

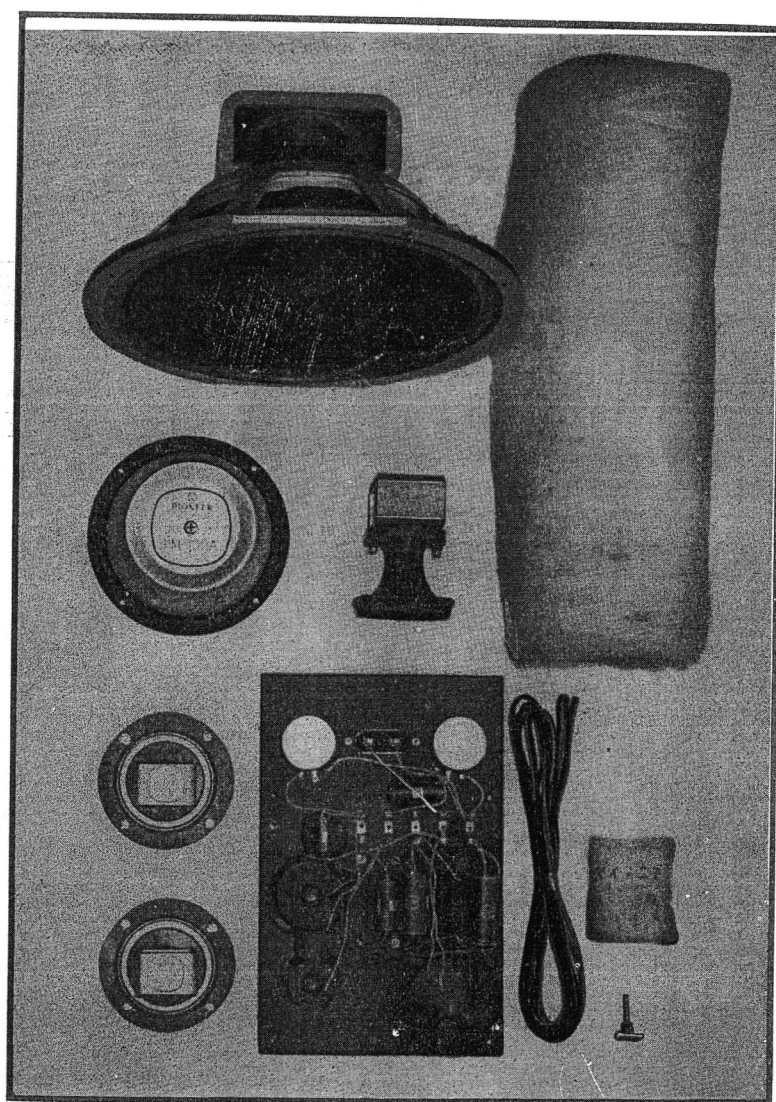
PIONEER®



ASSEMBLY INSTRUCTIONS

CUSTOM SPEAKER SYSTEM KIT

MODEL **AS-305A**



PIONEER ELECTRONIC CORPORATION

The PIONEER AS-305A is a 'do-it-yourself' kit for a custom 12-inch 3-way 5-speaker system for use in high fidelity sound systems.

It is comprised of carefully-matched units chosen from PIONEER's extensive range of quality speakers, put together in an compact system for high fidelity sound reproduction.

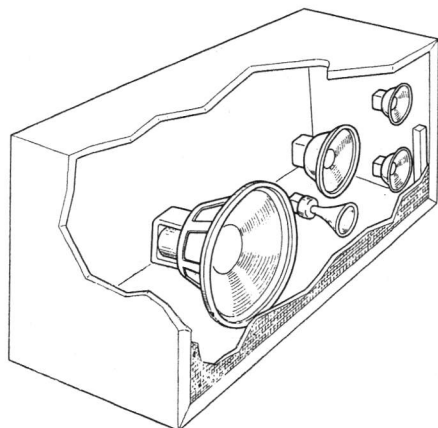
12-Inch Woofer (Model PW-301A) This is a unit mounting an extremely powerful magnet assembly, designed especially for use in compact enclosures. The cone and voice coil are based upon new conceptions in audio engineering, to provide efficient operation with minimum of distortion. Designed with ample reserve for peak low frequency signals, the PW-301A provides crisp and well-damped low frequency reproduction.

5-Inch Squawker (Model PM-122A) The outstanding transient response of this unit is virtually unprecedented in cone type units available heretofore. Through the use of precision-finished acoustic elements and a powerful magnet assembly, it has an extremely high efficiency factor. In addition, to prevent interference with the other units of the system, the rear of the unit, including the magnet yoke, is completely enclosed.

Tweeters The tweeters used number three in all. They include the horn type Model **PT-2K**, which provide silky clear highs extending well into the ultra-sonic ranges, and two cone type Model **PT-257A** units, for full dispersion of sound. Between these three tweeters, superb high frequency reproduction is provided.

The crossover network is already assembled in a single unit incorporating the level controls and is fully wired, so that all that has to be done is connect the output terminals to their respective speaker units. This will provide precise and sharp division of the audio spectrum for feeding each segment to the proper speaker unit.

The construction of the enclosure is where your skill proves its merit. Study the instruction carefully before putting your enclosure together, and outstanding performance and tonal quality is yours.



PARTS REQUIRED FOR ASSEMBLY

Parts Supplied In Kit

- 12-inch woofer (PW-301A) 1
- 5-inch squawker (PM-122A) 1
- Cone tweeter (PT-257A) 2
- Horn tweeter (PT-2K) 1
- Crossover network, with level controls 1
- Connecting cables, color-coded
- Hardware (for mounting of speakers, etc.)
- Acoustic padding material (glass wool)
- Solder

Parts You Must Procure

- Lumber for enclosure (refer to paragraph on Selecting Proper Lumber)
- Saran netting for enclosure grille
- Nails
- Glues
- Finishing materials (such as varnish or lacquers)
- Tools (soldering iron, pliers, screwdrivers, saw, and other tools required for carpentry work)

SELECTING PROPER LUMBER

The lumber for the enclosure should be heavy plywood, hardwoods, or composite boards. Make sure that the lumber is well-dried and cured. The thickness should be at least 3/4 inch. Apart from the fact that they are hard to work with, composite boards are ideal from the acoustic point of view.

If the lumber is thinner than 3/4 inch, there is the possibility that sympathetic vibrations of the enclosure may arise. This of course would greatly impair tonal quality and would also negate the performance of the speaker units.

ENCLOSURE DIMENSIONS

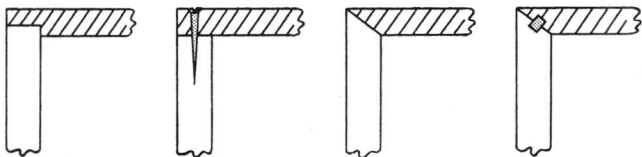
The illustrations given below show the standard dimensions for an enclosure for the AS-305A. The enclosure is a bookshelf type that may be placed vertically or horizontally. All dimensions are given in inches. By careful layout and cutting of the lumber, all sides of the enclosure can be obtained from a single sheet of lumber for maximum economy. Exceptional care should be taken in cutting out the speaker openings on the baffle board. They should be cut cleanly and accurately. Otherwise, there may be leakage of the air within the enclosure after the speakers have been mounted.

ASSEMBLING ENCLOSURE

To put together a sturdy and rigid enclosure, appropriate reinforcing struts should be used. The struts should be attached before the enclosure is assembled, after which the sides may then be put together.

The baffle board and rear of the enclosure are attached after the speakers have been mounted and wired.

There are four different ways of attaching the struts. Choose the method that is easiest for you.



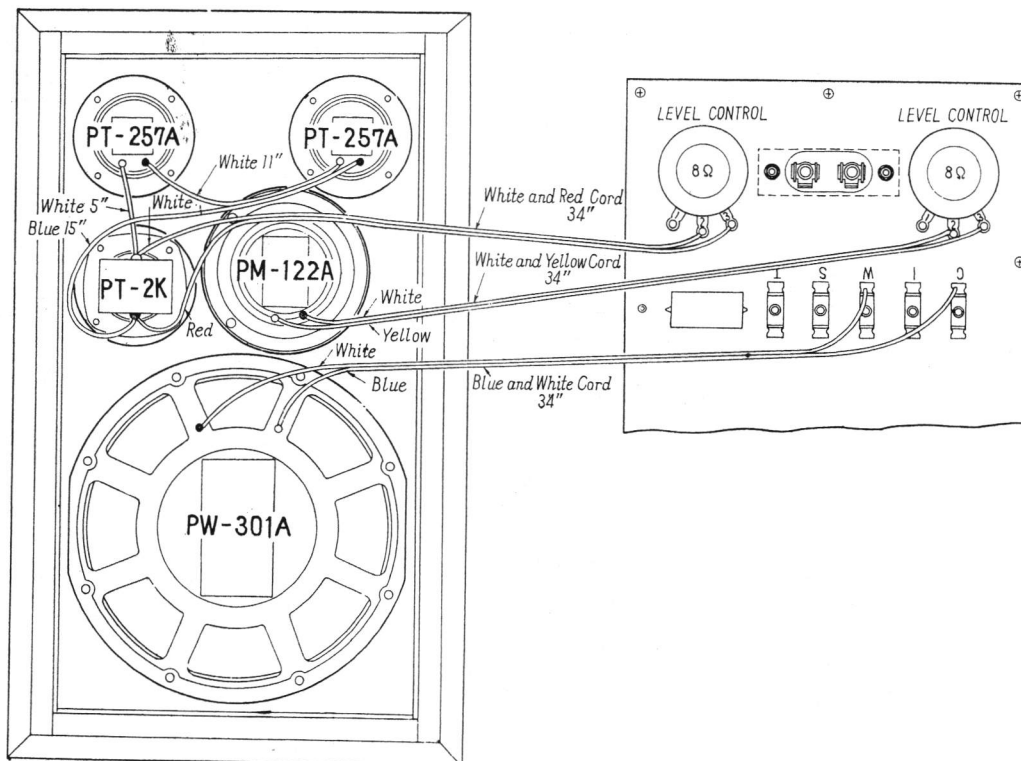
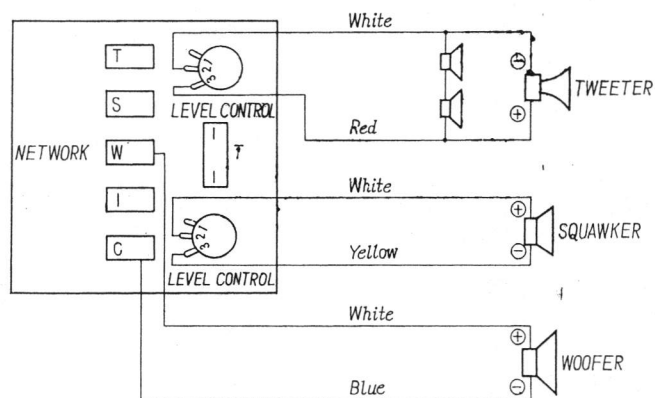
MOUNTING SPEAKERS

The speakers should be mounted right side up, using the mounting screws provided. (The model designation inscriptions on the speaker units will serve to distinguish which the right side up for each speaker unit.)

When mounting the speaker units, the screws should be turned a little at a time. The crossover network is mounted on the rear cover after which the rear cover is attached to the enclosure.

WIRING

The connecting cables provided should be cut to the lengths indicated in the illustration below, using the proper color cables where indicated. It will be easier to complete the wiring before the baffle board mounted with the speaker units is attached to the enclosure. Red cables are for the positive leads, and white cables are for the negative leads. Secure all connections firmly to prevent the connections from loosening at a later date.





AND LAST OF ALL...

After the speaker units have been mounted and the wiring completed, the baffle board may be attached to the enclosure. The saran netting grille should at this time be attached to the baffle board by adhesives or staples. Treating the front of the baffle board with a black finish before attaching the front grille will result in cleaner overall appearance.

At this stage, the PIONEER insignia should be attached to the baffle board at an appropriate position. It will serve to decorate and enhance the appearance of the speaker system.

After the baffle board has been mounted, the acoustic padding (glass wool material) should be cut into appropriate pieces and placed in position around each of the speaker units. Use glass wool lavishly, for increased absorption of sound.

The final step is the attaching of the rear of the enclosure using woodscrews.

The enclosure may now be finished in the desired tones or with appropriate decorative panelling.

AMPLIFIER FOR THE AS-305A

The AS-305A is a speaker system with outstanding transient response. Therefore, the amplifier to be used in conjunction with it should be an efficient and well-designed amplifier that will give full play to the outstanding characteristics of the speaker system. The amplifier should in particular have smooth low frequency response, and provide stable operation with ample inverse feedback.

GENERAL SPECIFICATIONS (AFTER ASSEMBLY)

Impedance rating:	8 ohms
Frequency response:	30—20,000 c.p.s.
Peak power handling capacity:	60 watts
Rated handling capacity:	50 watts
Sound pressure level:	100 db/watt
Speaker magnet weights:	Woofer (PW-301A); 337/8 oz. Squawker (PM-122A); 7 oz. Tweeters—PT-2K; 4 oz. PT-257A; 1/2 oz.
Crossover network—crossover frequencies:	500 and 3,500 c.p.s.
Rate of attenuation	12 db/octave

Any of the specifications given here may be changed or modified without notice because of the improvements.

