

Programmable AM/FM Scanning Receiver with Direct Keyboard Entry System

VHF: 68-87.995/108-136/138-174 MHz plus standard FM Broadcast band
UHF: 410-512 MHz



PRO-2003

OWNER'S
MANUAL

PLEASE READ BEFORE
USING THIS EQUIPMENT

REALISTIC

Cat. No.
20-9117

CUSTOM MANUFACTURED FOR RADIO SHACK, A DIVISION OF TANDY CORPORATION

CONTENTS

Additional Features	2
Specifications	3
A Quick Look At Your PRO-2003	4
Preparation For Use	5
Operation Your PRO-2003	5
Receiver Operations Display	5 ~ 8
Searching With Your PRO-2003	8
Error Indications	9
All Clear Function	9
Birdies	10
Installation	10
Accessories	10
Block Diagram	11

You'll hear all the action with your new Realistic PRO-2003 Programmable Scanning Receiver! You'll have direct access to over twenty thousand different frequencies in nine radio bands—police, fire, ambulances, aircraft, ham radio operators, transportation services and FM broadcast! And you can program your PRO-2003 to scan up to fifty channels and ten FM Broadcast Band memory channels so you won't miss any of the excitement.

The secret to the PRO-2003 is a custom-designed microprocessor—a computer on a chip! The front panel Keyboard lets you easily enter and change frequencies whenever you wish. The microprocessor also gives you special functions not found on other scanning receivers. Curious about what's on the air in your area? The PRO-2003 will automatically "search" frequency ranges of your choice for active stations—you can locate new stations and services easily! And if there's a frequency you're especially interested in, the PRIORITY Key will make sure you never miss a call on it. You can listen or scan other channels and your PRO-2003 will automatically switch to the channel when a call is received on it!

Other features you'll appreciate include Lockout to skip over channels during scanning and fast/slow search and scanning rates.

Your PRO-2003 achieves its superior performance through the use of the very latest in solid-state technology. In addition to the microprocessor, the PRO-2003 has a phase-locked loop (PLL) IC, 8 CMOS ICs, 10 integrated circuits, 41 transistors, 83 diodes and a Fluorescent Display.

ADDITIONAL FEATURES

- * Covers 68–87.995 MHz (VHF Lo), standard FM Broadcast band, 108–136 MHz (aircraft), 138–144 MHz (general), 144–148 (ham radio operators), 148–174 MHz (VHF Hi), 410–450 MHz (ham radio and government), 450–470 MHz (UHF Lo) and 470–512 MHz (UHF Hi)—over twenty thousand channels!
- * Large multi-purpose Fluorescent Display shows which channels and frequencies are being scanned, monitored or programmed.
- * Two second scan delay function eliminates missed replies.
- * Crystal filter for 1st IF (10.7 MHz) plus ceramic filter for 2nd IF (455 kHz).
- * Two ceramic filters (10.7 MHz) for FM broadcast band.
- * AC and DC (negative ground) operation.
- * 9-volt battery backup holds memorized frequencies in case of power failure.

For Your own protection, we urge you to record the Serial Number of this unit in the space provided. You'll find the Serial Number on the back panel of this unit.

Serial Number

WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS RECEIVER TO RAIN OR MOISTURE.

SPECIFICATIONS

SEMICONDUCTOR COMPONENTS:	1 LSI Microprocessor system, 1 LSI PLL system, 8 C-MOS ICs, 10 ICs, 41 transistors and 83 diodes.
RECEIVING SYSTEM:	Superheterodyne with digital synthesizer to receive any of programmable frequencies.
FREQUENCY COVERAGE:	VHF-Lo 68 — 87.995 MHz (in 5 kHz steps) FM broadcast 88 — 107.95 MHz (in 50 kHz steps) for UK models 88.1 — 107.9 MHz (in 200 kHz steps) for Australian models Aircraft 108 — 136 MHz (in 25 kHz steps) General 138 — 144 MHz (in 5 kHz steps) Ham 144 — 148 MHz (in 5 kHz steps) VHF-Hi 148 — 174 MHz (in 5 kHz steps) Ham Gov't. 410 — 450 MHz (in 12.5 kHz steps) UHF-Lo 450 — 470 MHz (in 12.5 kHz steps) UHF-Hi ("TT") 470 — 512 MHz (in 12.5 kHz steps)
CHANNELS OF OPERATION:	Any 50 channels in any band combinations. (10 channels x 5 Banks) and 10 channels FM broadcast band.
SENSITIVITY	
AM: 20 dB Signal-to-Noise ratio at 60% modulation:	108 — 136 MHz 1.0 μ V
FM: 20 dB Signal-to-Noise ratio at 3 kHz Deviation:	68 — 87.995 MHz 0.5 μ V 138 — 174 MHz 0.5 μ V 410 — 512 MHz 1.0 μ V
FM broadcast: 30 dB Signal-to-Noise ratio at 22.5 kHz Deviation:	88 — 107.95 MHz 5.0 μ V or 88.1 — 107.9 MHz
SPURIOUS REJECTION:	108 — 136 MHz 50 dB at 122 MHz 68 — 87.995 MHz 50 dB at 78 MHz 138 — 174 MHz 50 dB at 160 MHz 410 — 512 MHz Not specified. 88 — 107.95 MHz 50 dB at 99.9 MHz or 88.1 — 107.9 MHz

SELECTIVITY:		
Lo, Air, Hi, UHF:	\pm 9 kHz, -6 dB \pm 15 kHz, -50 dB \pm 100 kHz, -6 dB \pm 300 kHz -50 dB	
FM broadcast:		
IF REJECTION:	10.7 MHz	80 dB at 154 MHz
SCANNING RATE:	Fast Slow	8 channels/sec. 4 channels/sec.
SEARCH RATE:	Fast Slow	8 steps/sec. 4 steps/sec.
PRIORITY SAMPLING:	2 seconds	
DELAY TIME:	2 seconds	
MODULATION ACCEPTANCE:	\pm 7 kHz and 75 kHz	
I.F. FREQUENCIES:	10.7 MHz and 455 kHz	
FILTERS:	1 crystal filter, 1 ceramic filter for Lo, Air, Hi, UHF 2 ceramic filter for FM broadcast	
SQUELCH SENSITIVITY:		
Lo, Air, Hi, UHF:	Threshold Tight	Less than 1.0 μ V (S+N)/N 25 dB
FM broadcast:	Threshold Tight	Less than 5.0 μ V (S+N)/N 45 dB
ANTENNA IMPEDANCE:	50 ohms	
AUDIO POWER:	2 watts maximum	
BUILT-IN SPEAKER:	3" (7.7 cm)	
POWER REQUIREMENTS:	AC240 Volts, 50 Hz 20 Watt DC, 12-15 Volts, 10 watts 9-volt battery for Memory back-up	
DIMENSIONS:	3-1/8" x 11-1/4" x 9" HWD (8 x 28.5 x 23 cm)	
WEIGHT:	4.4 lbs (2 kg)	

A QUICK LOOK AT YOUR PRO-2003

Bank Keys — Selects scan memory banks.

Multi-purpose Display — Shows which channels and frequencies are being scanned, monitored or programmed.

OFF/VOLUME Control — Turn clockwise for power "on". Further rotation will increase volume.

SQUELCH Control — Eliminates background noise between transmissions. With no signal, turn clockwise until noise disappears.

Headphone Jack — For private listening. The internal speaker is disconnected when 8 ohm headphones are plugged into the jack.

Telescopic Antenna Jack — When not using an external antenna, insert the Telescopic Antenna (included) into the hole and screw it into place.

ANTENNA Jack — For superior reception, connect an outdoor antenna to this jack.

EXT. SPKR Jack — For connecting an external speaker.

MANUAL Key — Sets the PRO-2003 to manually scan the channels. Each time the button is pressed, the Receiver will advance one channel.

PRIORITY Key — Sets or clears priority function.

SCAN Key — Sets the PRO-2003 to automatically scan each available channel.

▲ ▼ and LIMIT Keys — Commands search direction, and search range limit.

Number Keys — Enter the desired channel number and its frequency.

CLEAR Key — Clears the display when an error is made in programming.

ENTER Key — Enters a displayed frequency into any one of the 50 channels you may select (and 10 FM broadcast).

PROGRAM Key — Sets the internal microprocessor for entry of a frequency.

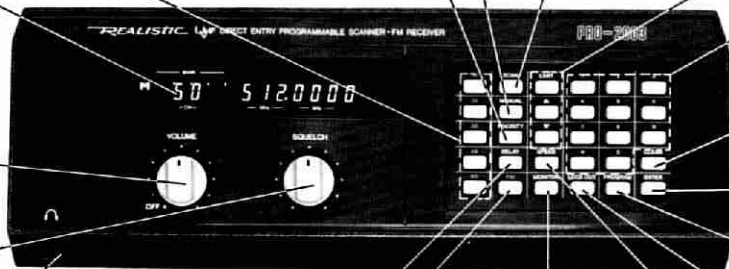
LOCKOUT Key — Enables you to lockout (disable) desired channels. Press once to lockout. Press again to return channel to normal operation.

SPEED Key — Selects scan and search speeds: fast (8 ch/sec) or slow (4 ch/sec).

DC 13.8V Jack — is for connecting an external source of 12 volts DC, negative ground.



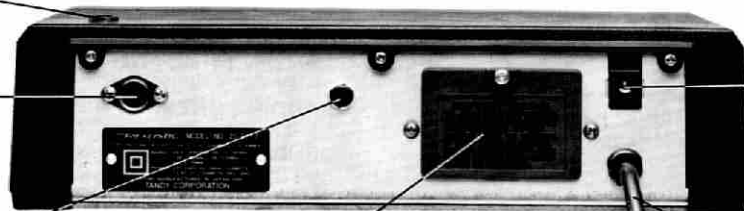
AC Line Cord — Plug into a standard AC outlet



DELAY Key — Holds the Receiver on the channel for two seconds after the transmission has ended.

FM Key — Switches to FM Broadcast Band, and selects channels.

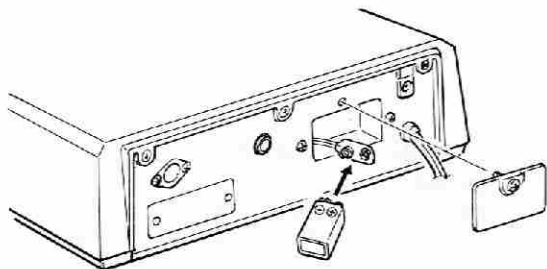
MONITOR Key — Press to store frequencies found during search mode.



Battery Compartment — Load a 9-volt battery here to prevent loss of programmed frequencies when the Receiver is unplugged.

PREPARATION FOR USE

Loose the screw and remove the battery compartment cover; then snap in a 9-volt battery. (We recommend a Tandy long-life alkaline battery, 23-553 or equivalent.) Your PRO-2003 contains an electronic memory to preserve the 50 programmed scanner channels, and 10 program channels on the FM Broadcast Band. The battery protects this memory during AC or DC power failure, or when you have the set unplugged.



Your PRO-2003 can keep channels stored in its memory for a short period of time even with the AC cord unplugged and the 9-volt battery disconnected. (This is so you can replace the battery with the AC cord unplugged, without losing all the programmed information.) For best results, replace the battery every six months.

CAUTION: Never leave a weak or dead battery in your PRO-2003; even "leakproof" types can leak damaging chemicals. Battery life will be shortened if AC or DC power is off for a prolonged period.

Your PRO-2003 comes with a Telescopic Antenna. Insert it into the Telescopic Antenna jack on the top of your PRO-2003 and screw it into place. Extend it to full length.

For best reception, you'll need an external antenna. Your local Tandy has an excellent antenna for both VHF and UHF reception (Cat. No. 20-176). You can also find mounting hardware, cables and connectors at Tandy. You'll find that reception improves the higher you mount the antenna.

Connect your Receiver to a standard AC wall outlet.

OPERATING YOUR PRO-2003

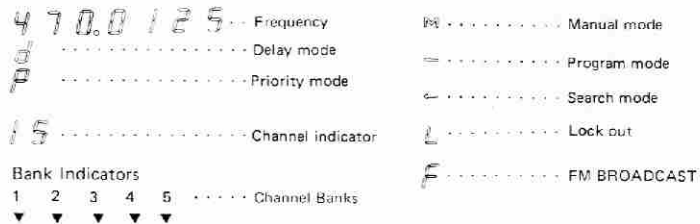
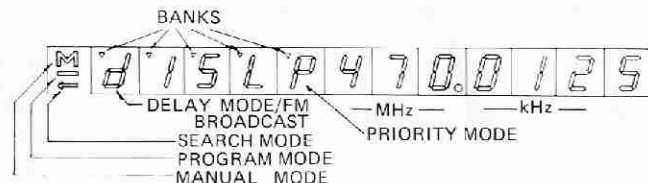
You turn on your PRO-2003 by rotating VOLUME clockwise. When first turned on, your PRO-2003 might start scanning. Press **[MANUAL]** to stop the scanning.

Rotate SQUELCH fully counterclockwise. You'll hear a rushing noise from the Speaker. Slowly rotate SQUELCH clockwise until the noise just stops. You're now ready to start entering frequencies!

Understanding the Display

The Fluorescent Display on your PRO-2003 can display the channel number, the frequency being received and special symbols to indicate different functions. Here's a brief rundown on what those symbols mean when receiving stations.

RECEIVER OPERATIONS DISPLAY



About Those Banks . . .

You might be wondering what the “bank indicators” on the Fluorescent Display stand for. When you hear the word bank, you think of a place where money is kept . . . in your PRO-2003, banks are where frequencies are kept!

The fifty channels of your PRO-2003 are stored in five Banks of ten channels each. They’re stored in the following way:

Bank	Channels	Key
1	1 – 10	10
2	11 – 20	20
3	21 – 30	30
4	31 – 40	40
5	41 – 50	50

You can have your PRO-2003 scan any or all five Banks. If you want a bank to be scanned, press the Key for that Bank; the indicator for that bank will light on the display. If you don’t want that bank to be scanned, press the Key again; the indicator will go off.

Let’s take an example. Suppose you only want to monitor channels 1 through 10 and 21 through 30. Press the Keys for Banks 1 and 3. You’ll see the Bank Indicators light up on the Display as shown in the illustration. Your PRO-2003 will now scan channels 1 to 10 and 21 to 30. If you want to change the channels scanned, press the Keys for Banks 1 and 3 (to turn them “off”) and press the Keys for the new ranges you want to scan.

Channel Selection

1. Press **MANUAL** to select the MANUAL mode.
2. Press **MANUAL** to shift the channel. Each press shifts one channel—repeat pressing **MANUAL** until you reach the desired channel, or
3. Press **1 5 MANUAL** to select channel 15. If **MANUAL** is not pressed after pressing **1** and **5** the Scanner automatically reverts to previous channel after 10 seconds.

FM Broadcast Band Selection:

1. Press **FM** to select the FM mode; F 1 will be displayed.
2. Press **FM** to shift the channel. Each press shifts one channel—repeat pressing **FM** until you reach the desired channel, or
3. Press **1 0 FM** to select F 10. If **FM** is not pressed after pressing **1** and **0**, the Scanner automatically reverts to the previous channel after 10 seconds.

Programming Your Scanner

Public Service Frequencies

Before programming frequencies, make sure your PRO-2003 is turned on and the SQUELCH is adjusted as we described earlier.

Suppose you want to program channel 1 to receive 162.55 MHz. Here’s how you would do it:

1. Press **MANUAL** and select channel 1. You can do this in two ways: press **MANUAL** continuously until the Display indicates channel 1 or press **1 MANUAL**.
2. Press **PROGRAM**.
3. Press **1 6 2 . 5 5**. Check the Display to make sure the frequency it shows is the one you meant to program. If it is, press **ENTER**.
4. To add more frequencies, press **PROGRAM** to advance to the next channel and follow the steps above.
5. If you ever want to change the frequency entered for a specific channel, enter the new frequency “over” the old frequency, using steps 1, 2, and 3.

FM Broadcast Frequencies

Suppose you want to program F 1 to receive 88.100 MHz. Here's how you would do it:

1. Press **[FM]** and select channel F 1: press **[FM]** continuously until the Display indicates F 1 or press **[1][FM]**.
2. Press **[PROGRAM]**.
3. Press **[8][8][.] [1]**—check the display to make sure the frequency it shows is the one you meant to program; if it is, press **[ENTER]**.
4. To add more frequencies, press **[PROGRAM]** to advance to the next channel and follow the steps above.
5. If you ever want to change the frequency entered for a specific channel, enter the new frequency “over” the old one using steps 1, 2 and 3.

If **[ENTER]** is not pressed after pressing the numeric keys, it reverts to previous mode after 10 seconds.

Make a mistake while entering a frequency? Simply press **[CLEAR]**, enter the correct frequency and press **[ENTER]**. If you're entering a new frequency in place of an old one, the old frequency won't be “erased” when you press **[CLEAR]**. It will remain stored on that channel until you correctly enter a new frequency and press **[ENTER]**.

You'll hear a “beep” sound as you press the various keys. This lets you know the Key has been properly entered into your PRO-2003.

Note: Set the SQUELCH control fully counter-clockwise when listening to FM broadcasts.

When listening to FM broadcasts, the Priority feature might not be usable because the SQUELCH setting necessary for channel 1 will not allow the FM channel to be heard. Also, the chopping sound caused by the priority check can be annoying, when listening to music. In either case, simply cancel the Priority function.

Using the Scanning Function

Your PRO-2003 will automatically scan all the channels you've programmed and stop whenever it finds a signal. To scan channels, press the **[SCAN]** Key.

Important! Your PRO-2003 won't scan unless SQUELCH is set to the point where no sound is heard if a signal isn't being received.

You can select which of the five Banks your PRO-2003 will scan by pressing the appropriate Bank Keys as we mentioned earlier. You can scan any combination of Banks, from one to all five.

You can't “turn off” all the Banks—pressing the last key out of the 5 Bank keys will not turn off that bank. One Bank always remains on.

Scanning function over FM Broadcast Channels (F 1 to F 10) is not possible—you must select the desired channel manually.

Lockout Function

You can't “lockout” all the Channels. All channels in a Bank can't be locked out—try locking out all the channel in one bank. When you reached to the last channel, pressing **[LOCKOUT]** will have no effect. One channel in each Bank always remains. This is to maintain the scanning function: if all channels are locked out, scanning will not be possible.

However, if you don't want to hear any channels in a given bank, lockout the entire Bank by pressing its BANK button so that the BANK indicator goes off.

1. Press **[MANUAL]** to stop scanning. Continue to press **[MANUAL]** to advance to the channel you want to lock out. Or press the numbers of the desired Channel and **[MANUAL]**.
2. When you reach the channel, press **[LOCK OUT]**. The Display will show **L** to indicate that this channel will be skipped over during scanning.
Lockout does not work on FM Broadcast channels.
3. To release lockout, press **[MANUAL]** to stop scanning. Advance to the channel that is locked out and press **[LOCK OUT]** again. **L** will disappear from the Display.



SPEED Selection

Your PRO-2003 will normally scan channels at a rate of 4 channels per second. If you press **[SPEED]**, channels will be scanned at a rate of 8 per second. Press **[SPEED]** again to return to a rate of 4 per second.

Certain programmed frequencies could be missed at the high-speed scanning—select the speed carefully.

Priority Function

You might want to scan other channels yet not miss a call on a channel of particular interest to you (police, fire, ambulance, etc.). The Priority function will let you scan other channels—but if a call is received on the Priority channel, your PRO-2003 will automatically switch to the Priority channel! Here's how to use the Priority function:

1. Only Channel 1 can be used as the Priority Channel: Key the desired frequency into channel 1. It will be checked every 2 second.
2. Priority works only when the unit is in Scan, Manual or FM Broadcast Band mode.
3. Press **[PRIORITY]** to start Priority function. A  will appear on the display.
4. Press **[MANUAL]**, **[SCAN]** or **[FM]** to listen to other channels. Your PRO-2003 will check the Priority Channel and switch to it if a signal is received.
5. To cancel Priority, press **[PRIORITY]** again. The  will disappear from the Display.

Important! Your PRO-2003 won't function unless SQUELCH is set to the point where no sound is heard if a signal isn't being received.

SEARCHING WITH YOUR PRO-2003

Public Service Frequencies

One great feature of your PRO-2003 is its ability to search for frequencies being used. This means you can hear all the action on the airwaves in your area! To use this great feature, follow these steps:

1. Press **[PROGRAM]**.
2. Press **[LIMIT]**. Enter the lower limit of the frequency range to be searched (such as 145.0 MHz). Press **[ENTER]**.
3. Press **[LIMIT]** again. Enter the upper limit of the frequency range to be searched (such as 146.0 MHz). Press **[ENTER]**.
4. Press either **[▲]** or **[▼]** to start Search. **[▼]** will start Search from highest frequency and go down while **[▲]** will start from the lowest frequency and go up.
5. You can control the speed of the Search by using the **[SPEED]** Key the same way you use it during scanning.
6. Search will stop when a frequency is found with a signal. To restart Search, press **[▲]** or **[▼]**. While **[▲]** or **[▼]** is held searching will not stop.

In the **PROGRAM** mode, the search range will be displayed each time **[LIMIT]** is pressed. It is impossible to change the lower frequency only: to change the lower frequency you must change the higher frequency. The higher frequency can be changed any time.

FM Broadcast Frequencies

For UK models, FM Broadcasting Band which spans 88 – 107.95 MHz is programmed at 50 kHz step. For Australian models FM Broadcasting Band which spans 88.1 – 107.9 MHz is programmed at 200 kHz step. To “search” for the FM Broadcast Band.

1. Press either **[▲]** or **[▼]** to start Search. **[▼]** will start Search from the highest frequency and go down while **[▲]** will start from lowest frequency and go up.
2. You can control the speed of the Search by using **[SPEED]**.
3. Search will stop when a frequency is found with a signal. To restart Search press **[▲]** or **[▼]**. While **[▲]** or **[▼]** is held, searching will not stop.

You can step through every possible FM frequency by setting the SQUELCH control fully counter-clockwise and then pressing either the **▲** or **▼** button. Move the SQUELCH control clockwise for automatic searching for strong stations.

Storing Frequencies

If you want to enter some of the frequencies found during Search, do this:

1. Press **MONITOR** when your PRO-2003 finds a frequency you want to store.
2. Use the **MANUAL** Key to select a channel for the frequency Your PRO-2003 found. The Display will show the frequency currently stored on the channel, but don't worry—the old frequency will be erased when you start to enter the new one. For FM Broadcast Band, use **FM** instead of **MANUAL**.
3. Press **PROGRAM**.
4. Press **MONITOR** again. The new frequency found during the Search will be displayed.
5. Press **ENTER** to put the new frequency into the channel in place of the old frequency.
6. Press either **▲** or **▼** to resume the Search. To return to Manual or Program operation, press **MANUAL** or **PROGRAM**. To resume the Search from one of the limit frequencies, press **LIMIT** and then **▲** or **▼**.

Delay Function

When your PRO-2003 is scanning, it will stop whenever it finds a signal on a channel. As soon as the signal ends, the scanning function will resume. Most communications heard will be two-way. To make sure you don't miss any replies, press **DELAY**. This will cause your PRO-2003 to stay on a channel for two seconds after the end of a transmission, giving you time to hear any reply. To release the Delay function, press **DELAY** again. The Delay indicator will show on the Display when the Delay function is used.

ERROR INDICATIONS

Sometimes when you try to enter a frequency for a channel or as a Search range limit, you will see **ERROR**, on the Display. This means the frequency is in error and you won't be able to enter it into your PRO-2003.

Such frequency errors usually mean you've entered a frequency outside the ranges your PRO-2003 operates on (such as 225.00 MHz) or you've put the decimal point in the wrong place (14.682 MHz instead of 146.82 MHz). Check carefully to find your mistake and then press **CLEAR**. You can now enter the correct frequency.

ALL CLEAR FUNCTION

Your PRO-2003 provides an ALL CLEAR Function.

If you ever want to clear all programmed Memory (initialize the CPU in technical jargon), do this:

Press **1** and **CLEAR** simultaneously, and turn the Power Switch on. All memory will be cleared and frequency will show 000.0000.

In case you're wondering . . .

. . . the tuning range of your PRO-2003 is permanently stored in the microprocessor chip. There's no way it can be extended or altered—even by a skilled electronics technician. So if you try to enter a frequency not in the PRO-2003's tuning ranges, you'll get an error message every time! To listen to CB, shortwave or broadcasting bands, you'll need another receiver designed for that purpose.

BIRDIES

Some frequencies may be difficult or impossible to receive. If you program-in one of these, the Scanner may lock up and you hear only noise. These "birdies" are the products of internally generated signals mixing with external signals like TV and FM broadcasts. Telescopic antennas are much more likely to pick up these undesirable signals—that is another good reason for getting an outdoor, base-station type antenna for home installations.

If the interference is not severe, you may be able to use SQUELCH to cut out such annoying birdies.

A few of the most common birdies to watch out for are listed below.

Low Band	FM Broadcast	Air Band	Hi Band
69.725 MHz	94.900 MHz	108.800 MHz	140.795 MHz
69.770	95.100	115.200	140.800
69.785	95.300	119.400	140.805
69.790	96.100	121.600	146.420
69.800	?	125.800	?
69.805	97.700	?	146.440
69.820		125.875	149.390
69.835		128.000	?
69.850		131.900	149.410
69.865		?	151.065
69.880		132.150	?
69.900			151.085
70.400			153.190
74.900			?
76.800			153.500
83.200			153.590
			?
			153.605
			162.190
			?
			162.205
			166.395
			?
			166.410

Even with the SQUELCH control set to maximum, scanning or searching may stop on or around some of the frequencies listed. If the spurious signal is strong enough (above 20 μ V in technical terms) you can listen to it, but the Receiver will not auto scan/search.

INSTALLATION

In any communications receiver installation, the antenna is one of the most important parts of the set-up. Although the telescopic antenna we've included will be adequate for strong local signals, the best reception will result from a multi-band outdoor antenna. It should be mounted as high as possible since the VHF and UHF signals your Receiver picks up travel in a straight line. The higher your antenna, the better your reception. Your local Tandy can help you in the selection of antennas, cables and accessories. (They can also advise you on the most popular frequencies in your area.)

ACCESSORIES

A pair of headphones can be a very useful accessory. In areas where a high noise is present (in a factory, at the scene of a fire or accident, etc.), or when you want to listen privately, use headphones. Your Tandy store has a selection for your PRO-2003. Just plug them into the front panel headphone jack.

You can use our 12V DC Power cord 270-1534A in your vehicle and power your PRO-2003 directly from the battery in your vehicle.

BEFORE YOU CALL FOR HELP . . .

The PRO-2003 is a ruggedly built electronic unit, with all parts conservatively rated. However, you should treat it with care; don't subject it to excessively rough handling. You will find it will give you long life if kept free from dirt and excessive humidity.

The 9-volt Battery (used to maintain the program memory) should be replaced every 6 months. Use only an Alkaline type, such as Tandy's Catalog Number 23-553.

If You Have Problems

We hope you don't—but if you do, here are some suggestions.

Problem	Possible Cause
Inoperative	No power — check to see that unit is plugged into a working AC outlet, or DC power source.
Will not scan	Improper squelch setting — turn SQUELCH control clockwise to slightly past point where rushing sound ceases (while no signal is present).
Scan locks-in on frequencies where no clear signal is present	"Birdies" — see list on page 10.

If none of these suggested remedies solves the problem, return your set to your nearby Tandy. It will be repaired by a qualified technician and you'll have it back ASAP!

BLOCK DIAGRAM

