RadioShack 20-444/PRO-444

User's Guide

RACING SCANNER

Thank you for purchasing your Racing Scanner from RadioShack. Please read this user's guide before installing setting up, and using your new scanner.

What's Included

Scanner

Belt Clip

Earpad

User's Guide

Quick Start Guide

CONTENTS

will add

THE FCC WANTS YOU TO KNOW

This equipment has been tested and found to comply with the limits for a scanning receiver, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this

equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

• Reorient or relocate the receiving antenna.
• Increase the separation between the equipment and receiver.
• Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
• Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

SCANNING LEGALLY

Your scanner covers frequencies used by many different groups including police and fire departments, ambulance services, government agencies, private companies, amateur radio, military operations, pager services, and wireline (telephone and telegraph) service providers. It is legal to listen to almost every transmission your scanner can receive. However, there are some transmissions you should never intentionally listen to. These include:

• Telephone conversations (cellular, cordless, or other private means of telephone signal transmission)
• Pager transmissions
• Any scrambled or encrypted transmissions

According to the Electronic Communications Privacy Act (ECPA), you are subject to fines and possible imprisonment for intentionally listening to, using or divulging the contents of such a transmission unless you have the consent of a party to the communication (unless such activity is otherwise illegal).

This scanner has been designed to prevent reception of illegal transmissions. This is done to comply with the legal requirement that scanners be manufactured so as to not be easily modifiable to pick up those transmissions. Do not open your scanner's case to make any modifications that could allow it to pick up transmissions that are illegal to monitor. Doing so could subject you to legal penalties.

We encourage responsible, legal scanner use.

In some areas, mobile use of this scanner is unlawful or requires a permit. Check the laws in your area. It is also illegal in many areas to interfere with the duties of public safety officials by traveling to the scene of an incident without authorization.

FEATURES

Welcome to RadioShack PRO-444 Race Scanner lets you monitor/scan driver and/or pit crew voice. You can select driver/pit crew direct entry by car number, or easy select by rotary selector.

Your race scanner selects 6 categories of major race series including NASCAR Sprint Cup, NASCAR Nationwide, NASCAR TRUCK, ARCA, Grand Am, and IRL (Indy).

Your race scanner also has these special features:

Car Number Control – let you select desired car number you wish listen.

Display Backlight – makes the scanner easy to read in low-light situations.

Favorite Bank – let you easy access your favorite driver.

Upgradeable Car Number/Frequency/Driver Data Using PC Application – You can make/edit the categories, team name, driver, etc. then you can transfer them to your race scanner.

Full Dot Alphanumeric Display – shows you detailed operating information clearly.

Intercom – you can use intercom system using optional headset.

MRN (Motor Racing Network) key – easy one push accesses to MRN radio.

Understanding Keys and Features

(Top view photo)

Rotary selector
• Select race category
• Select car number, favorite number, and MRN number
• Increase/decrease the volume control (with FUNC)

Car Number Display
Shows the received car number. If you watch the favorite channel, the display disappears.

(Keypad photo)

MRN
• If you press MRN, the race scanner accesses MRN radio
• If you press and hold MRN about 1 second, your scanner scans other channel (control tower radio, safety radio, etc.).

CAR
• Press briefly to select car number.
• Press and hold for one second to scan the car number

FAV
• Press briefly to select favorite car number.

• Press and hold for one second to scan the favorite bank

FUNC

Lets you use various functions by pressing this key in combination with other keys/rotary selector.

EDIT/KEYLOCK

• Lets you edit the car channel data, or set the backlight setting, power save setting, etc.
• Locks/unlocks the keypad to prevent accidental entries.

POWER/LIGHT

• Press and hold for about one second to turn the scanner on and off.
• Press briefly to turn on the backlight about 5 seconds.

Number Keys

• Inputs a number or character.
• Call the favorite channel

CLR/DELAY

• Clears an incorrect entry.
• Programs delay time for the selected car channel.

PHONE/MON

• Talk the mobile phone using optional cable and headset.

ENT

Completes the entry of car number, driver name, etc.

(Side view photo)

Intercom Jack A/B

PHONE/PC IF Jack

PWR (Power) Jack

Understanding the Display

(Add Attached Display illustration)

Setup

Powering Scanner

Installing Batteries

1. Power off the scanner.

2. Remove the battery compartment cover.

3. Set the Battery Type Selector switch to ALK for non-rechargeable alkaline batteries or Ni-MH for rechargeable Ni-MH batteries.

4. Insert three AA batteries, matching the polarity symbols (+ and -) marked inside.

5. Replace the battery compartment cover.

! WARNING: Never install alkaline batteries with the Battery Type Selector switch set to Ni-MH. Alkaline batteries can get hot or explode if you try to recharge them.

Battery Notes:

• A low battery warning sounds every 30 seconds (default setting) when the batteries are nearly

depleted.

• Dispose of batteries promptly and properly. Do not burn or bury them.

• Use only fresh batteries of the required size and type.

• Do not mix old and new batteries, different types of batteries (standard, alkaline, or rechargeable), or rechargeable batteries of different capacities.

• Discontinue use of any battery that exhibits leakage, swelling, or abnormal generation of heat.

• If you do not plan to use the scanner for a month or longer, remove the batteries. Batteries can leak chemicals that can damage electronic parts.

Using AC/DC Power

To power the scanner from AC or DC (powered by cigarette-lighter socket) power, you need an optional AC or DC adapter.

Cautions:

• You must use an AC adapter that supplies 6 volts and delivers at least 300mA. Its center tip must be set to negative, and its barrel plug must correctly fit the scanner's PWR jack. The recommended adapter meets these specifications. Using an adapter that does not need these specifications could damage the scanner or the adapter.

• When you finish using the AC or DC adapter, disconnect it from the AC (or cigarette-lighter socket) outlet first. Then disconnect it from the scanner.

Charging Ni-MH Batteries

1. Press and hold POWER to power off the scanner.

2. Make sure Ni-MH batteries are installed and the Battery Type Selector switch is set to Ni-MH.

3. Plug the AC or DC power adapter into the PWR jack.

4. Charging indicates the batteries are being charged.

5. When Charge OFF appears instead of Charging (about 14 hours after), the batteries are fully

charged.

6. Disconnect the scanner from the power source.

Notes:
• You can use scanner while charging batteries, but it is not recommended. The charging current decreases and charging time becomes long.
• Do not over-charge rechargeable batteries. Overcharging shortens battery life.

Connecting Earpad/Earphone

Plug the supplies earpad to PHONE/PC/IF jack. You can use supplied earpad or optional earphone that has 1/8 inch (3.5mm) mini-plug.

Note: This scanner need earpad/earphone/headphones to listen the transmission because the scanner does not has internal speaker.

Connecting Intercom Headset

Connect the Mic and Headphone twin jack into Intercom A or B jack. If you connect A jack, you can talk with the mobile phone call.

Basic Operation

Turn on the Scanner

Press and hold POWER. The scanner turns on and Welcome message appears about 2 seconds.

Selecting Race Series

After Welcome message disappears. the scanner displays race series name. You can select

race series <u>(6-series)</u> with rotary selector. After selection, press ENT to call your selected race series data.

Volume Setting

1. Press FUNC. FUNC appears on the top left corner.

2. Rotate rotary selector to clockwise to increase; counterclockwise to decrease while FUNC appears. Volume level displays top right corner.

Car Number Operation

If you press CAR, the scanner enters car number operation mode. In this mode, you can access directly entering car number. Or, you can select using rotary selector to upward or downward the car number.

Press and hold CAR about 1 second to scan the car number channel. If the scanner find transmission, scan stops and monitor that car number transmission. If the transmission ends, the scanner continues the scan.

MRN (Motor Racing Network) Operation

If you press MRN, the scanner watches MRN channel (directly accesses circuit radio). Press and hold MRN, the scanner scans pre-programmed other channels (Control Tower Radio, Safety Radio, etc.)

Favorite Operation

Your scanner has 10 favorite channel memory (1-0).

To program your favorite radio to the scanner as follows:

1. Press FAV while you receive favorite driver (or channel).

2. Press number key (1 to 0). Your favorite driver (or channel) enters favorite number.

If you press 1-digit number key, your scanner watches your desired favorite channel. Press and hold FAV about 1 second to scan the favorite channel memory. If the scanner find transmission, scan stops and monitor the favorite transmission. If the transmission ends, the scanner continues the scan.

Using EDIT key

If you press EDIT, the scanner displays following menu:

FREQUENCY
PAGE TAG
FAV
Setting
PC/IF
CLONE

Select with rotary selector then press ENT to proceed to next sub-menu or editing display. Press EDIT to back to the previous menu/operation.

Frequency Edit

You select FREQUENCY then press ENT, the scanner enters pre-programmed data edit mode. Sub-Menu (CAR# and MRN) appears.

1. Select 1 or 2, or move the cursor to 1:CAR# or 2:MRN using rotary selector, then press ENT.

2. Select number, or move the cursor to desired point using rotary selector, then press ENT. Edit? 1:YES 2:NO appears on the top line.

Note: If you select NEW to new frequency stores into CAR number or MRN channel. And

proceed to step 4.

3. Press 1 to edit the frequency, or 2 to cancel the frequency edit.

4. Enter car (or MRN channel) number, then press ENT. If the displayed number is correct, press ENT.

5. Enter new frequency. (Decimal point automatically add to the frequency.) Then press ENT.

Note: If you have mistake the frequency entry, ERROR INVALID INPUT appears. Press CLR, then retry the frequency entering.

6. Enter new TAG. Refer to the "Text Input Method" for entering the text input method. You can entry for 12 characters into TAG. Then press ENT. The scanner changes your changing.

PAGE TAG Edit

If you select PAGE TAG, you can change the race series tag. Enter new tag using number (and FUNC) key. Press ENT to store new entry.

FAV Edit

If you select FAV, you can clear the favorite channel memory. Select channel number using rotary selector, then press ENT. The channel memory clears.

Setting

If you select Setting menu, following sub-menu appears:

SQ (Squelch Level setting)
Key Tone (Key Tone on/off setting)
Power Save (Power Save function on/off)
Display (Contrast or set on/off the receiving frequency showing)

Back light (Backlight on or off)

SQ

You can change the squelch level. To change the squelch level, rotate the rotary selector to clockwise to increase the squelch level (Max 16) or to counterclockwise to decrease the squelch level (Min 01). Press ENT to store the setting and backward to Setting menu. Default setting of squelch is 01.

Key Tone

You can turn the key tone on or off. Select Key Tone ON or Key Tone OFF using rotary selector, the press ENT.

Note: Even if you turn off the key tone off, the scanner sounds error tone.

Power Save

Your scanner features a power save circuit that is automatically activated any time you monitor the single car number frequency. The power save mode works by allowing the receiver to "Sleep" briefly while waiting for a call on the selected channel. Default setting of power save is off.

Display

To change the display's contrast, or to display/erase the monitored frequency.

If you change the display contrast, select contrast then press ENT. Select contrast level using rotary selector, then press ENT.

If you change the frequency display, select Frequency then press ENT. Select ON of OFF using rotary selector, then press ENT.

Back light

To change the display backlight key-press mode. If you set the backlight key-press on, the scanner's backlight light if you press any key or rotate selector.

PC/IF

You can download the data from your PC. (The optional application software is necessary.)

CLONE

You can transfer the car number data to and from another PSR-444 scanner using an optional connecting cable. See "Cloning the Data".

DELAY

Many car radio use a two-way radio system that has a period of several seconds between a query and a reply. To avoid missing a reply, you can program a 2-second delay into any channel. When your scanner stops on a car number channel with a programmed delay, D appears and the scanner continues to monitor that channel for 2 seconds after the transmission stops before resuming scanning.

If you monitor car channel, press FUNC then DELAY.

To turn off the 2-second delay in a car number/channel, press DELAY while the scanner is monitoring that car number/channel. D disappears. (Default setting of delay is ON).

Locking Out Channels

You can scan existing channels faster by locking out car number/channels that have a continuous transmission.

To lock out a channel while scanning, press FUNC then L/O when the scanner stops on the channel. To lock out a channel manually, manually select the car number/channel then press FUNC L/O. Lo appears on the display.

Note: You cannot lock out the MRN channel.

To remove the lock out, manually select the car number/channel and press FUNC then L/O so Lo disappears.

Text Input Method

Notes:

• To access the numbers, press 1. Then press the desired number you want to enter.

• To enter lowercase character or a character from the second set for the key 0, press FUNC after pressing the first numeral key.

PRESSED	CHARACTERS
1	0 1 2 3 4 5 6 7 8 9
2	A B C
2 then FUNC	a b c
3	D E F
3 then FUNC	d e f
4	G H I
4 then FUNC	g h i
5	J K L
5 then FUNC	j k l
6	M N O
6 then FUNC	m n o
7	P Q R S
7 then FUNC	p q r s
8	T U V
8 then FUNC	t u v
9	W X Y Z
9 then FUNC	w x y z
0	! . _ - # : ? " (Space)
0 then FUNC	& / @ * , ; ( ) '

If you make mistake, press CLR to delete all. Then enter your entry from first.

Cellular Phone Operation

You can catch and talk your phone with optional headset. To use this feature, you may connect headset and your cellular phone to your scanner. (To connect your cellular phone, use optional Phone-Scanner connection cable.)

Your phone rings the call bell, catch the call with phone's CALL button. Then press MON/PHONE key to connect the cellular phone and your headset so transmission disconnect to your headset.

Note: This feature functions only A side jack. B side jack works to monitor the transmissions.

Cloning the Data

You can transfer your scanner's data to and from another PRO-444 scanner using an optional connecting cable with 1/8-inch (3.5mm) stereo (TRS) phone plugs on both ends (not supplied).

1. Turn on both scanner.

2. Connect the connecting cable to each scanner's PC/IF jack.

3. Press EDIT at both scanner.

4. Select CLONE with rotary selector at both scanner.

5. Select RECEIVE then press ENT at target scanner.

6. Select SEND with rotary selector at host scanner.

5. Press ENT at host scanner to send the data. To exit the clone mode, remove the cable and press EDIT.

Note: ERROR!! Erasing DATA!! appears if the scanner cable removes the PC/IF jack. To cancel

the error, press CLR or EDIT.

Then the target scanner initializes the data. Retry the cloning the data.

Using Keylock

Once you use the scanner, you can protect it from accidental function changes by turning on the keylock feature. When the keypad is locked, this only control that operate are FUNC and EDIT/KEYLOCK.

To turn on/off the keylock, press FUNC then press EDIT/KEYLOCK.

CARE

Keep the scanner dry; if it gets wet, wipe it dry immediately. Use and store the scanner only in normal temperature environments. Handle the scanner carefully; do not drop it. Keep the scanner away from dust and dirt, and wipe it with a damp close occasionally to keep it looking new.

FAQ's

The scanner is not working at all. What's wrong?
• The AC or DC adapter might not be connected. Be sure the adapter's barrel plug is fully inserted into the PWR jack. The center tip on the adapter's barrel plug must be set to positive.
• The batteries might be dead or need to be recharged. Recharge the rechargeable batteries or replace the alkaline batteries.

The scanner is on but does not scan. What's wrong?
• The squelch might not be adjusted correctly. Set the squelch setting with EDIT menu.

The keypad does not work. What's wrong?
• Key lock is turned on. Turn off keylock.

Service and Repair

If your scanner is not performing as it should, take it to your local RadioShack store for assistance. To locate your nearest RadioShack, use the store locator feature on RadioShack's website (www.radioshack.com), or call 1-800-THE-SHACK (800-843-7422) and follow the menu options. Modifying or tampering with the scanner's internal components can cause a malfunction and might invalidate its warranty and void your FCC authorization to operate it.

Specifications

Memory Channels		1000 channel Max
Race Series		20-series Max
Frequency Coverage		450-467 MHz
Frequency Step		6.25 kHz
Sensitivity (20 dB S/N)		1 uV
Selectivity	-6 dB	+/-10 kHz
	-50 dB	+/-18 kHz
Scan Speed		40 channels/sec.
Delay Time		2 seconds
IF Frequencies:		
1st		21.4 MHz
2nd		450 kHz
Squelch Sensitivity:		
Threshold (SQ1)		0.4 uV
Tight (SQ)		(S+N)/N-30 dB
Audio Output Power (10% THD)		24 mW Nominal
(32 ohm at earphone)		
Operating Temperature		14 to 140 F
		(-10 to +60 C)
Power Requirements		4.5 volts DC, 3AA Batteries
AC Adapter		6 V 300 mA
Current Drain (Squelched)		42 mA

Dimensions (HWD)	5 7/8 x 2 11/16 x 1 7/16 inches
	(150 x 69 x 36 mm)
Weight	5.3 oz. (150 g)

Limited Warranty

Recycling notice

Printed in China

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