



ALTEC LANSING ENGINEERING NOTES

Tech Letter 263

2204 Modification for 16Ω or 70.7V Operation

by Ted Uzzle

When 2275 output modules are inserted into a 2200 Incremental Power mainframe, they individually develop 75W into 16Ω , or, if they are switched into differential and you connect across the positive outputs of two of them, you have a 70.7V output which will accept a load of 33.3Ω or greater. By cutting a jumper on each 2275 board and moving a jumper wire in the power supply of the mainframe, you can modify this operation so that each 2275 will develop its full power into 8Ω . This eliminates the 70.7V output option.

The Altec Lansing 2204 four-channel power amplifier is in effect four 2275 modules in a hard-wired chassis, with this difference: the 8Ω modification has already been made in the amplifier as it is shipped from the factory. Those who wish to use it with 16Ω loads (such as Voice of the Theatre loudspeaking systems) or who wish to have two 70.7V outputs of 150W each must convert the 2204 *back* to the mode of operation of 2275 modules in the 2200 chassis.

Here's how to do it:

1. Remove the top of the amplifier.
2. Locate the red leads coming from the power transformer to the power supply printed circuit board. They have push connectors and are installed on vertical tabs on the printed circuit board. Pull the red leads off the PCB.
 3. Protect the connectors with shrink tubing or insulating tape.
 3. Locate the green leads from the power transformer, which are unconnected and folded back over the transformer. Cut away the shrink tubing to reveal the push-on connectors. Slide these onto the same terminals from which you just removed the red leads. If your transformer does not have green leads, you have a 2204 from one of the very earliest production runs, and you cannot effectively make this modification.
 4. Remove all four 27-01-045365 power modules by removing the four heatsink mounting screws from the sides of the chassis, unplugging the Molex connector, and sliding each out the side of the chassis. Note that you must convert *all four* modules.
 - 5A. For *current* 2204s: locate R29 and R31 on each power module and short across these with a jumper wire.
 - 5B. *Early* 2204s will not have an R29 or R31 on each power module. In this case, locate R18 and R19, 270Ω each. *Either* remove these and replace them with 120Ω resistors, or solder another 270Ω resistor over R18 and R19, piggyback, in parallel, giving you a resulting resistance of 135Ω .

6. Reassemble everything. You now have four 75W outputs into 16Ω .
7. Throw S202 and you will have a 70.7V 150W output across the positive (red) output terminals of channels 1 and 2. Throw S204 and you will have a 70.7V 150W output across the red terminals of channels 3 and 4, as shown in Figure 2 on page 2 of the operating instructions.

This modification offers a number of advantages, not the least of which is price: two 2204s are less costly than a 2200 mainframe fully stuffed. Those

who wish multiple 70.7V outputs of 150W each will find this a major advantage of the 2204.

Caution!

Customer modifications of Altec Lansing products is not recommended. Such modifications shall be at the customer's sole risk and expense, and damage or injury to person or property resulting therefrom shall not be covered under warranty or otherwise.