PBK™12BT
Enclosure

Operating Manual

FCC CAUTION:

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

—Reorient or relocate the receiving antenna.

—Increase the separation between the equipment and receiver.

—Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

—Consult the dealer or an experienced radio/TV technician for help.

The equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment,

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

The equipment should be installed and operated with minimum distance 5cm between the radiator and your body.

IC WARNING:

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

This Class A digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

the device is compliance with RF exposure guidelines, and the equipment should be installed and operated with minimum distance 5cm between the radiator and your body.

l'appareil est conforme aux directives d'exposition RF, et l'équipement doit être installé et exploité avec une distance minimale de 5 cm entre le radiateur et votre corps.

ENGLISH

Thank you for purchasing the Peavey® PBK™12BT powered speaker system (SKU: 03621340). The PBK™12BT features a reliable bi-amped power section that provides a total of 800 Watts of peak available dynamic power with signal compression to prevent audible overload. The analog power amplifiers and linear power supply are coupled with a DSP based crossover and EQ.

The EQ presets are accessed via a three-position selector switch. The PBK™12BT provides two balanced inputs via 1/4" TRS phone jacks that also works with a standard 1/4" phone jack. There are three separate input channels, and a Master level control to control the gain of all three at once.

There is a balanced Mix output via a Male XLR. An LED indicator lights when the "soft-limiting" compression circuit is activated.

Features

* Two-way bi-amplified analog amp powered speaker system
* 12" heavy-duty woofer
* Horn loaded compression driver, with 1 inch diaphragm
* 750 watts peak dynamic woofer power, 50 watts peak dynamic tweeter power
* Bluetooth® streaming and pairing are supported
* DSP processing is 56 bit double-precision
* DSP I/O is at 48 kHz and 24 bits
* Dynamic bass boost function
* Generous heat-sink area avoids the need for a cooling fan
* Input is via a balanced 1/4" TRS phone jack OR a Bluetooth® signal can be streamed to the speaker system.
* Separate XLR Mic inputs on two of the channels
* Mix output is via a male XLR jack
* Three Factory Preset EQ settings for the DSP crossover system
* Tone controls for additional tonal shaping
* Rugged plastic injection-molded trapezoidal enclosure
* Cabinet has dual rear corner angled sides for floor monitor use.
* Full-coverage perforated steel grille, with powder coat finish
* Pole mount molded-in for 1 3/8" diameter poles

Applications

The Peavey PBK™12BT can be used in a variety of applications, such as sound reinforcement, public address, side fill system, karaoke or musical playback.

A typical signal source for the line-Gain inputs of the PBK™12BT would be a sound reinforcement mixing console (mixer) or the output from a CD player, MP3 player or tape deck. A dynamic microphone can be connected directly via the XLR input position as well.

Description

The PBK™12BT is a two-way sound reinforcement system based on a heavy-duty 12" woofer and a horn loaded dynamic compression driver. Its contemporary appearance coupled with exceptional performance offer a highly desirable combination.

The light yet durable injection-molded plastic enclosure with molded-in stand mount cup eases portable use for live music

or PA sound. The trapezoidal cabinet has two handles for ease of portability, and an angled section on either side to allow use as a floor monitor. A full length black powder coated perforated steel grille provides system protection and a professional appearance.

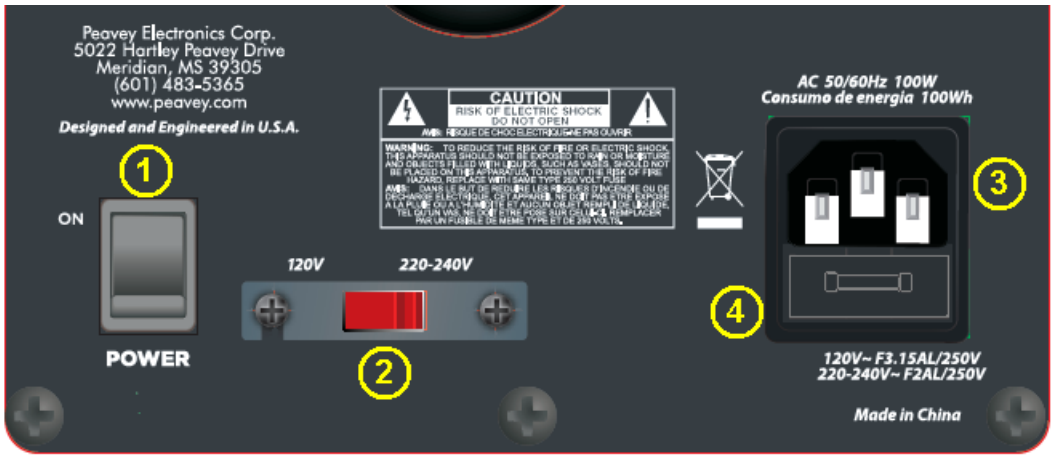
The heavy-duty 12" woofer has a warm punchy sound for plenty of bass. The compression driver tweeter is coupled to a waveguide, with smooth and even response, and good high frequency dispersion.

Advanced Digital Signal Processing (A.D.S.P.) provides the crossover function, driver limiting, as well as the driver EQ to enable the speaker system to provide an accurate and neutral sound for any type of music. The DSP processing uses a 48 kHz sampling rate at 24 bits for the input/output sections for maximum fidelity.

An extremely simple system of user selected Presets is implemented in the speaker system's DSP computing core, and accessible via the slide selector switch. A total of 3 presets are available, covering the most common applications for this genre of speaker system.

The PBK™12BT speaker system power amplifiers providing the bi-amplification are low-distortion reliable units providing a total of 800W peak available dynamic power for the system. There is 750W peak available dynamic power for the woofer, and 50W peak available dynamic power for the tweeter. Both analog linear amplifiers feature sophisticated DSP signal compression, which virtually eliminates audible power amplifier clipping. Cooling is provided via a large heatsink, for reliable operation under any conditions.
A built-in dynamic bass boost function provides the maximum amount of bass in a small package.
Input is via a pair of 1/4" TRS phone jacks with balanced input to the DSP preamp/EQ electronics, and a Level control for each of the three channels.
A third channel provides a pair of RCA phono type inputs, in parallel with a 1/8" stereo jack. These are both mixed down to a mono signal for the powered speaker system.
A female XLR provides a Mic input for the two channels with the 1/4" jacks..
A Mix output has a male XLR jack. This output allows linking of additional speaker systems, or feeding the signal to a powered subwoofer, etc.
Bluetooth® streaming and device pairing operation is also supported.

Rear Panel



ON-OFF POWER SWITCH (1)

This rocker switch supplies AC power to the PBK™12BT when switched to the ON position. The ON position is with the top side of the switch pushed "in" or nearly flush with the rear panel.

WARNING!: Before AC power is applied to this device, always ensure proper operating voltage selection is engaged to match AC power source being used.

VOLTAGE SELECTOR SWITCH (2)

The PBK™12BT has a voltage selector switch to allow switching between an input power voltage of 120VAC, and to a range from 220VAC to 240VAC, all at either 50 or 60 cycles per second (Hz). It should be set to the proper voltage for your country out of the box. However, world conditions are such that some areas have power line voltages differing from the voltage used by the majority of any given locale.
Be sure to check the position of the voltage selector switch to see that it matches the power line voltage used locally. If it does not match, then to change the voltage to the correct one, follow the steps outlined below.

Changing the Voltage Range of the PBK™12BT

First, make sure the PBK™12BT is disconnected from the power line, and that the power switch (1) is in the OFF position.

Second, unscrew the screws holding the clear switch protector on the voltage selector switch (2) just a little, just enough to allow rotation of the clear switch protector. The screws DO NOT need to be unscrewed very far.

Third, rotate the clear plastic protector about 90 degrees to uncover the voltage selector switch. One side of the cover has a slot, the other just a hole, the side with the hole is the side that pivots.

Fourth, using a small flat blade screwdriver, push the red selector switch slide plate to the other side from where it was. The voltage that is now visible on the red slide plate is the one you have selected.

Fifth, rotate the clear plastic protector back underneath the loosened screws, and tighten one down while holding the clear plastic protector in place. Tighten the other screw down, and make sure both screws are tight. If the screws are over-tightened, this could damage the voltage selector switch clear plastic cover, so do not apply excessive force to the screws!

The IEC power cord that is correct for your locale can now be plugged into the IEC receptacle (3), and the Power switch (1) activated to turn on the powered PBK™12BT speaker system.

IEC POWER CORD CONNECTION (3)

This receptacle is for the IEC line cord (supplied) that provides AC power to the unit. It is very important that you ensure the PBK™12BT has the proper AC line voltage supplied. You can change the voltage for your PBK™12BT by following the instructions above under the VOLTAGE SELECTIOR SWITCH section.

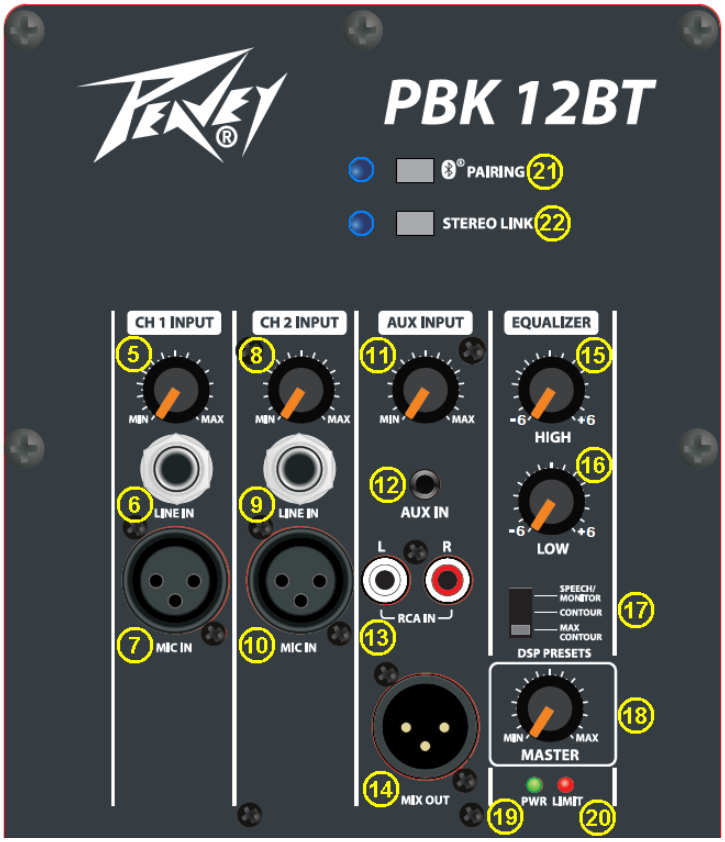
FUSE (4)

The unit is AC power line fuse protected from overloads and fault conditions with a 5 x 20mm 250V fuse. This fuse is located within the base of the IEC power cord connector (3), just below the IEC connector blades. If the fuse fails, THE FUSE MUST BE REPLACED WITH THE SAME TYPE AND VALUE IN ORDER TO AVOID DAMAGE TO THE EQUIPMENT AND TO PREVENT VOIDING THE WARRANTY!
The fuse in the Peavey PBK™12BT can be replaced with a type 5 x 20 mm size 250V rated fuse.
For 110-120VAC operation, a fuse rated at 3.15 amps and 250V should be used, which conforms to the international fuse classification “F3.15AL”.
For 220-240VAC operation, a fuse rated at 2.0 amps and 250V should be used, which conforms to the international fuse classification “F2.0AL”.
If the unit continues to blow replacement fuses, do not keep replacing them, it should be taken to a qualified service center for repair.
To replace the fuse, be sure to remove the IEC power cord from the IEC socket. The fuse holder tray is located beneath the IEC socket cavity. Pry the fuse holder tray out with a small flat blade screwdriver placed under the center of the top edge of the fuse tray, and gently lever the fuse tray out. The fuse is held in a clip in the fuse tray and should be removed and replaced with a fresh 5 X 20mm 250V type fuse of the appropriate current rating.

Then, once the fresh fuse has been put in place, re-insert the fuse tray into the IEC connector assembly, making sure that the voltage range selection is correct (see above section) and make sure the fuse tray is fully seated and flush with the outside of the IEC connector assembly.

Please read this guide carefully to ensure your personal safety as well as the safety of your equipment. Never break off the ground pin on any equipment. It is provided for your safety. If the outlet used does not have a ground pin, a suitable grounding adapter should be used and the third wire should be grounded properly. To prevent the risk of shock or fire hazard, always be sure that the mixer and all other associated equipment are properly grounded.

Rear Panel



LEVEL, Channel 1 (5)
Controls the gain or output level of the Channel 1 input signal from the input jack (6). It is best set to around 12 o'clock or higher with the appropriate mixer settings.

INPUT, CH 1 (6)
The line input is of the medium impedance balanced type. The jack is a 1/4" TRS connector. The sensitivity of this input is 170 mV for full output with the knob at full CW rotation, and the Master Level (18) is full up.

MIC IN, CH 1 (7)
Female XLR jack for dynamic microphone use. The sensitivity of this input is 16 mV for full output with the knob at full CW rotation, and the Master Level (18) is full up, phantom power is not supplied on the MIC IN (7) jack.

LEVEL, CH 2 (8)
Controls the gain or output level of the Channel 2 signal from the input jack (9). It is best to set it to around 12 o'clock or higher with the appropriate mixer settings

INPUT, CH 2 (9)
The line input is of the high impedance balanced type. The jack is a 1/4" TRS connector. The sensitivity of this input is 170 mV for full output with the knob at full CW rotation, and the Master Level (18) is full up.

MIC IN, CH 2 (10)
Female XLR jack for dynamic microphone use. The sensitivity of this input is 16 mV for full output with the knob at full CW rotation, and the Master Level (18) is full up, phantom power is not supplied on the MIC IN (10) jack.

AUX INPUT LEVEL (11)
Controls the gain or output level of the AUX INPUT input signal from the input jacks (12 or 13). It is best set to around 12 o'clock or higher with the appropriate signal source settings.

INPUT, AUX IN (12)
The AUX IN input is of the medium impedance type. The jack is a 1/8" connector. The sensitivity of this input is 170 mV for full output with the knob at full CW rotation, and the Master Level (18) is full up.
The same signal input into both channels of the 1/8" jack will result in a sensitivity 6 dB higher than only one channel driven, or 85 mV.

INPUT, RCA IN, L & R (13)
Same as input 12, except RCA phono connectors for jacks.

MIX OUT jack (14)
This jack is intended for the use of linking multiple PBK™12BT's in a line
or to provide a feed to a powered subwoofer, or other electronics that needs to receive a full range version of the input signal.

EQUALIZER, HIGH (15)
Provides a boost or cut to the treble signal content. Does not alter the midrange significantly.

EQUALIZER, LOW (16)
Provides a boost or cut to the bass signal content. Does not alter the midrange significantly.

DSP PRESETS Switch (17)
Allows the user to select which Preset EQ function is engaged.
For reference purposes, the Speech/Monitor preset is nominally the flattest response. The Contour setting provides some lift at the frequency extremes, and Max Contour provides even more lift.

MASTER Level (18)
Controls the overall output level of the PBK™12BT. It is used to directly set the system output level once all the input channels have been set for a given input signal. Best set to around 2 o'clock or higher with the appropriate channel and mixer settings.

PWR LED (19)
It illuminates Green when the power switch is on and power is present.

LIMIT LED (20)
It illuminates Red when the compression and limiting system is engaged and is compressing the signal.

PAIRING LED and button (21)
LED illuminates blue when the Pairing button is pushed, and the speaker is paired with another Bluetooth® device.

STEREO LINK LED and button (22)
LED illuminates blue when the Stereo Link button is pushed and the Bluetooth® link is established.

Cautions

The unit must be disconnected from the AC power source before any work is done on it. Refer all servicing to qualified service personnel.

The back plate can become hot to the touch. There must be a minimum of 12" of space behind the speaker cabinet. Do not allow the airflow to be become blocked by objects such as curtains or drapes, thermal building insulation, etc. It is recommended that the rear of the PBK™12BT not be placed in a closed space or a space that has no fresh, cool airflow.

Be sure to keep the microphone away from the front of the speaker after connecting it to the input, and while setting the microphone level, or very loud feedback will occur! Damage to the system is likely if this occurs!

DO NOT connect the inputs of the PBK™12BT to the output of a power amplifier. The inputs are meant to be driven from a line-level strength signal, or a microphone depending on the input jack used.

DO NOT remove the protective metal grille.

WARNING! The PBK™12BT is very efficient and powerful! This sound system can permanently damage hearing! Use extreme care setting the overall maximum loudness!

The apparent sound level of the PBK™12BT can be deceiving due to its clear, clean sound output. The lack of distortion or obvious distress can make the sound level seem much lower than it actually is. This system is capable of SPL in excess of 123 dB at 1 M from the speaker!

Connecting AC Power To The PBK™12BT

The PBK™12BT comes with a 6-foot IEC connection AC power cord. If you are using an extension cord or power strip with this powered speaker, make sure it is of good quality and of a sufficient current capacity to maintain safety and maximize the power output capability of the PBK™12BT. For maximum undistorted output, do not connect any other device to the same extension cord that the PBK™12BT is connected to. Do not exceed the rated current capacity of the extension cord with the sum total of all units connected to it.

When first plugging in the AC cord, make sure the PBK™12BT power switch is in the Off position, and then turn it On only once the power cord has been connected. Built-in muting will engage when the proper sequence of steps is taken.

Use of the PBK™12BT with a Speaker Stand

The PBK™12BT has a stand mount cup molded-in so that the system can be stand mounted on a standard 1 3/8" (36mm) diameter stand pole.

When using stands or poles, be sure to follow these precautions:

A. Check the stand or pole specs to make sure that it can support the weight of the PBK™12BT (34 lbs./15.4 kg) and observe all safety precautions stated by the stand manufacturer, including the maximum height the stand is rated for.

B. Always place the stand on a flat, level and stable surface, and be sure to fully extend the stand legs as per the stand manufacturer's instructions.

C. Try to make sure that the stand legs are oriented for the least danger of tripping to those in the vicinity of the stand. Never block a doorway or hallway with the legs of a stand.

D. Try to route cables so that people will not trip over them or tip the speaker over. Use of duct tape, cable channels or guards, or other appropriate tie-down/cover –up devices should be carefully considered and implemented.

E. When installing or de-installing the speaker on the stand, it is a good practice to have a helper, if possible, it can be hard to "thread the needle" and mate the stand cup to the stand pole while holding the PBK™12BT speaker system at arm's length. It is also helpful if someone holds the speaker stand and pole down while the PBK™12BT is removed from the stand pole, this prevents the PBK™12BT from pulling the pole up with it.
F. When using stands outdoors, never attach banners or flags to the stands or the PBK™12BT speaker system, strong winds may cause the speaker to blow over. If there is a possibility of windy conditions, then it may be prudent to consider weighting or locking down the stand legs to prevent the PBK™12BT speaker system from being blown over.

Connecting a Signal to the PBK™12BT
There are a variety of ways to input a signal to the PBK™12BT.
The inputs (6 and 9) are a balanced line-level type, or a balanced mic (7and 10) type.

The 1/4" TRS (tip-ring-sleeve) type phone jacks can be used with a single ended 1/4" plug, but the signal connection is no longer balanced.

Do not connect cables to the jacks while the unit is ON and the Level knob is turned up! While a standard single-ended 1/4" phone plug-equipped cable will work well and the balanced input circuitry will provide some interference rejection, a balanced cable using the balanced TRS 1/4" phone plug will provide superior interference rejection and performance.

Use of high quality, premium cables is recommended for the PBK™12BT, as these usually have better shielding and materials and will provide greater long-term reliability. The best option is a shielded balanced cable no longer than necessary to reach the PBK™12BT. It is usually a good idea to leave some slack at the input to the PBK™12BT and to tape the cables down or run them under a cable guard to avoid anyone tripping over them or pulling the PBK™12BT over when stand mounted.

Level Control Adjustment
The PBK™12BT is equipped with three channels of level control (5, 8 and 11) on the input to facilitate use in many different applications. With the Level control adjusted fully clockwise, gain is at maximum and the input sensitivity is 170 mV RMS for full-rated output with the Master Level turned full CW (18). When driving the PBK™12BT from a mixer, it may be advantageous to reduce the input sensitivity by turning the level control to the halfway point. The PBK™12BT will now more closely match a typical power amp.

If the mixing board indicates clipping of its output signals, then all of the PBK™12BT power capability is not being utilized cleanly. Clipping the signal before it gets to the PBK™12BT is not optimal. Reduce the mixer output Gain and turn up the level control on the PBK™12BT.
The amplifiers in the PBK™12BT are fed by a signal that has a "Soft Limiting" and Compression system applied, and the LED indicator will show when this circuitry has engaged. If the sound seems heavily compressed, check this indicator (20); if it is blinking RED more than occasionally, then the drive level from the mixer (or the level control on the PBK™12BT) needs to be reduced.

When first turning on the sound system, switch on all upstream electronics first, then the PBK™12BT with its level control fully counterclockwise (all the way down). Begin checking levels with the mixer output Gain controls all the way down, and bring them up slowly with the PBK™12BT level control set to the desired setting (one-third way up recommended to start).

It is not good practice to turn the level controls on the PBK™12BT all the way up and then try to control level only from the mixer, this approach would tend to pick up excess noise. Best practice would be to run a strong

signal from the mixer down the cable to the PBK™12BT, and then turn the PBK™12BT level control up only as much as necessary to reach full desired output. With this approach, it is necessary to verify the mixer output is not clipping.

Bluetooth

Bluetooth® Pairing
Use this button (21) to link your Bluetooth® source (phone, tablet, etc...) to the speaker. See Bluetooth® Operation below.

Bluetooth® Stereo Link
Use this button (22) to link your speaker to a second PBK™series speaker. See Bluetooth® Operation below.

Bluetooth® Operation:
Pairing: To pair your Bluetooth® source to the speaker, use the following steps:
1. Press Pairing button (21) on the back of the speaker to make the speaker discoverable. The pairing LED should start blinking.
2. Go to your devices Bluetooth® screen and select the available Peavey speaker. Once paired, the pairing LED should light continuously.

Stereo Linking: To link two compatible Peavey PBK™ BT series speakers, use the following steps:
1. First, use the previous steps to pair your Bluetooth® device to the first speaker.
2. Press Pairing button (21) on the second speaker to turn the Bluetooth® on.
3. Press Stereo Link button (22) on both speakers. Once the connection has been made, the Stereo Link LED 's on both speakers should be on continuously.
4. To disconnect, press the Stereo Link button again on either speaker.

Difficulties Pairing or Linking Speakers
If you experience any difficulty in getting the Peavey speaker to pair with your Bluetooth® signal source device, make sure that it is not still paired to a different Bluetooth® signal source device that it was paired with earlier, one that is On, and within range of the PBK™12BT speaker system. If such a condition exists, then Disconnect the Peavey speaker from the previous Bluetooth® signal source device, and then go through the relevant steps outlined above.

Bluetooth® Range Information
This is a Class 2 Bluetooth® device, and as such is designed to have a typical maximum range of approximately 10m (33 feet).
However, any intervening materials, such as walls, shelves, screens, people, or most anything made of a substantial amount of metal, can reduce and affect that
range.

Disconnecting AC Power to the PBK™12BT
We recommend that the Power switch (1) be used to turn the unit off first, and then the AC power cord can be removed, this minimizes stress to the power amplifiers and the transducers from turn-off transients. The power switch has an arc suppression capacitor to help during turn-off and tends to make a clean disconnect from the AC power, while the power cord IEC connector can make intermittent contact before finally becoming fully disconnected, e.g., as when wiggling the cord.

Presets

There are three Factory defined Presets quickly available to the user via the DSP Preset selector switch (17). Here is a listing of those Presets:

SPEECH/MONITOR
CONTOUR
MAX CONTOUR

Here is a brief description of what each Preset does to the response of the speaker system:

SPEECH/MONITOR Preset (Switch all the way UP)
This setting provides a substantially "flat" response, with some deep bass roll-off and no boost to the extreme high frequencies.
Best suited for speech or monitor use, it can also be very effective with acoustic instruments or to provide the most natural tonal presentation possible.
A gentle boost to the bass with the LOW tone control can provide a little extra oomph if needed for a particular use.
This preset would also be a good one for live sound reinforcement, as it would provide a well-balanced sound for the entire band.

CONTOUR Preset (Switch in the middle)
This adds some extra bass and some treble to the response of the Speech Preset. The added energy at the frequency extremes is often considered desirable and the preferred way to play back modern recorded music.
Given that there is already extra boost to the bass used in this preset, it is recommended that no additional boost be added via the tone controls.
If external bass boost or the tone control bass boost is used, the vocals could become muddy, and weak, with the speaker system going into compression at moderately loud levels, reducing the "punch" of the music.

MAX CONTOUR Preset (Switch all the way DOWN)
This setting adds the maximum amount of bass boost and some additional treble boost for use with DJ, EDM, and other bass heavy playback events.
Given that there is already a lot of extra boost to the bass used in this preset, it is recommended that no additional boost be added via the tone controls.
If external bass boost or the tone control bass boost is used, the vocals could become muddy, and weak, with the speaker system going into compression at moderate levels, reducing the "punch" of the music.

Troubleshooting

No Output at All
First, make sure the unit has AC power and is turned ON. Make sure the LED on the power amp module is illuminated.

If not, make certain the ON/OFF switch (1) is in the ON position and check the IEC power cord connection (3) by ensuring it is fully engaged and seated. Make certain the AC line cord is plugged into a working AC outlet.

Once assured your unit is getting AC power, check that the PBK™12BT is getting a signal. Temporarily disconnect the cable running to its inputs and connect it to some other device capable of reproducing the signal (i.e., a power amp and speaker). If this produces a signal, make sure that all Level controls being used have been turned up to a satisfactory level (one-third to halfway).

If the PBK™12BT has been subjected to direct sunlight or excessive heat, the built-in thermal protection may have been triggered. If so, turn off the PBK™12BT and let it cool for a sufficient amount of time.

If there is still no output, contact your authorized Peavey dealer or the Peavey International Service Center.

Hum or Buzz
If the PBK™12BT is producing a hum or buzz, this can be AC outlet related. Try plugging the PBK™12BT into a different AC outlet. Sometimes, if a different
circuit (breaker) is used for the mixer and for the PBK™12BT, it can cause hum problems. Unless it is not practical, it is best to use the same wall outlet (breaker) to supply power to both the mixer and the powered speaker.

Ensure that shielded cables have been used to route the signal to the PBK™12BT's input. If speaker cables with 1/4" plugs are used as input cables instead of shielded cables, they will be prone to hum or buzz.

Hum may be ground loop related. Check any input changes carefully by first turning down the level control, before plugging and unplugging cables, or using a balanced line level cable with the shield ground disconnected at the speaker end.

Check to make sure light dimmers are not on the same circuit as the PBK™12BT, the mixer or any source devices. If light dimmers are used, then it may be necessary to turn them full ON or full OFF to eliminate or reduce hum. This is a typical AC wiring/light dimmer interference problem, not a design flaw of the PBK™12BT.

The third wire (ground plug) on the AC plug should NEVER be removed or broken off, as this is a potential safety hazard.

Distorted or Fuzzy Sound
First, ensure the mixer (signal source) is not clipping or being overdriven. Make sure the LEVEL controls (5, 8 or 11) on the PBK™12BT has not been set too low, and that the Master level (18) is turned up adequately. Check that the input plug is fully seated in the input jack on the rear panel of the PBK™12BT.

The XLR inputs are dedicated to a mic level signal. Feeding a mixer or other line level source into the XLR inputs can cause clipping and overload of the mic preamp section, thus causing the signal to become distorted.
USE THE 1/4" INPUT FOR LINE LEVEL (MIXER) SIGNAL SOURCES.

Ensure that a power amp has not been plugged into the input jack of the PBK™12BT. If an extension cord is being used to provide the AC power to the unit, ensure that it is of sufficient current capacity and that it is not also

being used to supply power to any other device.

The PBK™12BT has built-in EQ to smooth and extend the natural response of the speakers. If excessive additional bass boost or HF boost have been added externally to the PBK™12BT, it could cause premature overload at high SPL. Reduce the amount of any external (mixer, rack) EQ and see if that clears up the distortion.
Finally, realize that even though the PBK™12BT is a powerful and high output unit, it does ultimately have limits, and it may need additional powered units (or a subwoofer) to provide enough sound output or coverage. In this case, try turning the mixer levels down a little to see if that clears things up. If, after checking all the things listed to check and anything else you can think of to check safely, and the system still exhibits problems, carefully note all conditions and check with your Peavey dealer for advice.

Care and Maintenance
Your PBK™12BT is a sturdy and durable product and will provide years of reliable use if properly cared for. Use common sense and read the safety warnings to avoid hazardous operating conditions.

The unit must be disconnected from the AC power source before any work is done on it. Refer all servicing to qualified service personnel.

Sunlight/Heat
Avoid prolonged exposure to direct sunlight, as this may cause the unit to overheat and thermally shut off. Excessively hot operating conditions can also cause a thermal shutdown.
Do not store in extremely hot or cold conditions or extremely high humidity. Always allow unit to come to room temperature before use.

Cleaning
Never clean the PBK™12BT while plugged in or turned ON! When the unit has been fully disconnected from AC power sources, use a dry cloth to remove soil or other dirt. Never use strong solvents on the PBK™12BT, as they could damage the cabinet. Do not allow ANY fluids to drip inside the PBK™12BT.

Touchup
For an overall finish enhancement and protective coating, use gloves to apply a plastic finish protector, such as Armor-All® protectant or a similar product, to the surface of the plastic cabinet only. Note that the cabinet will be slippery after these treatments; rub them down vigorously with a dry, lint-free cloth to minimize this.

Check for Secure Hardware
After the first few weeks of use and periodically thereafter, check the hardware of the PBK™12BT for tightness, including the rear panel screws and the screws that hold the baffle and rear cabinet together.
The unit is subject to a great deal of vibration, and this could cause them to loosen with use.

Architectural and Engineering Specifications
The powered loudspeaker system shall have a frequency response from 57 Hz to 17 kHz. The peak SPL with inaudible distortion shall reach 122 dB with music as a source, when measured at a distance of 1M and driven to full output capacity. The system shall utilize a 12" heavy-duty woofer and a Peavey® PD™10 1" diaphragm dynamic compression driver. The nominal radiation pattern shall be 90° in the horizontal plane, and 60° in the vertical plane.

The powered, bi-amplified loudspeaker system shall have two input channels on the rear panel, each consisting of a high impedance line-level input connector consisting of one 1/4" TRS phone jack, and a Mic level input XLR jack. A third channel shall provide a 1/8" stereo jack and two RCA phono jacks as input connectors, with these being mixed down to a mono signal for the speaker system. There shall also be a means to connect to the speak-

er system via Bluetooth®, and for the speaker system to be paired with another PBK™ series speaker. There shall be a Mix (output) connector consisting of a male XLR jack.

The system power amplifiers shall have an unfiltered frequency response of 20 Hz to 20 kHz which deviates no more than +1, -3 dB up to rated power, hum and noise better than 90 dB below rated power, and THD and IMD typically of less than 1%.
The woofer amplifier shall be capable of 750 W peak power output into a 4 ohm nominal load, and the tweeter amplifier shall be capable of 50W peak power output into a 8 ohm load, and both shall incorporate independent signal compression.
The input signal shall be electronically divided into high frequencies and low frequencies by a Linkwitz-Riley fourth order slope line-level crossover at 2.2 kHz. The low frequencies shall be processed to provide bass boost, subsonic filtering and overall response shaping, and the high frequencies shall be equalized for response-shaping.
The enclosure shall be constructed of injection-molded plastic with reinforcing ribs internally. A handgrip shall be incorporated on the left side near the woofer and towards the rear, and on the top rear edge of the cabinet.
A full-length powder-coated metal grille shall be provided for horn and woofer protection. The cabinet shall incorporate a pole mount for speaker stand use, and four molded-in feet for floor standing use.
The outside dimensions shall be: 23.25" (59.1 cm) tall x 15.25" (38.5 cm) wide x 11.75" (29.8 cm) deep, and the weight shall be 31.5 lbs (14.3 kg). Power requirements shall be: 100 Watts nominal, 120 VAC, 50/60 Hz Domestic and 220-240 VAC, 50/60 Hz (Export). The loudspeaker system shall be called a Peavey® PBK™12BT

* Before DSP compression and limiting engages

Specifications

Frequency Response: 57 Hz to 17 kHz, +/- 6 dB, anechoic environment

Usable Low Frequency limit (-10 dB point anechoic): 53 Hz

Nominal sensitivity (1W @1M, swept sine input in anechoic environment):
95 dB (average)

Maximum Sound Pressure Gain (1 meter):
122 dB SPL peak with music

Radiation Angle measured at -6 dB point of polar response:
Nominal: 90 degrees horizontal X 60 degrees vertical

Transducer Complement:
Heavy-duty 12" woofer with 2" voice coil & large ferrite magnet
PD™10 1" diaphragm dynamic compression driver

Box Tuning Frequency: 62 Hz

Electroacoustic crossover frequency: 2.2 kHz

Crossover type:
Internal Electronic DSP based two-way crossover with driver EQ, level matching, bass boost, limiting and subsonic filtering.

Crossover Slopes:
Linkwitz-Riley 24 dB/octave (4th order) low pass, 24dB/octave (fourth order) high pass, both with driver EQ incorporated.

Input Connections:
Two channels, each with one balanced 1/4" phone jack providing line-level operation, and one female XLR jack for mic input.
A third channel provides input for a 1/8" stereo plug, or a pair of RCA phono plugs, both of which are mixed to mono to feed the powered speaker.
Bluetooth® input via wireless link, with pairing options.

Output Connections:
One male XLR jack. The Mix jack is intended for the use of linking multiple PBK™12BT's in a line or to provide a feed to a powered subwoofer, or other electronics that need to receive a full range version of the input signal.

Enclosure Materials & Finish:
Black injection-molded plastic with textured surface, black powder-coated perforated full-coverage grille.

Mounting provisions:
A molded-in stand mounting cup with industry standard 1 3/8" inside diameter for use with subwoofer poles and speaker stands is on the bottom. Unit is not designed to be flown overhead.

Overall Dimensions (H x W x D)
23.25”H x 15.15”W x 11.75”D
591 mm x 385 mm x 298 mm

Weight: 31.5 lbs. (14.3 kg)

ELECTRONICS AND AMPLIFIER SPECIFICATIONS:

Internal power amplifiers (@120 VAC line):
Total of 800 watts peak dynamic power
Woofer - 750 watts peak dynamic power
Tweeter - 50 watts peak dynamic power

Electronic Input Impedance (Nominal):
Line: 47 k ohms balanced 1/4” TRS.
Mic: 2 k ohms balanced (XLR). No phantom power available.
AUX: 10 k ohms single-ended

Line Input Sensitivity for Full Output (CH LEVEL and MASTER full CW):
170 mV RMS

Input Overload Point, LINE input: +7.5 dBV

Infrasonic filter protection: 48 dB/octave ultimate roll-off

Tone Control Corner & Range:
Bass: +/- 6 dB, corner @ 700 Hz, Treble: +/- 6 dB, corner @ 1.0 kHz

Nominal Amplifier Frequency Response: +1, -3 dB from 20 Hz to 20 kHz

Hum and Noise: Greater than 90 dB below rated power

THD and IM: Typically less than 1 %

Power requirements of Peavey PBK™12BT System:
Nominal 100 Watts, 120 VAC 60 Hz

Fuse Type
For 110-120 VAC USE: International fuse classification F3.15AL cartridge-style 5 x 20 mm size fuses with a 250V rating can be used.
For 220-240VAC USE: International fuse classification F2.0AL. This is a cartridge style 5 x 20 mm size fast acting fuse with a 2.0 amp 250V rating.

Specifications subject to change without notice.

www.peavey.com

Warranty registration and information for U.S. customers available online at
www.peavey.com/warranty
or use the QR tag below

Features and specifications subject to change without notice.

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Logo referenced in Directive 2002/96/EC Annex IV
(OJ(L)37/38,13.02.03 and defined in EN 50419: 2005
The bar is the symbol for marking of new waste and
is applied only to equipment manufactured after
13 August 2005