the unit on. Inserting a CD will turn the unit on automatically. Press **PWR** to turn the unit off.

LCD Panel

The Liquid Crystal Display (LCD) panel displays the frequency and all activated functions.

Note: LCD panels may take longer to illuminate when subjected to cold temperatures for an extended period of time. In addition, the visibility of the numbers on the LCD may decrease slightly. The LCD display will return to normal when temperature increases to a normal range.

Mode (MODE)

Press **MODE**(Radio/CD Play/CD Changer/Aux) to select a different mode of operation as indicated on the display panel. During CD player operation, pressing **MODE** will change to radio mode without ejecting the disc. The CDP indication will remain in the display to show that a disc is still loaded in the unit. Press **MODE** again to return to other mode.

Note: The MS1500 is equipped with auxiliary audio input cables enabling you to connect a pre-amp level external audio source directly to the head unit. This allows you to listen to an auxiliary audio source on the vehicle speakers.

Loudness (LOUD)

When listening to music at low volume levels, this feature will boost the bass and treble ranges:

1. Press and hold **BAND/LOUD** for more than two seconds to activate. The unit will beep when this feature is activated, and "LOUD ON" will appear in the display for five seconds. "LOUD" will appear at the top of the display while this feature is activated.
2. Press and hold **BAND/LOUD** for more than two seconds to deactivate. The unit will beep when this feature is activated, and "LOUD OFF" will appear in the display for five seconds. "LOUD" will no longer appear at the top of the display.

Volume

The volume buttons (up and down arrows) increase and decrease the volume level of the unit. To increase volume one level, press the up arrow (↑). The volume will increase, and the level (VOL 00 to VOL 100) will appear in the display for five seconds or until another function is activated. To increase the volume rapidly, press and hold the up arrow until the desired volume level is reached.

To decrease volume one level, press the down arrow (↓). The volume will decrease, and the level (VOL 00 to VOL 100) will appear in the display for five seconds or until another function is activated. To decrease the volume rapidly, press and hold the down arrow until the desired volume level is reached.

Mute

Press **MUTE** to silence the audio volume from the system. "MUTE" will flash in the display for five seconds. To restore sound, press **MUTE** again or activate any other function of the unit. When the mute feature is deactivated, the audio volume will return to the level setting in use before the mute feature was activated.

Equalizer Selector (EQ)

Press **EQ** to apply sound effects to the unit's audio output signal. When activated, the EQ function will access one of the following modes: CLASSICS, POP M, or ROCK M. FLAT indicates no equalizer enhancements of the program, thereby removing the preset sound effects. DSP OFF inhibits selection of equalizer mode enhancement.

Reset Button

The reset button is located on the front of the radio between **MUTE** and **AS/PS**.

Reset should only be activated under the following circumstances:

1. Upon initial installation after all wiring is completed.
2. Upon malfunction of any switches on the unit.

Use a pencil (or other non-metallic object) to press the reset button, which will clear the system and restore normal operation.

Adjust Sound

Press **SEL** to step through the menu of audio functions. The first option is volume (VOL), followed by bass (BAS), treble (TRB), balance (BAL), fader (FAD), and back to volume (VOL).

⌘ VOL ⌘ BASS ⌘ TRE ⌘ BAL ⌘ FAD

Bass

1. Press **SEL** twice until "BAS" appears in the display.
2. Press the volume buttons up or down to adjust Bass from -10 to +10. "BAS 00" represents flat response. The bass level will be shown on the display for five seconds or until another function is activated.

Treble

1. Press **SEL** three times until "TRB" appears in the display.
2. Press the volume buttons up or down to adjust Treble from -10 to +10. "TRB 00" represents flat response. The treble level will be shown on the display for five seconds or until another function is activated.

Balance

1. Press **SEL** four times until "BAL" appears in the display.
2. Press volume buttons up (right) or down (left) to adjust Balance between the right and leftspeakers from BAL 10R to BAL 10L. "BAL=R" represents an equal balance level between the right and left speakers. The balance position will be shown on the display for five seconds or until another function is activated.

Fader

1. Press **SEL** five times until "FAD" appears in the display.
2. Press volume buttons up (front) or down (rear) to adjust Fader between the front and rear speakers from FAD 10F to FAD 10R. "FAD F=R" represents an equal balance between the front and rear speakers.

RADIO OPERATION

Seek Tuning

Press the up or down tuning button momentarily to seek the next strong station in the current band.

Manual Tuning

1. Press the up or down tuning buttons for more than two seconds to select manual tuning mode. "MANUAL" will appear momentarily on the display.
2. Press the up or down tuning buttons momentarily to move radio frequency up or down one step at a time.
3. Press and hold the up or down tuning buttons to quickly advance to a certain frequency. Release when the desired frequency is reached. If manual tuning is not adjusted for five seconds, the unit will return to Seek tuning mode. "AUTO" will appear momentarily on the display.

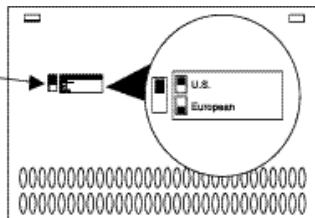
Band

Press **BAND** to change during radio play to switch between three FM bands and one AM band. "F1", "F2", "F3", or "AM" will appear in the display momentarily to indicate which band is currently selected.

Frequency Spacing

U.S. frequency spacing is the default, and a switch on the bottom of the chassis allows a change to European spacing. Slide the switch to the desired setting using a small screwdriver blade, then press **RESET** to activate the change.

Frequency Spacing Selector



Store and Recall a Station

Up to 24 stations (six on each band) can be stored as presets.

This radio contains special circuitry which does not require a voltage source connected to the radio to maintain memories.

1. To store a station, select the desired band and station.
2. Press and hold the desired preset button (one through six) for more than two seconds. When stored, the unit will beep, and the preset number will appear in the display. The station is now stored and can be re-called at any time by momentarily pressing the corresponding preset button.
3. Repeat for the remaining five presets on the current band and for all presets on the other bands.

Automatically Store Stations

Select six strong stations and store them in the current band using the Automatic Store (AS) feature. To enable this feature, press and hold **AS/PS** for more than two seconds. The radio will automatically scan the band in use and enter strong stations into the preset memory positions for that band. The new stations replace stations already stored in that band.

Preset Scan

Press **AS/PS** momentarily to scan the six preset stations in the current band. The unit will stop at each station for 10 seconds before continuing to the next station. The frequency will flash on the display during preset scan. Press **AS/PS** momentarily again to stop scanning and listen to the current station.

CD PLAYER OPERATION

Insert CD

With the label surface facing up, gently insert the disc into the slot until the soft-loading mechanism engages and disc play begins. "S-CDP" will appear in the display momentarily, and the CD icon will become animated. "CDP" will appear in the display momentarily with the track number and elapsed time.

Note: The unit is designed for play of standard 5" (12 cm.) compact discs only. Do not attempt to use 3" (8 cm.) CD singles in this unit, either with or without an adaptor, as damage to the player and/or the disc may occur. Such damage will not be covered by the warranty on this product.

Eject CD

Press the eject button to stop CD play and eject the disc. The unit will change to radio operation. If the disc is not removed from the unit within 15 seconds, the disc will be reloaded and "SCDP" will reappear in the display.

Track Select

Track select features are used to quickly access the beginning of a particular track. Press the up or down tuning button to move forward (up tuning button) or backward (down tuning button) on the disc to locate the desired track. Track numbers will appear in the display as they are accessed.

Fast Forward and Fast Reverse

Press and hold the up or down tuning buttons to fast forward or fast reverse a track. During either function, the elapsed time will appear on the display. Release the button to resume CD play.

Pause

Press **PAUSE** to freeze disc play. "S--PAUSE" will appear in the display for five seconds. Press **PAUSE** again to resume disc play.

Scan

During disc play, press **SCN** to play the first 10 seconds to each track on the disc. When the desired track is reached, press **SCN** again to end the scan function and play the selected track. The scan function will also be canceled by activating the repeat or shuffle functions.

Repeat (RPT)

Press **RPT** during disc play to continuously repeat the selected track. "S--RPT" will appear in the display for five seconds. Press **RPT** again to stop repeating, and regular play will resume. The repeat function will also be canceled by activating the scan or shuffle functions.

Shuffle (SHF)

Press **SHF** during disc play to play all tracks on a CD in random, shuffled order. "S--SHF" will in the display for five seconds. Press **SHF** again to stop random play, and regular play will resume. The shuffle function will also be canceled by activating the scan or repeat functions.

CD CHANGER OPERATION FOR OPTIONAL ACC56M CHANGER

TRACK UP/DOWN

The Track Select function is used to quickly access the beginning of a particular track. Press Track Up or Track Down to locate the desired track as shown by the track number indication on the LCD panel.

TRACK SEARCH

High-speed audible search to any section of the disc can be made by the search functions. Press and hold the button to advance quickly in the forward direction or press and hold the button to advance rapidly in the backward direction. During search operation, the rotation disc symbol will turn faster and the appropriate symbol or will flash on the LCD panel. When the Track Up is held and end of the last track is reached, or the Track Down is held and the unit reaches the beginning of the first track on the disc, the unit will enter the Pause mode until the button is released.

DISC UP/DOWN BUTTON

Press the DISC select button to select the desired disc for play as shown on the LCD panel. The unit will automatically load the selected disc and begin play. To advance to a higher number disc, press the Preset #6 (Disc Up) button. To return to a lower number, press the Preset #5 (Disc Down).

TRACK/DISC SCAN (SCN)

When the Preset #2(Scan) button is pressed, the indication SCN will appear on the LCD panel and the first 10 seconds of each track on the disc will be played in order. When a desired track is reached, press the Preset #2(Scan) button again and play of that track will continue (SCN will disappear from the display). Scan mode will be cancelled by activating any other function (Repeat, Shuffle, Disc Up/Down, Track Up/Down, or Track Search).

When the Preset #2(Scan) button is pressed and held for longer than 2 seconds, the SCN and DISC indications will appear on the LCD panel and the first 10 seconds of the first track of each disc in the magazine will be played. When a desired disc is reached, press the Preset #2(Scan) button again and play of that disc will continue (SCN and DISC will disappear from the display). Disc Scan mode will also be cancelled by activating any other function (Repeat, Shuffle, Disc Up/Down, Track Up/Down, or Track Search).

TRACK/DISC REPEAT (RPT)

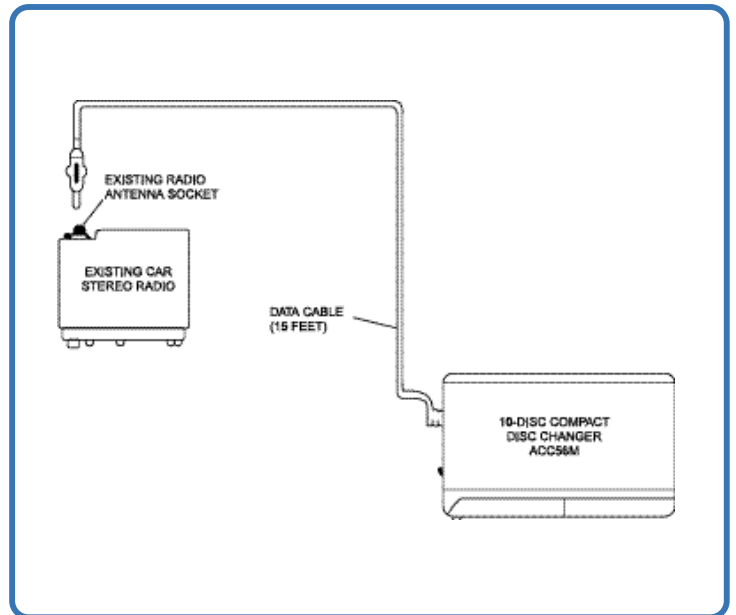
When the Preset #3(Repeat) button is pressed, the indication RPT will appear on the LCD panel and play of the selected track will be continuously repeated until the Repeat mode is cancelled by pressing the Preset #3(Repeat) button again or by activating the Scan or Shuffle functions. When the Preset #3(Repeat) button is pressed and held longer than 2 seconds, the RPT and DISC indications will appear on the LCD panel and play of the selected disc will be continually repeated until the Disc Repeat mode is cancelled by pressing the Preset #3(Repeat) button again or by activating the Scan or Shuffle functions.

TRACK/DISC SHUFFLE (SHF)

When the Preset #4(Shuffle) button is pressed, the indication SHF will appear on the LCD panel and the tracks on the disc will be played in a random, shuffled order. The Track Skip 5 function will also select tracks in the shuffled order instead of the normal progression. The Track

Shuffle mode can be cancelled by pressing the Preset #4(Shuffle) button again, or by activating the Scan or Repeat functions. When the Preset #4(Shuffle) button is pressed and held longer than 2 seconds, the SHF and DISC indications will appear on the LCD panel and the discs in the magazine will be played in a random shuffled order, as well as the tracks on each disc. When all the tracks on the selected disc have been played, the next disc will be selected in shuffled order and its tracks will be played in shuffled order. The Disc Shuffle mode can be cancelled by pressing the Preset #4(Shuffle) button again, or by activating the Scan or Repeat functions.

INSTALLATION OF THE OPTIONAL ACC56M CD CHANGER



NOTE:
Contact your marine dealer or ASA Electronics (www.asaelectronics.com) to obtain the ACC56M CD Changer.

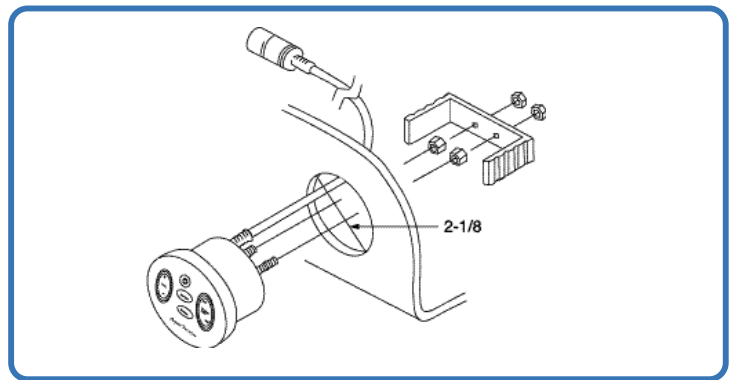
CD PLAYER TROUBLESHOOTING

Problem	Possible Cause	Corrective Action
Does not operate	No power to yellow or red wire; Inline fuse blown	Check connection with test light; check vehicle fuse with test light; Replace fuse
No power to unit	Inline fuse blown	Replace fuse
Speakers not operating	Speaker harness not connected	Connect speaker harness; check speaker wires
Not all speakers operate	Incorrect splices or connections; Speaker wires shorting to chassis ground or to each other	Check all splices and connections; check splices and insulate all bare wires
Blows fuses	Power wire shorting to ground; Speaker wires shorting to ground; Incorrect/too small a fuse	Make sure wire is not pinched; Install fuse of correct rating
CD skips too much	Receiver mount is not solid or backstrap is not secure	Check mounting and backstrap, and tighten if ineeded
ERROR 1	The disc is not loading or ejecting properly	Reload or press the Eject button; check the condition of the disk or try another disk
ERROR 2	An error in the laser reading the disc Eject the disc;	Make sure it is clean, undamaged, and loaded correctly; reload and check or try another disc
Visit www.asaelectronics.com for technical assistance		

WIRED REMOTE CONTROL (REMMS1500 OPTION)

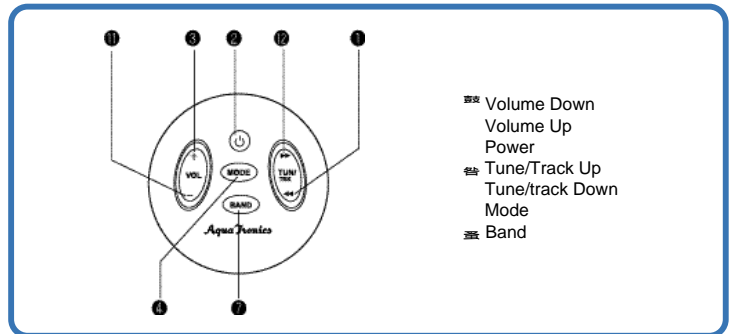
Mounting Remote

The REMMS1500 comes with an aluminum mounting bracket that has 4 (four) notches cut into it so the bracket can be broken away for different mounting depths.



Remote Operation

The REMMS1500 operation is the same as functions on the front panel of the MS1500 head unit. See Pages 3-8 for detailed operation descriptions.



SPECIFICATIONS

CD / CD CHANGER

Signal-to-noise	>86dB
Frequency response.....	20Hz-20kHz, \pm 3dB
Channel separation @ 1kHz	>65dB
D/A converter	1 Bit/CH

FM Tuner

Tuning range	87.5MHz-107.9MHz
FM mono sensitivity	12dBf
50dB quieting sensitivity (stereo)	16dBf
Stereo separation @ 1kHz	40dB
Frequency response	30Hz-13kHz, \pm 3dB

AM Tuner

Tuning range	530kHz-1710kHz
AM sensitivity	30 μ V
Frequency response	80Hz-2kHz, \pm 3dB

General

Total system power	160 Watts Peak
Power output.....	40Wx4
Power supply	11-16 VDC, negative ground
Speaker output impedance	4 ohms
Fuse	10 amp fast blow ATO
Dimensions	7" x 6"47/64 x 2" ((W)178 x (D)171 x (H)50 mm)


AUDIOVOX SPECIALIZED APPLICATIONS,LLC
90 DAY/12 MONTH LIMITED WARRANTY

AUDIOVOX SPECIALIZED APPLICATION, LLC. (The Company) warrants to the original retail purchaser of this product that should this product or any part thereof, under normal use and conditions, be proven defective in material or workmanship within 90 day from the date of original purchase, such defect(s) will be repaired or replaced (at the Company's option) without charge for parts and repair labor. After the initial 90 days period and for a period of 12 months from the date of original purchase, the Company will supply at no charge a replacement for any defective part(s) but will charge for the labor to repair the product.

To obtain repair or replacement within the terms of this Warranty, ASA must be called and a Return Authorization will be given to reference the product when returned. The product is to be delivered with proof of warranty coverage(e.g. Dated bill of sale), specification of defect(s), transportation prepaid, and with the Return Authorization Number clearly written on the outside of the package. The product must be returned to ASA for repair unless specified otherwise by ASA.

This Warranty does not cover the elimination of externally generated static or noise, to the correction of antenna problems, to costs incurred for removal or reinstallation of the product, or to damage to any tapes, speakers, accessories, or electrical Systems.

This Warranty does not apply to any product or part thereof which in the opinion of the Company has been damaged through alteration, improper installation, mishandling, misuse, neglect, or accident. THE EXTENT OF THE COMPANY'S LIABILITY UNDER THIS WARRANTY IS LIMITED TO THE REPAIR OR REPLACEMENT PROVIDED ABOVE AND, IN NO EVENT, SHALL THE COMPANY'S LIABILITY EXCEED THE PURCHASE PRICE PAID BY PURCHASE FOR THE PRODUCT.

This Warranty is in lieu of all other express warranties or liabilities, ANY IMPLIED WARRANTIES, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY, SHALL BE LIMITED TO THE DURATION OF THIS WARRANTY. ANY ACTION OR ANY BREACH OF ANY WARRANTY HEREUNDER INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY MUST BE BROUGHT WITHIN A PERIOD OF 30 DAYS FROM DATE OF ORIGINAL PURCHASE. IN NO CASE SHALL THE COMPANY BE LIABLE FOR ANY CONSEQUENTIAL OR INCIDENTAL DAMAGES OR BREACH OF THIS OR ANY OTHER WARRANTY. EXPRESS OR IMPLIED, WHATSOEVER. NO person or representative is authorized to assume for the Company any liability other than expressed herein connection with the sale of this product. Some states do not allow limitations on how long an implied warranty lasts or the exclusion 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.

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MENU

