AXTON ATC100 2 Way Component System User Manual

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AXTON ATC100 2-Way Component System

Thank you and congratulations on your purchase of this AXTON 2-way component system. This loudspeaker system uses very high-quality parts and components only. As with all high-quality car audio components, professional installation is highly recommended. If you plan on installing this component system by yourself, please read the following installation guide carefully, before you attempt the installation. You should retain this manual, the packing and the purchasing receipt for future reference. For any further information about mounting, connecting or adjusting this speaker system, please contact your authorized AXTON dealer.

UNPACKING THE SYSTEM

Carefully remove the loudspeakers, crossovers and accessories from the gift box and check whether all parts are in good undamaged condition, and match with the set contents listed below:

- 2 mid/woofers
- 2 tweeters
- 2 crossovers
- 2 grilles for mid/woofers
- 1 set of mid/woofer mounting hardware
- 2 pcs tweeter flat surface mounting adapter
- 2 pcs tweeter angled mounting adapter
- 1 instruction manual with warranty card

Please contact your authorized AXTON dealer if the content of this set is incomplete or if parts of it show signs of transport damage.

BEFORE YOU START

The first step is to choose the most suitable or best-sounding location for the speakers to be installed. Keep in mind that the best-looking spot might not be the one that gives you the best sound. The factory OEM speaker cutouts usually provide space and a stable platform for fast and convenient mounting of new mid/woofer units. Using the OEM speaker cutouts is highly advantageous in most cases and it will also prevent you from having to cut new holes. For the tweeter mounting, some extra care to find the best spots will usually pay in the form of improved front staging and better resolution.

MOUNTING THE MID/WOOFERS

Remove the factory grilles of the door – or if necessary – the complete door panels. The AXTON speaker EURO-DIN frame mid/woofer units provide bolt and screw holes to fit a great variety of OEM standard patterns, making them ideal for a direct replacement of factory-installed speakers in European or Asian cars.

- Before you attempt to install the new AXTON mid/woofers, you must check the available installation depth of the left and right front doors.
- To do this, slide down both windows and hold the AXTON mid/woofers in place to ensure the available installation depth does suffice. This test is important; failure to do this may let you end up with an impaired window function!
- Connect the corresponding speaker wires to the terminals of the mid/woofer units. Maintain polarities all the way – double-check for correct connection. It is very important to make sure that all the connections are electrically in phase, which means a positive wire (+ or red) is connected to a positive terminal, and a negative wire (- or black) is connected to the negative terminal.
- Reverse polarity connections of mid/woofers will cause a very low bass output and a messed up front staging.
- The cone and surround material of the mid/woofers is 100% waterproof. However, direct exposure of the mid/woofer to water inside the doors should be avoided. In most cases, protection foils or baffles like ZEALUM ZN-SPB165 can be installed to protect the speaker.
- Check that there are no gaps between the speakers and the mounting surface in the doors. Note that some (newer) cars will require the use of car-specific mounting adapters made of plastic material. Without them, the Euro-DIN mid/woofers will not fit into the OEM cutout, or the available installation depth will not be sufficient.
- Such adapters are usually available from your authorized AXTON dealer.
- Fix the mid/woofer to the speaker mounting hole using the provided screws. If the mid/ woofers are directly fixed onto the metal sheet of the door, use the metal clips included with the mounting hardware. You can now reinstall the factory plastic grilles or door panels. In case you have chosen a new location for your mid/woofers (other than the factory cut-out), use the speaker protection grilles.

TWEETER MOUNTING LOCATION

The tweeter positioning does exhibit a direct and profound influence on the front staging of your component system. Depending on the chosen location where the tweeters are installed, different loudness levels in the treble region will result. The tweeter level can be adjusted by a 2-way switch inside the x-over, to compensate for different mounting locations.

- To determine the best tweeter location, it may be necessary to carry out short listening tests with the tweeter mounted to different locations inside the vehicle. For this, double-sided tape can be used.
- Set all tone controls, i.e. pre-EQ, treble / bass and loudness functions of your head unit to the neutral position first, before you attempt listening to the speakers installed in your car.
- The influence of the tweeter mounting location on the front staging is profound – and care must be taken to achieve a good compromise between unobtrusive mounting and good sound quality.
- Examples of different tweeter mounting locations, and the results that are most frequently obtained, are explained below:

A-Pillar
The best option concerns the depth of the image and the overall sound balance of the component system. Not that easy to get right, i.e. excessive mounting effort.

Dash Board
Sometimes aggressive and overly brilliant treble reproduction is caused by the horn-loading effects of the front window. Setting the tweeter to -3 dB may help.

Window Triangles
Bright sound combined with a high soundstage, sometimes sounding a bit “nervous” with side biasing.

On the upper end of the door panel
Balanced sound with good staging qualities, reduced sound staging and side biasing.

Right on top of the mid/woofer
“Dull” sound, especially with a person sitting in the passenger’s seat.
Note: An “on-axis” installation (with tweeters directly pointing at the listener) is not required, nor recommended. Tweeters directly aiming at the listener’s ears are usually responsible for the unwanted “side-biasing” effect, where the sound seems to originate from the drivers, instead of floating on top of the dashboard.

TWEETER INSTALLATION
There are various ways to install the tweeters. The box contains two different types of mounting adapters.

Flat Surface Mounting
The tweeter system consists of two parts: The main tweeter unit and the surface mount adapter. Mark the location where you are going to mount the tweeters. Use the mounting adapter as a template and mark the hole with a bigger diameter for the cables and two 2.5 mm holes for the screws. Drill the holes on each side and mount the adapter with two countersunk screws. Feed the wire through the hole and connect it to the wire extension that goes to the crossover. Lock the tweeter by pushing it down into the mounting adapter.

Angled Mounting
The tweeter system consists of two parts: The main tweeter unit and the angle mount adapter. This adapter provides two bearing surfaces with two possible radiation angles. Inside the adapter, you can spot two areas with implied holes for the cable and the fixing screws. Chose the area you want the way to mount the adapter and drill out the holes completely: 6 mm for the cable and 2.5 mm for the screws. Mark the location where you are going to mount the tweeters. Use the mounting adapter as a template and mark the holes with a 6 mm diameter for the cables and two 2.5 mm holes for the screws. Drill the holes and mount the adapter with two countersunk screws. Feed the wire through the bigger hole
and connect it to the wire extension that goes to the crossover. Lock the tweeter by pushing it down into the mounting adapter. Make sure the tweeter grill is horizontal so that the diffusor can work properly.

Flush Mounting
After choosing the best mounting location, make sure there is at least 20 mm of clearance behind the mounting surface before you start to mark or cut anything! Cut a hole with exactly 42 mm diameter into the mounting surface using a power drill and a circle cutter tool. Lock the tweeter by pushing it down into the hole. To secure the tweeter in the hole you can fix it with hot glue from behind. Attach the wire to the extension cable that goes to the crossover.

CROSSOVER WIRING & MOUNTING

The crossover can be mounted in almost any location inside the vehicle. Recommended places are: Inside the door, under the carpet in front of the door angles, under the dashboard a.s.o. Just make sure not to install the crossover units where they may be exposed to dirt or excessive moisture/water. Connect the tweeter wires and the main wires coming from the amplifier or head unit to the crossover. Maintain polarities all the way – double-check for correct connection. It is very important to make sure that all the connections are electrically in phase, which means the positive wire (+ or red) is connected to the positive terminal, and the negative wire (- or black) is connected to the negative terminal. Reverse polarity connections of the tweeter will cause a sharp sound and a messed up front staging. If longer distances from the amplifier to the crossovers have to be overcome, use good quality speaker cables with a minimum cross-section of 2.5 mm^2. Failure to do so will negatively affect sound

quality.

X-OVER ADJUSTMENTS

All AXTON component set crossovers come with two adjustment options that allow you to tailor the sound by setting slide switches on the pc board inside the housing, to compensate for different mounting locations of the speaker units, as follows: Tweeter level As a general rule of thumb, the -3 dB position is best for tweeters that are mounted very close to the listener's head like window triangles or the top of the door panels. The -0 dB position is usually the setting that provides a good tonal balance for most installs. It is recommended for the most tweeter positions. Attention: The tweeter attenuation must be chosen identically on both crossovers. After completing the settings of tweeter attenuation and polarity, you can mount the crossover in place and reinstall all the other panels/factory grilles a.s.o. Your installation is now complete and therefore ready, to be checked out.

TESTING THE INSTALLED SYSTEM

Slowly turn up the volume of your head unit and listen for distorted sounds. If everything appears to be okay and it just sounds right, check out the speaker balance of the left and right side by adjusting the balance control of your head unit. Shifting the balance to the left channel should provide you with sounds coming solely from the left speaker system while shifting the balance to the right should do the same for the right speakers. If anything appears to be wrong, you must recheck the wiring of the x-overs, the amp or the mid/ woofers

TECHNICAL SPECIFICATIONS

	ATC100	ATC130	ATC165	ATC200
Type	Component	Component	Component	Component
Nominal Size	4" (10 cm)	5¼" (13 cm)	6½" (16.5 cm)	8" (20 cm)
Configuration / System	2-Way	2-Way	2-Way	2-Way
Peak Power Handling	80 W	100 W	120 W	150 W
Continuous Power Handling	60 W RMS	70 W RMS	90 W RMS	100 W RMS
Crossover Slope LP Mid/Woofer	6dB / oct.	6dB / oct.	6dB / oct.	6dB / oct.
Crossover Slope HP Tweeter	6dB / oct.	6dB / oct.	6dB / oct.	6dB / oct.
Crossover Frequency	5000 Hz	5000 Hz	5000 Hz	5000 Hz
Nominal Impedance	4 Ohms	4 Ohms	4 Ohms	4 Ohms
Sensitivity	90 dB	91 dB	92 dB	94 dB
Frequency Response (- 3dB)	85 Hz – 25 kHz	75 Hz–25 kHz	60 Hz – 25 kHz	50 Hz–25 kHz
Mid Woofer				
Basket (EURO-DIN)	4" (10 cm)	5¼" (13 cm)	6½" (16.5 cm)	8" (20 cm)
Mounting Depth	42 mm	56 mm	59 mm	72 mm
Mounting Diameter	93 mm	116 mm	145 mm	184 mm
Tweeter (with grill)				
Overall Diameter	46 mm	46 mm	46 mm	46 mm
Mounting Height (flat surface)	20 mm	20 mm	20 mm	20 mm
Mounting Diameter (recessed)	42 mm	42 mm	42 mm	42 mm

WARRANTY CONDITIONS

AXTON warrants this 2-way component speaker system and its parts to be free of defects in materials and workmanship for two years from the date of purchase at retail, contingent upon being properly installed and approved by an authorized AXTON dealer. AXTON Inc. will at its discretion repair or replace any mechanically defective speaker unit or crossover during this warranty period. Should your AXTON component system – or parts of it – require warranty service, please return it to the retailer from whom it was purchased. Please do not send any product to AXTON. Should you have difficulty in finding an authorized AXTON service centre, details are available from the national distributor in the country of purchase. Abuse of this component speaker system due to excessive amplifier power, improper installation, amplifier clipping or physical damage is not covered under warranty.

2-WAY COMPONENT SYSTEM

Model name: q ATC100 q ATC130 q ATC165 q ATC200
Date of purchase:
Your name:
Your address:

City:
State: ZIP or Postal Code:
Country

Documents / Resources

	AXTON ATC100 2 Way Component System [pdf] User Manual ATC100 2 Way Component System, ATC100, 2 Way Component System, Component System

References

- Manual-Hub.com - Free PDF manuals!
- User Manual