

DRAFT

Cat. No.21-1812

PERSONAL FM TRANSCEIVER

MAIN FEATURES

- No License Required !
- Water resistant and shock resistant for sport use
- Clear Communications Up to Several Miles
- Quiet Codes Feature by CTCSS
- Liquid Crystal Display for Channel number with unit status
- LCD back light
- Installed batteries charge through the DC jack
- Key Lock function for preventing mis-use
- Monitor Feature
- Automatic Power Save

FUNCTION AND LOCATION OF THE CONTROLS

(Illustration-1)

- **PWR/VOL** (Volume) Knob
Rotate to turn the transceiver on and off and adjust the volume.
- **PTT** (Push To Talk) button
To talk, hold down **PTT** and wait about 1 second, then speak into the microphone.
When you finish speaking, release **PTT**.
- **CALL** button
You can cause a paging tone to sound on all transceivers tuned to the same frequency.
To send a page, press **CALL**.
Important : The FCC does not allow you to send a continuous tone for more than 10 seconds at a time on FRS frequencies. Therefore, do not hold down **CALL** for more than 10 seconds.
- **TX** (Transmit) LED
Lights red when you transmit a message.
- **CHARGE** LED
Lights green when DC plug is input and installed batteries are charged.
- **MON** (Monitor) button
You normally don't hear anything on a channel unless someone is transmitting nearby on the same channel (this is called auto-squelch). To hear everything happening on a channel, including weak transmissions, hold down **MON**(monitor). Release **MON** to turn auto-squelch back on.

- **QUIET** button
Press and release this button will set or reset the quiet mode.
To select the quiet (CTCSS) code, see below QUIET (CTCSS) CODES section.
- **△ (UP)** button
Press this button will increase channel number.
Press this button while QUIET indicator flashes, quiet (CTCSS) code will be increment.
- **▽ (DOWN)** button
Press this button will decrease channel number.
Press this button while QUIET indicator flashes, quiet (CTCSS) code will be decrement.
- **CHRG** (Charge) jack
To charge the installed batteries, connect the optional AC adaptor plug.
- **LIGHT/LOCK** button
To turn on the LCD back light for 5 seconds, press and release this button.
To set or reset the key lock, see below KEY LOCK section.
- External **MIC/SP** speaker connector
Connect an optional headset with microphone (such as Cat. No. 19-312) or microphone and earphone communication headset (such as Cat. No. 19-316) into the MIC and SP jacks, or a mono earphone (such as Cat. No. 33-175) into the **SP** jack. This automatically disconnects the Internal speaker and **PTT**.

LCD DISPLAY INDICATOR

(Illustration-2)

- 7 segment indicators
Normally indicates selected channel number.
During quiet (CTCSS) code selection mode, indicates selected quiet (CTCSS) code.
- "🔋" indicator
This indicator will flash when battery becomes low.
- "🔒" indicator
This indicator appears when key lock is set.
- **BUSY** indicator
It appears when you receive.
- **QUIET** indicator
This indicator appears when Quiet mode (CTCSS) is set.
It will flash while you are selecting the Quiet (CTCSS) code.

QUIET (CTCSS) CODES

This transceiver uses quiet (CTCSS) codes to screen out unwanted conversations, even if someone is transmitting nearby on the same channel. When the quiet (CTCSS) code is set, the transceiver sends the code every time **PTT** or **CALL** button is pressed and only responds to signals that have the same code. Other 21-1812 or other transceiver which has CTCSS codes can be used together.

This transceiver has the following 8 quiet (CTCSS) codes.

CH No.	Frequency	CH No.	Frequency
17	118.8Hz	21	136.5Hz
18	123.0Hz	22	141.3Hz
19	127.3Hz	23	146.2Hz
20	131.8Hz	24	151.4Hz

Note : Other transceivers you plan to use together must be set to the same quiet (CTCSS) code.

How to select the quiet (CTCSS) code

1. To enter the quiet(CTCSS) code select mode, hold down the **QUIET** button until the QUIET indicator starts to flash.
 2. By using the Δ (up)/ ∇ (down) buttons to select the quiet (CTCSS) code.
 3. Press the **QUIET** button again to terminate the quiet (CTCSS) code select mode.
- When the quiet code selection mode is terminated, QUIET indicator stays lit and the quiet (CTCSS) code is set.

(Illustration-3)

KEY LOCK

During key lock is set, Δ (up)/ ∇ (down) buttons, CALL button and QUIET button are deactivated for preventing unwanted change.

INSTALLING BATTERIES

Your transceiver uses three AA batteries (not supplied) for power.

Alkaline batteries, such as Cat. No. 23-552 or rechargeable batteries, such as Cat. No. 23-325 can be used.

Caution : Ni-Cd battery must be charged for minimum 10 hours before use.

Do not mix old and new batteries or different types of batteries.

1. Be sure the transceiver is off, then push the top of the latch and lift the battery compartment cover.

2. Set the **CHG** (charge) switch depending on the batteries you will set before installation of the batteries.

Alkaline Batteries : N

Ni-Cd Batteries : Y

3. Install the batteries as indicated by the polarity symbols (+ and -) inside the compartment.

Then replace the cover.

(Illustration-4)

BATTERY CHARGE

1. Verify that the Ni-Cd batteries, not alkaline batteries, are installed and **CHG** switch is set to Y position.
2. Connect the optional AC adaptor plug into the DC jack.
During charging, the CHARGE LED lights.
Charge the new batteries over night before using your transceiver.

AUTOMATIC POWER SAVE

The automatic power save feature automatically extends battery life by reducing the power the transceiver uses until it receives a signal or you press a key. Because the receiving radio might be in power save mode, wait about 1 second after pressing PTT button to give the other radio time to come to full power before speaking into the microphone.

ATTACHING THE BELT CLIP

(Illustration-5)

You can use the supplied belt clip to make your transceiver easier to use when you are on the go. Use a coin or screwdriver to screw the belt clip to the transceiver. Then slide the belt clip over your belt or waistband.

FCC INFORMATION

IMPORTANT : Do not open your transceiver to make any internal adjustments. Your transceiver is set up to transmit a regulated signal on an assigned frequency. It is against the law to alter or adjust the settings inside the transceiver to exceed those limitation. Any adjustments made to your transceiver must be made by a qualified technician using the proper test equipment.

To be safe and sure :

- Never open your transceiver's case
- Never change or replace anything in your transceiver except batteries.

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

- Moving your transceiver away from the receiver
- Calling your local RadioShack store for help

Using your transceiver as described in this manual exposes you to RF energy well below the FCC's recommended limits.

This device complies with Part 15 of 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.

Modifying or tampering with the transceiver's internal components can cause a malfunction and might invalidate the transceiver's warranty and void your FCC authorization to operate it. If your transceiver is not performing as it should, take it to your local RadioShack store or assistance.

SPECIFICATIONS

Channels	14
Output Power	300mW ERP
Battery Life (Alkaline)	120 Hours (at Stand-by)
Battery Power (Alkaline)	4.5VDC
(Ni-Cd)	3.6VDC

Frequencies : One of the following frequencies is used to the transceiver.

Channel	Frequency (MHz)		Channel	Frequency (MHz)
1	462.5625		8	467.5625
2	462.5875		9	467.5875
3	462.6125		10	467.6125
4	462.6375		11	467.6375
5	462.6625		12	467.6625
6	462.6875		13	467.6875
7	462.7125		14	467.7125

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