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This is (Service Repair Note) **SRN 1201**

**APC:** various

**Date:** October 1996

**Deadline Date:** October, 1997

**Memo To:** SRN Mailing List

**From:** RSTC/Plantation, FL

**Subject:** Motorola Subscriber Radios Service Software (RSS) and Computer Anomalies

Numerous Motorola customers have experienced problems with communication between the RSS software and the radio being programmed, especially on newer laptop/notebook computers. These problems can almost always be cured by modifying the configuration of the computer in one way or another.

Symptom	Most likely problem
Nack errors, Busy Line errors	Cable/connection problems, hardware failures, RIB power supply or battery failure, or battery voltage on Portable or Mobile radio may be low.
Comm errors, timeout errors, checksum errors	Computer power-saving features may be interfering with communication to the radio, or battery voltage on Portable or Mobile radio may be low.
Protocol errors	FIFO (first-in, first-out) buffers in the UART may be enabled. Buffers are not flushed, and first data to RSS is unintelligible.

If failures in the second and third categories above are encountered, use the following steps to correct.

- 1) Disable all Power Saving features. There can be as many as four different sources which must be deactivated independently.
  - a) CMOS Power Management
    - - When rebooting the notebook, enter the "Setup" function by pressing F1. (Computers differ somewhat in the way the Setup function is entered. Consult your computer's operation manual for further information.)
    - - Press ALT+P to get to the Power Management Options (Again, consult your operation manual).
    - - Make sure "Power Management" is OFF
    - - Make sure "Power Management under AC" is DISABLED
    - - Press ESC

- - Press ALT+X to exit
    - - Go to "Exit and Save Changes" and Press enter
  - b) DOS Power Management
    - - In DOS, edit "config.sys", which resides in the root directory.
    - - Comment out the line which makes reference to POWER.EXE by typing "rem" before it. For example: rem DEVICEHIGH /L:0;1,8112 /S=C:\DOS\POWER.EXE
    - - Save the file and reboot the computer.
  - c) Windows Power Management
    - - In Windows go to "Main" --> "Control Panel" --> "Power"
    - - Make sure the "Power Management" feature is OFF
  - d) Manufacturer's Unique Utilities
    - Some computer manufacturers include their own unique configuration utility which is another independent location where power saving features must be disabled. These utilities vary among manufacturers. We include here an example which shows how to disable power saving from the manufacturer's utility in the NEC Versa 2200. Consult your computers' operation manual for further information. LI> - In Windows go to "NEC Versa 2200 Utilities" --> "Power Center"
    - - Make sure the "Power Saver Mode" is OFF.
    - - Also, make sure the battery drain LED above the keyboard is OFF.
- 2) Disable FIFO buffering in the UART. All of the instructions below refer to "COMMCHEK", a utility which can be obtained from Motorola for checking the type and status of the serial ports on your computer. To disable FIFO buffering with COMMCHEK, the following steps should be taken.
  - a) Make a directory called "COMMCHEK" by typing the following at the DOS prompt: "md c:\commchek"
  - b) Copy the file "COMMCHEK.EXE" from the floppy disk supplied by Motorola to the "COMMCHEK" directory by typing the following at the DOS prompt: "copy a:\commchek.exec:\commchek"
  - c) Edit the batch file that is used to start the RSS. For example, with Astro Mobile, type "edit astrom.bat"
  - d) Add the following line to the beginning of the file: c:\commchek\commchek a off
  - e) Save the file and exit the editor
  - f) Use this new batch file when starting the RSS

NOTE: For more information about what "COMMCHEK" does, refer to the documentation file called "COMMCHEK.TXT", which is included with the utility.

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This bulletin is for information only. No warranty is implied.

If applicable, enter this information or note this bulletin number and subject material in the appropriate equipment instruction manuals and make necessary schematic diagram changes. Enter this bulletin in the correct MASTER and CLASSIFIED INDICES for future reference.

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SERVICE AND REPAIR NOTES  
TECHNICAL INFORMATION CENTER  
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**Informational Only**

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From: RSTC/Plantation, FL

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- Comm errors, timeout errors, Computer power-saving features may be interfering with checksum errors communication to the radio, or battery voltage on Portable or Mobile radio may be low.
- Protocol errors FIFO (first-in, first-out) buffers in the UART may be enabled. Buffers are not flushed, and first data to RSS is unintelligible.

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- Make sure the "Power Saver Mode" is OFF.
- Also, make sure the battery drain LED above the keyboard is OFF.

2) Disable FIFO buffering in the UART. All of the instructions below refer to "COMMCHEK", a utility which can be obtained from Motorola for checking the type and status of the serial ports on your computer.

To disable FIFO buffering with COMMCHEK, the following steps should be taken.

a) Make a directory called "COMMCHEK" by typing the following at the DOS prompt: "md c:\commchek"

b) Copy the file "COMMCHEK.EXE" from the floppy disk supplied by Motorola to the "COMMCHEK" directory by typing the following at the DOS prompt: "copy a:\commchek.exe c:\commchek"

c) Edit the batch file that is used to start the RSS. For example, with Astro Mobile, type "edit astrom.bat"

d) Add the following line to the beginning of the file:

c:\commchek\commchek a off

e) Save the file and exit the editor

f) Use this new batch file when starting the RSS

NOTE: For more information about what "COMMCHEK" does, refer to the documentation file called "COMMCHEK.TXT", which is included with the utility.

NOTE: There is one brand/model of computer that does not function correctly when performing FLASHport upgrades even after all of the preceding steps have been performed. The computer works fine for normal codeplug editing and programming. The computer is the IBM ThinkPad 755CX laptop. This computer model should be avoided when performing FLASHport upgrades. Other ThinkPad models tested work fine for both programming and FLASHport.