

Exhibit 10 - Tune-up Procedure

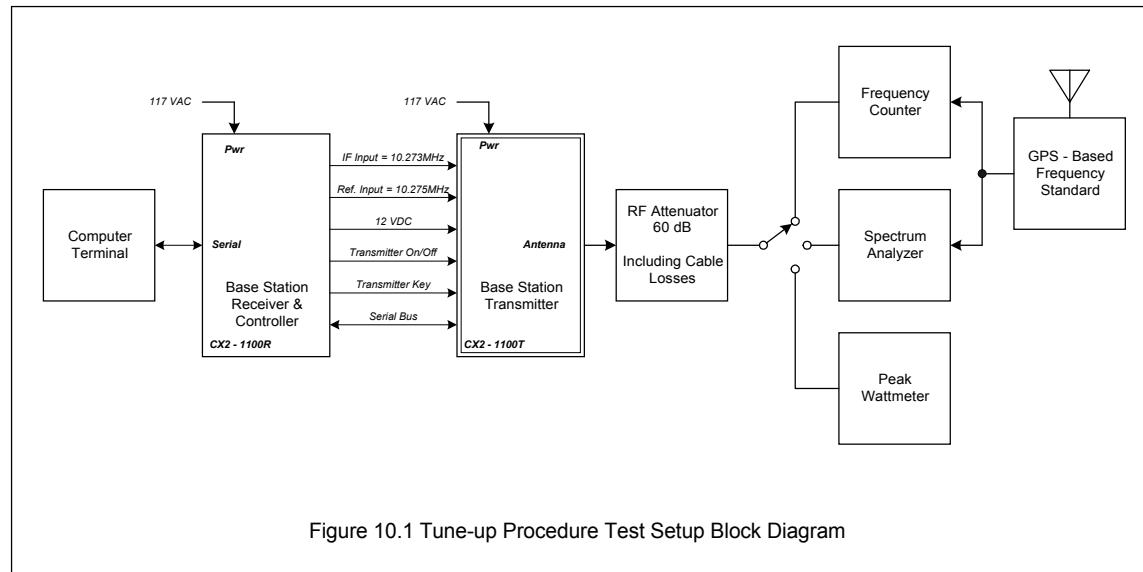
10.1 **Equipment Required**

Instrument	Manufacturer and Model
RF Power Attenuator	Bird 100A-MFN-30
Power Meter	Agilent E4416A
Peak and Average Power Sensor	Agilent E9321A
Vector Signal Analyzer	HP 89441A
Frequency Counter 1.5GHz	Agilent 53181A
Universal Counter 225MHz	Agilent 53131A
Frequency Standard (GPS)	TrueTime Model XL-DC
RF Signal Source	Agilent E4437B
Personal Computer	Compaq Armada 7400

10.2 **Software Tools Required**

- Base Station Configuration Tool - Version 1.0.0.84 or higher

10.3 **Test Setup**



10.4 ***Procedure***

10.4.1 ***Preliminary***

The tune-up procedure consists of the following steps:

- Adjustment of transmitter frequency reference circuits.
- Adjustment of transmitter power output.

Connect the equipment as shown in figure 10.1. The total RF attenuator loss, including all cable losses, should be measured by suitable means.

Adjust the Vector Spectrum analyzer as follows:

- Digital demodulation mode, QPSK, 3.205125 symbols, root raised cosine filter w/alpha of 0.2
- Center frequency 220.4975 MHz, 10 kHz span.
- Set split display, four quadrants, show I&Q plane, error vector magnitude with frequency/phase error, eye pattern.

Adjust the wattmeter as follows:

- Power up and run calibration routine.
- Recall settings for reading peak power at 220.5 MHz.
- Verify that display offset equals attenuator plus cable loss (60 dB nominal).
- Set for normal trigger.

Adjust the frequency Counter as follows:

- Power up, instrument will use default settings.
- Select measure frequency channel 1.
- Select external reference.
- Input impedance to 50 ohms, AC coupling.
- Gate time 0.5 sec.

In order to perform these adjustments it is necessary to utilize a computer terminal running the latest version of CX2 Technologies Base Station Configuration Tool.

Software Tool Setup

1. Using a DB-9F to DB-25F null modem cable, connect serial port COM1 on the computer terminal to ACC2 port on the CX2 - 1100R.
2. Run the *RRMCONFIG* executable file.
3. Press the Password button and type in the required password.
4. Press the Configure button; a “Configure” window will pop up.
5. Press the “Configure Serial Port” button.
6. A “SerComm Control Properties” window will pop up.

7. Using this window, set the serial port to COM1, 38400 bps, 8 data bits, 1 stop bit, no parity. Handshaking disabled, time-out at 2 ms each.
8. Press the “Connect” button, the message “Communication with serial port is established on COM1” will show up if configuration was successful. Press the “Ok” button. Press the “Exit” button to exit the “Configure” window.
9. A scrolling green rectangle on the top of the screen will signal proper communication with the Base Station, a red one will signal a loss of communication with the unit.

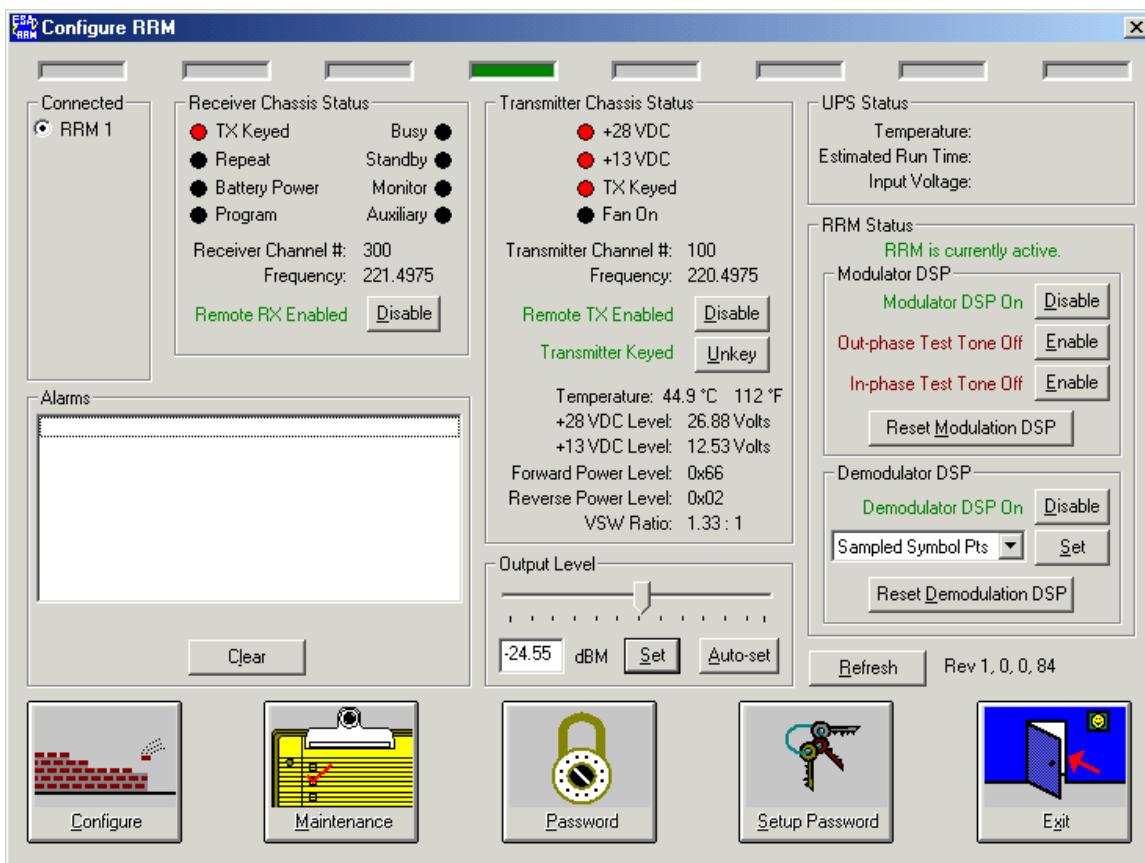


Figure 10.2 Base Station Configuration Tool - Main Screen

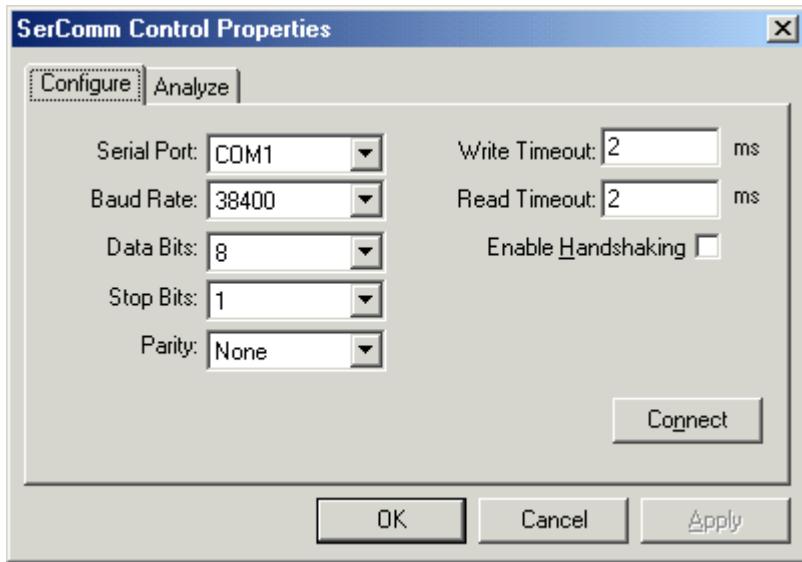


Figure 10.3 Base Station Configuration Tool - Serial Port Properties

With the computer terminal “talking” to the base station, perform the following steps to program the operating frequency:

10. Press the Configure button; a “Configure” window will pop up.
11. Press the “Configure Chassis Parameters” button.
12. A “Configure Chassis Parameters” window will pop up.
13. Using this window set the receiver channel to # 300 - 221.4975 MHz, and the transmitter channel to # 100 - 220.4975 MHz. Press apply to make the changes effective. The corresponding frequency values will be shown below each of the channel numbers.
14. Press the “Ok” button. Press the “Exit” button to exit the “Configure” window.
15. Press the “Refresh” button at the bottom right side of the main screen; the selected channel and frequency should be displayed under the Receiver and Transmitter Chassis Status windows.

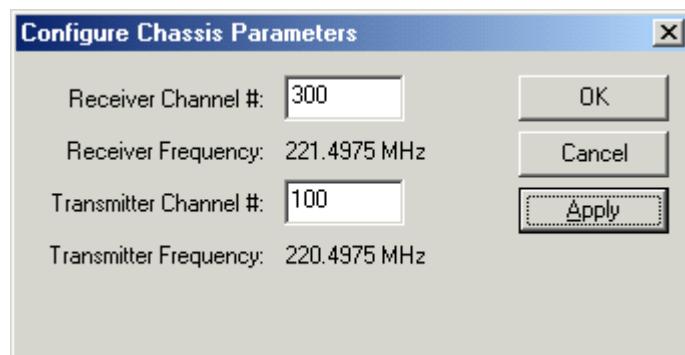


Figure 10.4 Base Station Configuration Tool - Channel Selection

10.4.2 *Frequency Calibration*

Two different frequency adjustments are required, one for the MBSO and the other for the RRM reference.

RRM Reference

- This alignment requires direct connection of the Frequency Counter to the Transmitter IF Output of the CX2 - 1100R.
- The equipment should be fully warmed up for a minimum of 30 min before attempting this adjustment.
- Using the Base Station Configuration Tool, select the “Out of Phase Test Tone” on the Modulator DSP dialog. This will generate a 1602.5 Hz test tone that will be used to adjust the reference.
- Using potentiometer R50, adjust the frequency output to 10,271,397.5 Hz.
- Select “Modulator DSP On” to exit the test mode.

MBSO

- Connect the equipment as shown in figure 10.1; select the Frequency Counter. The equipment should be fully warmed up for a minimum of 30 min before attempting this adjustment.
- Using the Base Station Configuration Tool set the output level by adjusting the scrolling slide at the bottom of the main screen to -26.81 dBm and press the “Set” button. It is easier to fly and click the mouse cursor over the adjustment “lever” and then use the right and left arrows to adjust the power in increments of 0.75 dB.
- Using the Base Station Configuration Tool, select the “Out of Phase Test Tone” on the Modulator DSP dialog. This will generate a test tone that will be used to adjust the reference.
- Key the transmitter and measure the frequency output of the base station on the frequency counter. The nominal reading - because of the 1602.5Hz test tone - should be 220,499,102.5 Hz.
- Adjustment is recommended if the frequency output is more than ten hertz (0.05ppm) off the FCC frequency.
- Remove the protective screw labeled *REF OSC ADJ* at the rear panel of the CX2 - 1100R unit.
- Use an insulated flat-blade alignment tool to very slowly adjust the transmitter frequency output. Make the adjustment so the frequency counter reads between one and two hertz of the desired FCC frequency.
- Check the frequency again over a half an hour period to insure that the frequency remains stable.
- Install the protective screw labeled *REF OSC ADJ*.
- Unkey the transmitter.
- Select “Modulator DSP On” to exit the test mode.

10.4.3 ***Power Output Calibration***

- Connect the equipment as shown in figure 10.1; select the Power Meter first. The equipment should be fully warmed up for a minimum of 30 min before determining the drive level required.
- Using the Base Station Configuration Tool set the output level by adjusting the scrolling slide at the bottom of the main screen to -26.81 dBm and press the “Set” button. It is easier to fly and click the mouse cursor over the adjustment “lever” and then use the right and left arrows to adjust the power in increments of 0.75 dB.
- Key the transmitter and measure the power output of the base station on the power meter.
- Using the Base Station Configuration Tool adjust the output level to obtain a 100W PEP output as read on the power meter (+50 dBm). Press the “Set” button to make the change effective. This drive value will be stored in non-volatile RAM in the RRM.
- Select the Vector Spectrum Analyzer; verify that the frequency is within ten hertz of the FCC frequency. EVM measurement should be better than 4% for the rated output level.