

Technical Services Memo

Volume: 25

Number: 16

Date: April 17, 2003

Product Code: D2

Subject Code: SY

Part Number: B19/CMN-352DA

B19/CMN-352DB

LBI: LBI-39173

CATEGORY: Mobile

SUBJECT: Error code 0401

PROBLEM: VHF-Orion mobiles display error code 0401 (Synthesizer out-of-lock).

Some Phase Lock Loop IC's (IC201, MC14159FN) date coded 99xx or higher fail to decode synthesizer frequency data (SYNTH DATA). This is due to variations of the clock rise time produced by the ICP synthesizer clock generator (SYNTH CLOCK) and as a result, the transceiver can become unlocked (show ERR = 0401 on radio control head display).

SOLUTION: Replace R220 (10k ohm) located on the Synthesizer-Exciter Board (PN# B19/CMN-352DA and B19/CMN-352DB) with a single 1k ohm +/- 5% resistor (M/A-Com Part Number # 19A149818P102) or equivalent. This change improves the clock rise time stability to provide more margin for variations of PLL IC clock line capacitance.

NOTE: SPK0305 is available from Service Parts if you need to replace a defective PLL IC (IC201). It contains a single replacement IC201 (19B800902P5), four 1k ohm resistors (19A149818P102), and an instruction document. Only one resistor is installed, three are extras. This SPK kit can be used for other band splits of ORION.