SCOTT ClearCalm COMMUNICATIONS SYSTEM
PROGRAMMER'S MANUAL

DESCRIPTION

The ClearCalm Programmer package is used to customize certain settings on ClearCalm communications systems. The ClearCalm Programmer package consists of Programming Software application that runs on a Windows-based PC, and the ClearCalm Programmer Interface Unit that connects with the supplied cable to a USB port on the PC. The Programmer Interface Unit communicates with the ClearCalm device by low level radio signal (RF).

There are four basic functions of the Programmer Software:

1. Device Information
   Provides the technical information about the device software versions and compatible two-way portable radios
2. Software and Audio Database
   Used for updating the device software and audio databases
3. Radio Frequency (RF) Channel Configuration
   Provides read, write, and edit functions for the five (5) TeamTalk channels to select from sixty (60) available radio frequencies.
4. Device Configuration
   Provides custom system settings for things like volume levels and device features. Device Configuration applies only to the Receiver Console because the Receiver Console Device Configuration will overwrite the Device Configuration for any Transmitter Module it is coupled with.

NOTE

USE THE DEVICE CONFIGURATION FOR SETTINGS OPTIONS ON THE RECEIVER CONSOLE FOR THE COMPLETE SYSTEM. ANY DEVICE CONFIGURATION CHANGES APPLIED TO A TRANSMITTER MODULE WILL BE OVERWRITTEN BY THE RECEIVER CONSOLE ONCE THE TRANSMITTER MODULE IS COUPLED WITH THE RECEIVER CONSOLE.

COMPUTER REQUIREMENTS

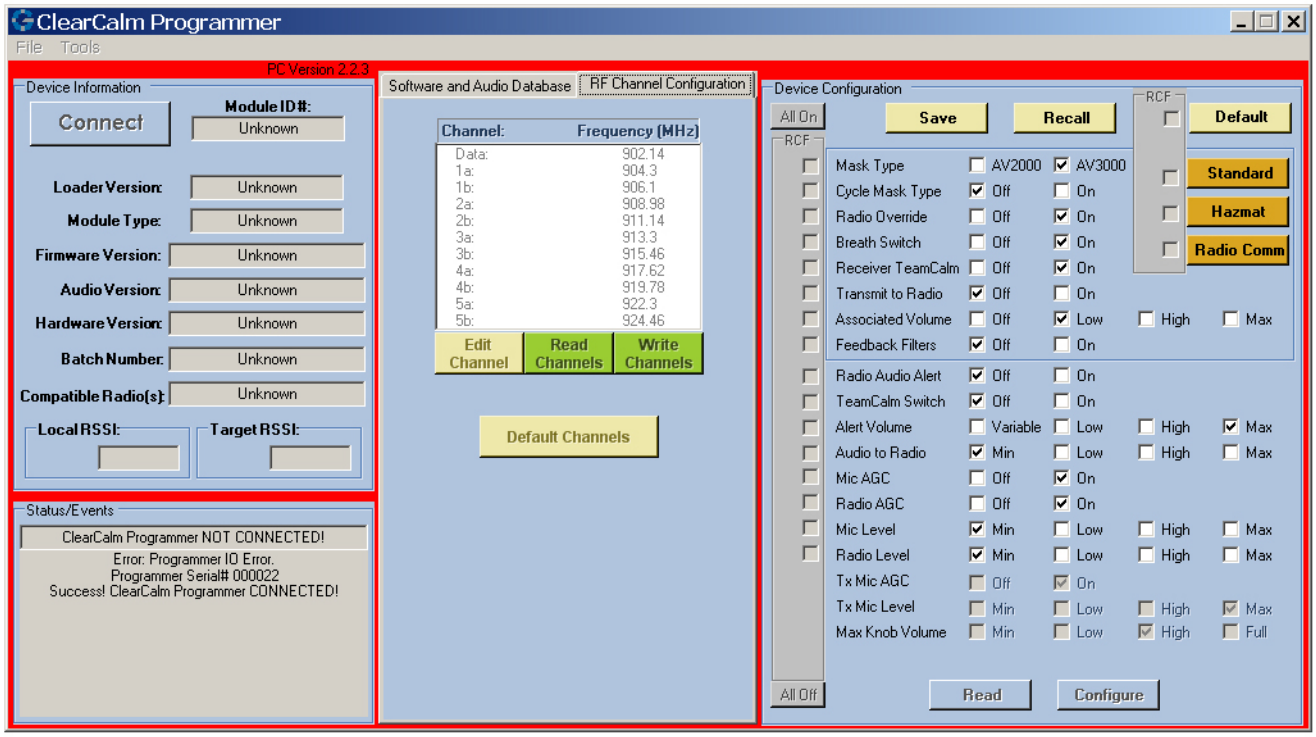
The SCOTT ClearCalm Programmer software is PC based and requires a minimum of WINDOWS® 2000 or higher and a 486 or faster processor with approximately ten (10) megabytes of free disc space. The Interface Unit plugs into a USB 2.0 port on the computer from which it gets its power.

TO INSTALL PROGRAMMER SOFTWARE

1. Place the SCOTT ClearCalm Programmer CD-ROM in the CD drive on your computer.
2. Select “ClearCalm Programmer” to install the Programmer Software. Follow the instructions on the screen. You may need to close all other applications to install this program.
3. When the installer creates a folder called “ClearCalm” for the files, select “Continue.”
4. When the set up is completed successfully, select “OK.” You will return to the Installer screen.
5. When finished installing, close the Installer.

TO START THE PROGRAMMER SOFTWARE

1. To open the Programmer Software, select the shortcut created on you Desktop or in the “ClearCalm” folder in “All Programs” in the Windows START menu.
2. Connect the Programmer Interface Unit to the computer:
   a. With the interface is connected, the “Connect,” “Read,” and “Configure” buttons will be GREEN indicating they are active.
   b. If the Programmer Interface Unit is not connected when the Programmer Software starts or if there is a USB communications problem, the border of the display window will be RED and the “Connect,” “Read,” and “Configure” buttons will be grayed out. Check the connections and restart the software if necessary.



PROGRAMMING MODE

ClearCalm Receiver Consoles and Transmitter Modules must be placed in Programming Mode to communicate with the Programmer Interface Unit.

NOTE

DO NOT PLACE MORE THAN ONE DEVICE AT A TIME IN PROGRAMMING MODE.

PROGRAMMING MODE FOR THE RECEIVER CONSOLE

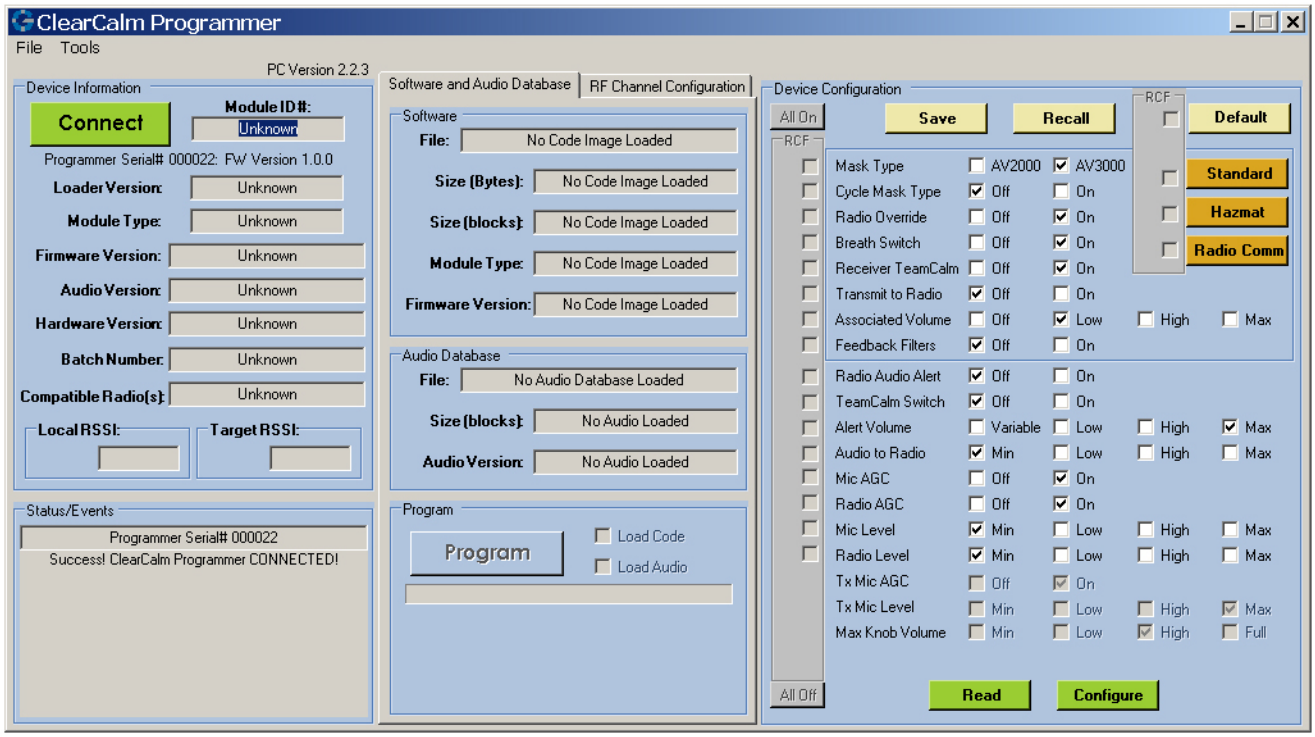
Place the Receiver Console in Programming Mode as follows:

1. Verify that the Programmer Interface Unit is properly connected to a USB port on the computer.
2. Start the Programming Software.
3. Place the Receiver Console in programming mode as follows:
   a. Verify that the Receiver Console is turned OFF.
   b. Press and hold the yellow handshake button while turning the Receiver Console ON.
   c. Hold the button for a duration of 1 second after the Receiver Console has been turned ON. The LED will flash YELLOW to indicate Programming Mode.
   d. Release the handshake button.
4. Place the Receiver Console on the Programmer Interface Unit.
5. Within 20 seconds click on the CONNECT button on software display to establish a connection with the Interface. If you do not establish the connection within twenty (20) seconds, the unit will time-out of the Programming Mode and begin normal operation.
6. If there is no activity communicating with the unit within twenty (20) seconds, the unit will time-out of the Programming Mode and begin normal operation.

PROGRAMMING MODE FOR THE TRANSMITTER MODULE

Prepare the Transmitter Module for programming as follows:

1. Verify that the Programmer Interface Unit is properly connected to a USB port on the computer.
2. Start the Programming Software.
3. Place the Transmitter Module in Programming Mode as follows:
   a. Verify that the Transmitter Module is turned OFF by removing the battery.
   b. Press and hold the yellow handshake button while inserting the battery to turn the unit ON.
   c. Hold the button for a duration of 1 second after the Receiver Console has been turned ON. The LED's 2 and 4 will flash yellow to indicate Programming Mode.
   d. Release the handshake button.
4. Place the Transmitter Module on the Programmer Interface Unit.
5. Within 20 seconds click on the CONNECT button on software display to establish a connection with the Interface. If you do not establish the connection within twenty (20) seconds, the unit will time-out of the Programming Mode and begin normal operation.
6. If there is no activity communicating with the unit within twenty (20) seconds, the unit will time-out of the Programming Mode and begin normal operation.



PROGRAMMING THE DEVICE CONFIGURATION

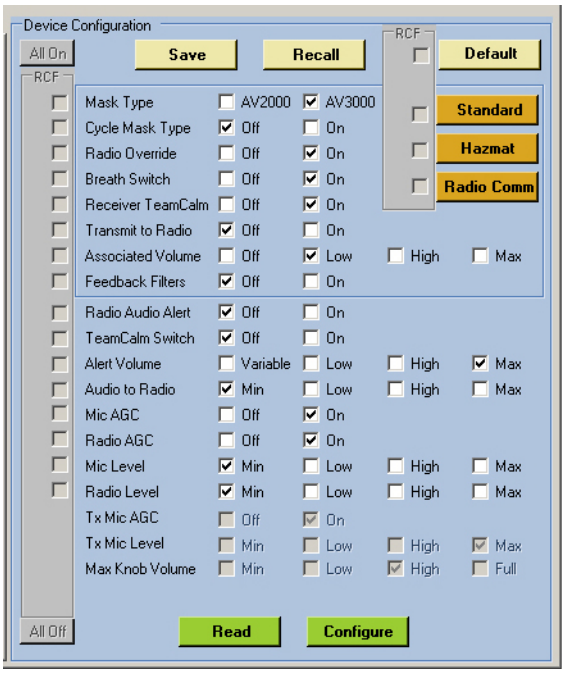
The “Device Configuration” panel of the ClearCalm Programmer Software contains a list of various configuration characteristics, each with either 2 or 4 settings with check boxes. These settings can be selected as desired on an individual basis or you can choose one of three pre-set configurations using the Display Buttons provided. The pre-set configurations, Standard, Hazmat, or Radio Comm, use settings found to work well in those applications. In addition, custom setting configurations can be saved and recalled to apply other units.

Only Receiver Consoles should be configured with the Device Configuration. The Receiver Console holds the configuration settings for itself and for the Transmitter Module coupled with it. The Receiver Console will overwrite the Transmitter Module’s device configuration settings whenever the Transmitter Module is coupled with the Receiver Console.

Explanation of the Display Buttons:

- The “Read” button is used to obtain the current configuration settings for the ClearCalm device.
- The “Default” button sets the display to pre-defined configuration settings for “normal” usage.
- The “Recall” button restores the display to the configuration settings that were last stored using the “Save” button.
- The “Standard”, “Hazmat”, and “Radio Comm” buttons select pre-defined configuration settings for those applications. These settings do not modify any of the remaining configuration settings.
- The “Save” button stores the displayed configuration settings for reuse on another unit.
- The “Configure” button is used to write the configuration settings from the “Device Configuration” panel to the ClearCalm device.

If the “Read” or “Configure” operations fail, the main ClearCalm Programmer window background will turn RED to indicate the failure. Verify that the connections are good and that the unit to be programmed is properly in Programming Mode.



RECEIVER CONSOLE DEVICE CONFIGURATION

Program the Device Configuration for a Receiver Console as follows:

1. Verify that the “Connect,” “Read,” and “Configure” buttons in the display are GREEN indicating that the PC is communicating with the ClearCalm Programming Interface Unit. If these buttons are not GREEN, check for a USB communication problem.
2. In the Device Configuration panel of the display, select one of the pre-set configurations or modify the settings of the various configuration characteristics to suit your application.
3. When all of the configuration characteristics are at the desired settings, place the Receiver Console in Programming Mode as defined in the PROGRAMMING MODE section of this instruction and place it on the Programmer Interface Unit. Select the “Connect” button to establish a connection with the unit, Verify that only one device is in Programming Mode at a time.
4. Click on the “Configure” button to send the configuration settings to the Receiver Console.
5. If the configuration is successful, the message in the Status/Events panel will display a message like, “Wrote RCF More, 0x00000000, to Receiver unit 717.”
6. If the window background color turns RED, the configuration failed. The “Status/Events” panel displays a message indicating whether or not the configuration failed. If the configuration failed:
   a. Verify that the Receiver Console is in Programming Mode and that the LED is flashing YELLOW. Remember that the Receiver Console will time-out of the Programming Mode if a connection with the Programmer Interface Unit is not established within twenty (20) seconds.
   b. Verify that only one device is in Programming Mode.
   c. Verify that the Receiver Console is touching or in close proximity to the Programmer Interface Unit.
7. When programming is complete, turn OFF the Receiver Console.

RADIO FREQUENCY (RF) CHANNEL CONFIGURATION

The RF Channel Configuration of all devices in a TeamTalk group must be identical, both Receiver Consoles and Transmitter Modules, for the teams to communicate. Each of the five (5) TeamTalk channels uses two frequencies: one to send (a) and one to receive (b). In addition, a Data channel maintains the coupling link between the Transmitter Module and the Receiver Console.

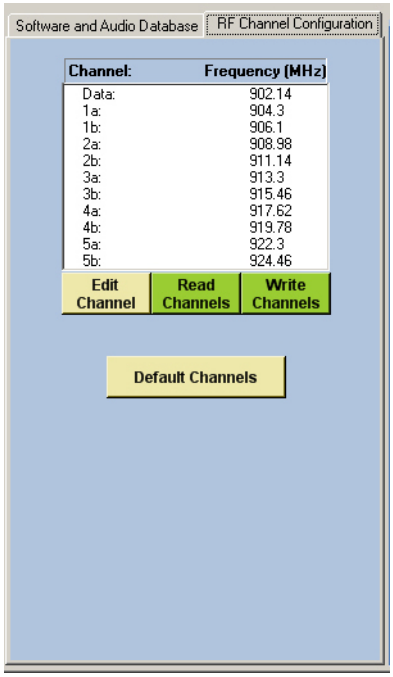
The default channel settings generally provide a range of frequencies with wide enough spacing to prevent interference. However, there are a total of sixty (60) available RF frequencies from 902.50 MHz to 927.00 MHz from which to choose.

There are two situations that might require changing the TeamTalk default frequencies:

- If the operating frequency of another piece of radio equipment interferes with a particular TeamTalk channel, adjust that channel on the ClearCalm equipment to eliminate the problem. For example, a portable radio operating at 454 MHz may produce a harmonic frequency of 908 MHz which could interfere with a TeamTalk channel set to 907.9 MHz or 908.26 MHz.
- If additional separate groups of five channels are required for larger organizations, choose alternate frequencies for channels 1 through 5. Be sure all teams are fully trained to understand which groups they can and cannot communicate with on the assigned TeamTalk channels.

The RF Channel Configuration panel has three (3) buttons:

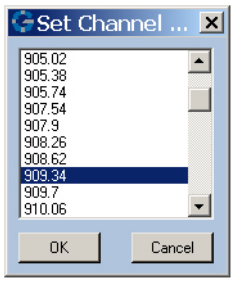
1. The “Read Channels” button is used to obtain the current channel frequency assignments from a ClearCalm device. After a successful read, the display will reflect the current RF channel configuration of the ClearCalm device.
2. The “Edit Channel” button is used to modify the assignment of an RF frequency to a ClearCalm channel. To assign a frequency, select a channel, click the “Edit Channel” button, and then select the desired frequency (in MHz) from the list. Only those frequencies not already assigned to other channels will appear in the list.
3. The “Write Channels” button is used to write the displayed channel assignments to the ClearCalm device currently in Programming Mode and on the Programmer Interface Unit.



The “Read” and “Write” buttons are only active (GREEN) if a ClearCalm Programmer is connected to the PC. If the “Read Channels” or “Write Channels” operations fail then the main ClearCalm Programmer window will turn RED to indicate the failure.

To save a particular set of channel assignments and reuse them on other units, proceed as follows:

1. Edit the channel frequencies as described above to establish assignments that will work for your application.
2. Open the “File” menu and select “Save Channels File.”
3. Choose a name for the file and save it to a location on your computer.



To apply the same assignments to another ClearCalm device:

1. Open the “File” menu and select “Load Channels File.”
2. Find the Channels File you saved on your computer and select “Open.” The set of channel frequency assignments will be loaded to the RF Channel Configuration panel.
3. Put the ClearCalm device into Programming Mode and place it on the Programmer Interface Unit.
4. Select “Write Channels” and the set of channel frequency assignments will be written to the ClearCalm device.

PROGRAMMING SOFTWARE AND AUDIO DATABASE

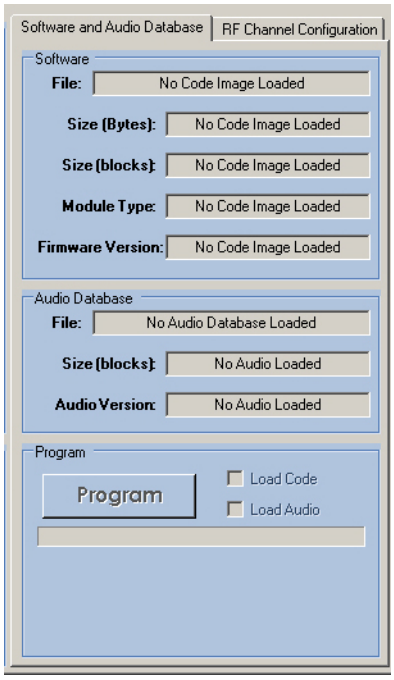
The Software and Audio Database programming function pertains to updating the operating software and audio files for the ClearCalm Communications System. SCOTT or your SCOTT distributor will notify you when updating these files is recommended or necessary. This will be a SCOTT Service Center activity.

NOTE

AUDIO DATABASE LOADING ONLY APPLIES TO RECEIVER CONSOLES. AN AUDIO DATABASE CANNOT BE LOADED INTO A TRANSMITTER MODULE.

To program a ClearCalm device with Software or an Audio Database proceed as follows:

1. Load the required files on your computer where you can easily find them.
2. Select the “Software and Audio Database” tab.
3. Open the “File” menu. Select either “Load Code Image” to select a software update, or “Load Audio Data” to select an audio database.
4. Find and select the required file on your computer.
5. Put the ClearCalm device into Programming Mode and place it on the Programmer Interface Unit.
6. Click the “Program” button in the Software and Audio Database panel. After a ClearCalm device has been successfully programmed, it immediately exits Programming Mode and begins normal operation.



RF PROGRAMMER REGULATORY INFORMATION

EMC

The CC product complies with IC and FCC to the following regulatory requirements:

US: FCC Part 15, Subpart B & C, Class B Digital Device
FCC ID Number: TOC-0003

Canada: ICES-003, RSS210, Category 1 Equipment
IC ID Number: 5388A-0003

For United States:

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense by one or more of the following measures:

- *Reorient or relocate the receiving antenna.*
- *Increase the separation between the equipment and receiver.*
- *Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.*
- *Consult the dealer or an experienced radio / TV technician for help.*

Operation is subject to the following two conditions: (1) This device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

The user shall not change or modify any part of this device / equipment without express approval by the manufacturer. Failure to obtain approval shall void the user's authority to operate the device / equipment.

For Canada:

Operation is subject to the following two conditions: (1) This device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

This device has been designed to operate with an antenna having a maximum of 0 dB. Antenna having a higher gain is strictly prohibited per regulations of Industry Canada. The required antenna impedance is 50 ohms.

SCOTT®

Health & Safety Products
Monroe Corporate Center
PO Box 569
Monroe, NC 28111
Telephone 1-800-247-7257
FAX (704) 291-8330
www.scotthealthsafety.com

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Health & Safety
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