

*stage*

Setting up and  
using your KM-Z1  
Power Amplifier

KENWOOD



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*Safety First*

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### **Warning:**

To prevent fire or electric shock, do not expose this unit to rain or moisture.

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### **Caution:**

To prevent electric shock, match the wide blade of the plug to the wide slot in a wall socket, and insert fully.

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### **Caution:**

To reduce the risk of electric shock, do not remove the unit's cover. There are no user-servicable parts inside. Have the unit serviced by qualified service personnel.

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### **Safety Symbols**

We've placed these safety symbols on the back of the unit.



The lightning bolt symbol is to alert you to the danger of electric shock from the operating electric parts inside the unit.



The exclamation point symbol is to let you know that there are important operating and servicing instructions in this manual that you should read before you operate this unit.

## About the power supply

This unit is designed for operation in the USA and Canada using a power supply of AC 120 volts only.

## Safety Precautions

Read this page carefully to ensure safe operation.

Please read all of the safety and operating instructions before operating this unit. Adhere to all warnings on the unit and in this manual. Follow all the safety and operating instructions. These safety and operating instructions should be retained for future reference.

- 1 Power sources.** The unit should be connected to a power supply only of the type described in this manual or as marked on the unit. If you are not sure of the type of power supply to your home, consult your unit dealer or local power company. For units intended to operate from battery power, or other sources, refer to the instruction manual.
- 2 Power-cord protection.** Power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the unit.
- 3 CAUTION—Polarization.** This unit may be equipped with a polarized alternating-current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your outlet. Do not defeat the safety purpose of the polarized plug.
- 4 Ventilation.** Slots and openings in the cabinet are provided for ventilation and to ensure reliable operation of the unit and to protect it from overheating, and these openings must not be blocked or covered. The unit should be situated so that its location or position does not interfere with its proper ventilation.
  - To maintain good ventilation, do not put records or a table-cloth on the unit. Place the unit at least 4 inches away from the walls.
  - Do not use the unit on a bed, sofa, rug or similar surface that may block the ventilation openings. This unit should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer's instructions have been adhered to.
- 5 Water and moisture.** The unit should not be used near water, for example, near bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, etc.
- 6 Temperature.** The unit may not function properly if used at extremely low, or freezing temperatures. The ideal ambient temperature is above +41°F.
- 7 Heat.** The unit should be situated away from heat sources such as radiators, heat registers, stoves, or other units (including amplifiers) that produce heat.
- 8 Electric Shock.** Care should be taken so that objects do not fall and liquid is not spilled

into the enclosure through openings. If a metal object, such as a hair pin or a needle, comes into contact with the inside of this unit, a dangerous electric shock may result. For families with children, never permit children to put anything, especially metal, inside this unit.

- 9 **Enclosure removal.** Never remove the enclosure. If the internal parts are touched accidentally, a serious electric shock might occur.
- 10 **Cleaning.** Unplug this unit from the wall outlet before cleaning. Do not use volatile solvents such as alcohol, paint thinner, gasoline, or benzine, etc. to clean the cabinet. Use a clean dry cloth.
- 11 **Lightning.** For added protection for this unit during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the unit due to lightning and power-line surges.
- 12 **Abnormal smell.** If an abnormal smell or smoke is detected, immediately turn the power OFF and unplug the unit from the wall outlet. Contact your dealer or nearest service center.
- 13 **Damage requiring service.** The unit should be serviced by qualified service personnel when:
  - The power-supply cord or the plug has been damaged.
  - Objects have fallen, or liquid has been spilled into the unit.
  - The unit has been exposed to rain or water.
  - The unit has been dropped, or the enclosure damaged.
  - The unit exhibits a marked change in performance.
  - The unit does not appear to operate normally by following the instruction manual.
  - Adjust only those controls that are covered by the instruction manual as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the unit to its normal operation.
- 14 **Servicing.** The user should not attempt to service the unit beyond that described in the instruction manual. All other servicing should be referred to qualified service personnel.
- 15 **Power lines.** An outside antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can fall into such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits as contact with them might be fatal.
- 16 **AC outlets.** Do not connect other audio equipment with a power consumption larger than that specified to the AC outlet on the rear panel. Never connect other electrical units, such as an iron or toaster, to it to prevent fire or electric shock.
- 17 **Overloading.** Do not overload wall outlets, extension cords, or integral convenience receptacles as this can result in a risk of fire or electric shock.
- 18 **Attachment.** Do not use attachments not recommended by the unit manufacturer as they may cause hazards.
- 19 **Replacement parts.** When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as

the original parts. Unauthorized substitutions may result in fire, electric shock, or other hazards.

**20 Safety check.** Upon completion of any service or repairs to this unit, ask the service technician to perform safety checks to determine that the unit is in proper operating condition.

**21 Carts and stands.** Don't put this unit on a cart or stand that is unsteady or that can not support the unit's weight. If you move this unit on a cart or stand, be careful—quick stops, excessive force and pushing over or uneven surfaces, may cause the cart to overturn and damage your equipment.



### **FCC Warning**

This equipment may generate or use radio frequency energy. Changes or modifications to this equipment may cause harmful interference unless the modifications are expressly approved in the instruction manual. The user could lose the authority to operate this equipment if an unauthorized change or modification is made.

### **Important**

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment may cause harmful interference to radio communications if it is not installed and used in accordance with the instructions. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment OFF and ON, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help

### **Canadian IC Compliance Notice**

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.



Kenwood's KM-Z1 Power Amplifier is specially designed for home theater systems with multiple channels (left, right, surround, and so on). Superior technology ensures top-quality high power output:

- Home THX<sup>®</sup> certification indicates that the amplifier adheres to Lucasfilm's stringent performance standards.
- Dual power supplies deliver the power needed for exceptional performance in multiple channels, without distortion.
- Twin 2-speed cooling fans and heat sink tunnels cool the unit during high-power operation.

### **About this manual**

Setting up your amplifier isn't hard, but you should follow the instructions in this manual carefully to get maximum performance.

Use these instructions with those in the manuals for any other equipment you're connecting (like a controller/tuner, speakers, CD, cassette, or laser disc players, VCRs or televisions).

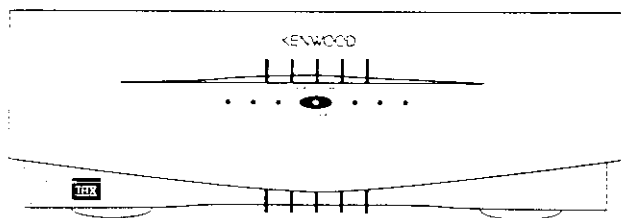
### **Unpacking your amplifier**

Unpack your amplifier carefully, and examine it for shipping damage. If it is damaged or fails to operate, notify your Kenwood dealer immediately. If your amplifier was shipped to you directly, notify the shipping company without delay. Only the person or company who originally received the amplifier can file a claim against the carrier for shipping damage.

*Keep the original carton and packing materials in case you need to transport or ship your amplifier in the future.*

## In this box, you should have:

- Kenwood KM-Z1 Power Amplifier (1)



## You will need to purchase:

- Speaker wire
- Audio connecting cable

We ask you to buy speaker wire separately, since we don't know how much wire you will need. Your home theater system will sound better if you use the correct gauge of speaker wire. Depending on the length of the wire you need, Lucasfilm's THX division recommends the following:

<b>For wire this long</b>	<b>Use this gauge</b>
Up to 24 feet	16 gauge or larger
Up to 36 feet	14 gauge or larger
Up to 58 feet	12 gauge or larger

*The smaller the number, the thicker the wire, so 12-gauge wire is thicker than 16-gauge wire.*

## For your records

Record the serial number (it's on the back of the amplifier) on the warranty card, and in the space below. If you need to call your dealer for information or service, you'll need the model and serial numbers. And be sure to save your original receipt.

Model: **KM-Z1**

Serial Number:



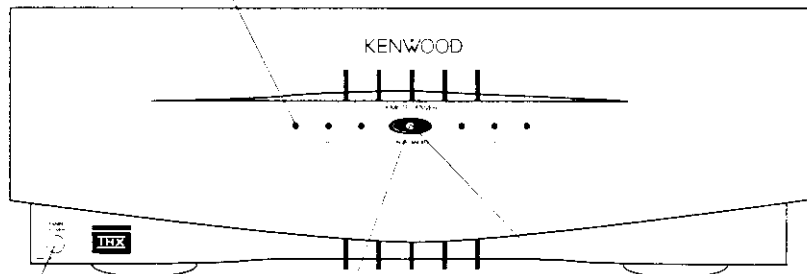
# About Your Amplifier



## Using the controls

### Channel Indicators

Glow blue when the unit is ON and turn off when the unit is in STANDBY



### Main Power Button

Press to turn the power ON

### Remote Power Button

Press to cycle the unit between ON and STANDBY

### ON/Standby Indicator

Glow red when the unit is in STANDBY  
Glow green when the unit is ON  
Flashes red when protection circuits have activated



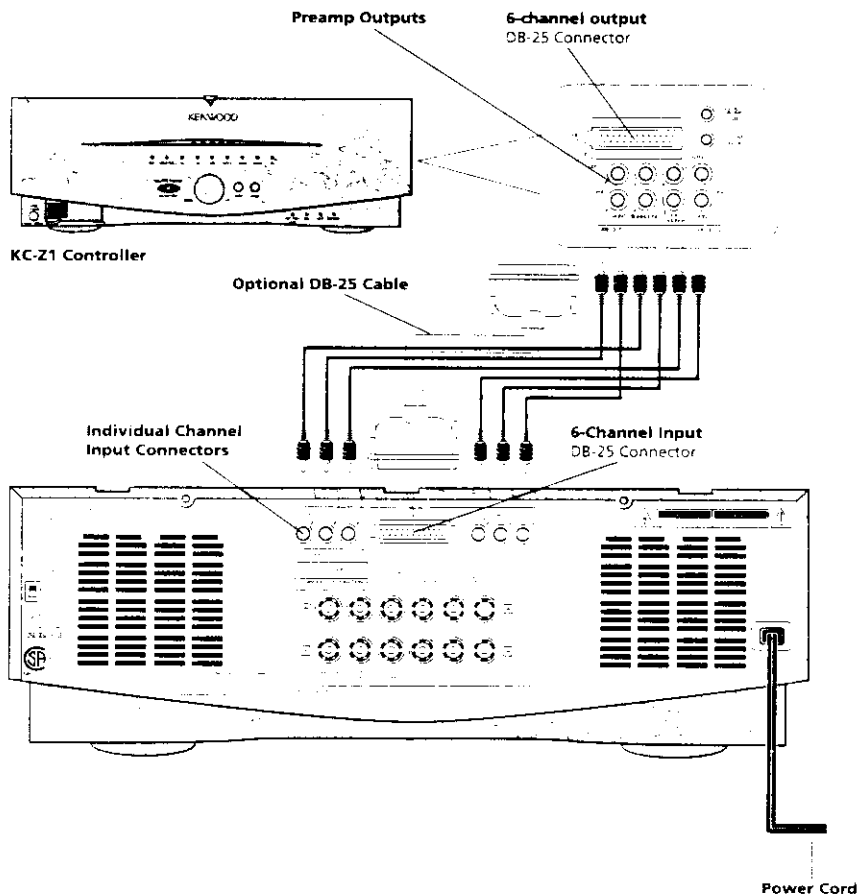
## *Setting Up Your Amplifier*

### **Placing your amplifier**

High-powered amplifiers such as this can produce large amounts of heat. For that reason, it's important to allow plenty of ventilation.

- Leave at least 4 inches of space above and behind the amplifier.
- Leave at least 2 inches of space in front of, and on each side of the amplifier.
- Make sure that nothing blocks the fan intakes on the rear panel of the amplifier.
- If you place the amplifier inside a stereo rack or cabinet, make sure that you leave the door open slightly while the amplifier is on.

## Connecting your amplifier



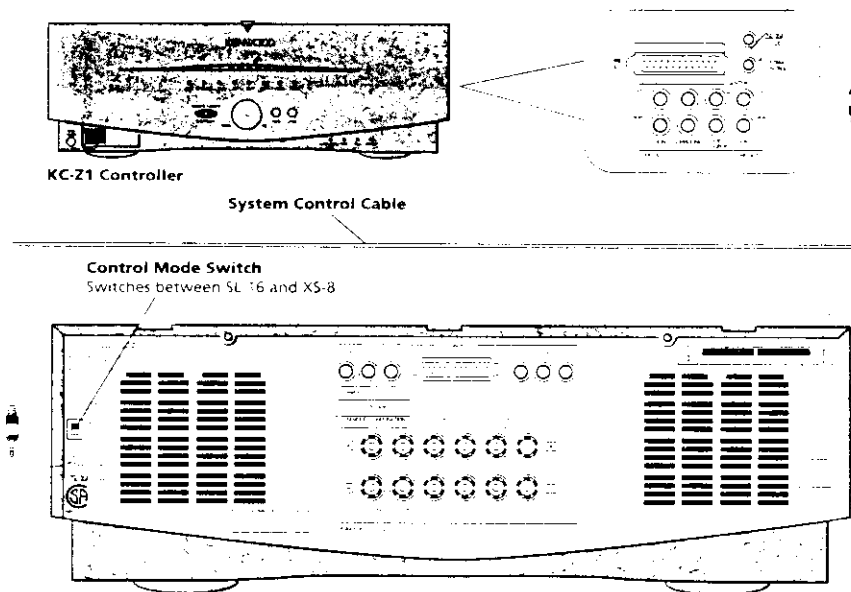
### Note:

- If you use the DB-25 connector, be sure to buy a *shielded* audio DB-25 cable. (Most DB-25 cables are designed for computers and are not shielded). Contact the dealer where you bought your KM-Z1.
- Do not use both the DB-25 connectors and the individual channel inputs at the same time.

## Connecting the System Control cable

System Control connects various Kenwood components together to operate as a single system. When you connect the KM-Z1 Power Amplifier to a Kenwood Controller or Receiver with System Control, you can turn the amplifier ON and OFF automatically with the rest of the system. Connect the System Control cable as shown in this diagram:

### System Control Connections

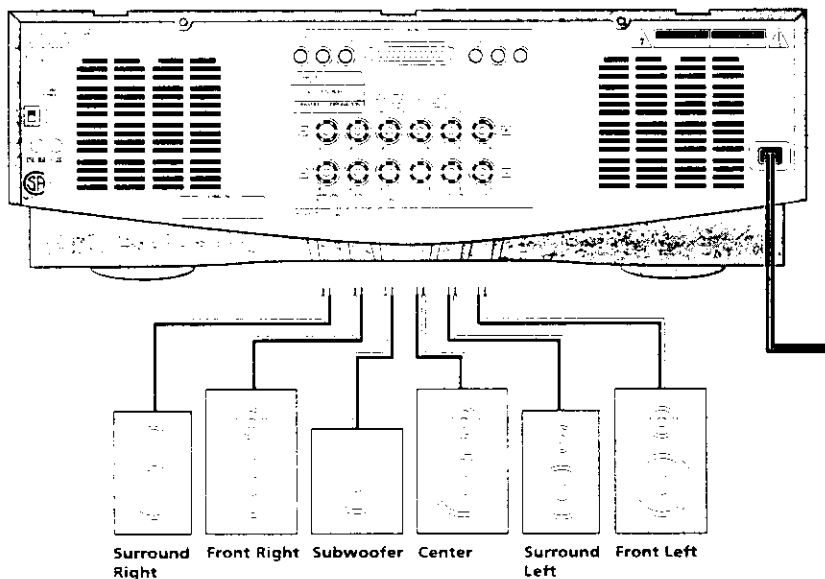


## Setting the System Control switch:

- If you're using your KM-Z1 with a Kenwood KC-Z1 Controller or a Kenwood receiver using SL-16 control, set the KM-Z1's System Control switch to 'SL-16'.
- If you're using a Kenwood Controller or Receiver with System Control connectors labelled 'XS' or 'XS-8', set the KM-Z1's System Control switch to 'XS-8'. If the KM-Z1 is ON when you set the switch, you must turn the amplifier's MAIN POWER switch OFF and then ON again to change the System Control setting.

## Connecting your speakers

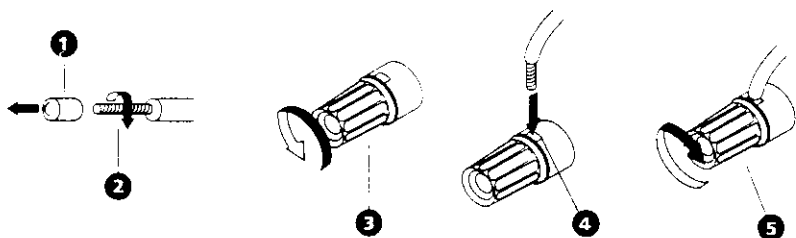
*Important! Be sure to unplug the power cord from the wall outlet before making any connections.*



- Place the speakers in their approximate locations first—then leave a little extra speaker wire so you can fine-tune their location.
- Use good quality speaker wire or cable—if you're not sure, talk to the staff where you bought your amplifier.
- You can use regular speaker wire or speaker cable with banana-plug connections.
- Be sure to connect the positive connections of the speakers to the positive connections of the amplifier, and the negative connections of the speakers to the negative connections of the amplifier. If you reverse some of the connections, you may get poor stereo imaging and poor bass response.
- Never allow the positive and negative speaker wires to touch each other (this will cause a short-circuit which could damage your amplifier).
- Be sure to read the manuals that came with your speakers for more specific instructions.

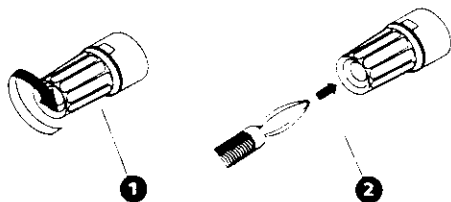
## Using speaker wire

- 1 Strip 1/2 inch of the plastic insulation from the end of the wire.
- 2 Twist the wire to get rid of the loose strands.
- 3 Loosen the terminal.
- 4 Insert the wire.
- 5 Tighten the terminal.
- 6 Check to make sure that no strands from one terminal touch any other terminal.



## Using banana plugs

- 1 Tighten the terminal.
- 2 Insert the banana plug into the hole in the rear of the connector.





## Troubleshooting Guide

Sometimes things just don't seem to be working right. If this happens:

- First, see if the problem is listed below.
- If you still can't solve the problem, call the store where you purchased your amplifier or call a Kenwood-authorized repair service.
- If you have a problem with another component, check the manual for that unit.

### **No sound from one or more speakers**

- Check that the speaker cables are properly connected.
- Check that the input cables (from the receiver or controller) are properly connected.
- Check that your preamplifier or receiver is working properly.

### **The sound cuts in and out**

- Reset the amplifier's microcomputer:
  - 1 Unplug the power cord from the wall outlet.
  - 2 Press the MAIN POWER button so that it is in the ON position.
  - 3 While you press and hold the REMOTE POWER button, plug the power cord back into the wall outlet.

### **The STANDBY indicator blinks but there is no sound**

- Check that the speaker cables are not short-circuited (any of the + and - wires touching each other). If they are, turn the amplifier's power OFF and get rid of the points where the wires touch.
- If the amplifier's internal temperature has risen too high, the protection circuitry may have activated. If it has, turn the power OFF and wait for the amplifier to cool

before turning it ON again. Check your installation to make sure that it conforms to the recommendations listed under 'Placing Your Amplifier'.

### **The STANDBY indicator does not turn ON when the amplifier is plugged into the wall outlet**

- Reset the amplifier's microcomputer:
  - 1 Unplug the power cord from the wall outlet.
  - 2 Press the MAIN POWER button so that it is in the ON position.
  - 3 While you press and hold the REMOTE POWER button, plug the power cord back into the wall outlet.

### **The amplifier (connected with a System Control cable) does not turn ON or OFF when the Kenwood controller or receiver is switched ON or OFF**

- Check that the System Control cable is properly connected between the 2 components.
- Check that the System Control switch (on the rear panel) is set in the proper position.
- Reset the amplifier's microcomputer:
  - 1 Unplug the power cord from the wall outlet.
  - 2 Press the MAIN POWER button so that it is in the ON position.
  - 3 While you press and hold the REMOTE POWER button, plug the power cord back into the wall outlet.

### **Other problems not listed here**

If you have problems with your amplifier that aren't listed here, or that you can't solve yourself, please contact the store where you purchased the unit. They should be able to help you get the unit to work properly, or make arrangements to do so.





# Specifications

*Due to product upgrades, specifications may change without notice.*

## **Continuous Rated Output Power (FTC)**

Stereo: Left and Right channels	135 watts minimum RMS/channel, both channels driven at 8 ohms from 20 Hz to 20 kHz with no more than 0.02% total harmonic distortion
Surround: All channels	130 watts minimum RMS/channel, both channels driven at 8 ohms from 20 Hz to 20 kHz with no more than 0.02% total harmonic distortion
Surround: All channels	150 watts minimum RMS/channel, both channels driven at 6 ohms from 20 Hz to 20 kHz with no more than 0.02% total harmonic distortion

## **Damping Factor:**

240 (50 Hz)

## **Total Harmonic Distortion**

Surround: All channels	0.02 % (20–20 kHz, 130 watts, 8 ohms) 0.001 % (1 kHz, 65 watts, 8 ohms)
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## **Frequency Response:**

Surround: All channels	3 Hz–100 kHz, +0, -3 dB
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## **Signal-to-Noise Ratio (IHF '66):**

Surround: All channels	≥125 dB
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**Input Sensitivity/Impedance**

Surround: All channels

1.1 V/30 k-ohm

**Power Consumption:**

9 amps

**Dimensions**

Width:

17-5/16 inches (440 mm)

Height:

6-1/4 inches (159 mm)

Depth:

17-11/16 inches (449 mm)

**Net weight:**

52.9 lbs

(24 kgs)