
LAND MOBILE PRODUCT SECTOR PSB # 746 1307 E. ALGONQUIN RD APC #
388,398,632,684 SCHAUMBURG, ILL. 60196 Date: MARCH, 1995 (708) 576-0180
EXPIRES : N/A

Subject: MSF 5000 HIGH FREQUENCY OSCILLATION ON LINE DRIVERS.

MODULE AFFECTED: TLN3112E TRUNKED TONE REMOTE CONTROL BOARD
SHIPPED FROM SEPTEMBER 1993 OR LATER ARE AFFECTED.

PROBLEM DESCRIPTION: A 250KHZ oscillation may occur from the 600 ohm line drivers LD2 and LD4 which can affect level settings on the wireline during station alignment. The condition can be detected by observing the output of the line drivers with an oscilloscope. Because of the high frequency of the oscillation no apparent change in audio quality is observed. The TRANSFORMERS (T4202&T4204) that are suspect can be identified with a clear tape covering over the red windings. Those transformers with a yellow tape covering do not exhibit the problem.

PROBLEM RESOLUTION: To resolve the issue it is recommended that feedback capacitors be added to the driver transistors (Q4205 -Q4208) which creates a negative feedback at frequencies above the normal operating band of the line drivers and effectively eliminates the oscillations. The feedback capacitors should be added across the base-collector pads on the solder side of the board. Capacitors are Motorola P/N 21-13741B49 (0.015ufd leadless chip caps). The transistor pin out as seen from the component side of the board with the flat side of the transistor facing the viewer, is emitter-base-collector left to right respectively. Perform this modification only if the line drivers are oscillating.

NOTE: This TTRC board oscillation may also lead to a 20 KHZ oscillation at the output of the 900 MHZ MSF 5000 compandor circuit located on the SSCB (Secure Station Control Board).

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