

# PHOENIX GOLD

I·H INNOVATIVE  
H O M E

## MX1230

### User Manual



Twelve Channel Bridgeable Amplifier  
with 4 Mode Buss System

# Safety Information



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 electrical shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

To prevent electric shock please read and follow all cautions and instruction carefully.

**WARNING:** To reduce the risk of fire or electric shock, do not expose this appliance to rain or moisture.

**CAUTION:** To reduce the risk of electric shock, do not remove cover (or back); no user serviceable parts inside. Refer servicing to qualified service personnel.

**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.

## AC Mains Fuse

MX1230 115-117VAC - 10A 250V Slo-Blo

MX1230 230-240VAC - 5A 250V Slo-Blo



## IMPORTANT SAFETY INSTRUCTIONS

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with a damp cloth.
7. Do not block any of the ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the grounding-type plug. A grounding type plug has two blades and a third grounding prong. The third prong is provided for your safety. When the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plug, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with a cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.



**WARNING:** To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture. The apparatus shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on the apparatus.

# MX 1230

## Twelve Channel Bridgeable Amplifier



Congratulations on your purchase of the Innovative Home MX1230. Please take a few moments to read this entire manual, and be sure to retain this document for future reference. Please read and observe all safety instructions detailed on page two (2).

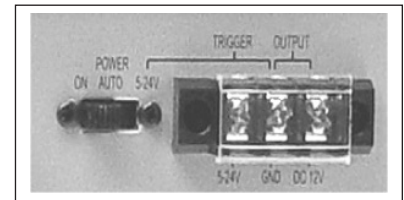
**!** *Note: If any part of this product is damaged or missing, please call your dealer or Phoenix Gold Home Products directly at 800-435-7115 or 503-286-9300.*

### Using the Controls / Front Panel

#### Power

The front panel switch will manually switch the MX1230 on or off. A blue LED behind the logo lens indicates its power status. Whenever the amplifier's power switch is in the "ON" position the front panel lens is illuminated blue.

If the Amplifier is "Active" while using the Signal Sensed power or DC Triggered power function the clear ring around the power switch is illuminated blue. If the amplifier is inactive in these modes the ring around the power switch is not illuminated.



### Using the Controls / Back Panel

#### Power

The MX1230 can be turned on and off independently via a switch on the front panel, by signal sensing, or remotely by a triggered DC input. There is a switch located on the upper right rear of the amplifier to select how you would like to turn on the MX1230. If you would like to control the unit's power on / power off status manually from the front, place the switch in the "ON" position. If you would like to control the unit's power on / power off status by means of signal sensing, place the switch in the "AUTO" position. If you would like to control the unit's power on / power off status by a DC remote trigger, place

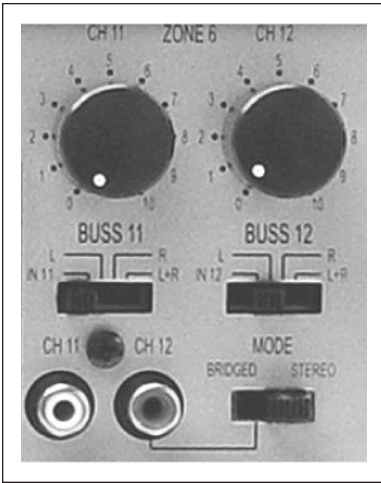
**!** *Note: The front panel power switch must be in the "ON" position for the 12V triggers or "Auto ON" features to operate.*

the switch in the "5-24V" position, and connect the remote triggering wire and ground from your triggering device to the terminal labeled "TRIGGER (5-24V)" next to the switch.

You must also connect the ground terminal (GND) to ground for the trigger circuit to be complete. A third terminal on the same block is labeled "OUTPUT (DC 12V)". This allows for remote turn-on of other devices when the MX1230 is powered on. Please read the owner's manual for any devices you are attempting to connect in this manner to ensure compatibility.

## Independent Volume Control

Each channel is able to control its volume independently relative to the other channels. At the top of the rear panel, there are 12 black knobs which correspond to the volume level of the channel identified by a channel number above it. The volume range is labeled 0-10 and has 40 steps (clicks) from minimum to maximum output. Rotate the knob clockwise to increase output, and counterclockwise to decrease output.



## BUSS Switches

Each channel (12 channels total) can be configured for any of four different input sources. Below the volume knob is a four-position switch to allow the user to change these configurations. The options are listed above the switch from left to right as "IN-1" (or 2 for channel 2; 3 for channel 3, etc.), "L", "R", and "L+R". "IN-1"/"IN-2"/"IN-3", etc. should be used only when there is an independent source for each channel.

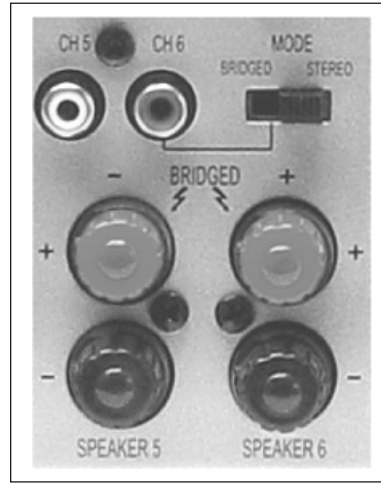


There must be an RCA cable plugged into the corresponding input for that channel (found just below that channel's BUSS switch) in order for this configuration to work.

"L", "R", and "L+R" all derive their signal from the RCA inputs labeled "BUSS IN" on the right rear of the amplifier, just above the fuse. If the switch is set to "L", the channel will amplify and output only signal from the RCA plugged into the "L" BUSS RCA input. If the switch is set to "R", the channel will amplify and output only signal from the RCA plugged into the "R" BUSS RCA input. If the switch is set to "L+R", the channel will amplify and output a "mixed mono" signal, or the summed information of both the left and right BUSS RCA inputs.

## RCA Inputs

There are a total of 14 RCA inputs and 2 RCA outputs on the back panel of the MX1230. There are 12 independent single channel RCA inputs with each corresponding to one of the amplifier's 12 channels. If you would like to use multiple sources with your amplifier, each source should be plugged into the channel RCA labeled "CH-1", "CH-2", "CH-3", "CH-4", etc. If you would like to use a single pair of RCA inputs for all 12 channels, the pair should be plugged into the RCA inputs labeled "BUSS IN", using both left



and right inputs. There is one other set of RCA's labeled "BUSS OUT". This is an output that will mirror the input on "BUSS IN" to facilitate 'daisy chaining', or connecting multiple amplifiers. Please be certain that the BUSS switches are in the correct position to receive signal from the appropriate RCA input.

## Mode Switch

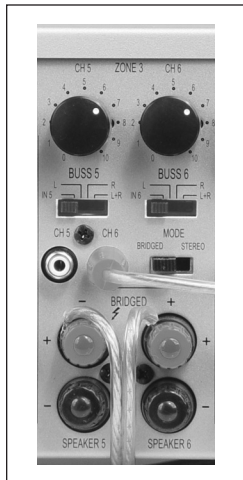
To the right of the independent RCA's for each pair of channels is a switch labeled "MODE" with "BRIDGED" and "STEREO" as options. If you will be connecting one speaker to a single channel, place the switch in the "STEREO" position. If you will be using a pair of channels to power a single speaker, place the switch in the "BRIDGED" position, and be sure to read the section titled "Speaker Terminals" below.



**Note:** This amplifier will produce in excess of 100 watts per bridged pair of channels. Please verify that your speakers are capable of handling such power to avoid possible damage!

## Bridged Operation in the MX1230

Bridging channels combines two channels to create one more powerful channel. The MX1230 has twelve channels rated at 30 watts into 8 ohms. Any two adjacent channels may be bridged to provide a single more powerful channel rated at 100 watts into 8 ohm loads.



**! Note:** It is important to note that the minimum impedance for a bridged channel is 8 ohms.

Bridgeable pairs of channels are located below each mode switch that selects a mode of "Stereo" or "Bridged" as options. Bridgeable pairs are adjacent even and odd numbered channel pairs such as "1 & 2", "3 & 4", "5 & 6", etc.

With the amplifier powered "Off" and unplugged from the AC mains, select "Bridged" at the "Mode" switch. Insert a single RCA connector into the even numbered channel's input or select one of the buss inputs for the even numbered channel. No input is required for the odd numbered channel of the bridged pair. Connect your speaker wires to the two "Red" or positive speaker terminals for the two adjacent channels being bridged. The "Red" (positive) terminal for the even numbered channel is the **Positive (+)** or non-inverted connection and the "Red" (positive) terminal for the odd numbered channel is **Negative (-)** or inverted channel of the bridged pair. Be careful to observe correct polarity in these connections. Be sure that you have the volume controls for the two channels being bridged set to the same level. If one is turned down relative to the other the positive and negative halves of the output will be unequal and you may perceive a loss of low frequency response and/or volume in the signal.

**! Note:** Never make any of these connections with the amplifier powered "ON". The amplifier should only be powered "ON" after all connections have been completed and thoroughly checked for proper polarity.

## Speaker Terminals

Each channel has a pair of multi-way binding post. These are the red and black screw posts at the lower rear of the amplifier.



If you will be using the amplifier as a 12-channel (i.e.- not a bridged amplifier) you will connect the speakers positive (red) terminal to the amplifiers positive (red) terminal using the appropriate gauge speaker wire, and the speakers negative (black) terminal to the amplifiers negative (black) terminal (immediately below the positive terminal) using the appropriate gauge speaker wire. If you

would like to use one pair or multiple pairs of channels bridged, place the "MODE" switch in the "BRIDGED" position and use both RED terminals to connect to the speaker.

**! Note:** Only sequential pairs of channels can be bridged together, i.e. channels 1 & 2, channels 3 & 4, channels 5 & 6, channels 7 & 8, channels 9 & 10, and channels 11 & 12. Do not attempt to bridge non sequential channels, as this will result in no output from the speaker, and may damage your amplifier. The minimum impedance for the total load connected to a pair of channels in the bridged mode is 8-ohms.

**! Note:** This amplifier is capable of use with standard US voltage (115VAC) as well as European voltage (230VAC). The amplifier will be preset for the voltage of the country it is sold in. Use with other voltages requires some changes to be made to the amplifier. Should you wish to use the amplifier in a country other than the one for which it was purchased, please contact Innovative Home support at 1-800-435-7115.

# Applications

## Driving a single voice coil mono speaker

There may be instances where you will want a single speaker in an area like a hallway, bathroom, sauna or other area too small to expect or require stereo imaging. However, you should not be willing to give up the ability to hear both channels of a stereo source, the losses would be unacceptable.

With the MX1230 there is no problem. Simply provide a stereo input to the Audio Buss input on the rear of the MX1230, select a channel from the 12 available, and set the Buss Switch for that channel to the "L+R" position.

This setting "sums or combines" the Left and Right channels of the Audio Buss at the input of the selected channel and amplifies the combined signal for use by a single loudspeaker.

In our bathroom example, we can now use a standard ceiling speaker to provide a mono source, with no loss of channel information, and all without the additional expense of a dual voice coil speaker, which would require two not one channel of amplification.

## Providing Music to Six Independent Zones

The MX1230 can be used to provide amplification to six zones independently by providing a whole house input signal at the Audio Buss input on the rear panel of the amplifier. Each pair of channels, such as, 1 & 2, 3 & 4 etc. can then be used to provide that whole house input to six stereo zones by setting the Buss Switch to the (L) left buss input on the odd numbered channel, and setting the (R) Right buss input on the even numbered channels. Now each zone can be preset to it's own individual maximum level and a wall mount volume control can attenuate down from the preset level.

## Providing Amplification for a Surround Processor

The MX1230 can be used with a Surround Sound Processor or the line level outputs of a surround sound receiver, if available, by simply setting the Buss Switch to the (IN) position and inserting the RCA cable carrying the individual channel of the surround processor's output into the designated RCA input jack for that channel.

Any unused pair of channels can be used to carry 2 Channel information from the processor to another zone.

## Powering Speakers Outdoors

Whenever you are using loudspeakers outdoors, you should be aware that sound does not travel like it would in your home. Without the reflective surfaces of walls and ceilings, sound outdoors will dissipate quickly. Therefore, in an outdoor situation the MX1230 provides the opportunity to bridge adjacent channels, effectively doubling the available power for your speakers. This can help to overcome the problem of using speakers outdoors assuming the speakers chosen are capable of handling the additional power.



**Note:** It should be noted that the MX1230 is rated to operate into a minimum 8-ohm bridged load. Therefore, if you are using more than a single 8-ohm loudspeaker, you should consider using an impedance matching speaker selector, such as the Innovative Home ASM4, ASM6 or ASM8 or possibly using an impedance matching volume control, such as the Innovative Home VMT1 in a weatherproof housing available at your favorite DIY store or electrical supply. The choice of a volume control would allow you the additional flexibility of being able to attenuate the volume whenever necessary.

# Specifications

**Power Bandwidth 20Hz-20kHz:**

30W per Channel into 8 ohm loads with less than 0.2% THD+N

50W per Channel into 4 ohm loads with less than 0.2% THD+N

100W, 2 Channels bridged into 8 ohms with less than 0.2% THD+N

25W per CH., all CH. Driven into 8 ohms with less than 1% THD+N

**Crosstalk:** >65dB @ 1kHz, ref to rated power @ 8 ohms

**Frequency Response:** (20Hz to 20kHz)+0.0dB, -0.5dB

**Signal to Noise ratio:** -103dB ref. to rated power @ 4 ohms

**AC Power Consumption:** 720W (all channels driven)

**Net Weight:** 32 lbs (14.5 kgs)

**Gross Weight:** 38.6 lbs (17.5 kgs)

# Limited Warranty

Phoenix Gold International, Inc. (or "Innovative Home") warrants its amplifier products against defects in materials and workmanship for a limited period of time. For a period of two years from date of original purchase, we will repair or replace the product, at our option, without charge for parts and labor. Customer must pay all parts and labor charges after the limited warranty period expires. The limited warranty period for factory refurbished products expires after ninety (90) days from date of original purchase. This limited warranty applies only to purchases from authorized Innovative Home Electronics retailers. This limited warranty is extended only to the original purchaser and is valid only to consumers in the United States.

Consumers are required to provide a copy of the original sales invoice from an authorized Innovative Home dealer when making a claim against this limited warranty. This limited warranty only covers failures due to defects in materials or workmanship that occur during normal use. It does not cover failures resulting from accident, misuse, abuse, neglect, mishandling, misapplication, alteration, faulty installation, modification, service by anyone other than Phoenix Gold, or damage that is attributable to Acts of God. It does not cover costs of transportation to Phoenix Gold or damage in transit.

This warranty will become void if the serial number identification has been wholly or partially removed, altered or erased. Repair or replacement under the terms of this warranty does not extend the terms of this warranty. Should a product prove to be defective in workmanship or material, the consumer's sole remedies will be repair or replacement as provided under the terms of this warranty. Under no circumstances shall Phoenix Gold be liable for loss or damage, direct, consequential or incidental, arising out of the use of or inability to use the product. There are no express warranties other than described above.