



INTER-CHANGEABLE HIGH FREQUENCY HORNS

ONE SYSTEMS® offers a choice of high frequency horn patterns that enable our loudspeaker systems to be optimized for variety of acoustic spaces. The axial response associated with each horn requires specific equalization to properly match the acoustic response with the associated low frequency device. This occurs because the acoustic loading of the horn is altered as the radiation pattern is changed.

ONE SYSTEMS enclosures are shipped from the factory with the 60 degree by 40 degree high frequency horn installed. Depending upon the specific enclosure model, this will either be the ET-60/40 or the ETS-60/40

To optimize the frequency response, the high frequency crossover must be changed as the horn is changed. Many ONE SYSTEMS multi way systems offer a choice of high frequency horns and, as a consequence, certain passive crossovers contain a jumper configuration that provides optimized amplitude response. These products include the 112IM and the 115TW (and 115RW).

In addition to changing the high frequency horn and the jumper position to match the specific horn, the polarity of the compression driver must be adjusted. When the ET-60/40 horn is used, the compression driver must be “normal”. This means that the positive high frequency lead wire from the crossover printed circuit board must be connected to the POSITIVE terminal of the compression driver. When the ET-105/60 high frequency horn is used, the polarity of the compression driver must be “REVERSED”. This means that the positive high frequency lead wire from the crossover printed circuit board must be connected to the NEGATIVE terminal of the compression driver.

In addition, the 112IM enclosures also required another modification. When the 112IM is shipped from the factory the ET-60/40 high frequency horn is installed. In the 112IM, the ET-60/40 horn has two very unique holes in the horn side walls. These holes produce a very positive time domain correction on the system and require that one of the top two vents in the 112IM enclosure be closed. (It is closed at the factory during final assembly with closed cell acoustic foam “barriers”).

When the ET-105/60 high frequency horn is installed this vent must be removed from the enclosure. Figure 1 shows the location of the vent.

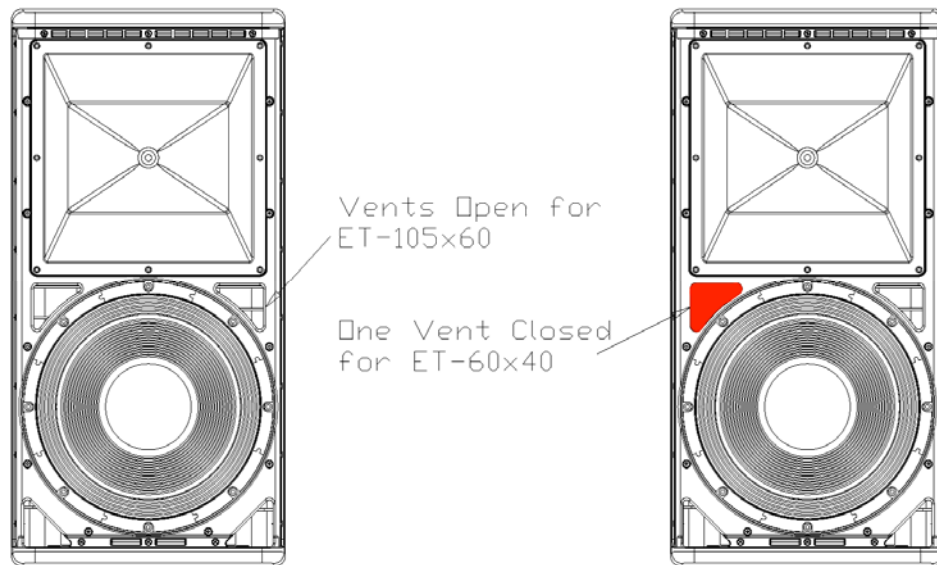


Figure 1

Vent Plug (112IM Only)

The “jumper” that configures the crossover is easily visible on the rear of the crossover input plate assembly. The two positions are labeled “64” and “105”. The enclosure is shipped from the factory with the jumper in the “64” position since the enclosure, as supplied, has the ET-60/40 (or ETS-60/40) horn installed. If the ET-105/60 (or ETS-105/60) horn is to be installed, the jumper must be moved to the “105” position.

The illustration (Figure 2) below shows a typical ONE SYSTEMS passive crossover assembly. The jumper is shown in the “64” position in this example.

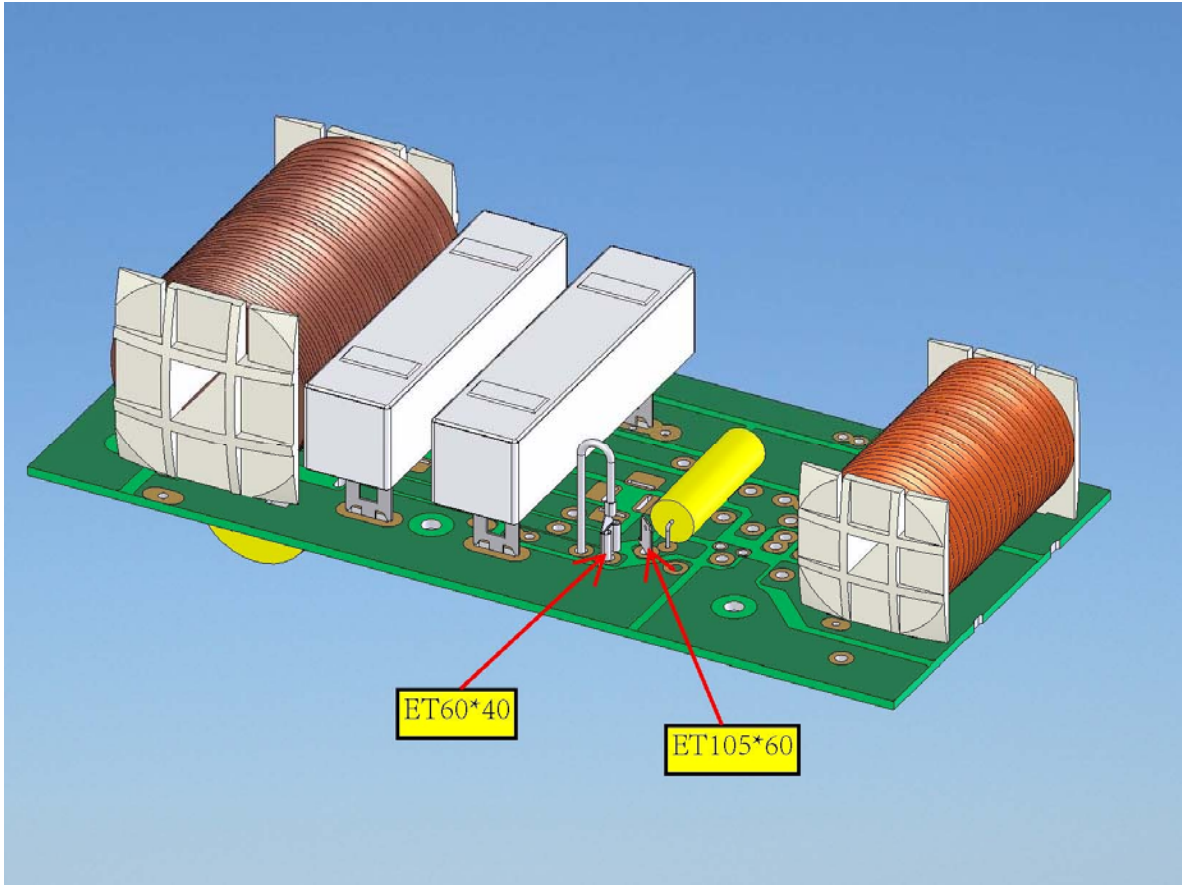


Figure 2

ONE SYSTEMS PCB with Jumper for Interchangeable High Frequency Horns

INTERCHANGABLE HORN PROCEDURE SUMMARY

1. REMOVE EXISTING HORN AND REMOVE COMPRESSION DRIVER
2. MOUNT COMPRESSION DRIVER ON NEW HORN. OBSERVE CORRECT POLARITY.
NORMAL FOR ET-60/40
REVERSE FOR ET-105/60
3. CHANGE CROSSOVER PRINTED CIRCUIT BOARD JUMPER TO CORRECT POSITION AS SHOW ABOVE
4. OBSERVE PROPER ACOUSTIC PLUG PLACEMENT (112IM ONLY)

FOAM PLUGS SHOULD BE IN TOP VENTS IF ET-60/40 USED
FOAM PLUGS SHOULD BE REMOVED IF ET-105/60 USED



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