

PSB: 660 APC: 632 DEADLINE: 9/30/90

Date: September 1989

Subject: Uniboard Changeout for Audio Hole problem.

Models Affected: C65CLB5103BT C65CLB5203BT C85CLB5103BT C85CLB5203BT

Kits Affected: TRN9911A TRN9943A TRN9950A

Ref: PSB654 900MHz Trunking System Troubleshooting for 'Audio Holes'  
PSB651 Modulation Compensation Adjustment  
PSB652 MSF5000 Microphonic TX VCOS

Problem:

The above mentioned bulletins are in reference to 'Audio Hole' problems experienced in Trunking Systems which utilize MSF5000 Base Stations. Although correcting these problems yielded significant improvement in system performance, one remaining issue needs to be addressed.

During evaluation of problem MSF5000 Stations, a design problem was discovered in the synthesizer circuitry. Correcting this design problem required significant modifications in the Uniboard. The changes also require frequency programming changes because the divider scheme is now different, and requires a change to the input reference level.

#### CHANGE 1

Since the circuitry changes on the Uniboard are many, replacing the Uniboard is the only reasonable alternative. Use the chart listed to determine the revised Uniboard kit number.

TRN9911A IS REPLACED BY TRN7197A (900 MHz). TRN9943A IS REPLACED BY TRN7198A (800 MHz with C574 option). TRN9950A IS REPLACED BY TRN7199A (800 MHz).

#### CHANGE 2

The change in the divider scheme requires a change in the station control plug. Version 8 software for the R1800 will be required to make this change. To program a station using the new uniboard, a 'B' suffix MUST be entered in the model number.

Note that you will not be able to 'read' the old code plug and simply blow a new one. All of the pertinent information needs to be entered manually.

Version 8 software can be obtained by two methods. First, you can order the complete RTL4826E package, which contains 8 PROMs, two of which are new. Second, if you currently have Version 7 software, you can order new PROMs #1 and #6. Their part numbers are 51-80364B32 and 51-80364B33.

### CHANGE 3

The new synthesizer requires a higher level of drive from the 14.4 MHz reference. This change is accomplished by changing 2 resistor values on the synthesizer board, which is located in the synthesizer tray.

Model TLF1491A Reference Synthesizer (Board is TLF6816A) Model TLF1501A HSO Reference Synthesizer:

Resistor	Old Value	New Value	New Part #	Description
R212	270 ohms	120 ohms	0611009E27	1/4W standup
R213	270 ohms	120 ohms	0611009E27	1/4W standup

Model TLN3024A Reference Synthesizer Model TLN3025A HSO Reference Synthesizer:

Resistor	Old Value	New Value	New Part #	Description
R68	270 ohms	150 ohms	0611077A54	1/8W chip
R69	270 ohms	150 ohms	0611077A54	1/8W chip

### RETUNING

Now that the Uniboard had been replaced, the 5 pots on the board need to be set. The required adjustment procedures can be found in Manual 68P81076E02 for 900 MHz, and 68P81079E02 for 800 MHz. The required adjustments are as follows:

Adjustments:

R191 AGC THRESHOLD: Tune per section 6.5

R453 OVERDRIVE AND R426 POWER OUTPUT: Tune per section 4.2

R358 MODULATION COMPENSATION: Refer to PSB651

R409 POWER CUTBACK ADJUST: Key station and note the power output level. Ground pin 1 of P402 on Uniboard. Adjust R409 until the power output is 3 db below original power level.

The required resistors for the synthesizer modifications will be shipped with the Uniboards. Also, each Area Office will be furnished with one set of Version 8 software for reprogramming the code plugs.