

## LHSCG Walkie-Talkie Setup

All walkie-talkies being used for a Tour must be set to the same channel number and privacy code. The Sports Car Club typically uses channel 6 and privacy code 1.

Additionally, we don't want any tones or noise being transmitted to the others. We want as much quiet as possible. To accomplish this, you should **turn off all optional settings that can be turned off**.

Walkie-talkies come in two different types, FRS (Family Radio Service) and GMRS (General Mobile Radio Service). We use FRS radios. They do not require a radio license. A radio that does both is OK. We will only use the FRS functions<sup>1</sup>.

### Privacy Codes

A receiving radio that has a privacy code set will not un-mute its speaker unless that code is sent along with a transmission. Many radios support privacy codes. If set up properly, they work even between different brands of radio.

Privacy Codes are called by various names.

- Motorola: "Private Line (PL)" or "Sub-Code" or "Interference Eliminator Code"
- GE/Ericsson/Harris: "CG" or "Channel Guard"
- E.F. Johnson: "Call Guard"
- RCA: "Quiet Channel"
- Midland: "CTCSS"
- COBRA: "Privacy Codes"
- Kenwood: "QT" or "Quiet Tone"
- GOCOM: "Interference Eliminator Code"

The most commonly used type of privacy code is CTCSS<sup>2</sup>. We use privacy code 1 (CTCSS 1) unless the Tour Leader says otherwise. This helps to eliminate extraneous noise and interference.

Note that a privacy code setting of 0 is not a privacy code at all. Zero means off. No privacy filtering is being done at all. A radio with privacy code set to 0 or off will activate its speaker for all transmissions on the channel that has been selected. For this reason, the term "Privacy Code" is very misleading. Anyone with privacy turned off can listen in to all your transmissions.

The real value of privacy codes is to eliminate interference and noise on your radio. The challenge is that if all radios are not set up with the same privacy code, communications will not be possible in both directions, or at all.



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<sup>1</sup> On FRS radios, channels 1 to 7 and 15 to 22 are higher power frequency, max 2 watts. Channels 8 to 14 have a max of .5 watts. GMRS radios have higher max powers on various channels.


<sup>2</sup> CTCSS means Continuous Coded Squelch System, and go from 1 to 38. DCS means Digital Coded Squelch. We use CTCSS and not DCS. DCS numbers are from 39-121 on Motorola or DCS 1-82 on Midland, with 39 on Motorola corresponding to DCS 1 on Midland, etc.

## How to Work the Menu or Mode Buttons

All the radios reviewed have menu buttons except the Cobra that has a mode button. They all basically work the same way for changing settings. (In addition, Kenwood and GOCOM have some features that require the radio to be powered off and on in order to change the setting. Those will be described later, separately.)

First, look for a  symbol or a key symbol on your display. If it is there, you must unlock your phone. To do this, find the button with the  symbol on it, or if none the Menu/Mode button, and press and hold it until the symbol on your display goes away.

Each time you press the Menu/Mode button, you will be taken to the next menu item to set, which will be blinking. The channel number is usually first, unless the radio has a separate button to change the channel. You can change a setting's value as long as it is blinking, using either +/- or ▲ and ▼, then press Menu/Mode to move on. If you hesitate too long when any setting is blinking, and it stops blinking, you will have to start over.

After you are done with all the settings you want to change, press and hold the button with the  symbol, or if none the Menu/Mode button, to lock all your settings. This will keep you from accidentally changing your settings.

## Battery Life

Walkie-talkies do wear out, sometimes after only a couple of years. Usually, it is not the radio itself that wears out, it is the rechargeable battery. Tips for long battery life include not leaving the radio in its charger all the time, and not recharging until the battery level is fairly low. If you suspect your rechargeable battery is bad, you can test your radio using regular batteries. (Don't try to recharge them, they could leak or even explode.) You can get replacement rechargeable batteries on Amazon.

A radio with a battery that cannot take a charge can show the battery as full. We have seen radios with a full battery indicator display a "Lo Bat" warning. It takes more energy to transmit than to receive, so you might get this warning when you try to transmit. Replace the battery.

Other reasons that walkie-talkies wear out are internal corrosion and the contact on the push-to-talk button is worn. If your radio transmits scratchy noise when you press or release the push-to-talk button, replace the radio. This noise is very irritating.

## Essential Settings

### How to Change the Channel and Privacy Code on Each Radio

Set the channel to 6 and privacy code to 1 (CTCSS 1).

#### Motorola

- If radio is locked (🔒 symbol), unlock by pressing and holding the button with 🔒 on it.
- **Channel:** Press Menu then + or – to set the channel to 6.
- **Privacy Code:** Press Menu again then + or – to set to 1.

#### Midland

- If radio is locked (🔒 symbol), unlock by pressing and holding the button with 🔒 on it.
- **Channel:** Press Menu then ▲ or ▼ to change channel.
- **Privacy Code:**
  - Press Menu again then ▲ or ▼ to set to ct.
  - Press menu again then ▲ or ▼ to set CTCSS to 1.

#### Cobra

- If radio is locked (🔒 symbol), unlock by pressing and holding the button with 🔒 on it.
- **Channel:** Use channel ▲ or channel ▼ to set the channel to 6.
- **Privacy Code:** Press Mode once again, then channel ▲ or channel ▼ to set CTCSS to 1.

#### Kenwood

- If radio is locked (key symbol), unlock by pressing and holding the Menu button.
- **Channel:** Use ▲ or ▼ to change the channel.
- **Privacy Code:** Press Menu once, then ▲ or ▼ to set QT to 01.

#### GOCOM

- If radio is locked (key symbol), unlock by pressing and holding the button with 🔒 on it.
- **Channel:** Press Menu then ▲ or ▼ to set the channel to 6.
- **Privacy Code:** Press Menu again then ▲ or ▼ to set to 1.

## Motorola

### How to Set Up Your Motorola Radio for Car Club Use

This is based on the user guide for Motorola T5000 and Talkabout.

Move to the next menu item by pressing the menu button. Use the + or - buttons to select the setting value that you want. Then use the menu button to move to the next setting.

Menu Item	Item	Set To	Notes
1	Channel	6	Set to channel 6.
2	Privacy Code	1	Set to 1. 1 corresponds to CTCSS 1 on other radios.
3	♪	OFF	Symbol is a music note. We don't want any call tones being transmitted.
4	iVOX	OFF	Voice Activation without accessories
5	VOX	OFF	Voice Activation. Can't be turned off, but only works with special accessories.
6	Qt	OFF	If Qt noise filtering is on, it could block you hearing other non-compatible radios. This is not the same as CTCSS 1 on other radios. It only works with other Motorola radios set the same way.
7	Vibrate	Your choice	
8	♪	OFF	I don't know what this is or if different than 3 above. The choice is not on the Talkabout.
9	·)))	OFF	Transmit Talk Confirmation Tone – Must be off. We don't want these tones.

## Midland

### How to Set Up Your Midland Radio for Car Club Use

This is based on Midland X-TRA TALK Model LXT600PA.

Move to the next menu item by pressing the menu button. Use the ▲ or ▼ buttons to select the setting value you want. Then use the menu button to move to the next setting.

Menu Item	Item	Set To	Notes
1	Channel	6	Set to channel 6.
2a	ct	ct	Set to ct.
2b	CTCSS	1	Set to 01.
3	pr	H	Power High.
4	VOX	oF	Voice Activation Off.
5	rb	oF	Roger Beep. Required to be off. We don't want beeps going to the others.
6	CA	1	Call Alert Tones. Don't care about this. Just never press the CALL button so these tones aren't transmitted.
7	bP	oF	Beep when a key is pressed. Your choice, but really don't need this.

Other buttons:

Long push on MON deactivates squelch (you hear noise). Another long push activates squelch.

## Cobra

### How to Set Up Your Cobra Radio for Car Club Use

This is based on Cobra Micro Talk ACXT545.

The channel can be changed any time. Just use channel ▲ or channel ▼ to change the channel. Set the channel to 6.

Hit Mode to go into settings. Use channel ▲ or channel ▼ to select each setting value you want. Then use the Mode button to move to the next setting.

Mode Item	Item	Set To	Notes
1	CTCSS	1	Set to 1.
2	DCS	Off	We don't use DCS privacy codes.
3	VOX	Off	Voice Activation. We won't use.
4	L VOX	Your choice	VOX Sensitivity. We won't use.
5	Call Tones	Call Tones	Call Alert Tones. Don't care about this setting. Just never press the CALL button so these tones aren't transmitted.
6	Incoming Call Vibrate	Your choice	Vibrate & Tone or Tone Only – Your Choice
7	Roger Beep	Off	Required to be off. We don't want beeps going to the others.
8	Key Tones	Your choice	Beep when a key is pressed. Your choice, but really don't need this.

## Kenwood

### How to Set Up Your Kenwood Radio for Car Club Use

This is based on Kenwood TK-3131 FreeTalkXLS.

The Privacy Code (CTCSS) on the other radios is called the QT code on Kenwood. Setting QT Code to 1 on Kenwood allows it to communicate with CTCSS 01 on other radios.

#### Change These Settings Without Powering Off the Radio

The following settings can be changed without powering off the radio. After changing settings, you can press the Push-to-Talk button to confirm the change.

If a key symbol is showing, indicating the radio is locked, first press and hold the Menu button for 1 second to unlock the settings. When you are all done with settings, and have confirmed your changes with the Push-to-Talk button, you can again press and hold the Menu button for 1 second to re-lock your radio.

The channel can be changed any time. Just use ▲ or ▼ to change the channel. Set the channel to 6.

Hit Menu to go into settings. Use ▲ or ▼ to select each setting value you want. Then use the Menu button to move to the next setting.

Menu Item	Item	Set To	Notes
1	QT Code	01	Quite Talk code 1 corresponds to CTCSS 01 on other radios. (DQT on the Kenwood is not used.)
2	Privacy	OF	This is Kenwood's special scrambling of your transmission to have true privacy. Only another Kenwood radio set the same way can unscramble the transmission.
3	Power	HI	High power.
4			Confirms all settings and exits settings. Alternatively, press the push-to-talk button.

#### Changing These Settings Requires Powering Off the Radio

To change the following settings, you must power the radio off, press and hold the Menu key while turning the radio ON (for 1 second).

Now here is where things get confusing. Everywhere else, on this radio and others, we use the Menu key to move to the next setting, and use the ▲ and ▼ buttons to change the setting values. On Kenwood, when changing the following settings, this is reversed. Use the ▲ and ▼ buttons to select the setting to change, and use the Menu key to change the setting values. Go figure! This does, however, have the advantage that you can move through the settings in both directions.

When finished with your changes, press the Push-to-Talk button to confirm the settings.

Select With ▲ or ▼	Use Menu Set To	Notes
bn	A	Bank A of frequencies, simplex operation. This is the default and should not be changed.
GL	OF	Voice Activated Transmission. Should be off.
bS	ON	Battery Save. No reason to turn off.
bP	OF	Beep when a key is pressed. Your choice, but really don't need this.
tO	3	Time-out timer. Default is 3 minutes in case push-to-talk button is stuck.
SC	OF	No need for scanning frequencies. We will use our pre-determined channel and QT code.
bt	ON	Battery indicator turned on.
bL	OF	Busy Channel Lockout. If on, prevents transmitting when others are talking. Your choice how to set.
LP	A	Lamp is used to illuminate the Liquid Crystal Display. Set to A for auto.
CA	1	Call Alert Tones. Don't care about this. Just never press the CALL button so these tones aren't transmitted.
Ct	OF	Incoming Call Notification, tone or vibrate. Your choice. Don't really need.

Other buttons:

Press and hold the MON button to deactivate squelch. Simply release the MON button to return to normal.



# GOCOM

## How to Set Up Your GOCOM Radio for Car Club Use

This is based on the user guide for GOCOM Model G600.

### Change These Settings Without Powering Off the Radio

The following settings can be changed without powering off the radio. After changing settings, you can press the Push-to-Talk button to confirm the change.

If a key symbol is showing, indicating the radio is locked, first press and hold the Menu button for 1 second to unlock the settings. When you are all done with settings, and have confirmed your changes with the Push-to-Talk button, you can again press and hold the Menu button for 1 second to re-lock your radio.

Move to the next menu item by pressing the menu button. Use the ▲ and ▼ buttons to select the setting value that you want. Then use the menu button to move to the next setting.

Menu Item	Item	Set To	Notes
1	Channel	6	Set to channel 6.
2	Interference Eliminator Code	1	Set to 1. This corresponds to CTCSS 1 on other radios.
3	CA	1	Call Alert Tones. Don't care about this setting. Just never press the CALL button so these tones aren't transmitted.
4	VOX	0	Turn Voice Activation off.
5	2CH	OF	Turn Dual Channel Monitor off.
6	Pr	HI	High power.

### Changing These Settings Requires Powering Off the Radio

Changing these settings requires that the radio be powered up while pressing a certain button.

Item	Push This Button While Powering Up	Notes
Keypad Tones	▼	Switches Keypad Tones on/off.
Roger Tone	▲	Switches Roger Tone on/off. We require off.