



SX5P/T CDMA Tuning Procedure

No mechanical adjustments exist within this unit.

An automated factory Test and Calibration program is used for initial check out and setup of this unit.

None of the following calibration adjustments are available to the end user.
No hidden "back door" commands exist to allow changes to the non-volatile memory from the keypad.

The following items are measured and correction tables are generated.
Upon successful completion of all tests, this data is written into the radio's nonvolatile memory.

Specifically:

- 1) **19.2 MHz Frequency Standard**
Sets the internal frequency standard exactly to 19.2 MHz, compensating for manufacturing tolerances.
- 2) **Receiver gain control vs signal level, CELL 850 MHz band**
Calibrates receiver Automatic Gain Control (AGC) vs received signal level.
- 3) **Receiver gain control vs channel number (frequency), CELL 850 band**
Generates and offset table of receiver AGC vs frequency.
- 4) **Receiver gain control vs signal level, PCS 1900 band**
Calibrates receiver AGC vs received signal level.
- 5) **Receiver gain control vs channel number (frequency), PCS 1900 band**
Generates an offset table of receiver AGC vs frequency.
- 6) **Transmit gain control vs output power, CELL 850 band**
Calibrates transmitter AGC vs requested transmit signal level.
- 7) **Transmit gain control vs channel number (frequency), CELL 850 band**
Generates an offset table of transmitter AGC vs frequency.
- 8) **Transmit power detector vs power level, CELL 850 band**
Calibrates 850 power detector sensitivity.
- 9) **Transmit gain control vs output power, PCS 1900 band**
Calibrates transmitter AGC vs requested transmit signal level.
- 10) **Transmit gain control vs channel number (frequency), PCS 1900 band**
Generates an offset table of transmitter AGC vs frequency.
- 11) **Transmit power detector vs power level, PCS 1900 band**
Calibrates 1900 power detector sensitivity



These data points are utilized by the radio to form multi-dimensional smoothed contour maps of exact correction values for each channel.

Transmit power is adjusted by a closed looped feedback controller, initially based upon detected power output.

Once in a call, power control is also based upon the received signal at the Base Station.

By design, regardless of calibration data values, transmitter is incapable of exceeding maximum specified power output by more than approximately 1 dB.

Transmit frequency initially uses the accuracy of the internal 19.2 MHz standard. Once registered with a cellular base station, unit locks onto base station, thereby further improving accuracy. Generates an offset table of receiver AGC level vs frequency (channel number).

The DC Voltage/Current into the final stages is 4.05 Volts, 500 milliamps maximum.