

BT-12

The Balanced Tilting Adaptor for PA Loudspeakers



User Manual



The **BT-12** (Balanced Tilter 12°.)

The above logo is trade mark of BT-12, Design is Patent Pending

Thank you for purchasing the BT-12. I am confident you will enjoy its ease of use and uncompromised safety, when tilting your PA loudspeaker.

The BT-12 is a unique adapter for tilting pole mounted loudspeaker cabs, while maintaining the loudspeaker's Center Of Gravity over the center of pole.

For more details and contact information, please visit **bt-12.com**

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Important safety notes:

1. The BT-12 should not be disassembled, modified, or altered in any way.
2. Before every use, always check for any damaged, loose or missing parts. DO NOT use a unit that appears to be defective or has missing parts.
3. The BT-12 is designed to support and tilt a loudspeaker weighing not more than 45kg (100lb). DO NOT exceed this weight limit.
4. Make sure your loudspeaker stand is capable of supporting the total weight of the BT-12's 1.7kg (3.75lb) AND the weight of the loudspeaker.
5. When changing the tilt angle of the BT-12, avoid placing fingers other than on the tilt lever and/or the tightening knobs. Some spaces contract as result of changing the tilt angle and may cause injury.
6. When not in use, always have the BT-12 set and locked at zero tilt
7. Always install and uninstall a loudspeaker on to or off the BT-12 when it is secured to the loudspeaker stand (pole lock knob is tightened) and locked at zero tilt.
8. All regular and basic safety and precaution measures when setting up a loudspeaker on a stand should be conducted.

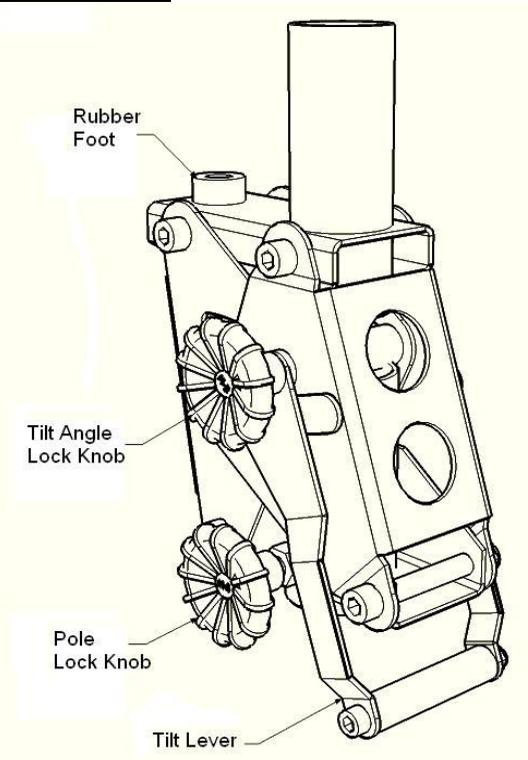
The BT-12's 'balancing principle' is true for loudspeakers having their Center Of Gravity (COG) height between 200 and 370mm (8" – 14.5") from the bottom of the cab, though even loudspeakers with higher COG and/or one that is not in line with the 'top hat' will benefit from a reduced COG shift caused by tilting.

The BT-12's main features:

1. The BT-12's parts are precision manufactured using state of the art Laser cutting and CNC bending. The result is a precise and accurate device that offers smooth operation as well as pleasing appearance.
2. Easy, simple and intuitive operation: release a knob, move the tilt lever and retighten the knob.

3. Effortless operation by the integrated tilt lever even under the weight of the loudspeaker and/or at the raised stand.
4. Adjustable to any tilt angle from -12° to $+12^{\circ}$.
5. A scale is available on both sides of the adapter for convenient and clear reading and setting of tilt angle.
6. Enables optimal vertical aiming of the loudspeaker by tilting it without sacrificing stability and safety.
7. Maintains balance of the loudspeaker throughout its tilting range by keeping the cab's COG (Center Of Gravity) over the stand's pole.
8. Eliminates extra and uneven loads and stresses on different parts of the tripod stand.
9. Fits all standard loudspeaker poles and loudspeaker pole caps (top hats) of 35mm (1-3/8") diameter.
10. Suitable for loudspeakers weighing up to 45kg (100lb).
11. Adds 150mm (6") to the stand/pole height.
12. Once seated on the BT-12, the loudspeaker is prevented from rotating by its weight pressing against a rubber foot.
13. The rubber foot also takes most of the horizontal loads off of the top hat assembly.
14. The complete adaptor and loudspeaker can be easily rotated about the pole and locked with the provided knob.
15. Supplied with specially routed foam packing inserts to be placed in your favorite road case, for handy, efficient and protective storage between uses.
16. Optional Quick Mount for Laser pen/pointer for easy and quick aiming of the loudspeaker.

The BT-12's operators



Operating Instructions:

1. Placing a loudspeaker onto the BT-12, as well as removing it from the unit should be done when the unit is set and locked at 0 (zero) degrees (no tilt) so that the stem is vertical. This operation is easier and safer in this position.
2. When placing the loudspeaker on to the BT-12 pay attention to orient the cab in the correct direction for the application.
E.g. if a down tilt is to be applied, position the cab so that its back is toward the tilt lever's side of the BT-12 as this side of the cab is going to rise by lifting the lever. Or, If up tilt is required, position the cab so that its front is toward the lever's side of the BT-12.

3. Once the loudspeaker is seated properly on the BT-12, release the Tilt Angle Locking Knob and move the tilt lever until the loudspeaker is at the desired tilt angle. Once in the right position, re-tighten the Tilt Angle locking Knob.
4. Clear tilt angle indicators/scales are provided on both sides of the BT-12 to enable reading and resetting the loudspeaker's tilt angle.
5. Tilt adjustment can be made at any stage. Under the load of the loudspeaker and even when the speaker is raised on the stand.
6. The Tilt Angle Locking Knob locks the whole mechanism including the tilt lever and only needs to be tightened lightly to insure a positive lock.
7. The loudspeaker is prevented from rotating on top of the BT-12 by its weight pressing against the rubber foot.
7. Any horizontal adjustments can be made at any stage by simply rotating the BT-12 relative to the stand. This is done by releasing the BT-12's Pole locking Knob, rotating the BT-12 (with or without the loudspeaker) to the desired direction and re-tightening the knob. Be careful not to over tighten this knob especially in the case of aluminum poles that can be easily damaged.
8. As a bonus feature, the loudspeaker's cable(s) can be neatly routed around the BT-12's tightening knobs for a clean and tidy appearance.



9. The specially routed foam packing that the BT-12's are shipped in, are meant to serve as storage inserts for the units between uses. They are purposely separated for each unit to enable maximum flexibility in fitting into your favorite road case.

Specifications:

Overall dimensions: 260*120*110mm (10.25" *4.75"*4.3")

Net weight (one adaptor): 1.7kg (3.75lb)

Stand/pole & Loudspeaker Top hat diameter: 35mm (1-3/8")

Load capacity: 45kg (100lb)

Tilting angle range (up/down): 0 -12°

Virtual COG height: 285mm (11.22")

Loudspeaker COG height compatibility: 200 – 360mm (8" – 14")

Max. Horizontal shift of (virtual) COG: 2mm (0.08")

Max. Vertical shift of (virtual) COG: 6mm (1/4")

Construction material: Steel

Color and finish: Black fine textured PU paint.

Package: Two units in two foam inserts per carton

Note 1: There may be some stiffness of the moving parts at first dew to close tolerances. This will loosen in a short period of use.

Note 2: Actual design, specifications or appearance of product is subject to change without notice and may differ from published or previous products.

Optional special Quick Mount for attaching a Laser pointer to the BT-12

Disclaimer: The use of any Laser pointers is at the responsibility of the user and should be according to the limitations and precautions as directed by its supplier.

In any case, the Laser emitting devices should not be used facing toward ANY eyes or optical sensitive devices.

Using the Laser pointer as described below should be carried out pre-show while the audience area is unoccupied.

Notes:

1. The special Quick Mount is supplied by itself, without a Laser pen/pointer.
2. The Quick Mount is detachable from the BT-12, so only one unit is needed for the setting up of multiple BT-12s.

General Information:

The Laser Quick Mount is compatible with a wide range of commercially available pen type Laser pointers (up to 16mm 5/8" diameter). The Laser pointer itself can be obtained locally by the user as they are very commonly available. We recommend the use of any green Laser pointer of up to 10mW.

The original box of the above Laser pen/pointer can also house the Quick Mount while still attached to the pen/pointer.

The Quick Mount is made of Stainless steel spring and attaches to the top/tilting base of the BT-12 by the use of two Neodymium magnets and centering pins, precisely engaging with the hex socket heads of the top bolt shafts.

The Laser Mount position and thus the Laser beam always stay parallel to the speaker's projection axis (the Quick Mount or pointer can be rotated to match the direction of the speaker/tilting)

Aiming the Laser beam (by tilting the BT-12) at the point you wish the speaker's axis to hit, will ensure that the speaker is closely enough aimed at that highlighted point.

Using a Laser pointer with this special Quick Mount enables fast and accurate aiming of your speakers by **seeing exactly** where their 'hot spot' is.

How to use the Laser pointer & Quick Mount:

Place your Laser pointer inside the Quick Mount.



If your Laser pointer has a momentary operating switch on its side, position it in between the two edges of the Quick Mount. This way you can easily access it with a finger for momentary operation.

Alternatively: by rotating the whole pointer/pen at its axis inside the Quick Mount until the switch is just pressed and held by the Mount lip, continuous operation of the pointer can be obtained (see note 3 below).

Mount the BT-12 on your tripod and your speaker on to the BT-12 (pre determining whether UP or DOWN tilting is appropriate and will be applied).

Now attach the Laser pointer & Quick Mount by positioning its two centering magnets to the top two bolt heads of the BT-12. Make sure the emitting end of the Laser pointer is facing in the same direction as the speaker projection.

1.



2.



3.



Important warning: Whenever operating a Laser pointer, always make sure you are positioned beside the Laser pointer and **not facing its axis** (in case you accidentally position the Laser pointer the wrong way around...)

Release the BT-12's two locking knobs, and while operating the Laser pointer (either momentarily or continuously as explained above), move the tilt lever up or down as well as panning the BT-12 (and speaker) and aim the beam at the desired point.

When positioning is done, re-tighten the two lock knobs, let go of the tilt lever, turn off the Laser pointer and snap off the Quick Mount.

Now move to the next speaker...

Optional General Purpose (GP) Quick Mount:

A variation of the above BT-12 Quick Mount is also available for any other uses that require attaching or securing of a pen type Laser pointer.

The GP Quick mount differs from the BT-12 Quick Mount in that its magnets have no centering pins so it can be mounted to any flat steel surface.

Note 3: These pen type Laser pointers are 'energy hungry'. As they generally operate on AAA batteries, there isn't much service time available.
So it is advisable to keep them turned on only when actually needed.