

ICOM

INSTRUCTION MANUAL

800 MHz TRUNKED TRANSCEIVER

IC-U810T



Icom Inc.

IMPORTANT SAFETY PRECAUTIONS

READ ALL INSTRUCTIONS carefully and completely before using the transceiver.

SAVE THIS INSTRUCTION MANUAL!

This instruction manual contains important safety and operating instructions for the **IC-U810T**.

NEVER allow the antenna to come close to, or touch, the eyes, face, or any exposed body parts while the radio is transmitting.

NEVER operate the radio near electrical blasting caps or in an explosive area.

NEVER connect the transceiver to an AC outlet.

NEVER connect the transceiver to a 24 V DC car battery. Only 12 V DC car batteries can be used.

NEVER allow children to operate the transceiver.

NEVER expose the transceiver to rain, snow or any liquids.

NEVER disassemble the transceiver. Incorrect reassembly may result in a fire hazard or electric shock.

NEVER place the transceiver where normal operation of the vehicle may be hindered or where it could cause bodily injury.

AVOID placing the transceiver in excessively humid or dusty environments, or in direct sunlight.

NEVER use the transceiver if it is covered by objects which impede heat dispersal.

NEVER use an accessory which Icom does not sell or recommend, as it could result in a fire hazard or electric shock.

AVOID using or storing the transceiver in extreme cold (under -30°C ; -22°F) or extreme heat (over $+60^{\circ}\text{C}$; $+140^{\circ}\text{F}$).

BE CAREFUL! The heatsink will become hot when operating the transceiver continuously for long periods.

TABLE OF CONTENTS

IMPORTANT SAFETY PRECAUTIONS	1	
TABLE OF CONTENTS	ii	
1 PANEL DESCRIPTION	1 ~ 3	
■ Front panel	1	
■ Display panel	3	
2 FEATURES SUMMARY	4	
■ LTR/AmeriCom features	4	
■ AmeriCom features	4	
3 QUICK REFERENCE GUIDE	5 ~ 6	
4 BASIC OPERATION	7 ~ 11	
■ Operating modes	7	
■ General operation	7	
■ Selecting Systems and Groups	8	
■ Receiving calls	8	
■ Placing standard calls	9	
■ Placing telephone and unique ID calls	9	
■ Procedures for placing DTMF microphone telephone calls	10	
■ Placing a preprogrammed AmeriCom telephone or unique ID call	10	
■ Calling your radio from a standard telephone	11	
5 FEATURE DESCRIPTIONS AND OPERATIONS	12 ~ 17	
■ LTR/AmeriCom features	12	
■ AmeriCom features	16	
6 SUPERVISORY TONES	18 ~ 19	
7 INSTALLATION AND CONNECTIONS	20 ~ 23	
■ Unpacking	20	
■ Programming information	20	
■ Connections	21	
■ Installation	23	
8 SPECIFICATIONS AND OPTIONS	24	
■ Specifications	24	
■ Options	24	

1

PANEL DESCRIPTION

■ Front panel

RED TRANSMIT LIGHT [TX]

Turns ON whenever the radio is transmitting. Flashes while the radio is getting permission to transmit.

GREEN BUSY LIGHT [BUSY]

Turns ON when the microphone PTT is pressed and the system is busy. Try your call again.

YELLOW CALL LIGHT [CALL]

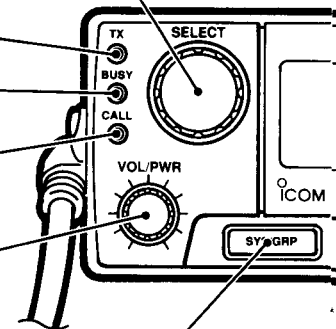
Turns ON when someone tries to call your radio and their is no response. Press PTT or any front panel button to turn it OFF.

ON/OFF POWER AND VOLUME CONTROL KNOB [VOL/PWR]

Turns the radio ON or OFF and adjusts the speaker volume.

SELECT KNOB [SELECT]

Rotates to select different radio settings. The primary use is selecting a System or a Group within a System. Also used with the [SET] button to change other user controlled features.

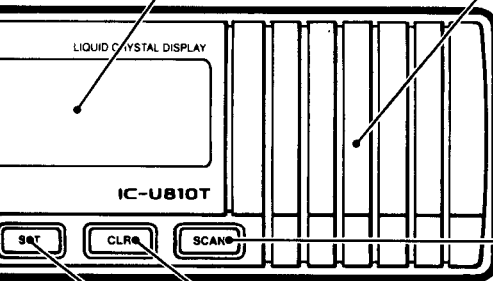


SYSTEM/GROUP BUTTON [SYS/GRP]

Activates System select or Group select within a System. Bar shaped display icons beneath the SYS icon or the GRP icon show whether System select or Group select is active.

DISPLAY PANEL (See p. 3)

SPEAKER



SCAN BUTTON [SCAN]

Press this button to activate the different scan features in the radio. The "SYS" and "GRP" icons on the display will flash to indicate what type of scan is being selected. After scanning has started, bars that replace the System and Group numbers indicate which type of scan is active. See p. 12 for details.

CLEAR BUTTON [CLR]

This button disables scan and also returns the radio to the active operating mode after using the [SET] button.

SET BUTTON [SET]

Activates a sequence of user controlled features available in the radio. The display will indicate which feature is active for user control. The radio will not transmit or receive while the [SET] button is being used. See p. 14 for details.

1 PANEL DESCRIPTION

■ Display panel

AUXILIARY [AUX]

Appears when the horn alert auxiliary function is active.

NO SERVICE [NO SVC]

Appears when the radio cannot be used with the current system setting.

ROAMING [ROAM]

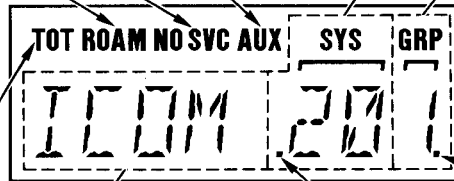
AmeriCom feature that indicates the radio is searching for a new system to use.

TIME OUT TIMER [TOT]

Appears when you have talked longer than allowed for one transmission.

ALPHA CHARACTERS

Name for radio setting or user prompt for controlling radio.



SYSTEM [SYS]

Indicates the active System. The bar indicates the select knob will change Systems.

GROUP [GRP]

Indicates the active Group. The bar indicates the select knob will change Groups.

GROUP LOCKOUT INDICATOR

This is the decimal point on the right side of the Group display. It indicates that the displayed Group has been locked out of scanning.

SYSTEM LOCKOUT INDICATOR

This is the decimal point on the left side of the System display. It indicates that the displayed System has been locked out of scanning.

■ LTR/AmeriCom features

- Up to 20 Systems selectable.
- Up to 10 Groups selectable.
- Each System can be programmed for LTR or AmeriCom operation.
- Talk-around (radio to radio operation) capable.
- Scan: System, Group, or ~~System and Group~~.
- System (LTR only) and Group lockout when scanning.
- Programmable time out timer.
- Call indicator.
- Horn alert (AUX) capable.
- Proceed tone to signal when talking can begin.
- Transmit Inhibit when selected Group is busy.
- Adjustable automatic power down after ignition is turned OFF.
- Adjustable display brightness.

■ AmeriCom features

- Over-the-air-programming. (1)
- Many calling formats using Group ID's (GID) and Unique Radio ID's (UID) including mobile-to-mobile "private" calls. (2)
- Wide area calls via network link. (2)
- Lock-onto-tower (roaming) with automatic system change. (2)
- Up to 75 pre-programmed telephone and UID numbers stored in System/Group settings. (2)

(1) This feature is available if the radio is operating in it's "HOME" AmeriCom cell. An AmeriCom System does not need to be selected.

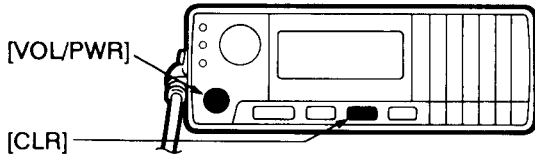
(2) These features are available if the radio is operating in an AmeriCom cell and an AmeriCom equipped System is active. An exception is unique ID calls which are received even if an AmeriCom System is not selected.

3

QUICK REFERENCE GUIDE

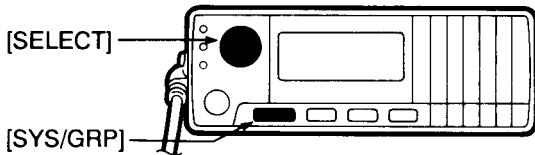
◇ ON/OFF and setting speaker volume

Rotate the [VOL/PWR] knob. Press the [CLR] button to check the speaker volume.



◇ Changing Systems and Groups

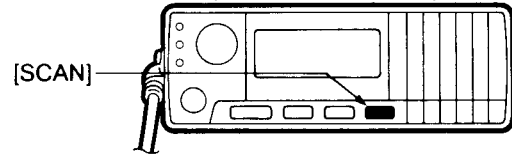
A bar beneath the "SYS" or "GRP" icon on the display indicates whether the [SELECT] knob will change Systems or Groups within a System. If the select function you want is not active, press the [SYS/GRP] button once. Rotate the [SELECT] knob to change settings.



NOTE: If your radio is programmed with only 1 group in each System setting, you will not need to use the [SYS/GRP] button to activate the bar under "SYS." Once the System select function is active, you can change to any setting in the radio by rotating the [SELECT] knob.

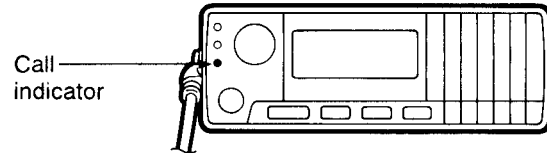
◇ Controlling Scan

Each press of the [SCAN] button changes the scan setting in the following sequence: Group scan, System scan, System and Group scan, Scan off. Steady "SYS" and "GRP" icons indicate scan is OFF. Flashing "SYS" and/or "GRP" icons indicate the type of scan that is selected. Dashes in place of the System or Group numbers indicate the type of active scan. (See p. 12 for details)



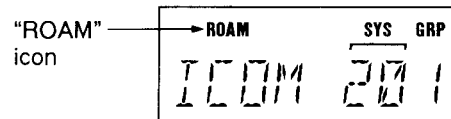
◇ Turning Call Indicator OFF

Press PTT or any front panel button.



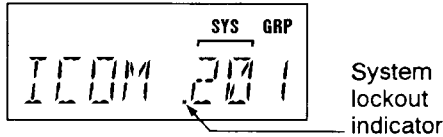
◇ Roam Indicator (when an AmeriCom system is selected)

Icon is displayed when the radio is searching for a new antenna site and/or system to use for communications.



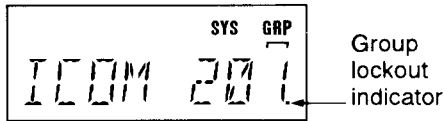
◇ **System Lockout Indicator**

This is the decimal point on the left side of the System display. It indicates that the displayed System has been locked out of scanning.



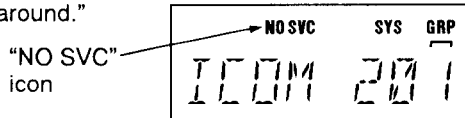
◇ **Group Lockout Indicator**

This is the decimal point on the right side of the Group display. It indicates that the displayed Group has been locked out of scanning.



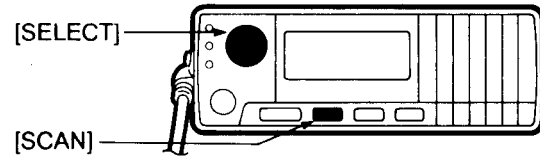
◇ **If “NO SVC” (no service) icon is displayed**

The radio cannot be used with the current setting. Use the [SELECT] knob to try other System settings. Your radio may also be programmed to talk directly to other radios, by-passing the trunking systems. Contact your system operator about using this radio capability called “Talk-around.”



◇ **Controlling other radio features and settings**

Repeated presses of the [SET] button will give access to controlling different radio features. Once a feature is selected the setting can be controlled by rotating the [SELECT] knob. The features accessed and controlled through the [SET] button include:



- **Scan lockout (SCNLK)**
Control which System and Group settings are included in scan. (p. 14)
- **Display brightness (BRIGHT)**
Select from 4 levels of display brightness. (p. 14)
- **Automatic power down (PWRDWN)**
The radio can be programmed to turn itself OFF from one to twelve hours after the ignition is turned OFF. (p. 15)
NOTE: This feature only works if the radio is installed with “ignition sense.” See “Connections.” (p. 21)
- **Horn alert (AUX)**
Turn the horn alert function ON or OFF. (p. 15)
- **Roaming (ROAM)**
Turn this AmeriCom feature ON or OFF. See AmeriCom features (p. 16).

■ Operating modes

This radio can be programmed with up to 20 different Systems and 10 different Groups within each System. Each System can be either an LTR compatible or AmeriCom system.

System or Group settings may also be programmed to make calls to other individual radios or to make telephone interconnect calls.

Telephone calls can be made by using a DTMF microphone to dial the phone number on both LTR or AmeriCom systems or with pre-stored numbers on an AmeriCom system.

To make a telephone or interconnect call, the system that a radio is working on must be equipped for this feature, and the radio must be programmed for this capability.

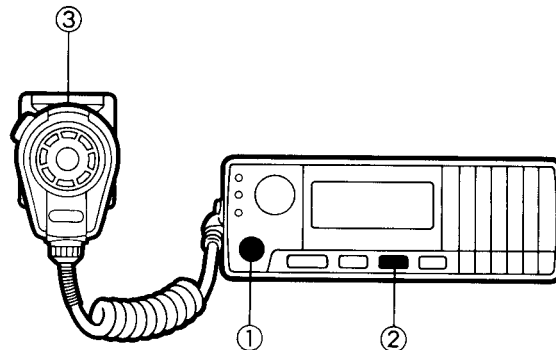
■ General operation

- ① Turn the radio ON and increase speaker volume by turning the [VOL/PWR] knob clockwise.

NOTE: The vehicle ignition may have to be ON for the radio to be turned ON.

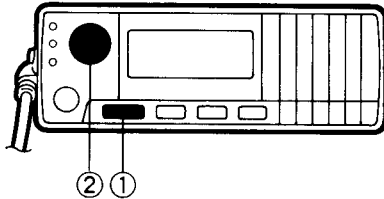
- ② Test the speaker volume level by pressing the [CLR] button and listening to the tone.

- ③ Leave the microphone on its hanger when not in use.



■ Selecting Systems and Groups

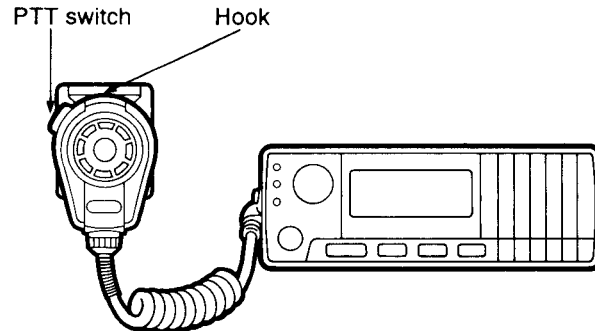
- ① An icon shaped like a bar beneath the “SYS” (System) or “GRP” (Group) icon on the display indicates whether the [SELECT] knob will change the System setting or the Group setting. Each press of the [SYS/GRP] button will change the radio between System select and Group select.
- ② Rotating the [SELECT] knob to the left or right will change the setting, System or Group, that is active.



- If there is only one System programmed into the radio, turning the [SELECT] knob while the System bar is active will not change the radio setting but it will create feedback tones.
- If a System is programmed with only one group, turning the [SELECT] knob while the Group bar is active will not change the radio setting but it will create feedback tones.

■ Receiving calls

- ① When a voice message or ringing is heard, take the microphone off-hook to respond. The PTT is pressed to talk and released to listen. When the PTT is pressed, the speaker is also turned OFF.
- ② Hold the microphone 2 to 4 inches from your mouth for best performance. Speak slowly and distinctly in a normal conversation voice. Do not shout.
- ③ When the call is finished, place the microphone back on-hook.
- ④ If you have received an interconnect (telephone) call and you are using a DTMF microphone, press the “#” key before putting the microphone back on-hook.



4 BASIC OPERATION

■ Placing standard calls

- ① If scanning, halt scanning by taking the microphone off-hook or by turning scan OFF with the [CLR] button.
- ② Select the desired System and Group setting.
- ③ Press and hold the microphone PTT (Push-to-talk) switch. When the proceed tone sounds, speaking can begin.

If the busy or intercept tone sounds instead, a busy or out-of-range condition exists and you may not be able to complete the call on this attempt. Refer to the "proceed tone" (p. 19) for more information.

NOTE: It is normal for the red transmit indicator to flash during the first second of a call. This indicates that the voice path is being established.

- ④ Press the PTT switch to talk and release it to listen. When the conversation is finished, place the microphone back on-hook.

■ Placing telephone and unique ID calls

The procedures to place telephone calls, using a DTMF microphone to dial the number, are the same for both LTR and AmeriCom systems.

AmeriCom equipped systems can also store and process pre-stored telephone or unique ID numbers. These calls can be made without a DTMF microphone.

Unique ID calls are calls to specific radios that are operating in your AmeriCom network. These calls are always placed using the AmeriCom telephone/unique ID procedure. Unique ID calls are not available on LTR systems.

[DIALING METHOD]

Using system	Optional DTMF microphone	Pre-stored number
AmeriCom	Applicable	Applicable
LTR	Applicable	Not applicable

■ Procedures for placing DTMF microphone telephone calls

- ① If scanning, halt scanning by taking the microphone off-hook or by turning scan OFF with the [CLR] button.
- ② Select the desired System and Group setting for telephone calls.
- ③ Momentarily press the microphone PTT switch to acquire a dial tone. In some systems it is best to press and hold the PTT until a proceed tone is heard and then release it.
- ④ After you hear a dial tone use the following procedure to enter the number you wish to call. Press and hold the first digit for a “one two” count. The other numbers may be dialed as quickly as you wish.
- ⑤ Do not press the PTT switch. Wait to hear the phone ring. When your party answers, press the PTT switch to talk and release to listen.
- ⑥ When the call is finished or if the party does not answer, the call should be terminated by pressing the “#” key on the microphone keypad. You will hear a sequence of three tones when the system releases your call.
- ⑦ When completely finished, place the microphone on-hook.

■ Placing a preprogrammed Ameri-Com telephone or unique ID call

- ① Select the desired System and Group setting.
- ② Momentarily press the PTT switch to initiate the call request. After a few seconds, a double beeping tone should sound to indicate that the request was received and the call is in queue. If an intercept tone sounds, the request was not received, usually because of an out-of-range condition. (See “Supervisory tones” on p. 18.)
- ③ When the beeping tone stops, a ringing tone will sound to indicate that the other party is being rung. If the call is being made to a unique radio and the beeping tone continues for an extended period such as 20 seconds, the radio is probably not in service and the call should be tried later. If resources are not available to complete the call, the AmeriCom fast busy tone is heard. (See “Supervisory tones” on p. 18.)
- ④ When the party answers, press the PTT switch to talk and release it to listen.
- ⑤ When the call is finished, it can be terminated by pressing the “#” key on the DTMF microphone (if applicable) or by placing the microphone back on-hook.

■ Calling your radio from a standard telephone

◇ If the radio is in an LTR system

- ① Dial the number of the radio system in which the mobile is operating.
- ② When the proceed tone is heard (see "Supervisory tones" on p. 19), dial the five digit number of your mobile using a tone-type telephone. Your system operator will tell you what number to call. The first digit must be dialed within 5 seconds of hearing this tone and no more than 5 seconds can elapse between digits or the call is terminated.
- ③ Ringing is heard when the mobile is being contacted.

◇ If the radio is in an AmeriCom system.

- ① If your mobile (or group of mobiles) has been assigned a unique telephone number, dial that number. If the call is placed in a queue, a double beeping tone sounds. A ringing tone sounds when the mobile is being rung.
- ② If your mobile has not been assigned a unique telephone number, dial the number of the radio system the mobile is using.
- ③ When the proceed tone sounds (three beeps) dial the twelve digit number assigned your mobile using a tone-type telephone. Your system operator will tell you the number to dial. The first digit must be dialed within 2 seconds after hearing the tone and no more than 2 seconds can elapse between other digits or the call may be terminated. If the call is placed in queue you will hear a double beeping tone. A ringing tone sounds when the mobile is being rung.

■ LTR/AmeriCom features

◇ Scan features

Scanning is a feature that allows your radio to automatically listen for calls from multiple settings of Systems or Groups. Your mobile radio has four operating conditions: Scan off, Group scan, System scan, System and Group scan.

• Each press of the [SCAN] button:

Changes the scan setting in the following sequence: Group scan, System scan, System and Group scan, Scan off. Whenever your radio is first turned ON the condition will be Scan off. Scan is also turned OFF by pressing the clear [CLR] button.

• Scan off

In this condition the radio will only receive calls from the active System/Group setting. The radio displays steady "SYS" and "GRP" icons along with both the System and Group numbers.

• Group scan

All Groups in the active System are scanned for calls. To select Group scan press the [SCAN] button until only the "GRP" icon is flashing. When scan starts, the "GRP" icon will go steady and the Group number will be replaced by a dash " - ."

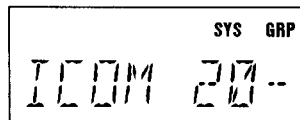
• System scan

All Systems programmed into your radio will be scanned for calls. The radio will monitor the same Group number on each System. Any Systems that do not have that Group number are skipped. To select System scan press the [SCAN] button until only the "SYS" icon is flashing. When scan starts, the "SYS" icon will go steady and the System numbers will be replaced by dashes " - - ."

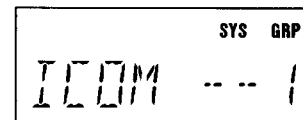
• System and Group scan

All Groups on all Systems are scanned for calls. To select System and Group scan press the [SCAN] button until the "SYS" and "GRP" icons are flashing. When scan starts, the "SYS" and "GRP" icons will go steady and the System and Group numbers will be replaced by dashes " - - - ."

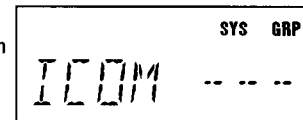
Display during Group scan



Display during System scan



Display during System and Group scan



5 FEATURE DESCRIPTIONS AND OPERATIONS

- **Fixed versus floating revert**

During scan your radio can be programmed to always transmit on your initial System/Group (the System/Group setting that is active when scan is turned ON) or it can be programmed to automatically transmit on the System/Group where a call has been heard.

If your radio is programmed for fixed revert, the initial System/Group will always be used for transmit, even if a call is heard from another setting.

If floating revert is programmed, the System/Group active for transmit automatically changes each time the radio scans to a new setting.

When scan is turned OFF or suspended by the user the radio will go back to the initial System/Group that was active when scan was turned ON. Fixed or floating revert is programmed by your system operator.

- **Dwell times**

Determine how long your radio will wait to automatically resume scanning after transmitting or receiving. These dwell times are controlled by how your radio is programmed by your system operator.

- **Scan off-hook**

Your radio can be programmed to continue scanning or stop scanning when the microphone is taken off-hook. This feature is programmed by your system operator. Many users like to combine the features of floating revert with scan stopping when the microphone is off-hook. With this combination a user can pick up the microphone during or just after a call is heard and be temporarily locked onto the setting the call came from for a response or continued listening.

- **Display feedback**

While scan is turned ON, the display will show the name and System/Group numbers of the setting that a call is being heard on. If you have fixed revert in your radio, you can look at your display while a call is being heard to determine the setting you need to use for any response.

- **Scan lockout**

See "User controlled features." (p. 14)

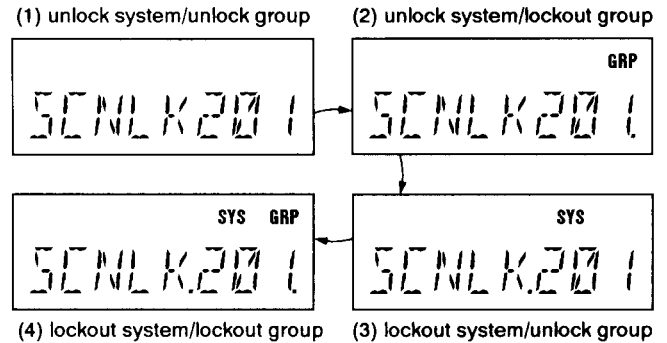
◇ **User controlled features**

Repeated presses of the [SET] button puts the radio in SET mode and allows you to access and control a number of your radio's features. Once the feature you wish to control is active, the [SELECT] knob is turned to the right or left to change the setting for the feature. After you have changed a feature, the next press of the [SET] button will take you out of SET mode. While the radio is in SET mode, it will not transmit or receive.

The clear button [CLR] can also be used to exit SET mode. When the [CLR] button is used, changes you have made are not saved.

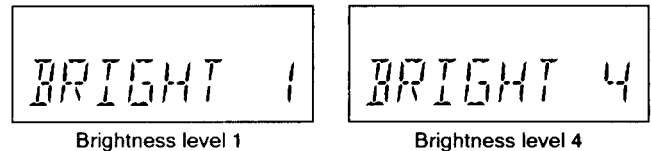
• **Scan lockout (SCNLK)**

All Systems or Groups applicable to a type of scan are included in the scanning process unless they are "locked out" by the user. Scan lockout allows the user to exempt the current System and/or Group from scanning. Press the [SET] button once and "SCNLK" is displayed along with the System and Group numbers for the last active System/Group setting. Decimal points (see "Panel description") indicate that a System or Group has been locked out of scan. Rotating the [SELECT] knob clockwise advances through these settings:



• **Display brightness (BRIGHT)**

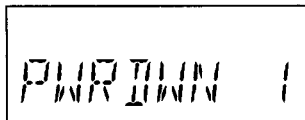
Controls the brightness of the display. Many users like to turn down the display brightness at night and up during the day for easier visibility. Press the [SET] button until "BRIGHT" is displayed. Turn the [SELECT] knob to the right to increase brightness and to the left to decrease it. Four brightness levels are available.



5 FEATURE DESCRIPTIONS AND OPERATIONS

• Automatic power down (PWRDWN)

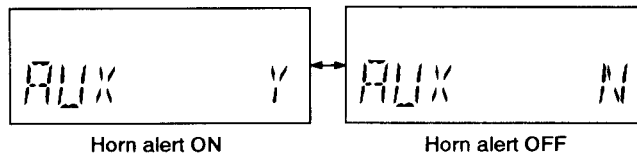
If your radio has been installed with ignition sense (see "Connections" on p. 21), the radio can be programmed to stay on for 1-12 hours after the ignition is turned OFF. After the timer is done, the radio will automatically turn OFF and prevent continuing current drain on the vehicle battery. Press the [SET] button enough times to display "PWRDWN." Rotate the [SELECT] knob to choose the number of hours you want the radio to remain ON. If you select 0 hours, the feature is turned OFF.



This display example shows 1 hour for automatic power down.

• Horn alert (AUX)

A call that you do not answer can be used to make the horn of your vehicle sound. This can alert the operator to come back to the vehicle and respond. This requires optional equipment to install. If this feature is installed, it is controlled by using the [SET] button to display "AUX" in the large display and rotating the [SELECT] knob to the left and right to turn it ON "Y" or OFF "N." If the feature is turned ON, "AUX" will be shown on the radio's upper display panel (see "Display panel"). This feature is always OFF when the radio is first turned ON. If an alert is sounding, any use of the radio will turn it OFF.



• Roaming (ROAM)

See "AmeriCom features" in p. 16.

◇ Talk-around

Your radio has the ability to talk directly to another compatible radio. This is very useful for two vehicles that have left the coverage of a trunking system that still need to talk to each other. There are FCC restrictions on the use of this capability. Please consult your system operator about using this feature.

◇ Time out timer

Your radio may limit the length of an individual transmission. The length of time you are allowed to talk during a single transmission is programmed by your system operator. After you have exceeded your time limit "TOT" will appear on the panel display and tones will sound. (See "Supervisory tones – Time out timer warning tone.")

■ AmeriCom features

These features are only available if your radio is operating on an AmeriCom equipped system. Ask your system operator if you are uncertain about the type of system you are using.

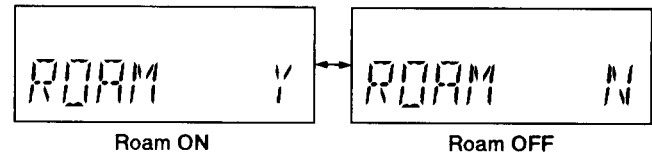
◇ Roaming

An AmeriCom network can create the automatic use of different systems or sites. As your radio is moved out of the coverage of one AmeriCom site and into another, the radio can automatically change to the new site. During the process of roaming, the "ROAM" icon will appear on your display. (See "Display panel" on p. 3) After roaming, the radio display will show the new System/Group setting to tell the user where the radio is working. The AmeriCom system is also notified about your location and calls to your radio are automatically routed to you through the AmeriCom network.

• ROAM ON/OFF

The roam feature is controlled by the user as part of the SET features. Use multiple presses of the [SET] button until the display says "ROAM." Rotate the [SELECT] knob to the right to turn ROAM ON ("Y") or to the left for ROAM OFF ("N"). The default when the radio is first turned ON is ROAM ON. If you have a situation where

you do not want your radio to change settings, even if a different system has a stronger signal, turn ROAM OFF.



◇ Over-the-air programming

Your radio can be reprogrammed while it is in your vehicle by sending it new information using a designated AmeriCom system. During this procedure the display will show "OAP," and none of the radio controls work until the process is complete.

◇ Networking

Calls can be automatically made to other radios even if they are not working at the same site as your radio. The AmeriCom system keeps track of where radios are operating and will route calls to other sites as required. This feature is a major benefit of the AmeriCom system. Networking does not require any specific action by the radio user. However, if a network call is made there may be some delay in having the call processed.

5 FEATURE DESCRIPTIONS AND OPERATIONS

◇ Types of calls

AmeriCom systems work with two types of radio identification. A mobile may work with its Unique ID (UID) which is different from any other radio or it may work with a Group ID (GID) that is shared with other radios.

• Private conversation

If a radio places a call using its UID to identify itself and also calls another radio using its UID the conversation will not be heard by any other radios and will be "private."

• Group or shared conversation

If a radio used a GID to identify itself or to call other units, all radios with the same GID will hear the conversation.

These two ID formats (UID and GID) can be used in any combination. Calls can also be placed within a single system site or between different systems across the AmeriCom network.

Types of calls supported by AmeriCom

	Pattern 1	Pattern 2	Pattern 3	Pattern 4
Transmitting	UID	GID	UID	GID
Receiving	UID	UID	GID	GID

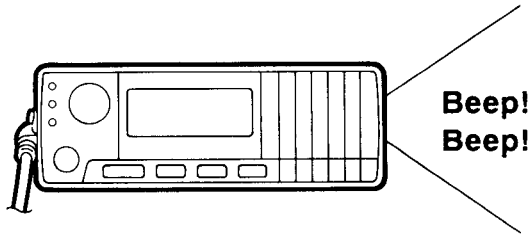
If a radio transmits with a GID, all radios in that Group will hear the call even if the call is to another UID or GID.

Any type of call can be pre-stored into a System/Group setting in your radio by your system operator, or a call can be made by using a DTMF pad input. The radio can hold a minimum of 35 pre-stored numbers. Each pre-stored number is assigned to a specific System/Group setting. After one of these System/Group settings is selected, a press of the PTT will automatically dial the number. (See "Basic operation" on p. 10)

Contact your system operator about changing your pre-stored radio settings or making DTMF based calls.

The IC-U810T mobile generates a high and low tone. These two tones provide user feedback through the radio speaker. They are not transmitted over the air. The trunked system that your radio operates on will generate additional tones. This manual only explains the tones generated by the radio.

The radio produces the following feedback tones: Bad key, Busy, Retry, Deny, DTMF, Key press, Proceed, Queue, and Time out warning.



◇ **Bad key** – two high tones.

Acknowledges the user has pressed a key or turned the select knob, and warns that the radio is unable to perform that action. Bad key also sounds when the radio is in the process of ending an AmeriCom interconnect call and the user turns the select knob.

◇ **Busy tone** – repeating cycle of high and low tones.

Signals that the system is in range but all repeaters are currently in use. Sounds when the user presses PTT, and continues until they release PTT or when a repeater becomes available for transmit.

◇ **Retry tone** – single high tone.

Indicates there is a delay in contacting the system. Retry sounds when the radio is placing an interconnect or dispatch call and does not hear a response from the system. The radio makes six attempts to reach the system, and sounds the retry tone at the third through the sixth tries. The deny tone sounds after the sixth try.

◇ **Deny tone** – repeating cycle of long high tone and long low tone.

This indicates an attempted call failed. Sounds while the PTT is pressed and an LTR system is out of range. If a call fails on an AmeriCom system the tone will last for two cycles or four tones.

6 SUPERVISORY TONES

◇ **DTMF feedback tones** – created when DTMF tones are transmitted to the system.

The DTMF microphone creates a single feedback tone when a button is pressed.

◇ **Key press tone** – single low tone.

Acknowledges that a control button has been pressed, the select knob rotated, the microphone placed on-hook or the PTT pressed for some types of calls on an AmeriCom system.

◇ **Proceed tone** – one low tone and one high tone.

Sounds after the user has pressed PTT and the radio obtains use of a free repeater. Microphone audio is transmitted immediately after the tone. This tone also sounds if a radio has been out of service and service is restored.

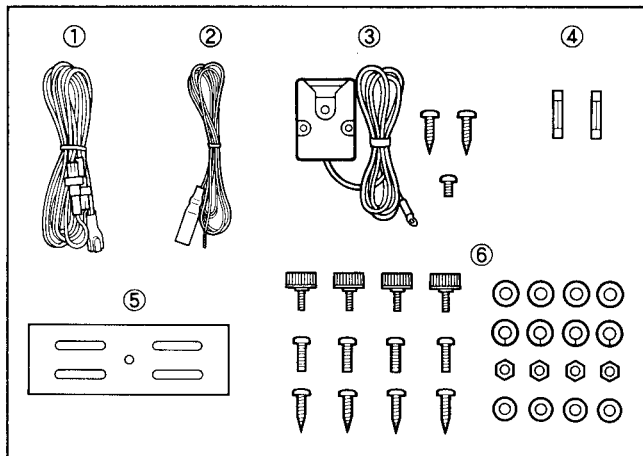
◇ **Queue tone** – cycle of two tones and a pause.

Indicates that an interconnect call is in the process of being set up by the trunking system. It continues until the call is connected or aborted.

◇ **Time out timer warning tone** – two long low tones.

Warns the user that the PTT has been held too long for one transmission and the call is about to be cut off. The tone sounds once five seconds before cut off, and continuously at cut off until the PTT is released. (See “Time out timer” on p. 15.)

■ Unpacking



Accessories Included with the IC-U810T:	Qty.
① DC power cable (OPC-044A)	1
② Ignition cable (OPC-381)	1
③ Microphone hanger with cable (OPC-326)	1 set
④ Fuses (10A)	2
⑤ Mounting bracket	1
⑥ Mounting screws, nuts and washers	1 set

■ Programming information

◇ Initial programming

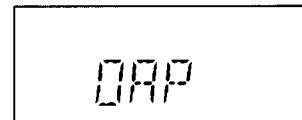
Before your radio will work it must be programmed. If your radio has not been programmed, the display will show "NO PROG" and you should contact your system operator.

◇ LTR compatible systems

The different settings for your radio are controlled by your trunking system operator or dealer. If you feel a change is desired, contact the location that provided the current programming that is in the radio.

◇ AmeriCom systems

Your radio can be programmed while it is in your vehicle so long as it is turned ON and operating in its home cell. This process is called OVER-THE-AIR-PROGRAMMING. There are situations when your radio will be re-programmed even if you have not requested a change. While this is happening, the display will read "OAP." You will not be able to use your radio during the time that "OAP" is on the display. Under normal conditions OAP will only take 1 ~ 2 minutes. When your display returns to normal, you may use your radio again.



7 INSTALLATION AND CONNECTIONS

■ Connections

Connect a battery, an antenna, etc. to your radio as shown in the diagram on the page at right.

◇ Rear panel descriptions

① ANTENNA CONNECTOR

Connects to an antenna. Ask your dealer about antenna selection and best installation location.

② IGNITION SENSE CABLE

Connects to a terminal which supplies 12 V DC while the mobile ignition is ON.

③ HORN ALERT CABLES

Connect to the cables from an optional UX-11 HORN-HONK DRIVER UNIT to enable the horn alert function.

④ DC POWER CABLE

Connects to a 12 V DC battery. Pay attention to polarities. **NEVER** connect to a 24 V DC battery directly. This may damage the radio.

⑤ PROGRAMMING JACK

For the system operator only.

⑥ EXTERNAL SPEAKER JACK

For clear audio reception an optional external speaker can be connected, if desired.

⑦ ACCESSORY JACK

No function. **NEVER** connect cables here.

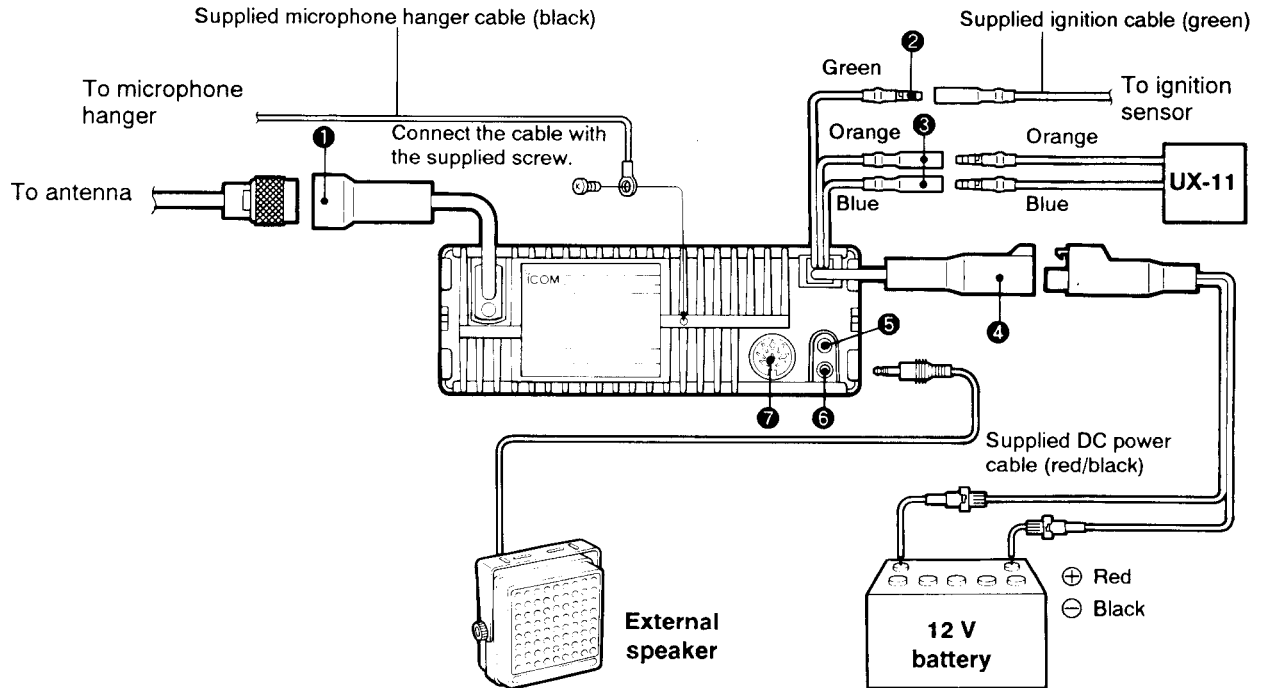
IMPORTANT!

When not using the Ignition sensor:

Connect the green cable (②) and the orange cable (one of ③) directly.

In this case, the automatic power down and horn alert functions cannot be used.

- Power must be turned ON/OFF manually with the [VOL/PWR] switch.

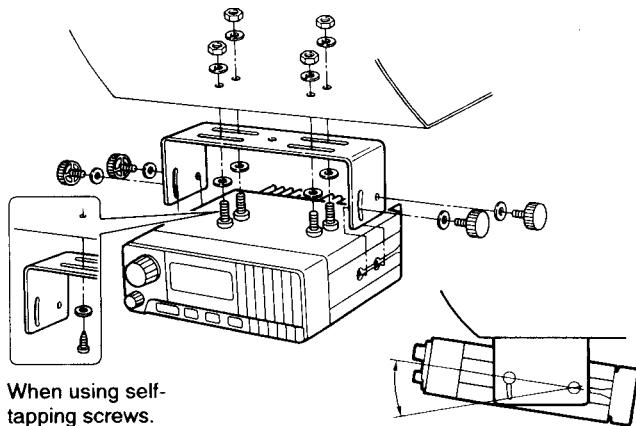


7 INSTALLATION AND CONNECTIONS

■ Installation

◆ Main body installation

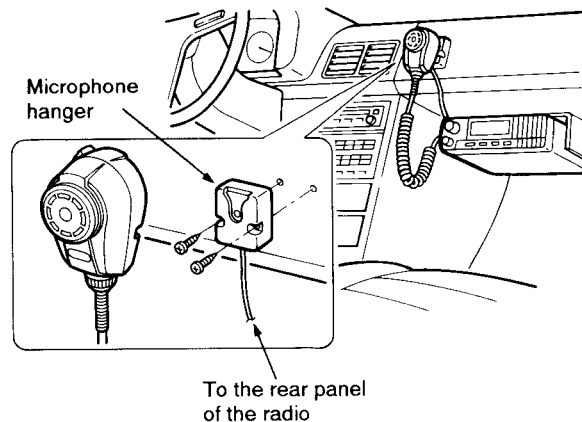
- ① Select a location that can support the weight of the radio, and does not interfere with your driving in any way.
- ② Place the mounting bracket in a suitable mounting location and mark the screw holes on the bracket. Make sure the controls and switches can be reached easily.
- ③ Drill the holes and install the bracket; then, mount the transceiver on the bracket as shown in the figure below.
- ④ Adjust the angle for the clearest view of the display.



◆ Microphone hanger

- ① Install the microphone hanger at the desired position near the radio.
- ② The cable from the microphone hanger must be connected to the rear panel of the radio. (See "Connections" in p. 21.)

NEVER install the microphone hanger and radio near magnetic navigation equipment, etc. as the microphone and radio contain magnets.



■ Specifications

GENERAL

- Frequency coverage : 806 ~ 821 MHz (transmit)
851 ~ 866 MHz (receive, transmit in the talk-around)
- Mode : FM (16K0F3E, 15K0F1D)
- Power supply requirement : 13.8 V DC \pm 15%
- Current drain (at 13.8 V DC) : Transmit 7 A
Receive, standby 500 mA
max. audio output 1.5 A
- Usable temperature range : -30 °C ~ +60 °C; -22 °F ~ +140 °F
- Dimensions : 151 (W) \times 53 (H) \times 189 (D) mm;
(projections not included) 5.9 (W) \times 2.1 (H) \times 7.4 (D) in
- Weight : 1.8 kg; 4.0 lb

TRANSMITTER

- Output power : 15 W
(10 W for the talk-around function)
- Spurious emissions : Less than -60 dB

RECEIVER

- Sensitivity : 0.35 μ V for 12 dB SINAD
- Adjacent channel selectivity : -65 dB
- Spurious response rejection : -70 dB
- Intermodulation rejection : -65 dB
- Blocking and desensitization : 90 dB μ e.m.f.
- Frequency tolerance : Less than 0.00025%
- Audio output power : More than 4.5 W at 5% distortion

All stated specifications are subject to change without notice or obligation.

■ Options

• SP-5 EXTERNAL SPEAKER



A heavy-duty external mobile speaker.

- Input impedance: 4 Ω
- Max. input power: 5 W

• SP-10 EXTERNAL SPEAKER



A compact external mobile speaker.

- Input impedance: 4 Ω
- Max. input power: 5 W

• EM-76 DTMF MICROPHONE

A heavy-duty hand microphone equipped with a DTMF keypad. Can be used for dialing both in LTR and AmeriCom systems.

• UX-11 HORN-HONK DRIVER UNIT

Drives a signaling device such as a car horn to alert the operator to specific calls received.

Count on us!

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