MARINE

6100m, 6000m, 2100m

wakeboard tower sound system instructions

Thank you

Infinity would like to take this opportunity to thank you for purchasing one of our products. In order that we may better serve you should you require warranty service, please retain your original purchase receipt. If you would like to register your product, please visit our Web site at www.infinitysystems.com.

Infinity

Introduction

WARNING!
Loud music can cause permanent damage to your hearing. We recommend listening to your system at moderate volume levels while driving your boat. Infinity accepts no liabilities for hearing loss, bodily harm or property damage resulting from the use or misuse of our products.

IMPORTANT
To get the best performance from your Infinity Marine Audio products, we strongly recommend that installation be entrusted to a qualified professional. Although these instructions explain how to install the Wakeboard Tower System in a general sense, they do not show specific installation methods that may be required for your particular application. If you do not have the necessary tools or experience, do not attempt the installation yourself. Instead, please ask your authorized Infinity car/marine audio dealer about professional installation.

NOTE: This marine product is not intended for automotive applications.

Installation Warnings

• Always wear protective eyewear when using tools.

• Turn off the audio system and other electrical devices before you start. Disconnect the (–) negative lead from your boat's battery and/or turn off the battery switch if you have a multiple battery setup.

• Check clearances on both sides of a planned mounting surface before drilling any holes or installing any screws. Remember that the screws can extend behind the surface and could puncture the boat's hull.

• At the installation sites, locate and make a note of all fuel lines, steering cables, and electrical wiring. Use extreme caution when cutting or drilling in and around these areas.

• Before drilling or cutting holes, use a utility knife to remove unwanted fabric or vinyl to keep material from snagging in a drill bit or mounting screws.

• When routing cables, keep input-signal cables away from power cables and speaker wires.

• When making connections, make certain they are secure and properly insulated.

Description

• The 6000m Wakeboard Tower Speakers are constructed of weatherproof cast-polymer, and have passed our most stringent tests to ensure that you get only the best quality product. The 6100m uses two active 6-1/2" polypropylene speakers with a 1" CMMD® tweeter. The cast-aluminum mounting brackets are adjustable to fit almost any commonly available tube (1-1/2" to 2-1/2") and can be configured for surface mounting.

• The 6100m Wakeboard Tower System is an all-in-one speaker system for your boat. The 6100m includes two all-weather speaker pods (6000m) with all of the mounting hardware, and a dedicated 2-channel amplifier with an integrated microphone and controls. This system allows you to listen to music while riding, and allows the driver to communicate back to the rider.

• The 2100m Marine Amplifier is a stand-alone amplifier that can be used with or without the 6100m system. This amplifier can be used to supply power to interior speakers or additional 6000m wakeboard tower speakers.

Cleaning and Precautions

Although the 6000m speaker pods are water- and salt-spray-resistant, keep in mind that the speakers are exposed and may be damaged during washdowns. Use only a damp cloth to wipe the speakers down. *DO NOT* spray water, or any liquids, directly at the speakers. High pressure may damage the speakers, especially the tweeters. The 6100m and 2100m amplifiers should be installed where they will not come in contact with water or other liquids. The amplifier could be damaged during washdowns.
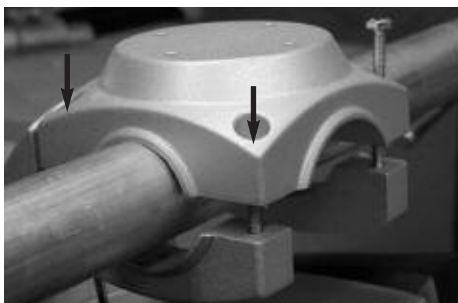
MOUNTING THE 6000M SPEAKERS

The 6000m speakers use a unique mounting bracket that works with various tube sizes and flat mounting surfaces. The speakers also incorporate a swivel feature that allows you to easily turn them once they're mounted.

TUBE-MOUNTING
The 6000m speakers can accommodate tower tubes that range from 1-1/2" to 2-1/2" in diameter. The top of the mounting bracket is made with two cutouts that allow the bracket to easily adjust to the tower. Simply rotate the bracket 90 degrees, depending on your application. Position the bottom bracket with the speaker and top bracket in place on the tower. Install the supplied 2-1/2" bolts through the top bracket and tighten in place using a 5mm hex-key wrench. While tightening the bolts, keep the bottom bracket parallel with the top bracket at all four corners of the bracket. Take special care not to overtighten the screws. Overtightening the screws may cause excess stress to the bracket and cause it to fracture. See Figure 1.

NOTE: There are four pre-tapped mounting holes (1/4-20 thread) on the top of each speaker bracket that can be used for mounting accessories, such as lighting. See Figure 2.

Figure 1. Clamping the brackets down.

SURFACE-MOUNTING
Some towers may have a flat support panel used to mount accessories such as lighting, board holders, radars, antennas or other accessories. If you wish to mount the 6000m speakers to this panel, use the 2-1/2" screws to clamp the bracket together, as shown in Figure 2. Using the four mounting holes in the top of the bracket, align the speaker with holes on the mounting plate on the tower. If there are no holes in the panel, use the bracket as a template to mark the locations of the four holes. Drill four new holes in the panel. DO NOT drill through the holes in the bracket. Insert the 1-1/4" bolts using the large washers and tighten using a 5mm hex-key wrench.

Figure 2. Surface-mounting.
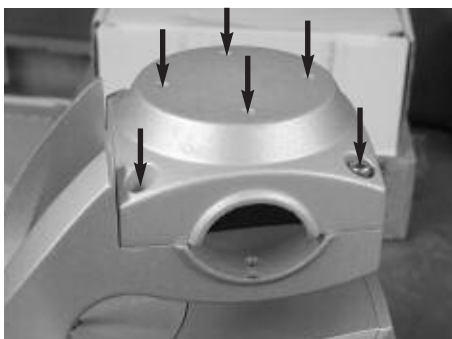
SWIVELING THE SPEAKERS
Located at the base of the speaker mounting bracket is a swivel-lock pin. Pull this pin up in order to swivel the speaker 270 degrees at 45-degree intervals. Once you have the speaker near the position that you want, release the pin and rotate the speaker until the pin locks in place.
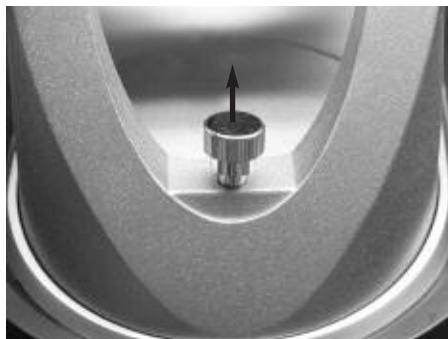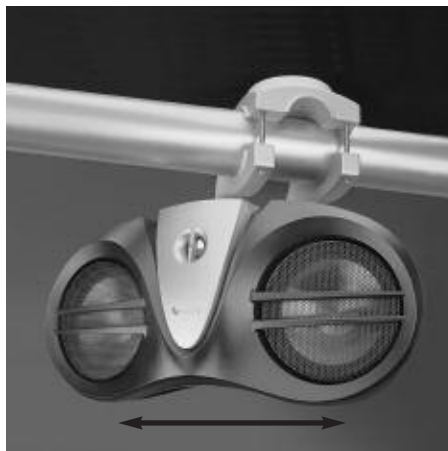
Figure 3. Pulling the swivel-lock pin up.

Figure 4. Swiveling the speaker.

CONNECTING THE SPEAKERS

Connect the speakers to an amplifier using the supplied speaker wires. The weatherproof connectors allow for quick connection and disconnection of the wires when installing and removing the speakers.

NOTE: The white-striped wire is the positive connection.

Run the wires along the tube and secure in place with plastic zip ties. If the tube has wire holes available, run the speaker wires through the tower tubes to the amplifier. Check to make sure the wires will not come in contact with sharp edges or metal that can damage the wires over time.

NOTE: The connectors are keyed to line up properly. Check for proper alignment before connecting.

Figure 5. Key notch.

MOUNTING THE AMPLIFIER

Mount the 6100m or 2100m amplifier in a location that is away from direct contact with water, whether from washing, big waves or soggy riders.

Choose a location in the boat where the amplifier will not be damaged by shifting cargo or passengers. If the amplifier is going to be under a seat, ensure that it is clear of all moving parts and will not affect the seat adjustments. If mounting the amplifier in an enclosed space, make sure there is plenty of air circulation for the amplifier to cool properly.

POWER CONNECTIONS
The 6100m/2100m amplifiers are capable of delivering high power levels, and require a reliable connection to the boat's electrical system in order to perform optimally. See Figure 7 for terminal location. Please adhere to the following instructions carefully:

GND TERMINAL
Connect the amplifier's Ground (GND) terminal directly to the boat's negative (–) battery terminal using a minimum of 8-gauge power wire.

+12V TERMINAL
Connect a minimum of 8-gauge power wire directly to the boat's positive battery terminal, and install an appropriate fuse holder within 18" of the battery terminal. Do not install the fuse at this time. Route the wire to the amplifier's location, and connect it to the amplifier's positive (+12V) terminal. Be sure to use appropriate grommets whenever routing wires through panels. Failure to adequately protect the positive wire from potential damage may result in a fire. When you are done routing and connecting this wire, you may install the fuse at the battery.

NOTE: If your boat uses a multiple battery setup, please contact the boat manufacturer or dealer for proper connection instructions.

REMOTE TERMINAL
Connect the amplifier's REMOTE terminal to the source unit's Remote Turn-On lead, using a minimum of 18-gauge wire. If your source unit does not have a remote turn-on connection, connect the amplifier's REMOTE terminal to the boat's accessory circuit.

NOTE: When using the Hi-level inputs, connect the REMOTE terminal to the source unit.

REMOTE OUT
If using additional amplifiers and tower speakers connect the REMOTE OUT terminal using a 1/4" spade connection to the Remote input terminal of the other amplifier. The REMOTE OUT works in conjuction with the Power switch on the microphone (please refer to page 5).

LINE IN
Connect to the source unit's line-level output using RCA cables.

LINE OUT
Can be used to pass signal from the Line In to additional amplifiers. Also has the option to pass paging information (refer to Page Ext switch).

SPEAKER CONNECTIONS
Refer to the application guides on the pages that follow. Speaker connections should be made using the supplied speaker wires. If additional wire is necessary, use a minimum of 16 awg. speaker wire.

Minimum speaker impedances:
6100m amplifier   4 ohms, stereo
2100m amplifer   2 ohms, stereo/4 ohms, bridged

HI-LEVEL INPUT CONNECTIONS
The 6100m and 2100m amplifiers are equipped with speaker-level inputs that allow you to add an amplifier to head units that do not have RCA line outputs. The speaker outputs for the source unit should be connected to the amplifier using the supplied connector (square four-wire plug). Remember to check for proper polarity.

Figure 6. Speaker-level connector.

HIGH-LEVEL INPUT

+ R –   + L –

GRAY +   – WHITE/BLACK
GRAY/BLACK –   + WHITE
L   R
Speaker Wires (spliced)
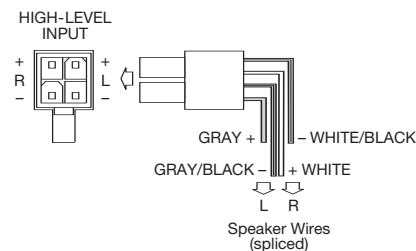
NOTE: When using the Hi-level inputs, the Line Out on the 6100m can be used to pass a full-range line-level signal to another amplifier.

CONTROLS AND SETTINGS

Setting the controls on the 6100m amplifier or 2100m amplifier.

SETTING THE GAIN
1. Start with the GAIN control set to minimum (counterclockwise) and set the music level on the microphone to maximum (clockwise).

2. Reconnect the negative (–) lead to the boat's battery. Apply power to the audio system and play a dynamic music track.

3. On the source unit, increase the volume control to 3/4 volume. Slowly increase the GAIN control until you hear slight distortion in the music. Then reduce the GAIN control slightly until distortion is no longer heard.

Figure 7. End plates.

6100m

2100m

PAGE EXT SWITCH
When set to the ON position, the Page Ext switch will allow the PA signal to pass through to another amplifier when using the Line Out outputs on the 6100m amplifier. Set to OFF if you do not want the PA signal to pass through to another amplifier and speakers.
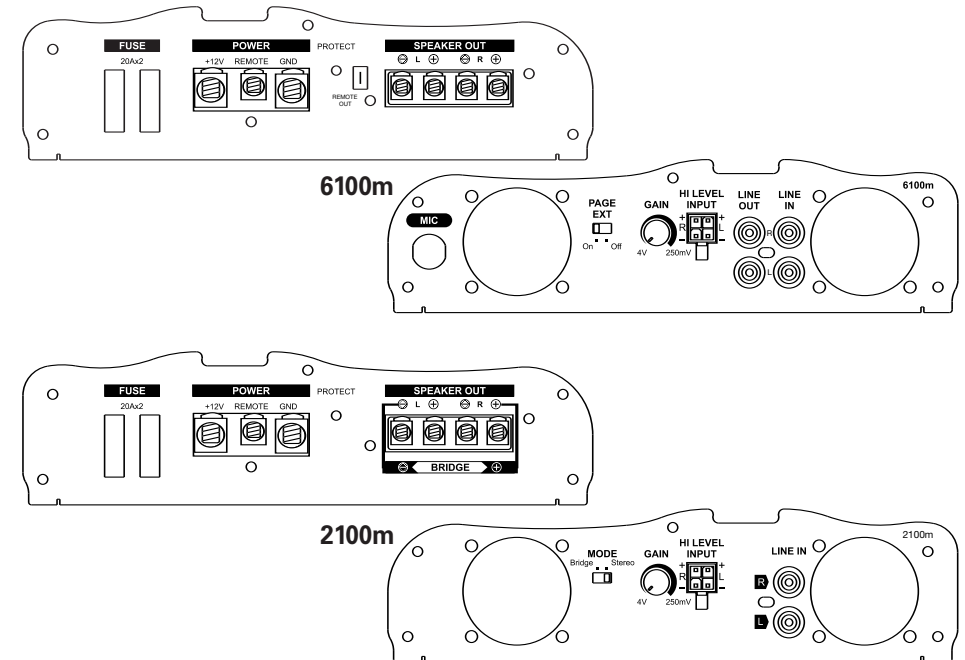
6100M MICROPHONE

MOUNTING THE MICROPHONE CONNECTOR PLATE
Locate a suitable place for the microphone plate to be installed. (Make sure that there are no wires or control lines behind this surface.)

Mark the four screw locations.

Draw an "X" between the mounting screw locations.

Using a 7/8" holesaw, drill a hole in the center of the "X" to allow the microphone cable to be passed through.

Predrill the mounting screw locations.

Route the microphone cable from the amplifier to the plate mounting location.

Pass the cable through the hole and secure to the plate using the supplied lock ring and ring tool.

Position the assembled plate over the mounting hole and secure, using the supplied screws.

Connect the microphone and install the weather-resistant cover.

Figure 8. Mounting the connector plate.
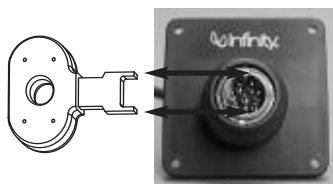
MOUNTING THE MICROPHONE HOLDER
Locate a position to secure the microphone holder and mark screw hole positions.

NOTE: This location should be within reach of the driver but should not hinder any of the normal operations of the boat or safety equipment (lights, steering, throttle control, etc.).

Predrill the holes.

Using three of the supplied screws, mount the holder.

Align the ring on the back of the microphone with the holder and slide in a downward motion. The microphone will click into the holder.

Figure 9. Mounting the microphone holder.
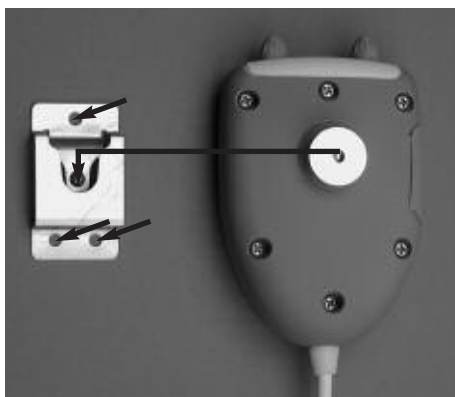
MICROPHONE OPERATION

POWER SWITCH
OFF – Turns the 6100 system off.

AUTO – Allows the 6100m system to operate in conjunction with the REMOTE trigger from your head unit.

ON – Turns the 6100m system ON; allows the PA feature to be used without having to turn the audio system on.

NOTE: When you've finished using the system, make sure the Power switch is placed in the AUTO or OFF position. If the system is left in the ON position for an extended period of time, it may deplete the battery.

CONTROLS
Music level – Adjusts the volume of the music that is played through the 6100m system.

Page level – Adjusts the volume level of the paging system.

OPERATIONS AND WARNINGS
To operate the microphone, push in and hold the MIC button while speaking. Release the button once you are finished.

Hold the microphone approximately 3–6 inches from your mouth. Refrain from shouting into the microphone; this can cause distortion at higher volumes.

If you hear feedback (squeal) while using the Page system, move the microphone away from your mouth and/or reduce the page level.

Figure 10. Microphone.

APPLICATIONS

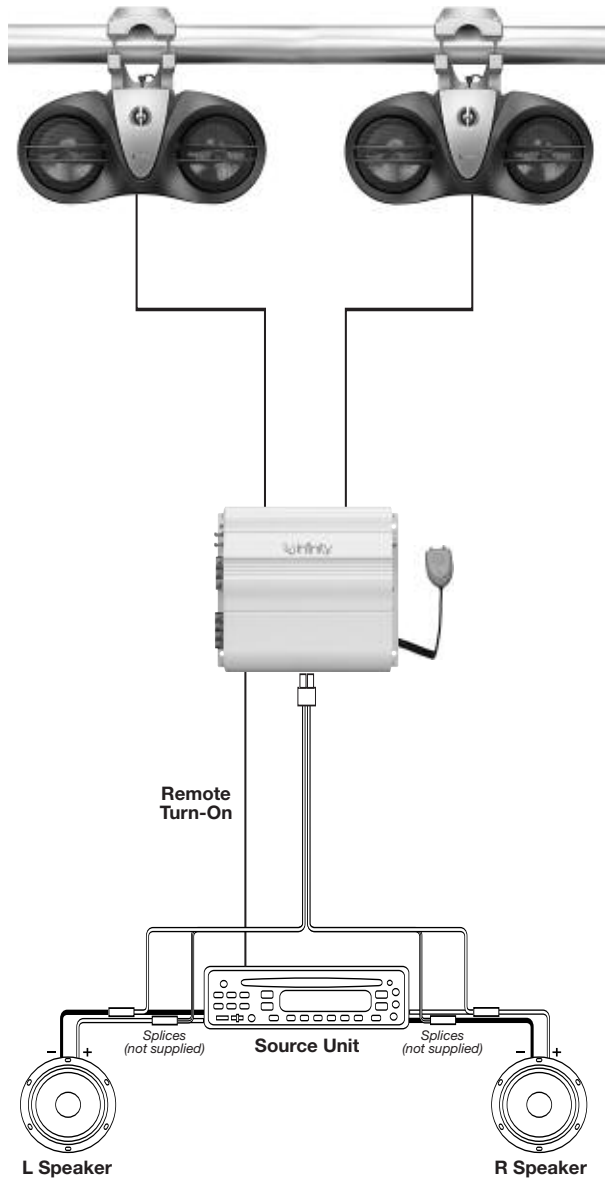**Figure 11.** 6100m System speaker-level connection.

Remote Turn-On

Splices (not supplied)   **Source Unit**   *Splices (not supplied)*

L Speaker   **R Speaker**

Figure 12. 6100m System line-level connection.

LF Speaker   Remote Turn-On   **RF Speaker**

Source Unit

LR Speaker   **RR Speaker**
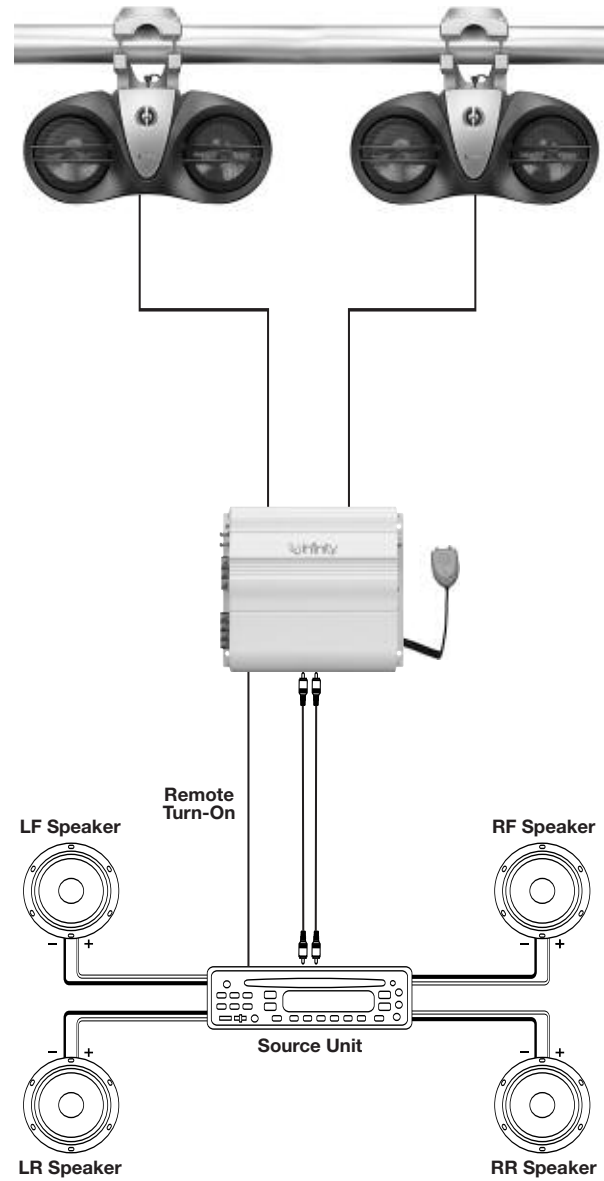
APPLICATIONS

Figure 13. 6100m System with a 2100m amplifier powering internal boat speakers.
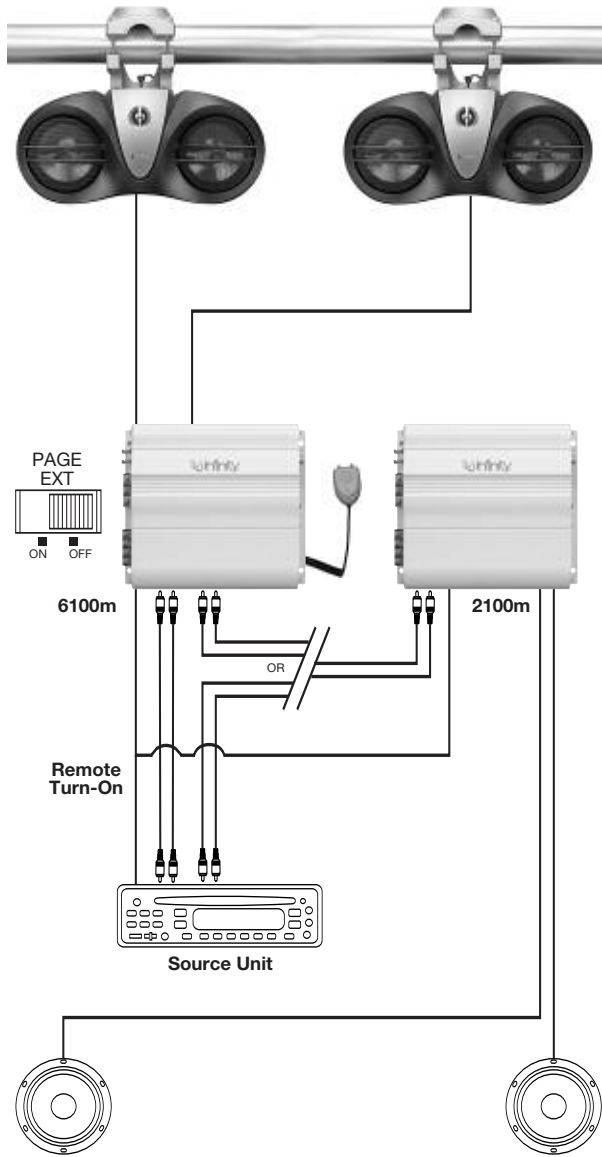
Figure 14. 6100m System with a 2100m amplifier and 6000m speakers.

PAGE
EXT
ON   OFF

6100m   2100m

OR

Remote
Turn-On

Source Unit

PAGE
EXT
ON   OFF

6100m   2100m

LF Speaker

Remote
Turn-On

Remote
Out

RF Speaker

Source Unit

LR Speaker   RR Speaker
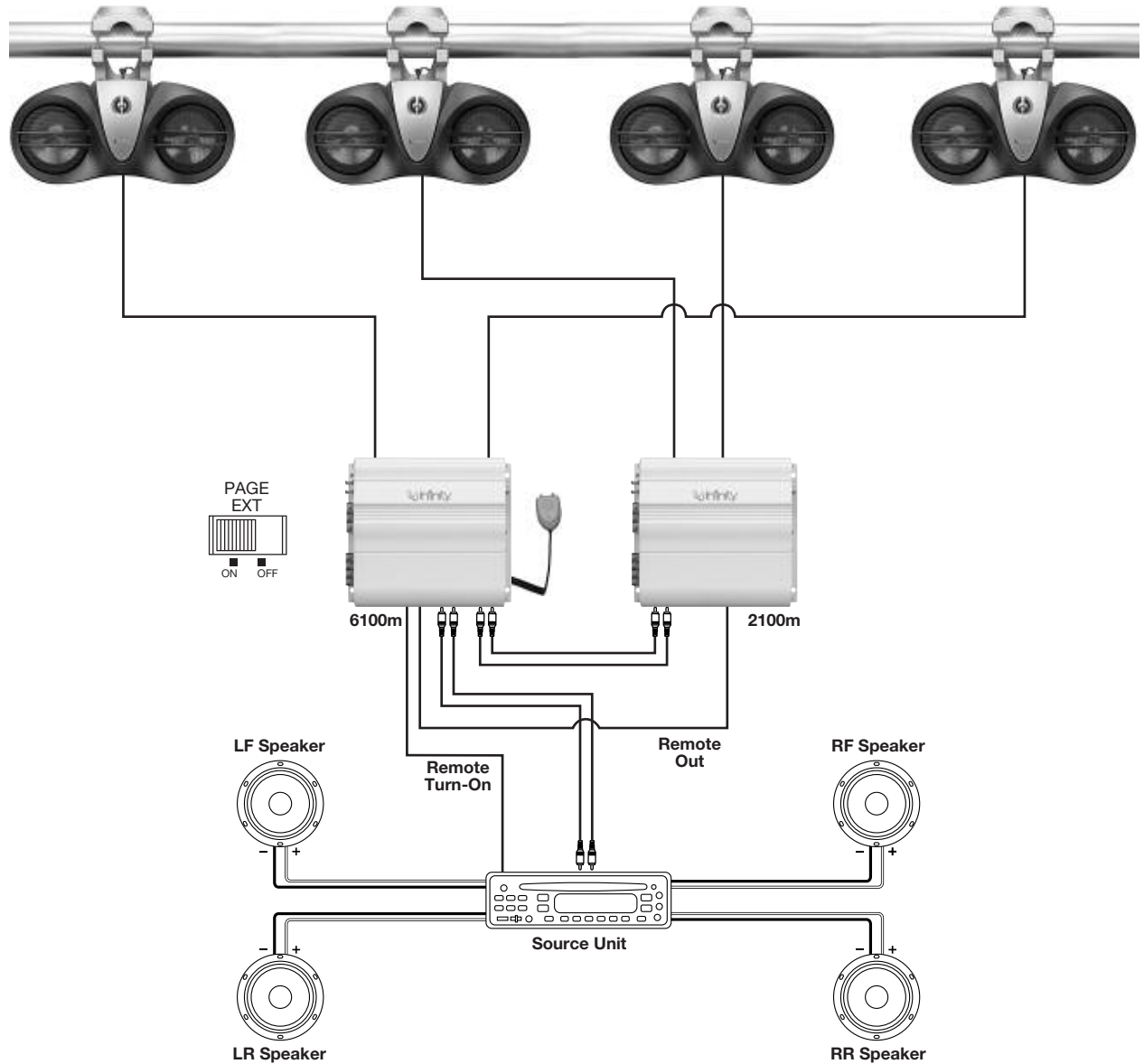
NOTE: If the 6100m is turned off using the Power switch, there is no signal pass-through on the LINE OUT connections.

NOTE: Match the gain of the output of the two speaker sets so they perform at the same volume level.

TROUBLESHOOTING

• **PROBLEM:**
No audio (POWER LEDs are off).

CAUSES and SOLUTIONS:
1. No voltage at Batt + or remote terminal.
   – Check all power connections with a VOM.
2. Poor ground connection.
   – Check fuses.
3. Microphone power switch is off.
   – Check power switch on Mic.

• **PROBLEM:**
No audio (POWER LEDs are on).

CAUSE and SOLUTIONS:
1. No input signal or no speaker signal.
   – Check all input connections from source unit.
   – Check all speaker connections.
   – Check fader control on head unit.

• **PROBLEM:**
No audio (blue LED on – red LED flashing).*

CAUSES and SOLUTIONS:
1. Over or under voltage.
   – Battery voltage above 16 volts or below
     10 volts. Check battery and charging system
     for proper operation.
2. Shorted output.
   – Check speaker connections and wires.

* **NOTE:** The microphone has a blue power LED
and the amplifier has a red power LED.

• **PROBLEM:**
No audio (blue LED off, red LED flashing).**

CAUSE and SOLUTION:
1. Thermal protection.
   – Turn the system off and allow the amplifier
     to cool off.

• **PROBLEM:**
Distorted audio (blue LED on, red LED off).

CAUSES and SOLUTIONS:
1. Gain control is set too high, or amplifier or
   source unit is defective.
   – Check gain setting.
   – Source unit output is distorted.
2. Short circuit in speaker wires.
   – Check speaker wires for shorts or grounds.

• **PROBLEM:**
Music lacks punch.

CAUSE and SOLUTION:
1. Speakers are not connected properly.
   – Check speaker connections for proper
     polarity.

• **PROBLEM:**
No audio from page.

CAUSES and SOLUTIONS:
1. Microphone is not connected properly.
   – Check microphone connections.
2. Page level set to minimum.
   – Check level control on microphone.

• **PROBLEM:**
Page is distorted.

CAUSES and SOLUTIONS:
1. Page level is too high.
   – Reduce page level.
2. Shouting into microphone.
   – Hold microphone away from face.

• **PROBLEM:**
Feedback.

CAUSES and SOLUTIONS:
1. Squealing sound from the speakers when
   using the Paging system.
   – Reduce page level on microphone.
   – Increase distance between microphone
     and mouth while speaking.

A valid serial number is required for warranty coverage.

Features, specifications and appearance are subject to change without notice.

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Declaration of Conformity

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We, Harman Consumer Group International
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declare in own responsibility that the products described in this owner's
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EN 61000-6-3:2001
EN 61000-6-1:2001

Klaus Lebherz
Harman Consumer Group International
Château du Loir, France 8/06

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EN 55013:2001+A1:2003
EN 55020:2002+A1:2003

Klaus Lebherz
Harman Consumer Group International
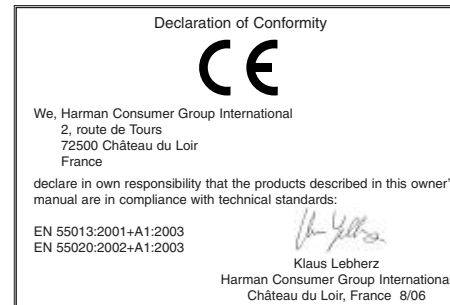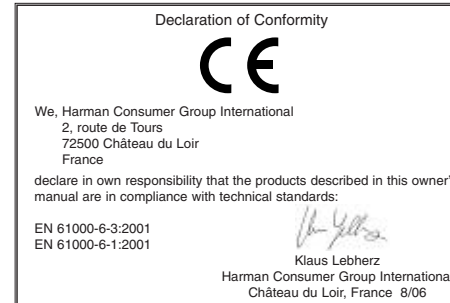Château du Loir, France 8/06

SPECIFICATIONS

6100m
• 125W x 2 ch.
• Frequency Response: 10Hz – 40kHz
• Signal-to-Noise Ratio: 91dB
• Line-Level Input Sensitivity: 250mV – 6V
• Speaker-Level Input Sensitivity: 6V – 16V
• Speakers: 11" x 18" x 14-1/2"
• Amplifier: 8-1/8" x 8" x 2-3/8"
• Microphone: 1-1/4" x 2-1/2" x 3-5/8"
• Min. Speaker Impedance: 4 ohms, stereo

6000m
• Power Handling: 150W
• Peak Power Handling: 450W
• Sensitivity: 93dB @ 2.83V
• Frequency Response: 80Hz – 20kHz
• Impedance: 4 ohms
• Polypropylene Cone
• Cast-Polymer Basket
• CMMD™ Tweeter
• Rubber Surrounds
• UV-Resistant
• Water-Resistant
• Salt-Spray-Resistant
• 11" x 18" x 14-1/2"

2100m
• 125W x 2 ch. @ 4 ohms
• 150W x 2 ch. @ 2 ohms
• 250W x 1 ch. @ 4 ohms
• Frequency Response: 10Hz – 40kHz
• Signal-to-Noise Ratio: 91dB
• Line-Level Input Sensitivity: 250mV – 6V
• Speaker-Level Input Sensitivity: 6V – 16V
• 8-1/8" x 8" x 2-3/8"
• Min. Speaker Impedance: 2 ohms, stereo
                                  4 ohms, bridged