

Single Band, Unidirectional Repeater

The following section describes the programming information for the radios used to assemble a single band, unidirectional repeater. The configuration uses one Radius M200 series radio for the "receiver" radio and one Radius M100 radio for the "transmitter" radio. (A Radius M200 series radio may be used as the "transmitter" radio instead of the M100; refer to subsection E) M200 series "transmitter" radio for programming and setup details.)

During a severe spring storm, lightning has damaged part of a repeater. The application for the Radius "2-mobile" repeater is a temporary repeater to "fill in" while the main repeater is being repaired. The frequencies for the repeater are receive on 456.550 MHz with tone coded squelch of 167.9 Hz (PL 6Z) and transmit on 451.550 MHz with tone coded squelch of 103.5 Hz (PL 1A). The Time Out Timer will be set for 60 seconds. The repeater drop out delay (or hang time) will be set at 1.5 seconds. No signaling systems will be programmed into the radios. Normal receiver audio and transmitter microphone audio will be used for both radios.

- A) **The "receiver" radio:** The "receiver" radio is a Radius 2 Watt LPI UHF M216. Mode 1 will be programmed to receive and transmit on the receive frequency of 456.550 MHz with PL 6Z.
- 1) Connect the radio to the RIB and a suitable power supply. Turn on the power supply.
 - 2) Press the F3 "GET SAVE" key to bring up the "GET / SAVE MENU".
 - 3) Press the F2 "READ CODEPLUG" key.
 - 4) When the computer has finished reading the codeplug, press the F10 "EXIT" key.
 - 5) Press the F4 "CHANGE VIEW" key to bring up the "CHANGE/VIEW CODEPLUG MENU".
 - 6) Press the F2 "RADIO WIDE" key.
 - 7) Key in the desired "TIME OUT TIMER" time in seconds (060 for our example). Press the "ENTER" key.
 - 8) Repeatedly press the "TAB" key until the "ACC. EXTERNAL" area is highlighted.
 - 9) Repeatedly press the up arrow key to scroll through the accessories until "GENERAL I/O" appears. Press the "ENTER" key.
 - 10) Press the F9 "OTHER ACCESSORY" key to view the "ACCESSORY CONNECTOR CONFIGURATION" screen.
 - 11) It is suggested to inhibit the radio for a short time after power-up; use the down arrow key to scroll the values in the "POWER-UP DELAY:" highlight until "4.301" appears. Press the "ENTER" key.
 - 12) Repeatedly press the "TAB" key until the "FUNCTION #" column for "PIN NUMBER" 8 is highlighted.
 - 13) Repeatedly press the up arrow key to set the "FUNCTION #" to "05". Verify that the "PL/DPL & CSQ Det" function with an "OUTPUT" direction is present. Press the "ENTER" key. If the "LOW" active level description is present then proceed to step 14. If the active level is "HIGH", then press the "TAB" key until the "HIGH" is highlighted under the "ACTIVE LEVEL" column. Press the up arrow to toggle to the "LOW" condition. Press the "ENTER" key.
 - 14) Repeatedly press the "TAB" key until the "FUNCTION #" for "PIN NUMBER" 14 is highlighted.
 - 15) Press the up arrow key to set the "FUNCTION #" to "01". Verify that a "NULL" function with an "OUTPUT" direction is present. Press the "ENTER" key. If a "LOW" active level description is present proceed to step 16. If the active level is "HIGH", then press the "TAB" key until the "HIGH" is highlighted under the "ACTIVE LEVEL" column. Press the up arrow to toggle to the "LOW" condition. Press the "ENTER" key.
 - 16) Press the F10 "EXIT" key **twice** to return to the "CHANGE/ VIEW CODEPLUG MENU".
 - 17) Press the F5 "MODE" key to move to the "MODE CONFIGURATION" screen.
 - 18) Press the "TAB" key to highlight the "Rx FREQUENCY" area. Key in the receive frequency (456.5500 for this example). Press the "ENTER" key.
 - 19) Key in either a transmit frequency (456.5500 for this example) or BLANK. Press the "ENTER" key.
 - 20) Press the up arrow key to scroll the "Rx SQUELCH Type" to "TPL". Press the "ENTER" key.
 - 21) Key in the TPL tone frequency (167.9 or 6Z for this example). Press the "ENTER" key.
 - 22) Press the F10 key **twice** to return to the "MAIN MENU" screen. Verify that you have the "MAIN MENU".