



## TECHNICAL NOTE 05-97

# MOBILE MAP PLUS SYSTEM RADIO-GRAPHIC DISPLAY SYSTEM

## *ADJUSTMENT OF DATA RECEPTION WINDOW*

DATED JULY 15, 1997

### BACKGROUND

*All Mobile Map Plus Radio-Graphic Display Units produced after November 1993 (Serial Numbers 191370 and above) utilize a microprocessor-controlled data decoder system with a phase lock loop detector. This is a very stable circuit and normally needs no adjustment after leaving the factory. No adjustments are typically needed on complete systems because the components are adjusted and tested at the factory before shipment. However, sometimes when system components are changed, the phase lock loop detector does not exactly match the data stream produced by the encoder unit. If a unit requires field adjustment, the procedure can be accomplished with a built-in test feature and a screwdriver.*

### PROCEDURE

If you believe that a mobile display is not correctly receiving alarms, utilize the built-in test to determine if alarms are being received.

1. If possible, bring the display to a location near the encoder unit so one person can handle the testing. You can leave the unit in the installed location but the test will require two persons and radios or telephones to communicate. You can power the display in the control room using a small 12-volt DC power supply (approx. 200 ma. capability). or you can use the power supply contained in the test kit, P/N TE127. Also connect a test antenna or use no antenna to be sure that a faulty antenna is not causing problems.
2. With the display powered up and operating, press the red test button on the encoder board, S1 (right side of board), for approximately 2 seconds and release. *Upon release of the button* the red LED lamp in the encoder circuit board—lower right corner, L1—should begin to flash at about a once-per-second rate. Each time the lamp flashes the encoder is sending to the display one zone of information, starting at zone 1 and continuing through all zones of the system and returning through zone 1 again, and so on. This process will continue until the red pushbutton, S1, is pressed again, causing L1 to stop flashing.
3. Carefully watch the display to be sure that all zones are being received. You should see an

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alarm on zone 1, followed by an alarm on zone 2 (zone 1 returns back to secure), and then zone 3, and so on through all zones of the system and repeat until L1 is pressed again. Perform at least three passes through all zones to verify that no zone alarm indications are missed. If zones are missed or zone indications appear erratically, the phase lock loop adjustment should be made.

## ADJUSTMENT PROCEDURE

1. Remove the four Torx screws on the faceplate. Gently lift and remove the graphic faceplate by gently pulling on the rubber edge seal. Be careful because display lamp wiring is connected to the faceplate. Locate the faceplate to the side so you do not short any wires but can see the faceplate for adjustment purposes.
2. Inside the display enclosure on the left side of the circuit board is a potentiometer, R12, the phase lock adjustment. The typical setting is about 4 o'clock. You may also see two black lines on either side of the current setting showing the setting range determined at the factory. You will need a small screwdriver that will fit R12 for this adjustment.
3. Press the encoder test button as described in Procedure 2 above to generate the test alarms.
4. Carefully observe that each alarm is being received on the display. The alarm lamps should proceed from zone 1 through the last zone in your system, and start over again with

no zone alarms being missed as in the procedure above.

*CAUTION:* It is not wise to leave the system in the test operation mode for more than several minutes as the transmitter may become overheated and damaged.

5. If alarms are being missed, use the small screwdriver to make a small adjustment (clockwise or counter clockwise), and continue to observe the display. By going in one direction and then the other, you should be able to determine the range of correct operation. When you are finished determining the range of acceptable operation, set the potentiometer to the center of the range.
6. When you have completed your adjustment, press the encoder test pushbutton to end testing operations.
7. Carefully reinstall the faceplate being careful of all wiring. Reinstall the four Torx screws.

## FURTHER TESTS

Once you are satisfied that the display operates correctly in the control room, you can reinstall the unit and use the same test procedure to check operation once again.

Always complete your testing by a test of the complete system from the facility alarm system all the way to the display(s).

If you need any assistance, or have any questions, please contact the factory.