



ACTPRO-HD

Instruction Manual

ACTPRO-1515 HD

POWERED
LOUDSPEAKER
WITH BUILT-IN



ACTPRO-1212S HD

POWERED
LOUDSPEAKER
WITH BUILT-IN



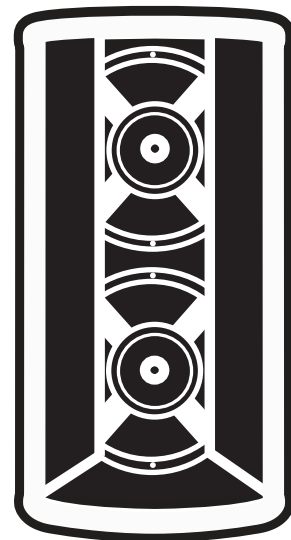
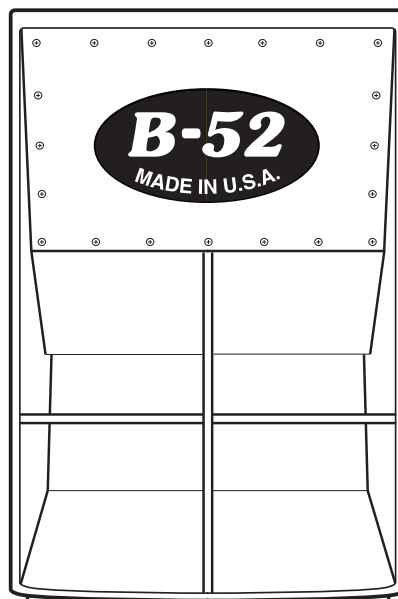
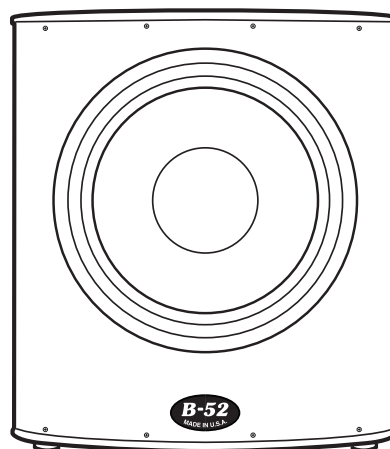
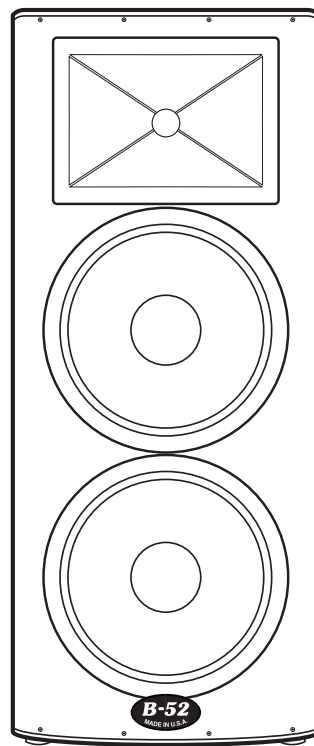
ACTPRO-18S HD

POWERED
SUBWOOFER
WITH BUILT-IN



ACTPRO-18F HD

POWERED
SUBWOOFER
WITH BUILT-IN



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CONGRATULATIONS ON YOUR PURCHASE OF B-52 ACTPRO-HD SERIES HIGH POWERED LOUDSPEAKER WITH BUILT-IN BBE SONIC MAXIMIZER.

Please review all the information provided in this manual to ensure that you attain the best possible sound quality from your system. B-52 ACTPRO-HD powered loudspeakers provide outstanding clarity and sound power for a variety of applications. ACTPRO-HD loudspeakers are the perfect choice for any portable PA application requiring reliable sound power for live performance, presentation or playback for bands, DJ's, presenters, schools, and Houses of Worship.

ACTPRO-1515 HD is a full range powered loudspeaker that may be used as a stand-alone main speaker, or can be combined with the ACTPRO-18SHD or ACTPRO-18F HD subwoofer to form a larger systems. All ACTPRO-HD Series loudspeakers feature 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.

ACTPRO-HD series powered loudspeakers were designed using advanced acoustic and sound processing techniques with premium components, comprehensive protection circuitry, and robust construction to provide years of consistent, reliable performance.

Key features include: High efficiency Class G low frequency amplification with a high current output stage, Bi-Amp power module (ACTPRO-1515 HD) with custom signal processing; clip/limiter, thermal, and short circuit protection; optimized acoustic designs using PETP (low mass synthetic material) 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 B-52 ACTPRO-HD 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 ACTPRO-HD amplifier module before connecting all other external devices.

6. WATER AND MOISTURE – Moisture can damage the ACTPRO-HD 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. CARTS AND STANDS – The speaker system should be used only with a cart or stand that is recommended by the manufacturer. A speaker and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the speaker and cart combination to overturn.

8. WALL OR CEILING MOUNTING – The product should never be mounted to a wall or ceiling.

9. HEAT – The amplifier on the back of the ACTPRO-HD loudspeaker should be situated away from heat sources such as radiators, direct sun light, heat registers, stoves, or other sources (including amplifiers) that produce heat.

10. 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.

11. 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 3rd pin grounding prong.

12. 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.

13. 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.

14. NON-USE PERIODS – The power cord of the amplifier should be unplugged from the outlet when left unused for a long period of time.

15. OBJECT AND LIQUID ENTRY – Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.

16. 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.

17. Keep the speaker system out of extended or intense direct sun light.

18. No containers filled with any type of liquid should be placed on or near the speaker system.

19. 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.

20. 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.

21. ATTACHMENTS – do not use attachments not recommended by the product manufacturer, as they may cause hazards.

22. 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.

23. 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.

24. REPLACEMENT PARTS – When replacement parts are required, besure 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.

25. 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.

26. 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!**

27. AC SELECT SWITCH: This switch must be set to match the AC line voltage in the country this speaker system is being operated. To change the setting, loosen (do not remove) the two screws left and right the slide switch. Temporarily move the protective cover strip and slide the actuator to match the voltage in your country. Place the protective cover strip back over the switch and tighten the two screws. **COMPLETELY DISCONNECT POWER CORD FROM AMPLIFIER BEFORE ATTEMPTING TO CHANGE AC VOLTAGE SETTINGS!**

28. B-52 ACTPRO-HD SERIES POWERED LOUDSPEAKERS ARE NOT DESIGNED FOR TEMPORARY OR PERMANENT SUSPENSION. ANY ATTEMPT TO SUSPEND AN B-52 SERIES 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.



HEARING DAMAGE AND PROLONGED EXPOSURE TO EXCESSIVE SPLs

B-52 ACTPRO-HD Series powered loudspeakers are capable of producing extremely loud volume levels that can cause permanent hearing damage to performers, production crews or the audience. Hearing protection is recommended during long-term exposure to high SPLs (sound pressure levels).

Remember, if it hurts, it is definitely too loud! Long term exposure to high SPLs first causes temporary threshold shifts; limiting your ability to hear the actual loudness and exercise good judgment. Repeated long term exposure to high SPLs will cause permanent hearing loss.

Please note the recommended exposure limits in the accompanying table. More information about these limits is available on the US government Occupational Safety and Health (OSHA) website at: www.osha.gov

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

	CAUTION RISK OF ELECTRIC SHOCK DO NOT OPEN	AVIS RISQUE DE CHOC ELECTRIQUE NE PAS OUVRI R	
<p>CAUTION: To reduce the risk of electric shock, do not remove chassis. No userserviceable parts inside. Refer servicing to qualified service personnel.</p> <p>AVERTISEMENT: Pour réduire les risques d'incendie et d'électrocution, ne pas exposer ce matériel à la pluie ou à l'humidité.</p>			



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.

Features

SYSTEM

- Built-in BBE® Sonic Maximizer (Stereo in subwoofer models, allowing BBE processing on your entire speaker system.
- High efficiency Class G low frequency amplification with custom signal processing
- Built-in compressor/limiter
- Subsonic filter: 12dB/octave
- Full thermal & short circuit protection
- Ground lift switch
- Large heatsink with ultra silent convection cooling
- Oversized toroidal transformer
- LEDs for Power, Protect, Limit and Signal
- Front logo illuminated with defeatable blue LED
- 115V/230V 60Hz/50Hz selector switch

ACTPRO-1515 HD

- Bi-amp design with discrete output stages for both the woofer and compression driver
- Proprietary 4th order electronic X-over and multi-stage custom equalization.
- 100Hz 18dB/octave low cut switch on Full Range models

ACTPRO-212S HD, ACTPRO-18S HD, ACTPRO-18F HD

- Third order electronic crossover between subwoofer and HP Left and Right Outputs
- Polarity switch (ACTPRO-18S HD Subwoofer)
- Balanced XLR inputs (Left and Right)
- Left and Right Balanced XLR full-range outputs
- Left and Right balanced XLR hi-pass outputs with BBE Sonic Maximizer Processing

COMPONENTS

Compression Driver:

- 1" exit Celestion Compression Driver with PETP film diaphragm

Horns:

- 90° x 40° constant directivity horn (ACTPRO-1515 HD)

LF Transducers:

- Vented magnet assemblies for advanced cooling
- High temperature copper voice coil wound on polyamide former for increased reliability
- Celestion SP-1500 (ACTPRO-1515 HD)
- Proprietary B-52 18-190S-4 cast frame subwoofer (ACTPRO-18S HD)
- Proprietary Celestion 18" cast frame subwoofer (ACTPRO-18F HD)
- Proprietary Eminence 12" cast frame subwoofers (ACTPRO-1212S HD)

PETP-FILM DIAPHRAGM COMPRESSION DRIVER

(ACTPRO-1515 HD)

- Optimized acoustic and magnetic design achieves outstanding clarity and reliability
- A one-piece, PETP film diaphragm and surround optimizes energy transfer for greater efficiency
- Patented clamping system yields low distortion performance while improving the mid-band response
- Polyimide-insulated, copper-clad aluminium voice coil is edgewound on a glass-fiber former producing lower distortion and superior power-to-weight ratio
- A matched wave front phase corrector produces a coherent sound wave at the horn throat, yielding detailed and dynamic mid and high frequency response

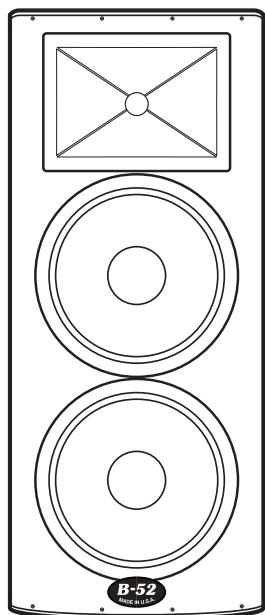
CABINET FEATURES

- Made in U.S.A.
- 5/8" birch plywood construction (ACTPRO-1515 HD)
- 3/4" birch plywood construction (ACTPRO-212S HD, ACTPRO-18S HD, ACTPRO-18F HD)
- Reinforced internal bracings
- Environmentally friendly Warnex® scratch resistant black paint finish
- 16-gauge, wrap-around steel grilles
- Metal handles and rubber feet
- 1 3/8" Metal pole mounting cup on (ACTPRO-212S HD, ACTPRO-18S HD, ACTPRO-18F HD)

BBE SONIC MAXIMIZER

- The BBE® Sonic Maximizer circuitry takes already great sounding systems to the next level
- Adds punch and depth that can be both heard and felt
- Improves the clarity and intelligibility of vocals, musical instruments and adds overall depth to the audio program
- Controls for LF (low frequency) Contour and HF (high frequency) Process to adjust the exact amount of BBE® processing added to your mix
- Red illuminated ON/OFF switch to activate BBE processing.

ACTPRO-HD Model Descriptions



ACTPRO-1515 HD:

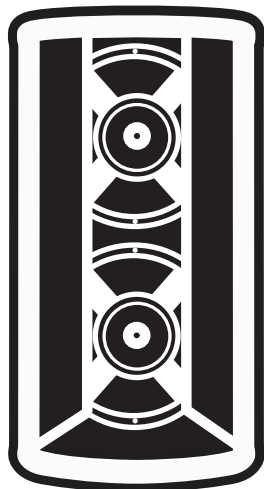
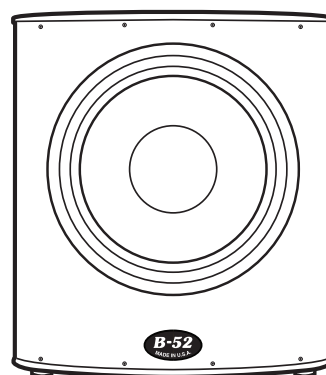
The ACTPRO-1515 HD was designed to operate sitting on the floor, stage, or on top of subwoofer enclosure. Do not attempt to pole mount this loudspeaker atop a subwoofer cabinet!

ACTPRO-18S HD:

The ACTPRO-18S HD was designed to operate sitting on the floor or on the stage.

A pole cup, on the top of the enclosure, accepts 1 3/8" loudspeaker mounting poles. For best quality sound, detach the supplied casters while the subwoofer is being played.

Do not pole mount or stack more than one full-range speaker on top of the any B-52 active subwoofer.

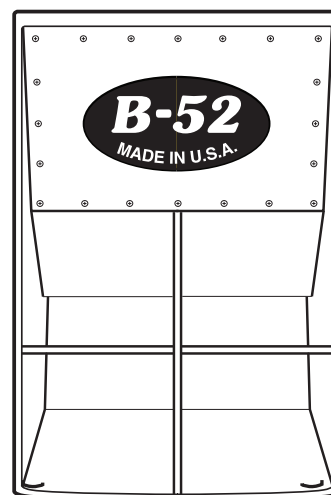


ACTPRO-1212S HD:

The ACTPRO-1212S HD is an ultra-compact dual 12" band-pass subwoofer designed to operate sitting on the floor or on the stage. A pole cup, on the top of the enclosure, accepts 1 3/8" loudspeaker mounting poles. Do not pole mount or stack more than one full-range speaker on top of the any B-52 active subwoofer.

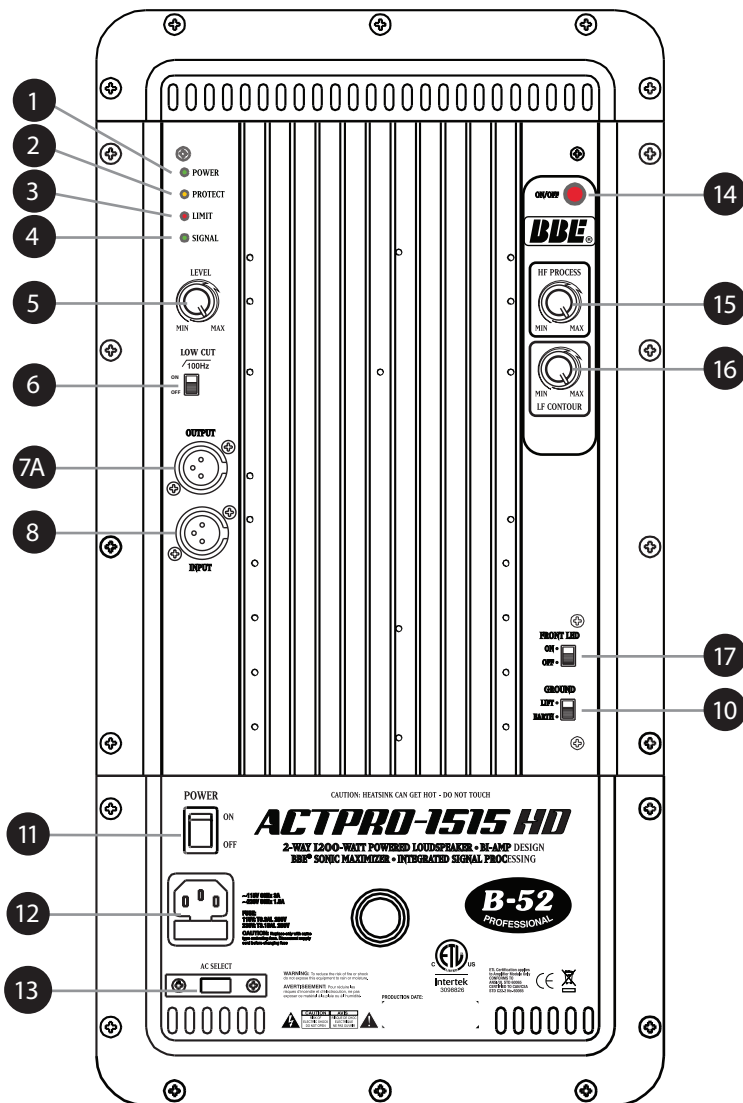
ACTPRO-18F HD:

The ACTPRO-18F HD was designed to operate sitting on the floor or on the stage. A pole cup, on the top of the enclosure, accepts 1 3/8" loudspeaker mounting poles. For best quality sound, detach the supplied casters while the subwoofer is being played. Do not pole mount or stack more than one full-range speaker on top of the ACTPRO-18F HD.

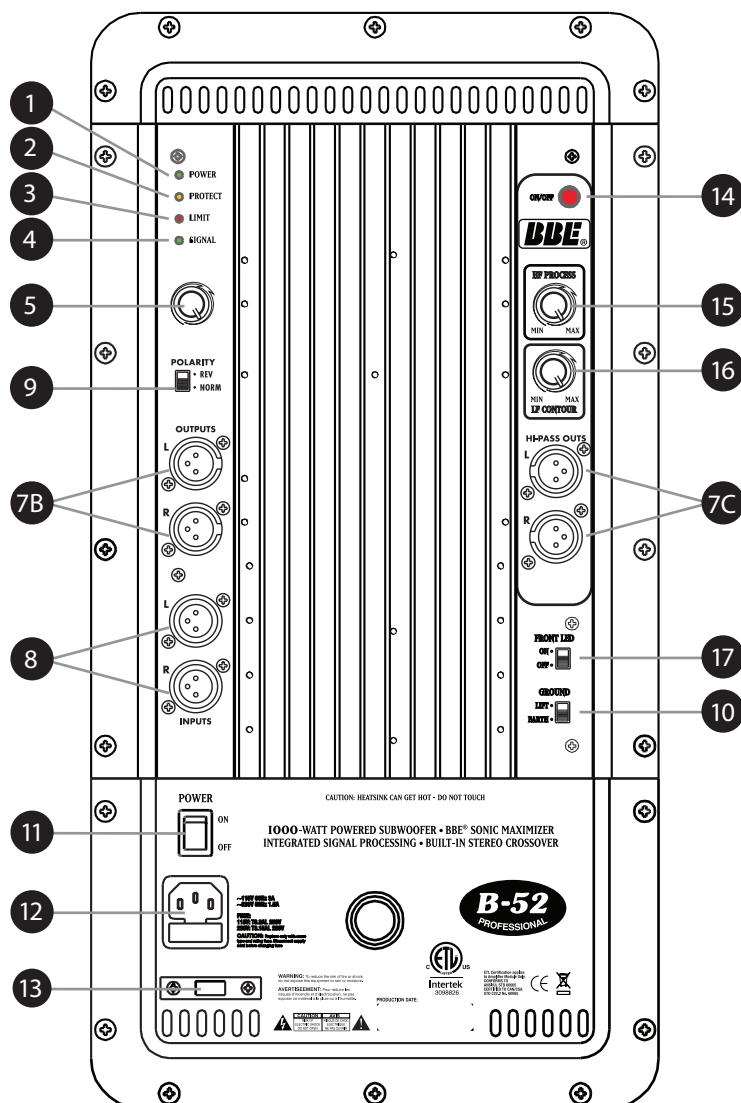


ACTPRO-HD Rear Controls & Operation

ACTPRO-1515 HD



ACTPRO-212S HD, ACTPRO-18S HD / ACTPRO-18F HD



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 support@B-52pro.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.
- ACTPRO-HD amplifiers employ 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 mixer to the ACTPRO-HD Series 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. All ACTPRO-HD Series amplifiers employ a sophisticated limiter circuitry, which monitors signal condition at both LF and HF amplifiers (LF only on ACTPRO-212S HD, ACTPRO-18S HD, ACTPRO-18F HD) 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 loudspeakers is used to set optimal maximum level for performance, not for constant control of sound volume. Your mixer's master volume control should be used for this purpose.

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

ACTPRO-1515 HD: Found beneath the LEVEL control, this small slider switch engages or disengages the 100Hz 18db/Octave Low Cut filter. Switch the filter OFF when not using subwoofers or other low frequency enclosures. Switch the filter ON when you are connecting subwoofers or low frequency systems and run full-range audio signal to ACTPRO-1515 HD. This will enable your subwoofer-equipped system to operate properly and allow the ACTPRO-1515HD loudspeakers to provide improved clarity in the mid and high-range frequencies. DO NOT engage the LOW-CUT switch on ACTPRO-1515 HD loudspeakers when connected to Hi-Pass outputs of ACTPRO-212S HD, ACTPRO-18S HD, ACTPRO-18F HD subwoofer. The Input signal for your full-range loudspeaker has already been processed by subwoofer circuitry.

7 FULL RANGE OUTPUT CONNECTIONS

ACTPRO-1515 HD has 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. The ACTPRO-18S HD, ACTPRO-18F HD has two sets of output connectors, one set (left and right) for full-range outputs (wired in parallel with inputs) and one set (left and right) for hi-pass outputs with BBE processing.

- **ACTPRO-1515 HD:** 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, such as another ACTPRO-HD loudspeaker.

- B Subwoofer OUTPUT (Full-range):** Use the outputs marked OUTPUT (Full-range) (Left and/or Right) when you are connecting to other speakers and/or to other powered loudspeakers that enable fullrange audio or if they feature their own low frequency filtering.

HP (Hi-pass) OUTPUTS: Use the outputs marked High-pass outs (Left and/or Right) when you are connecting other ACTPRO-HD Series and/or other powered loudspeakers that DO NOT feature low frequency filtering or when the low frequency roll off is desired.

NOTE: BBE processing is present at this output.

NOTE: Make sure to power OFF any ACTPRO-HD Series and/or other powered loudspeakers connected to the Hi-pass OUTPUT before turning off the subwoofer power. This will prevent any unwanted transients (thuds, lowpops) from coming out of the connected loudspeakers.

NOTE: When you connect the ACTPRO-1515 HD Series Full-range active loudspeaker to Hi-pass outputs of the ACTPRO-212S HD / ACTPRO-18S/F HD subwoofer, DO NOT engage the LOW-CUT switch on Full-range loudspeaker. The input signal has already been processed by ACTPRO-212S HD / ACTPRO-18S/F HD circuitry. Also, if you're using full range loudspeakers from another manufacturer, we recommend that they be connected to the Hi-pass OUTPUT. This will ensure proper phasing of the full range loudspeaker with respect to the ACTPRO-212S HD / ACTPRO-18S/F HD subwoofer and enhance its sound with BBE processing.

8 INPUT CONNECTIONS

ACTPRO-1515 HD has one female XLR line-level input marked INPUT. The ACTPRO subwoofers have a second connector (two input connectors total), one for the left channel's audio input and one for the right channel's audio input.

Balanced connections should be used as much as possible to reduce AC hum and interference, especially with long runs of cable. On all ACTPRO-HD amplifier modules, the input impedance is 20k Ohm for balanced connections.

ACTPRO-1515 HD: Insert the male XLR connector into the jack marked INPUT. Ensure the connector is fully seated.

ACTPRO-Subwoofer: FOR STEREO OPERATION WITH FULL-RANGE CABINETS: From your mixer, insert the left channel's XLR connector into the left channel's (L) INPUT connector. Connect the right channel of your mixer by inserting the XLR connector into the right channel's (R) INPUT connector on the amplifier. When a single input signal is used, (for mono operation) make certain the input and output connections correspond to the same channel (L or R). When two input signals are supplied to the amplifier, the subwoofer's gain is automatically increased by 6dB.

9 POLARITY SWITCH (ACTPRO-Subwoofers)

The ACTPRO-subwoofers have a POLARITY switch. When the POLARITY switch is set to NORM, the polarity is such that a positive input will cause the cone to push outward. When set to REV, the input signal's polarity is reversed and a positive input will cause the loudspeaker's cone to pull inward.

When all of the loudspeakers in a system are operating with the same polarity, a positive polarity signal causes the excursion (the forward motion) of all loudspeaker cones. In turn, this sets up a positive reinforcement of the sound wave (each loudspeaker reinforces the output of the other loudspeakers). This effect refers to the speakers being "in phase" The effect of proper "phasing" is most noticeable in low (bass) frequencies. If a loudspeaker's phase is incorrect, its cone moves inward while the properly phased loudspeaker's cones move outward. The inward movement, of the improperly phased loudspeaker, will effectively cancel the bass response of a similarly-sized driver in the system. This results in a reduction of the bass output. It is important to maintain correct phasing in a loudspeaker system, in order to operate at maximum performance. Incorrect polarity can be caused by incorrectly wired cables, interconnecting cables, and mixer functions set incorrectly.

Phasing is also influenced by the mutual positioning and orientation of the loudspeakers in a system. It is possible to have proper polarization (of all cables and equipment) and still achieve better bass response by having the subwoofer set to reverse polarity, or having several subwoofers set at different polarities. Bass response also will change with the listener's position in the room. During testing, monitor the bass response from several different locations in the venue.

How to Use the POLARITY Switch: Start with all subwoofers in the system with POLARITY switches in the NORM position. This is the same for systems with one subwoofer as well. Next, with your system playing at or near its expected operating level, change the polarity of each subwoofer, one at a time. Walk around the venue and evaluate the overall bass response, and select the phase setting that produces the best overall bass response.

10 GROUND LIFT SWITCH

All ACTPRO-HD Series amplifier modules are equipped with a GROUND LIFT switch. Powered loudspeakers are often fed by long run signal cables, connected to power outlets different than the audio source's. This may create an audible hum or buzz due to ground loops or other connection problems. The GROUND LIFT switch will help you to avoid these issues.

It is a good idea to keep the GROUND LIFT switch in EARTH position unless you have hum or buzz coming from your speakers. If you do hear hum or buzz, toggle switch into LIFT position.

WARNING: NEVER BREAK EARTH CONNECTION IN YOUR AC PLUG. IT MAY CAUSE PERMANENT DAMAGE TO THE AMPLIFIER AND MAY CAUSE DANGER OF ELECTRICAL SHOCK TO YOU AND OTHERS.

11 POWER SWITCH

Push in the top of the power switch to apply AC power to the powered loudspeaker's amplifier. Push in the bottom of the power switch to turn the loudspeaker amplifier off. When turned on, the blue POWER indicator LED on the front grille will illuminate, along with the POWER and PROTECT LED on the amplifier. After a few seconds, the yellow PROTECT LED indicator will dim and turn off.

NOTE that System Power Sequencing prevents unexpected sounds from your system (pops, clicks, thumps), make sure to power ON your ACTPRO-HD series loudspeakers in the proper order. Improper sequencing while powering ON your equipment can damage the loudspeakers. Power the loudspeaker system ON and OFF in the proper order to avoid unexpected sounds and damage to your loudspeakers.

- Power On Sequence - Turn ON all source devices (CD players, mixers), turn ON the ACTPRO-18S HD subwoofer, then turn ON all ACTPRO-HD Full-range loudspeakers.
- Power OFF Sequence: Turn OFF all ACTPRO-HD Full-range loudspeakers and then ACTPRO-HD subwoofers, then power down all source devices.

12 AC MAINS

Insert the IEC power cord fully into the IEC inlet on the power amplifier module.

NOTE: Turn OFF the power switch on the ACTPRO-HD loudspeaker before connecting the AC power cord. The correct AC line voltage should be selected on the rear panel. For operation in the United States, leave the voltage selector on the amplifier set to 115V. Connecting to the wrong line voltage will damage the amplifier and may create the risk of electric shock. AC Mains Disconnection - Turn the AC power switch to the off position. To remove the AC power cord, grasp the IEC connector's plastic body and gently remove the IEC connector from the socket by pulling it straight toward you.

13 AC SELECT SWITCH

Make sure AC Select Switch is set to voltage appropriate for your country. NOTE: Connecting ACTPRO-HD powered loudspeakers to AC voltage not matching to AC Select Switch will damage the amplifier and may create the risk of electric shock.

14 BBE® ON/OFF SWITCH

This switch is used to activate the BBE® processing built into your ACTPRO-HD powered subwoofer. The switch will illuminate when turned ON clearly indicating that the BBE® processing is activated. BBE® processing on the ACTPRO-212S HD, ACTPRO-18S HD and ACTPRO-18F HD subwoofer affects both the sound of subwoofer itself, as well as the stereo HP (High Pass) outputs included in BBE® section.

15 HF PROCESS

Use this knob to adjust the high frequency portion of the BBE® processing. ACTPRO-1515 HD: HF Process will affect the mid and high frequencies. ACTPRO-212S HD, ACTPRO-18S HD and ACTPRO-18F HD: HF Process will affect the same frequencies on a full-range speaker connected to the Hi-pass outputs. The HF PROCESS will provide clearer mids and highs and will enhance the vocal reproduction of the loudspeaker connected via the HP XLR outputs.

16 LF CONTOUR

Use this knob to adjust the low frequency portion of BBE® processing. ACTPRO-1515 HD: LF Contour will affect low frequencies. ACTPRO-212S HD, ACTPRO-18S HD and ACTPRO-18F HD: LF Contour will process the subwoofer and low frequencies of full range speakers connected to the HP outputs. The LF CONTOUR will enhance the bass output of your subwoofer and the loudspeaker(s) connected to the HP outputs.

17 FRONT LED

Use this switch to turn the blue LED light on the B-52 logo badge on or off.

BBE SONIC MAXIMIZER

Benefits: The BBE® Sonic Maximizer circuitry built-in to the ACTPRO-1515 HD, ACTPRO-212S HD, ACTPRO-18S HD and ACTPRO-18F HD takes already great sounding systems to the next level by adding punch and depth that can be both heard and felt. BBE® processing will dramatically improve the clarity and intelligibility of vocals, musical instruments and will add overall depth to the audio program. A control for both the LF (low frequency) Contour and HF (high frequency) Process is provided to adjust the exact amount of BBE® processing added to your mix.

ACTPRO-1515 HD: The BBE circuit adjusts Low Frequency range of the speaker (via the LF Contour control) and High Frequency range of the speaker (via the HF Process control).

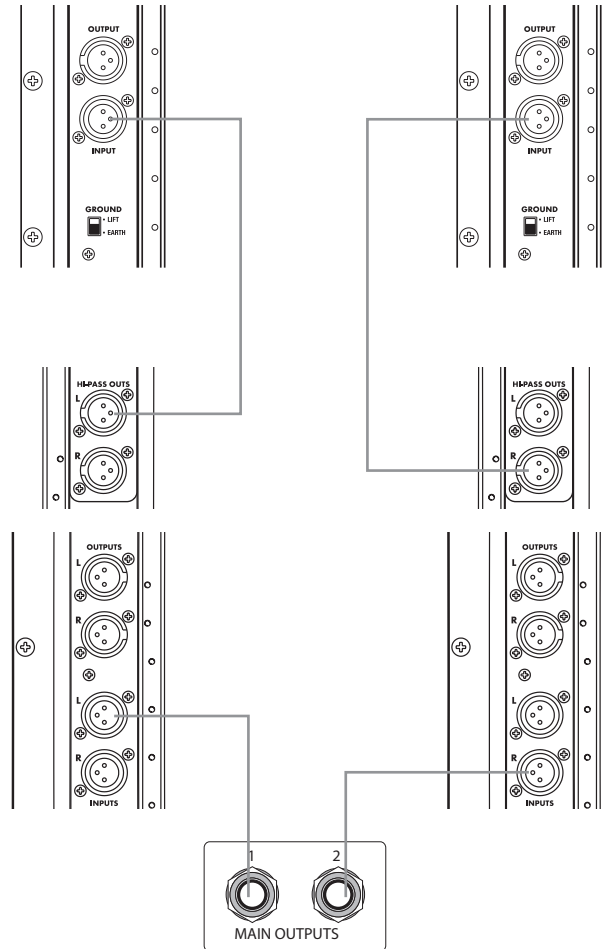
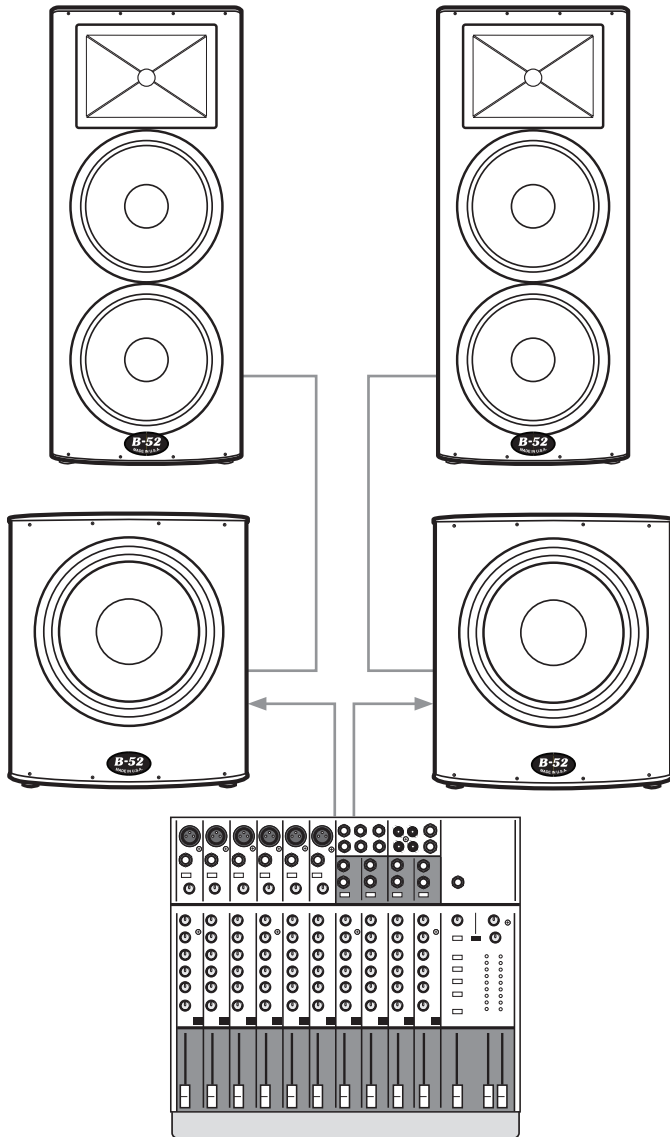
ACTPRO-212S HD, ACTPRO-18S HD and ACTPRO-18F HD : The BBE circuitry on ACTPRO-HD subwoofers allows you to process both the subwoofer itself and the active full-range speakers connected to it using the high-pass XLR outputs provided on the subwoofer amplifier. The LF Contour control adjusts the low frequency processing of both the subwoofer and connected full range speaker, while the HF Process control adjust the high frequency processing being fed to the fullrange speaker connected to it.

How it works: Phase and amplitude integrity is essential to accurate sound reproduction. These relationships define a sound's "sound". When these complex relationships pass through a speaker, the proper order is lost. The higher frequencies are delayed. A lower frequency may reach the listener's ear first or perhaps simultaneously with that of a higher frequency. The listener perceives this loss of sound integrity in the reproduced sound as "muddy" and "smeared." BBE® Sound, Inc. conducted extensive studies of numerous speaker systems over a ten year period. With this knowledge, it became possible to identify the characteristics of an ideal speaker and to distill the corrections necessary to return the fundamental and harmonic frequency structures to their correct order.

Tips for using: A single function button switches the BBE® process on or off, which is useful for comparing the processed sound to the unprocessed sound. The switch illuminates red when the BBE® process is on. The LF Contour control is for adjusting the level of phase corrected low frequencies in the program material. The HF Process control adjusts the level of phase corrected high frequencies in the program material. On the ACTPRO-212S HD, ACTPRO-18S HD and ACTPRO-18F HD, the HF Process only affects powered speakers connected to the High Pass XLR Outputs included in the BBE® section of ACTPRO-212S HD, ACTPRO-18S HD/ACTPRO-18F HD amplifier, while the LF Contour affects both the powered full-range speakers and the subwoofer itself.

Set-up Diagrams

ACTPRO-1515 HD Main Speakers with Two ACTPRO-HD Subwoofers

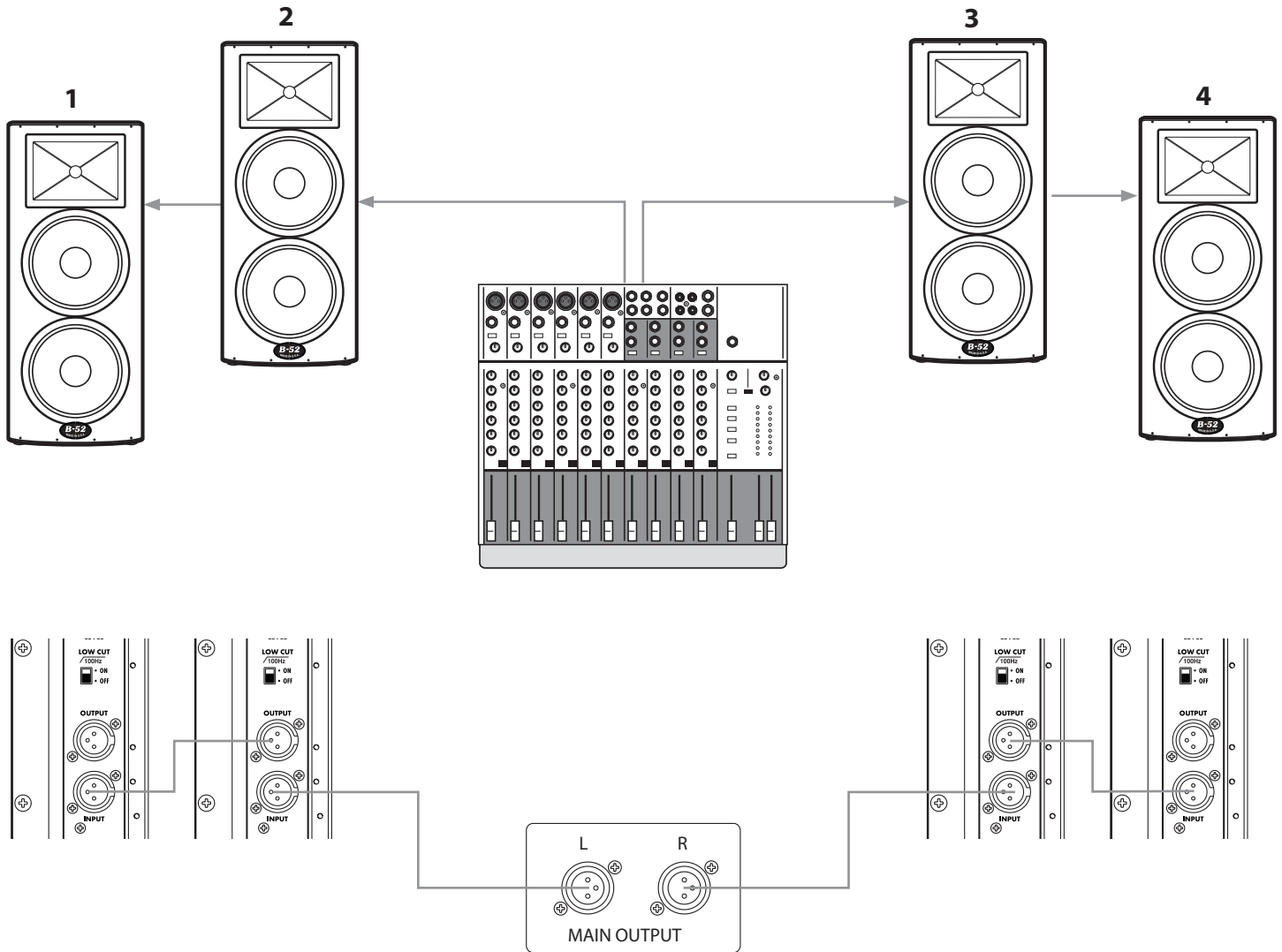


Checklist

- Make certain loudspeakers are Powered OFF and Levels turned down.
- Connect the Mixer's Main Left Output to the Left Input of the Left subwoofer.
- Connect the Mixer's Main Right Output to the Right Input of the Right subwoofer.
- Connect the Left ACTPRO-Subwoofer High Pass Output L to the Input of the Left Main Speaker.
- Connect the Right ACTPRO-Subwoofer HD High-Pass Output R to the Input of the Right Main Speaker.

- Set the Low Cut switch on the Main Speakers to OFF.
- Set Subwoofer BBE to ON.
- Set Main Speaker BBE to OFF.
- Power ON Mixer, then Power ON subwoofers, then Main Speakers.
- Bring the Mixer's volume up to normal operating level.
- Adjust the Level controls on the ACTPRO-HD series loudspeakers.
- Do not adjust the Level so high that the Red LIMIT LED is constantly lit.

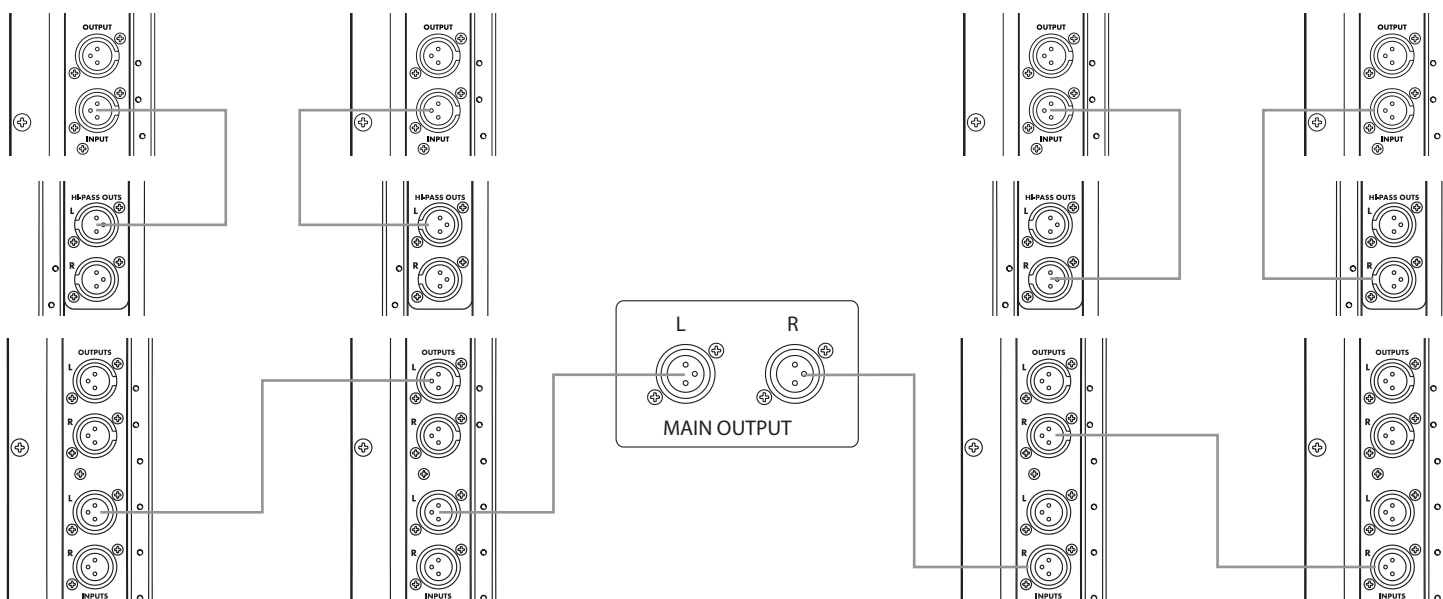
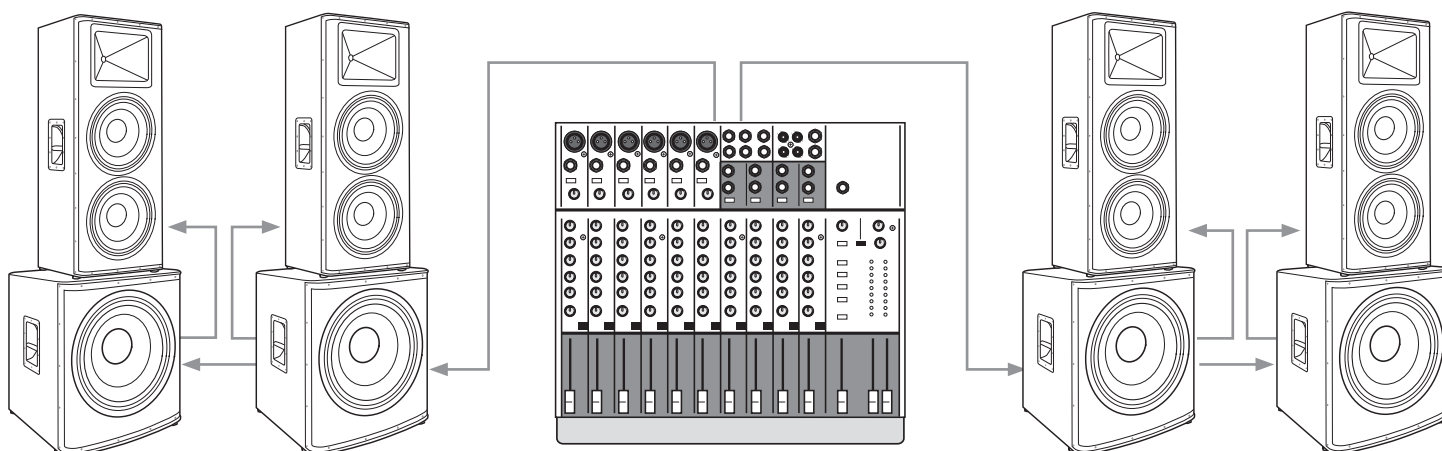
Linking Multiple ACTPRO-1515HD Speakers



Checklist

- Also known as Daisy-Chaining, linking multiple speakers will send the exact same input signal from one speaker to the next.
- Make certain loudspeakers are Powered OFF and Levels turned down.
- Connect the Mixer's Main Left Output to the Input of Speaker 2.
- Connect the Output of Speaker 2 to the input of Speaker 1.
- Connect the Mixer's Main Right Output to the Input of Speaker 3.
- Connect the Output of Speaker 3 to the input of Speaker 4.
- Turn down the Mixer's volume.
- Set Main Speaker BBE to ON if desired
- Power ON Mixer, then Power ON speakers.
- Bring the Mixer's volume up to normal operating level.
- Adjust the Level controls on the loudspeakers. Do not adjust the Level so high that the Red LIMIT LED is constantly lit.

Linking Multiple ACTPRO HD Subwoofers and Main Speakers



Checklist

- Make certain loudspeakers are Powered OFF and Levels turned down.
- Connect the Mixer's Main Left Output to the Left Input of the Left subwoofer 1.
- Connect the Output L of Left Subwoofer1 to the L Input of Left subwoofer 2.
- Connect the HP Output L of Left Subwoofer1 to the Input of Left Main Speaker 1.
- Connect the HP Output of Left Subwoofer2 to the Input of Left Main Speaker 2.
- Connect the Mixer's Right Output to the R Input of the Right subwoofer 1.
- Connect the Output R of right Subwoofer1 to the R Input of Right subwoofer 2.
- Connect the HP Output R of Right Subwoofer1 to the Input of Right Main Speaker 1.
- Connect the HP Output of Right Subwoofer2 to the Input of Right Main Speaker 2.
- Set the Low Cut switch on the Main Speakers to OFF.
- Set Subwoofer BBE to ON.
- Set Main Speaker BBE to OFF.
- Power ON Mixer, then Power ON Subwoofers, then Power ON all speakers.
- Bring the Mixer's volume up to normal operating level.
- Adjust the Level controls on the ACTPRO-HD series loudspeakers.
- Do not adjust the Level so high that the Red LIMIT LED is constantly lit.

Specifications

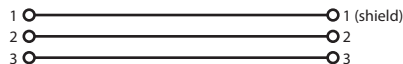
B-52 ACTPRO-HD SPECS	ACTPRO-1515 HD	ACTPRO-18S HD	ACPRO-18F HD	ACPRO-212S HD
Configuration	Dual 15" 2-way full-range powered loudspeaker	18" front-loaded powered subwoofer	18" folded-horn powered subwoofer	Dual 12" band-pass powered subwoofer
Transducers:				
Low Frequency	SP-1500 - 15" speaker with 2.5" voice coil	B-52 18-190S-4 - 18" cast framed subwoofer with 3" voice coil.	Celestion 18" cast framed subwoofer with 3" voice coil.	Eminence 12" cast framed subwoofer with 3" voice coil.
High Frequency	COMP-4-CLB - PETP film compression driver with 1.75" voice coil	N/A	N/A	N/A
LF Magnet Weight	42 oz	100 oz	100 oz	80 oz
LF Magnet Structure Weight	7 lbs.	17 lbs.	17 lbs.	10 lbs.
Frequency Range	42Hz - 20kHz	35 Hz - 140 Hz	35 Hz - 140 Hz	35 Hz - 140 Hz
Frequency Response	52Hz - 18kHz	46 Hz - 100 Hz	46 Hz - 100 Hz	46 Hz - 100 Hz
High Frequency Dispersion	90° x 40°	N/A	N/A	N/A
Maximum peak SPL(1)	134dB	133dB	136dB	135dB
Power Output	LF: 500Wrms Class G HF: 100Wrms Class AB+B	LF: 500Wrms Class G	LF: 500Wrms Class G	LF: 500Wrms Class G
System Power (2)	1200W	1000W	1000W	1000W
Input Impedance	20k Ohm Balanced 10k Ohm Unbalanced	20k Ohm Balanced 10k Ohm Unbalanced	20k Ohm Balanced 10k Ohm Unbalanced	20k Ohm Balanced 10k Ohm Unbalanced
Electronic Crossover	4th order	3rd order Butterworth @ 100 Hz	3rd order Butterworth @ 100 Hz	3rd order Butterworth @ 100 Hz
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 Front LED switch BBE ON/OFF, BBE HF Process, LF Contour	Level knob Polarity switch Ground lift switch Power switch AC fuse 115/230V switch Front LED switch BBE ON/OFF BBE HF Process, LF Contour	Level knob Polarity switch Ground lift switch Power switch AC fuse 115/230V switch Front LED switch BBE ON/OFF HF Process, LF Contour	Level knob Polarity switch Ground lift switch Power switch AC fuse 115/230V switch Front LED switch BBE ON/OFF HF Process, LF Contour
Indicators	Power Protect Limit Signal	Power Protect Limit Signal	Power Protect Limit Signal	Power Protect Limit Signal
Cooling	Convection	Convection	Convection	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	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	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	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

Specifications

B-52 ACTPRO-HD	ACTPRO-1515 HD	ACTPRO-18S HD	ACTPRO-18F HD	ACTPRO-212S HD
Power Consumption @ 115V Vac (1/8 power pink noise)	3 A	2.5 A	2.5 A	2.5 A
Connectors	Balanced female XLR input Balanced male XLR link output	Balanced female XLR L&R inputs Balanced male XLR L&R link outputs Male XLR L&R High-pass outputs	Balanced female XLR L&R inputs Balanced male XLR L&R link outputs Male XLR L&R High-pass outputs	Balanced female XLR L&R inputs Balanced male XLR L&R link outputs Male XLR L&R High-pass outputs
Input Sensitivity (3)	775mV (0dBu)	775mV (0dBu)	775mV (0dBu)	775mV (0dBu)
Enclosure	Black Warnex® painted birch plywood	Black Warnex® painted birch plywood	Black Warnex® painted birch plywood	Black Warnex® painted birch plywood
Hardware	Metal handles Rubber feet	Metal handles Rubber feet 1 3/8" Pole mounting cup 3" Detachable casters	Metal handles Rubber feet 1 3/8" Pole mounting cup 3" Detachable casters	Metal handles Rubber feet 1 3/8" Pole mounting cup 3" Detachable casters
Grille	Powder coated 16 gauge steel	Powder coated 16 gauge steel	Powder coated 16 gauge steel	Powder coated 16 gauge steel
Dimensions	46" H x 19.5" W x 18" D (1168mm x 495mm x 457mm)	26.5" H x 23.5" W x 23.5" D (673mm x 597mm x 597mm)	36.5" H x 24" W x 32.5" D (927mm x 607mm x 826mm)	29.5" H x 14" W x 26.5" D (749mm x 357mm x 673mm)
Weight	90 lbs. / 40.8 kg	95 lbs. / 43.1 kg	155 lbs. / 70.3 kg	98 lbs. / 44.5 kg

Cables and Connectors

XLR/F to XLR/M balanced cable



Balanced XLR mixer output to ACTPRO-HD speaker

TRS (balanced) 1/4" phone jack to XLR/M



Balanced 1/4" mixer output to ACTPRO-HD speaker

TS (unbalanced) 1/4" phone jack to XLR/M



Unbalanced 1/4" mixer output to ACTPRO-HD speaker

XLR/M to RCA (phono) cable



Unbalanced RCA mixer output to ACTPRO-HD speaker

Warranty

So we may serve you better, please register on-line at www.B-52Pro.com

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 read the warranty terms and conditions below and carefully read the provided Limited Warranty Card for additional terms and conditions.

LOUDSPEAKER COMPONENTS (LF AND HF): E.T.I. Sound Systems, Inc. warrants the original purchaser that the B-52 loudspeakers will be free of 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. 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: E.T.I. Sound Systems, Inc. offers a LIFETIME warranty to the original purchaser that B-52 cabinet's construction will be free from defects in material and workmanship. A dated sales receipt will establish coverage under this warranty. The warranty does not cover service or parts to repair damage caused by neglect, abuse, normal wear & tear and cosmetic appearance of the cabinetry not directly attributed to defects in material or workmanship, or service & repair, modifications to the cabinet which has not be authorized or approved by E.T.I. Sound Systems, Inc. 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.

INCIDENTAL OR CONSEQUENTIAL DAMAGE: In no event 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 unlikely event that a defect should occur, follow the procedure outlined below. Defective products must be shipped together with a proof of purchase, freight prepaid and insured to the Authorized B-52 Dealer from whom you purchased the product or directly E.T.I. Sound Systems, Inc. If a product must be returned directly to E.T.I. Sound Systems, Inc. for warranty replacement/repair, a Return Authorization Number (RAN) must be obtained from our Customer Service Department prior to shipping the product. You may obtain RAN by calling 800-344-4ETI.

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 me may analyze your answers and in this way, help us evaluate our customer needs. See provided Limited Warranty card for additional terms and conditions.

All trademarks and registered trademarks mentioned herein are recognized as the property of their respective holders.

Amplifier module made in China
Speaker cabinet assembled in USA

