

FRIEDMAN

AMPLIFICATION

ASM-12 & ASC-12

2-WAY 500-WATT POWERED MONITOR
BI-AMP DESIGN-INTEGRATED SIGNAL PROCESSING
CELESTION LOUDSPEAKER & COMPRESSION DRIVE



INSTRUCTION MANUAL

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Welcome

CONGRATULATIONS ON YOUR PURCHASE OF THE FRIEDMAN ASM-12/ASC-12 LOUDSPEAKER.

Please review all the information provided in this manual to ensure that you attain the best possible sound quality from your monitor. The Friedman ASM-12/ASC-12 was designed specifically as a monitor to be used with guitar modeling amplifiers and preamps.

The Friedman ASM-12/ASC-12 features simple rear panel controls, with line level outputs for linking multiple speakers. Please see the set-up diagrams at the end of this manual for examples of possible system configurations.

The Friedman ASM-12/ASC-12 was designed using advanced acoustic and audio techniques with premium components, comprehensive protection circuitry, and robust construction to provide years of consistent, reliable performance. Key features include: Bi-Amp power modules with high efficiency Class G low frequency amplification with high current output stage and custom signal processing; clip/limit, thermal, and short circuit protection; optimized acoustic designs using PETP film compression driver diaphragms; heat vented low frequency drivers; and sturdy birch plywood.

Important Safety Instructions

Please keep this instruction manual for future reference and for the duration of owning the ASM-12/ASC-12 powered loudspeaker. Please carefully read and understand the instructions inside this owner's manual before attempting to operate your new powered loudspeaker.

This instruction manual includes essential safety information regarding the use and maintenance of the amplifier. Take special care to heed all warning symbols and signs inside this manual and those printed on the amplifier on the back of the loudspeaker.

WARNING

TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THE AMPLIFIER TO WATER/MOISTURE, NOR SHOULD YOU OPERATE THE AMPLIFIER NEAR ANY WATER SOURCE.

The exclamation point triangular symbol is intended to alert the user to the presence of important operating and maintenance(servicing) instructions in the user manual accompanying the Amplifier.

The lightning flash with an arrow triangular symbol is intended to alert the user to the presence of non-insulated "dangerous voltage" within the product's enclosure, and may be of sufficient magnitude to constitute a risk of electric shock

WARNING

Handle the power supply cord with care.

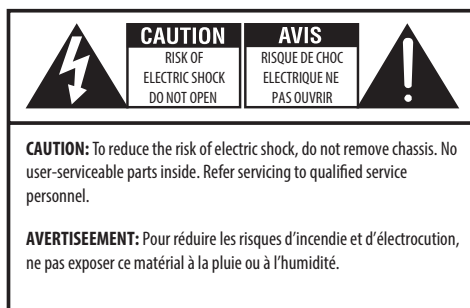
Do not damage or deform it as it may cause electric shock or malfunction when used. Hold the plug attachment when removing from wall outlet. Do not pull on the power cord.

IMPORTANT SAFETY PRECAUTIONS

1. READ INSTRUCTIONS – All the safety and operating instructions should be read before this product is operated.
2. RETAIN INSTRUCTIONS – The safety and operating instructions should be retained for future reference.
3. HEED WARNINGS – All warnings on the amplifier and in the operating instructions should be adhered to.
4. FOLLOW INSTRUCTIONS – All operating and use instructions should be followed.
5. DO NOT turn on the ASM-12/ASC-12 amplifier module before connecting all other external devices.
6. WATER AND MOISTURE – Moisture can damage the ASM-12/ASC-12 amplifier module and can cause corrosion of electrical contacts. The speaker system should not be used near water - for example, a bathtub, washbowl, kitchen sink, laundry tub, wet basement, or near a swimming pool, and the like.
7. HEAT – The amplifier on the back of the ASM-12/ASC-12 loudspeaker should be situated away from heat sources such as radiators, heat registers, stoves, or other sources (including amplifiers) that produce heat.
8. POWER SOURCES – This product should be operated only from the type of power source indicated on the rating label. If you are not sure of the type of power supply to your home, consult your product dealer or local power company.
9. GROUNDING OR POLARIZATION – Do not defeat the safety purpose of the polarization or grounding-type plug. The wide blade or the third prong is provided for your safety. If the provided plug does not fit your outlet, consult an electrician for replacement of the obsolete outlet. Do not defeat the safety purpose of the grounding prong.
10. 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 the cord in correspondence of plugs, convenience receptacles, and the point where they exit from the amplifier.
11. CLEANING – The speaker and amplifier should be cleaned only as recommended by the manufacturer. Clean by wiping with a dry cloth. Avoid getting water inside the speaker or amplifier.
12. NON-USE PERIODS – The power cord of the amplifier should be unplugged from the outlet when left unused for a long period of time.
13. OBJECT AND LIQUID ENTRY – Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.
14. DAMAGE REQUIRING SERVICE – The amplifier should be serviced by qualified service personnel when:
 - A. The power-supply cord or the plug has been damaged; or
 - B. Objects have fallen, or liquid has been spilled into the amplifier; or
 - C. The amplifier has been exposed to rain; or
 - D. The amplifier does not appear to operate normally or exhibits a marked change in performance; or
 - E. The amplifier has been dropped, or the enclosure damaged.
15. Keep the speaker system out of extended or intense direct sun light.
16. No containers filled with any type of liquid should be placed on or near the speaker system.
17. SERVICING – The user should not attempt any service to the speaker and/or amplifier beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel.
18. VENTILATION – Slots and openings in the amplifier are provided for ventilation and to ensure reliable operation of the product and to protect it from overheating. These openings must not be blocked or covered. The openings should never be blocked by placing the product on a bed, sofa, rug, or other similar surface. This product should not be placed in a built-in installation such as a bookcase or rack.
19. ATTACHMENTS – do not use attachments not recommended by the product manufacturer, as they may cause hazards.

20. **ACCESSORIES** – Do not place this product on an unstable cart, stand, tripod, bracket, or table. The product may fall, causing serious injury to a child or adult, and serious damage to the product. Use only with a cart, stand, tripod, bracket, or table recommended by the manufacturer, or sold with the product.
21. **LIGHTNING** – For added protection during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet. This will prevent damage to the product due to lightning and power-line surges.
22. **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 part. Unauthorized substitutions may result in fire, electric shock, or other hazards.
23. **SAFETY CHECK** – Upon completion of any service or repairs to this product, ask the service technician to perform safety checks to determine that the product is in proper operating condition.
24. **FUSES** – Always use the correct rating and type of fuse as indicated on the rear panel of the amplifier. Note the proper rating fuse is determined by the AC line voltage in the country this speaker system is being operated. **COMPLETELY DISCONNECT POWER CORD FROM AMPLIFIER BEFORE ATTEMPTING TO REPLACE FUSE!**
25. The Friedman ASM-12/ASC-12 powered loudspeaker is not designed for temporary or permanent suspension. Any attempt to suspend an ASM-12/ASC-12 loudspeaker cabinet could result in injury or death.

To prevent electric shock, do not use a polarized plug with an extension cord, receptacle or other outlet unless the blades can be fully inserted to prevent blade exposure.

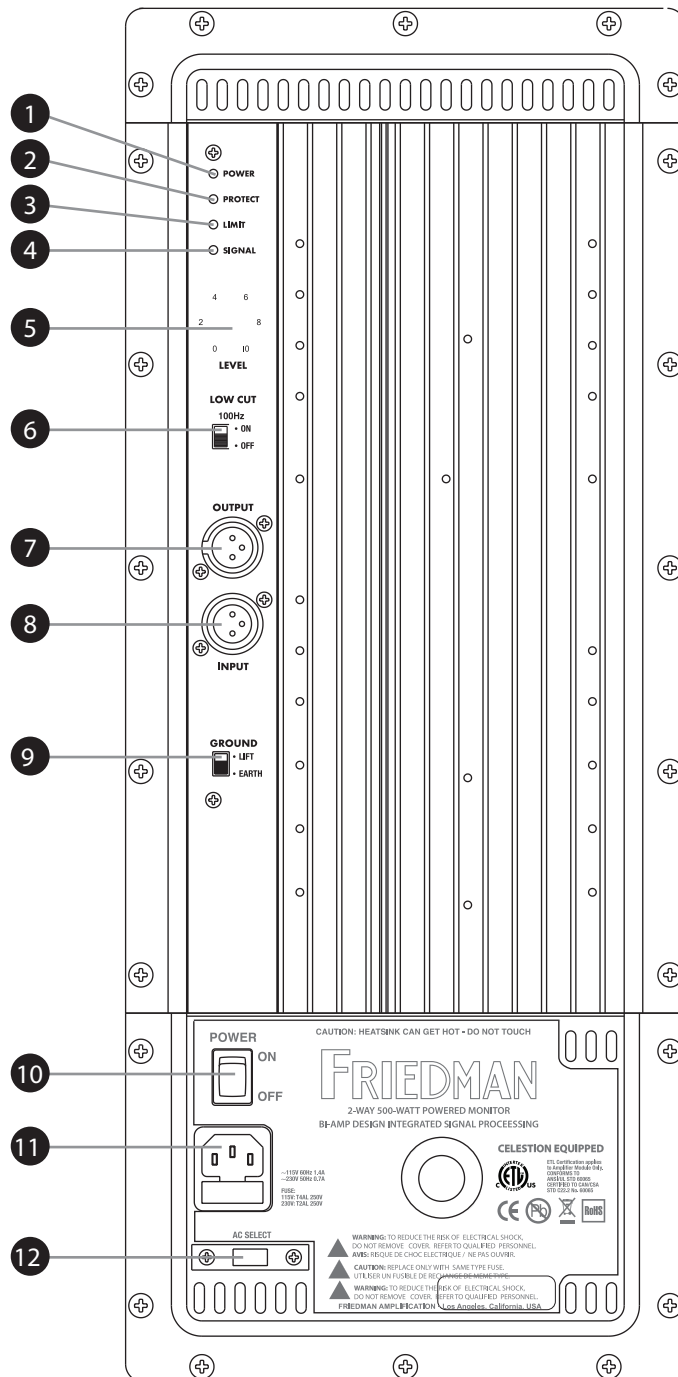


THIS SYMBOL IS INTENDED TO ALERT THE USER TO THE PRESENCE OF IMPORTANT OPERATING AND MAINTENANCE (SERVICING) INSTRUCTIONS IN THE LITERATURE ACCOMPANYING THE UNIT.



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.

ASM-12/ASC-12 Rear Controls



1 LED POWER INDICATOR

The green LED POWER indicator, located on the back of the amplifier, will illuminate when the AC Power switch is in the "ON" position. The LED POWER indicator will dim and turn off when the AC Power switch is in the "OFF" position or AC mains power has been disconnected from the loudspeaker.

If the POWER indicator does not illuminate when the loudspeaker is powered on, verify the AC mains line cord is properly connected to the loudspeaker and inserted into the AC outlet. Verify the AC outlet at the venue of operation is functioning properly. In the event of the AC mains outlet functioning properly, but the loudspeaker fails to operate, the loudspeaker may require servicing. Please contact friedmanamps@gmail.com for service instructions.

2 PROTECT LED INDICATOR

If the power module overheats, the amplifier will go into "protection mode" to limit further temperature rise. The amplifier will take about 30 seconds to several minutes for the temperature to drop and resume operation. When this occurs, the exposed heat sink will feel hot to the touch.

Overheating is usually caused by excessive ambient temperature, direct sunlight for a prolonged period of time during operation, or playing the loudspeaker past its operational limits.

If thermal overheating occurs, reduce signal level to avoid constant illumination of the LIMIT LED INDICATOR. In some circumstances, for example when ambient temperature is too high, you may need to set a fan behind the speaker to improve ventilation at heatsink.

3 LIMIT LED INDICATOR

The red LIMIT indicator alerts the user that the amplifier output signal is clipping and therefore is being compressed by the built-in clip-limiter.

Momentary Bright Red Flashes

Indicates that the amplifier is clipping briefly causing overdrive distortion and the internal limiter is reducing gain.

The ASM-12/ASC-12 amplifier employs a sophisticated compressor-limiter circuitry, which is nearly inaudible at moderate overdrive conditions. It is normal to see the occasional flashing of the red LIMIT LED.

Continuous Bright Red Light

Indicates continuous and gross overloading of the amplifier. Such overloads are audible and may lead to overheating of the amplifier and shortening the life of the speaker components. If the amplifier is grossly overloaded and the red LIMIT LED is on the most of the time, the operator should reduce the signal level so that LIMIT LED only flashes occasionally.

4 SIGNAL LED INDICATOR

The green SIGNAL indicator alerts the operator to the presence of an input signal at the loudspeaker amplifier.

If there is no indication, check the gain settings on the amplifier and increase the gain if necessary. Check input connections and audio source for signal. If no output persists, try a different signal cable from your Digital Amplifier to the ASM-12/ASC-12 loudspeaker.

If the green SIGNAL LED remains illuminated without a source connected, the amp may need servicing.

5 LEVEL CONTROL

Turn the LEVEL control clockwise to increase gain and counter clockwise to decrease gain. When operating with the GAIN set at 1/3 volume or below, it may be possible to exceed the headroom of input circuitry on your loudspeaker. If this is the case, reduce the input signal strength and increase the gain of the loudspeaker amplifier.

Always observe the red LIMIT LED on the amplifier panel. This LED lights when a signal is clipping and the compressor-limiter is activated. The ASM-12/ASC-12 amplifier employs a sophisticated limiter circuitry, which monitors signal condition at both LF and HF amplifiers and compresses the output signal when necessary to protect woofer and compression driver from damages. Limiter circuitry works very unobtrusively; you may not even notice when it activates. It may prompt you to push input signal more, but it is a good practice to have red LIMIT LEDs blink occasionally and not constantly. A constant LIMIT LED light indicates a gross overloading condition and should be avoided. Reduce the signal level if the LIMIT LED lights or blinks constantly.

NOTE that LEVEL Control has a range of 30dB. It does not attenuate output signal to zero. LEVEL control on the loudspeaker is used to set optimal maximum level for performance, not for constant control of sound volume. Your Digital Amplifier's master volume control should be used for this.

NOTE that LEVEL control provides about 12dB attenuation in middle position. You will find that in most cases the best sound (lowest distortions and lowest noise) will be achieved when LEVEL control is set somewhere between middle and full clockwise position.

6 LOW CUT SWITCH

ASM-12/ASC-12: Found beneath the LEVEL control, this small slider switch engages or disengages the 100Hz 18db/Octave Low Cut filter.

7 OUTPUT CONNECTIONS

All Full-range models have one XLR output connector marked OUTPUT. The output connector is wired in parallel with the input, allowing connection of multiple enclosures in a "daisy-chain" fashion.

ASM-12/ASC-12: Insert the XLR connector into the jack marked OUTPUT. Connect the other end of the cable to the input of the next down-stream audio device.

8 INPUT CONNECTIONS

All Full-range models have one female XLR line-level input marked INPUT.

Balanced connections should be used as much as possible to reduce AC hum and interference, especially with long runs of cable. The input impedance is 20k Ohm for balanced connections.

ASM-12/ASC-12: Insert the male XLR connector into the jack marked INPUT. Ensure the connector is fully seated.

9 GROUND SWITCH

Toggle between the "Lift" and "Earth" settings to eliminate any un-wanted hum.

10 POWER SWITCH

Turns the AMC-12/ASC-12 on and off.

11 POWER RECEPTACLE

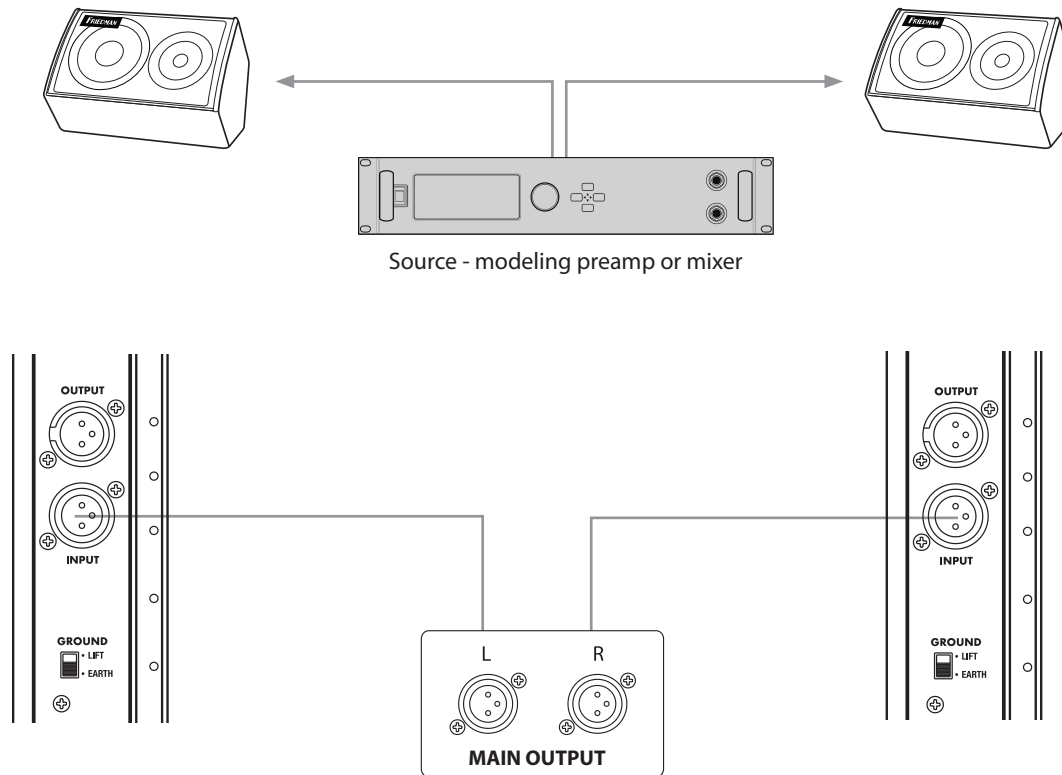
Plug the power cord in here.

12 FUSE

The ASM-120/ASC-12 is hardwired at the factory to be operated at the proper voltage for the country in which the unit is sold. In the event of needing to replace the fuse, be sure to follow the specified Fuse Value listed.

Set-up Diagram

Stereo ASM-12 Speakers (Note: set up is the same for ASC-12 Speakers)



Checklist

- Make certain loudspeakers are Powered OFF and Levels turned down.
- Connect the Source's Main Left Output to the Input of the Left Main Speaker.
- Connect the Source's Main Right Output to the Input of the Right Main Speaker.
- Turn down the Sources's volume.
- Power ON Source, then Power ON speakers.
- Bring the Source's volume up to normal operating level.
- Adjust the Level controls on the ASM-12/ASC-12.
- Do not adjust the Level so high that the Red LIMIT LED is constantly lit.
- Set the Low Cut switch to ON if you want less bass response and greater tonal clarity.

Specifications

SPECS	FRIEDMAN ASM-12/ASC-12
Configuration	12" 2-Way multipurpose powered loudspeaker
Transducers	
Low Frequency	Celestion - 12" speaker with 2.5" edge-wound voice coil
High Frequency	PETP film compression driver with 1.75" voice coil
LF Magnet Weight	42 oz
LF Magnet Structure Weight	7 lbs.
Frequency Range	50Hz - 20kHz
Frequency Response	58Hz - 18kHz
High Frequency Dispersion	75° conical
Maximum peak SPL	129dB
Power Output	LF: 270Wrms Class G
	HF: 80Wrms Class AB+B
Maximum total burst power*	500W
Input Impedance	20k Ohm Balanced
	10k Ohm Unbalanced
Electronic Crossover	4th order
Low Cut Filer (switchable)	3rd order Butterworth @ 100Hz
Controls	Level knob
	Low-cut filter switch
	Ground lift switch
	Power switch
	AC fuse
	115/230V switch
Indicators	Power
	Protect
	Limit
	Signal

SPECS	FRIEDMAN ASM-12
Cooling	Convection
Amplifier Protection	Short circuit
	Clip-limiter
	Overheat mute
	SOA output stage
	Driver DC protection
	Subsonic filter
	Turn-on mute and soft ramp
	Turn-on inrush current limiting
Power Consumption @ 115Vac/230Vac	1.7A/0.85A
(1/8 power pink noise)	150VA
Connectors	Balanced female XLR input
	Balanced male XLR link output
Input Sensitivity **	775mV (0dBu)
Enclosure	Black Warnex® painted birch plywood
Hardware	Leather strap
	Rubber feet / Rubber strips
	Pole mounting cup-ASM-12 only
Grille	Black and gold grille clothe
Dimensions	ASM-12 26.5" H x 16.5" W x 16" D ASC-12 21" H x 26.25" W x 11.25" D
	ASM-12 (673mm x 419mm x 406mm) ASC-12 (533.4mm x 666.75 x 285.75)
Weight	ASM-12 56 lbs. / 25.5 kg ASC-12 59 lbs. / 26.7 kg

* Based on unclipped sine-wave rms voltage

** Level control in fully clockwise position

Warranty

Friedman Limited Warranty Friedman provides to the original purchaser a two (2) year limited warranty on materials and workmanship on all Friedman cabinets and loudspeaker components from the date of purchase.

If your covered product is defective, ship the defective component together with proof of purchase, freight prepaid and insured, to an Authorized Friedman repair center or directly to Friedman Support Headquarters. If you are uncertain which component is defective, or to obtain instructions for removing a

component, please contact Friedman Support Headquarters for assistance at **friedmanamps@gmail.com**, or visit **www.FriedmanAmplification.com**.

A Return Authorization Number must be obtained from our Customer Service Department prior to shipping the product. To locate a repair center near you and to obtain a Return Authorization Number, contact **friedmanamps@gmail.com** or visit **www.FriedmanAmplification.com**.



This warranty does not cover service or parts to repair damage caused by neglect, abuse, normal wear and tear and cosmetic appearance to the cabinetry not directly attributed to defects in materials or workmanship. Also excluded from coverage are damages caused directly or indirectly due to any service, repair(s), or modifications of the cabinet, which have not been authorized or approved by Friedman. This two (2) years warranty does not cover service or parts to repair damage caused by accident, disaster, misuse, abuse, burnt voicecoils, over-powering, negligence, inadequate packing or inadequate shipping procedures. The sole and exclusive remedy of the foregoing limited warranty shall be limited to the repair or replacement of any defective or non-conforming component. All warranties including, but not limited to, the express warranty and the implied warranties of merchantability and fitness for a particular purpose are limited to the two (2) years warranty period. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you. There are no express warranties beyond those stated here. In the event that applicable law does not allow the limitation of the duration of the implied warranties to the warranty period, then the duration of the implied warranties shall be limited to as long as is provided by applicable law. No warranties apply after that period.

Retailer and manufacturer shall not be liable for damages based upon inconvenience, loss of use of product, loss of time, interrupted operation or commercial loss or any other incidental or consequential damages including but not limited to lost profits, downtime, goodwill, damage to or replacement of equipment and property, and any costs of recovering, reprogramming, or

reproducing any program or data stored in equipment that is used with Friedman products. This guarantee gives you specific legal rights. You may have other legal rights, which vary from state to state.

California Prop 65 Warning: This product may contain a chemical(s) known to the state of California to cause cancer or birth defects or other reproductive harm.

Friedman Amplification, 5419 Cleon Avenue, North Hollywood, CA 91601, USA

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Assembled in USA

