



ACT-18X

18" Active Subwoofer

INSTRUCTION MANUAL

IMPORTANT SAFETY INFORMATION

1. Read all the instructions before attempting to use the ACT-18X.
2. Follow all instructions contained in this manual.
3. Keep these instructions in a safe place where they can be found and referred to in the future.
4. Use common sense in operating your ACT-18X and heed all warnings included in your operating manual.
5. Do not use the ACT-18X near water. Do not use it in or near a washtub, sink, pool, standing water, bathtub, or anyplace where the likelihood of water mixing with electricity is present.
6. Clean only with a clean dry cloth.
7. Do not locate your ACT-18X in an area which has limited or very poor ventilation. Obstructing the fan intake, outlet or the heat sink will likely cause the product to overheat and shut down.
8. Do not install the ACT-18X near any heat sources such as radiators, stoves, portable electric heaters or other devices that produce significant amounts of heat. If you do, it could cause the product to overheat and shut down.
9. Do not touch the amplifier heat sink with an ungloved or unprotected hand while or shortly after the ACT-18X has been operating. The heat sink may get hot during operation.
10. Do not attempt to defeat the safety purpose of the AC cord's polarized grounded plug. If the provided plug does not fit your outlet, hire an electrician to replace the obsolete outlet.
11. Protect the AC mains power cord from being damaged.
12. **SERVICING** - The user should not attempt to repair a damaged or inoperable ACT-18X other than by replacing a blown AC mains fuse or a damaged detachable power cord. **DO NOT TOUCH A DAMAGED POWER CORD IF IT IS PLUGGED INTO AC MAINS POWER!!!!**
13. Turn off and unplug the ACT-18X when not in use except during a lighting storm. A lightning strike on the AC line equipment is plugged into could cause electrocution to those in contact with that equipment. This is why your ACT-18X comes with a 3-prong power cord. The third prong (Earth ground) is to prevent such harm. Should you believe an electrical storm to be imminent, then it would be wise to unplug the ACT-18X BEFORE the storm approaches.

WARNING:

To reduce the risk of fire or electrical shock, do not expose this system to rain or moisture

14. To reduce the risk of fire or electric shock, do not expose the ACT-18X to rain or moisture.
15. Servicing may be required when the ACT-18X has been damaged. If any of the following conditions listed below has occurred, please turn off and unplug the ACT-18X and seek the help of qualified service personnel. The following conditions all require service:
 - 1) The power-cord or plug is damaged.
 - 2) Objects have fallen into, or liquid has been spilled into the amp.
 - 3) The ACT-18X has been exposed to significant moisture such as rain or fog and or there is present condensation inside the amplifier due to weather conditions. (If there is condensation on the outside of the heatsink, it is safe to assume the condensation is present inside as well.)
 - 4) The unit is not operating normally.
 - 6) The unit has been dropped with significant force and is not operating normally.

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AMPLIFIER SPECIFICATIONS:

- ▶ 1200-watt Digital Amplifier with Voltage Tracking Power Supply
- ▶ 1200 watts @ 4 Ohms
- ▶ 800 watts @ 8 Ohms
- ▶ Built-in compressor-limiter
- ▶ Built in 24db/octave Crossover
- ▶ Crossover Frequency: 120 Hz @ 24db/octave
- ▶ Subsonic Filter: 32 Hz High Pass (18 db/octave)
- ▶ Nominal Loudspeaker Impedance (each subwoofer): 8 Ohms
- ▶ Minimum Load Impedance: 4 Ohms (One active and one passive sub)
- ▶ Minimum Power Consumption (with no signal input) 20 watts
- ▶ Power Requirements: Up to 12 Amps @120v@60Hz
- ▶ XLR Balanced Inputs
- ▶ XLR Full Range Outputs
- ▶ XLR Balanced High Pass Outputs
- ▶ 0-180° phase switch
- ▶ Speakon Style Speaker Output Connector for connecting a passive Sub (SP-18XS)
- ▶ Thermal & Short Circuit Protection
- ▶ Signal sensing circuitry with LED indicator

LOUDSPEAKER FEATURES:

- ▶ Power handling of 1200 Watts RMS, 2400 Watts peak
- ▶ Sensitivity: 102 dB @ 2.83V @ 1 Meter
- ▶ Peak SPL: 132 dB @ 1 Meter
- ▶ 4-layer, 4 Inch Diameter Voice Coil
- ▶ Extra durable non-press paper cone
- ▶ Heavy duty Polyester-Cotton double spider for great long term mechanical stability
- ▶ Magnetically optimized forged T-yoke with deep bump for high excursions
- ▶ Undercut pole piece for lower distortion and better mechanical clearance
- ▶ Double thick Fiberglass Voice coil former for incredible rigidity at the driving point
- ▶ Extreme high temperature enamel and adhesive used on voice coil wire
- ▶ Precision machined low-carbon steel magnetic circuit
- ▶ Super duty polyester-cotton accordion edge surround
- ▶ Double spiders to afford superior protection from bottoming and rocking

CABINET FEATURES:

- ▶ Superior grade of 13-ply Baltic Birch
- ▶ Heavy duty scratch resistant durable black paint finish.
- ▶ 16-Gauge perforated steel grille for maximum protection
- ▶ 2 & 3/8" diameter steel pole-mount cup.
- ▶ Flared ports for highest available output without port noise
- ▶ Dimensions (W) x (H) x (D): 24" x 33" x 22"
- ▶ Weight: 110lbs

WARNING! THE ACT-18X CABINET HAS NO RIGGING POINTS. IT IS NOT SUITABLE FOR FLYING. NEVER ATTEMPT TO SUSPEND THIS CABINET BY ITS HANDLES. DOING SO COULD RESULT IN INJURY OR DEATH!

SETTING UP YOUR ACT-18X SUBWOOFER

The B-52 Pro-Audio speakers described in this instruction manual are intended for use directly on the floor, ground or stage. The ACT-18X and ACT-18XS described in this manual should NEVER be flown. These models are intended primarily for use in mobile installations. Fixed install versions and flying versions are available, so for those purposes please consult your B52 Pro-Audio dealer or our website www.B-52PRO.com for appropriate models.

Repeated exposure to direct sun will significantly shorten the useful life of the loudspeaker system. Avoid exposing the system to the elements whenever possible. Exposure to rain, long-term high humidity and/or ultra violet rays will cause premature aging of the subwoofer. Prolonged use of the ACT-18X outdoors or in high-moisture areas can damage the subwoofer and amplifier.

Because of the forces needed to reach high SPLs at low frequencies, the intense vibrations of the woofer may cause the cabinet to move during operation. When placed on slick surfaces, such as polished wood or smooth tiles, the speaker may move (walk off the stage) during use. Precautions should be taken to ensure the subwoofer does not fall or slide off a stage or raised surface. A high friction surface, such as carpeting, works best to prevent this. The addition of weight to the cabinet, such as a pole mounted speaker atop it, will diminish or eliminate this characteristic.

The ACT-18X model includes a pole-mounting cup to allow mounting a satellite speaker above it. When installing a pole-mounted speaker above the ACT-18X, be sure to observe the follow precautions:

- ▶ Be sure the pole is capable of supporting the load of the mounted speaker without risk of falling or tipping.
- ▶ Check to be certain the pole is firmly placed within the pole cup built-in to the ACT-18X as well as the satellite speaker, so no sudden movement will occur, causing the satellite to drop off or shift during operation.
- ▶ Make sure cables routed to and from the ACT 18X (and any other connected loudspeakers) are secured with great care to prevent accidents. Use all normal and necessary means to insure a safe performance!
- ▶ B-52 Pro-Audio recommends satellite placement and removal be performed by no less than two physically capable persons at a time.

HEARING DAMAGE AND PROLONGED EXPOSURE TO EXCESSIVE SPLs

B-52 Pro-Audio speakers can produce sound levels high enough to cause permanent hearing damage to performers, production crews or people in the audience. Hearing protection devices are recommended for use where long-term exposure to high SPLs are not avoidable. Remember, if it hurts, it is definitely too loud! Long exposures to high SPLs cause first temporary threshold shifts, limiting your ability to hear the actual loudness and exercise good judgment. Repeated long-term exposure to high SPLs can and WILL CAUSE PERMANENT HEARING LOSS!

Please note the recommended exposure limits (right) in Table G-16. More information about these limits is available on the US government Occupational Safety and Health (OSHA) website at: www.osha.gov The table (to the right) is shown at http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_id=9735&p_table=STANDARDS

TABLE G-16 PERMISSIBLE NOISE EXPOSURES (1)	
Duration per day, hours	Sound level dBA slow response
8	90
6	92
4	95
3	97
2	100
1.5	102
1	105
0.5	110
0.25 or less	115

AMPLIFIER MODULE PRECAUTIONS

Do not attempt to service the ACT-18X yourself. Refer all servicing to a B-52 Pro-Audio Authorized Dealer, or other qualified servicing personnel.

Service may be required if and when:

- ▶ The ACT-18X has had liquid spilled or objects have fallen inside the subwoofer.
- ▶ A heavy object(s) has/have fallen onto the speaker
- ▶ The cabinet, amp or speaker has been damaged
- ▶ The speaker has been exposed to excessive rain or moisture
- ▶ The cabinet has been dropped hard enough to cause damage
- ▶ The amp has failed to turn on and has AC mains power available
- ▶ The amp or speaker does not operate normally or as it should
- ▶ Keep your ACT-18X amplifier away from any heat source. Do not cover your ACT-18X amplifier so that either the amplifier fan or heat sink is partially or totally obstructed; doing so will likely result in amplifier overheating, triggering the shutdown or failure of the amp.



WARNING: To reduce the risk of fire or electrical shock do not expose this equipment to rain or moisture.

PRECAUCIONES: Para Prevenir el incendio o la descarga electrica, no exponer este equipo a la lluvia o a la humedad

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 electric shock to persons. The exclamation point within an equilateral triangle is intended to alert the user of the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance. The lightning flash with arrowhead symbol adjacent to a terminal is intended to alert the user that the terminal is hazardous live.

El símbolo de flecha relámpago dentro de un triángulo equilátero, es para alertar al usuario de la presencia de "voltajes peligrosos" no aislados en el interior del aparato, los cuales pueden ser de suficiente magnitud para constituir un riesgo de choque eléctrico a las personas. El símbolo de exclamación dentro de un triángulo equilátero, es para alertar al usuario de la presencia de instrucciones importantes de operación y mantenimiento (servicio) en la documentación que acompaña al equipo. El símbolo del relámpago con la punta de flecha que está situado junto a la terminal es para alertar al usuario que la terminal presenta un peligro cuando está activa.

To reduce the risk of fire or electrical shock, do not expose this unit to rain or excess moisture. Do not operate your ACT-18X(S) in or near a pool or other standing water. In the event the powered speaker comes in contact with the water, an electrocution hazard may occur. Do not bypass or defeat the grounding or polarization means used on the ACT-18X amplifier. Make sure all blades on the polarized power plug are fully inserted into the AC mains power receptacle. Ensure the power cord is not stretched, pinched, chafed, or otherwise damaged. Ensure the power cord is routed safely and secured to avoid the possibility of someone tripping over it.

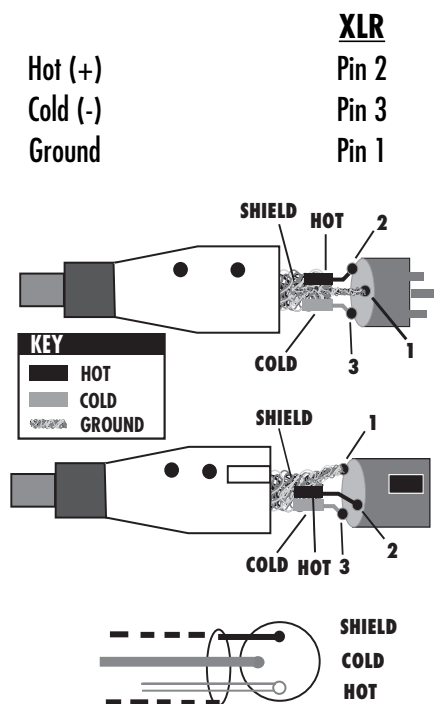
ACT-18X SUBWOOFER FEATURES AND USAGE

Numbers in this section refer to the numbered controls opposite

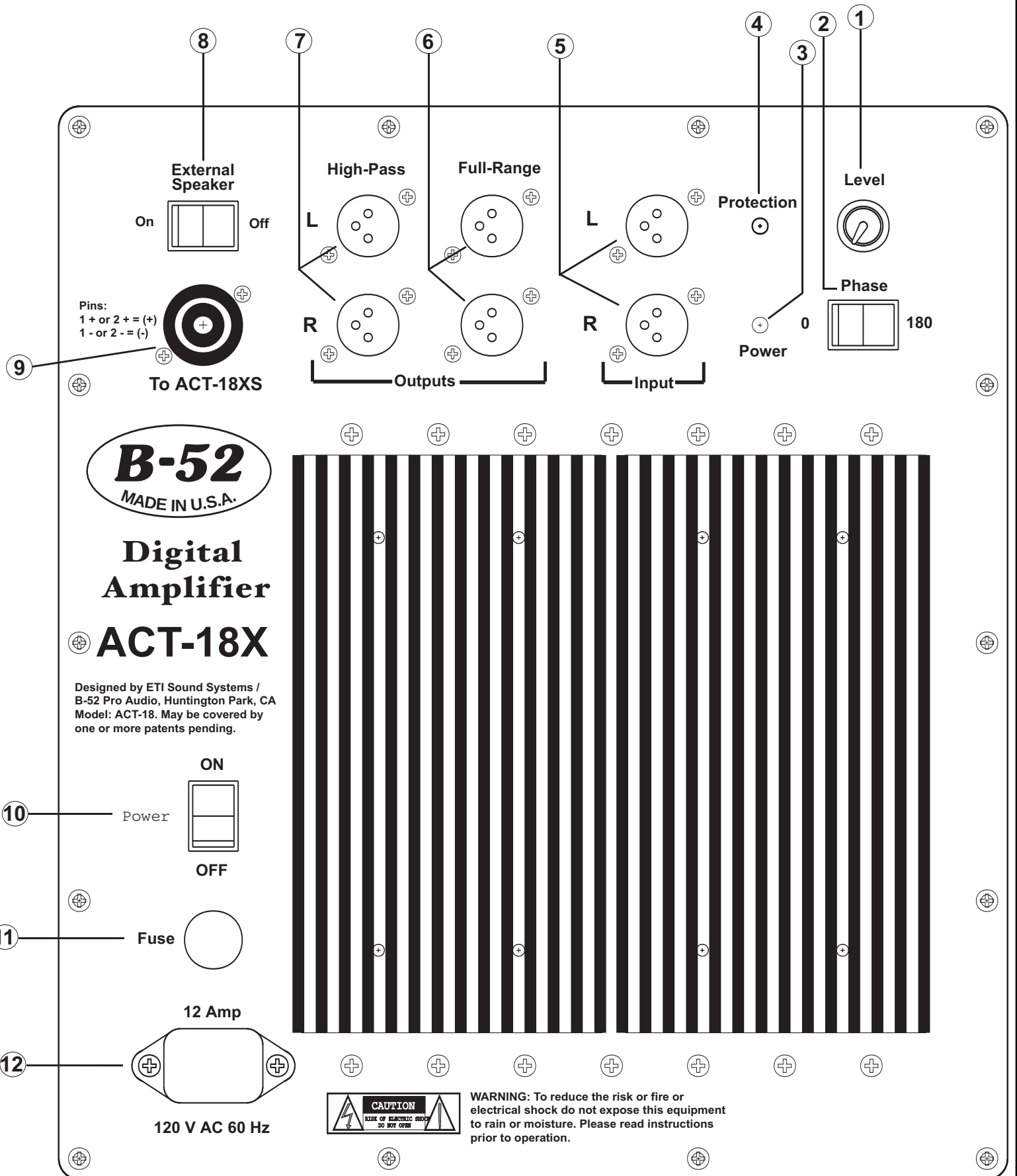
- 1) LEVEL CONTROL:** Sets the volume of the subwoofer without influencing the volume of the satellites, the satellites, or the full range outputs on the panel mounted XLR connectors.
- 2) PHASE SWITCH:** Allows the user to reverse the direction of excursion at low frequencies. This is to help in getting the subwoofer to move in proper "PHASE" with the satellites, so that the sound in the crossover region from the satellite and subwoofer add instead of subtract.
- 3) POWER INDICATOR:** The AC Mains Power rocker switch located on the lower left hand side of the amplifier turns on the AC mains power to the amp. A failure to light the Red rocker switch indicates lack of power and/or a blown AC mains fuse.
- 4) PROTECTION:** This Red LED turns on when there is a fault condition in the system causing circuitry to engage in order to protect the amplifier and prevent it from damaging itself and/or the attached speaker(s). The most common cause of this is running the amplifier at or near its maximum output level for a very long time. This WILL CAUSE overheating. If protection is engaged because of overheating, the best course of action is to turn down the level control on the amplifier for long enough (10-15 minutes) to allow the fan to cool it off. After this time if the amp still does not go out of its protect mode (indicated by the red LED going dim) turn it off for 10 seconds and then turn it on again. If it still does not operate, contact your authorized service provider or B-52.
- 5) RIGHT & LEFT INPUTS:** These XLR connectors accept a balanced input signal cable. The wiring conforms to the Audio Engineering Society standard where Pin 2 is (+) or hot; Pin 3 is (-) or cold; and Pin 1 is the Shield or ground. The low frequencies are summed because our hearing does not detect direction for very low frequencies, those in the range of the subwoofer. There is therefore, no loss of stereo image in using a single speaker to reproduce the bass from both channels.
- 6) RIGHT & LEFT FULL-RANGE OUTPUTS:** These connectors are shorted to the INPUTS allowing daisy chaining of the input signal. Therefore you do not need to y-cable out of your mixer or audio device to get an additional full range signal(s) to another active system nearby your ACT subwoofer. Use this connector to "daisy chain" multiple systems together. (See diagram on page 7 for details)
- 7) RIGHT & LEFT HIGH-PASS OUTPUTS:** Sends the high frequency portion (above 120hz) of the full range signal to power amplification for the full range or mid-high frequency satellite speakers. This signal is the complement of the music signal sent to the subwoofer. In other words, it is what is left of the music after the bass has been removed. It is that part of the music which the subwoofer does NOT reproduce. It should be sent to your active satellite speakers INSTEAD of the full range signal. When the very lowest bass frequencies are removed from the satellites, this will increase your dynamic range, (let you play it louder) lower your distortion, and improve the sound of the system relative to what you would hear with the full range signal sent to your high frequency satellites. (See diagram on page 6 for details)
- 8) EXTERNAL SPEAKER ON/OFF SWITCH:** When using the powered ACT-18X without a second passive subwoofer (the ACT-18XS), this switch should be in the off position. IF IT IS NOT, THAT WILL REDUCE THE AVAILABLE POWER TO THE SINGLE ACT-18X SUBWOOFER. When an external, non-powered subwoofer (ACT-18XS) is connected to the ACT-18A, turn this switch on. Do not use this switch unless the volume control is all the way down (fully counter-clockwise).
- 9) EXTERNAL SPEAKER OUTPUT:** This 4-pin Speakon-style connector is for connecting an ACT-18XS passive subwoofer to the ACT-18X amplifier. Either pins 1+ and 2+ can be used as the positive connection. Either pins 1- or 2- can be used as the Negative Connection. Only connect an ACT-18XS in parallel to the ACT-18X subwoofer!! Use of any sub other than an ACT-18XS will void the warranty and may cause your amplifier to shutdown or fail. When adding subwoofers it is important that they have the same response (magnitude and phase) or one will likely subtract its output from the other (instead of adding) at some point within the range of both.
- 10) ON/OFF SWITCH:** Turns on the AC mains power and your ACT-18 amplifier. If power is available and the amp is working properly, the Power ON/OFF switch will light up. If it does not, unplug the AC cable from the wall and then check the AC mains fuse in your ACT-18X for continuity with a multimeter or ohmmeter. If the fuse is open (no continuity) replace with same kind and type. If the replacement fuse blows in short order, seek service from a qualified technician.
- 11) FUSE HOLDER:** Houses a 12 Amp 3AB size glass slow-blow fuse. REPLACE ONLY WITH SAME KIND !!!! NOTE!!! Very often a blown fuse is a symptom of a serious problem with the amplifier or speaker. Under normal operating conditions the fuse should NEVER go open. It does so only under fault conditions. Take extreme care with household electricity as it has the potential for deadly harm. Do not expose the amplifier inside by removing the amp from the cabinet and then plugging it into AC mains power. VOLTAGE PRESENT ON THE PRINTED CIRCUIT BOARD WHILE THE AMP HAS AC MAINS POWER SUPPLIED TO IT ARE POTENTIALLY LETHAL!! If the fuse repeatedly blows, especially on first powering up the amp, it is an indicator of a fault condition and the AC mains power should be removed and the entire system should be brought into a qualified service technician for repair.
- 12) POWER CORD CONNECTOR:** For attachment of the included IEC standard detachable power cord. Please replace this cord should it become chafed, cut, bent or damaged in such a way that the protective insulation is compromised. TOUCHING LIVE EXPOSED WIRES ON THE POWER CORD CAN RESULT IN INJURY OR DEATH! Only replace the cable with the exact same type and size.

XLR CONNECTIONS

When connecting a balanced signal ensure it is wired as per AES (Audio Engineering Society) specifications.

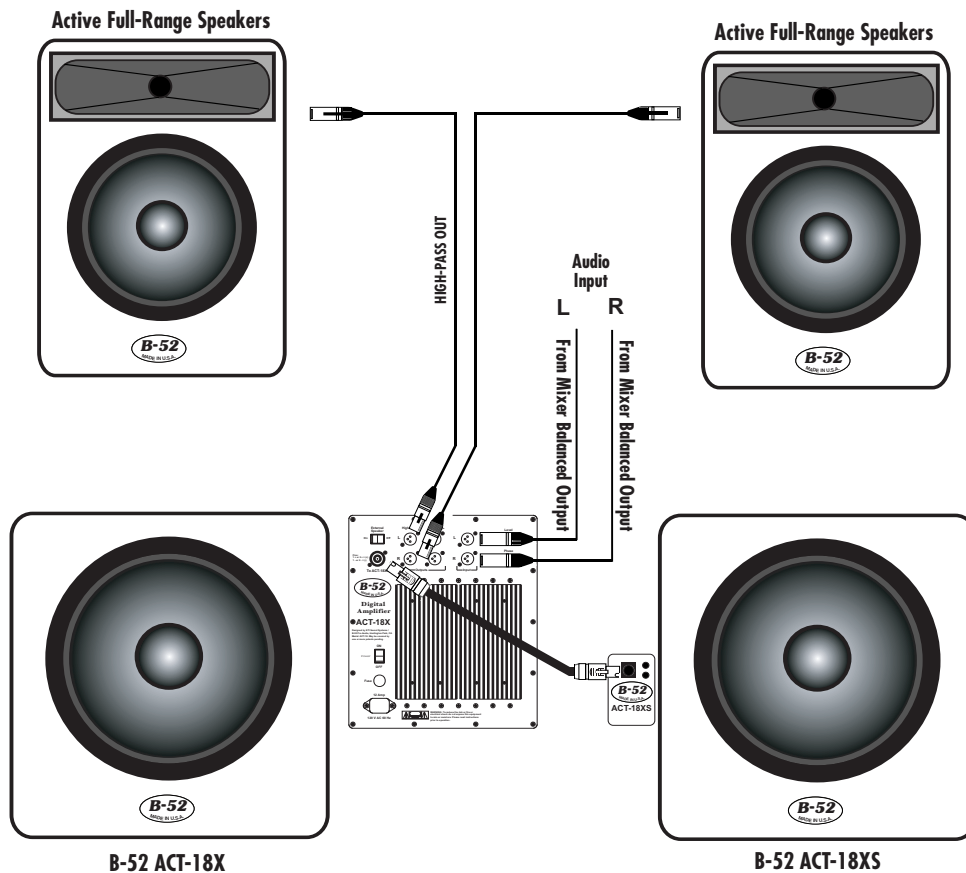


FEATURES

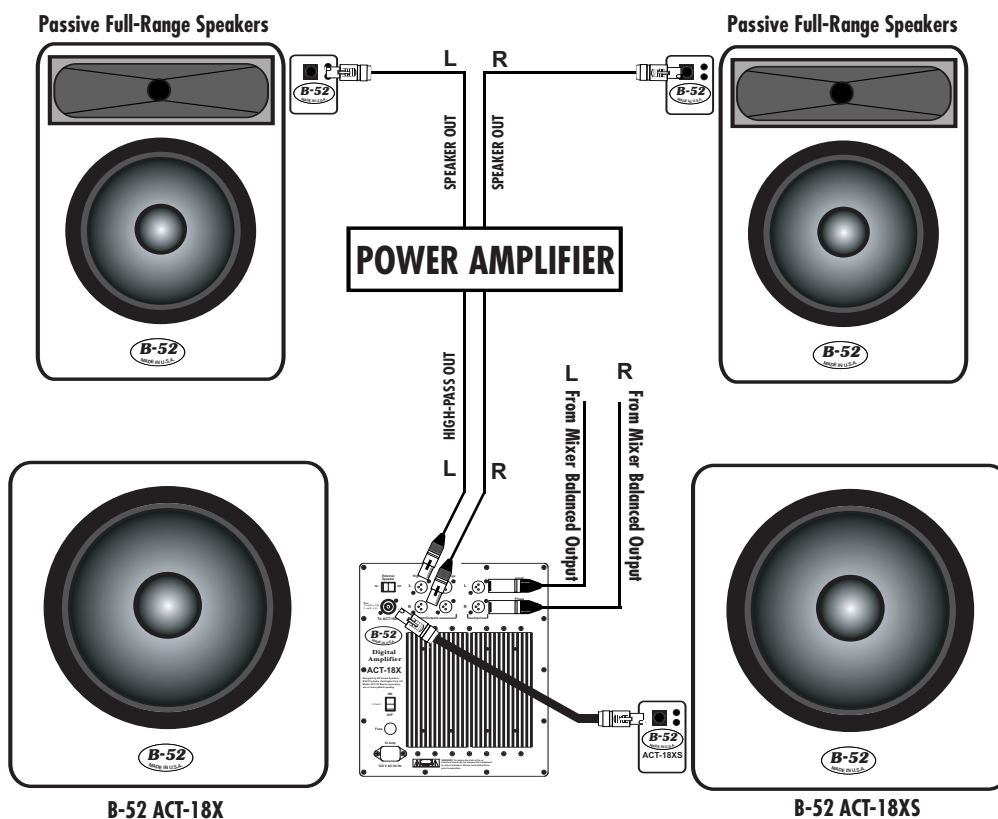


CONNECTING YOUR ACT-18X

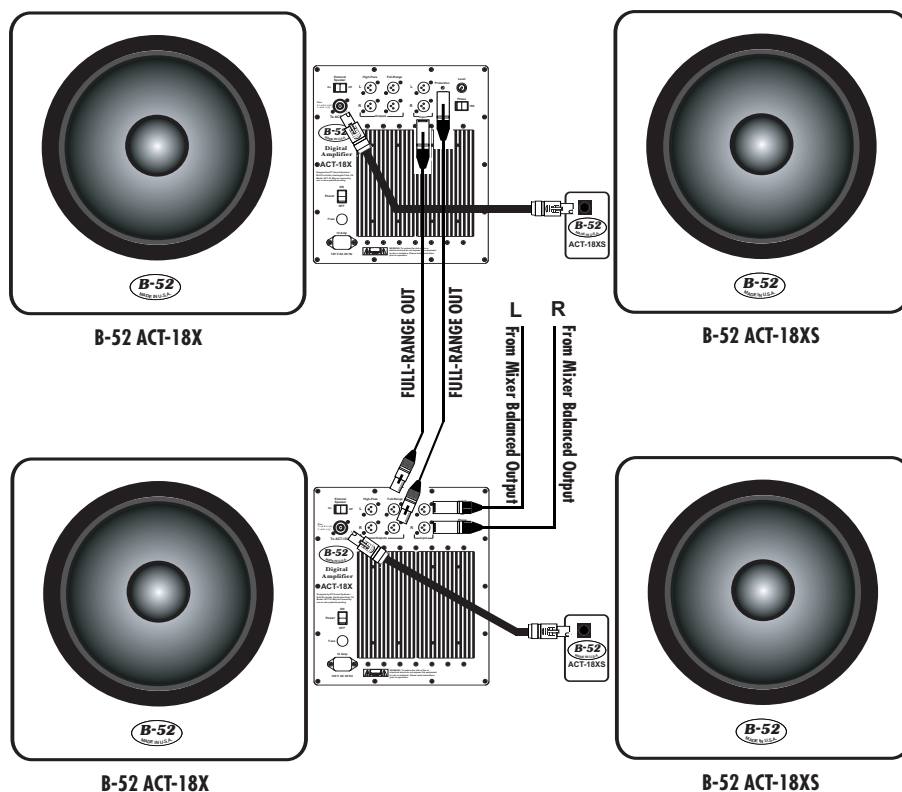
NUMBER 1 - CONNECTIONS TO ACTIVE SPEAKERS



NUMBER 2 - CONNECTION TO PASSIVE FULL-RANGE SPEAKERS



NUMBER 3- CONNECTION TO ADDITIONAL POWER AMPLIFIERS AND PASSIVE SPEAKERS



WARRANTY INFORMATION

Thank you for choosing this B-52 Pro-Audio sound product. B-52 manufactures some of the world's best sounding and most reliable professional speaker systems and components. E.T.I. Sound Systems, Inc., manufacturers of B-52, takes great pride in thoroughly testing each B-52 product prior to shipment. Please refer to your warranty card for additional information and/or updates in terms and conditions.

LOUDSPEAKER & MID-RANGE COMPONENTS: E.T.I. Sound Systems, Inc. warrants the original purchaser that the B-52 subwoofer will be free from defects in material and workmanship for a period of (5) FIVE YEARS from the original purchase date. A dated sales receipt will establish coverage under this warranty. This warranty will automatically terminate (5) five years after the original sales date. See provided Limited Warranty Card for additional terms and conditions.

B-52 AMPLIFIER: E.T.I. Sound Systems, Inc. warrants the original purchaser that the B-52 amplifier will be free from defects in material and workmanship for a period of (2) TWO YEARS from the original purchase date. A dated sales receipt will establish coverage under this warranty. This warranty will automatically terminate (2) two years after the original sales date. If this product is defective in materials or workmanship as warranted above, your sole remedy shall be repair or replacement as provided above. See provided Limited Warranty Card for additional terms and conditions.

B-52 CABINETS: ETI Sound Systems, Inc. offers a LIFETIME warranty to the original purchaser that B-52 cabinet construction will be free from defects in material and workmanship. An original dated sales receipt or legible copy of same will establish coverage under this warranty. The warranty does not cover service or parts to repair damage caused by abuse or neglect or normal wear and tear. The warranty does not cover cosmetic appearance of the cabinetry not directly attributable to defects in the original material or workmanship. If the cabinet is defective as described in this paragraph, then your sole remedy shall be repair or replacement. See the included limited warranty card for terms and conditions.

INCIDENTAL OR CONSEQUENTIAL DAMAGES: In no event shall E.T.I. Sound Systems, Inc. be liable for any incidental or consequential damages arising out of the use or inability to use of any B-52 product, even if, E.T.I. Sound Systems, Inc. or a B-52 dealer has been advised of the possibility of such damages, or any other claim by any other party. Some States do not allow the exclusion or limitation of consequential damages, so the above limitation and exclusion may not apply to you. This warranty gives you specific legal rights and you may also have other rights that may vary from State to State. See provided Limited Warranty card for additional terms and conditions.

RETURN PROCEDURES: In the event product repair is needed, follow the procedure outlined below. Contact B52 (1-800-344-4ETI or 1-323-277-4100) from 8 am to 430 pm Pacific Standard Time, for the location of the authorized service center nearest you. Follow the service center's instructions regarding return of the product. In some instances B52 may request you return the product directly to ETI Sound Systems, Inc. for service or repair. After speaking with a B52 representative, you will be issued a return authorization number (RAN) which you will clearly label the return merchandise with. If the service center is not nearby you, and you are sending the product by common carrier, be sure to package the part or parts in a manner that will prevent damage from occurring in shipping. In most instances, B52 will request that products returned by shipment include ONLY the defective part(s), and not the entire product. We will instruct the customer what part(s) we wish returned, and how to remove it, prior to issuing a RAN for the return(s).

UNLESS SPECIFICALLY INSTRUCTED TO DO SO, NEVER RETURN THE ENTIRE CABINET - JUST THE DEFECTIVE COMPONENT.

See provided Limited Warranty card for additional terms and conditions.

FOR YOUR PROTECTION: Please complete and mail the Purchase Information Card within (10) ten days of the date of purchase so that we may contact you directly in the event a safety notification is issued in accordance with the 1972 Consumer Product Safety Act. In addition, we ask that you complete the brief questionnaire so we may analyze your answers and in this way, help us evaluate our customer needs. See provided Limited Warranty card for additional terms and conditions.



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