

FUSION[®]

USER / INSTALLATION MANUAL

MARINE STEREO

MS-RA200



FUSION[®]

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PRECAUTIONS

Do not attempt to open the unit. There are no user serviceable parts or adjustment's inside.

No responsibility can be taken for use of the unit other than under normally expected operating conditions.

If exposed to direct sunlight or operated for extended periods metal surfaces may become hot. Take care when handling.

FCC COMPLIANCE STATEMENT

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions:

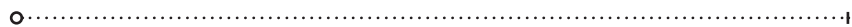
- » This device may not cause harmful interference, and
- » This device must accept any interference received, including interference that may cause undesired operation.

RECORD YOUR PRODUCT DETAILS HERE:

Serial Number

Date Of Purchase

Affix Receipt Here



FUSION MARINE ACCESSORIES

MARINE DOCK FOR iPod MS-DKIP



Connect a Marine Dock for iPod (MS-DKIP) to provide an integrated housing for your iPod or iPhone, protecting them from the harsh marine environment. The dock can be flush mounted or wall mounted.

MARINE PORTABLE MEDIA DEVICE DOCK MS-DKIPIUSB



Connect a Marine Portable Media Device Dock (MS-DKIPIUSB) to provide an integrated housing for your iPod or iPhone, protecting them from the harsh marine environment. Video playback from your iPod/iPhone and two USB ports for portable flash drive playback. The dock can be flush or wall mounted.

MARINE ACTIVE SUBWOOFER MS-AB108



Features a down firing bass reflex enclosure and its own internal Active 210 Watt amplifier allowing easy connection to the music source delivering crisp clear low frequency reproduction from any music selection.

MARINE WIRED REMOTE MS-WR600



The Marine Wired Remote Control extends the capabilities of our Stereo by enabling local control of the audio in each zone of your vessel. Up to three remotes can be linked to the Stereo, providing true system flexibility.

MARINE ZONE AMPLIFIER MS-AM702



The Marine 2x70 Watt D-Class Zone Amplifier is designed to support the Multi-Zone technology of the Marine Stereo. The Zone Amplifier is small, enabling discrete installation and when combined with the Marine Stereo provides the platform for a True Multi-Zone audio system.

MARINE 2 CHANNEL AMPLIFIER FM-402



Add more power and increase the bass level of your music of your FUSION Marine Audio System by connecting a 2-Channel Amplifier. Built for the harsh marine environment with conformal coated PCB and stainless steel end panels.

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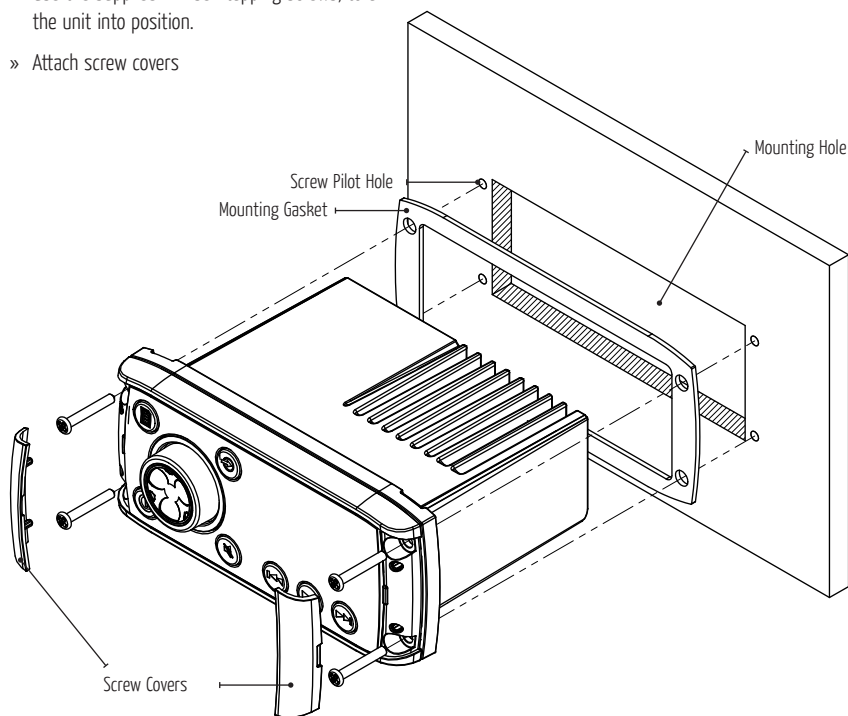
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INSTALLATION

IF ANY MODIFICATION TO THE VESSEL IS REQUIRED, SUCH AS DRILLING HOLES ETC FUSION RECOMMENDS CONSULTATION WITH YOUR BOAT DEALER OR MANUFACTURER BEFOREHAND.

- » Create mounting hole for product and drill Screw Pilot Holes.
Refer to mounting template included with product or download from www.fusionelectronics.com
- » Fit mounting gasket
- » Insert the unit into the mounting hole
- » Use the supplied 4 x self tapping screws, to affix the unit into position.
- » Attach screw covers

Note: Appropriate mounting is very important to ensure correct operation. Select a location that allows both free/open airflow around rear of chassis, whilst minimizing exposure to moisture. Allow adequate room at the rear of the unit for the cable looms (approx 2").



ELECTRICAL WIRING

Caution: The MS-RA200 is designed for vessels with a 12V DC Negative ground electrical system

SPECIFICATIONS AND LICENSING

SPECIFICATIONS

CHASSIS DIMENSIONS	Depth 93mm - 3-5/8" Width 130mm - 5-1/16" Height 50mm - 2"
FACE PLATE DIMENSIONS	Depth 29mm - 1-1/8" Width 157mm - 6-3/16" Height 68mm - 2-11/16"
OPERATING VOLTAGE:	10 - 16VDC Negative ground
FUSE RATING:	15 Amp
OUTPUT POWER:	50 Watts x 4 (Max)
SPEAKER IMPEDANCE:	4 Ohms per channel
PRE - OUTPUT VOLTAGE:	3V

LICENSING

Apple, the Apple logo, iPod, iPhone, 'Made for iPod' and 'Works with iPhone' are Trademarks of Apple Computer, Inc., registered in the U.S. and other countries.

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TUNING RANGE

EUROPE AND AUSTRALASIA:

FM Radio Frequency Range: 87.5 - 108 MHz Frequency step: 100 kHz	AM Radio Frequency Range: 522 - 1620 MHz Frequency step: 9 kHz
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USA

FM Radio Frequency Range: 87.5 - 107.9 MHz Frequency step: 200 kHz	AM Radio Frequency Range: 530 - 1710 MHz Frequency step: 10 kHz
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JAPAN

FM Radio Frequency Range: 70 - 90 MHz Frequency step: 50 kHz	AM Radio Frequency Range: 522 - 1620 MHz Frequency step: 9 kHz
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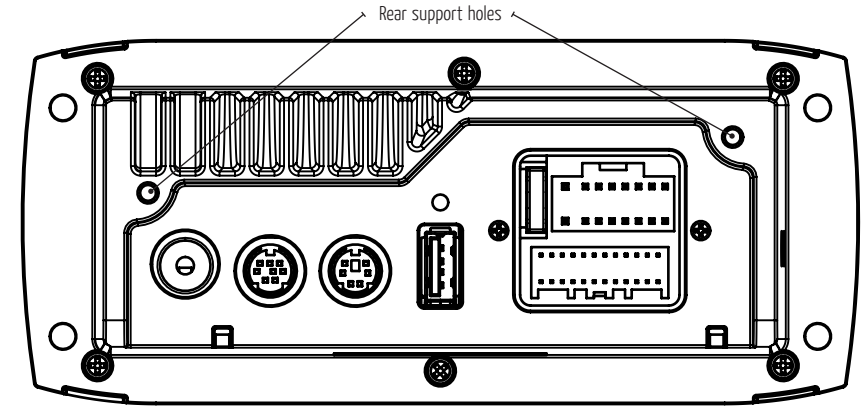
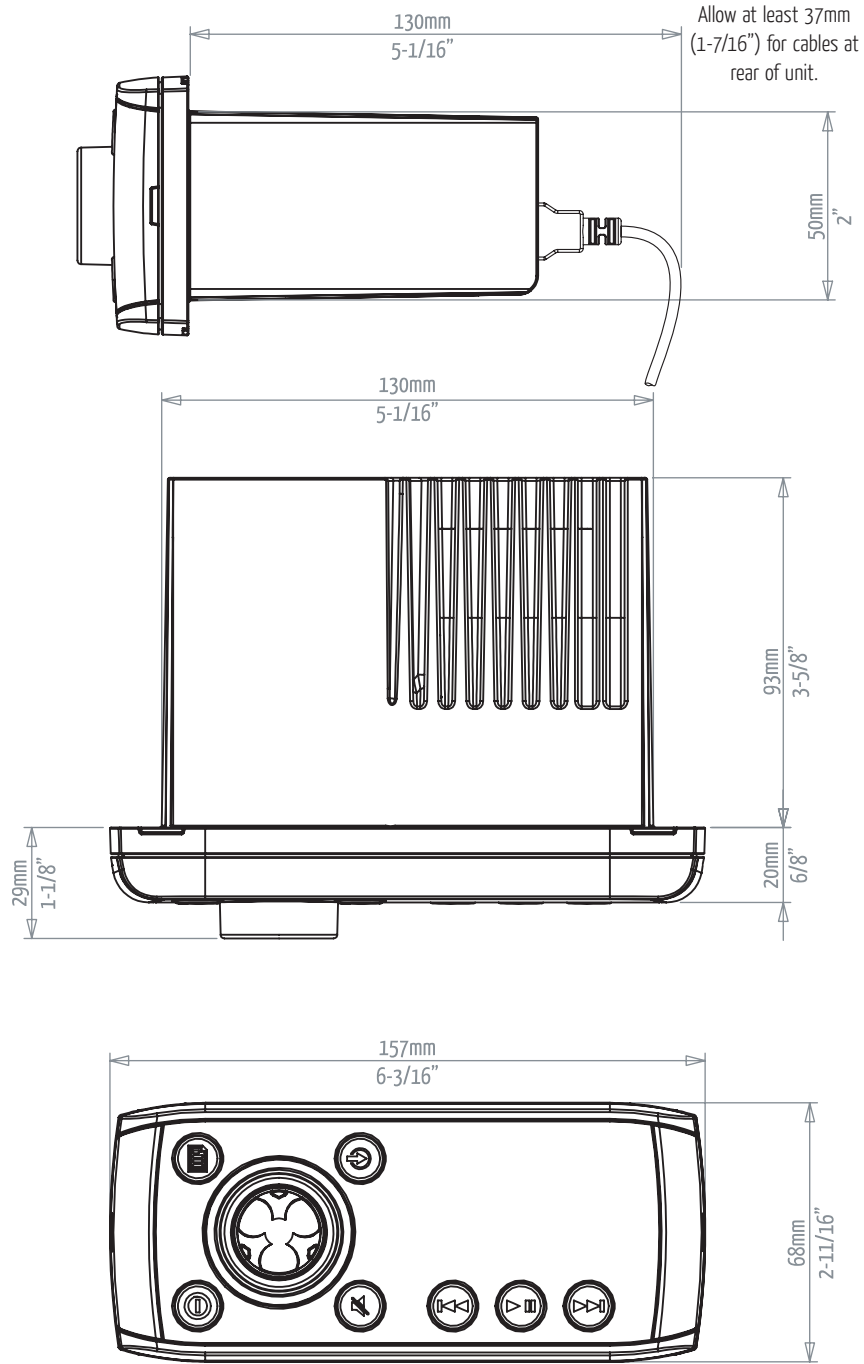
VHF TUNING RANGE

All Regions:

Frequency Range: 156 - 164 MHz



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In some cases a rear support strap (not supplied) may be required. Please use the two holes indicated above, to attach the strap using two 8 gauge x 8mm self-tapping screws (not supplied).

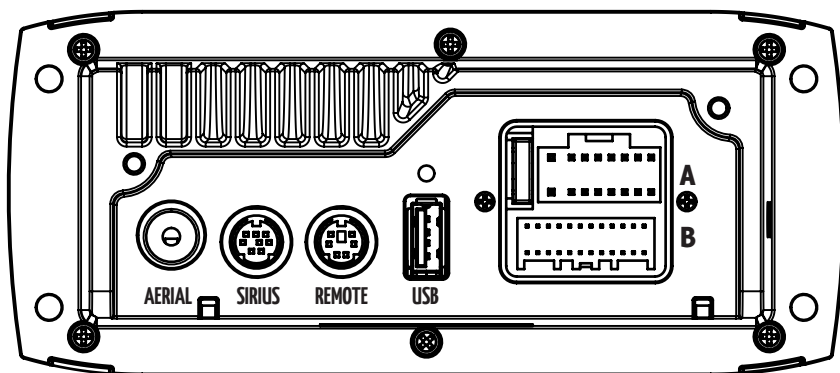
INSTALLATION WARNING

- » Ensure the marine vessels +12V lead is removed from the battery before any equipment is connected
- » Investigate the marine vessels fuel tanks and electrical wiring locations before you begin installation
- » Ensure all wiring is protected to avoid damage

Note: Ensure the Aerial cable is routed away from any power cables, and is the minimal length, as long cable runs will affect AM reception performance.

When wiring the MS-RA200, ensure that the wires are away from sharp objects and that rubber grommets and insulated bungs are used when routing the wiring. Ensure that when connecting the wires to the speakers and audio system, the terminals and connections are protected from shorting to each other.

WIRING DIAGRAM



A CABLE

YELLOW	POWER (+)
RED	IGNITION (+12V switched)
BLACK	GROUND (-)
WHITE	SPEAKER ZONE 1 L (+)
WHITE/BLACK STRIPE	SPEAKER ZONE 1 L (-)
GREY	SPEAKER ZONE 1 R (+)
GREY/BLACK STRIPE	SPEAKER ZONE 1 R (-)
GREEN	SPEAKER ZONE 2 L (+)
GREEN/BLACK STRIPE	SPEAKER ZONE 2 L (-)
PURPLE	SPEAKER ZONE 2 R (+)
PURPLE/BLACK STRIPE	SPEAKER ZONE 2 R (-)
ORANGE	2 WIRE REMOTE
ORANGE/WHITE STRIPE	2 WIRE REMOTE
BROWN	DIM (+12V switched)
BLUE/WHITE STRIPE	AMPLIFIER ON
BROWN/WHITE STRIPE	TEL MUTE / INTERRUPT

B CABLE

WHITE RCA (Grey wire)	AUX-IN (L)
RED RCA (Grey wire)	AUX-IN (R)
ORANGE RCA (Black wire)	SUB-OUT
ORANGE RCA (Black wire)	SUB-OUT
WHITE RCA (Black wire)	LINE-OUT ZONE 1 (L)
RED RCA (Black wire)	LINE-OUT ZONE 1 (R)

Note: Sub + Lineout volume control is linked to Zone 1.

TROUBLESHOOTING

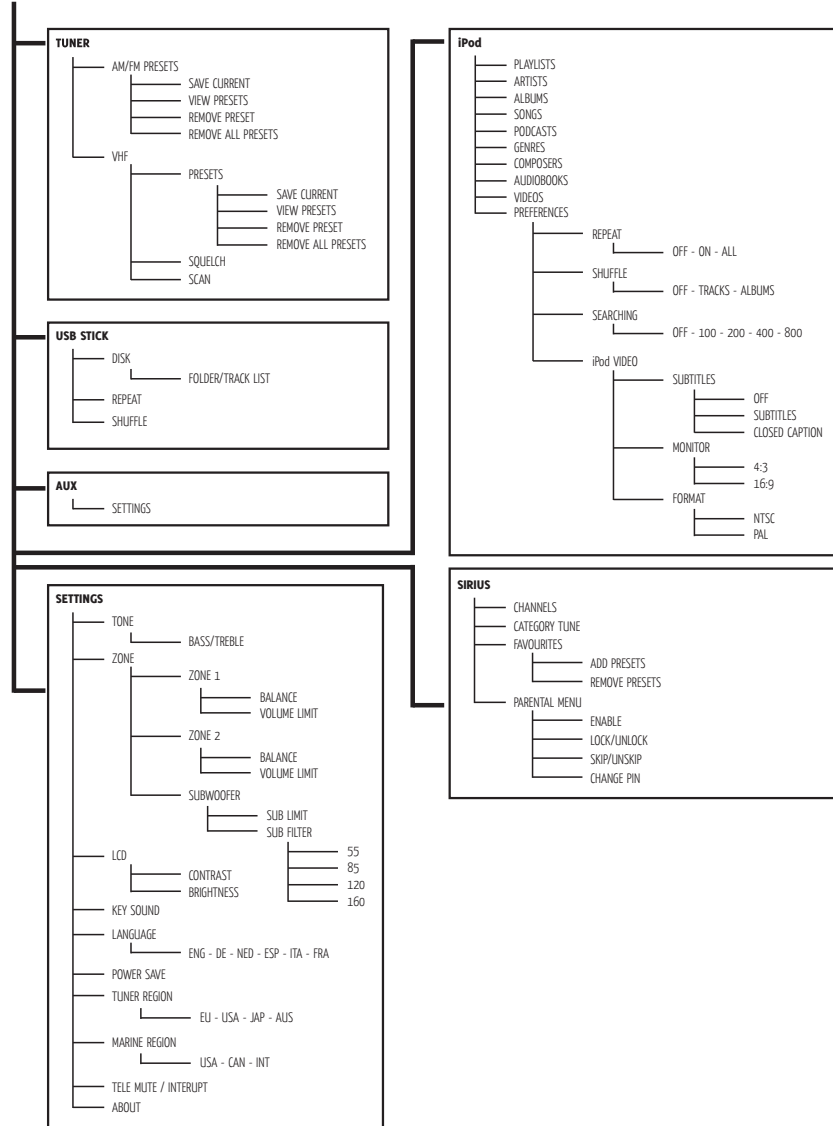
RESET

Should the stereo become unresponsive. Follow the below steps:

- » Press and hold the 'Power' button for 10 seconds to reset the stereo.
- » Reset your iPod/iPhone
- » Remove all power for 5 minutes and then reconnect.
- » If you are unable to correctly tune to radio stations, check you have the correct tuner region selected.

MENU STRUCTURE

ROOT MENU



CONNECTIONS

AERIAL CONNECTION

Connect an AM/FM marine antenna or FM/VHF splitter.

USB/iPod CONNECTION

Connect a USB storage device (not included) or the MS-DKIP / MS-DKIPUSB Marine Docks for iPod (not included) or a certified Apple iPod lead (not included).

SIRIUS SATELLITE RADIO (For use in USA only)

Connect to SiriusConnect™ tuner (not included)

WIRED REMOTE (MS-WR600)

Connect a marine wired remote to the CANbus system connector. Up to 3 remotes can be connected to the system.

A CABLE

DESCRIPTION

Battery +12VDC
Ignition +12V switched
Negative Ground
Remote Amplifier Turn On
DIM +12V switched
Mute / Tele-Interrupt -12V switched

COLOUR

Yellow
Red
Black
Blue/White
Brown
Brown/White

B CABLE

AUX INPUT

Connect an Auxiliary source to the left and right RCA (White = L, Red = R).

SUBWOOFER OUT (DUAL MONO)

Connect to an amplifier, volume control linked to Zone 1. (Orange + Orange)

LINEOUT ZONE 1

Connect to an amplifier, volume control linked to Zone 1. (White = L, Red = R).

DIM

Connect to vessel lighting system to dim LCD and button illumination when vessel lights are turned on.

2 WIRE REMOTE

Connect to FUSION 2 Wire Remote (not included).

TELE MUTE / INTERRUPT

Connect to handsfree kit to either mute the stereo or switch to AUX to hear call.

Note: If 'turn on' from ignition is not required, the +12V ignition (Red) and +12V battery (Yellow) can be connected together.

BUTTON DESCRIPTION



ROTARY ENCODER

Turn

To adjust volume, move up or down a menu structure, or adjust a specific setting.

Press

To select a highlighted option, confirm a setting. Press to step through each zone for volume adjustment.

Press and Hold

For quick access to subwoofer level adjustment



POWER

Press to turn the unit ON/OFF.

Press and Hold

Press and hold for 10 seconds to 'Reset' the stereo.



MENU

Press to enter Menu System. Press to return to previous screen.

Press and Hold

To exit the menu system.

ZONE OPERATION

The MS-RA200 Marine Stereo features Multi-Zone technology which enables 2 'Zones' with independent balance/volume control.

ZONE SETUP

Press the 'Menu' button and select 'Settings'. Select 'Zones' then the Zone you wish to setup.

VOLUME LIMIT

Select 'Volume Limit' to set the desired maximum output volume for each individual Zone.

BALANCE

Select 'Balance' to adjust the balance from left to right.

SUBWOOFER

Adjust the sub limit and filter.

SUB FILTER

Press the 'Menu' button and select 'Zones'. Select 'Subwoofer' then 'Sub Filter'. Select the desired frequency. 55hz - 85hz - 120hz - 160hz

SUB LIMIT

Press the 'Menu' button and select 'Zones'. Select 'Subwoofer' then 'Sub Limit'. Select the desired maximum subwoofer output volume.

Note: Press and Hold the 'Rotary Encoder' for quick access to subwoofer level adjustment.

Note: Subwoofer and Lineout volume control is linked to Zone 1.

SIRIUS SATELLITE RADIO

USA only - SIRIUS TUNER NOT INCLUDED

ACTIVATING YOUR SIRIUS TUNER

You must activate the SIRIUS tuner before you can begin to receive the SIRIUS Satellite Radio Service.

In order to activate your radio subscription, you will need the SIRIUS ID (SID) which uniquely identifies your tuner. The 12 digit SID is displayed on the LCD on initialization. The Marine Stereo will display the SID on Channel 0.

Power on your system and make sure that you are receiving good signal, you are able to hear audio on the SIRIUS Preview channel (Ch-184)

Note: Have your credit card handy and contact SIRIUS via the internet at <https://activate.sirius.radio.com/> and follow the prompts to activate your subscription. You can also call SIRIUS toll-free at 1-888-539-SIRIUS (1-888-539-7474) Once activated, you will be able to begin enjoying SIRIUS Satellite Radio's digital entertainment and can tune to other channels.

SIRIUS OPERATION

Press 'Source' to select Sirius Satellite radio source.

SIRIUS NAVIGATION

Press the 'Menu' button and navigate the functions.

CHANNELS

Select the desired channel (listed in channel order) and music preference

CATEGORY

Select the desired genre type. (The unit will only play the selected option)

FAVOURITES

Add your favourite channel to your favourites list by selecting 'Add Favourite' (Maximum 15 channels). Remove channels by selecting 'Remove Favourite'. Select 'All' or the individual channel. Exit by pressing the 'Menu' button.

Alternatively: Press and hold the 'Play' button to store favourite.

PARENTAL MODE

ENABLE ON/OFF

Select to enable channels to be locked/unlocked

PIN

Turn the 'Rotary Encoder' to select number and press to enter, repeat to enter the 4 digit code. (Factory setting is 0000)

Note: Must be entered before the following items are operational.

LOCK / UNLOCK

Select the channel to be locked or unlocked

SKIP / UN-SKIP

Select the channel to be bypassed

CHANGE PIN

Personalise your Pin number. (4 digits max)



BACK/PREVIOUS

Short Press

iPod/USB - Select the previous track.
AM/FM/Sirius/VHF - Start tuning down the frequency spectrum. (Auto/Manual tuning mode) or previous preset (Preset mode).

Press and Hold

iPod/USB - Rewind the current track.
VHF - Fast channel stepping.



FORWARD/NEXT

Short Press

iPod/USB - Select the next track.
AM/FM/Sirius/VHF - Start tuning up the frequency spectrum. (Auto/Manual tuning mode) or next preset (Preset mode).

Press and Hold

iPod/USB - Fast forward the current track.
VHF - Fast channel stepping.



SOURCE

Press to cycle through sources
AM - FM - VHF - iPod - USB - AUX
- SIRIUS (USA only)



PLAY/PAUSE

iPod/USB - Pause / resume the current track.
AM/FM/Sirius/VHF - Switch between Auto/Manual and Preset tuning mode.

Press and Hold

AM/FM/Sirius/VHF - Store the current station as a Preset.



MUTE

Mutes sound in all zones.

GENERAL OPERATION

INITIAL SETUP

Important: The Tuner Region must be selected for correct operation. Default - USA.

Important: The Marine Region must be selected for correct operation. Default - USA.

ADJUSTING THE VOLUME



Turn the 'Rotary Encoder' to adjust the volume.

ZONE VOLUME

Press the 'Rotary Encoder' to step through zones.



SETTINGS

- » Press the 'Menu' button and select 'Settings'.
- » Select the desired setting to adjust.

Note: Whilst in Settings the 'Menu' button acts as a back/return to the previous screen.

TONE

Adjust the treble and bass settings. Press the 'Rotary Encoder' to cycle between bass and treble selection.

LCD

Press the Rotary Encoder to cycle between Contrast and Brightness. Turn to adjust.

KEY SOUND

Press the Rotary Encoder to cycle between 'On' and 'Off'.

ZONE SETUP

The MS-RA200 Marine Stereo features Multi-Zone technology which enables 2 'Zones' with independent volume/balance control.

Select the Zone you wish to setup.
 Select 'Balance' to adjust the audio balance from left to right within the selected zone.
 Select 'Volume Limit' to set the maximum volume limit within the selected zone.

SUBWOOFER

Select 'Settings' then 'Zones' then 'Subwoofer'.

Select 'Sub Limit' to set the desired maximum subwoofer output volume.

Select 'Sub Filter' to select the desired cut-off frequency. 55hz - 85hz - 120hz - 160hz

Default: 85hz

Note: Press and Hold the 'Rotary Encoder' for quick access to subwoofer level adjustment

VIDEO PLAYBACK

Note: Requires the optional FUSION Marine Portable Media Device Dock (MS-DKIPUSB). Featuring composite video out which enables iPod/iPhone video playback on a compatible monitor or television.

Press the 'Menu' button to enter the iPod/iPhone menu. Select 'Videos' and select video to start playback.

SUBTITLES

Press 'Menu' and select 'Preferences'. Select 'iPod Video' then 'Subtitles'.



MONITOR

Press 'Menu' and select 'Preferences'. Select 'iPod Video' then 'Monitor'.

Select '4:3' or '16:9' aspect ratio.

FORMAT

Press 'Menu' and select 'Preferences'. Select 'iPod Video' then 'Format'.

Select 'NTSC' or 'PAL' video format.

NO iPod CONNECTED

If this appears on the display possible causes are

- » Ensure the iPod/iPhone is correctly connected
- » Ensure the cable is not excessively bent
- » The iPods battery remains low (refer to iPod manual and charge the battery)
- » Reset your iPod/iPhone

iPod/iPhone OPERATION

CONNECTING AN iPod/iPhone

Connect a FUSION Marine Dock for iPod (MS-DKIP or MS-DKIPUSB) to gain the benefits of integrated housing for your iPod or iPhone. Alternatively a certified Apple iPod cable can be used to connect your iPod/iPhone to the MS-RA200.

LISTENING TO AN iPod/iPhone

Press 'Source' button and cycle to iPod mode. Playback of the iPod/iPhone will start automatically.

iPod/iPhone NAVIGATION

Press the 'Menu' button to enter the iPod menu. The rotary encoder operates similar to the click wheel on your iPod. Turn to navigate and press to enter.

Note: Press the 'Menu' button to return to the previous menu screen.

-  **PLAY/PAUSE** Play or Pause the track
-  **BACK/PREVIOUS**
 - Short Press:** Selects previous track
 - Press and Hold:** Rewind track
-  **NEXT/FORWARD**
 - Short Press:** Selects next track
 - Press and Hold:** Fast-forward track

REPEAT

Press the 'Menu' button and select 'Preferences', select 'Repeat'.



SHUFFLE

Press the 'Menu' button and select 'Preferences', select 'Shuffle'.



F.A.S.T FUSION ALPHA SEARCH TECHNOLOGY

If your iPod contains more than 50 Artists, Songs or Albums you can use F.A.S.T to quickly navigate by letter or number.

Example: Press the 'Menu' button and select 'Artists'. Select 'D' and the first 'Artist' beginning with 'D' will automatically highlight. Using the 'Rotary Encoder' you can then scroll up or down from this selection.

F.A.S.T THRESHOLD

The threshold (number of items) at which point the Alpha Search screen appears for iPod menus can be changed. To change the threshold, navigate as follows - press the 'Menu' button and select 'Setup', then 'Searching'. Select your desired item number threshold.



LANGUAGE

Select the desired language for the on screen display English - Deutsch - Nederlands - Espanol - Italiano - Francais

POWER SAVE

Press the Rotary Encoder to cycle between 'On' and 'Off'.

- OFF** LCD/Button backlight on constantly
- ON** LCD/Button backlight turns off after one minute of non-activity

TUNER REGION

Select the appropriate Region.



Important: The correct Tuner Region must be selected. Default - USA.

MARINE REGION

Select the appropriate VHF Marine Region.



Important: The correct Marine Region must be selected. Default - USA.

Note: The MS-RA200 can be completely disconnected from the constant +12V voltage supply (Battery switch) with no settings lost.

RADIO OPERATION

SOURCE SELECTION

Press the 'Source' button and cycle to desired source.

▶ AM → FM → VHF → SIRIUS (USA only) ◀

STATION SEARCH

Press 'Play' to cycle between tuning seek modes.

▶ Auto → Manual → Preset ◀

AUTOMATIC SEEK TUNING

Press 'Play' to cycle to Auto tuning mode. Press the 'Previous' or 'Next' button to scan to the next station.

MANUAL SEEK TUNING

Press 'Play' to cycle to Manual tuning mode. Press the 'Previous' or 'Next' button to step up and down the spectrum.

PRESET STATION SELECTION

Press 'Play' to cycle to Preset tuning mode. Press the 'Previous' or 'Next' button to select previous or next preset.

PRESETS

STORING A STATION AS A PRESET

When listening to a frequency (AM/FM/VHF), press and hold the 'Play' button to store preset.

Alternatively: Press the 'Menu' button and select 'Presets'. Select 'Save Current'.

Note: There are 15 presets available per band.

VIEW PRESETS

Press 'Menu' and select 'Presets'. Select 'View Presets'. Use the 'Rotary Encoder' to cycle and select a saved preset.

REMOVE PRESET

Press 'Menu' and select 'Presets'. Select 'Remove Preset'. Select the desired preset.

REMOVE ALL PRESETS

Press 'Menu' and select 'Presets'. Select 'Remove All Presets'.

VHF OPERATION

SQUELCH

Press 'Menu' and select 'Squelch'.

Increase Squelch to filter out nearby chatter and decrease Squelch to receive all.

SCAN

Press 'Menu' and select 'Scan'.

The Marine Stereo will scan the VHF preset stations for an active channel.

It remains on the channel until the transmission ends, then resumes scanning.

Note: If the Squelch control is adjusted so you can constantly hear a hissing sound the unit will not scan correctly.

USB/MP3 OPERATION

SOURCE SELECTION

» Press the 'Source' button and cycle to USB.

» Press 'Menu' and select 'DISK'.

Note: We recommend you name your USB device allowing the device name to be displayed. Default name of a connected device is 'DISK'.

» Navigate USB device file structure and select Track to begin playback

REPEAT

Press the 'Menu' button and select 'Repeat', to repeat all playable tracks within the folder of the current selection. Default: On.

SHUFFLE

Press the 'Menu' button and select 'Shuffle', to shuffle all playable tracks within the folder of the current selection. Default: Off.

Important: Ensure the USB Device is formatted as Fat32 format.

AUX OPERATION

CONNECTING AN AUXILIARY AUDIO DEVICE

» The Left & Right AUX RCA plugs are located on accessory cable 'B' at the rear of the unit.

» Connect your auxiliary audio device.

Note: You may require an adapter cable to connect your device.

LISTENING TO YOUR AUXILIARY AUDIO DEVICE

» Press 'Source' and cycle to AUX mode.

» Start playback on your auxiliary audio device. Use both the volume control on your auxiliary device (if available) and the volume control on the FUSION Marine Stereo to set the volume level.