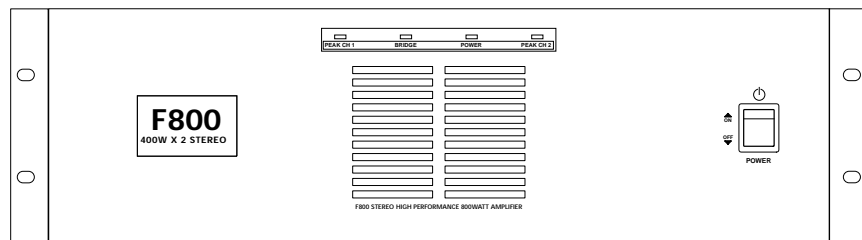
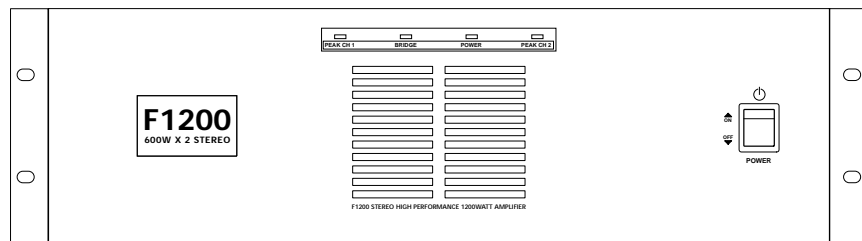


F 1 2 0 0 / F 8 0 0

P O W E R

AMPLIFIER



OWNERS MANUAL

Table of Contents

Introduction	3
F1200 / F800 Features	4
Controls and Functions	
Front Panel	5
Rear Panel	6
Setting Up and Using Your F1200 / F800	7
The F1200 / F800 Protection Circuitry	8
Bridged Mode	9
F1200 / F800 Connections	10
Specifications	12

Introduction

Thank you for purchasing the Samson F1200 / F800 Power Amplifier. The Samson F1200 / F800 is a three-space stereo power amplifier which is optimized for live sound venues, commercial installations, DJ set-ups and for driving small and medium-sized PA systems. Fan-cooled for maximum thermal protection, the F1200 delivers 600 watts of power per channel (or, in Bridged mode, 1200 watts), and the F800 provides 400 watts of power per channel (or, in Bridged mode, 800 watts), over the full frequency spectrum, from 20 Hz to 20 kHz. Combination connectors allow both 1/4" and RCA input connections; output connections are provided on a combination banana plug and bare wire terminal connectors. The front panel includes a Power switch and Power, dual channel Peak and Bridge LEDs.

In these pages, you'll find a detailed description of the features of the F1200 / F800 power amplifier, as well as a guided tour through its front and rear panels, step-by-step instructions for its setup and use, and full specifications. You'll also find a warranty card enclosed—please don't forget to fill it out and mail it in so that you can receive online technical support and so we can send you updated information about these and other Samson products in the future.

With proper care adequate air circulation, your F1200 / F800 will operate trouble free for many years. We recommend you record your serial number in the space provided below for future reference.

Serial number: _____

Date of purchase: _____

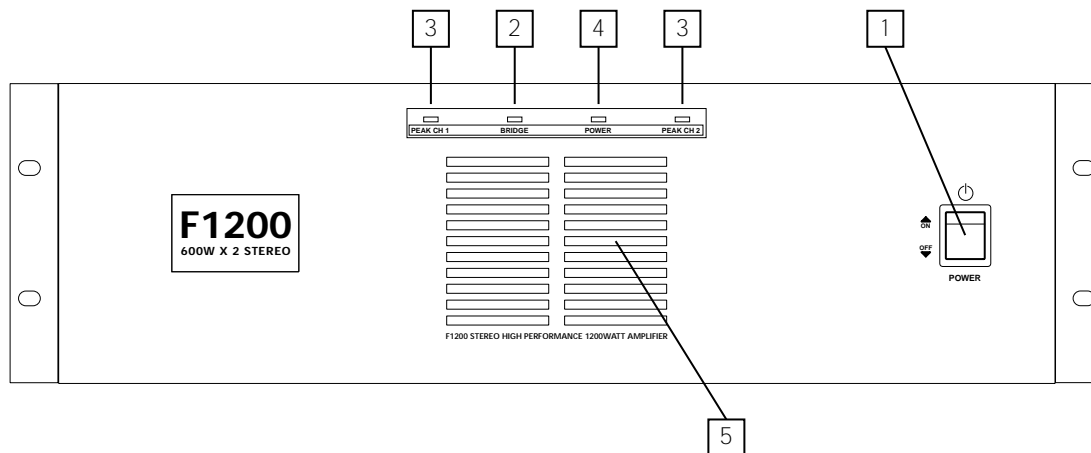
Should your unit ever require servicing, a Return Authorization number (RA) must be obtained before shipping your unit to Samson. Without this number, the unit will not be accepted. Please call Samson at 1-800-3SAMSON (1-800-372-6766) for a Return Authorization number prior to shipping your unit. Please retain the original packing materials and if possible return the unit in the original carton and packing materials.

F1200 / F800 Features

The Samson F1200 / F800 power amplifier utilizes the latest technology in professional power amplifier design. Here are some of its main features:

- The F1200 delivers 600 watts of power per channel into 4 ohms. In the F800 delivers 400 watts of power per channel into 4 ohms.
- In Bridged mode (linking both channels) the F1200 provides 1200 watts into 8 ohms and the F800 provides 800 watts into 8 ohms.
- Clean, crisp sound - Impressive audio specifications such as 0.05% THD+N (typ), dynamic range of <100 dB, crosstalk of 65 dB, and frequency response of 20 Hz to 20 kHz guarantee ultra-clean sound quality.
- Unique stable bipolar circuit design that continuously keeps DC output during idling at or near 0 volts (thus keeping idle speakers at their 0 point).
- Forced air cooled by an internal fan, for reliable cooling without thermal and overheating problems.
- Protection relay circuitry that guards against overheating or faulty wiring conditions and also prevents "thumps" when powering on or off. This means that you can use the F1200 / F800 with a single power strip into which a mixer or other audio devices are connected, without danger of damage to connected speakers.
- Input connectors for each channel accommodate both balanced 1/4" TRS and RCA plugs, and combination banana plug and shrouded binding posts for maximum flexibility.
- User-resettable circuit breaker for fast, easy startup following a power supply overload.
- The F1200 / F800 can be mounted in any standard 19" rack (taking three rack spaces), making it easy to integrate into any fixed or traveling PA rig.
- Rugged construction (an all-steel chassis with a titanium finish and a lightweight anodized aluminum heat sink) makes the F1200 / F800 eminently roadworthy.
- Three-year warranty.

Controls and Functions



1: Power switch - Use this to power the F1200 / F800 on or off.

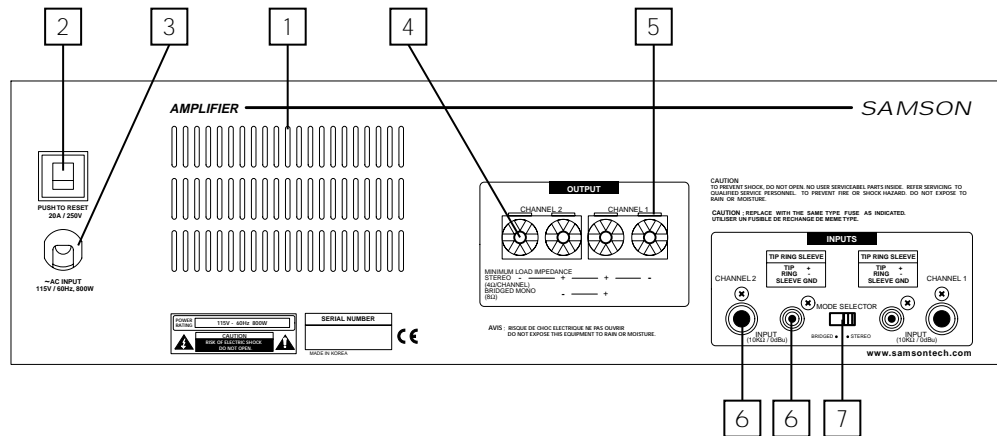
2: Power LED - Lights whenever the F1200 / F800 is powered on.

3: Peak LED (Ch1 Ch2) - The Channel 1 and Channel 2 Peak LEDs light whenever the input signal is about to clip. This is not a problem if the Peak LEDs should light occasionally during peak levels, but if it lights frequently, you may be overloading the F1200 / F800 and a distorted ("clipped") signal is probably being output. If this occurs back off the Output Level control of the device connected to the input of the F1200 / F800 until the LEDs light only occasionally.

4: Bridge LED - This LED lights when the F1200 / F800 is in Bridged mode.

5: Air Intake Vents - These vents and the vents on the sides of the F1200 / F800 allow air to be drawn over the heat sinks by the internal fan. This keeps the amplifier from over heating. Never block these vents when the amplifier is on. Remove any dust that may build up on the protective screen.

Controls and Functions



1: Fan Vents - These vents allow air to escape the F1200 / F800 via the internal fan. Make sure that both the front and rear panels are kept free of all obstructions and that cool, fresh air is accessible at all times. Also, try to ensure that the F1200 / F800 is used in a dust-free environment.

2: Circuit Breaker - This circuit breaker will trip if there is a fault with the mains voltage or if maximum output is exceeded (very highly distorted). Push it in (once only!) to restart the amplifier.

3: AC input - Connect the power cable to a grounded AC outlet.

4: Banana Plug output connectors - Use these banana plug outputs to connect each channel of the F1200 / F800 to 4- or 8-ohm loudspeakers using speaker cable fitted with banana jacks. Be sure to connect the loudspeaker correctly, with the red (+) terminal normally connected to the positive input of the speaker and the black (ground) terminal normally connected to the negative input of the speaker. See page 9 in this manual for more information about Bridged mode and pages 10 in this manual for full speaker connection instructions.

5: Shrouded Binding Posts - Alternatively, you can use these to connect each channel of the F1200 / F800 to 4- or 8-ohm loudspeakers using speaker wire. Be sure to connect the loudspeaker correctly, with the red (+) terminal normally connected to the positive input of the speaker and the black (ground) terminal normally connected to the negative input of the speaker. See page 9 in this manual for more information about Bridged mode and pages 10 in this manual for full speaker connection instructions.

6: Input connectors - Connect incoming signal to the electronically balanced 1/4" TRS (Tip/Ring/Sleeve) plugs. The TRS plugs are wired as follows: Tip (or Pin 2) hot, Ring (or Pin 3) cold, and Sleeve (or Pin 1) ground. We recommend the use of balanced three-conductor cabling wherever possible (unbalanced two-conductor 1/4" plugs can also be inserted into these inputs, but you'll get better signal quality and less outside noise and hum if you use balanced lines). The F1200 / F800 accepts input levels of any strength but needs at least 0 dBu to achieve maximum power. Stereo signals should be connected to both the Channel 1 and Channel 2 input jacks; however, when operating the F1200 / F800 in Bridged mode, use the Channel 1 input jack only. See page 10 and 11 in this manual for full interconnection instructions.

7: Bridged / Stereo - For normal operation, place this two-way switch in its right ("STEREO") position. When placed in its left ("BRIDGED") position, the signal arriving at the Channel 1 input only is again routed to both power amplifiers (again, the Channel 2 input is ignored), but the two power amplifiers are bridged together, providing a full 1200 watts of power into 8 ohms (in the case of the F1200) or a full 800 watts of power into 8 ohms (in the case of the F800). When in bridged mode be sure to follow the output diagram on the rear of the amplifier and connect the loudspeaker correctly with the red (+) terminal from Channel one normally connected to the positive input of the speaker and the red (ground) terminal from channel 2 normally connected to the negative input of the speaker. For more information, see the "Bridged Mode" section on page 9 in this manual and the "F1200 / F800 Connections" section on pages 10 in this manual. **WARNING: Due to the extremely high power output of the F1200 / F800 when used in Bridged mode, be sure to use only loudspeakers sufficiently rated to handle the resultant wattage (in Bridged mode, these must be 8-ohm speakers).**

Setting Up and Using Your F1200 / F800

Setting up your F1200 / F800 is a simple procedure which takes only a few minutes:

1. Remove all packing materials (save them in case of need for future service) and decide where the amplifier is to be physically placed—it can be used free-standing or mounted in a standard 19" rack, requiring three rack spaces. When installed, make sure the front, side and rear panels are unobstructed and that there is good ventilation around the entire unit (we recommend the use of spacer panels, especially if multiple amplifiers are used in a rack).

2. Set the rear panel Bridged / Stereo switch as desired (see the “Bridged Mode” section on page 9 in this manual for more information).

3. Make the speaker connections, using the banana or shrouded binding post output connectors on the rear panel. It is never a good idea to power up any amplifier that is not connected to loudspeakers. When operating in Stereo mode, any loudspeakers with a minimum impedance load of 4 ohms (that is, 4 ohms or greater) can be used; however, in Bridged mode, 8 ohm speakers **must** be used. Be sure to connect the loudspeaker correctly. In Stereo mode, make sure the red (+) terminal is connected to the positive input of the speaker and the black (ground) terminal is connected to the negative input of the speaker. In bridged mode make sure to follow the diagram on the rear of the amplifier. See page 9 in this manual for more information about Bridged mode and pages 10 in this manual for full speaker interconnection instructions.

4. Next, make the signal input connections, using either the balanced 1/4" or RCA input connectors on the rear panel (if operating the F1200 / F800 in Bridged mode, use the Channel 1 input only—see page 10 and 11 in this manual for more information). If your mixer or crossover network has balanced outputs, we recommend the use of three-conductor cabling and connectors (unbalanced two-conductor plugs can also be inserted into the RCA inputs, but you'll get better signal quality and less outside noise and hum if you use balanced lines).

5. Connect the AC cable to a grounded AC socket. Because of the relay protection circuitry built into the F1200 / F800, you can even plug it into the same power strip that other audio devices (such as a mixing console) are connected to. You can then turn on all devices at once with the single power strip on-off switch, with no danger of damaging connected speakers by generating “thumps.”

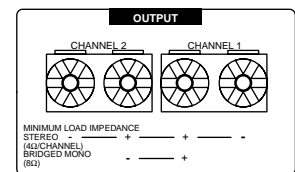
6. Press the front panel Power switch in order to turn on the F1200 / F800. The Power LED will light.

7. Apply an input signal to the F1200 / F800 by gradually raising the output of the device connected to the input of the F1200 / F800 until desired sound level is achieved observing the Peak LEDs. This is not a problem if the Peak LEDs light occasionally during peak levels, but if it lights frequently, you may be overloading the F1200 / F800 and a distorted (“clipped”) signal is probably being output. If this occurs back off the Output Level control of the device connected to the input of the F1200 / F800 until the LEDs light only occasionally.

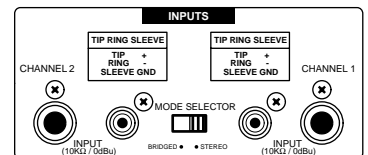
If you encounter difficulty with any aspect of setting up or using your S700 or S1000, contact your local Samson dealer. If purchased in the United States, you can call Samson Technical Support (1-800-372-6766) between 9 AM and 5 PM EST



Bridged / Stereo switch



Output connectors



Input connectors



LED meter

The F1200 / F800 Protection Circuitry

The F1200 / F800 Protection LED relay speaker connection circuitry is active when the amplifier is powered on or off. When the circuitry is active, and all connected speakers are muted (provided with 0 volts DC), thus protecting them and preventing any audible “thump” from occurring.

The following conditions will cause the Protection circuitry to activate:

- *Initial power-up:* For approximately five seconds after initial power-up, the protection circuitry is activated and the speaker output is muted. If everything is operating normally, you will hear an audible click at the conclusion of this brief period, as the protection circuitry is deactivated and the F1200 / F800 begins delivering signal to connected speakers (at which point you'll hear a click).
- *Overheating:* A temperature sensing device in the F1200 / F800 will cause the protection circuitry to be activated (and the Protection LED to go on) whenever the operating temperature of the unit rises above a safe level. To guard against this problem, make sure the F1200 / F800 receives adequate ventilation on all sides and that both the front and rear panels are unobstructed.
- *Severe overcurrent conditions:* This occurs whenever the signal being input to the F1200 / F800 rises to a level above 20% THD (Total Harmonic Distortion).
- *Shorted speaker cables:* This will occur if, due to faulty wiring, the hot and ground signals being output by the F1200 / F800 short one another.
- *Output impedance drops below 2 ohms:* This can occur if the F1200 / F800 is connected to inappropriate speaker systems (see the “Setting Up and Using Your F1200 / F800” section on page 7 in this manual for more information).
- *DC voltage detected at speaker output:* The most likely cause of this is an internal failure.

For further assistance, contact your local Samson dealer. If purchased in the United States, you can call Samson Technical Support (1-800-372-6766) between 9 AM and 5 PM EST.

Bridged Mode

The F1200 / F800 provides a rear-panel switch that allows it to be used in either a Stereo or Bridged mode. When this switch is placed in the "STEREO" (right) position, the F1200 / F800 functions as a true stereo amplifier, where both of the two independent amplifier channels (Channel 1 and Channel 2) can receive different input signals and produce independent output signals. However, when the switch is placed in the "BRIDGED" (left) position, the Channel 1 inputs signal is routed to both power amplifiers bridged together, producing a single output signal with a true 1200 watt output into a single 8 ohm channel (in the case of the F1200) or a true 800 watt output into a single 8 ohm channel (in the case of the F800).

WARNING: Bridged mode is to be used *only* when the F1200 / F800 is connected to an 8 ohm speaker load. Use of Bridged mode with speaker loads of 4 ohms or less can result in severe damage to the unit due to excessive heat and current limiting and will void your warranty!

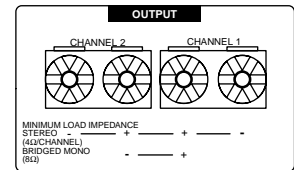
The illustration on the right shows how this works. In Bridged mode, the polarity (phase) of the Channel 2 output signal is reversed relative to that of the Channel 1 output signal. Both channels then process the same input signal, with the speaker load connected so that power is derived from both channels. The effective voltage swing seen by the load is thus doubled, so that the power output is doubled.

When using the F1200 / F800 in Bridged mode, be sure to connect your loudspeaker as shown in the illustrations on page 10 and 11 (and as silkscreened on the rear panel), with the red (+) terminal of the Channel 1 output connected to the negative input of the speaker and the red (+) terminal of the Channel 2 output connected to the positive input of the speaker. **Do not use the black ground (-) output terminal of either channel (the speaker load must "float" away from the amplifier chassis).**

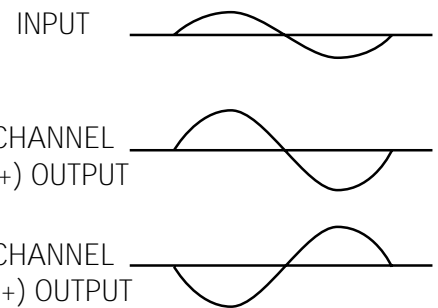
See pages 10 in this manual for interconnection diagrams when using the F1200 / F800 in Bridged mode



Bridged / Stereo switch



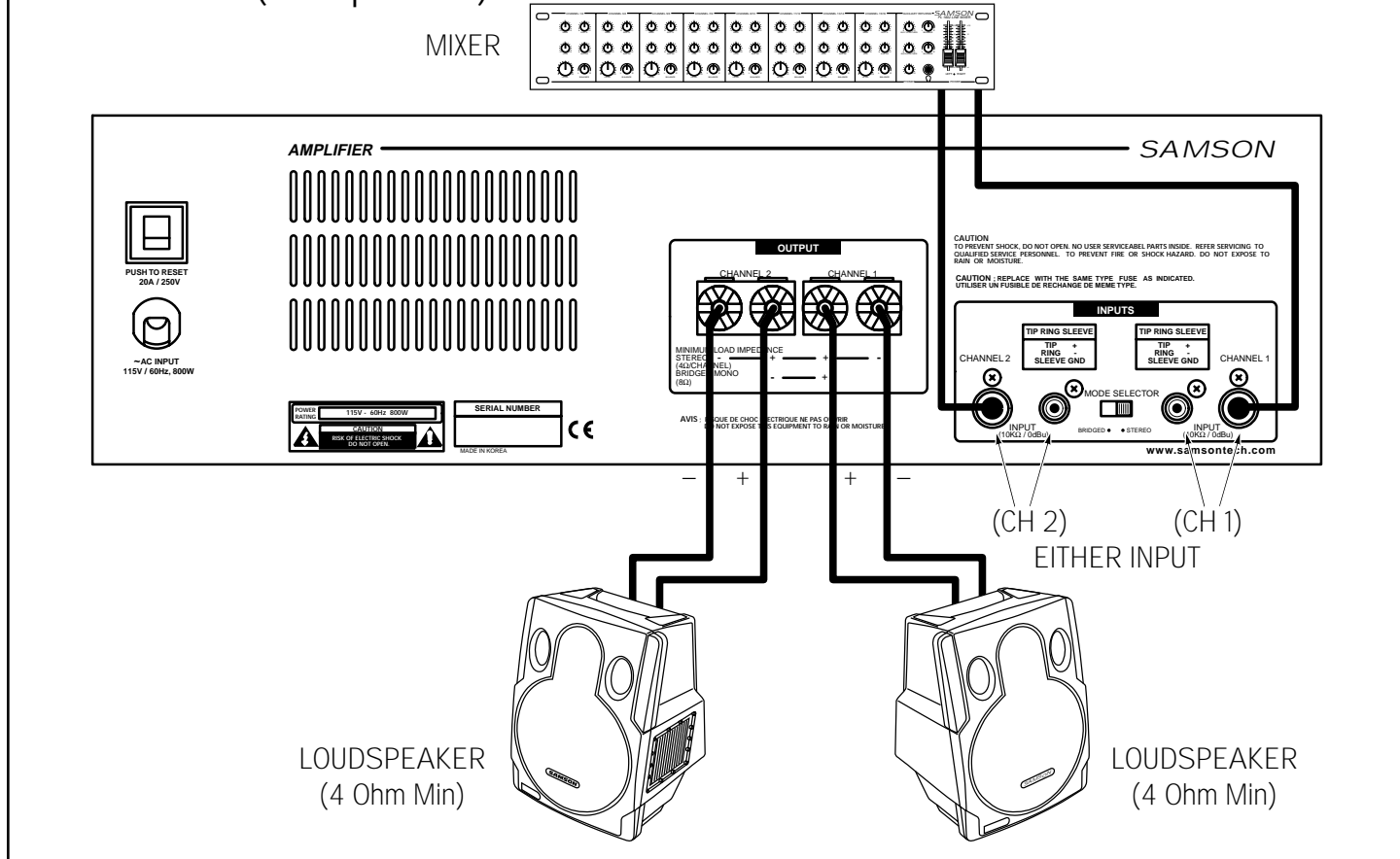
Bridged Mode



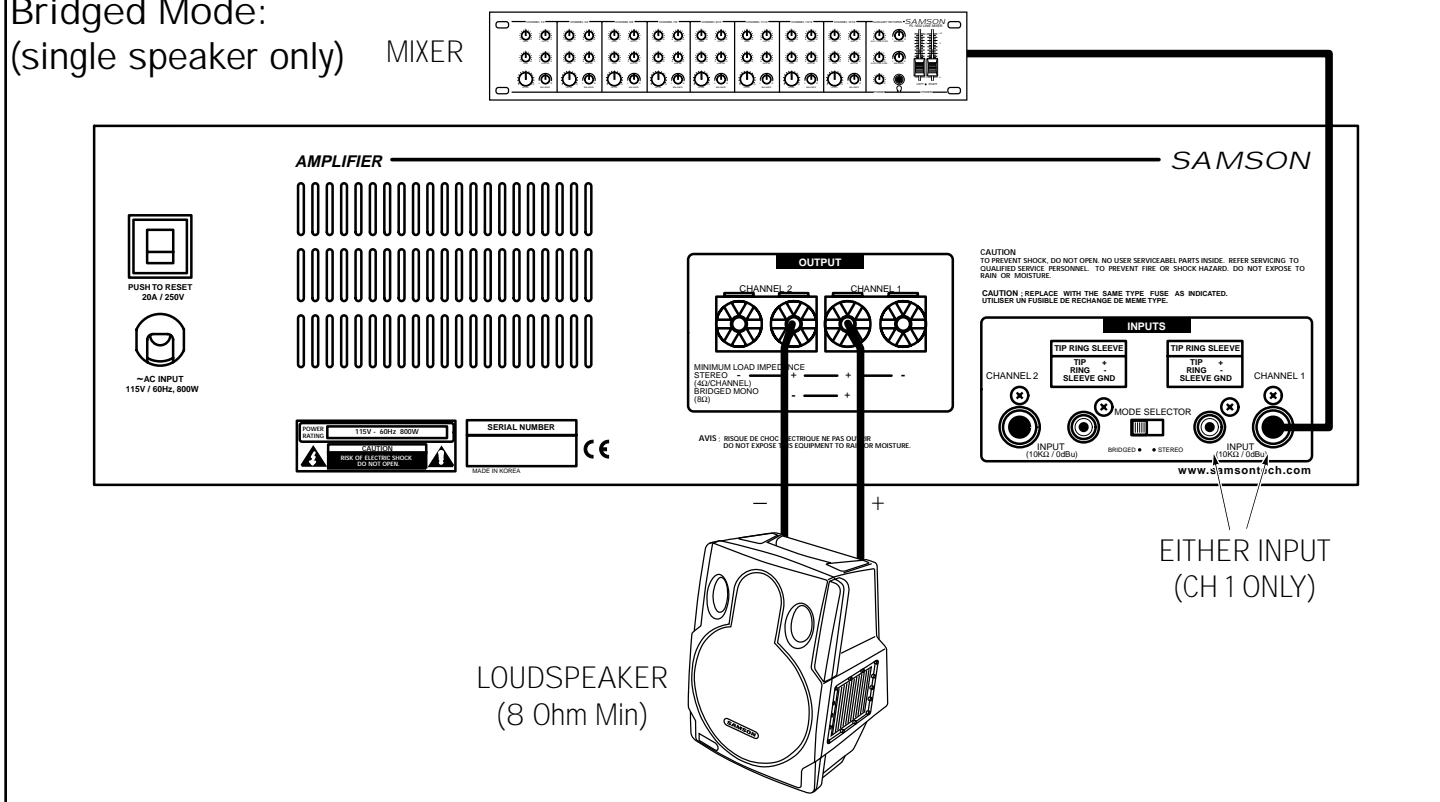
F1200 / F800 Connections

The illustrations below show the required interconnections when using the F1200 / F800 in Stereo or Bridged modes.

Stereo Mode: (two speakers)

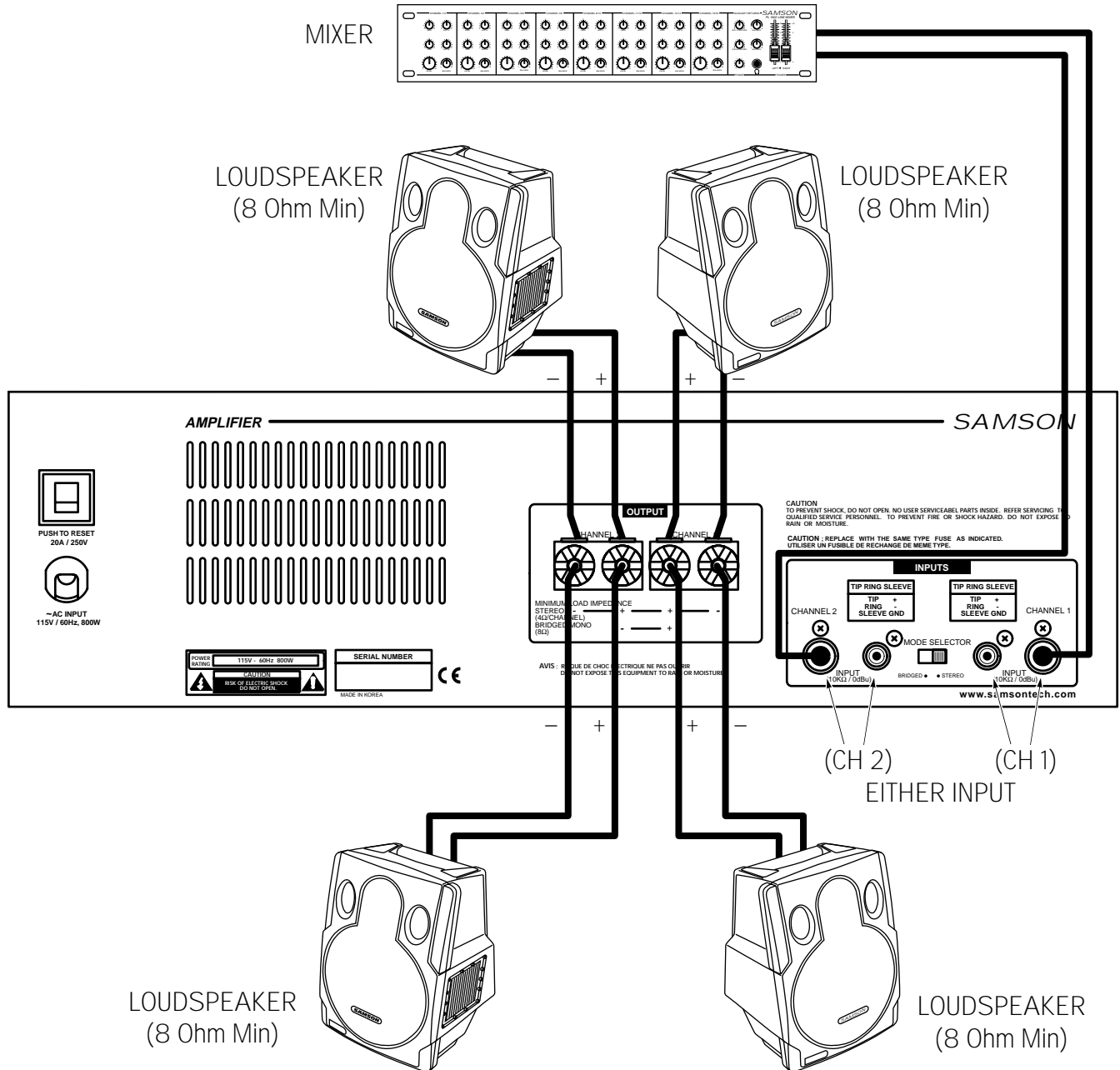


Bridged Mode: (single speaker only)



F1200 / F800 Connections

Stereo Mode:
(four speakers)



F1200

1. **Input Sensitivity** (+0dbm \pm 1dbm)
2. **Rated Power Output Level** (1kHz THD 5% / Both CH Drive)

8 Ohm per channel	400W
4 Ohm per channel	600W
8 Ohm Bridged Mono	1200W
3. **Frequency Response** (0db +0.5, -1db)

8 Ohm 1W	20Hz – 20kHz
----------	--------------
4. **Total Harmonic Distortion** (1/2 Power, THD \leq 0.1% at 20 – 20kHz, Both Ch Drive)

8 Ohm load	0.1%
4 Ohm load	0.1%
8 Ohm Bridged	0.1%
5. **Channel Separation** (input 600 Ohm short)

8 Ohm, 125W, 20Hz – 20kHz	
Ch1 -> Ch2	-65dB
Ch2 -> Ch1	-65dB
6. **Residual Noise**

Input 600 Ohm Shunt, DIN Audio Avg on	-60db
---------------------------------------	-------
7. **Signal-to-noise Ratio** (Input 600 Ohm Short, DiIN Audio) 95dB
8. **Voltage Gain** (4 Ohm, 1kHz)
9. **Indicators**

Clipping LED	1kHz, THD 5%
--------------	--------------
10. **DC Offset Voltage** 0 \pm 100mV
11. **Idle Current** 10 \pm 2mV
12. **Damping Factor** 100
13. **Dimensions**

18.75" (w) x 11.5 (d) x 5 (h)
476.25mm (w) x 292.1 (d) x 127 (h)
(Width includes rack ears. Height does not include feet)
14. **Weight**

40.5 lbs
18.4 kg

Specifications

F800

1. **Input Sensitivity** (+0dbm \pm 1dbm)
2. **Rated Power Output Level** (1kHz THD 5% / Both CH Drive)

8 Ohm per channel	250W
4 Ohm per channel	400W
8 Ohm Bridged Mono	800W
3. **Frequency Response** (0db +0.5, -1db)

8 Ohm 1W	20Hz – 20kHz
----------	--------------
4. **Total Harmonic Distortion** (1/2 Power, THD \leq 0.1% at 20 – 20kHz, Both Ch Drive)

8 Ohm Load	0.1%
4 Ohm load	0.1%
8 Ohm Bridged	0.1%
5. **Channel Separation** (input 600 Ohm short)

8 Ohm, 125W, 20Hz – 20kHz	
Ch1 -> Ch2	-65dB
Ch2 -> Ch1	-65dB
6. **Residual Noise**

Input 600 Ohm Shunt, DIN Audio Avg on	-60db
---------------------------------------	-------
7. **Signal-to-noise Ratio** (Input 600 Ohm Short, DiIN Audio) 95dB
8. **Voltage Gain** (4 Ohm, 1kHz)
9. **Indicators**

Clipping LED	1kHz, THD 5%
--------------	--------------
10. **DC Offset Voltage** 0 \pm 100mV
11. **Idle Current** 10 \pm 2mV
12. **Damping Factor** 100
13. **Dimensions**

18.75" (w) x 11.5 (d) x 5 (h)
476.25mm (w) x 292.1 (d) x 127 (h)
(Width includes rack ears. Height does not include feet)
14. **Weight**

30.5 lbs
13.8 kg

Samson Technologies Corp.
575 Underhill Blvd.
P.O. Box 9031
Syosset, NY 11791-9031
Phone: 1-800-3-SAMSON (1-800-372-6766)
Fax: 516-364-3888
www.samsontech.com