



## iSCAN Trunking Scanner

### Features

- Simple keypad and display
- USA RadioReference database
- Detects and masks encrypted voice audio
- Decodes RadioID/TalkgroupID data
- Upgradeable CPU Firmware, DSP Firmware and Library
- USB Interface
- PC Software to customize your PRO-18 settings.
- Signal Strength Meter
- 101 Playlists
- Weather Radio Functions
- Multi-system Trunking
- Signal Stalker II
- Alarms and flash patterns
- Headphone/speaker jack

### Package Contents

- iSCAN
- Antenna
- USB Cable
- microSD Card
- Belt Clip
- User's Guide
- Quick Start
- CD-ROM


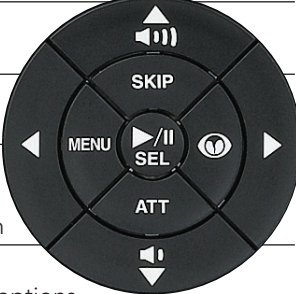








Thank you for purchasing your iScan Trunking Scanner from **RadioShack**. Please read this user's guide before installing, setting up, and using your new scanner.

# Contents










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# Controls

	• Scroll up	
	• Volume up	
	• Scroll down	
	• Volume down	
	• Left/Right	
	• Resume scanning	
	• Change scan direction during search	
	• Press to play or pause	
<b>SEL</b>	• In menus: select, enable, or disable options	
<b>SKIP</b>	Toggles iSCAN's skip function	
<b>MENU</b>	Access the Main Menu, or submenus for the active function	
<b>ATT</b>	While scanning, press to toggle iSCAN's attenuator function.	
	• Access NOAA weather radio broadcasts	
	• Access SAME weather alert receiver mode	
	• Select the SKYWARN playlist for monitoring	

# Display Icons

	Squelch circuit is open
	Signal strength
	Trunking control channel data
	Attenuator is set for Global Mode
	Attenuator is active
	Scanning
	Paused (monitoring a single object)
	Battery status indicator
	• External power connected and Battery Type is set to ALKA • Recharging cycle has completed

<b>P</b>	priority on	<b>S</b>	skip on	<b>D</b>	delay on	<b>L</b>	lockout on
<b>p</b>	priority off	<b>s</b>	skip off	<b>d</b>	delay off	-	-

# Setup

## Attaching the Antenna

Align the antenna with the antenna posts. Then slide and turn the antenna in place.

If this scanner is your only means for receiving weather alerts, make sure you can receive a clear signal when using the flex antenna, or switch to an external antenna.

For an external antenna, follow the antenna's installation instructions. You also may need a BNC adapter (available at **RadioShack**).

- For lengths between 50 and 100 feet, use 50-ohm RG-8X low-loss dielectric coaxial cable.
- For lengths of more than 100 feet, use 50-ohm RG8.

**⚠ Warning:** Use extreme caution when installing or removing an outdoor antenna. If the antenna starts to fall, let it go! If the antenna touches a power line, touching 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.



Setup

## Connecting Headphones or an External Speaker

You can plug  $\frac{1}{8}$  inch (3.5 mm) headphones (not supplied) in the **HEADPHONE** jack.

### Listening Safety

Do not wear headphones while operating a motor vehicle or riding a bicycle. This can create a traffic hazard and could be illegal in some areas. To protect your hearing, follow these guidelines:

- Set the volume to the lowest setting. Then turn on your iSCAN and adjust the volume to a comfortable level.
- Avoid increasing the volume. Your ears adapt to the volume, so a level that does not cause discomfort could still damage hearing.
- Do not listen at high volume levels. Extended high-volume listening can lead to permanent hearing loss.

## Using AC or DC Power

To prevent corruption of microSD card data, always turn off iSCAN before connecting or disconnecting power sources. Use the supplied USB cable to connect the iSCAN to a USB power source, such as your computer, or an AC or DC USB power adapter (not included, available at **RadioShack** or [RadioShack.com](http://RadioShack.com)).



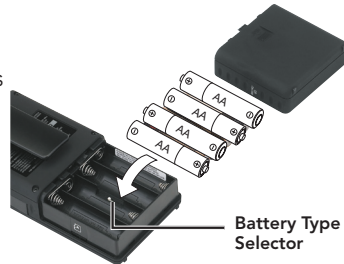
### Notes:

- Using an incompatible USB cable may damage your scanner.
- Some USB power adapters can interfere with iSCAN's reception.
- If you connect iSCAN to a vehicle power source and the vehicle's engine is running, you might hear electrical noise from the engine while scanning. This is normal.

## Installing Batteries

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



1. Turn off iSCAN before opening the battery compartment.
2. Set the **Battery Type Selector**:
  - **ALKA** – Alkaline
  - **NI-MH** – Rechargeable Ni-MH
3. Install four AA batteries, matching the polarity symbols (+ and -).



**⚠ 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.

## Charging Ni-MH Batteries

1. Install Ni-MH rechargeable batteries.
2. Set the **Battery Type Selector** switch to **NI-MH**.

3. Connect iSCAN to your computer or an AC or DC USB power adapter using the supplied USB cable. The battery icon indicates the batteries are being charged. When  replaces , the batteries are fully charged. High-capacity batteries may take up to 16 hours to charge. You cannot use the iSCAN while charging.

#### **Battery Notes:**

- Use only fresh batteries of the required size and type. Do not mix old and new batteries, different battery types (alkaline or rechargeable), or rechargeable batteries of different capacities.
- Dispose of batteries promptly and properly; do not burn or bury them.
- For long-term storage (a month or longer), remove the batteries. Batteries can leak chemicals that can damage electronic parts.
- Do not overcharge rechargeable batteries. Overcharging shortens battery life.

#### **Recycle Rechargeable Batteries**




Placing rechargeable batteries in the trash can be harmful to the environment. Instead, recycle old rechargeable batteries at your local **RadioShack** store free of charge. **RadioShack** participates in the RBRC® battery recycling program, and is committed to preserving the environment and conserving natural resources. Call 1-800-THE-SHACK (1-800-843-7422) for more information.

## Attaching the Belt Clip

Align the belt clip grooves to the slots on the back of iScan. Slide the clip down until it clicks in place. To remove the belt clip, pull back on the small tab and slide the clip upward.

## Turn on iSCAN and Set Squelch

1. Press and hold . Release when iSCAN turns on.
2. Turn **SQUELCH** to the midpoint (12 o'clock) position.



#### **Squelch**

- Higher squelch for stronger signals.
- Lower squelch for weaker signals.

- Press and hold to turn iSCAN on and off
- Press briefly to toggle the backlight

## iSCAN Library

Your iSCAN comes installed with a formatted 2GB microSD card that contains the entire USA RadioReference database.

RadioReference.com is the world's largest radio communications data provider, featuring a complete frequency database, trunked radio system information, and FCC license data. You can update, configure, and import this library directly to your iSCAN or with the iScan PC application.



To manage the microSD card contents, you must remove it from iSCAN and insert it into a microSD card reader connected to your computer.

1. Turn off iSCAN, unplug external power, and remove the batteries.
2. Press and release the microSD card.

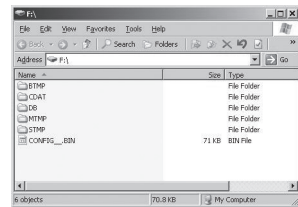
To reinsert the microSD card, press it in until it clicks in place.

### microSD Card Contents

The microSD card comes formatted for the standard FAT file system with a cluster size of 32k.

You can purchase additional cards to store different configurations or backups for your iSCAN data.

The CDAT folder contains your iSCAN programming. You can copy the CDAT folder to your computer as a backup.



**⚠ Warning:** *Modifying these directories or their contents is not recommended and may cause iSCAN to malfunction.*

If you must reformat the microSD card, or if you use additional cards (2GB or smaller), use only the iSCAN PC Application to format the SD card.

- Format using the FAT file system with 32k clusters.
- If you use microSD cards larger than 2GB, format using FAT32 with 32k clusters.
- Formatting the microSD card for other file system types may cause iSCAN to malfunction.




## Installing the iSCAN PC Application

iSCAN includes an easy-to-use PC Application that you can use to:

- Update the Library to the most current version
- Format and maintain the microSD card
- Make changes to iSCAN's programming and configuration
- Update iSCAN's firmware for enhancements and bug fixes

To install, insert the CD into your computer's CD-ROM drive; the iSCAN Application's installer starts automatically. To install, click the "Install Software" button and follow the on-screen instructions.



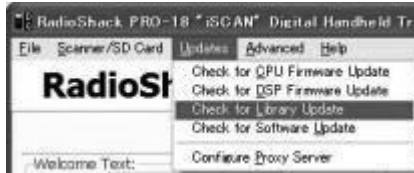
 **Note:** If the installation does not start automatically, navigate to your CD-ROM drive and run the iSCANCD.exe program.

## Updating the Firmware

Firmware updates are available to correct known issues or to add new functionality to your scanner. Be sure to update the iScan firmware regularly.

### CPU Firmware Updates

1. Turn off the iScan and disconnect the USB cable from the scanner. Keep the USB cable connected to your computer.
2. While pressing the Menu key, connect the USB cable to the iScan. You should see a display of the current boot and CPU versions followed by the CPU SW Upgrade prompt.
3. Select **Check for CPU Firmware Updates** in the update menu.
4. Click **Check for Updates** on the update screen. This process will check the Internet for the most current CPU firmware version and compare it to the version on your iScan. Information about the need to update your scanner will appear just below the version information.
5. If there are available updates, click **Update My Scanner**.
6. When you have finished the update, click **Done**.



### DSP Firmware Updates

1. Turn off the iScan.
2. Connect the scanner to your computer using the USB cable supplied. The computer should recognize the scanner's microSD card as a new drive. If an autorun screen appears, close it.
3. Select **Check for DSP Firmware Update** in the update menu.
4. Click **Check for Updates** on the update screen. This process will check the Internet for the most current DSP firmware version and compare it to the version on your iScan. Information about the need to update your scanner will appear just below the version information.
5. If there are available updates, click **Update My Scanner**.
6. When you have finished the update, click **Done**.

# Library Data

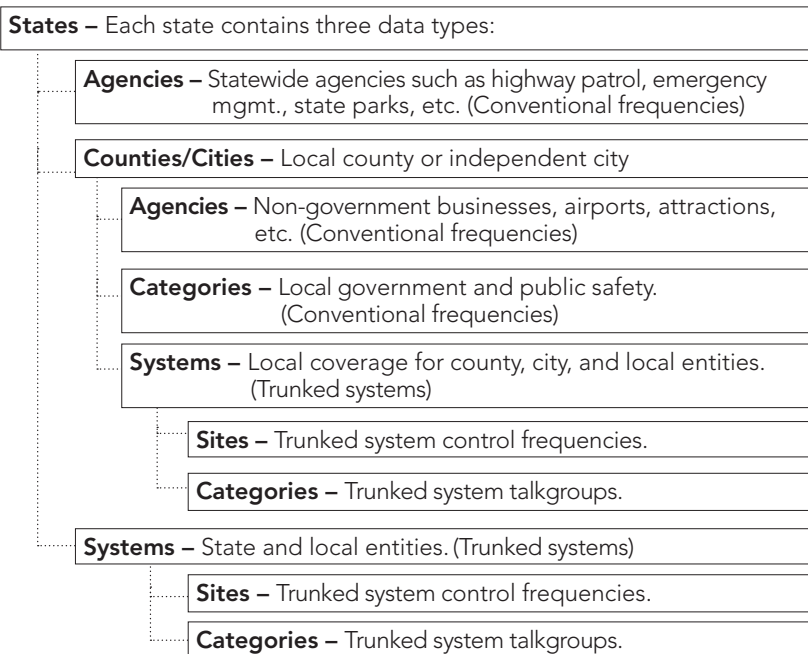
## Library Updates

Your iSCAN comes with the most current library data available from RadioReference.com. However, you can use the PC application to check for updates to the library data.


### To check for library updates:

1. Select **Check for Library Update** in the update menu.
2. If there are available updates, click **Update My Library**.
3. When you have finished the update, click **Done**.

## Library Structure



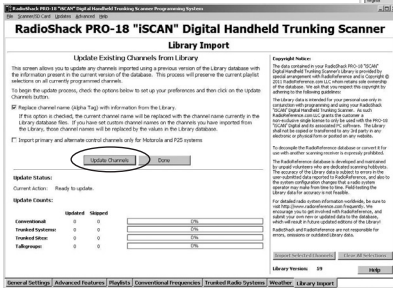
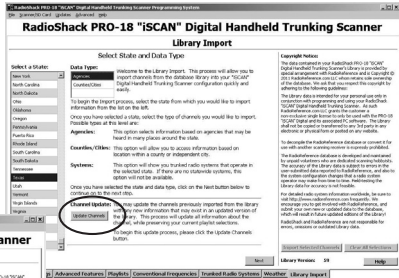
Library Data

 **Note:** Not all states have a statewide trunked radio system.

# Updating the Library (PC)

To update the library to the most recent version:

1. On the Library Import Tab, click the **Update Channels** button. A second Import screen appears.
2. Click the **Update Channels** button. The library will be updated to the latest version.



Library Data

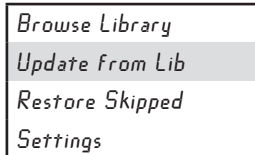
**Note:** The procedure to update the RadioReference library requires an internet connection.

# Updating the Library (iSCAN)

To update the library on the iSCAN to the most recent version:

In the Main Menu, select **Update from Lib** and press **►**. The iSCAN asks if you want to use new Alpha Tag (names) from the library.

Press **SEL** for yes or **SKIP** for no.



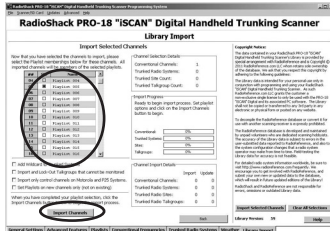
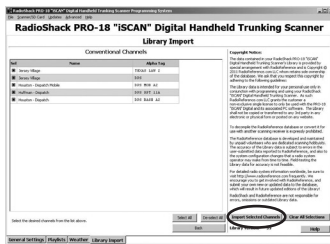
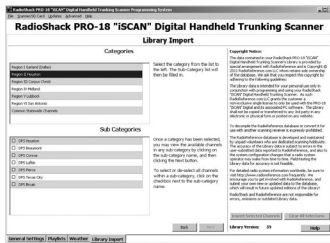
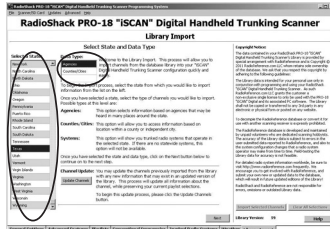
# Importing Frequencies and Talkgroups (PC)

After you have the most current library, you can import frequencies or talkgroups from the library into iSCAN's playlists. Importing many items can slow scanning significantly. We recommend importing fewer items, and increase the number as you become more familiar with your iScan.

1. Select a state from the **Select a State** list. The available data types appear.
2. Select a data type from the **Data Type** list.
3. Click **Next**. Additional screens appear based on the library structure described "Updating the Firmware" on page 1012.
4. Make selections.
5. Click **Back** to make additional selections.
6. After you make your final channel selections, click the **Import Selected Channels** button. The Import Selected Channels screen appears.
7. Select the playlist(s) where the channels will be imported.
8. Click **Import Channels**.
9. Select **Scanner/SD Card > Copy Configuration To Scanner Memory/ SD Card** from the menu bar.

 **Notes:**

- At least one site must be selected for each trunked system.
- iSCAN automatically programs trunked radio system requirements.
- iSCAN uses the best available talkgroup site, but may import some unwanted talkgroups, which can slow your scanning.



Library Data

## Importing Frequencies and Talkgroups (iSCAN)

1. From the main menu, select *Browse Library*, then press ►. The *Select State* menu appears.

2. Press ▲ or ▼ to scroll to a state. Press ► to select a state.

Additional screens may appear based on the library structure described in "Updating the Firmware" on page 10.

<i>Playlists</i>	<i>Alaska</i>
<i>Search</i>	<i>Arizona</i>
<i>Browse Library</i> ►	<i>Arkansas</i>
<i>Update from Lib</i>	<i>California</i>

3. Make additional selections. Press ► after each set of selections.
4. When a list of channels with check boxes appears, press ▲ or ▼ to scroll through the list and press ► to select each option. A checkmark (✓) indicates a selected item.

5. To import selected items, press **MENU**. The Library menu appears.
6. Select *Import Selected* and press **SEL**. A list of playlists appears.

<i>Import Selected</i>
<i>Back</i>
<i>Main</i>

7. Press **SEL** to select a playlist. A checkmark (✓) indicates an active playlist. A square (□) indicates a disabled playlist.
8. Press ◀ to import the items. (This may take several minutes.)

<i>Playlist 001</i>	✓
<i>Playlist 002</i>	✓
<i>Playlist 003</i>	□
<i>Playlist 004</i>	✓

You can press ► to see available items within a group. If you select a group, all items in that group are selected.

### iSCAN Library Notes

- A "D" indicates that the item uses an unsupported digital modulation and cannot be monitored.
- An "S" indicates a trunked system that is not supported by the scanner (e.g. MPT 1327, LTR Passport, etc.)
- A solid box (■) indicates that some frequencies in a grouping are selected, but not all.

# Searching

You can locate active frequencies quickly and easily using one of iScan's three convenient frequency search modes:

- *Signal Stalker II* sweeps rapidly through frequency ranges in 1 MHz blocks.
- *Service Search* searches through frequencies used by the following radio services: Public Safety, Aircraft, Railroad, Amateur, CB, Marine, and FRS/GMRS/MURS. This is a good way to find activity on local frequencies.
- *Limit Search* searches within a range of frequencies that you define.

## Signal Stalker II

To search for active frequencies using **Signal Stalker II**:

1. In the main menu, select *Search*, and press **▶** to enter the search menu.
2. Select *Signal Stalker* and press **▶**.

<i>Play</i>	<i>Main Menu</i>
<i>Browse Objects</i>	<i>Signal Stalker ▶</i>
<i>Playlists</i>	<i>Service Search</i>
<i>Search ▶</i>	<i>Limit Search</i>
<i>Browse Library</i>	<i>Lockouts</i>

3. Select *All Bands* or *Public Safety* and press right (**▶**) to start the search. Signal Stalker sweeps through frequency ranges in 1 MHz blocks.

<i>Main Menu</i>	<i>Main Menu</i>
<i>Signal Stalker</i>	<i>Search Menu</i>
<i>Service Search ▶</i>	<i>All Bands</i>
<i>Limit Search</i>	<i>Public Safety</i>
<i>Lockouts</i>	

4. When you find a frequency you want to save, press **MENU**. Then select *Store Channel* and press **SEL**. iScan adds the frequency to the first playlist and names it based on the search type.

To change search settings, press **MENU** while Signal Stalker II is active. For more information about settings, see "Search Settings" on page 18.

# Service Search

To search for active frequencies using **Service Search**:

1. In the main menu, select *Search*, and press ► to enter to the search menu.
2. Select *Service Search* and press ►.
3. Scroll down to see all available services. Select a service and press ► to start the search.

<i>Play</i>	<i>Main Menu</i>
<i>Browse Objects</i>	<i>Signal Stalker</i>
<i>Playlists</i>	<i>Service Search</i> ►
<i>Search</i> ►	<i>Limit Search</i>
<i>Browse Library</i>	<i>Lockouts</i>

<i>Main Menu</i>	<i>Main Menu</i>
<i>Signal Stalker</i>	<i>Search Menu</i>
<i>Service Search</i> ►	<i>Public Safety</i>
<i>Limit Search</i>	<i>Aircraft</i>
<i>Lockouts</i>	<i>Railroad</i>

4. When you find a frequency you want to save, press **MENU**. Then select *Store Channel* and press **SEL**. iScan adds the frequency to the first playlist and names it based on the search type.

To change search settings, press **MENU** while any Service Search is active. For more information about settings, see "Search Settings" on page 18.

## Service Search Ranges

Public Safety (MHz)	Aircraft (MHz)	Amateur (MHz)
33.4-46.5 .....VHF Low 151-170 ..... VHF High 453-467 ..... UHF 764-797 .....700 MHz 851-869 .....800 MHz	108-118 ..... Navigation 118-137 ..... Civilian Voice 138-150 ..... Military Voice 225-400 ..... Military Voice	28.0-29.7 ..... 10m 50-54 ..... 6m 144-148 ..... 2m 222-225 ..... 1.25cm 420-450 ..... 70cm 902-928 ..... 33cm 1240-1300 ..... 23cm
Railroad	CB	Marine
Search the Association of American Railroads (AAR) VHF railroad frequencies used in the US and Canada	Searches the Citizens Band radio frequencies.	Searches the VHF-FM marine radio band.
FRS/GMRS/MURS		
Searches the FRS, GMRS, MURS, DOT and STAR radio frequencies.		



# Limit Search

To search for active frequencies within a limited range:

1. In the main menu, select *Limit Search*, and press ►. The search begins immediately.
2. To change the search range:
  - a. Press **MENU**.
  - b. Scroll to *Lo* and press ►.
  - c. Press ◀ or ► to move the cursor to another digit. Press ▲ or ▼ to change the value.
  - d. Press **SEL** to save the new value and return to the search menu.
  - b. Scroll to *Hi* and press ►.
  - c. Press ◀ or ► to move the cursor to another digit. Press ▲ or ▼ to change the value.
  - d. Press **SEL** to save the new value and return to the search menu.
  - e. Press ◀ to continue the search.
3. When you find a frequency you want to save, press **MENU**. Then select *Store Channel* and press **SEL**. iScan adds the frequency to the first playlist and names it based on the search type.

<i>Play</i>	<i>Main Menu</i>
<i>Browse Objects</i>	<i>Signal Stalker</i>
<i>Playlists</i>	<i>Service Search</i>
<i>Search</i> ►	<i>Limit Search</i> ►
<i>Browse Library</i>	<i>Lockouts</i>

To change search settings, press **MENU** while searching. For more information about settings, see "Search Settings" on page 18.

## Search Settings

To change search settings, press **MENU** while searching.

All	<i>Attenuator</i>	Limits iSCAN's effective range, which may help reduce interference from strong local transmitters.
	<i>Zeromatic</i>	Helps iSCAN tune to exact frequencies when searching.
	<i>Delay</i>	How long iSCAN waits after a transmission before resuming.
Signal Stalker II	<i>Special Mode</i>	Signal Stalker II skips any 1 MHz block where you have skipped five or more frequencies. Special Mode is useful when you are close to many high power transmitters that are close together in frequency.
Limit Search	<i>Lo</i>	Sets the lowest frequency for the search range.
	<i>Hi</i>	Sets the upper frequency for the search range.
Signal Stalker II & Service	<i>Frequency Ranges</i>	Disabling some frequency ranges speeds up the search.
Service	<i>Rx Mode</i>	Set the RX modulation mode to automatic, or forces AM mode or FM mode. RX Mode functions in Aircraft and Amateur bands, Press ◀ or ▶ to change.

### Saving Found CTCSS or DCS Codes

When importing objects from the Library, CTCSS and DCS code information from the RadioReference database is automatically imported with the conventional channel information. In cases where the squelch code (CTCSS or DCS subaudible) for a conventional radio channel is not included in the RadioReference database, your iSCAN can quickly identify the code, if one is present.


When a conventional channel includes a CTCSS or DCS code, the code appears on the bottom line of the display, followed by an "S", which indicates a valid CTCSS or DCS code:

*CTCSS 127.3 S*

**To save the found code with the channel:**

1. When a CTCSS or DCS code is found by the search feature, press **MENU**. *Store sq code* appears.
2. Press **SEL**.

After the code is stored, the scanner will only stop on transmissions that have a matching CTCSS or DCS squelch code present.

 **Note:** *The Settings menu (Main Menu > Settings) "Simple Display" menu item must be unchecked in order to display and store found CTCSS and DCS codes.*

# Scanning and Monitoring

After you have found active frequencies in your area and saved them to playlists, you can scan multiple channels or monitor a single channel.

## Scanning

To scan your active playlists, select *Play* from the main menu and press ► or ►/II/SEL.

To **pause** the scan, press ►/II/SEL when iSCAN stops on a transmission. To resume scanning, press ►/II/SEL again.

## Monitoring a Frequency or Talkgroup

*Monitoring* is when you set iSCAN to remain on a single frequency and wait for a transmission. To monitor a frequency or talkgroup:

From the main menu, select *Browse Objects*, then press ►.


Press ►/II/SEL to monitor the displayed frequency.

<i>Play</i>	The current playlist and frequency appear.
<i>Browse Objects</i> ►	
<i>Playlists</i>	
<i>Search</i>	
<i>Browse Library</i>	

Press ◀ or ▶ to change playlists.

Press ▲ or ▼ to browse through frequencies within the current playlist.

## Weather Monitoring

To monitor NOAA weather broadcasts in your area, press . iSCAN immediately scans NOAA channel for your area. Press ◀ or ▶ to continue the scan.

To receive severe weather broadcasts while scanning other channels, set your local NOAA channel as the Weather Priority channel. For information about setting the Weather Priority, see “Weather Priority Mode (PC)” on page 36.


 **Note:** *Weather Priority is not available while you search for frequencies.*

## SAME Standby Mode

A weather alert tone includes a digitally-encoded **SAME** (Specific Area Message Encoding) signal, which includes a **FIPS** (Federal Information Processing Standard) code and an event code.


Before you can use SAME Standby Mode, you must program at least one FIPS code (located at: [www.NWS.NOAA.gov/NWR/indexnw.htm](http://www.NWS.NOAA.gov/NWR/indexnw.htm)).

### To activate SAME Standby Mode:

1. Press , and then press ◀ or ▶ to select a NOAA channel.
2. Press **SKIP** to enter Standby Mode. The speaker silences and *SKIP = Normal* appears at the bottom of the screen.
3. To return to Normal Weather Mode, press **SKIP** again.

## Skywarn


Amateur radio repeaters (“Skywarn” repeaters) relay severe weather reports directly to local National Weather Service offices. You can monitor Skywarn repeaters for developing severe weather. For information about importing Skywarn repeater frequencies, see “Importing Skywarn Frequencies (PC)” on page 37.

To activate Skywarn, press  again while iSCAN is in Normal Weather Mode.

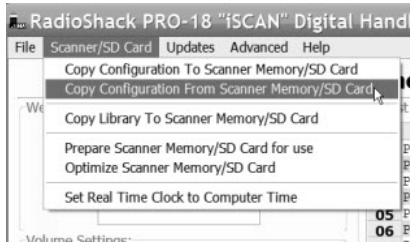
 **Note:** *Skywarn temporarily disables all other playlists.*

# Configuration

Before you make your configuration changes, consider whether you have any data in your iSCAN that you want to save. For example, you may have searched for and saved frequencies using your scanner. If so, you must copy that data to your PC configuration before you begin.

 **Note:** Leave your iSCAN off while copying configurations.

To copy scanner data to your PC, select **Scanner/SD Card > Copy Configuration From Scanner Memory/SD Card** from the menu bar. This will

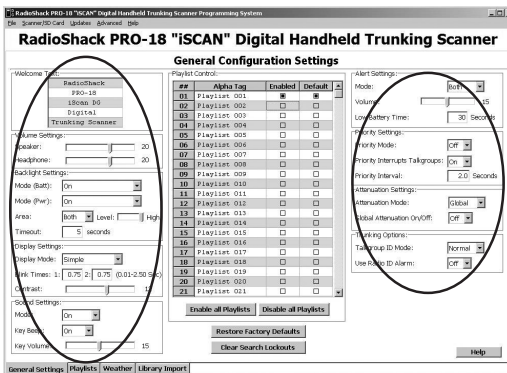


copy your scanner data to your PC configuration.


After you make your configuration changes, select **Scanner/SD Card > Copy Configuration To Scanner Memory/SD Card** from the menu bar.

## Configuration Settings (PC)

When you launch the iSCAN software, the General Settings Tab appears. You can use this tab to configure basic iSCAN settings.



- **Welcome Text** – The message that appears when you first turn on iSCAN. To edit, click on a line and type in text.
- **Volume Settings** – Controls both speaker and headphone volumes.
- **Backlight Settings** – Set how the backlight functions when using batteries or external power.
- **Display Settings** – Customizes the iSCAN display. For more information, see “Display Settings (PC)” on page 26.
- **Sound Settings** – This section lets you customize the iSCAN sound settings, including key tones and volume. For more information, see “Sound and Backlight (PC)” on page 27.
- **Alert Settings** – Customizes audio and visual alert settings.
- **Priority Settings** – Activates and customizes priority settings.
- **Attenuation Settings** – Attenuation limits the range of radio signals to reduce interference. For more information, see “Attenuation and Trunking (PC)” on page 28.
- **Trunking Options** – Configures how iSCAN responds to transmissions on trunking systems. For more information, see “Attenuation and Trunking (PC)” on page 28.

 **Note:** You can also access these settings directly through iSCAN. See “Configuration Settings (iSCAN)” on page 24.

## Configuration Settings (iSCAN)

To access configuration settings using iSCAN, select *Settings* from the main menu. and press ►.

<i>Default Vals</i>	Restores all settings to their factory default values.
<i>Simple Display</i>	Disable this option to display more information.
<i>Default PL</i>	Defines the default playlist.
<i>Priority Mode</i>	Enables /disables priority mode.
<i>Priority Time</i>	Controls how frequently priority objects are checked.
<i>G Atten Mode</i>	Enables the Global Attenuator.
<i>G Atten On</i>	Applies global attenuation, ignores individual settings.
<i>Search Dg AGC</i>	When checked, applies Digital AGC to digital transmissions received while searching.
<i>G AGC Mode</i>	Uses <i>G AGC On</i> instead of per-object settings.
<i>G AGC On</i>	Activates AGC for all transmissions.
<i>Sounds</i>	Controls all iSCAN beeps and alert sounds.
<i>Alerts</i>	Controls audio alerts.
<i>Key Beeps</i>	Enables or disables key tones.
<i>Beep Volume</i>	Controls the volume of key tones.
<i>Alert Volume</i>	The volume of object and low battery alert sounds.
<i>Contrast</i>	Sets the contrast of the LCD display.
<i>LModeBAT</i>	Backlight modes during battery operation.
<i>LModeEXT</i>	Backlight setting during external power operation.
<i>LiteArea</i>	Sets LCD and keypad lighting.
<i>LiteTime</i>	Controls how long the backlight stays on.
<i>LiteLevel</i>	Controls the brightness of the backlight
<i>Welcome Text 1-5</i>	Sets the message when iSCAN is first turned on.
<i>Blink Time 1-2</i>	Controls the amount of time each item is displayed.
<i>Show Radio ID</i>	Displays the Radio ID (trunk systems, if available).
<i>Use RID Alert</i>	Controls alert for transmissions with Radio ID.



<i>Show VC/CC</i>	Voice channel and control channel displays. Simple Display must be unchecked. <i>Show Radio ID</i> will override if a Radio ID is available.
<i>Show TGID</i>	Controls talkgroup ID display. Simple Display must be unchecked.
<i>Show Site Name</i>	Controls trunking site name display only if two or more trunking system sites are programmed. Simple Display must be unchecked.
<i>CONV TGID</i>	Displays the talkgroup ID for P25 conventional talkgroup calls. Simple Display must be unchecked.
<i>CONV Radio ID</i>	Displays the radio ID for P25 conventional calls. Simple Display must be unchecked.
<i>PC/IF CCDump</i>	Streams ASCII Control Channel Dump data over the USB interface for trunking control channels.
<i>to file</i>	Stores ASCII Control Channel Dump data to the microSD card for trunking control channels.
<i>Low Batt Time</i>	Interval (seconds) between low-battery alert sounds.
<i>Charge Time</i>	Sets the charge time for the built-in radio charger.
<i>TG Disp</i>	Sets the display format for talkgroup IDs.
<i>M36 Stat Bits</i>	Uses status bits to track Motorola 3600 baud trunking talkgroup calls.
<i>EncMode</i>	Selects how the radio treats encrypted voice calls. "Noise" plays the random undecoded encryption noise. "Silent" plays no audio during the call. "Tone" plays a soft tone for the duration of the call.
<i>EncLevel</i>	Selects the tone level for encrypted calls.
<i>DSPLevelAdapt</i>	Controls how fast the DSP adjusts to varying P25 levels (default: 64). Higher values = faster rates.
<i>ADC Gain</i>	Controls input signal to CODEC (default: +0dB).
<i>DAC Gain</i>	Sets output signal from CODEC, varying the audio level of decoded digital signals (default: +0dB).

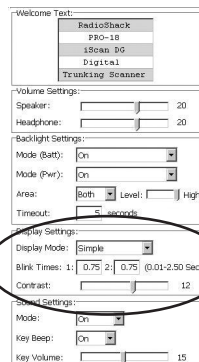
## Display Settings (PC)

The Display Settings let you quickly and easily configure your iSCAN's display.

To change the display setting, select an option from the **Display Mode** drop-down list. Simple displays only channel names; Advanced displays channel and frequency information.

Use the **Blink Time** to set how long each item is displayed.

Use the **Contrast** bar to set the screens contrast.



## Display Settings (iSCAN)

To set the display settings, select *Settings* from the main menu, and then press ►.

<i>Browse Library</i>	<i>Default Vals</i>
<i>Update from Lib</i>	<i>Simple Display</i>
<i>Restore Skipped</i>	<i>Default PL</i>
<i>Settings</i> ►	<i>Priority Mode</i>
<i>Set Clock</i>	<i>Priority Time</i>

Select *Simple Display* and press ◀ or ▶ to switch the display mode. Simple displays only channel numbers; Advanced displays channel and frequency.

<i>Browse Library</i>	<i>LiteLevel</i>
<i>Update from Lib</i>	<i>Welcome Text 1-5</i>
<i>Restore Skipped</i>	<i>Blink Time 1-2</i>
<i>Settings</i> ►	<i>Show Radio ID</i>
<i>Set Clock</i>	<i>Use RID Alert</i>

Select *Blink Time 1-2* and press ▲ or ▼ to change the character. Press ◀ or ▶ to move the cursor to another character.


<i>Browse Library</i>	<i>Key Beeps</i>
<i>Update from Lib</i>	<i>Beep Vol</i>
<i>Restore Skipped</i>	<i>Alert Vol</i>
<i>Settings</i> ►	<i>Contrast</i>
<i>Set Clock</i>	<i>LModeBAT</i>

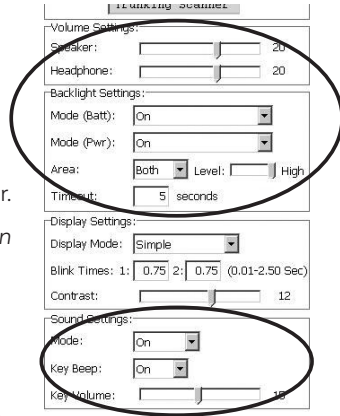
Select *Contrast* and press ◀ or ▶ to adjust the contrast value.

## Sound and Backlight (PC)

The Volume Settings and Sound Settings sections control the iSCAN sound settings.

The Backlight Settings section controls the backlight behavior when the iSCAN is powered by either batteries or external power.

 **Note:** Before you make your configuration changes, consider whether the data in your iSCAN matches your PC configuration. For information about synchronizing your iSCAN and PC, refer to "Configuration" on page 22.



## Sound and Backlight (iSCAN)

To set the backlight settings, select **Settings** from the main menu, and then press **▶**.

Browse Library	Contrast
Update from Lib	LModeBAT
Restore Skipped	LModeEXT
<b>Settings ▶</b>	LiteArea
Set Clock	LiteTime
	LiteLevel

Select a menu option and press **◀** or **▶** to change the setting value. For **LiteTime** press **▶** to edit the time, and then use **▲** or **▼** to change the character and **◀** or **▶** to move the cursor.

To set the sound settings, select **Settings** from the main menu, and then press **▶**.

Browse Library	Sounds
Update from Lib	Alerts
Restore Skipped	Key Beeps
<b>Settings ▶</b>	Beep Vol
Set Clock	Alert Vol

Select a menu option and press **◀** or **▶** to change the setting value.

## Attenuation and Trunking (PC)

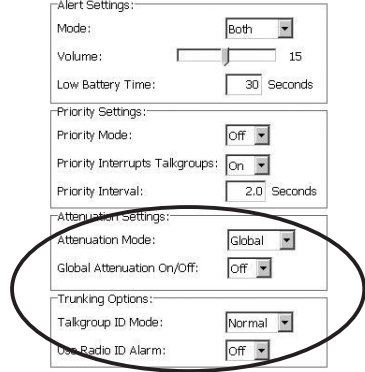
To set the attenuation mode, select an option from the **Attenuation Mode** drop-down list:

- Global – Applies attenuation to all channels.
- Normal – Applies attenuation based on individual channel settings.

Use the **Global Attenuation On/Off** drop-down list to turn on global attenuation.

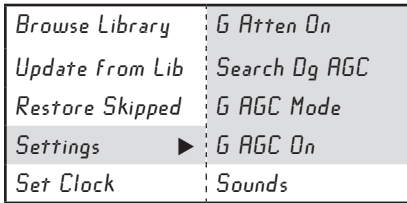
To set the display for trunking systems, select an option from the **Attenuation Mode** drop-down list.

Use the **Use Radio ID Alarm** drop-down list to display the Radio ID when available.



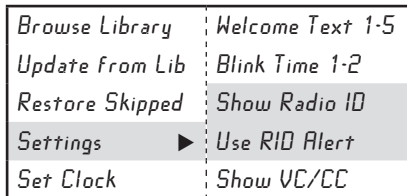
## Attenuation and Trunking (iSCAN)

To configure the attenuation settings, select *Settings* from the main menu, and then press ►.



Press ◀ or ▶ to change each setting.

To configure the trunking settings, select *Settings* from the main menu, and then press ►.



Press ◀ or ▶ to change each setting.

## Playlist Controls (PC)

The Playlist Controls let you quickly and easily manage your playlists.

To rename a playlist, select the playlist name in the **Alpha Tag** column and type the new name.


To enable or disable a playlist, click the checkbox in the **Enabled** column. An empty checkbox indicates a disabled playlist.

To set a default playlist, click in the **Default** column. You can select only one default playlist.

Playlist Control:

#	Alpha Tag	Enabled	Default
01	Playlist 001	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
02	Playlist 002	<input type="checkbox"/>	<input type="checkbox"/>
03	Playlist 003	<input type="checkbox"/>	<input type="checkbox"/>
04	Playlist 004	<input type="checkbox"/>	<input type="checkbox"/>
05	Playlist 005	<input type="checkbox"/>	<input type="checkbox"/>
06	Playlist 006	<input type="checkbox"/>	<input type="checkbox"/>
07	Playlist 007	<input type="checkbox"/>	<input type="checkbox"/>
08	Playlist 008	<input type="checkbox"/>	<input type="checkbox"/>
09	Playlist 009	<input type="checkbox"/>	<input type="checkbox"/>
10	Playlist 010	<input type="checkbox"/>	<input type="checkbox"/>
11	Playlist 011	<input type="checkbox"/>	<input type="checkbox"/>
12	Playlist 012	<input type="checkbox"/>	<input type="checkbox"/>
13	Playlist 013	<input type="checkbox"/>	<input type="checkbox"/>
14	Playlist 014	<input type="checkbox"/>	<input type="checkbox"/>
15	Playlist 015	<input type="checkbox"/>	<input type="checkbox"/>
16	Playlist 016	<input type="checkbox"/>	<input type="checkbox"/>
17	Playlist 017	<input type="checkbox"/>	<input type="checkbox"/>
18	Playlist 018	<input type="checkbox"/>	<input type="checkbox"/>
19	Playlist 019	<input type="checkbox"/>	<input type="checkbox"/>
20	Playlist 020	<input type="checkbox"/>	<input type="checkbox"/>
21	Playlist 021	<input type="checkbox"/>	<input type="checkbox"/>

Enable all Playlists    Disable all Playlists

 **Note:** Before you make your configuration changes, consider whether the data in your iSCAN matches your PC configuration. For information about synchronizing your iSCAN and PC, refer to "Configuration" on page 22.

## Playlist Controls (iSCAN)

To enable playlists for scanning, select *Playlist* from the main menu, and then press **▶**.

<i>Play</i>	<i>Playlist 001</i>	✓
<i>Browse Objects</i>	<i>Playlist 002</i>	✓
<i>Playlists</i> ▶	<i>Playlist 003</i>	□
<i>Search</i>	<i>Playlist 004</i>	✓

Press **SEL** to enable a playlist. A checkmark (✓) indicates an active playlist. A square (□) indicates a disabled playlist.

To rename a playlist, select *Playlist* from the main menu, and then press **▶**.

<i>Play</i>	<i>Playlist 001</i>	✓
<i>Browse Objects</i>	<i>Playlist 002</i>	✓
<i>Playlists</i> ▶	<i>Playlist 003</i>	□
<i>Search</i>	<i>Playlist 004</i>	✓

Select a playlist and press **▶**. The playlist name appears. Press **▲** or **▼** to change the character. Press **◀** or **▶** to move the cursor to another character.


To select a default playlist, select *Settings* from the main menu, and then press **▶**.

<i>Browse Library</i>	<i>Default Vals</i>
<i>Update from Lib</i>	<i>Simple Display</i>
<i>Restore Skipped</i>	<i>Default PL</i>
<i>Settings</i> ▶	<i>Priority Mode</i>

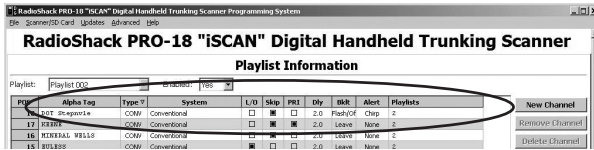
Select *Default PL* and press **◀** or **▶** to select a new playlist.

## Editing Frequencies or Talkgroups (PC)

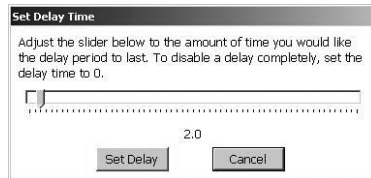
You can customize settings for individual frequencies and talkgroups to control how iSCAN handles transmissions on a case-by-case basis.

 **Note:** Before you make your configuration changes, consider whether the data in your iSCAN matches your PC configuration. For information about synchronizing your iSCAN and PC, refer to “Configuration” on page 22.

The Playlist Tab let you configure channels in your playlists.



- **Alpha Tag** – The object’s name.
- **L/O** – Click to lock out or unlock a channel.
- **Skip** – Click to skip a channel. Click again to restore the channel.
- **Alert** – Click to select a custom alert sound for a channel.
- **PRI** – Sets the channel as a priority frequency. To use the priority feature, Priority Mode must be on. See “Locking Out Frequencies (PC)” on page 32.
- **Dly** – Click to set a delay time for the channel. This sets how long iSCAN will remain on a channel after a transmission ends.
- **Bklt** – Click to set a custom backlight flash pattern for a channel. For more information about flash patterns, see “Flash Patterns” on page 34.
- **Playlist** – Click to manage the playlists to which the channel belongs. For more information about playlists, see “Playlist Controls (PC)” on page 29.



## Editing Frequencies or Talkgroups (iSCAN)

From the main menu, select *Browse Objects*, browse to an object and press **Menu**.

<i>Alpha Tag</i>	The object name. Press ◀ or ▶ to move the cursor to another character. Press ▲ or ▼ to change the value.
<i>Set Playlists</i>	Changes the objects' playlists.
<i>Locked Out</i>	Locked objects (indicated by an <i>L</i> ) are not scanned.
<i>Skipped</i>	Skipped frequencies and talkgroups are not scanned.
<i>Priority</i>	iScan frequently checks priority channels for activity. Priority status is indicated by an upper case <i>P</i> .
<i>Delay</i>	The scanner waits for a reply for two seconds after a transmission ends before resuming a scan.
<i>Attenuate</i>	Applies attenuation to the channel.
<i>AGC</i>	Reduces interference from strong local transmitters. (Only available for conventional frequencies.)
<i>Alarm</i>	An alarm sounds when activity is found for a frequency or talkgroup. Press ◀ or ▶ to select an alarm sound.
<i>Light</i>	Press ◀ or ▶ to select the desired light options: <ul style="list-style-type: none"> <li>• Leave – use default backlight settings</li> <li>• On – turn the backlight on</li> <li>• Flash – flash according to the set flash pattern</li> </ul>
<i>Flash Pattern</i>	A light pattern used to identify the channel.
<i>On Time / Off Time</i>	The backlight duration for each flash pattern step. (10 millisecond increments. 50 = 500 milliseconds = .5 seconds).
<i>Delete Object</i>	Removes the channel from iSCAN's working memory. The channel remains in the library data.
<i>Store SQ Code</i>	Only appears when MENU is pressed while monitoring a conventional channel that is set for CTCSS or DCS search mode. Select <i>Store SQ code</i> to store the value of the found CTCSS or DCS code. Subsequent transmissions must have matching CTCSS or DCS squelch codes to be monitored by the PRO-18.

## Locking Out Frequencies (PC)

When you identify frequencies that you do not wish to scan, you can lock out that frequency.

To lock out a frequency, locate the channel on the Playlist tab and click the **L/O** check box.

## Locking Out Frequencies (iSCAN)

When you identify frequencies that you do not wish to scan, you can lock out that frequency.

To lock out unwanted transmissions, browse to an object and press **Menu**.

Select *Locked Out* and press ►. A checkmark (✓) indicates an active playlist. A square (□) indicates a disabled playlist.

<i>Alpha Tag</i>
<i>Set Playlists</i>
<i>Locked Out</i>
<i>Skipped</i>

An uppercase **L** in the display indicates a locked out frequency.

## Skipping Frequencies (PC)

To skip a frequency during a scan, locate the channel on the Playlist tab and click the **Skip** check box.

## Skipping Frequencies (iSCAN)

To skip unwanted transmissions while scanning, wait for iSCAN to stop on the transmission and press **SKIP**. An uppercase **S** in the display indicates the object will be skipped during future scans.

To skip a specific frequency or talkgroup, you can browse to the object and press **SKIP**.

To **restore** a skipped frequency or talkgroup, browse to it and press **SKIP**.


To **restore all** skipped objects, in the main menu, select *Restore Skipped* and press ►.

<i>Browse Library</i>
<i>Update from Lib</i>
<i>Restore Skipped</i>
<i>Settings</i>



## Setting Priority Channels (PC)

Priority causes the scanner to check for activity more frequently.

 **Note:** Before you make your configuration changes, consider whether the data in your iSCAN matches your PC configuration. For information about synchronizing your iSCAN and PC, refer to “Configuration” on page 22.

### To set a Priority channel:

1. Set the **Priority Mode** to On.
2. You can set the priority channel to interrupt Talkgroups.
3. Set the Priority Interval.
4. In the Playlist tab, click the checkbox in the **PRI** column for the desired channel. A filled checkbox indicates a priority channel.


Alert Settings:	
Mode:	Both ▾
Volume:	<input type="text" value="15"/>
Low Battery Time:	<input type="text" value="30"/> Seconds
Priority Settings:	
Priority Mode:	Off ▾
Priority Interrupts Talkgroups:	On ▾
Priority Interval:	<input type="text" value="2.0"/> Seconds
Attenuation Settings:	
Attenuation Mode:	Global ▾
Global Attenuation On/Off:	Off ▾
Trunking Options:	
Talkgroup ID Mode:	Normal ▾
Use Radio ID Alarm:	Off ▾

## Setting Priority Channels (iSCAN)

In the Channel Status Indicator, an uppercase *P* indicates priority; a lowercase *p* indicates no priority.

1. To set priority, browse to an object and press **Menu**.
2. Select *Priority* and press ►. A checkmark (✓) indicates an active playlist. A square (□) indicates a disabled playlist.

Locked Out
Skipped
<b>Priority</b>
Delay

 **Note:** To set priority, Priority Mode must be enabled in the Settings menu. See “Configuration Settings (iSCAN)” on page 24.

## Flash Patterns

The *Flash Pattern* is a backlight flash sequence that you can customize to identify active frequencies at a glance. The flash pattern consists of 32 steps divided into 8 four-step blocks. Each four-step block represent a letter or number:

● =ON, ○ =OFF

0:	○	○	○	○	(No flashes)
1:	○	○	○	●	
2:	○	○	●	○	
3:	○	○	●	●	
4:	○	●	○	○	
5:	○	●	○	●	(Steady Flashes)
6:	○	●	●	○	
7:	○	●	●	●	
8:	●	○	○	○	
9:	●	○	○	●	
A:	●	○	●	○	(Steady Flashes)
B:	●	○	●	●	
C:	●	●	○	○	
D:	●	●	○	●	
E:	●	●	●	○	
F:	●	●	●	●	(Rapid Flashes)

### Examples:

AAAAAAAAA=



88888888=



A8A8A8A8=

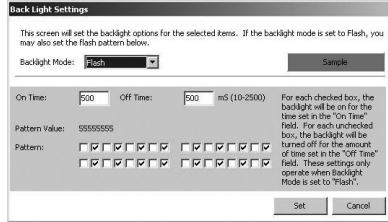


## Setting Flash Patterns (PC)

Your iSCAN software lets you quickly and easily customize a flash pattern for a channel.

### To set a flash pattern:

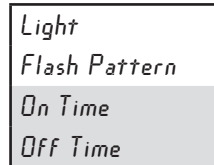
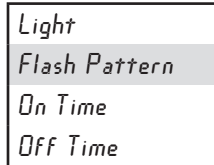
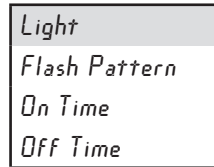
1. Click on the **Bklt** column for the channel. The Backlight Settings dialog box appears.
2. From the **Backlight Mode** drop-down list, select **Flash**. The remaining fields become active.
3. Select the checkboxes in a custom pattern for the channel. The **Sample** field displays an example of the pattern, and the **Pattern Value** appears automatically.



## Setting Flash Patterns (iSCAN)

### To set a flash pattern:

1. Browse to an object and press **Menu**.
2. Select *Light* and press ► repeatedly until *Flash* appears.
3. Press ▼ to select *Flash Pattern* and press ►. The flash pattern value appears.  
Press ▲ or ▼ to change the character. Press ◀ or ▶ to move the cursor to another character.
4. (Optional) To set on or off durations, select *On Time* or *Off Time* and press ►.  
Press ▲ or ▼ to change the character. Press ◀ or ▶ to move the cursor to another character.

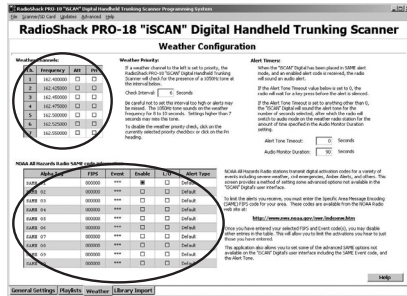


## Weather Priority Mode (PC)

When you launch the iSCAN software, the General Settings tab appears. You can use this tab to configure basic iSCAN settings.

To receive severe weather broadcasts while scanning other channels, set your local NOAA channel as the Weather Priority channel.

1. Click on the Weather tab in the configuration program and click the **Pri** column for one of the frequencies in the **Weather Channels** list.
2. (Optional) To apply attenuation to the frequency, click in the **Att** column.



## Weather Priority Mode (iSCAN)

To receive severe weather broadcasts while scanning other channels, set your local NOAA channel as the Weather Priority channel.

1. Press **⏏**. iSCAN begins to scan weather frequencies. When iSCAN stops on the strongest NOAA channel, press **MENU**.
2. Select **Priority** and press **◀** or **▶** to select the channel.
3. Scroll to **Save Changes** and press **▶/II/SEL** or **▶** to save.

## Programming FIPS Codes (PC)

Before you can use SAME Standby Mode, you must program at least one FIPS code (Available at: [www.NWS.NOAA.gov/NWR/indexnw.htm](http://www.NWS.NOAA.gov/NWR/indexnw.htm)).

1. Look up the FIPS code(s) for your area.
2. In the SAME Code Information section, type the FIPS code(s) in the **FIPS** column.
3. (Optional) You can customize a name in the Alpha Tag column, and configure other alert settings in the remaining columns.

## Programming FIPS Codes (iSCAN)

1. Look up the FIPS code(s) for your area.
2. Press **Ⓜ** to activate Weather Mode, then press **MENU**.
3. Scroll to *SAME 1 Tag* and press **▶** to name the channel. Press **▲** or **▼** to change the character. Press **◀** or **▶** to move the cursor to another character.
4. Scroll down to *SAME 1 FIPS* and press **▶** to enter a FIPS code. Press **▲** or **▼** to change the character. Press **◀** or **▶** to move the cursor to another character.
5. Scroll down to *SAME 1 Enable* and press **SEL** or **▶**.
6. To program other areas, repeat steps 3-5. You can program up to ten FIPS code locations.
7. When finished, select *Save Changes* and press **SEL** or **▶**.

## Importing Skywarn Frequencies (PC)

1. Browse for Skywarn frequencies in the iSCAN Library and import them to the Skywarn playlist. (**TIP:** Browse in agencies within your state, and look for "Severe Weather" subgroups.)
2. Import the frequencies as you normally would, and assign them to the Skywarn playlist.
3. Enable the Skywarn playlist.

##	SEL	Name
89	<input type="checkbox"/>	Playlist 089
90	<input type="checkbox"/>	Playlist 090
91	<input type="checkbox"/>	Playlist 091
92	<input type="checkbox"/>	Playlist 092
93	<input type="checkbox"/>	Playlist 093
94	<input type="checkbox"/>	Playlist 094
95	<input type="checkbox"/>	Playlist 095
96	<input type="checkbox"/>	Playlist 096
97	<input type="checkbox"/>	Playlist 097
98	<input type="checkbox"/>	Playlist 098
99	<input type="checkbox"/>	Playlist 099
100	<input type="checkbox"/>	Playlist 100
SW	<input checked="" type="checkbox"/>	Playlist SkyWarn

## Importing Skywarn Frequencies (iSCAN)

1. Browse for Skywarn frequencies in the iSCAN library and import them to the Skywarn playlist.
2. Enable the Skywarn playlist.

<i>Playlist 098</i>
<i>Playlist 098</i>
<i>Playlist 098</i>
<i>Playlist Skywarn</i>

# Additional Information

## Frequency Coverage

Frequency Range	Step	Mode (Default)
25.0000 – 26.9600 MHz	10 kHz	AM
26.9650 – 27.4050 MHz	10 kHz	AM
27.4100 – 29.5050 MHz	5 kHz	AM
29.5100 – 29.7000 MHz	5 kHz	FM
29.7100 – 49.8300 MHz	10 kHz	FM
49.8350 – 54.0000 MHz	5 kHz	FM
108.000 – 136.9916 MHz	8.33 kHz	AM
137.000 – 137.995 MHz	5 kHz	FM
138.000 – 143.9875 MHz	12.5 kHz	AM
144.000 – 147.9950 MHz	5 kHz	FM
148.000 – 150.7875 MHz	12.5 kHz	FM
150.800 – 150.8450 MHz	5 kHz	FM
150.8525 – 154.4975 MHz	7.5 kHz	FM
154.5150 – 154.6400 MHz	5 kHz	FM
154.6500 – 156.2550 MHz	7.5 kHz	FM
156.2750 – 157.4500 MHz	25 kHz	FM
157.4700 – 161.5725 MHz	7.5 kHz	FM
161.6000 – 161.9750 MHz	5 kHz	FM
162.0000 – 174.0000 MHz	12.5 kHz	FM
216.0025 – 219.9975 MHz	5 kHz	FM
220.0000 – 224.9950 MHz	5 kHz	FM
225.0000 – 397.99375 MHz	6.25 kHz	AM
380.0000 – 419.987500 MHz	12.5 kHz	FM
420.0000 – 450.000000 MHz	5 kHz	FM
450.00625 – 469.99375 MHz	6.25 kHz	FM
470.00000 – 512.00000 MHz	6.25 kHz	FM
764.00000 – 781.996875 MHz	3.125 kHz	FM
791.00000 – 796.996875 MHz	3.125 kHz	FM
806.00000 – 823.987500 MHz	12.5 kHz	FM
849.00000 – 868.987500 MHz	12.5 kHz	FM
894.00000 – 939.987500 MHz	12.5 kHz	FM
940.00000 – 960.000000 MHz	6.25 kHz	FM
1240.0000 – 1300.00000 MHz	6.25 kHz	FM

# Specifications

Receiving modes .....	AM, FM, FM-MOT (Motorola), LTR (EF Johnson), CTCSS, DCS, EDACS wide/narrow (GE/Ericsson/HARRIS), P25NAC
Receiving system .....	Triple conversion PLL super heterodyne
WX frequencies .....	162.400, 162.425, 162.450, 162.475, 162.500, 162.525, 162.550 MHz
Display .....	Full dot matrix bitmap LCD (96x48 dots)
Sensitivity (fm 12 dB SINAD quieting unless otherwise noted)	
VHF Low .....	0.2 $\mu$ V
VHF Aircraft (20 dBq AM) .....	0.4 $\mu$ V
VHF High 137-174 MHz .....	0.3 $\mu$ V
VHF High 216-300 MHz .....	0.4 $\mu$ V
UHF Low 300 - 406MHz .....	0.8 $\mu$ V
UHF/UHF-T 406 - 512 MHz .....	0.4 $\mu$ V
UHF High 764 - 960 MHz .....	0.5 $\mu$ V
1240 - 1300 MHz .....	0.5 $\mu$ V
Squelch sensitivity (band center)	
Threshold .....	AM/FM 0.5 $\mu$ V
Tight .....	(S+N)/N: AM 20 dB, FM 25 dB
Spurious rejection .....	VHF High at 154.1 MHz: 40 dB (Except Primary image)
Signal to noise ratio .....	35-40 dB typical (100 $\mu$ V input signal)
Scanning rate without trunking .....	138 – 147.9 MHz: 70 ch/second (in 100 kHz Intervals)
Search rate .....	162.25 – 167.25 MHz: 80 steps/sec.
Scan and Search delay time .....	2 seconds
Audio max. power RF input .....	100 $\mu$ V at 154.1 MHz (DEV:3kHz at 1kHz) 8 Ohms Resistor Load at speaker terminal (BTL): 500 m Watts
Intermediate frequency	
1st .....	380.8 MHz
2nd .....	21.4 MHz
3rd .....	455 kHz
Current drain .....	8 Ohm internal speaker at 154.1 MHz, 5V Ext Power, Squelched: 170 mA (Back light off/without charging)
Antenna impedance .....	50 Ohms
Operating temperature range .....	-10°C to 60°C
Speaker .....	Built-in 36 mm 8 Ohms dynamic speaker
Operating voltage .....	DC 4.8 Volts (4 AA Ni-MH batteries) DC 6 Volts (4 AA alkaline batteries)
External power and charge voltage .....	USB Power (DC 5V 500mA)
Dimensions (HWD) .....	5 <sup>5</sup> / <sub>16</sub> x 2 <sup>1</sup> / <sub>8</sub> x 1 <sup>1</sup> / <sub>16</sub> inch (135 x 67 x 28 mm)
Weight .....	7.4 oz. (210g) Without antenna and batteries

## Glossary

<b>Attenuator</b>	Reduces interference due to intermodulation.
<b>Channel (object)</b>	A frequency or talkgroup and its associated information.
<b>CTCSS/DCS</b>	Continuous Tone-Coded Squelch System/Digital Coded Squelch System, a squelch control system which reduces interference when using the same frequency.
<b>FIPS</b>	Federal Information Processing Standard. A code used to identify geographic locations for SAME weather alerts.
<b>Intermodulation</b>	Occurs when two or more strong signals mix, generating a false frequency and distorted sound.
<b>Monitor</b>	Rather than scanning frequencies, to monitor is to keep the scanner tuned to a single frequency, waiting for a transmission.
<b>Playlist</b>	A customized set of channels that can be managed as a group.
<b>Priority</b>	Identifies a particular frequency whose transmissions should not be missed while scanning other frequencies.
<b>SAME</b>	Specific Area Message Encoding system. NOAA broadcasts alerts corresponding to specified areas.
<b>Scan</b>	Search to find an active frequency through channels.
<b>Scanner</b>	Wide band radio receiver that can receive Aircraft, CB, Fire, FRS, HAM, Military, Public Safety, Railroad, Weather broadcast, etc.
<b>Search</b>	Search an active frequency though frequency bands.
<b>Signal Stalker II</b>	Powerful tool for rapidly finding a nearby signal.
<b>Site</b>	A set of control frequencies for a trunked system's service area. You must select at least one site to import talkgroups.
<b>Skip</b>	Skips over specified frequencies or channels.
<b>Squelch</b>	Increases or decreases the scanner's ability to receiving signals.
<b>Step Size</b>	Incremental frequency size, determined by FCC.
<b>Skywarn</b>	Network of radio repeater frequencies for severe weather information.
<b>Talkgroup</b>	A group of users who share a small number for frequencies in a trunked radio system.
<b>Trunked Radio System</b>	System developed to use radio spectrum efficiently. Trunked radio systems all multiple users to share a small number of frequencies.



<b>Weather Alert</b>	Special alert signal broadcast by NOAA to alert receivers to severe weather conditions.
<b>WX</b>	An abbreviation for weather.
<b>Zeromatic</b>	Helps iSCAN tune to exact frequencies when searching. Zeromatic does not have any effect in channel-based searches such as CB, Marine and FRS/GMRS/MURS bands.

## MicroSD Card error messages

The iSCAN's MicroSD Card must be formatted correctly for proper operation. If you experience an error message while using your iSCAN in the field, check that the MicroSD card is fully inserted in the slot. If this does not correct the problem, refer to the following table:

<b>Code</b>	<b>Meaning</b>	<b>Corrective Action</b>
<i>01-00</i>	General heap error	Contact RadioShack Support and provide error code information
<i>01-01</i>	Unable to allocate from heap	Contact RadioShack Support and provide error code information
<i>02-00</i>	Unknown object type in data	Use PC Application to delete any corrupted objects or create a new configuration
<i>02-01</i>	Unknown TSYS type in data	Use PC Application to delete any corrupted TSYS objects or create a new configuration
<i>03-00</i>	No MicroSD Card inserted	Ensure that a properly formatted MicroSD card is fully inserted and locked in the MicroSD slot.
<i>03-01</i>	General error initializing file system	Reinsert the MicroSD card to ensure it is fully inserted. If necessary, reformat the MicroSD card using the PC Application "Prepare SD Card for use" option. Replace the MicroSD card if the problem persists.
<i>03-02</i>	Cluster size bad	
<i>03-03</i>	Error reading MicroSD card	
<i>03-04</i>	Error writing MicroSD card	

<b>Code</b>	<b>Meaning</b>	<b>Corrective Action</b>
<i>03-05</i>	MicroSD Card is full	Reduce size of configuration, remove unnecessary files or switch to a MicroSD card with more capacity.
<i>03-06</i>	MicroSD Card is write protected	Reinsert the MicroSD card to ensure it is fully inserted. If necessary, reformat the MicroSD card using the PC Application "Prepare SD Card for use" option. Replace the MicroSD card if the problem persists.
<i>03-07</i>	Mass storage mode is active	Mass storage device mode should be disabled when iSCAN is connected to a computer and scanning. Disconnect iSCAN from the computer, wait a few seconds, then reconnect.
<i>03-08</i>	Unknown MicroSD card read/write error	Reinsert the MicroSD card to ensure it is fully inserted in locked in the MicroSD slot. If necessary, reformat the MicroSD card using the PC Application "Prepare SD Card for use" option. Replace the MicroSD card if the problem persists.
<i>04-00</i>	Initialization error	Contact RadioShack Support and provide error code information
<i>04-01</i>	Initialization error	
<i>04-02</i>	Firmware load error	
<i>05-00</i>	Unable to load CONFIG__.BIN	Reformat the MicroSD card using the PC Application "Prepare SD Card for use" option. Replace the MicroSD card if the problem persists.
<i>05-01</i>	CONFIG__.BIN file error	
<i>05-02</i>	CONFIG__.BIN file error	
<i>05-03</i>	CONFIG__.BIN file error	

## Troubleshooting

Problem	Possible Cause	Solution
<b>Scanner does not turn on</b>	No power.	Check batteries. Check power connections.
<b>Poor or no reception</b>	Weak signal.	Check antenna connection. Reposition the scanner. Turn <b>SQUELCH</b> counter-clockwise. Check performance with and without attenuator activated.
<i>Scanning not available message</i>	Low batteries; all data functions (including scanning) are disabled to prevent data corruption.	Recharge or replace the batteries.
<b>microSD card not recognized or error code remains when the scanner is turned on</b>	The microSD card may be: <ul style="list-style-type: none"> <li>• Not fully inserted</li> <li>• Not properly formatted</li> <li>• Defective.</li> </ul>	Check the microSD card. Use the iSCAN PC Application to reformat the card. Replace with a new microSD card.
<b>iSCAN does not accept a firmware upgrade</b>	USB cable not plugged in correctly.	Check connections.
	USB cable drivers not installed.	Use the CD to install the cable drivers.

## Birdie Frequencies

All scanners have birdie frequencies – signals created inside the scanner’s receiver that may interfere with some transmissions. If the interference is not severe, you might be able to turn squelch clockwise to omit the birdie.

To find the birdies in your scanner, disconnect the antenna. Make sure that no radio or TV sets are turned on near the scanner. While you search, if the scanner stops, this is a birdie. Make a list of all the birdies in your scanner for future reference.

## Care

Your scanner is not waterproof. Do not expose it to rain, moisture, or extremely high humidity. If the scanner 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 cloth occasionally to keep it looking new.

## 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](http://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.

## Scanning Legally

Your scanner covers frequencies used by many different groups, including police, fire and ambulance services, government and military agencies, and amateur radio services. It is legal to listen to almost every transmission your scanner can receive. However, there are some transmissions you should never intentionally listen to:

- 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), as amended, 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).

iScan is designed to prevent reception of illegal transmissions, in compliance with laws that require that scanners be manufactured in such a way 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 not legal to listen to. Doing so could subject you to legal penalties.

In some areas, mobile use of this scanner is unlawful or requires a permit. Check the laws in your area. We encourage responsible, legal scanner use.

## FCC Notice

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.

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.

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Should a problem occur that is covered by this warranty, take the product and the **RadioShack** sales receipt as proof of purchase date to any **RadioShack** store in the U.S. **RadioShack** will, at its option, unless otherwise provided by law: (a) repair the product without charge for parts and labor; (b) replace the product with the same or a comparable product; or (c) refund the purchase price. All replaced parts and products, and products on which a refund is made, become the property of **RadioShack**. New or reconditioned parts and products may be used in the performance of warranty service. Repaired or replaced parts and products are warranted for the remainder of the original warranty period. You will be charged for repair or replacement of the product made after the expiration of the warranty period.

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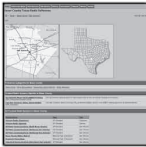
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