OWNERS GUIDE

PRO-2039

200-channel
Programmable Home Scanner

Please read before using this equipment.

Cat. No. 20-462

Radio Shack

TURINING ON THE SCANNER/SETTING VOLUME AND SQUELCH

1. Turn SQUELCH full counter-clockwise.

2. Turn VOLUME clockwise until you hear a hissing sound. The scanner automatically scans all 10 banks.

3. Slowly turn SQUELCH clockwise, then leave it set to a point just after the hissing stops.

NOTE: If the scanner picks up unwanted weak transmissions, turn SQUELCH clockwise to decrease the scanner's sensitivity to these signals. If you want to listen to a weak or distant station, turn SQUELCH counter-clockwise.

SCANNING THE CHANNELS

To begin scanning the channels or to start scanning again after monitoring a channel, press SCAN. The scanner scans either up or down through all non-locked channels in the active banks (see "Locking Out Channels").

NOTE: An improper SQUELCH setting might keep the scanner from scanning (see "Turning on the Scanner/Setting Volume and Squelch").

TURNING CHANNEL-STORAGE BANKS ON AND OFF

When you first turn on the scanner, the scanner scans all ten channel storage banks. As the scanner scans a bank, the bar under the bank's number flashes.

To turn off banks while scanning, repeatedly press the bank's number key until the bar under the bank's number disappears. The scanner does not scan any of the stored channels within banks you have turned off.

NOTES: You cannot turn off all banks. There must be at least one active bank.

You can manually select any channel in a bank, even if the bank is turned off.

To turn on banks while scanning, press the bank's number key until the bar appears under the bank's number.

STORING FREQUENCIES

Good references for active frequencies are Radio Shack's "Police Call Radio Guide Including Fire and Emergency Services," "Official Aeronautical Frequency Directory," and "Maritime Frequency Directory." We update these directories every year, so be sure to get a current copy. See also "Guide to the Action Bands" in this manual.

If you do not have a reference to frequencies in your area, you can use a limit or direct search to find a transmission.

You can store up to 200 frequencies into the scanner's channels. Follow these steps to store frequencies.

1. Press MAN. Enter the channel number you want to program.

2. Press PGM. PGM appears on the display.

3. Using the number keys, enter the frequency you want to store in that channel.

4. Press ENTER to store the frequency.

   If you make a mistake in Step 3, ERROR appears on the display. Press CLEAR and repeat Steps 3 and 4.

5. Repeat Steps 1-4 to program more channels or Steps 2-4 if you want to program the next channel in sequence.

SEARCHING FOR AND TEMPORARILY STORING ACTIVE FREQUENCIES

You can search for frequencies using either of the following methods, then temporarily store the frequencies in monitor memories.

Limit search (within a range of frequencies you selected)

Direct search (any range of frequencies before or after a frequency you selected)

Limit Search

Limit search lets you search for active frequencies within a range you

select, so you can choose which ones you want to store.

NOTE: You can use the scanner's delay feature while using limit search (see "Delay").

Follow these steps to search for active frequencies.

1. Press PGM, then LIMIT. LO appears on the display.

2. Using the number keys, enter the lower limit of the frequency range.

NOTE: If you enter an invalid frequency in Step 2 or 4, ERROR appears on the display. Simply repeat the step.

3. Press ENTER, then LIMIT. HI appears on the display.

4. Using the number keys, enter the upper limit of the frequency range.

5. Press ENTER.

6. Press UP arrow to search from the lower to the upper limit, or press DOWN arrow to search from the upper to the lower limit. -L-, SRCH, and UP or DOWN arrows appear on the display.

7. When the scanner stops on a transmission, press MON to store the frequency in the current monitor memory, or press UP or DOWN arrow to continue the search.

Direct Search

When the scanner is stopped on a frequency, you can search up or down from the current displayed frequency to find more frequencies you want to store.

NOTE: You can use the scanner's delay feature while using direct search (see "Delay").

1. Press MAN or PGM.

2. Use the number keys to enter the frequency you want to start the search from. Or, use the number keys to enter the channel number containing the starting frequency. Then press MAN or PGM.

3. Press UP arrow to search up or DOWN arrow to search down from the

frequency. -d-, SRCH, and UP or DOWN arrows appear on the display.

4. When the scanner finds an active frequency, it stops searching. To save the frequency into a current monitor memory, press MON. The bar under the memory number stops flashing.

5. Press UP or DOWN arrows again to continue searching for more active frequencies.

MOVING A FREQUENCY FROM A MONITOR MEMORY TO A CHANNEL

1. Press MAN.

2. Use the number keys to enter the channel number where you want to store the monitor frequency. Then press PGM.

3. Press MONITOR and the number of the monitor memory that has the frequency you want to store. MONITOR and the frequency appear on the display.

4. Press ENTER. The scanner stores the frequency into the channel.

MANUALLY SELECTING A CHANNEL

You can continuously monitor a specific channel without scanning. This is useful if you hear an emergency broadcast on a channel and do not want to miss any details (even though there might be periods of silence) or if you want to monitor a locked-out channel.

To select a channel, just press MAN. Enter the channel number, and press MAN again. Or, if the scanner is scanning and stops at the desired channel, just press MAN one time. Pressing MAN additional times makes the scanner step through the channels.

SPECIAL FEATURES

DELAY

Many agencies use a two-way radio system that might have a pause between a query and a reply. The scanner's delay feature waits for 2 seconds after each transmission while scanning or searching.

To program a 2-second delay for any channel while scanning, manually select

the channel and press DELAY until DELAY appears on the display. When the scanner stops on the channel, it waits for 2 seconds after each transmission before it resumes scanning.

To program a 2-second delay for any active frequency while searching, press DELAY until DELAY appears on the display. When the scanner stops on a frequency, it waits for 2 seconds after each transmission before it resumes searching.

To turn off the programmed delay on any active channel, press DELAY while the channel is still active. DELAY disappears from the display.

LOCKING OUT A CHANNEL

You can scan channels faster by locking out those that have a continuous transmission, such as a weather channel.

To lock out a channel while scanning, press L/OUT when the scanner stops on the channel. To lock out a channel manually, manually select the channel and press L/OUT until L/OUT appears on the display.

To remove the lockout from a channel, manually select the channel and press L/OUT so L/OUT disappears from the display.

NOTES: You can still manually select locked-out channels.

> You cannot lock out all channels. There must be at least one active channel in a bank.

PRIORITY

The priority feature lets you scan through the programmed channels and still not miss an important or interesting call on a specific channel. To program a stored channel as the priority channel, press PGM, the desired channel number, and then PRI.

NOTE: You can only select one channel as the priority channel.

To turn on the priority feature, press PRI during scanning. PRI appears on the display. The scanner checks the priority channel every 2 seconds, and stays on the channel if there is activity. P appears to the left of the display whenever the scanner is set to the priority channel.

To turn off the priority feature, press PRI during scanning until PRI disappears from the display.

SPEED

Press SPEED while scanning/searching to alternate between low and high speeds. You can scan at either 8 or 25 channels per second, and search at either 8 or 50 frequencies per second.

Specifications

Frequency Coverage:.....30 -- 54 MHz (in 5 kHz steps)
108.0000 -- 136.9750 MHz (in 25 kHz steps)
137.0000 -- 174.0000 MHz (in 5 kHz steps)
380.0000 -- 512.0000 MHz (in 12.5 kHz steps)
806.0000 -- 823.9375 MHz (in 12.5 kHz steps)
851.0000 -- 868.9375 MHz (in 12.5 kHz steps)
896.0000 -- 960.0000 MHz (in 12.5 kHz steps)
Channels of Operation:.....Any 200 Channels in any Band Combinations
(20 channels x 10 banks) plus 10 Monitor Channels
Sensitivity (20 dB (S+N)/N Mod. = 60% at 1 kHz):
30 -- 54 MHz:.....0.5 microV
180 -- 136.975 MHz:.....2 microV
137 -- 174 MHz:.....1 microV
380 -- 512 MHz:.....1 microV
806 -- 960 MHz:.....2 microV
Spurious Rejection at 154 MHz (FM):.....50 dB
Selectivity:
+/- 10 kHz:.....-6 dB
+/- 20 kHz:.....-50 dB
IF Interference Ratio 10.7 MHz at 154 MHz:.....50dB
Scanning Rate:
Fast:.....25 channels/sec.
Slow:.....8 channels/sec.
Search Rate:
Fast:.....50 steps/sec.
Slow:.....8 steps/sec.
Priority Sampling:.....2 seconds
Delay Time:.....2 seconds
IF Frequencies:.....10.7 MHz and 455 kHz
Squelch Sensitivity:
Threshold:.....Less than 1.0 microV
Tight (FM):.....(S+N)/N 25 dB
Tight (AM):.....(S+N)/N 20 dB
Antenna Impedance:.....50 ohms
Audio Power (10% THD):.....1.0 W nominal
Built-in Speaker:.....3" (77 mm) 8 ohm, dynamic type
Power Requirement:.....AC 120V 60 Hz 13 watts
Operating Temperature:.....+32 degrees F to +109 degrees F
(0 degrees C to +43 degrees C)
Dimensions:.....3 1/8 x 7 1/2 x 7 1/8 inches (HWD)
(80 x 190 x 180 mm)
Weight (without antenna and batteries):.....Approx. 35 oz. (1kg)

Troubleshooting

The PRO-2039 Programmable Scanner should require very little maintenance.
If you have problems, refer to the following for possible solutions.

Problem	Probable Cause	Solution
Scanner is totally inoperative.	The AC plug is not properly connected.	Check to see that the scanner is plugged into a working AC outlet.
Poor or no reception.	Improperly connected antenna.	Check to be sure the antenna is properly connected
	Poor reception.	Move the scanner to a location with a better reception environment.
	Incorrectly programmed frequencies.	Reprogram the frequencies correctly.
	Programmed frequencies that are the same as Birdie frequencies.	Avoid programming frequencies listed under Birdie Frequencies, or only listen to them manually.
ERROR appears on the display.	Programming error.	Reprogram the frequencies correctly. frequencies correctly.
Keys do not work or display changes at random.	Undetermined error.	Reset the scanner (see Resetting Initializing the Scanner).
Scanner is on but will not scan.	The SQUELCH control is not correctly adjusted.	Adjust the SQUELCH control clockwise (Turning on the Scanner Setting Volume and Squelch)
In the scan mode, the scanner locks on frequencies that have an unclear transmission	The SQUELCH control is not correctly adjusted.	Adjust the SQUELCH control clockwise.