



MOTOROLA

Radio Xtractor User Guide

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Revision History

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02.00-R01	12/05/2014				Updated for external command file support
03.00-R01	11/07/2016				Updated for auto radio power on detect and manual IP entry.

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1. Introduction

1.1 Purpose

The purpose of this document is to provide basic instructions on the setup and use of the Radio Xtractor test tool.

1.2 Scope

This document will cover installation of the application, basic setup and general use guidelines. The Radio Xtractor provides the ability to connect to the XTS/XTL and APX Family of Astro radios to read out and log diagnostic data.

1.3 Assumptions

User has the basic understanding of working with Astro radios. The computer running the application should already have the drivers installed to work with the XTS/XTL and APX radios. These are installed with the Customer Programming Software (CPS).

1.4 Acronyms, Abbreviations and Definitions

N/A

1.5 References

N/A

2. Application Installation and Setup

2.1 Installation/Setup

Copy the ***Radio_Xtractor.exe*** and the ***Xtractor_commandFile.encgz*** file to a folder on the target PC. The application is ready to run.

3. Using the Radio Xtractor

3.1 Overview

The Radio Xtractor connects to an XTS/XTL or an APX radio via a USB connection or over bluetooth and reads diagnostic data out of the radio. The application then compresses and encrypts the extracted information.

Multiple logs can be created for each radio. The file names are in the form of:

<Serial Number of the Radio>_General.encgz

<Serial Number of the Radio>_RData.encgz

<Serial Number of the Radio>_StreamLog_<runNumber>.encgz

Additionally, the application can be used to send commands to reset diagnostic logs on the radio (and the control heads for mobiles) as well as Arming and Disarming the reset capture flag.

3.2 Working with XTS/XTL Radios

1. Launch the application by double clicking on the Radio_Xtractor.exe icon. The application launches (see Figure 3-1).
2. Select the radio type XTS/XTL via the **Radio Type** menu.

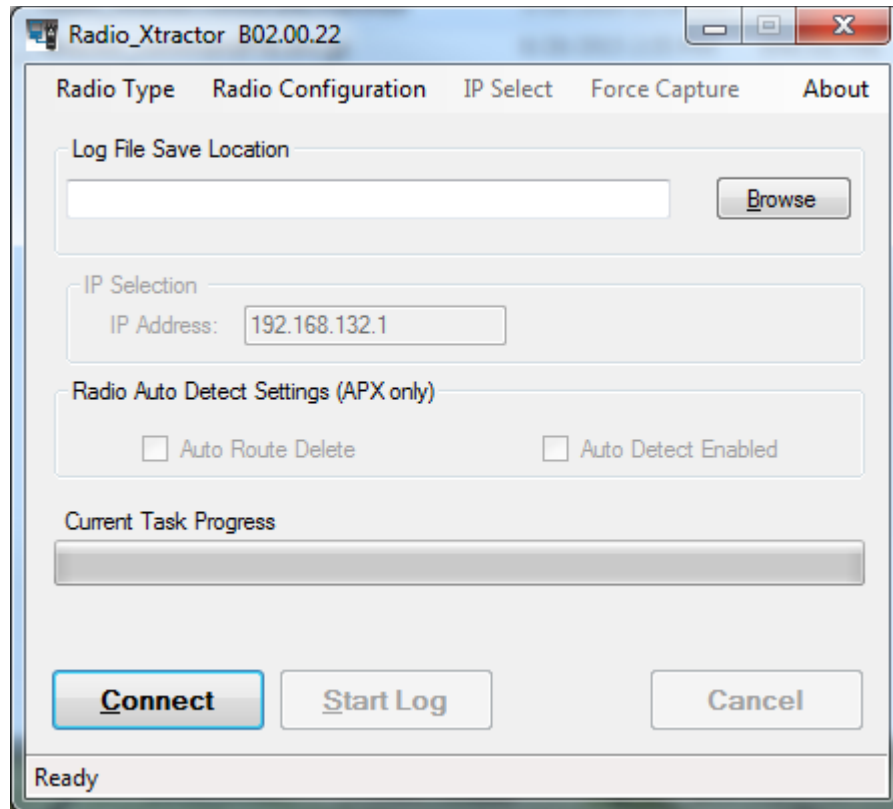


Figure 3-1 Radio Xtractor GUI – XTS/XTL Radio type selected

1. Connect an XTS/XTL radio to the computer via USB cable.
2. Power on the radio.
3. Click **Browse** to specify a location to save the log files. If no path is specified, the files will be saved in the same folder as the exe.
4. See the “Performing Data Logging” section to start the data logging process.

3.3 Working with APX Radios

1. Launch the application by double clicking on the Radio_Xtractor.exe icon. The application launches (see Figure 3-2).
2. Select the radio type APX via the **Radio Type** menu.

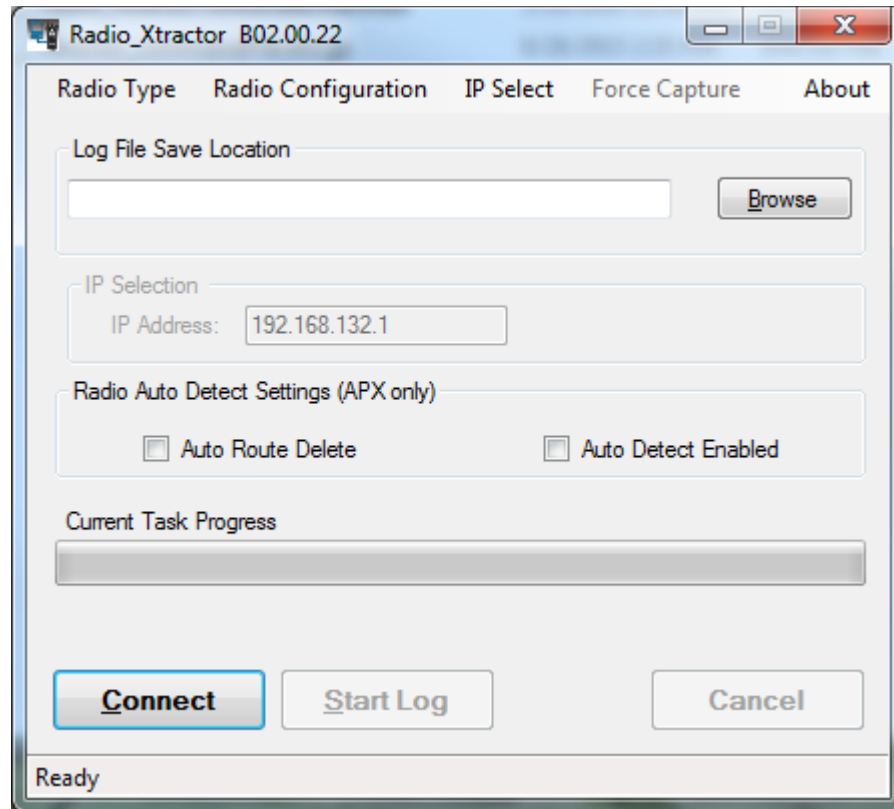


Figure 3-2 Radio Xtractor GUI – APX Radio type selected

5. Power on the radio
6. Connect an APX radio to the computer via USB cable.
7. Click **Browse** to specify a location to save the log files. If no path is specified, the files will be saved in the same folder as the executable.

3.3.1 Configure the IP Select - Auto

1. To have the application automatically detect the IP address of a connected Motorola Astro radio, check the **Auto IP Selection** option under the **IP Select** menu.
2. See the “Performing Data Logging” section to start the data logging process.

3.3.2 Configure the IP Select - Manual

1. To have the application use a manually entered IP address, uncheck the **Auto IP Selection** option under the **IP Select** menu.
2. Enter the IP address in the **IP Selection** of the application.
3. See the “Performing Data Logging” section to start the data logging process.

3.3.3 Auto Radio Power on Detection

The application can be setup to detect when a radio is powered on and begin all the logging operations automatically. This is only supported over USB and not Bluetooth.

1. Power off the radio.
2. **Auto IP Select** must be checked under the **IP Select** menu.
3. Check the **Auto Route Delete** checkbox to have the application remove the IP address of the radio from the IP route table. This can be useful to prevent routing the computers broadcast traffic to the radio. Please contact Motorola Solutions for additional instructions
Note: The application must be run with administrator privileges to perform route delete operations.
4. Check the **Auto Detect Enabled** checkbox in the Radio Auto Detect Settings section.
5. Wait until the status bar at the bottom of the application shows **Waiting for Device**.
Note: If the Auto Detect Enable is selected after the radio is powered on, or the application is started after when the radio is already powered on, logging will not start until the next time the radio is powered off and then on.
6. Logging will now be started automatically when the radio is powered on. The radio can be powered on/off multiple times and each time it is powered on the logging will begin automatically.
Note: If the radio is power cycled Off/On quickly, approximately faster than 8 sec, it is possible that the radio power on will not be detected.
7. To stop the logging, uncheck the **Auto Detect Enable** checkbox. Allow several seconds to complete the logging.

3.3.4 Connecting via Bluetooth

1. Connect the computer to the radio via the Bluetooth connection.
2. Under the **IP Select** menu uncheck the **Auto IP Selection** option.
3. Enter the IP address of the radio in the **IP Selection** of the application. Please contact Motorola Solutions for additional instructions on finding the Bluetooth IP address.
4. See the “Performing Data Logging” section to start the data logging process

3.4 Performing Data Logging

Before running this section, first read the appropriate section for the radio type: “Working with XTS/XTL Radios” or “Working with APX Radios”.

1. Click **Connect**.
2. The read operation begins. General progress is shown in the progress bar as the application performs the read operations.
3. Maximum read times are approximately 5 minutes for portables, 5 minutes for mobiles via the rear connector, and approximately 12 minutes using the control head connector, assuming the radio reset capture flag was armed and a reset capture is being read from the radio. If no reset capture is being collected, times will be shorter.
4. After the initial data read operation completes, the **Start Log** button will be enabled.
5. To perform continuous logging while the radio is operating, click **Start Log**. Multiple logs may be created for long periods of testing depending on the amount of data generated.
6. When finished with continuous logging click **Stop Log**.

Note: Continuous logging can be stopped and restarted multiple times to support logging while performing different operations on the radio. A new log file will be created each time logging is started.

7. To stop a read operation at any time, click **Cancel**. **Be sure** to power the radio down and then power the radio up again after clicking **Cancel**. This is to reset the radio's operational state before proceeding.
8. To finish all diagnostic operations, click **Disconnect** and close the application.

3.5 Sending Radio Configuration Commands

The radio configuration commands are found under the Radio Configuration menu drop down. These commands can be sent without having to first connect to the radio via the **Connect** button.

1. Click the Master Clear menu item to clear all the diagnostic logs in the radio.
2. For details on other **Radio Configuration** commands, please contact Motorola Solutions for additional instructions.

3.6 Error Handling

The USB bus occasionally hangs up when using the application. If an error occurs, power off the radio, disconnect, and reconnect the USB cable. Then power the radio up again.

If the application fails to connect to the radio try a different USB port on the computer. If it still fails to connect, check that there is not a Com Port conflict (See Appendix A – Com Port Conflict Resolution).

If any errors occur, it is recommended to power the radio off and back on and to restart the logging operations.

4. Appendix A – Com Port Conflict Resolution for XTS/XTL radios

After a Motorola Radio is connected to the computer, the operating system may set up the Com Port with a port that is already in use by another device. To resolve:

1. Right-click My Computer.
2. Select Manage.
3. Select Device Manager.
4. Select the Ports (Com and LPT).
5. Note the ports in use.
6. Select Modems.
7. Right Click on the Motorola Radio.
8. Select Properties.
9. Select Modem Tab.
10. Identify the virtual port the Motorola Radio is using.
In this example, it is COM19 (See Figure 4-1).

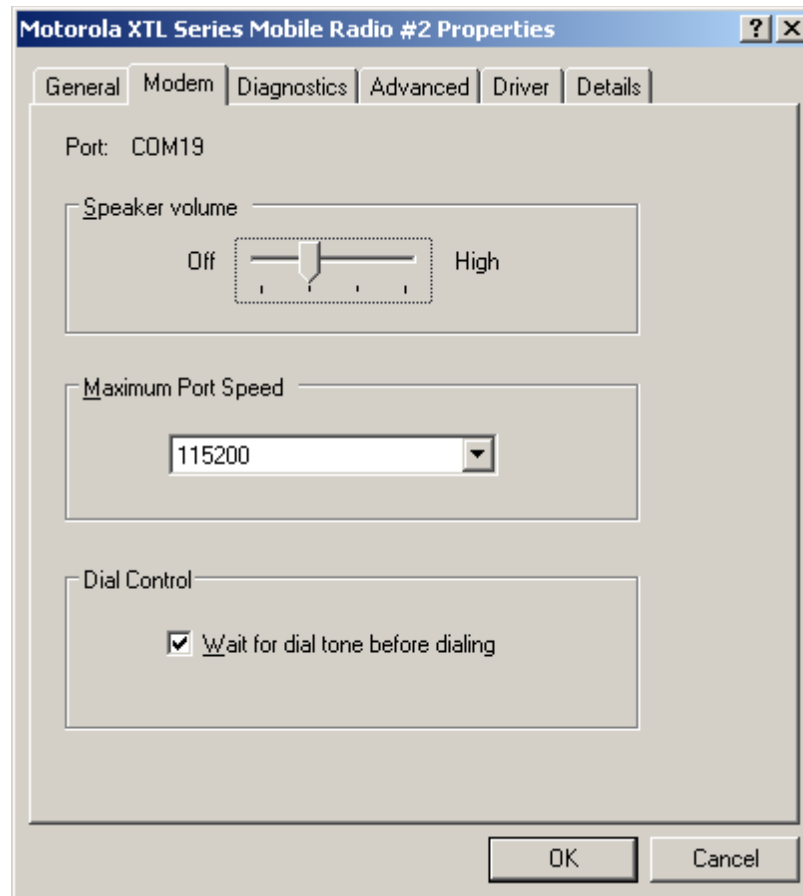


Figure 4-1 Motorola Radio Properties – Modem

11. If there is a conflict with a Com Port, change the port in use for the Motorola Radio.
12. Go to the Advanced Tab (See Figure 4-2).

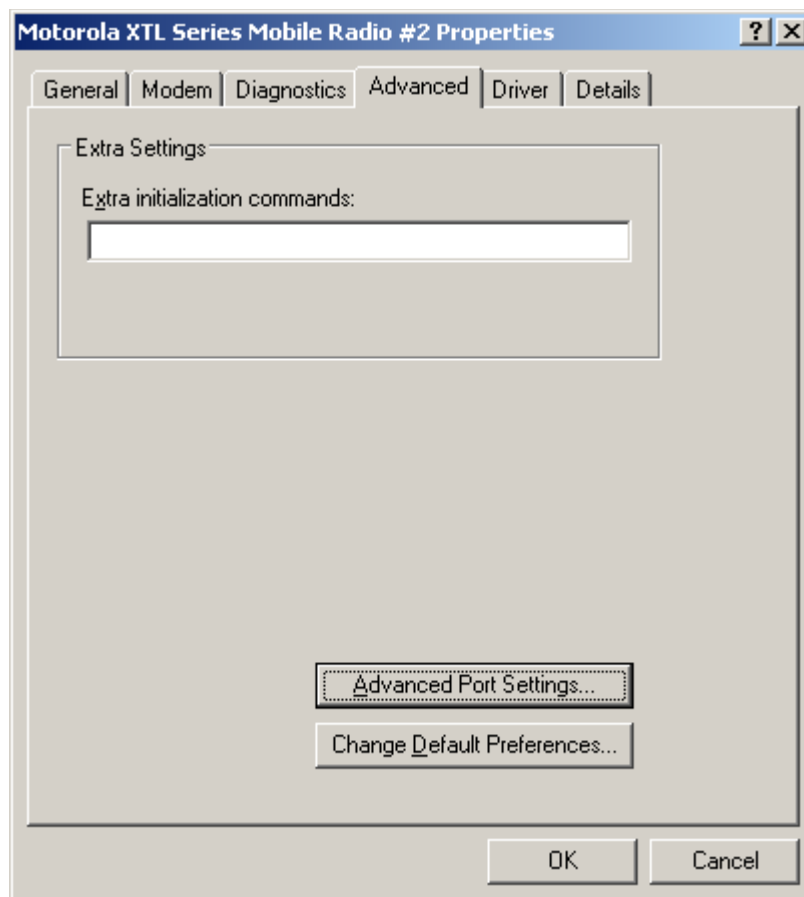
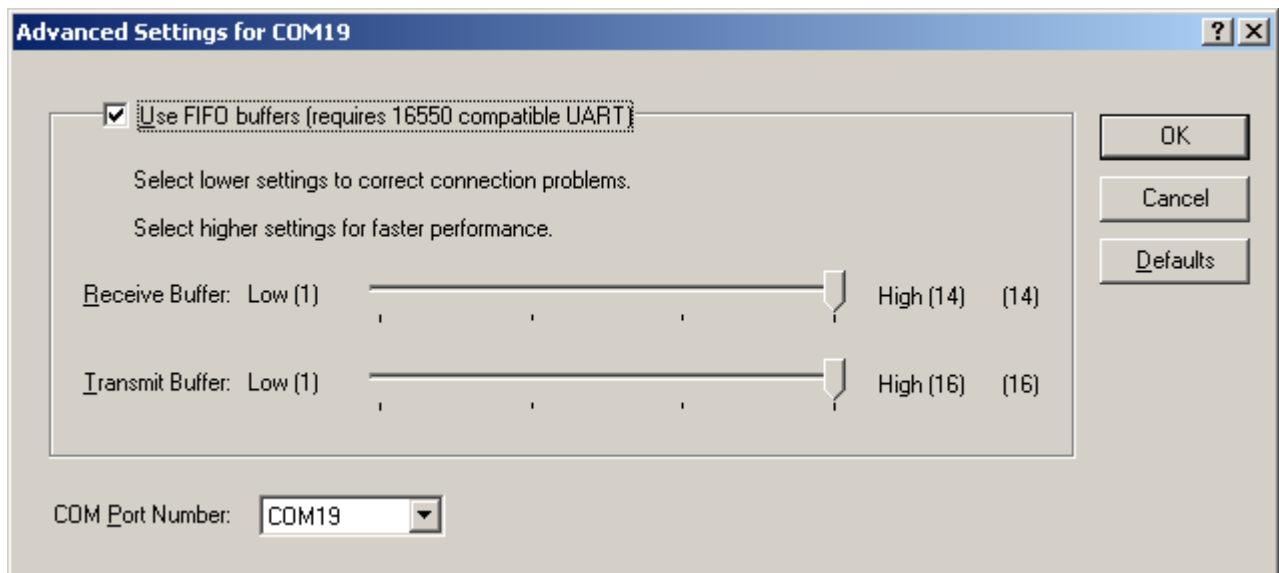
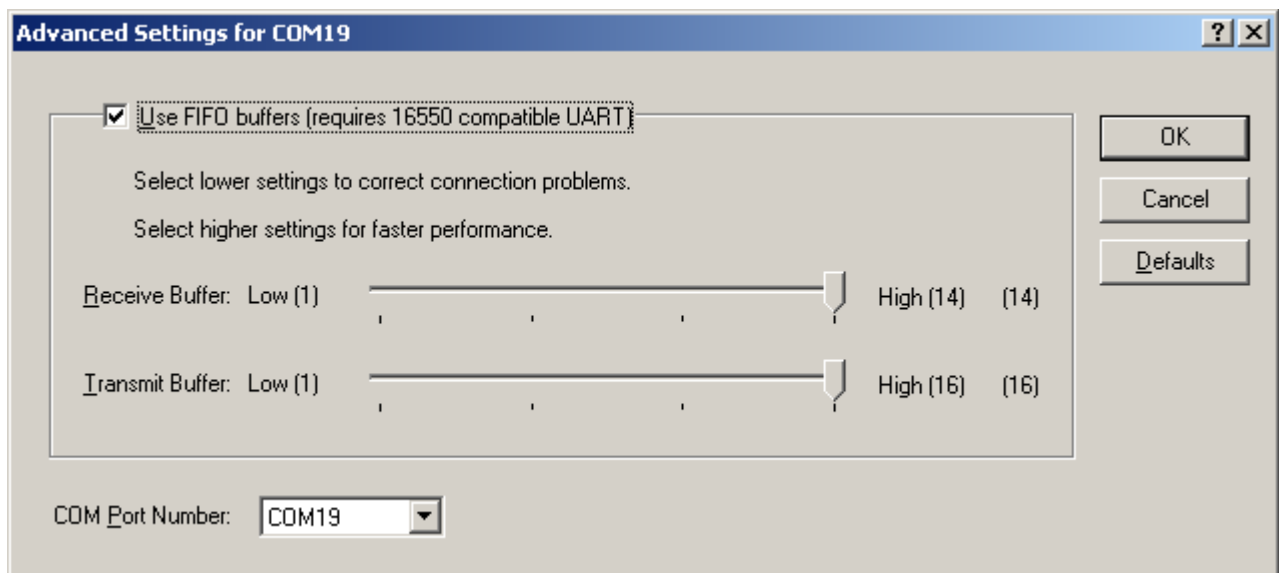


Figure 4-2 Motorola Radio Properties – Advanced



13. Figure 4-3).

**Figure 4-3 Motorola Radio Advanced Port Settings**

14. Select a Com Port number that is not in use.
15. Click Ok.
16. Click Ok.

17. The application is now ready for proper operation.

Note: Reboot the machine if you see the following prompt (See Figure 4-4).



Figure 4-4 Model Number Read Error

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