



MOTOROLA

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Latin America Technical Information Notes

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To: Latin America & Caribbean Countries Region Authorized Servicers

From: LACR Indirect Subscriber Engineering Group Plantation, Florida, USA

Subject: Mototrbo Connect Plus Subscriber Hardware and Software Conversion Process

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Description: The following process allows for a conversion from a MOTOTRBO subscriber into a Connect Plus subscriber.

Models: MOTOTRBO Portables and Mobiles

Detailed Information:

The following process allows for a conversion from a MOTOTRBO subscriber into a Connect Plus portable when the subscriber *does not* have the Generic Option Board (GOB) installed. The following six-step process allows for the conversion:

1. GOB Installation
2. Subscriber codeplug configuration
3. Loading the Connect Plus Software
4. Loading the Subscriber Codeplug
5. Loading the Subscriber Frequency File
6. Connect Plus Entitlement and Activation

Generic Option Board Installation Process:

Note: Please refer to the proper Basic Service manual for assembly and disassembly instructions along with the vacuum sealing instructions for the portable subscriber.

Portables:

1. Remove the top chassis cover from the portable subscriber. See the following figure:



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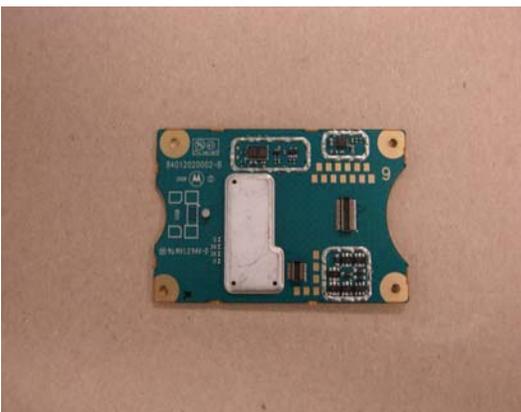
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2. Unscrew the four screws securing the Interface Board using a T-6 Torx bit, and remove existing Interface Board 0104022J35. See the following figure:



3. Acquire and install the GOB, part number PMLN5496AS, replacing the removed Interface Board. See the following two figures:

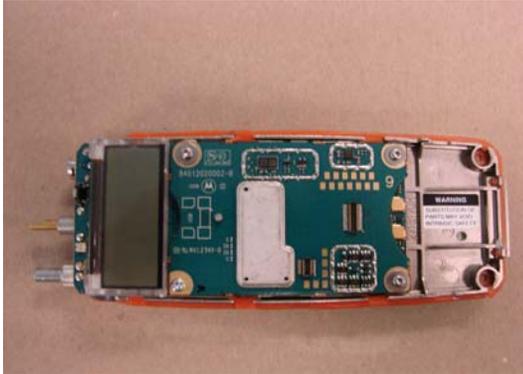




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4. Screw down the GOB board and reassemble subscriber.
5. Perform the vacuum sealing test as per the Basic Service Manual instructions.

Mobiles:

1. Remove the control head from the mobile subscriber.
2. Looking at the mobile chassis, control head location, and notice there are 4 screw holes to mount the GOB. See the following figure.

Note: Some mobile subscribers may not have the additional interface connector on the mobiles PCB. Mobile radios **with date codes 8162 or earlier** (est. prior to Q2 2008) can not be retrofitted with a GOB board.





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3. Acquire and install the GOB, part number PMLN5496AS using the four screws that came in the HLN7001A, option board interface kit. See the following figure:



4. Connect one end of the flex cable that came in the HLN7001A option board interface kit, to the small top connector on the radios Printed Circuit Board (PCB) and then connect the control head cable to the large connector on the radios PCB. See the following figure:



5. Finally, connect the flex cable to the newly installed option board. See the following figure:



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6. Reassemble subscriber.

Notes: It is recommended that the user read and become familiar with the Connect Plus System Planner for important configuration and operating notes.

Process Overview:

One of the most important aspects of MOTOTRBO CPS codeplug configuration for Connect Plus is the configuration of the zones and channels that will be used by the Connect Plus Option Board.

Most applications will require just a single Connect Plus zone with 16 channels enabled for both "Option Board" and "Option Board trunking". This is because the Connect Plus subscriber unit can "Roam" to any site in the Connect Plus network while operating in just one Connect Plus zone.

Each Connect Plus Zone must have 16 identically configured channels that are enabled for both "Option Board" and "Option Board trunking". These are the only types of channels allowed in a Connect Plus zone.

Non-Connect Plus channels (analog conventional, digital conventional, Capacity Plus, "talkaround" channels, etc) are NOT allowed in any Connect Plus zone.

See Connect Plus System Planner, section 4.6, for complete subscriber configuration requirements, suggestions, and programming.



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Codeplug Configuration:

1. Connect the programming cable to the subscriber and to the computer.
2. Start the MOTOTRBO CPS
3. Turn on the subscriber and once the subscriber has powered-up, read the subscriber.
4. Configure the codeplug with the minimum requirements for Zones and Channels, as specified above.
5. Using MOTOTRBO CPS, write the codeplug to the subscriber.

Loading the Connect Plus Software:

Note: Do Not Power down or Disconnect Unit during this process unless directed.

1. Using **MOTOTRBO Connect Plus Option Board CPS**, flash the Connect Plus Option Board. Once completed, the radio will automatically reset.
2. A dialogue box at bottom of screen will confirm function, click on "OK" and the radio will automatically reset a second time
3. A second dialogue box will appear at bottom of screen confirming the function, click on "OK" and the radio will automatically reset a third time
4. If the subscriber did not automatically reset, a dialogue box may pop-up with the following information;

Please wait 30 seconds. If the subscriber unit does not reset on its own, turn the unit off then back on again and wait for the Firmware Transfer" message.

Note: This message should go away on Release 1.0A.

5. If the subscriber did not automatically reset, perform a "Manual Reset".
6. The subscriber should display "Firmware Transfer". Once completed, the subscriber should automatically reset a fourth time and the subscriber should display "No Codeplug".



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Loading the Subscriber Codeplug:

1. Using the **MOTOTRBO Connect Plus Option Board CPS**, open the correct default codeplug file from the "Sample Codeplugs" directory.

The typical path is as follows:

D:\Profiles\All Users\Application Data\motorola\MOTOTRBO Connect PlusOption Board CPS\Sample Codeplugs

Note: The correct default *must be chosen* for the model being used, if a default is required.

2. Clone the sample default codeplug into the target radio. Once completed, the subscriber should automatically reset a fifth time and the subscriber radio should display "No Freq File".

Loading the Option Board Subscriber Frequency File:

Note: There is no default frequency file provided in the OB CPS similar to the sample codeplugs. An existing frequency file that was previously saved, can be opened via the CPS or once a default codeplug is opened (or read from the radio) a frequency file can be created.

Creating and Loading a Frequency File:

1. Navigate to the Frequency File Selection area in the OB CPS, right click on "Network", a pop-up menu should appear.
2. Click on "Add Site". The CPS will automatically pick the correct range of frequencies based on the model of the codeplug that was loaded or read.
3. Ensure the "Major Version" field is set to something besides zero (0). See the following two (2) figures:
4. Notice that "Site 1" appears. Click on "Site 1" and then on "Repeaters".



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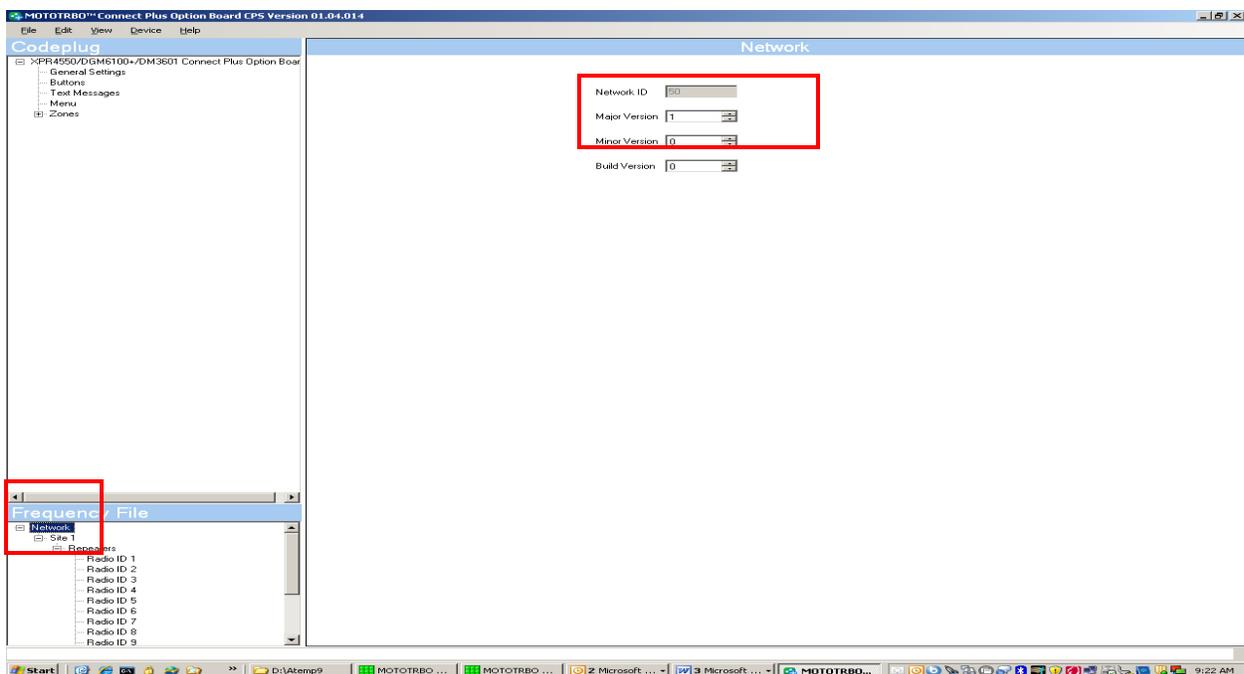
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5. Fifteen (15) TX/RX frequency locations should now be seen. Note that only the first location has a frequency value.
See the following two (2) figures:
6. Enter in all of the TX/RX frequencies from the repeaters in the system and save the Frequency File with a unique name.

Note: More information on how to create a Frequency File can be found in the Connect Plus System Planner section 2.10.

7. On the **MOTOTRBO Connect Plus Option Board CPS**, click on "File" then "Open", select "Files of Type" and click on Frequency Files, then select the correct frequency file based on the subscribers Model type and Frequency band.
8. Clone the frequency file into the subscriber radio by clicking on Device and then Clone Frequencies. The radio should automatically reset a sixth time and the subscriber should display "Connect Plus Unauthorized" and the GOB icon shall appear in the subscribers display.

See the following two (2) figures:

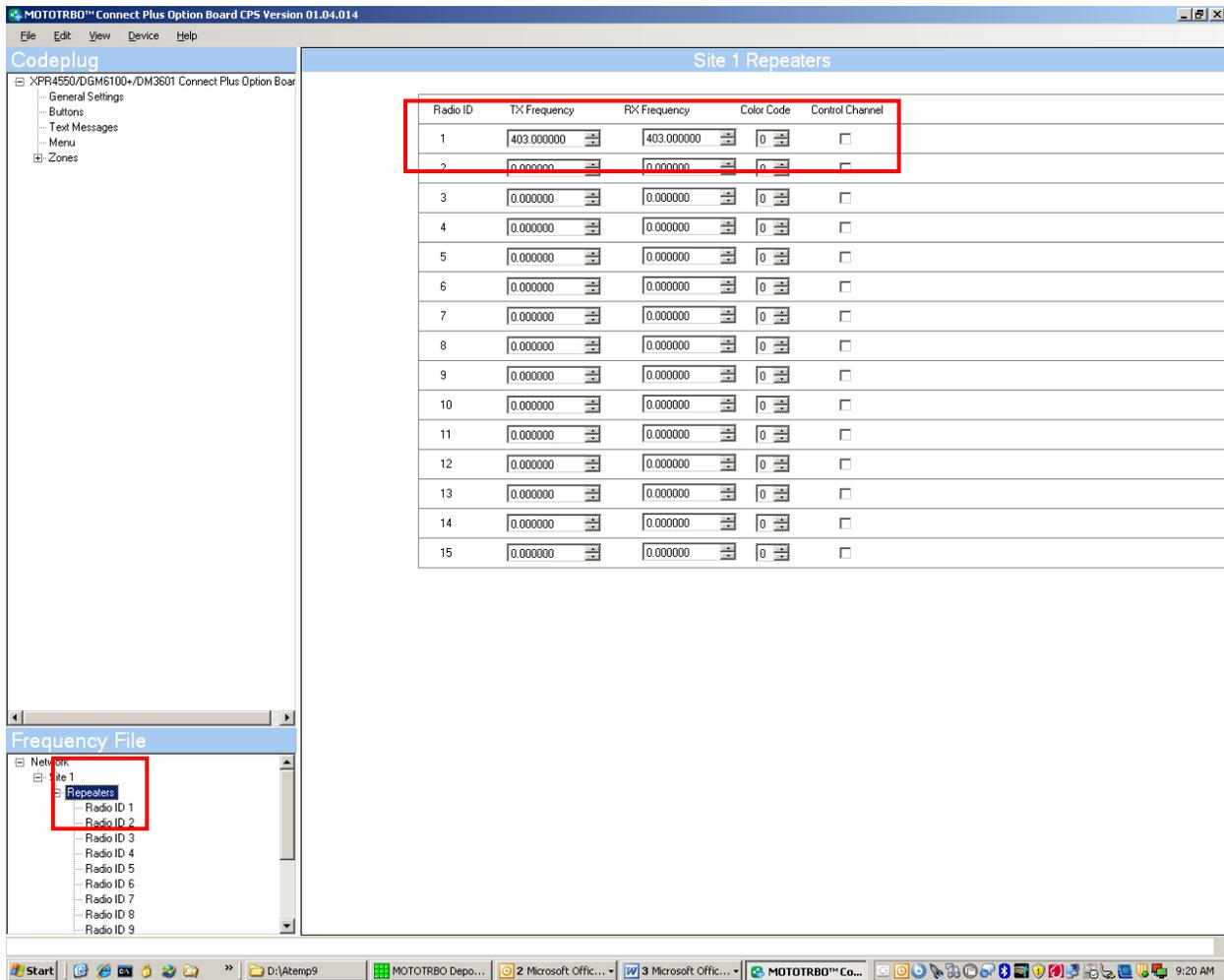




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This completes the loading of the Connect Plus Software. The Connect Plus feature will now require an entitlement license.

Connect Plus Entitlement and Activation:

The Connect Plus feature is a purchasable feature for the MOTOTRBO radio. The subscriber can be programmed for Connect Plus prior to enabling the feature, but the Connect Plus Option Board *will not* enable its over-the-air signaling features until it verifies that the Connect Plus feature has been activated.

Prior to feature activation, the Connect Plus subscriber *will not* search for service, attempt to register with any site, initiate calls, receive calls, etc.



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When an “unauthorized” radio has been configured to a Connect Plus zone and channel, the LED blinks red and the radio sounds a tone. In addition, a displayed subscriber shows a message to inform the user that the Connect Plus feature is not authorized.

The Connect Plus feature can be purchased through the Motorola Online (MOL) website. The process for purchasing, enabling, and viewing radio features are described in the MOTOTRBO CPS Help screens:

- Purchasing Radio Features
- Activation
- View

MOTOTRBO CPS also provides a wizard to help walk the subscriber programmer through the process described in the Help screen categories listed above. The wizard will become activated when choosing any item from the “Features” Menu with MOTOTRBO CPS.

The subscriber is now configured with a GOB and the appropriate Connect Plus Software to allow the subscriber to function on a Connect Plus system.

The New Connect Plus CPS R01.04.014 for programming Generic Option Boards, may be downloaded from the Mol website www.motorola.com/businessonline, in order to maintain compatibility with the new production releases of radio firmware.

Login to Motorola Online, go to Resource Center>Software>Two-Way>MOTOTRBO>Connect Plus Trunking. This menu will reveal all of the software available for download.

Look for Connect Plus Option Board CPS R01.04.014 (.zip file). After saving the file in the computer, double-click on the .zip file and extract if necessary. Double click the “.exe” file for installation.



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If you have any questions concerning this LATIN, please use the "Contact Us" feature on the MOL website at <https://www.motorola.com/businessonline>.