Rec'd 12/56

October 10, 1956
Bulletin DC56-42

TO ALL SEEBURG DISTRIBUTORS:

Attention: Service Managers

We have been asked several times about the apparently erratic operation of some V-200 trip circuits when all selections have been written in and the carriage is forced to continually scan and read out by holding down the carriage trip lever. The trip solenoid may be energized at each read-out or it may "trip" a few times, then not again, or it may trip and miss erratically until all selections have been read out. The question is whether or not this variation in operational behavior of different phonographs reflects in any way in the matter of possible trouble. The answer is "No".

There are three factors controlling the operation of the trip circuit when this "read-out" test is being made: (a) the impedance of the input circuit of the trip thyratron; (b) the plate load of the thyratron; (c) the amplitude and duration of the trip pulse from the pulse amplifier.

The grid circuit is high impedance - - 470K (R10). The grid blocks when the pulses from the pulse amplifier are abnormally rapid. The bias shift or blocking is a function of the tube plate current as well as input impedance and input signal. The circuit as a whole is in a borderline position in most phonographs. If the input signal is reduced slightly, it may permit repeated tripping at each read-out. If the plate load of the thyratron is changed to a higher resistance value by substituting, for the trip solenoid, a resistor in the order of 50,000 or 100,000 ohms, or if the pulse amplifier is changed to one having slightly less output, or if the 12AX7 in the pulse amplifier is changed to one having less output, the condition may be changed from one in which erratic tripping is had to one in which it will trip at every read-out. To change these things in the other direction can, of course, move the condition in the other direction so a phonograph that trips at every read-out will become "erratic". A change of thyratron tube might also change the condition. The principal thing to keep in mind in any appraisal of this condition is that it does not reflect either an abnormal or normal condition. Whether or not the trip action takes place at every read-out when all selections are made and the trip lever is forcibly held down during the scanning operation does not in any way determine whether the associated components are normal or otherwise.

If it is believed that repeated read-out indication of this nature is any advantage in a test procedure and if the procedure is being used with a phonograph that does not "cooperate" by regular tripping at each record space, the condition can be "corrected" for the duration of the test procedure by clipping a 1-meg (approximate) resistor from the trip thyratron grid to ground. If this additional resistor is used, it must be removed

on completion of the test. UNDER NO CIRCUMSTANCES IS ANY PERMANENT CHANGE TO BE MADE IN THE GRID CIRCUIT BY CHANGING EITHER THE VALUE OF R10 OR LEAVING THE ADDITIONAL RESISTOR IN PLACE. TO DO SO CAN REDUCE THE LIFE OF THE TRIP THYRATRON AND WILL UPSET THE OPERATING PARAMETERS OF THE CIRCUIT SO IT BECOMES SUSCEPTIBLE TO TRIPPING DUE TO EXTRANEOUS TRANSIENTS.

Sincerely yours,

J. P. SEEBURG CORPORATION

C. M. Smith
Manager of Field Service

CMS:BC