

Your Radio Shack PRO-2041 400-Channel Programmable Home 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. Liquids can contain minerals that can corrode the 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 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 the scanner's internal components can cause a malfunction and might invalidate its warranty and void your FCC authorization to operate it. If your scanner is not operating as it should, take it to your local Radio Shack store for assistance.

Your new Radio Shack PRO-2041 400-Channel Programmable Home Scanner gives you direct access to over 32,000 exciting frequencies, including police and fire departments, ambulance services, and amateur radio services. You can select up to 400 channels to scan, 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 has these special features:

- Hyperscan - lets you scan up to 25 channels per second and search up to 50 steps per seconds.
- Triple Conversion Superheterodyne Receiver - virtually eliminates any interference from intermediate frequency (IF) images, so you hear only the frequency you select.
- 17 Preprogrammed Search Bands - let you search for transmissions within preset frequency ranges, so you can find interesting frequencies more quickly.
- 40 Monitor Memories - let you temporarily save up to 40 frequencies located during a frequency search, so you can move selected frequencies to channel storage later.
- Direct Frequency Search - lets you search for new and unlisted frequencies starting from a specified frequency.
- Limit Frequency Search - lets you search for new and unlisted frequencies within the preset frequency ranges or your own programmed frequency ranges in the 10 search banks.
- Eleven Preprogrammed Weather Frequencies - keep you informed about current weather conditions.
- Ten Channel-Storage Banks - let you store 40 channels in each bank to group channels so calls are easier to identify.
- Sort - lets you move frequencies you stored in a bank into consecutive order. This makes it easy for you to identify the frequencies you have stored.
- Auto Store - quickly finds and automatically stores active frequencies into channels.

- Duplicate Frequency Check - automatically notifies you if you are about to store a frequency you have already stored, to help avoid wasting storage space.
- Memory Backup - keeps the frequencies stored in memory during a power loss.
- Ten Priority Channels - let you set the scanner so it checks the next priority channel, in order, every 2 seconds, so you do not miss important calls.
- Two-Second Scan Delay - delays scanning for about 2 seconds before moving to another channel or frequency, so you can hear more replies.
- Lock-Out Function - lets you set your scanner to skip over specified channels or frequencies when scanning or searching.
- Liquid Crystal Display - makes it easy to view and change programming information.
- Backlit Display - makes the scanner easy to read in low light conditions.
- Two Power Options - let you power the scanner from standard AC power (with the supplied AC power cord) or your vehicle's battery (with an optional DC cigarette-lighter power cord).
- Frequency Data Loading - lets you program the scanner with frequencies stored in a personal computer. You need a personal computer and a data interface kit (available through your local Radio Shack store) to use this feature.

Your PRO-2041 scanner can receive all of these frequencies:

29-54 MHz (10-Meter Amateur Radio, VHF Lo, 6-Meter Amateur Radio)

108-136.975 MHz (Aircraft)

137-174 MHz (Government, 2-Meter Amateur Radio, VHF Hi)

380-512 MHz (Military Aircraft, UHF Lo, 70-Centimeter Amateur Radio, UHF "T" Band, Government)

806-824 MHz (UHF Public Service)

849-869 MHz (UHF Hi)

894-960 MHz (UHF Hi, 33-Centimeter Amateur Radio)

For breakdown of the frequency ranges in the 17 preprogrammed search bands, see "Preparation," Faxback Doc. # 38897.

In addition, your scanner is preprogrammed with the following weather service frequencies:

161.6500 MHz  
161.7750 MHz  
162.4000 MHz  
162.4250 MHz  
162.4400 MHz  
162.4500 MHz  
162.4750 MHz  
162.5000 MHz  
162.5250 MHz  
162.5500 MHz  
163.2750 MHz

We recommend you record your scanner's serial number here. This number is on the scanner's back panel.

Reception of the frequencies covered by your scanner is mainly "line - of-sight." That means you usually cannot hear stations that are beyond the horizon.

#### GUIDE TO FREQUENCIES

##### US Weather Frequencies

162.400    162.425    162.450    162.475    162.500    162.525    162.550

##### Other Weather Frequencies

161.650    161.775    162.440    163.275

##### Ham Radio Frequencies

Ham radio operators often transmit emergency information when other means of communication break down. The following chart shows the frequencies the scanner receives that Ham radio operators normally use:

Wavelength (meters)	Frequencies (MHz)
10-Meter	29.000-29.700
6-Meter	50.000-54.000
2-Meter	144.000-148.000
70-cm	420.000-450.000
33-cm	902.000-928.000

##### Birdie Frequencies

Every scanner has birdie frequencies. Birdies are signals created inside the scanner's receiver. These operating frequencies might interfere with broadcasts on the same frequencies. If you program one of these frequencies, you might be able to turn SQUELCH clockwise to cut out the birdie.

The birdie frequencies on this unit to watch for are:

32.100	36.000-36.300	40.000-40.300
41.890	44.100-44.300	48.100-48.300
52.100-52.300	108.100-108.800	112.100-112.700
120.300-120.500	121.500	128.300-128.900
136.200-136.800	144.300-144.800	150.150
152.300-152.800	155.500	156.300-156.500
160.300-160.900	166.200	171.550
400.400	429.050	434.400
450.450	479.100	504.125
810.150	820.650	865.350
915.400	944.050	

To find the birdies in your scanner, begin by disconnecting the antenna and moving it away from the scanner. Make sure that no other nearby radio or TV sets are turned on near the scanner. Use the search function and scan every frequency range from its lowest frequency to the highest. Occasionally, the searching will stop as if it had found a signal, often

without any sound. That is a birdie. Make a list of all the birdies in your scanner for future reference.

## GUIDE TO THE ACTION BANDS

### United States Broadcast Bands

In the United States, there are several broadcast bands. The Standard AM and FM bands are probably the most well known. There are also four television audio broadcast bands - the lower three transmit on the VHF band and the fourth transmits on the UHF band.

### Typical Band Usage

#### VHF Band

Low Range	29.00 -50.00 MHz
6-Meter Amateur	50.00 -54.00 MHz
U.S. Government	137.00 -144.00 MHz
2-Meter Amateur	144.00 -148.00 MHz
High Range	148.00 -174.00 MHz

#### UHF Band

Military Aircraft	380.00 -384.00 MHz
U.S. Government	406.00 -420.00 MHz
70-cm Amateur	420.00 -450.00 MHz
Low Range	450.00 -470.00 MHz
FM-TV Audio Broadcast, Wide Band	470.00 -512.00 MHz
800 Band Law Enforcement	806.00 -824.00 MHz
Conventional/Trunked Systems	856.00 -866.00 MHz
Public Safety	866.00 -869.00 MHz
Trunked Private/General	894.00 -960.00 MHz

### Primary Usage

As a general rule, most of the radio activity is concentrated on the following frequencies:

#### VHF Band

Activities	Frequencies
Government, Police, and Fire	153.785 -155.980 MHz
Emergency Services	158.730 -159.460 MHz
Railroad	160.000 -161.000 MHz

#### UHF Band

Activities	Frequencies
Land-Mobile "Paired" Frequencies	450.000 -470.000 MHz
Base Stations	451.025 -454.950 MHz

Mobile Units	456.025 -459.950 MHz
Repeater Units	460.025 -464.975 MHz
Control Stations	465.025 -469.975 MHz

Note: Remote control stations and mobile units operate at 5 MHz higher than their associated base stations and relay repeater units.

#### SPECIFIED INTERVALS

Frequencies in different bands are accessible only at specified intervals. For example:

Frequency Range (s)	Specified Interval
29.54 and 137-174 MHz	5.0 kHz steps
380-512 MHz	12.5 kHz steps
108-136.975 MHz	25 kHz steps

#### BAND ALLOCATION

To help decide which frequency ranges to scan, use the following listing of the typical services that use the frequencies your scanner receives. These frequencies are subject to change, and might vary from area to area. For more complete listing, refer to the "Police Call Radio Guide including Fire and Emergency Services," available at your local Radio Shack store.

Abbreviations	Services
AIR	Aircraft
BIFC	Boise (ID) Interagency Fire Cache
BUS	Business
CAP	Civil Air Patrol
CB	Citizens Band
CCA	Common Carrier
CSB	Conventional Systems
CTSB	Conventional/Trunked Systems
FIRE	Fire Department
HAM	Amateur (HAM) Radio
GOVT	Federal Government
GMR	General Mobile Radio
GTR	General Trunked

IND	Industrial Services (Manufacturing, Construction, Farming, Forest Products)
MAR	Military Amateur Radio
MARI	Maritime Limited Coast (Coast Guard, Marine Telephone, Shipboard Radio, Private Stations)
MARS	Military Affiliate Radio System
MED	Emergency/Medical Services
MIL	U.S. Military
MOV	Motion Picture/Video Industry
NEW	New Mobile Narrow
NEWS	Relay Press (Newspaper Reporters)
OIL	Oil/Petroleum Industry
POL	Police Department
PUB	Public Services (Public Safety, Local Government, Forestry Conservation)
PSB	Public Safety
PTR	Private Trunked
ROAD	Road & Highway Maintenance
RTV	Radio/TV Remote Broadcast Pickup
TAXI	Taxi Services
TELB	Mobile Telephone (Aircraft, Radio Common Carrier, Landline Companies)
TELC	Cordless Phones
TELM	Telephone Maintenance
TOW	Tow Trucks
TRAN	Transportation Services (Trucks, Tow Trucks, Buses, Railroad, Other)
TSB	Trucked Systems
TVn	FM-TV Audio Broadcast
USXX	Government Classified
UTIL	Power & Water Utilities



WTHR	Weather
VERY HIGH FREQUENCY (VHF)	
VHF Low Band - (In 5 kHz steps)	
29.900-30.550	GOVT, MIL
30	
580-31.980	IND, PUB
32.000-32.990	GOVT, MIL
33.020-33.980	BUS, IND, PUB
34.010-34.990	GOVT, MIL
35.020-35.980	BUS, PUB, IND, TELM
36.000-36.230	GOVT, MIL
36.250	Oil Spill Cleanup
36.270-36.990	GOVT, MIL
37.020-37.980	PUB, IND
38.000-39.000	GOVT, MIL
39.020-39.980	PUB
40.000-42.000	GOVT, MIL, MARI
42.020-42.940	POL
42.960-43.180	IND
43.220-43.680	TELM, IND, PUB
43.700-44.600	TRAN
44.620-46.580	POL, PUB
46.600-46.990	GOVT, TELC
47.020-47.400	PUB
47.420	American Red Cross
47.440-49.580	IND, PUB
49.610-49.990	MIL, TELC
6-Meter Amateur Band	
50.000-54.000	HAM
U.S. Government Band	
137.000-144.000	GOVT, MIL

2-Meter Amateur Band

144.000-148.000 HAM

VHF High Band

148.050-150.345 CAP, MAR, MIL

150.775-150.790 MED

150.815-150.980 TOW, Oil Spill Cleanup

150.995-151.475 ROAD, POL

151.490-151.955 IND, BUS

151.985 TELM

152.0075 MED

152.030-152.240 TELB

152.270-152.480 IND, TAXI, BUS

152.510-152.840 TELB

152.870-153.020 IND, MOV

153.035-153.725 IND, OIL, UTIL

153.740-154.445 PUB, FIRE

154.490-154.570 IND, BUS

154.585 Oil Spill Cleanup

154.600-154.625 BUS

154.655-156.240 MED, ROAD, POL. PUB

156.255-157.425 OIL, MARI

157.450 MED

157.470-157.515 TOW

157.530-157.725 IND, TAXI

157.740 BUS

157.770-158.100 TELB

158.130-158.460 BUS, IND, OIL, TELM, UTIL

158.490-158.700 TELB

158.730-159.465 POL, PUB, ROAD

159.480 OIL

159...495-161.565	TRAN
161.580-162.000	OIL, MARI, RTV
162.0125-162.35	GOVT, MIL, USXX
162.400-162.550	WTHR
162.5625-162.6375	GOVT, MIL, USXX
162.6625	MED
162.6875-163.225	GOVT, MIL, USXX
163.250-166.225	MED, GOVT, MIL, USXX
166.250	GOVT, RTV, FIRE
166.275-169.400	GOVT, BIFC
169.445-169.505	Wireless Mikes, GOVT
169.55-169.9875	GOVT, MIL, USXX
170.000-170.150	BIFC, GOVT, RTV, FIRE
170.175-170.225	GOVT
170.245-170.305	Wireless Mike
170.350-170.400	GOVT, MIL
170.425-170.450	BIFC
170.475	PUB
170.4875-173.175	GOVT, PUB, Wireless Mikes
173.225-173.5375	MOV, NEWS, UTIL, MIL
173.5625-173.5875	MIL Medical/Crash Crews
173.60-173.9875	GOVT
ULTRA HIGH FREQUENCY (UHF)	
U.S. Government Band	
406.125-419.975	GOVT. USXX
70-cm Amateur Band	
420.000-150.000	HAM
Low Band	
450.050-450.925	RTV
451.025-452.025	IND, OIL, TELM, UTIL

452.0375-453.00	IND, TAXI, TRAN TOW, NEWS
453.0125-454.000	PUB, OIL
454.025-454.975	TELB
455.050-455.925	RTV
457.525-457.600	BUS
458.025-458.175	MED
460.0125-160.6375	FIRE, POL, PUB
460.650-462.175	BUS
462.1875-462.450	BUS, IND
462.4625-462.525	IND, OIL, TELM, UTIL
462.550-462.925	GMR, BUS
462.9375-463.1875	MED
463.200-467.925	BUS

FM-TV Audio Broadcast, UHF Wide Band  
(Channels 14 through 69 MHz steps)

475.750	Channel 14
481.750	Channel 15
487.750	Channel 16
511.750	Channel 20

NOTE: Some cities use the 470-512 MHz band for land/mobile service.

Conventional Systems Band - Locally Assigned

851.0125-855.9875	CSB
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Conventional/Trunked Systems Band - Locally Assigned

856.0125-860.9875	CTSB
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Trunked Systems Band - Locally Assigned

861.0125-865.9875	TSB
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Public Safety Band - Locally Assigned

866.0125-865.9875	PSB
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33-Centimeter Amateur Band

902.0000-928.0000	HAM
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Private Trunked

935.0125-939.9875

PTR

General Trunked

940.0125-940.9875

GTR

#### FREQUENCY CONVERSION

The tuning location of a station can be expressed in frequency (kHz or MHz) or in wavelength (meters). The following information can help you make the necessary conversions.

1 MHz (million) = 1,000 kHz (thousand)

To convert MHz to kHz, multiple the number of megahertz by 1,000:

$30.62 \text{ (MHz)} \times 1000 = 30,620 \text{ kHz}$

To convert from kHz to MHz, divide the number if kilohertz by 1,000:

$127,800 \text{ (kHz)} \div 1000 = 127.8 \text{ MHz}$

To convert MHz to meters, divide 300 by the number of megahertz:

$300 \div 50 \text{ MHz} = 6 \text{ meters}$

(LB/km-04/11/1997)

#### TURNING ON THE SCANNER/SETTING VOLUME AND SQUELCH

NOTE: Make sure the scanner's antenna is connected before you turn it on.

1. Turn SQUELCH fully counterclockwise.
2. Turn OFF/VOLUME clockwise until it clicks and you hear a hissing sound.
3. Turn SQUELCH clockwise, then leave it set to a point just after the hissing sound stops.

If the scanner automatically starts scanning channels, press MANUAL to stop scanning.

NOTE: If you have not stored frequencies into any channels (see "Storing Active Frequencies"), the scanner does not scan.

If the scanner picks up unwanted, partial, or very 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 counterclockwise. (Also see "Special Features," Faxback Doc. # 38899 for more information about adjusting the scanner's sensitivity).

If SQUELCH is adjusted so you always hear a hissing sound, the scanner does not scan properly.

#### STORING ACTIVE FREQUENCIES

You can store frequencies into channels using any of these methods:

Manual storage

Auto storage

Band, limit, or direct search

Good references for active frequencies are Radio Shack's "Police Call Radio Guide Including Fire and Emergency Services," "Aeronautical Frequency Directory," and "Maritime Frequency Directory." We update these directories every year, so be sure to get a current copy. See also "General Guide to Scanning," Faxback Doc. # 38900.

If you do not have a reference to frequencies in your area, follow the steps in "Automatically Storing Frequencies," "Band Search," "Limit Search," or "Direct Search from the Displayed Frequency" to search for transmissions.

#### Manually Storing Frequencies

If you know a frequency you want to store, you can store it manually.

1. Press PROGRAM. PROGRAM appears.
2. Use the number keys to enter the channel number where you want to store the frequency, then press PROGRAM again.
3. Use the number keys to enter the frequency you want to store into that channel (including the decimal point).
4. Press ENTER to store the frequency.

NOTES: If you entered an invalid frequency in Step 3, the scanner beeps and displays the channel number and Error. Simply repeat Steps 3 and 4.

Your scanner automatically rounds the entered frequency down to the closest valid frequency. For example, if you try to enter 151.4730, your scanner accepts it as 151.4700.

If you entered a frequency that is already stored in another channel, the scanner beeps three times and displays the lowest channel number where the lowest channel number where the frequency is already stored, and -DUPL- then the frequency flashes at the channel where you tried to store it. If you want to store the frequency anyway, press ENTER again.

If you find that you entered a wrong frequency after you press ENTER, you can change it to the correct frequency by following these steps.

- a. Press ENTER. One of the frequency's digits flashes.
  - b. Repeatedly press UP ARROW and DOWN ARROW until the digit you want to change flashes.
  - c. Use the number keys to enter the correct digit.
  - d. Press ENTER.
5. Repeat Steps 2-4 to store more frequencies into channels.

#### Automatically Storing Frequencies

Your scanner can automatically store active frequencies from a particular frequency range into empty channels in the channel-storage banks you specify.

NOTES: The scanner does not store duplicate frequencies during auto store.

The scanner does not store locked-out frequencies during auto store (see "Special Features," Faxback Doc. # 38899).

1. Press AUTO BANK and all channel-storage bank numbers appear, and the bar under the currently selected bank number flashes. AUTO and AC-XXCH also appear, where XX is the number of empty channels in the active bank.

To view the number of empty channels in other banks, repeatedly press AUTO.

2. Press the number key for each bank where you do not want to store frequencies. The bar under each bank number you select disappears.

NOTES: To turn off bank 10, press 0.

To turn a bank back on, press its number key again. The bar under the bank number appears.

If you select a bank that does not contain any empty channels, A-FULL appears instead of AC-XXCH. To enter new frequencies into this bank, you must delete one or more frequencies stored in it. See "Deleting Frequencies".

3. Press LIMIT. L and the lower limit frequency (29.0000) appear. 29.0000 is the default.
4. Use the number keys to enter the lower limit of the frequency range where you want to find frequencies to store, then press ENTER.
5. Press LIMIT. H and the upper limit frequency (960.0000) appears. 960.0000 is the default.
6. Use the number keys to enter the upper limit of the frequency range where you want to find frequencies to store, then press ENTER.

NOTE: If you enter an invalid frequency in Step 4 or 6, the scanner displays Error. Simply repeat the step.

7. Press UP ARROW to go from the lower to the upper limit, or DOWN ARROW to go from the upper to the lower limit. AUTO and the bar under the currently selected bank number flash.

When the scanner finds an active frequency, it stores the frequency in the channel number displayed to the left of CH, then continues searching for more active frequencies and storing them in any subsequent empty channels. When the scanner fills all channels within the selected banks, it beeps rapidly and displays the last frequency stored and the number of the channel where it was stored.

NOTES: During auto store, you can manually change the receiver mode.

To pause auto store, press AUTO. The scanner displays the last channel number where a frequency was stored, or - - - - if no frequencies are stored. To continue auto store, press UP ARROW or DOWN ARROW.

During auto store, the scanner beeps when it reaches the upper limit frequency, then continues searching from the lower limit frequency, or vice versa.

8. To stop auto store, press MANUAL. MANUAL appears.

## Band Search

If you do not know of a frequency to store, you can search your scanner's preprogrammed search bands for active frequencies, then store any that you find into your scanner's channels or monitor memories.

NOTES: You can use the scanner's delay feature while using band search.



During band search, you can manually change the receive mode.

Follow these steps to search for and store active frequencies using band search.

1. Press BAND. The last selected band number (b followed by a number, such as b02), SEARCH, and the frequency search range appear.
2. To select a different band, enter the band's number (01-17), or repeatedly press BAND until the desired band number appears.
3. To step through the band upward or downward in small increments (in steps of 5, 12.5, or 25 kHz depending on the band), repeatedly press UP ARROW or DOWN ARROW.

Or, hold down UP ARROW for about 1 second to search up from the bottom of the band, or DOWN ARROW for about 1 second to search from the top of the band. UP ARROW or DOWN ARROW appears.

When the scanner finds an active frequency, it stops searching and displays the frequency's number.

NOTES: To reverse the rapid search direction at any time, hold down UP ARROW or DOWN ARROW for about 1 second.

To store the displayed frequency in the lowest available channel, press ENTER. The channel and frequency flash twice, and the scanner stores the displayed frequency. Then the scanner continues to search for frequencies.

If there is no empty channel, CH-FULL appears. To store more frequencies, you must clear some channels. To continue searching after CH-FULL appears, press CLEAR then UP ARROW or DOWN ARROW.

To store the displayed frequency in the lowest available monitor memory, press MONITOR. The frequency flashes twice, and MON, the monitor memory number, and CH flash. To search for another active frequency in the selected band, hold down UP ARROW or DOWN ARROW for about 1 second.

If you try to store a frequency in a monitor memory that is already stored in a channel, -DUPL- flashes then the channel number and CH, MON, and the frequency flash. If you want to store the frequency anyway, press MONITOR.

4. To select a different band and search for another active frequency, repeat Steps 2-3.

#### Limit Search

You can search for transmissions within a range of frequencies you select, or you can use one of the scanner's 10 preprogrammed limit search ranges.

NOTES: You can use the scanner's delay feature while using limit search.

During a limit search, you can manually change the receive mode.

The scanner contains there preprogrammed limit search ranges, stored in

search banks, 1-10.

Search Bank	Limit Search Range (MHz)	Description
1	29.0000-54.0000	10-Meter Amateur Radio, VHF Lo, 6-Meter Amateur Radio
2	108.0000-136.9750	Aircraft
3	137.0000-174.0000	Government, 2-Meter Amateur Radio, VHF Hi
4	380.0000-512.0000	Military Aircraft, UHF Lo, 70-Centimeter Amateur Radio, UHF "T" Band, Government
5	806.0000-815.2875	UHF Public Service
6	815.3000-820.7375	UHF Public Service
7	820.7500-824.0000	UHF Public Service
8	849.0000-869.0000	UHF Hi
9	894.0000-960.0000	UHF-Hi, 33-Centimeter Amateur Radio
10	29.0000-960.0000	All Frequencies

Follow these steps to select the preprogrammed limit search ranges and search them for active frequencies.

1. Press LIMIT. L and the last selected search bank number appear, and the bar under the selected bank number flashes.
2. Using the number keys, enter the search bank number for each limit search range you want to remove or select. When a bank is selected, a bar appears under it.

NOTE: To select bank 10, press 0.

3. To step through the selected band upward or downward in small increments (in steps of 5, 12.5 or 25 kHz depending on the band), press and release UP ARROW or DOWN ARROW.

On hold down UP ARROW for about 1 second to search from the lower to the upper limit, or DOWN ARROW to search from the upper to the lower limit. As the scanner searches, it displays SEARCH, and the bar under the current search bank number flashes.

When the scanner finds an active frequency, it stops searching.

NOTES: To reverse the rapid search direction at any time, hold down UP ARROW or DOWN ARROW for about 1 second.

To store the displayed frequency in the lowest available channel, simply press ENTER. The scanner stores the frequency and continues to search.

If there is no empty channel, CH-FULL appears. To store more frequencies, you must clear some channels.

If you entered a frequency that is already stored in another channel, the scanner beeps three times and displays the lowest channel number where the frequency is already stored, and -DUPL- then the frequency flashes at the channel where you tried to store it. If you want to store the frequency anyway, press ENTER again.

To store the current frequency in a monitor memory, simply press MONITOR. To search for another active frequency, hold down UP ARROW or DOWN ARROW for about 1 second.

#### Changing a Preprogrammed Range

You can replace any of the preprogrammed limit search ranges with your own frequency ranges. This is useful if there is a range of frequencies you search often that is not within any of the preprogrammed ranges.

NOTES: You cannot set a frequency limit outside the scanner's range of 29.0000 MHz to 960.0000 MHz.

You can restore the preprogrammed limit search limit search ranges you replaced by initializing the scanner.

1. Press PROGRAM. PROGRAM appears.
2. Using the number keys, select the number for the search bank where you want to store a new limit search range.  
  
NOTE: To select bank 10, press 10.
3. Press LIMIT. SEARCH BANK, the selected bank number, and L appear, and a bar flashes under the selected search bank's number.
4. Use the number keys to enter the lower limit of the frequency range you want to search, then press ENTER.
5. Press LIMIT. L changes to H.
6. Use the number keys to enter the higher limit of the frequency range you want to search, then press ENTER.  
  
NOTE: If you enter an invalid frequency in Step 4 or 6, the scanner displays Error. Simply enter another frequency.
7. To store more limit search ranges, repeat Steps 2-6.
8. Follow Steps 1-3 in "Limit Search" to search the range(s) you just set.

#### Direct Search from the Displayed Frequency

You can search up or down from the currently displayed frequency and store frequencies into channels or monitor memories.

NOTES: You can use the scanner's delay feature while using direct search.

Direct direct search, you can manually change the receive mode.

1. When you see the frequency where you want to start the search, press DIRECT/..SEARCH, -d-, and the starting frequency appear.
2. To step through the selected band upward or downward in small increments (in steps of 5, 12.5 or 25 kHz depending on the band), press and release UP ARROW or DOWN ARROW.

Or, hold down UP ARROW or DOWN ARROW for about 1 second to search up or down from the selected frequency.

When the scanner finds an active frequency, it stops searching.

NOTE: To reverse the search direction at any time, hold down UP ARROW or DOWN ARROW for about 1 second.

To store the current frequency in the lowest available channel, simply the frequency, then continues to search.

NOTES: If the displayed frequency is already stored in another channel, the scanner beeps three times and displays the lowest channel number where the frequency is already stored, and -dUPL- then the frequency flashes. If you want to store the frequency anyway, press ENTER again.

If there is no empty channel, CH-FULL appears. To store more frequencies, you must clear some channels.

To store a displayed frequency in a monitor memory, simply press MONITOR. To search for another active frequency, hold down UP ARROW or DOWN ARROW for about 1 second.

#### Direct Search from a Frequency You Select

You can search all frequencies within a range of 1 to 10 MHz, starting from a frequency you select.

1. Press MANUAL or PROGRAM.
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 MANUAL or PROGRAM again.
3. Press DIRECT/.. SEARCH, -d-, and the starting frequency appear.
4. Using the number keys, enter the frequency range you want to search. For example, if you want to search a 2 MHz range of frequencies starting from the selected frequency, press 2.

NOTE: To select 10 MHz, press 0.

5. Follow Step 2 in "Direct Search from the Displayed Frequency" to search the range and store any frequencies you find.

NOTE: Page 4 has a list of all frequency in Step 2 that is at the edge of a range of frequencies that the scanner cannot tune, and try to search in that range, the scanner beeps and does not search.

If you set a search range that crosses over into a range of frequencies that the scanner cannot tune, the scanner searches only up to the limit of tunable frequencies and returns to the starting frequency.

#### SCANNING THE CHANNELS

To begin scanning channels or to start scanning again after monitoring a specific channel, press SCAN.

The scanner scans through all channels (except those you have locked out) in the active banks).

NOTES: You must store frequencies into channels before the scanner can scan them.

The scanner does not scan empty channels.

To change the scanning direction, press UP ARROW or DOWN ARROW.

#### TURNING CHANNEL-STORAGE BANKS OFF AND ON

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

#### MOVING FREQUENCIES

Moving a Frequency from a Monitor Memory to a Channel

1. Press PROGRAM.
2. Use the number keys to enter the channel number where you want to store the monitor frequency, then press PROGRAM again.
3. Press MONITOR and enter the desired monitor memory's number (1-40), then press MONITOR again. The selected monitor memory's frequency appears.

4. Press ENTER. The scanner stores the frequency in the selected channel.
5. To move another monitor memory frequency to the next channel, press PROGRAM and repeat Steps 3 and 4.

#### Moving Frequencies from Monitor Memories to a Bank

Your scanner can move all the frequencies you have stored in monitor memories into a bank you specify.

NOTES: If there are more frequencies in the monitor memories than there are empty channels in the bank you select, the scanner moves only as many frequencies from the monitor memories as it has room for in the bank.

The scanner moves monitor memory frequencies into channels even if the same frequencies are already stored in other channels.

1. Press AUTO. The bar under the current bank number flashes, and AUTO and AC-XXCH appear (where XX is the number of available channels in the current bank). If the current bank is full, A-FULL appears.
2. Repeatedly press AUTO to select the channel-storage bank where you want to store monitor memory frequencies.
3. Hold down ENTER, then press MONITOR. The scanner moves all frequencies stored in monitor memories into the bank.

#### Moving Frequencies from Bank to Monitor Memories

You can move all stored frequencies within a bank to monitor memories. This lets you quickly clear channels within a bank without losing the frequencies.

IMPORTANT: If you move frequencies from a bank to monitor memories, all frequencies already in the monitor memories are replaced with those frequencies and any empty channels from the bank.

1. Press AUTO. AUTO appears.
2. Repeatedly press AUTO to select the channel-storage bank that has the frequencies you want to move.
3. Hold down ENTER, then press DIRECT/.. The scanner automatically moves all frequencies in channel within the bank to monitor memories.

#### DELETING FREQUENCIES

##### Deleting a Frequency from a Channel or Monitor Memory

1. Press PROGRAM.
2. Use the number keys to enter the channel or monitor number containing the frequency you want to delete.
3. If you are deleting the frequency from a channel, press PROGRAM. If

you are deleting the frequency in a monitor memory, press MONITOR.

4. Press 0, then press ENTER. The frequency is deleted.
5. To delete more frequencies, repeat Steps 2-4.

#### Deleting Frequencies from All Channels Within a Bank

You can delete the frequencies in all channels within a bank. This lets you quickly delete all frequencies from a bank if, for example, you want to use the bank to store a different set of frequencies.

1. Press AUTO. AUTO appears.
2. Repeatedly press AUTO to select the channel-storage bank that has the frequencies you want to delete.
3. Hold down ENTER, then press CLEAR.

#### Deleting Frequencies from All Locked-Out Channels Within a Bank

You can delete the frequencies in all locked-out channels within a bank. This lets you delete all the old or uninteresting frequencies in channels you have locked out.

1. Press AUTO. AUTO appears.
2. Repeatedly press AUTO to select the channel-storage bank that has the locked-out frequencies you want to delete.
3. Hold down ENTER, then press L/OUT.

#### SORTING FREQUENCIES WITHIN A BANK

You can sort the frequencies you have stored within a bank. The scanner moves the frequencies into consecutive channels, either from the lowest to the highest frequency, or the highest to the lowest frequency. This makes it easy for you to see the range of frequencies you found (during auto store for example).

NOTES: During frequency sort, the scanner moves the frequencies it finds within the bank from higher channels to lower, empty channels.

If you turn the scanner off during frequency sort, the scanner stays on until it saves the portion of the sort it completed. Then it turns off.

1. Press AUTO. AUTO appears.
2. Repeatedly press AUTO to select the channel-storage bank that has the frequencies you want to sort.
3. Hold down ENTER, then press UP ARROW to sort channels from the lowest to the highest frequency, or press DOWN ARROW to sort channels from the highest to the lowest frequency. As the scanner sorts the frequencies, Sor. appears.

#### LISTENING TO MONITOR MEMORIES

To listen to a monitor memory, press MANUAL, then press MONITOR. The current monitor memory frequency appears, and NON and the channel number flash. To select other monitor memories, use the number keys to enter the monitor memory's number (1-40), then press MONITOR. MON and the monitor memory number where the frequency is stored flash.

#### LISTENING TO A WEATHER BAND

The FCC (Federal Communications Commission) has allocated channels for use by the National Oceanic and Atmospheric Administration (NOAA). Regulatory agencies in other countries have also allocated channels for use by their weather reporting authorities.

NOAA and your local weather reporting authority broadcast your local forecast and regional weather information on one or more of these channels.

To hear your local forecast and regional weather information, simply press WX. Your scanner scans through the weather band, and UP ARROW and WX appear. Your scanner should stop within a few seconds on your local weather broadcast.

To reverse the scanning direction, press DOWN ARROW or UP ARROW.

To manually select a preprogrammed weather channel, repeatedly press WX until MANUAL appears, then:

Repeatedly press UP ARROW or DOWN ARROW to move forward or backward through the channels.

Press the 2-digits number (01-11) of the channel you want to listen to.



WARNING: To prevent fire or shock hazard, do not expose this product to rain or moisture.

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER OR BACK. NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED PERSONNEL.

#### FCC NOTICE

Your scanner might cause TV or radio interference even when it is operating properly. To determine whether your scanner is causing the interference, turn off your scanner. If the interference goes away, your scanner is causing it. Try to eliminate the interference by:

Moving your scanner away from the TV or radio

Connecting your scanner to an outlet that is on a different electrical circuit from the TV or radio

Contacting your local Radio Shack store 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, and (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 services, 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 (either, cellular, cordless, or other private means of telephone 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 content of a party to the communication (unless such activity is otherwise illegal). We encourage responsible, legal scanner use.

This scanner is primarily designed for use in the home as a base station. You can place it on a desk, shelf, or table.

Your scanner's front feet fold up or down. Adjust them to give you the best view of the display.

## POWER SOURCES

You can power your scanner from either of these sources:

Standard AC power

Vehicle battery power using an optional DC cigarette-lighter power cord

**NOTE:** If the scanner stops working properly after connecting it to power, try resetting it.

The memory backup circuit begins to function a few minutes after you supply power to the scanner. How long the scanner will maintain channels stored in memory depends on how long power has been supplied to the scanner. If power is continuously supplied to the scanner for at least 4 days, the memory backup circuit maintains the channels stored in memory for up to 3 months.

### Using Standard AC Power

Plug the scanner's power cord into a standard AC outlet.

**WARNING:** Do not use the scanner's polarized plug with an extension cord, receptacle, or other outlet unless the blades can be fully inserted to prevent blades can be fully inserted to prevent blade exposure.

### Using Vehicle Battery Power

If your AC power does not work in an emergency, you can power your scanner from your vehicle's cigarette-lighter socket with an optional DC cigarette-lighter power cord such as Cat. No. 270-1533 (not supplied).

To connect an optional DC cigarette-lighter power cord, insert its barrel plug into the DC 13.8V jack on the back of the scanner, then plug the power cord into your vehicle's cigarette-lighter socket.

#### Cautions:

If you use a DC cigarette-lighter power cord with the scanner, it must supply at least 1 amp of vehicle power. Its center tip must be set to positive, and its plug must correctly fit the DC 13.8 V jack on the back of the scanner. The recommended power cord meets these specifications. Using a power cord that does not meet these specifications could damage the scanner or the power cord.

To protect your vehicle's electrical system, always plug the power cord into the scanner before you plug it into your vehicle's cigarette-lighter socket. Always unplug the power cord from the vehicle's cigarette-lighter socket before you unplug it from the scanner.

#### Notes:

Mobile use of this scanner is unlawful or requires a permit in some areas. Check the laws in your area.

If the scanner does not operate properly when you connect a DC power

cord, unplug the power cord from the cigarette-lighter socket and clean the socket to remove ashes and other debris.

#### CONNECTING THE ANTENNA

The supplied telescoping antenna helps your scanner receive strong local signals. To install the antenna, screw it clockwise into the hole on the scanner's top.

The scanner's sensitivity depends on the antenna's length and various environmental conditions. For the best reception of the transmissions you want to hear, adjust the antenna's length.

Frequency	Antenna Length
29-174 MHz	Extend Fully
380-512 MHz	Extend 2 segments
806-960 MHz	Collapse fully (1 segment only)

#### Connecting an Optional Antenna

The ANT jack on the back of the scanner makes it easy to use the scanner with a variety of antennas. Instead of the supplied antenna, you can attach a different one, such as an external mobile antenna or outdoor base station antenna. Your local RadioShack store sells a variety of antennas.

When deciding on an antenna and its location, consider the following:

The location of the antenna should be as high as possible.

The antenna and antenna cable should be as far as possible from sources of electrical noise (appliances, other radios, and so on).

The antenna should be vertical for the best performance.

Always use 50-ohm coaxial cable, such as RG-58 or RG-8, to connect an outdoor antenna. For lengths over 50 feet, use RG-8 low-loss dielectric coaxial cable. If the coaxial cable's connector does not fit in the ANT jack, you might also need a PL-259-to-BNC antenna plug adapter, such as Cat. No. 278-120. Your local RadioShack store carries a wide variety of coaxial antenna cable and connectors.

Follow the installation instructions supplied with the antenna, route the antenna cable to the scanner, then connect it to the ANT BNC-type jack on the back of the scanner.

**Warning:** Use extreme caution when installing or removing an outdoor antenna. If the antenna starts to fall, let it go. It could contact overhead power lines. If the antenna touches a 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.

**Caution:** Do not run the cable over sharp edges or moving objects.

#### CONNECTING AN EARPHONE/HEADPHONES

For private listening, you can plug an earphone or mono headphones (such as Cat. No. 33-175 or 20-210) into the headphones jack on the front of

your scanner. This automatically disconnects the internal speaker.

### Listening Safely

To protect your hearing, follow these guidelines when you use an earphone or 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 use an earphone or headphones with your scanner when operating a motor vehicle in or near traffic. Doing so can create a traffic hazard and could be illegal in some areas.

If you use an earphone or headphones with your scanner while operating a motor vehicle, be very careful. Do not listen to a continuous broadcast. Even though some earphones/headphones let you hear some outside sounds when listening at normal volume levels, they still can present a traffic hazard.

### CONNECTING AN EXTENSION SPEAKER

In a noisy area, an extension speaker (Cat. No. 21-549) or an amplified speaker (Cat. No. 21-541) might provide more comfortable listening.

Plug the speaker cable's 1/8-inch mini-plug into the EXT SPKR jack on the back of your scanner.

### UNDERSTANDING YOUR SCANNER

Once you understand a few simple terms we use in this manual and familiarize yourself with your scanner's features, you can put the scanner to work for you. You simply determine the communications you want to receive, then set the scanner to scan those frequencies.

A frequency is the turning location of a station (expressed in kHz or MHz). To find active frequencies, you can use the search function to search bands, which are preset ranges of frequencies.

When you find a frequency, you can store it into a permanent memory location called a channel, which is grouped with your other channels in a channel-storage bank. You can then scan the channel-storage banks to see if there is activity on the frequencies stored there. Each time the scanner finds an active frequency, it stays on that channel until the transmission ends.

Another option is to store the frequency into a temporary memory location called a monitor memory until you decide to move it to a channel.

Just keep in mind - you search frequencies and scan channels.

#### A LOOK AT THE KEYPAD

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

BAND - selects a preprogrammed search band.

SCAN - scans through the programmed channels.

MANUAL - stops scanning to let you directly enter a channel number.

AUTO - automatically programs frequencies into channels.

WX - scans through the 11 preprogrammed weather channels.

PRIORITY - sets and turns on and off priority for 10 priority channels.

AM/FM - changes the receive mode.

PROGRAM - lets you program frequencies into channels.

LIMIT - sets the frequency range you want to search.

UP ARROW and - searches up or down from the currently displayed.  
DOWN ARROW

MONITOR - accesses the 40 monitor memories.

DELAY - programs a 2-second delay for the selected channel.

L/OUT - lets you lock out selected channels or frequencies so they will not be scanned or searched.

L/OUT REVIEW - lets you review locked-out channels or frequencies.

CLEAR - clears an incorrect entry.

Number Keys - each key has a single-digit label and a range of numbers. Use the digits on the keys to enter the numbers for a channel or a frequency. Use the range of numbers above the key (41-80, for example) to select the channels in a channels in a channel-storage bank.

DIRECT/Symbol - starts a direct frequency search or enters a decimal point (necessary when programming frequencies).

ENTER - enters frequencies into channels.

#### A LOOK AT THE DISPLAY

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

MANUAL - appears when you manually select a channel.

SEARCH BANK - appears with numbers (1-10) when you program limit search ranges. A bank number with a bar under it shows it is selected for a limit search.

BANK - appears with numbers (1-10). Bank numbers with a bar under them show which ones are turned on for scanning.

P - appears with numbers (1-10). Numbers with a bar under them show which priority channels are turned on.

SCAN - appears when you scan channels.

SEARCH - appears during a band, limit, or direct frequency search.

UP ARROW or DOWN ARROW - indicates the search or scan direction.

WX - appears when you scan the 11 preprogrammed weather channels.

PROGRAM - appears while you program frequencies into the scanner's channels, or while you program a limit search range.

DELAY - appears when you program a 2-second delay for a channel.

AUTO - appears while the scanner automatically stores frequencies into channels.

PRI - appears when the priority feature is turned on.

MON - flashes with a number (1-40) to show which monitor memory you are listening to.

CH - appears with digits (1-400) to show which channel the scanner is turned to.

AM/FM - shows which preset mode (AM or FM) the scanner is set to while scanning and flashes when you change a frequency to the other mode.

L/OUT - appears when you manually select a channel or frequency you locked out while scanning or searching.

Error - appears when you make an entry error.

-dUPL- (duplicate) - appears when you try to store a frequency that is already stored in another channel.

CH-FULL - appears when all 400 channels are full.

L-FULL - appears when 200 frequencies are locked out during a band, limit, or direct search.

A-FULL - appears when you select a full bank while auto storing or when you finish sorting a full bank.

Pri-On- - appears when you turn on the priority feature.

AC-XXCH - appears with a number to show how many empty channels are in a bank.

Sor. - appears while the scanner sorts frequencies.

PCH ALL-OFF - appears when you press PRIORITY and all of the scanner's priority channels are empty or locked out.

PC - appears with PROGRAM when you set the scanner to the data transfer mode.

ConnECt - appears while you transfer frequencies from a personal computer to the scanner.

FinISH - appears when all frequencies have been successfully transferred from a personal computer to the scanner.

1-Error - appears instead of ConnECt when a checksum error occurred while transferring frequencies (data transfer stops).

2-Error - appears instead of FinISH when out-of-range data on either a channel or a frequency was encountered while transferring frequencies.

3-Error - appears instead of ConnECt when a communications error occurred while transferring frequencies (data transfer stops).

#### UNDERSTANDING BANDS/BANKS/MEMORIES

##### Search Bands

Your scanner can tune over 32,000 different frequencies. Many of these frequencies are grouped within permanent memory locations called search bands (1-17).

Band	Search Range (MHz)	Description
01	29-30	10-Meter Amateur Radio
02	30-50	VHF Lo
03	50-54	6-Meter Amateur Radio
04	108-136	Aircraft
05	144-148	2-Meter Amateur Radio
06	148-174	VHF Hi
07	380-384	Military Aircraft
08	406-420	Government
09	420-450	70-Centimeter Amateur Radio
10	450-470	UHF Lo
11	851-856	UHF Hi
12	856-866	UHF Hi
13	866-869	UHF Hi
14	935-940	UHF Hi
15	940-941	UHF Hi
16	941-952	UHF Hi
17	952-960	33-Centimeter Amateur Radio

You can search these bands to quickly find active frequencies you might want to store into the scanner's channels. For example, if you wanted to search for transmissions between pilots and the control tower at an air show, you could search only the search bands where you are most likely to hear the transmissions (4 and 7).

NOTES: The scanner can search for transmissions on frequencies that are not stored in any of the search bands.

The actual search range of Band 04 is 108-136.975 MHz.

The frequencies in the scanner's search bands are preset. You cannot change them.

"General Guide to Scanning," Faxback Doc. # 38900 lists other frequency ranges and the broadcasts you are likely to hear on those frequencies.

#### Channel-Storage Banks

To make it easier to identify and select the channels you want to listen to, channels are divided into 10 channel-storage banks (1-10) of 40 channels each. You can use each channel-storage bank to group frequencies, such as those used by the police department, fire department, ambulance services, and aircraft.

For example, there might be three or four police departments in your area, using several different frequencies. Additionally, there might be other law enforcement agencies such as state police, county sheriffs, or SWAT teams that use their own frequencies. You could program all law enforcement frequencies starting with Channel 1 (the first channel in Bank 1), then program the fire department, paramedic, and other public safety frequencies starting with Channel 41 (the first channel in Bank 2).

#### Monitor Memories

The scanner also has 40 monitor memories that you can use to temporarily store frequencies while you decide whether to save them into channels. This is handy for quickly storing an active frequency when you are searching through an entire band.

You can only store a frequency into a monitor memory during a band, limit, or direct search. See "Operation," Faxback Doc. # 38898.

You can select monitor memories manually, but you cannot scan them.



#### USING THE DELAY FEATURE

Many agencies use a two-way radio system that might have a pause of several seconds between a query and a reply. To avoid missing a reply, you can program a 2-second delay into any of your scanner's channels or frequencies. Then, when the scanner stops on the channel or frequency, DELAY appears and the scanner continues to monitor the channel/frequency for 2 seconds after the transmission stops before it resumes scanning or searching.

You can program a 2-second delay in any of these ways:

If the scanner is scanning and stops on an active channel, quickly press DELAY before it starts to scan again.

If the desired channel is not selected, manually select the channel then press DELAY.

If the scanner is searching, press DELAY during the search. DELAY appears and the scanner automatically adds a 2-second delay to every transmission it stops on.

To turn off delay, press DELAY when DELAY is displayed.

#### ATTENUATING RECEPTION

To reduce interference or noise caused by signals from a strong local broadcaster, you can reduce the scanner's sensitivity to signals by setting the ATT (attenuate) switch on the back of the scanner. Switch ATT to 10 dB to reduce the scanner's sensitivity, or to 0 dB to receive the signal without attenuation.

If you switch ATT to 10 dB, your scanner might not receive weak signals.

#### LOCKING OUT CHANNELS AND FREQUENCIES

You can scan existing channels or search frequencies faster by locking out channels or frequencies that have a continuous transmission, such as a weather channel. You can lock out as many as 400 channels and 200 frequencies during a search.

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

NOTES: You can delete all the frequencies stored in locked-out channels within a bank.

You can still manually select locked-out channels.

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

To lock out a frequency during a band, limit, or direct search, press L/OUT when the scanner stops on the frequency. The scanner locks out

the frequency, then continues searching.

NOTES: The scanner does not store locked-out frequencies during a search.

If you try to lock out more than 200 frequencies, L-FULL appears.

Follow these steps to remove the lock-out from a frequency.

1. Press BAND or LIMIT or DIRECT/.to start a search .
2. Press L/OUT REVIEW. L-r appears.
3. Repeatedly press UP ARROW or DOWN ARROW until the frequency you want to remove the lockout from appears.
4. Press L/OUT. The frequency you want to remove the lockout from disappears.

If there is another locked-out frequency, it appears. If there are no more locked-out frequencies, the scanner continues searching.

#### Reviewing Locked-Out Channels/Frequencies

To review the channels you locked out, press MANUAL, then repeatedly press L/OUT REVIEW. As you press L/OUT REVIEW, the scanner displays all locked-out channels.

To review the frequencies you locked out, press BAND, LIMIT, or DIRECT/. to start a search, then press L/OUT REVIEW. L/OUT REVIEW L/r appears. As you press UP ARROW or DOWN ARROW, the scanner displays all locked -out frequencies.

#### USING THE PRIORITY FEATURE

The priority feature lets you scan channels and still not miss important or interesting calls on the priority channels. You can program up to 10 frequencies as the priority channels. When you turn on the priority feature, as the scanner scans channels. It checks one of the priority channels every 2 seconds for activity.

NOTE: You can lock out priority channels. If you lock out all priority channels, the scanner displays PCH ALL-OFF when you lock out the last channel.

Follow these steps to store frequencies in the priority channels.

1. Press PROGRAM.
2. Use the number keys to enter the priority channel number (1-10) where you want to store the frequency, then press PRIORITY.
3. Use the number keys to enter the frequency you want to store into that channel.
4. Press ENTER to store the frequency.

NOTES: If you entered an invalid frequency in Step 3, the scanner beeps and displays Error. Simply repeat Steps 3 and 4.

Your scanner automatically rounds the entered frequency down to the closest valid frequency.

If you enter a frequency that is already stored in another channel, the scanner beeps three times and displays the lowest channel number where the frequency is already stored, and -dUPL- briefly flashes. Then P and the channel number appear and the frequency flashes. If you want to store the frequency anyway, press ENTER again.

5. Repeat Steps 2-4 to store more frequencies into the priority channels (up to 10 channels).

To turn on the priority feature, press PRIORITY when the scanner is in the scan or manual mode. Pri -On- appears. The scanner checks a priority channel every 2 seconds. It stays on a priority channel if there is activity, and P and the priority channel number appear along with the priority frequency.

To turn off the priority feature, press PRIORITY . P, the priority channel number, and the frequency disappear.

#### Locking Out Priority Channels

1. Press PROGRAM.
2. Repeatedly press PRIORITY to select the priority channel you want to lock out.
3. Press L/OUT.

NOTE: If you have programmed only one priority channel. PCH ALL-OFF appears.

#### CHANGING THE AM/FM RECEIVE MODE

The scanner is preset to the most common AM or FM receive mode for each frequency range. The preset modes are:

Frequency Band (MHz)	Receive Mode
29.0000 - 54.0000	FM
108.0000 - 136.9750	AM
137.0000 - 174.0000	FM
380.0000 - 512.0000	FM
806.0000 - 960.0000	FM

The preset mode is correct in most cases. However, some amateur radio broadcasts do not operate in the preset mode. If you try to listen to a broadcast when the scanner is not set to the correct receive mode, the broadcast might sound weak or distorted.

To change the mode, press AM/FM. AM or FM blinks to indicate that the displayed receive mode has been changed from the preset mode.

NOTE: If you change any frequency band's receive mode during a search, the scanner no longer uses any of the preset modes. Instead, the scanner uses the selected mode to search for frequencies in all

bands.

To return to the default settings, hold down CLEAR, then press CLEAR, then press AM/FM.

#### TURNING THE KEY TONE OFF AND ON

Each time you press any of the scanner's keys, the scanner sounds a tone.

Follow these steps to turn the scanner's key tone off or back on.

1. If the scanner is on, turn OFF/VOLUME counterclockwise until it clicks to turn it off.
2. While you hold down 2 and ENTER, turn on the scanner.
3. After 1 second, release 2 and ENTER.

#### CONNECTING A DATA LINK TO THE SCANNER

A data interface kit (not supplied) lets you program the scanner with frequencies stored in a computer. Contact your local Radio Shack store for more information.

Frequency Coverage:

Ham:.....29-30 MHz (in 5 kHz steps)  
VHF Lo:.....30-50 MHz (in 5 kHz steps)  
Ham:.....50-54 MHz (in 5 kHz steps)  
Aircraft:.....108-136.975 MHz (in 25 kHz steps)  
Government:.....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/Government:.....380-450 MHz (in 12.5 kHz steps)  
UHF Lo:.....450-470 MHz (in 12.5 kHz steps)  
UHF T:.....470-512 MHz (in 12.5 kHz steps)  
UHF Hi:.....806-824 MHz (in 12.5 kHz steps)  
                    849-869 MHz (in 12.5 kHz steps)  
                    894-960 MHz (in 12.5 kHz steps)  
Channels:.....400 channels, 40 monitor memories,  
  and 10 priority channels

Sensitivity (20 dB S/N):

FM

29-54 MHz:.....1 microV  
108-136.975 MHz:.....1 microV  
137-174 MHz:.....1 microV  
380-512 MHz:.....1 microV  
806-960 MHz:.....2 microV

AM

29-54 MHz:.....2 microV  
108-136.975 MHz:.....2 microV  
137-174 MHz:.....2 microV  
380-512 MHz:.....2 microV  
806-960 MHz:.....4 microV

Selectivity:

-6 dB:.....+/-10 kHz  
 -50 dB:.....+/-20 kHz  
 Spurious Rejection:.....40 dB at 154 MHz (FM)  
 Scanning Rate:.....Up to 25 channels/second  
 Search Rate:.....Up to 50 steps/second  
 Delay Time:.....2 seconds

Intermediate Frequencies (IF):

1st:.....257.5 MHz  
 2nd:.....21.4 MHz  
 3rd:.....455 kHz

IF Rejection:

257.5 MHz @ 154 MHz:.....50 dB  
 21.4 MHz @ 154 MHz:.....100 dB

Squelch Sensitivity:

Threshold (FM and AM):.....1 microV  
 Tight (FM):.....25 dB  
 Tight (AM):.....20 dB

Antenna Impedance:.....50 Ohms

Audio Output Power (10% THD):.....1 W

Built-in Speaker:.....3 inch (77 mm)  
 8-ohm, Dynamic Type

Power Requirements:.....AC 120V, 60 Hz, 13 Watts  
 + 13.8 VDC  
 DC Cigarette-Lighter Power Cord (Cat. No. 270-1533)

Current Drain (Squelched):.....140 mA

Dimensions (HWD):.....3 3/8 x 8 7/16 x 6 13/16 Inches  
 (86 x 214 x 173 mm)

Weight:.....2.4 lbs (1.1 kg)

Supplied Accessory:.....Antenna

Specifications are typical; individual units might vary. Specifications are subject to change and improvement without notice.

U.S. PATENT NOS.

3,961,261	3,962,644	4,027,251
4,092,594	4,133,715	4,245,348

If your scanner is not working as it should, these suggestions might help you eliminate the problem. If the scanner still does not operate properly, take it to your local Radio Shack store for assistance.

Problem	Possible Causes	Remedies
The scanner does not work at all.	The AC power cord is not properly connected.	Be sure the scanner is plugged into a working AC outlet.
	The optional DC power cord is not connected.	Be sure the power cord is fully inserted into the DC 13.8 V.
Poor or no reception.	Improperly connected antenna.	Be sure the antenna is properly connected.
	Programmed frequencies are the same as birdie frequencies.	Avoid programming frequencies listed under "Birdie Frequencies" in the "General Guide to Scanning," Faxback Doc. # 38900 or only select them manually.
Error appears.	Programming error.	Enter the frequency correctly, including the decimal point.
Keys do not work or display changes.	Undetermined error.	Turn the scanner off then on again, or reset the scanner.
Scanner is on but does not scan.	SQUELCH is not correctly adjusted.	Adjust SQUELCH clockwise.
In the scan mode, the scanner locks on frequencies that have an unclear transmission.	Birdies.	Avoid programming frequencies listed under "Birdie Frequencies" in the "General Guide to Scanning," Faxback Doc. # 38900 or only listen to them manually.

#### RESETTING/INITIALIZING THE SCANNER

If the scanner's display locks up or does not work properly after you connect a power source, you might need to reset or initialize it.

**IMPORTANT:** If you have problems, first try to reset the scanner. If that

does not work, you can initialize the scanner; however initializing clears all information stored in the scanner's memory.

#### Resetting the Scanner

1. Turn off the scanner, then turn it on again.
2. Insert a pointed object, such as a straightened paper clip, into the reset opening on the back of the scanner. Then gently press and release the reset button inside the opening.

#### Initializing the Scanner

**IMPORTANT:** This procedure clears all information you stored in the scanner's memory. Initialize the scanner only when you are sure the scanner is not working properly.

1. Turn off the scanner, then turn it on again.
2. While holding down CLEAR, insert a pointed object, such as a straightened paper clip, into the reset opening on the back of the scanner. Then gently press and release the reset button inside the opening.

**NOTE:** You must release the reset button before you release CLEAR. Otherwise, the memory might not clear.

3. When the display reappears, release CLEAR.



To order parts call 1-800-843-7422 or visit your local RadioShack store.

Reference #	Cat.No.	Description	NP Part #
	11318532	CASE STYLE D041(T)	1N4002
Q19 Q28 Q29	10511228	XSTR 2SC2712 SI NPN LO PW	1TD0011
	10511228		1TD0011
Q23	10511244	XSTR 2SC2714(O)BIPOL VHF/	1TD0020
	10511244		1TD0020
Q18	10511830	XSTR 2SK209(Y) FET MOS	1TD0156
	10511830		1TD0156
Q6 Q7 Q16 Q17 Q12 Q14	10514404	XSTR 2SC4226(R24) SI NPN	1TD0585
Q21	10514404	CASE STYLE S0T23 SMD(S)	1TD0585
	10514404		1TD0585
Q8	10514412	XSTR SI LO -PWR NPN	1TD0586
	10514412		1TD0586
Q5 Q24 Q25	10516458	XSTR 2SC2712 -Y SI LOW PWR	1TD0793
	10516458		1TD0793
Q9 Q10 Q11 Q20	10516862	XSTR 2SC4250 SI HIGH FREQ	1TD0834
	10516862		1TD0834
Q13 Q15 Q22 Q26 Q27	10516870	XSTR DTC114YUA SI PRE -BIA	1TD0835
	10516870		1TD0835
Q1 Q2 Q3 Q4	11840212	XSTR SI DIGITAL PNP/NPN	1TD90015
	11840212		1TD90015
	10538353	3 SECTION 21"	A0136
IC10	10906600	IC ,AN7805 VOLT REGULATOR	AN7805
	10906600		AN7805
TC1	10554319	CAP,TRIMMER 20PF RED CASE	C0070
CB1 CB2	11497864	CAP ARRAY, .01UFX2/250V	C1816
L18 L25 L26	10559532	COIL,BAND PASS FILTER	CA1219
	10559532	SPRING TYPE AIR CORE	CA1219
L24	12044046	COIL,BAND PASS FILTER	CA1221
	12044046	VCO	CA1221
L19 L20	10559557	COIL,DATA BASE MANAGEMENT	CA1224
T6	10562445	COIL,CHOKE 5 PIN 100UH	CA3134
	10562445	DC/DC CONVERTER	CA3134
L29	10562577	COIL,CHOKE 18UH	CA3182
L17	10563658	COIL,RADIO FREQUENCY	CA3691
	10563658	TORROID TRANSFORMERS	CA3691
L21 L27 L28	10563880	COIL,CHOKE 10UH	CA3793
L14 L15 L16 L22	11870441	COIL,BPF (29 -54 MHZ)1ST 2	CA90046
L2 L3 L4	11870458	COIL,PF (806 -960 MHZ) 4.7	CA90047
L5 L6	11870466	COIL,BPF (380 -512 MHZ) 10	CA90048
L7 L9	11870474	COIL,BPF (380 -512 MHZ) 22	CA90049
L8	11870482	COIL,BPF (380 -512 MHZ) 33	CA90050
L10	11870490	COIL,BPF (108 -174 MHZ) 39	CA90051
L11 L13 L23	11870508	COIL,BPF (108 -174 MHZ)47N	CA90052
L12	11870516	COIL,BPF (108 -174 MHZ) 82	CA90053
CF1	10569390	FILTER,CER 455KHZ	CB0297
C56 C58	11561214	CAP CER 50V 1PF +- .25PF	CDA010CJBC
	11561214	CASE STYLE 0805 PKG OF 5	CDA010CJBC
C1 C4 C6 C82	11561222	CAP CER 50V 2PF +- .25PF	CDA020CJBC
	11561222	CASE STYLE 0805 PKG OF 5	CDA020CJBC
C48 C80	10575645	CAP CER 50V 3PF +- .25PF	CDA030CJBC
	10575645	CASE STYLE 0805 PKG OF 5	CDA030CJBC
C3 C7	10575660	CAP CER 50V 4PF +- .25PF	CDA040CJBC
	10575660	CASE STYLE 0805 PKG OF 5	CDA040CJBC
C15 C27 C50 C73 C76	10575678	CAP CER 50V 5PF +- .25PF	CDA050CJBC
	10575678	CASE STYLE 0805 PKG OF 5	CDA050CJBC

C12		CAP CER 50V 6PF +- .25PF	CDA060CJBC
		CASE STYLE 0805 PKG OF 5	CDA060CJBC
C16 C17 C18 C72 C79		CAP CER 50V 7PF +- .5PF	CDA070DJBC
		CASE STYLE 0805 PKG OF 5	CDA070DJBC
C124	10575702	CAP CER 50V 8PF +- .5PF	CDA080DJBC
	10575702	CASE STYLE 0805 PKG OF 5	CDA080DJBC
C116	11652245	CEP CER 50V 9PF +- .5PF	CDA090DJBC
	11652245	CASE STYLE 0805 PKG OF 5	CDA090DJBC
C11 C13 C19 C46 C65		CAP CER 50V 10PF +- .5PF	CDA100DJBC
C68 C69 C83		CASE STYLE 0805 PKG OF 5	CDA100DJBC
C34 C43 C47 C61 C64	10575769	CAP CER 50V 100PF +-10	CDA101KJBC
C85 C86 C105 C153	10575769	CASE STYLE 0805 PKG OF 5	CDA101KJBC
C154 C155 C156 C157	10575769		CDA101KJBC
C158 C160 C161 C162	10575769		CDA101KJBC
C163 C164 C172 C173	10575769		CDA101KJBC
C174	10575769		CDA101KJBC
C2 C8 C10 C20 C22 C28	10575793	CAP CER 1000PF +-10 50V	CDA102KJBC
C30 C36 C38 C39 C40	10575793	CASE STYLE 0805 PKG OF 5	CDA102KJBC
C41 C44 C45 C51 C52	10575793		CDA102KJBC
C54 C60 C62 C63 C67	10575793		CDA102KJBC
C71 C74 C78 C81 C84	10575793		CDA102KJBC
C87 C97 C98 C106 C108	10575793		CDA102KJBC
C111 C117 C118 C119	10575793		CDA102KJBC
C125 C126 C131 C140	10575793		CDA102KJBC
C170 C187	10575793		CDA102KJBC
C53 C89 C104 C113	10575843	CAP CER .01UF +-10 50V	CDA103KJBC
	10575843	CASE STYLE 0805 PKG OF 5	CDA103KJBC
C121	10575975	CAP CER 50V 120PF +-10	CDA121KJBC
	10575975	CASE STYLE 0805 PKG OF 5	CDA121KJBC
C122	10576023	CAP CER 50V 150PF +-10	CDA151KJBC
	10576023	CASE STYLE 0805 PKG OF 5	CDA151KJBC
C14 C115	10576056	CAP CERAMIC 50V 18PF +-5	CDA180JJBC
	10576056	CASE STYLE 0805 PKG OF 5	CDA180JJBC
C55 C57 C59	11561297	CAP CER 50V 1.5PF +- .25PF	CDA1X5CJBC
	11561297	CASE STYLE 0805 PKG OF 5	CDA1X5CJBC
C24 C42 C49 C88 C101	10576114	CAP CER 50V 22PF +-5	CDA220JJBC
	10576114	CASE STYLE 0805 PKG OF 5	CDA220JJBC
C25 C77 C99	10576239	CAP CER 27PF +-5 50V	CDA270JJBC
	10576239	CASE STYLE 0805 PKG OF 5	CDA270JJBC
C26 C66 C100	10576296	33PF +-10 50V CER	CDA330KJBC
	10576296	CASE STYLE 0805 PKG OF 5	CDA330KJBC
C23 C93 C94 C95 C114	10576387	47PF +-10 50V CER	CDA470KJBC
C146 C147 C148 C149	10576387	CASE STYLE 0805 PKG OF 5	CDA470KJBC
C150 C151	10576387		CDA470KJBC
C70	11581188	CAP CER 50V 470PF +-10	CDA471KJBC
	11581188	CASE STYLE 0805 PKG OF 5	CDA471KJBC
C137 C138 C178 C179	10576411	CAP CER 50V 4700PF +-10	CDA472KJBC
	10576411	CASE STYLE 0805 PKG OF 5	CDA472KJBC
C123	10576429	CAP CER 25V .047UF +-10	CDA473KFBC
	10576429	CASE STYLE 0805 PKG OF 5	CDA473KFBC
C31 C32 C33 C35	10576544	CAP CER 50V 56PF +-10	CDA560KJBC
	10576544	CASE STYLE 0805 PKG OF 5	CDA560KJBC
C129 C130	11716479	CAP CER 50V 560PF +-5	CDA561JJBC
	11716479	CASE STYLE 0805 PKG OF 5	CDA561JJBC
C96 C127 C128 C133	11574605	CAP CER 50V .0082UF +-5	CDA823JJBC
	11574605	CASE STYLE 0805 PKG OF 5	CDA823JJBC
BT1	10586253	BATTERY,LITHIUM 3V 2LEADS	CS0121
	10586253	VERT PC MOUNT	CS0121
X1	11272754	CRYSTAL,12.8MHZ	CX0319
	11272754	WITH SPACER	CX0319
XF1	10597722	CRYSTAL,21.4MHZ FILTER	CX1360

CX1	10597755	RESONATOR,CER 8MHZ	CX1363
X2	11840048	CRYSTAL,20.945MHZ	CX90023
D18	10618627	DIODE SK BARRIER SI	DD0274
	10618627	8 PIN SMD (S)	DD0274
D3 D7 D15 D16	10618635	DIODE MA862 SI	DD0275
	10618635	CASE STYLE S0T143 (S)	DD0275
D17 D27 D28	10618965	DIODE 1SS355 FAST RECT SI	DD0309
	10618965	CASE STYLE USM/S0D323(S)	DD0309
	10619286		DD0342
D1 D2	10619294	DIODE FAST RECT SI	DD0343
	10619294	CASE STYLE S0D23 (S)	DD0343
D23	11840055	DIODE 1SS357 SI	DD90011
	11840055	CASE STYLE VSM/S0D323(S)	DD90011
D29	11865334	DIODE 1SS383 SI	DD90015
	11865334	CASE STYLE UM4/S0T143	DD90015
D30	11865342	DIODE REF/REG SI	DD90016
	11865342	CASE STYLE USM/SOD323(S)	DD90016
D4 D5 D6 D8 D9 D10	11273612	DIODE HSU277 TRF SI FAST R	DX0114
	11273612	CASE STYLE USM/SOD323 (S)	DX0114
D24	10625317	DIODE DA227 MULTI ARRAY	DX1385
	10625317		DX1385
D32	10625648	DIODE BRIDGE RECT RS102 S	DX1493
	10625648		DX1493
D25 D26	10625770	DIODE IMN10 MULTI ARRAY S	DX1522
	10625770	CASE STYLE 1MD/S0T-36(S)	DX1522
D19 D20 D21	10629707	DIODE HVU300A VARAICAP TU	DX2753
	10629707		DX2753
	11519949	FOOT, RUBBER	F0446
	12237673	FOOT,FRONT PLASTIC TILT	F90006
	11865391	KEYTOP,RUBBER CONTACT	HJ90061
	11865417	LOCK WSHER OUTER QT1,LUG1	HW2000463
J1	10720209	JACK,ANTENNA	J0085
J3	10720704	JACK,DC POWER	J0171
J2	10731511	JACK,3.5MM	J1821
CN4	10731891	CONNECTOR,2 PIN MALE	J4051
	10731891	SPEAKER	J4051
CN1 CN2 CN5	10732378	CONNECTOR,3 PIN MALE	J5678
	10732378	SQUELCH,AUDIO,POWER	J5678
J401	11840063	JACK,EARPHONE	J90031
CN3	11865318	CONNECTOR,5 PIN MALE	J90048
	11865318	EXTERNAL SPEAKER	J90048
CN6	11865326	CONNECTOR,12 PIN MALE	J90049
	11865326	KEYBOARD	J90049
	10784452	KNOB,VOLUME/SQUELCH	K4656
D501 D502 D503 D504	10793933	LED	L0467
D505 D506 D507 D508	10793933	DIODE LT1E51A	L0467
D509	10793933	SURFACE MOUNT AXIAL	L0467
IC2	11464039	IC MC3361BP 16P DIP	MC3361BP
	11464039	CASE STYLE 16 PIN DIP (T)	MC3361BP
	11865425	MANUAL SERVICE 20-463	MS2000463
	11865433	MANUAL,USERS 20-463	MU2000463
IC8	10912517	IC,TK11806M BIPOL DC -DC C	MX7813
	10912517	CASE STYLE 8 PIN SMD (S)	MX7813
	11840105	CASE STYLE 28 PIN SMD (S)	MX90043
IC6	11840113	IC,MICROPROCESSOR	MX90044
	11840113	CASE STYLE 80 PIN FLATPAK	MX90044
IC7	11840121	IC CPU CONTROL MOS	MX90045
	11840121	CASE STYLE X-315 SMD(S)	MX90045
IC12	10923977	IC,S-81250PG-PD VOLT REG	MX9025
	10923977	CASE STYLE SC62/S0T89(T)	MX9025
IC1	10927069	IC BIPOL PLL MOS	MX9339

	10927069	CASE STYLE 20 PIN SMD (S)	MX9339
IC11	10927309	IC,TA78L008AP BIPOL VOLT	MX9363
	10927309	CASE STYLE T0226AE(T)	MX9363
R157	11870391	2.2 5% 1/10W MLG RES	NDA0032EDG
	11870391	PKG OF 5	NDA0032EDG
R167	10945962	10 5% 1/10W MLG RES	NDA0063EDG
	10945962	PKG OF 5	NDA0063EDG
R56 R145	10946192	47 5% 1/10W MLG RES	NDA0099EDG
	10946192	PKG OF 5	NDA0099EDG
R2	10946267	82 5% 1/10W MLG RES	NDA0122EDG
	10946267	PKG OF 5	NDA0122EDG
R1 R3 R36 R42 R48 R52	10946341	100 5% 1/10W MLG RES	NDA0132EDG
R64 R65 R71 R77 R87	10946341	CASE STYLE 08 05 SMD (S)	NDA0132EDG
R90 R92 R105 R154	10946341	PKG OF 5	NDA0132EDG
R156	10946341		NDA0132EDG
R11 R25 R29 R34 R55	10946564	220 5% 1/10W MLG RES	NDA0149EDG
	10946564	PKG OF 5	NDA0149EDG
R501 R502 R503	10946606	270 5% 1/10W CBF RES	NDA0155EDC
	10946606	CASE STYLE 0805 PKG OF 5	NDA0155EDC
R50 R75		330 5% 1/10W MLG RES	NDA0159EDG
		PKG OF 5	NDA0159EDG
R63 R70 R72 R88 R93	10946697	470 5% 1/10W MLG RES	NDA0169EDG
	10946697	PKG OF 5	NDA0169EDG
R57 R80 R83 R102	10946879	1K 5% 1/10W MLG RES	NDA0196EDG
	10946879	PKG OF 5	NDA0196EDG
R164		1.5K 5% 1/10W MLG RES	NDA0206EDG
		PKG OF 5	NDA0206EDG
R9 R13 R23 R26 R27	10947000	2.2K 5% 1/10W MLG RES	NDA0216EDG
R30 R32 R35 R111 R168	10947000	CASE STYLE 0805 SMD (S)	NDA0216EDG
	10947000	PKG OF 5	NDA0216EDG
R4 R81 R82 R84	10947158	3.3K 5% 1/10W MLG RES	NDA0230EDG
	10947158	PKG OF 5	NDA0230EDG
R37 R38 R39 R45 R100	10947356	4.7K 5% 1/10W MLG RES	NDA0247EDG
R129 R147 R162 R165	10947356	CASE STYLE 0805 SMD (S)	NDA0247EDG
	10947356	PKG OF 5	NDA0247EDG
R12 R138	10947448	5.6K 5% 1/10W MLG RES	NDA0257EDG
	10947448	PKG OF 5	NDA0257EDG
R61 R68 R127	10947505	6.8K 5% 1/10W MLG RES	NDA0262EDG
	10947505	PKG OF 5	NDA0262EDG
R41 R94		15K 5% 1/10W MLG RES	NDA0297EDG
		PKG OF 5	NDA0297EDG
R166	10947802	18K 5% 1/10W MLG RES	NDA0303EDG
	10947802	PKG OF 5	NDA0303EDG
R78 R108 R112 R118	10947885	22K 5% 1/10W MLG RES	NDA0311EDG
R126 R130	10947885	CASE STYLE 0805 SMD (S)	NDA0311EDG
	10947885	PKG OF 5	NDA0311EDG
R47 R79 R85	11870409	33K 5% 1/10W MLG RES	NDA0324EDG
	11870409	PKG OF 5	NDA0324EDG
R114	10948016	39K 5% 1/10W MLG RES	NDA0330EDG
	10948016	PKG OF 5	NDA0330EDG
R122	11870417	56K 5% 1/10W MLG RES	NDA0345EDG
	11870417	PKG OF 5	NDA0345EDG
R107		68K 5% 1/10W MLG RES	NDA0354EDG
		PKG OD 5	NDA0354EDG
R49 R51 R73 R74 R99	10948230	100K 5% 1/10W MLG RES	NDA0371EDG
R106 R115 R116 R117	10948230	CASE STYLE 0805 SMD (S)	NDA0371EDG
R124 R125	10948230	PKG OF 5	NDA0371EDG
R89	10948354	180K 5% 1/10W MLG RES	NDA0387EDG
	10948354	PKG OF 5	NDA0387EDG
R43 R53 R101 R149	10948404	220K 5% 1/10W TFN RES	NDA0396EDG
	10948404	PKG OF 5	NDA0396EDG

R5 R6 R7 R8 R14 R15	11870425	470K 5%	1/10W MLG RES	NDA0423EDG
	11870425	PKG OF 5		NDA0423EDG
R110 R148	10948651	1M 5%	1/10W MLG RES	NDA0445EDG
	10948651	PKG OF 5		NDA0445EDG
R158	11871746	RES MLG 1/2W 120 +-5		NDW0136EFG
	11871746	CASE STYLE 2010 PKG OF 5		NDW0136EFG
R169	10954279	RES,FUSE 1 OHM 1/2W		NE0144
	10954279	AXIAL(T)		NE0144
R153 R163	11865359	RES,FUSE 1/2W 10 OHM +-5%		NE90001
	11865359	AXIAL(T)		NE90001
RA2 RA3 RA4 RA5 RA6	10958916	RES,ARRAY 1KX4 1/16W +-5		NY0667
RA7	10958916			NY0667
RA1	10958973	RES,ARRAY 470X4 1/16W +-5		NY0673
VR301	10983245	POT,VOLUME W/SWICTH 50KA		PC0008
VR201	10983252	POT,SQUELCH 10KC		PC0009
SW1	11063724	SWITCH,SLIDE ATTENUATOR		S3627
SW2	11073749	SWITCH,TACT RESET		SD0114
	11073749			SD0114
	11081627	SPEAKER,8 OHM 1 WATT		SP0034
T7	11093549	TRANSFORMER,POWER		TA0341
IC3	11542792	IC,TA2003F AM IF AMP 16P		TA2003F
	11542792	CASE STYLE 16 PIN SMD (S)		TA2003F
T1 T2 T3	11840196	TRANSFORMER,IF (1ST)		TA90006
	11840196	CAN GRAY SLUG		TA90006
T4	11840204	TRANSFORMER,IF (2ND)		TA90007
	11840204	CAN GRAY SLUG		TA90007
T5	11865367	TRANSFORMER,DETECTOR 455K		TA90011
	11865367	CAN BLA SLUG		TA90011
IC4	10881043	IC,C-MOS SWITCHING AM 14P		TC4066BF
	10881043	CASE STYLE 14 PIN SMD		TC4066BF
IC9	11393402	IC,BIPOL AUDIO/AF PWR AMP		TDA1905
	11393402	CASE STYLE 16 PIN DIP (T)		TDA1905
		270-1533		W0000X
	11120961	SPT1 1 BANG/2		W0906
	11865284	PCB ASSY,HEADPHONE JACK		XB90137
	11865292	PCB ASSY,LCD		XB90138
	11865300	PCB ASSY,MAIN		XB90139
	11865409	PCB KEYBOARD		XB90140
	11224342	CABINET, TOP		Z7321
	11865375	PLASTIC TILT		Z90155
	11865383	PANEL,LCD		Z9015 6