

Radio Shack Pro-97 Step-by-Step LTR Programming Guide Written by David Cabatu, AH7E

INTRODUCTION

This white page will give you step-by-step instructions to program the Radio Shack Pro-97 scanner to properly receive LTR type radio systems. Do keep in mind that your scanner can only decode non-digital (in order words, analog only) transmissions. Also, it is also important that you follow all instructions in order. If something doesn't go your way, you may have overlooked something in this list of instructions.

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PROGRAMMING INSTRUCTIONS

In this practice programming example, we will program the seven (7) channel Waikiki repeater into Bank 0 of your Radio Shack Pro-97 scanner.

First, here are the system frequencies that MUST be entered in LCN (Logical Channel Number) order:

08-462.4750	11-461.5500	12-463.9375	13-461.4625
14-464.9625	15-461.6875	19-462.4250	

PART A. CLEAR YOUR SCANNERS MEMORY BANKS.

1. Clear the scanners memory by turning your scanner **OFF**, then **ON**, and pressing **[0]** and **[1]** keys while the main greeting is showing.
2. After initialization, your scanner should now show a display that defaults to **M000** (Bank 0, Channel 00)

PART B. PREPARING THE GROUP ID BANK TO TRACK LTR

FAILURE TO PROPERLY SET GROUP ID TO LTR MODE WILL CAUSE YOUR SCANNER TO TRACK IMPROPERLY.

1. Press **[PGM]**, **[TRUNK]**. The top line of the display changes to ONE of the following:

ID Bank 0 -- If trunking mode is NOT selected.

ID Bank 0-1 ON -- If trunking bank IS selected.
2. Press **[MODE]** until LT or LTR appears on the third line. This indicates that the trunking mode is correctly set to LTR.
3. Press **[PGM]** to return to frequency programming mode. The display should read **P001FM 0.00000**, with "P" indicating that you are in programming mode.

a) If the display reads **P00xFM**, and 'x' does NOT equal "1", press the **UP/DOWN** arrow keys to set it accordingly.
b) If the display reads **M00xFM**, you are in MANUAL mode. Press **[PGM]** to return to programming mode.

PART C. PROGRAMMING SYSTEM FREQUENCIES

ALL LTR PROGRAMMING MUST BEGIN IN CHANNEL X01 OF A BANK 'X'.

Using the LCN frequencies above, follow steps 1-5.

1. Enter LCN-08, Press **[4] [6] [2] [.] [4] [7] [5] [0] [ENTER]**.
2. Press **[MODE]** until the display reads P001LT, indicating that LTR mode is set for that frequency.
3. Press **[PGM]** to move to the next channel. Check step B3b above if the display does NOT read P00x (to program LCN-x).
4. Enter the rest of the frequencies in LCN order, following steps 1 through 3 above.
5. Press **[SCAN]** to begin trunk tracking.

If your scanner is programmed correctly, active talkgroup IDs will be displayed in AA-HH-UUU format until you assign a text tag to it.

To program other banks, follow all steps in Parts B and C. The number of steps will vary depending on how many channels need to be programmed in that bank.

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PART D. PROGRAMMING TALKGROUP IDs

Talkgroup IDs are programmed in numerical order from lowest to highest. All analog talkgroup IDs have been programmed with alpha tags so when moving into a new repeater area, you will only need to reprogram the frequencies in LCN order, rather than reprogramming frequencies and talkgroup IDs with their associated alpha tags.

1. Press [PGM], [TRUNK]. The second line of the display shows LTR TGID#xx.
2. Enter talkgroup IDs using the keypad. You can enter them using one, two, three, or four digits. I suggest entering them in four digit blocks since the display defaults to four digits. Talkgroups are in A-HH-UUU format, without the dashes.
 - a. Example: Enter the WAIKIKI TROLLEY talkgroup ID, 012110. Press [0] [1] [2] [1] [1] [0] [ENTER]. The scanner accepts the talkgroup.
 - b. Press the UP ARROW key. The display switches to LTR TGID#xx. In this example, my display shows TGID#01. Enter the next talkgroup, repeating steps a and b above.

PART E. PROGRAMMING TEXT-TAGS TO BANKS

NOTE: This mode works in both conventional and trunking mode.

1. Press [PGM].
2. Press [F] or [FUNC] followed by the bank number. To program Bank 0, press [F] + [0].
 - a. **CAUTION:** Pressing [F] + [CLR] deletes ALL frequencies.
 - b. Pressing [TEXT] edits the bank tag.
3. The cursor flashes on line 3. Enter the text using the keypad and press [ENTER] to accept.

PART F. PROGRAMMING TEXT-TAGS INTO MEMORY CHANNELS

Also, programming text-tags to talkgroup IDs, see #7.

1. Press [MANUAL], enter the channel number where you want to enter the text, then press [MANUAL] again. M and the channel number appear in the upper left corner of the display. For example, M001.
2. Press [PGM]. The display changes from an M to a P, indicating programming mode.
3. Press [TEXT]. The cursor appears on the third line of the display.
4. Enter the text using the numeric keypad:
For example, input WAIKIKI-8 as follows:

W - Press 9 then 1

A - Press 2 then 1

I - Press 4 then 3

K - Press 5 then 2

I - Press 4 then 3

K - Press 5 then 2

I - Press 4 then 3

- - Press 0 then 2

8 - Press 1 then 8
5. Press [ENTER] to accept the text-tag.
6. In general, repeat all steps in this section to tag the other memory channels. That is, channels starting with Mxxx. Be sure that the display shows "P", indicating programming mode.
7. To program text into Talkgroup IDs, press [PGM], [TRUNK], [TEXT]. The cursor on the 3rd line blinks, then follow step 4 above to program the actual text. (This will ONLY work if there is a talkgroup ID programmed). See Part D before continuing with this step to program text tags to talkgroup IDs.

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PART G. LTR FREQUENTLY ASKED QUESTIONS

Here is some important information regarding LTR systems.

1. LTR system frequencies are arranged in a Logical Channel Number (LCN) order at each repeater location. What this means is that each system has its own set of frequencies per repeater arranged in a certain order. You must program your scanner in the LCN order given. Otherwise, your scanner may not trunk track properly.
2. Not all areas in the same district transmit on the same frequency. What this means is that each repeater covers a specific area on different frequencies. As you move into a different repeater area in the same district or even a different district, a stronger repeater covering that area will broadcast the same information, but on another frequency.
3. On LTR capable scanners, only ONE LTR system may be programmed in each bank. Programming multiple LTR systems will confuse the scanner because:
 - a. The system frequency you're listening to is associated with a particular LCN order.
 - c. Each channel has its own LCN order, the scanner will not know which LCN to switch to.
4. The Pro-97 LTR talkgroups are in A-HH-UUU, where A=Area Code, HH=Home Channel, and U=Unit ID.
5. All LTR programming of LCN Channel 1 begins in Channel x01 of a Bank "X".
6. It is okay to program conventional frequencies in an LTR trunking bank, but be sure that you DO NOT disturb the LCN order or otherwise program the scanner out of LCN order. Mixing a different type of trunking system with an LTR system may cause your scanner to track improperly.

PART H. PRO-97 ADDENDUM

Things you should know about the Pro-97 and LTR systems...

The Radio Shack Pro-97 scanner has definitely made tracking LTR trunked radio systems easier.

When a transmission occurs, the talkgroup will appear in A-HH-UUU format, without the dashes. If the frequency is out of LCN order, the lower right corner will flash the talkgroup along with an Rxx code, such as R12. This indicates that the frequency should be reprogrammed in LTR mode in Channel x12 of a bank 'x' that the LTR system is in.