

Cat. No. 20-9304

OWNER'S MANUAL

Please read this before using this equipment.

PRO-44 Programmable scanner

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NELSET™*

INTRODUCTION

Your NETSET PRO-44 Programmable Scanner lets you in on all the action! This scanner gives you direct access to over 23,000 exciting frequencies. You can select up to 50 channels for your scanner to store and you can change your selection at any time.

The secret to your scanner's ability to scan so many frequencies is its custom-designed microprocessor—a tiny, built-in computer. Your scanner also has these special features:

2-Second Scan Delay – delays the scanning mode for 2 seconds before moving to another channel so you can hear more replies.

Memory Backup – keeps the channel frequencies stored in your scanner's memory for up to one hour without batteries.

Special Battery-Saving Circuit – prolongs the life of the batteries.

Direct Search – scans for new and unlisted frequencies to find interesting broadcasts.

Lock-Out Function – keeps channels you select from being scanned.

Monitor Memory – temporarily saves a frequency you locate during a search.

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Warning: In some areas, mobile use of a scanner is unlawful or requires a permit. Check the laws in your area. Tandy assumes no responsibility for the use of this scanner in such areas.

For your records, please record your scanner's serial number in the space provided. The serial number is located on the back of the scanner.

Serial Number: _____

Important Notice to Users

Use of scanners must conform to the requirements of the law of the country where utilised. Always check that your intended use is legally permitted. InterTAN UK Ltd. cannot be held responsible for illegal use of scanners.

Your PRO-44 covers the following bands:

- 68-88 MHz (VHF Lo)
- 108-136.975 MHz (Aircraft)
- 137-144 MHz (VHF)
- 144-148 MHz (2-Meter Ham Band)
- 148-174 MHz (VHF Hi)
- 380-450 MHz (Ham Radio and UHF Lo)
- 450-470 MHz (UHF Lo)
- 470-512 MHz (UHF Hi/TV)

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PREPARATION

POWER SOURCES

You can power your scanner from one of the following three sources.

- Internal batteries
- Standard AC power (using an optional AC adapter)
- Your vehicle's battery (using an optional DC adapter)

Installing the Batteries

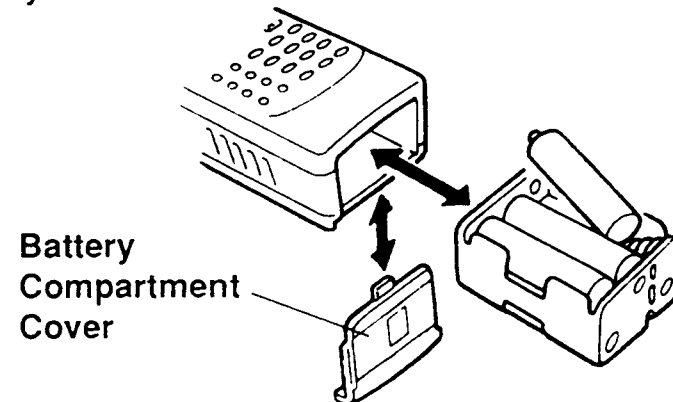
You can operate your scanner from six AA batteries. For longest battery life and optimum performance, we recommend alkaline batteries. Or, you can use rechargeable nickel-cadmium batteries.

Caution: The PRO-44 has a built-in charging circuit that lets you recharge nickel-cadmium batteries inside the battery compartment. However, you must not use this circuit when you have installed non-rechargeable batteries.

Be sure to read "Using Other Power Sources" and "Charging Nickel-Cadmium Batteries."

Follow these steps to install the batteries.

1. Press down on the arrow and slide the cover in the direction of the arrow to remove the battery compartment cover.
2. Remove the battery holder from the battery compartment and install six AA batteries, as indicated by the polarity symbols (+ and -) marked on the battery holder.



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3. Place the battery holder so its metal contacts line up with the metal contacts in the battery compartment.
 4. Replace the battery compartment cover.

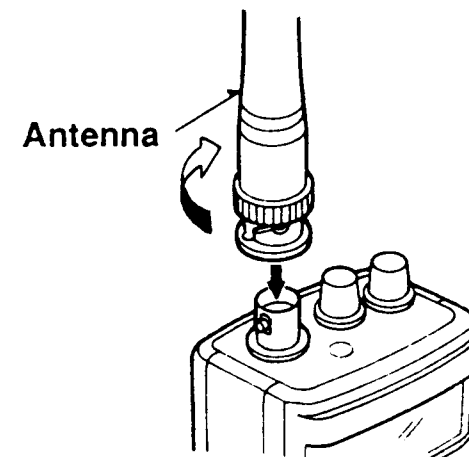
Note: When **B** lights, immediately replace all six batteries. Or, if you are using rechargeable nickel-cadmium batteries, recharge all six batteries.

For information on using power sources other than internal batteries, see "Using Other Power Sources."

CONNECTING THE ANTENNA

Follow these steps to attach the supplied flexible antenna to the connector on the top of your scanner.

1. Slip the slot in the antenna's connector over the protrusion on the jack.



2. Press down and rotate the antenna's base clockwise until it locks into place.

Connecting an Optional Antenna

The antenna connector on your scanner makes it easy to use your scanner with a variety of antennas. You can remove the supplied antenna and attach a different one, such as an external mobile antenna or outdoor base antenna. Your local Tandy store sells a variety of antennas.

Use coaxial cable to connect an outdoor antenna. Always use 50-ohm coaxial cable, such as RG-58 or RG-8. For lengths over 50 feet, use RG-8 low-loss dielectric coaxial cable.

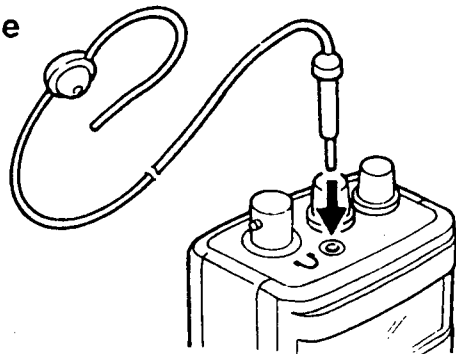
You will also need a BNC Connector to connect an optional antenna (not supplied).

Warning: When installing or removing an outdoor antenna, use extreme caution. If the antenna starts to fall, let it go! It could contact overhead power lines. If the antenna touches the power line, contact with the antenna, mast, cable, or guy wires can cause electrocution and death! Call the power company to remove the antenna. Do not attempt to do so yourself.

CONNECTING AN EARPHONE/HEADPHONES

For private listening, plug an earphone or headphones into the earphone jack on top of your scanner. This automatically disconnects the internal speaker. We recommend Tandy's earphone or mono headphones.

Earphone



Hearing Comfort and Your Health

To protect your hearing, follow these guidelines when you use an earphone/headphones.

- Do not listen at extremely high volume levels. Extended high volume listening can lead to permanent hearing loss.
- Set the volume to the lowest setting before you begin listening. After you begin listening, adjust the volume to a comfortable level.
- Once you set the volume, do not increase it. Over time, your ears adapt to the volume level, so a volume level that does not cause discomfort might still damage your hearing.

Traffic Safety

Do not wear headphones or an earphone while you drive a vehicle or ride a bicycle. This can create a traffic hazard and is illegal in some areas. Even though some headphones and earphones are designed to let you hear some outside sounds when you listen at normal levels, they still present a traffic hazard.

CONNECTING AN EXTENSION SPEAKER

In a noisy area, an extension speaker (not supplied), positioned in the right place, might provide more comfortable listening. Plug the speaker cable's 3.5 mm (1/8-inch) mini-plug into the scanner's earphone jack.

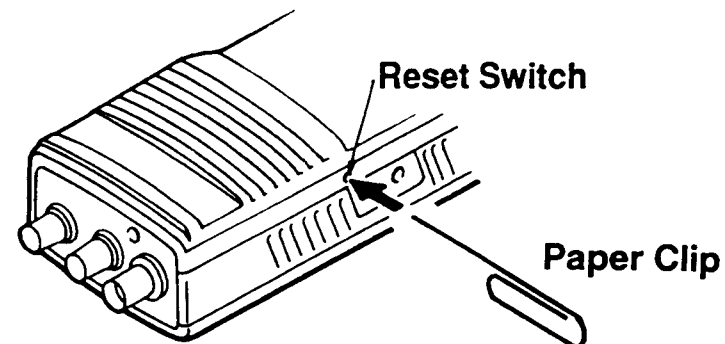
RESETTING/INITIALIZING THE SCANNER

If the scanner's display locks up or does not work properly after you connect the batteries or an external power source, you might have to reset the display or initialize the scanner.

Follow these steps to reset the display.

1. Turn on the scanner.
2. Use a pointed object such as a straightened paper clip to press the reset switch at the right of the **PWR** jack. If this is not effective, initialize scanner as directed.

Caution: Initialize the scanner only when you are sure it is not working properly. This procedure clears all information you have programmed into the scanner.



Follow these steps to initialize the scanner.

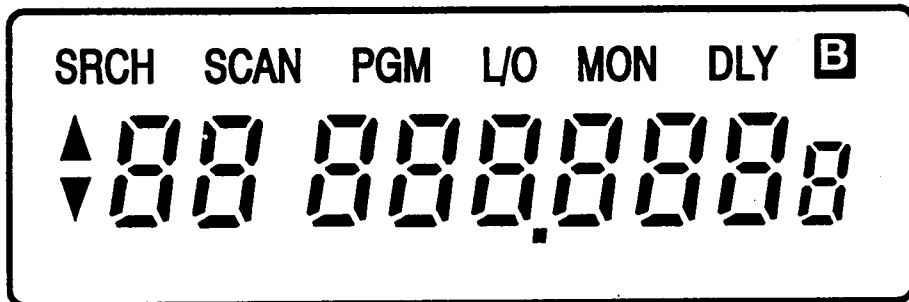
1. Turn on the scanner.
2. Press and hold **CLEAR** and then use a pointed object, such as a straightened paper clip, to press the reset switch at the right of the **PWR** jack. Release **CLEAR** after the display reappears.

UNDERSTANDING YOUR SCANNER

A LOOK AT THE DISPLAY

The display has several indicators that show the scanner's current operating mode. A quick look at the display will help you understand how to operate your scanner.

(add illust)



SRCH – appears during a search.

▲ and ▼ – indicate the search direction.

SCAN – appears when you scan channels.

PGM – appears while you program frequencies into the scanner's channels.

L/O – appears when you manually select a locked channel.

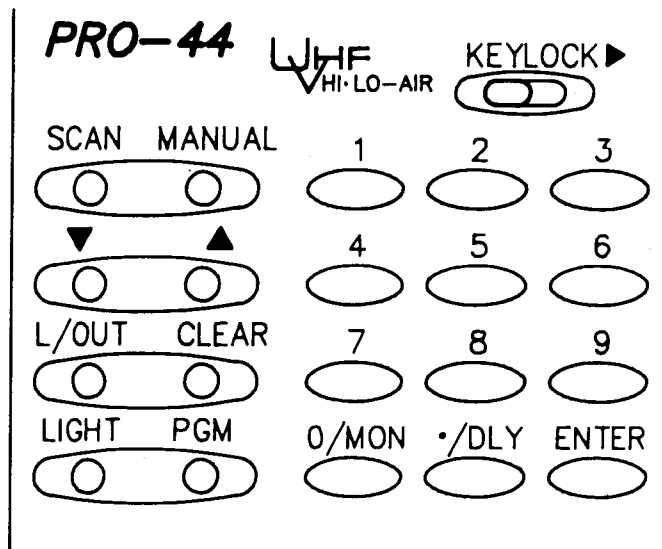
MON – appears when you listen to a monitor memory.

DLY – appears when you program a channel for a two-second delay before scanning or when you listen to a channel you have programmed with the delay feature.

B – appears when you need to replace or recharge the batteries.

A LOOK AT THE KEYBOARD

Your scanner's keys might seem confusing at first, but a quick glance at this page should help you understand each key's function.



KEYLOCK – disables the keypad to prevent accidental program changes. Does not lock out the **SCAN**, **MANUAL** and **LIGHT** keys.

SCAN – scans through the programmed channels.

MANUAL – stops scanning and lets you directly enter a channel number.

▲ and ▼ – used during frequency searches. See "Searching for Active Frequencies."

L/OUT – lets you lock out a selected channel.

CLEAR – clears an incorrect entry.

LIGHT – turns on the display light while you press it.

PGM – Programs frequencies into channels.

Number Keys (0-9) – enter a channel number or a frequency.

0/MON – enters a zero or accesses the monitor memory.

./DLY – enters the decimal point necessary when programming frequencies, or programs a two-second delay for the selected channel.

ENTER – enters frequencies into channels.

OPERATION

SETTING VOLUME AND SQUELCH

Follow these steps to set **VOLUME** and **SQUELCH**.

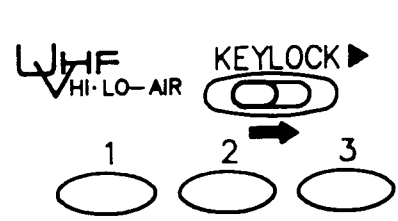
1. Turn **VOLUME** 1/4 turn clockwise and **SQUELCH** fully clockwise.
2. Slowly turn **SQUELCH** counterclockwise until you hear a hissing sound.
3. Slowly turn **SQUELCH** clockwise until the hissing stops.

Note: If you want to listen to a weak or distant station, turn **SQUELCH** counterclockwise. You might hear hissing between transmissions.

USING THE KEYLOCK

Once you program your scanner, you can protect it from accidental program changes by turning on the keylock feature. In this position, the only controls that operate are **SCAN**, **MANUAL**, **LIGHT**, **VOLUME** and **SQUELCH**.

To turn on the keylock feature, set **KEYLOCK** to **LOCK**. To turn it off, set **KEYLOCK** to **KEY**.



STORING FREQUENCIES

Your scanner has 50 channels into which you can store frequencies.

Follow these steps to store a frequency into a channel.

1. Press **MANUAL**. Enter the channel number you want to program.
2. Press **PGM**. **PGM** appears on the display to indicate that the scanner is in the programming mode.
3. Enter a frequency.
4. Press **ENTER** to store the frequency.

Notes:

- If you made a mistake in Step 3, **Error** appears on the display. To clear the display, press **CLEAR**. Then proceed again from Step 3.
 - Your scanner automatically rounds down the entered frequency to the nearest valid frequency. For example, if you try to enter a frequency of 151.473, your scanner accepts it as 151.470.
5. Repeat Steps 1-4 to program more channels.

Note: If you want to program the next channel in sequence, repeat Steps 2-4.

SEARCHING FOR AND TEMPORARILY STORING ACTIVE FREQUENCIES

Use these procedures to search for a transmission. If you do not have a reference to frequencies in your area, search to find a transmission.

Note: Press **./DLY** if you want to make the scanner pause 2 seconds after a transmission ends before it proceeds to the next frequency.

Search

1. Press **MANUAL** or **PGM**. Enter a frequency from which you want to start your search. Or, press **MANUAL**, a channel number, and **MANUAL** or **PGM** to select a channel from which you want to start your search.
2. Press **▲** or **▼** to search up or down from the displayed frequency.

3. When the scanner stops on a transmission, press **0/MON** to store the frequency in the monitor memory. Or press **▲** or **▼** to continue the search.

Note: Press **./DLY** to make the scanner pause 2 seconds after a transmission before it proceeds to the next frequency.

LISTENING TO THE MONITOR MEMORY

You can listen to the monitor memory by pressing **MANUAL** or **PGM**, and then **0/MON**.

MOVING A FREQUENCY FROM THE MONITOR MEMORY TO A CHANNEL

To move a frequency from the monitor memory to a channel, follow these steps.

1. Press **MANUAL**. Enter the channel number into which you want to store the monitor frequency.
2. Press **PGM**.
3. Press **0/MON**.
4. Press **ENTER**. The scanner stores the monitor frequency in the channel.

SCANNING THE CHANNELS

To begin scanning the channels in your scanner, press **SCAN**. The scanner scans through all non-locked channels. (See "Locking Out Channels.") Set **SQUELCH** so you do not hear the hissing sound between transmissions.

SPECIAL FEATURES

DELAY

Many agencies use a two-way radio system that might have a period of several seconds between a query and a reply. To program a delay to keep from missing a reply on a specific channel, select the channel and press **/DLY** so **DLY** appears on the display. The scanner pauses for two seconds on a channel programmed with a delay.

MANUALLY SELECTING A CHANNEL

You can continuously monitor a specific channel without scanning. This is useful if you hear a 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 specific channel.

To manually select a channel, press **MANUAL**. Enter the channel number and press **MANUAL** again. Or, if the scanner is scanning and stops at the desired channel, press **MANUAL** one time. Pressing **MANUAL** additional times causes your scanner to step through the channels

LOCKING OUT CHANNELS

You can increase the scanning speed by locking out channels that you have not yet programmed. Manually select the empty channel and press **L/OUT** so **L/O** appears on the display. This is also handy for locking out channels that have a continuous transmission, such as a weather channel. You can still manually select locked-out channels.

To remove the lock-out from a channel, manually select the channel and press **L/OUT** so **L/O** disappears from the display.

BATTERY-SAVING FEATURE

Your scanner has a special battery-saving feature. When you have manually selected a channel, if the scanner does not detect a signal within 5 seconds and you do not press a key, the scanner enters the standby mode.

In this mode, the scanner rests for 1 second and then checks for a signal for 1/4 second. The scanner continues to do this until you press a button or it receives a signal. During standby, the scanner uses only 30 percent of the normal power consumption.

A GENERAL GUIDE TO SCANNING

BIRDIES

Birdies are frequencies your scanner uses when it operates. These operating frequencies might interfere with broadcasts on the same frequencies. If you program one of these frequencies, the scanner locks up and you hear only noise on that frequency.

If the interference is not severe, you might be able to rotate **SQUELCH** clockwise to cut out the birdie. The most common "birdies" to watch for are listed in the next column.

Birdie Frequencies

69,3750 MHz	135,2000 MHz	159,6100 MHz
70,4000	136,0000	160,0000
76,8000	138,5300	161,5300
78,9600	140,8000	162,6200
81,9600	141,2900	163,2200
83,2000	143,8000	166,4000
84,1450	144,4050	168,6450
108,3000	147,2000	171,2500
108,8000	147,6600	172,8000
114,1000	through	448,0000
115,2000	148,1050	486,4000
121,6000	149,8250	489,2500
123,9250	150,5750	492,8000
126,9750	152,8350	501,6875
128,0000	153,6000	510,6500
128,4000	154,1500	512,0000
132,9750	155,8450	
134,4000	156,4400	

RECEPTION NOTES

Reception of the frequencies covered by your PRO-44 is mainly "line of sight." That means you usually won't be able to hear stations that are located beyond the horizon.

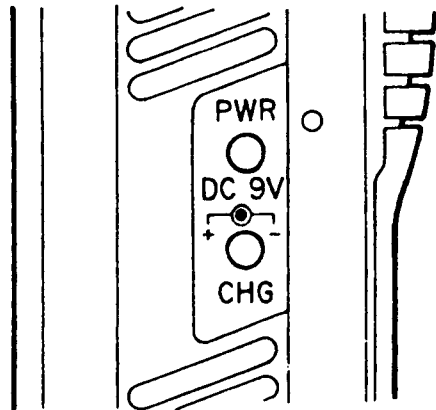
During the summer months, you might be able to hear stations in the low VHF frequency range located several hundreds or even thousands of miles away. This is due to summer atmospheric conditions. This type of reception is unpredictable, but often very interesting!

Frequencies in different bands are accessible only at specific intervals. In the 68 – 88 MHz and 137 – 174 MHz bands, frequencies are available in 5 kHz steps. In the 108 – 136.975 MHz band, frequencies are available in 25 kHz steps. In all other bands, frequencies are available in 12.5 kHz steps. Your scanner rounds the entered frequency down to the nearest valid frequency. For example, if you try to enter 151.473, the scanner accepts this as 151.470 MHz.

USING OTHER POWER SOURCES

IMPORTANT INFORMATION ABOUT THE EXTERNAL POWER JACKS

The scanner has two external power jacks—**PWR** and **CHG**. It is important that you understand the purpose of each jack before you connect any adapter to the scanner.



The **PWR** jack powers the scanner and disconnects the internal batteries. You can use this jack with an external power source (AC or DC adapter) regardless of the type of batteries you install.

The **CHG** jack supplies power to operate the scanner and also charges the internal batteries. Use the **CHG** jack only when you install rechargeable nickel-cadmium batteries.

Warning: Never use the **CHG** jack with non-rechargeable batteries! If you try to recharge non-rechargeable batteries, they become very hot and could explode.

USING AN AC POWER SOURCE

You must use an adapter that supplies 9 volts DC power and delivers at least 300 milliamps. Its center tip must be set to negative, and it must have a plug that properly fits the scanner's **PWR** jack. Using an adapter that does not meet these specifications could damage the scanner or the adapter. Consult with your local Tandy store for a suitable adapter.

Plug the adapter's barrel plug into the PRO-44's **PWR** jack. Then plug the adapter's power module into a standard AC outlet.

When you finish using the AC adapter, disconnect it from the AC outlet first. Then disconnect it from the **PWR** jack.

Note: If you have installed rechargeable nickel-cadmium batteries in the scanner, you can connect the AC adapter to the **CHG** jack. This powers the scanner and recharges the batteries at the same time. See "Charging Nickel-Cadmium Batteries."

USING A DC ADAPTER

Note: Mobile use of a scanner may be unlawful or require a permit in some areas. Check the laws in your area.

You can power the scanner from your vehicle's cigarette-lighter socket, provided the vehicle has a 12-volt, negative-ground electrical system. To do so, you need a DC adapter. You must use an adapter that supplies 9 volts DC power and delivers at least 300 milliamps. Its center tip must be set to negative, and it must have a plug that properly fits the scanner's **PWR** jack. Using an adapter that does not meet these specifications could damage the scanner or the adapter. Consult with your local Tandy store for a suitable adapter.

Follow these steps to use a DC adapter.

1. Connect the adapter's barrel plug to the adapter's cable with the tip set to – (negative).
2. Set the adapter's voltage switch to 9 V.
3. Insert the barrel plug into the scanner's **PWR** jack.
4. Plug the other end of the adapter into your vehicle's cigarette lighter socket.

When you finish using the DC adapter, disconnect it from the cigarette lighter first. Then disconnect it from the scanner.

Notes:

- If you have installed rechargeable nickel-cadmium batteries in the scanner, you can connect the DC adapter to the **CHG** jack. This powers the scanner and recharges the batteries at the same time. See "Charging Nickel-Cadmium Batteries" and the warning there.
- If the scanner does not operate properly when you use a DC adapter, unplug the adapter from the lighter socket and clean the socket to remove ashes and other debris.

CHARGING NICKEL-CADMIUM BATTERIES

The scanner has a built-in charging circuit that lets you recharge nickel-cadmium batteries while they are in the scanner. To recharge the batteries, simply connect an AC adapter or a DC adapter to the scanner's **CHG** jack.

Warning: Do not connect either adapter to the scanner's **CHG** jack if you have installed non-rechargeable batteries (standard, extra-life, or alkaline). Non-rechargeable batteries become hot and can even explode if you try to recharge them.

It takes about 10 to 18 hours to recharge batteries that are fully discharged. You can operate the scanner while recharging nickel-cadmium batteries, but the charging time is lengthened.

Charging Tip

Nickel-cadmium batteries last longer and deliver more power if you occasionally let them fully discharge. To do this, simply use the scanner until the low battery indicator appears on the display. Then fully charge the batteries.

CARE AND MAINTENANCE

Your PRO-44 Programmable Scanner is an example of superior design and craftsmanship. The following suggestions will help you care for your scanner so you can enjoy it for years.

- Keep the scanner dry. If it gets wet, wipe it dry immediately. Some liquids contain minerals that can corrode the electronic circuits.
 - Use only fresh batteries of the recommended size and type. Always remove old and weak batteries. They can leak chemicals that destroy electronic circuits.
 - Handle the scanner gently and carefully. Dropping it can damage circuit boards and cases and can cause the scanner to work improperly.
 - Use and store the scanner only in normal temperature environments. Temperature extremes can shorten the life of electronic devices, damage batteries, and distort or melt plastic parts.
- Keep the scanner away from dust and dirt, which can cause premature wear of parts.
 - Wipe the scanner with a damp cloth occasionally to keep it looking new. Do not use harsh chemicals, cleaning solvents, or strong detergents to clean the scanner.

Modifying or tampering with your scanner's internal components can invalidate the scanner's warranty. If your scanner is not operating as it should, take it to your local Tandy store for assistance.

TROUBLESHOOTING

If you have problems with your scanner, consult the following chart.

PROBLEM	SOLUTION
Does not function.	Batteries correctly installed? Batteries are good?
No or poor reception.	Antenna correctly installed? Poor reception environment? Frequencies correctly programmed?
Error appears on the display.	Programming error—confirm procedure.
Keyboard does not work.	KEYLOCK is set to LOCK ?
Keys do not work or random display.	Reset or initialize the scanner. See "Resetting/Initializing the Scanner."

If none of the above suggestions help, take your scanner to your local Tandy store for assistance.

SPECIFICATIONS

Frequency Coverage:

VHF-Lo	68 – 88 MHz (in 5 kHz steps)
Aircraft	108 – 136.975 MHz (in 25 kHz steps)
VHF	137 – 144 MHz (in 5 kHz steps)
Ham	144 – 148 MHz (in 5 kHz steps)
VHF-Hi	148 – 174 MHz (in 5 kHz steps)
Ham/UHF-Lo	380 – 450 MHz (in 12.5 kHz steps)
UHF-Lo	450 – 470 MHz (in 12.5 kHz steps)
UHF-Hi	470 – 512 MHz (in 12.5 kHz steps)
Channels of Operation	50 channels and 1 monitor channel.

Sensitivity (20 dB Signal-to-Noise Ratio):

68 – 88 MHz	1.0 μ V
108 – 136.975 MHz	2.0 μ V
137 – 174 MHz	1.0 μ V
380 – 512 MHz	1.0 μ V

Spurious Rejection:

68 – 88 MHz	50 dB at 78 MHz
108 – 136.975 MHz	50 dB at 124 MHz
137 – 174 MHz	50 dB at 154 MHz
380 – 512 MHz	Not specified

Selectivity:

±10 kHz	-6 dB
±20 kHz	-50 dB

IF Rejection:

10.7 MHz	50 dB at 154 MHz
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Scanning Rate 16 channels/second

Search Rate 16 steps/second

Delay Time 2 second

IF Frequencies 10.7 MHz and 455kHz

Filters 1 Ceramic filter, 1 Crystal filter

Squelch Sensitivity:

Threshold	Less than 1.0 μ V
Tight (VHF Lo, Hi, UHF)	(S+N)/N 25 dB
Tight (Aircraft)	(S+N)/N 20 dB
Antenna Impedance	50 ohms
Audio Power	200 mW
Built-in Speaker	36 mm (1 3/8") 8 ohm, dynamic type
Power Requirement	+9V DC, 6AA batteries, or a suitable adapter (negative ground only)
Current Drain (Squelched)	40 mA
Operating Temperature	-10°C to +60°C (+14°F to +140°F)
Storage Temperature	-40°C to +71°C (-40°F to +160°F)
Dimensions	145 x 58 x 42 mm (HWD) (5 3/4 x 2 3/8 x 1 5/8 inches)
Weight	Approx. 250 g (8.8 oz.) without antenna and batteries

INTERTAN WARRANTY

INTERTAN warrants that this product will be free from defects for a period of **one (1) year** from the date of its purchase from any of INTERTAN's company owned stores and authorized dealers. Within this period, the product will be repaired without charge for parts and labour. There may be a slight charge for transportation. **Simply bring in your proof of purchase** to any of INTERTAN's stores or dealers. Any product which has been subjected to misuse or accidental damage is excluded from this warranty. Except as stated above, INTERTAN makes no promises or warranties either expressed or implied including warranties of merchandability or that the product is fit for any particular purpose. This warranty is only applicable to products purchased through INTERTAN's company owned stores and dealers that operate in the country where the products are offered for sale. The warranty gives you specific legal rights and you may have other rights which will vary under the laws of the various countries, states, provinces, etc..., in which INTERTAN operates.

WE SERVICE WHAT WE SELL !

Manufactured in China - Imported for/Importé pour
InterTAN Canada Ltd. Barrie, Canada, L4M 4W5
InterTAN Australia Ltd. A.C.N. 002 511 944
InterTAN U.K./Belgium/France
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