

Quick Reference Guide

Equipment References and Site Setup

For Emergency Communications

Los Altos Hills, CA

Prepared by:

Members of the Los Altos Hills

Emergency Communications Committee

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Operational Plan

NOTE: Amateur Radio Operators are primarily communicators who work under the Emergency Manager (EOC) or the CERT Incident Commander (ARK) or their designees. They may, at times, be requested to perform other tasks by the above, but they need to realize that by accepting the alternative task, they are then volunteer emergency responders, working in a CERT or similar capacity, but not functioning as volunteer communicators. An emergency communicator is committed to that responsibility.

The EOC Amateur (Ham) Radio equipment and facility is used to communicate with the Santa Clara County EOC, the CERT IC and teams at the Los Altos Hills ARK command post, the Emergency Trailers, and with roving hams and CERT field teams within the Town of Los Altos Hills. Interface with the CERT FRS/GMRS radios are included in this Guide. The town's primary EOC is located in the Heritage House, adjacent to the Town Hall at 26379 Fremont Road, tel. (650) 941-3772.

Staffing - EOC:

The ham radio room in the EOC normally will be staffed by at least two ham operators. The first operator will establish contact with the County by checking in on the County Resource Net and with LAH hams on the LAH repeater (W6LAH). The second operator will operate the packet communications by checking bulletins on the County BBS (W6SXC-3) and by sending a message to the ARK, stating presence. A third operator, if available, may assist the first operator by taking over as net control for the LAH net on the LAH repeater, and also setting up the schedule, logging messages, and general support of the initial ham radio operator.

Additional ham operators reporting to the EOC in person may be assigned to duties in the EOC or dispatched, as required, by the LAH net control under the direction of the Emergency Manager at the EOC, or the CERT volunteer Incident Commander at the ARK.

Staffing - ARK:

The ARK, located in the parking lot near the El Monte Fire Station at Foothill College, normally will be staffed by at least two ham operators. The first operator will establish contact with the LAH EOC on the LAH repeater. He or she will then provide communications for the CERT volunteer Incident Commander to and from the EOC. Additionally, if the Mobile Emergency Trailers are staffed with ham operators, he/she will establish and maintain communication with the Trailers at the direction of LAH EOC net control.

The second operator will operate the packet communications to the EOC by sending a message to the EOC stating presence. Thereafter, he/she will provide written communications by packet method to and from the ARK Incident Commander and EOC Emergency Manager .

A third operator, if available, may assist by operating the CERT GMRS base station in communications with CERT field groups, and also support communications procedural functions such as message log, staffing, scheduling, and related.

Refer to:

EOC section:

Setup and Operation

Activating Voice Radio communications in the LAH EOC.

Activating Packet Radio communications in the LAH EOC.

ARK section:

Setup and Operation

Activating Voice Radio communications in the LAH ARK.

Activating Packet Radio communications in the LAH ARK.

Emergency Communications Committee Members

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Scott Overstreet	N6NXI		
Edwin R Jones	W7WPO		
Bob Rowe	AF6LD		
Miles Seiver	KI6LDU		
Maynard Stevenson	W7MVT		
Sam Wood	K6MSR		
Dave Stewart	KJ6JQT	Associate, CERT comm lead.	

EOC

The Emergency Operations Center is located in Heritage House adjacent to the Los Altos Hills Town Hall Council Chamber, 26379 Fremont Road, Los Altos Hills, CA 94022. Members of the Emergency Communications Committee have a key and alarm code to gain entry into the building and a code to enter the radio room.

Radio Equipment

Desk #1, Voice Radio

Cabinet:

IC2720	2m/440 MHz	145.270, 100	W6ASH/r	County Resource Net or
		146.115, 100	AA6BT/r	County Resource Net
		147.115, 100		County Message Net
IC2720	2m/440 MHz	146.745, 110.9	W6LAH/r	LAH primary voice
		146.940, 123.0	K6AIR/r	LAH alternate voice
		442.500, 100.0	WB6ZVW/r	County Command Net
		(441.525, 123.0	K6AIR/r	LAH alternate)

Desk #2, ARK Packet Node: Opposite Window, Radio Room

TM-D700	Packet (ARK)	433.550	WA6LAH-1/bbs	LAH Mail drop server
PK-96	Packet (WA6LAH-1 BBS)			
IC2720	2m/440 MHz	146.745, 110.9	W6LAH/r	LAH primary voice
		147.435	W6LAH/s	LAH simplex

Desk #4, County Packet Node: By Window, Radio Room

TM-D710	2m/440 MHz	144.310	W6XSC-3	County primary BBS
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EOC Setup and Operation

Activating voice radio communications in the LAH EOC

- DESK 1 (Cabinet)
- WHAT: LAH repeater
WHERE: 146.745-110.9
PURPOSE: Primary voice communication among LAH amateur operators
TO DO: Establish a directed net as LAH amateurs check in and collect initial reports of emergency conditions for the Emergency Manager. If the LAH repeater is not operating, use either the alternate repeater K6AIR/r (146.94, 123.0) or the LAH simplex frequency (147.435). Later after a number of people are active and the ARK is operational, repeater and simplex frequencies will be active; net control for one will be at the ARK. The alternate repeater should be used for non-EOC traffic.
- DESK 1 (Cabinet)
- WHAT: County Command Net
WHERE: 442.500+100
PURPOSE: Receive instructions from county EOC to town EOC
TO DO: Monitor frequency and check in, if net control polls towns.
- DESK 1 (Cabinet)
- WHAT: County Resource Net
WHERE: 145.270-100 or 146.115+100
PURPOSE: To allocate resources between towns
TO DO: Monitor frequency and check in, when net control polls towns. As soon as enough data for an initial damage report has been collected from the local net, give the report to county net control. Later, this net will be used to supplement packet in towns offering and requesting assistance, and related.
- DESK 1 (Cabinet)
- WHAT: County Message Net
WHERE: 147.360+110.9
PURPOSE: Carry message traffic between towns and county EOCs.
TODO: Monitor frequency and check in when net control polls towns. Because voice is very inefficient in message traffic, this net becomes congested very quickly. Ideally, most of this traffic will be carried by packet.

DESK 2 – If an additional operator is available, a second radio can be operated next to the ARK packet or can be located in the kitchen.

WHAT: LAH repeater
WHERE 146.745-110.9
PURPOSE Primary voice communication among LAH amateur operators
TO DO: Establish a directed net as LAH amateur radio operators. Check in and collect initial reports of emergency conditions for **the Emergency Manager**. If the LAH repeater is not operating, use either the alternate repeater K6AIR/r (146.94, 123.0) or the LAH simplex frequency (147.435). Later, after a number of people are active and the ARK is operational, the repeater and simplex frequencies will be active; net control for one will be at the ARK. The alternate repeater should be used for non-EOC traffic.

EOC Antenna Assignment

August 27, 2011

Desk 1 – Radio Room Cabinet

IC-2720	144/440	1-1	Tree 1	County Resource/LAH Repeater
IC-2720	144/440	1-2	Tree 4	County Message Net/County Command Net
City Radio	37	1-3	N/C	
		1-4	N/C	

Desk 2 – LAH Packet to ARK. Located across from window.

TM-D700	144/440	2-1	Tree 2	Packet to ARK
IC-2720	144/440	2-2	Roof 1	Utility/LAH Repeater

Desk 3 – Public Safety Officer’s desk, front office.

		3-1	N/C	
City Radio	37	3-2	Roof 3	Active to County/Cities
		3-3	N/C	

Desk 4 – LAH Packet to County. Radio Room next to the window.

TM-D710	144/440	4-1	Tree 3	Packet to County
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Antenna Frequency/Band

144/420	144/223/420	37
Tree 1	Tree 4	Roof 3
Tree 2	Roof 2	
Tree 3		
Roof 1		

Activating Packet Radio communications in the LAH EOC

- #1** DESK 4, by window
WHAT: County Packet
WHERE 145.310 W6XSC-3
PURPOSE Primary packet communication with County EOC
TO DO: Click Send/Receive to initiate contact with the BBS and receive current bulletins. Prepare and send a message to the County EOC (W6XSC) acknowledging Los Altos Hills presence and ability to receive traffic.
- #2** DESK 2, across from window (Computer "EOC4")
WHAT: LAH-ARK Packet
WHERE 440.550 W6FQY (Or whoever is operating)
PURPOSE Primary packet communication with the ARK Command Post
TO DO: Click Send/Receive to initiate contact with the BBS and receive current messages (if any). Prepare and send a message to the LAH-ARK (W6FQY or other operator) acknowledging the LAH EOC presence and ability to receive traffic.
- NOTES: This node implements the "Mailbox" for packet communication between the ARK and EOC.
Messages can be stored in and retrieved from the mailbox with this computer.

EOC/ARK Packet

433.550 MHz simplex (WA6LAH-1 BBS)

Radio D700 and TNC PK-96 should remain on for mailbox to function. Computer may be off.

To Access the Mailbox:

Double Click Outpost SCC

From Outpost Packet Message Manager window:

Menu **Setup > Identification** (should be **WA6LAH**)

Menu **Setup > BBS**

BBS Name (should be **LAHEOC/ARK**)

Menu **Tools > Message Settings > New Messages**

Default Destination (control operator at ARK e.g. **W6FQY**)

To Retrieve Messages from the Mailbox:

Click **Send/Receive**

Click **In Tray**

Select a message

Click **Open**

To Send a Plain Text Message:

Click **New**

Adjust Header if desired

Enter Body text

Click **Send** (puts message in Out Tray)

Click **Out Tray**

Click **Send/Receive** (puts message in PK-96 Mailbox)

Click **In Tray** (to check if mail came in with send/receive)

Please leave the radio/PK-96 in a state to receive packet messages

County Packet

144.310 MHz simplex (W6XSC-3 primary county BBS)

To use **Packet Communications** from this setup:

Turn on power supply to Radio

Double click **Outpost SCC**

From Outpost Packet Message Manager window:

Menu **Setup > Identification**

Set **User Call Sign** to your call sign

Check **Use Tactical Call for all BBS interaction** (if desired)

Menu **Setup > BBS**

Set **BBS Name** from drop-down

e.g. **LAH EOC** for EOC/ARK comms.

e.g. **SCC BBS3** for County comms.

Menu **Tools > Message Settings > New Messages**

Check **Default Destination** and enter destination call sign (if desired)

Set the **D710** radio to **desired frequency** and ensure **PACKET12** is displayed

To **Retrieve Messages from the BBS**:

Click **Send/Receive** (should cause some commotion on the radio)

Click **In Tray**

Select a message

Click **Open**

To **Send a Plain Text Message**:

Click **New**

Adjust Header text if desired

Enter Body Text

Click **Send**

Click **Out Tray**

Click **Send/Receive**

Click **In Tray** (check for any return mail that came in at the same time)

Kenwood TM-D710 **Memories**:

M_0 **433.550 WA6LAH-1 LAHEOC Pkt**

M_1 **145.270**

M_2 **146.745 W6LAH repeater**

M_3 **146.115 W6LAH input**

M_4 **144.310 W6XSC-3 Mountain View packet (primary County)**

M_5 **144.990 W6XSC-1 SCC packet (secondary County)**

>>>If using for other purposes please reconfigure to W6XSC-3 MtnVw (Primary County)<<<

ARK

In the event of an emergency requiring CERT activation the Incident Commander will be located at the ARK, which is a converted shipping container stocked with emergency supplies. It is located in the Foothill College parking lot across from the El Monte Fire Station, 12355 El Monte Rd, Los Altos Hills, CA 94022. The ARK is supplied with electrical power and has a backup generator.

Radio Equipment

IC2720	2m/440 MHz	146.745, 110.9 147.435 146.940, 123.0	W6LAH/r K6AIR/r	LAH primary voice LAH tactical LAH Alternate voice
IC-221S	GMRS Base Station			
TM-D710	Packet (EOC)	433.550	WA6LAH/bbs	LAH mail drop server

ARK Setup and Operation

ARK Antennas

Packet and Ham communications share a single, tri-band antenna that must be erected for each activation. The Ham antenna attaches to a mast that is permanently attached to the ARK screen fence.

The FRS/GMRS base station uses a separate antenna, which also is erected on the screen fence for each activation.

Please ensure your own safety when following these procedures. The antennas, cables, connectors, and associated parts are delicate and expensive – please get help when needed. Don't drop the antennas or connectors.

To erect the Ham Antenna:

1. Locate the appropriate antenna on the shelf on the left inside the ARK. “X3200A”
(For the Ham antenna, the radial elements are longer and angle downwards).
2. Remove the mast attach bolt (Save it!)



3. Locate the appropriate antenna cable from the 2 cables coiled neatly just inside the ARK (It's connected to the ham radio gear)
Unroll the cable between the ARK and the screen fence.



4. Feed the antenna cable through the mast while it is horizontal.

All the way through



5. Connect the antenna cable to the connector on the base of the antenna



(It will push together, then the barrel can be screwed tight)



6. Join the antenna to the mast with the attach bolt removed earlier – tighten.



7. Attach 2 radial elements to the antenna base (the 3rd cannot be used as it would hit the fence) – tighten.



8. (this step is safer with 2 people) Rotate the antenna mast on the Pivot



9. So the latch bolt and hasp align



10. Close the bolt to retain the mast in this position.



To Erect the FRS/GMRS Base Station Antenna

This antenna should be erected after the Ham antenna is in place.

1. Remove the attach bolt from the FRS/GMRS antenna (retain for later)



2. Unroll the remaining cable



3. Pass the free end of the cable through the mounting tube attached to the screen fence. Attach the cable to the connector on the antenna base.



4. Lower the antenna into the mounting tube and fasten with the attach bolt.



5. Assemble 2 radial elements (the 3rd cannot be used due to the proximity of the fence) – tighten.



Reverse the procedure to take the antennas down.

The Antennas should look like this:



Activating Voice Radio communications at the LAH ARK.

WHAT: LAH repeater
WHERE 146.745-110.9
PURPOSE Primary voice communication with the LAH-EOC and Trailers
TO DO: Contact the LAH-EOC and acknowledge presence and ready to operate.

The K6AIR/r repeaters on 146.940 and 441.524 (each with pl 123) are available if W6LAH is down, or for additional capacity.

Activating Packet Radio communications in the LAH ARK.

WHAT: Laptop Computer
LAH EOC Packet
WHERE 440.550 WA6LAH-1
PURPOSE Primary packet communication with the LAH EOC
TO DO: Click Send/Receive to initiate contact with the BBS and receive current messages (if any). Prepare and send a message to the LAH-EOC (WA6LAH-1) acknowledging the LAH ARK presence and ability to receive traffic.

Activating FRS/GMRS communications in the LAH ARK.

WHAT: FRS/GMRS Base Station
CERT/ARK Communications
WHERE: FRS/GMRS channel #1 and 2
PURPOSE: Primary voice communication with CERT teams.
TO DO: Erect antenna. Send messages from Incident Commander to CERT teams.

Use Channel 9 when in the field and communication among field team.

Use Channel 1 when communicating with the ARK from a field position.

GMRS License

Base Station Call sign- WQOL435
file # 0004940140
expires 11/5/16

The License is held by:

Michael Sanders, Emergency Services Coordinator,
Santa Clara County Fire Department, Los Altos Hills County Fire District.
Office @ El Monte Fire Station, Foothill College Campus. Phone: 650-922-1055

Packet Radio Forms

The packet radio forms are very similar to the FEMA forms, which have been slightly modified by the Santa Clara County Office of Emergency Services. The Santa Clara County forms then have been altered in order to efficiently transmit them over low speed digital amateur radio. The resulting forms are known as PacFORMS. The message form is reproduced in its PacFORM version. The City Scan and Logistics forms are shown in their PacFORMS version.

The following information has been copied from the Santa Clara County Ares/Races site at:

<http://www.scc-ares-races.org/pfpublic/pacforms.html>

About PacFORMS:

Santa Clara County ARES/RACES has developed a system called **PacFORMS**, which is a system where Web forms (HTML forms) can be generated from paper or other HTML forms so that the information can be entered via a computer and ultimately be transmitted by Packet radio.

This is a "stand-alone" system that does NOT use the internet, but does require that the browser being used supports JavaScript. A PacFORMS HTML file can be run on any PC (even Apple) using a browser. Since Packet radio is generally a slow speed link (like 1200 baud), the form is programmed, when submitted, to only send form-field IDs and the field entries as a text file. Then once sent, the Packet operator on the receiving end can "reverse" the process and put the text back into the HTML form. This process is accomplished by executing the program **pac-read.exe** either manually or through the Packet program **Outpost** (version 2.2.0c227 or later). The **pac-read.exe** program currently only runs on a Windows PC. The file generated by the **pac-read.exe** program is a stand-alone HTML file that is the same HTML Form filled out originally, but contains the information entered into it prior to sending via Packet. This file can be transferred to any PC that has a browser that recognizes JavaScript. Note also, that the form field information in this reversed HTML file can be edited and "submitted" again.

This PacFORMS release contains the Santa Clara County version of the ICS 213 Message form and is called **Message.html**. It can be used for transmitting messages by Packet Radio, as described above. Two other city to Santa Clara County OES forms are also included: The "City-Scan" Flash Report (to report current status of the city after an emergency has happened), file **city-scan.html** and Logistics Request form (to request logistics support from the county), file **logistics-request.html**.

After the user fills out the form fields in these forms, the JavaScript in these forms provides two methods of extracting the form field information by means of selecting one of the two "Submit" buttons at the end of the form. One "Submit" button sends the form field text directly to **Outpost**, version 2.2.0c227 or later, available at <http://www.outpostpm.org/#Downloads>. **NOTE:** It is important that you upgrade Outpost to version 2.5.0 c32 or later to work optimally with this PacFORMS update. The other "Submit" causes a new window to open with the form field IDs and entered text in an ASCII format. This text can then be captured and saved in a text file to be processed later in Outpost or other Packet application.

EOC MESSAGE FORM

2.) When Receiving Msg.:
Senders's msg. #

Unlock msg. nos. 2 & 3

Msg. #

RED Areas Required

3.) When Sending Msg.:
Receiving msg. #

1a.) Date: (MM/DD/YY)

09/30/2011

4.) Situation Severity

- EMERGENCY
 URGENT
 OTHER

5.) Msg. Handling Order

- IMMEDIATE
 PRIORITY
 ROUTINE

6.) Message Requests You to:

TAKE ACTION Yes No

REPLY (Check one)

Yes, by No

FOR YOUR INFO.

7.) ICS Position:

Display Dropdown List

8.) ICS Position:

Display Dropdown List

9a.) Location:

9b.) Location:

Name:

Name:

Telephone

Telephone

10.) SUBJECT:

11.) REFERENCE (e.g., Number of earlier msg.):

12.) Message (what, when, where needed; how long; contact name and phone number) KEEP MSG BRIEF

13.) Action Taken: (For use by Originator / Recipient) -> USE SEPARATE MESSAGE FORM IF SENDING REPLY!

CC: Management Operations Planning Logistics Finance

14.) Operator use Only

How Received or Sent (Check One this line and one below)

- Telephone Dispatch Center
 EOC Radio FAX Courier
 Amateur Radio Other Packet

Operator Call Sign:

Operator Name:

Date:

Time:

Date/Time updated at Submit

Outgoing (Sent):

Message Originator: Send the top copy (white) to Radio, yellow to PLANNING, retain the pink copy for originators file.

Radio: After sending, complete Action Taken info. in gray area, keep white for file in Radio.

Incoming (Received):

Radio: After receiving, complete Action Taken info. in gray area, route top copy (white) to the addressee, pink copy to PLANNING; retain yellow for file in Radio.

Addressee: Take appropriate action.

SCCo ICS FORM 213 (Ver. 2.3.4), 04/24/2011

INSTRUCTIONS FOR USING THE MESSAGE FORM

RED Areas Required

1. **Date and Time:** When receiving or sending any message, complete the date and time (in the format shown) in the top upper left of the form.
2. **When Receiving Message:** note the sending organization's message number in the box labeled "When Receiving Msg.", located to the left of the Msg. # at the top right of the message form. *(Normally entered by radio operator)*
3. **When Sending Message:** obtain the receiving organization's message number, and record this in the "When Sending Msg." box located to the right of the Msg. # at the top right of the message form. *(Normally entered by radio operator)*
4. **Situation Severity:** indicate the Severity of the message - For example, is it a life threat, a property threat, or just information?
5. **Message Handling Order:** indicate the handling order of the message, (Immediate: As Soon As Possible; Priority: Less than an Hour; Routine: More Than an Hour).
6. **Message Requests You To:** state what the message type is - for example: is the sender expecting the county OES to "Take Action", to "Reply", or "For Your Information".
7. **TO: ICS Position:** state the ICS position to which the message is to be delivered. This will generally be *Command*, or one of the Section Chiefs (e.g., *Operations, Planning, Logistics, Finance/Admin.*). If unsure, address the message to *Planning*. **NOTE: If you click on the Display Dropdown List, a dropdown list will appear, that allows you to select an ICS position. When selected, the dropdown will go back to the single text field, and the selected ICS Position will be copied to the single text field.**
8. **From: ICS Position:** indicate what ICS position is sending the message - you also can note a name, but an ICS position is needed since the person staffing the position may change. **NOTE: See NOTE in blue in Item 7 above. That instruction applies here also.**
9. **Locations:** enter the location of the addressee in the "**To**" box and the location of the sender in the "**From**" box (for example, To: Mountain View EOC, From: Santa Clara County EOC).
10. **Subject:** Note the subject of the message (e.g., Request for Type 5 Engine Strike Team).
11. **Reference:** If the message is a response to an earlier message, indicate the original message number if available.
12. **Message:** If the message is a request for support, supply detailed instructions about what, when, and where the support is to be delivered. Be as brief as possible.
13. **Action Taken:** This section is for use of the message originator or recipient to record pertinent information regarding action taken in response to the message. (e.g., "Request for Type 5 Engine Strike Team passed to Region on OASIS Net."). Space is also provided to indicate copy to other ICS positions that may need the information.

14. **Operator Use:** The person who handled the message is to record the net used in the area at the bottom of the message form and records the name and call sign in the appropriate box. If the message is being sent, the date and time that the message actually was sent is to be noted in the relevant box.
15. **Forms Disposition:** Once the message is complete, copies of the message are distributed according to the script shown. If the message is an **EMERGENCY** message, it should be placed in the hands of the shift supervisor. For other messages, it is permissible to place the message in the appropriate message box slot.

"CITY SCAN" - FLASH REPORT

JavaScript Version for Packet Transmission

TO:
PLANNING

< Items in RED are required >

A.) When Receiving

Msg.,
Senders's Msg. No.

B.) Msg. Number

C.) When Sending

Msg.,
Receiving Msg. No.

Unlock msg. nos. A) & C)

D.) Situation Severity

- EMERGENCY
 URGENT
 OTHER

E.) Msg. Handling Order

- IMMEDIATE
 PRIORITY
 ROUTINE

F.) Message Requests You to:
REPLY (Check one)

- Yes, by
 No

1a.)

1b.) If Other is selected, Enter Entity Name:

Date/Time of Contact: 2.) Date:

3.) Time (HrMin - 24 Hour Time):

Contact Person: 4.) Name:

5.) Title:

Method of Contact: 6.) Phone #:

7.) Radio Frequency:

8.) HAS THE CITY BEEN IMPACTED? (check one)

YES NO

9.) HAS A LOCAL EMERGENCY BEEN DECLARED? (check one)

YES NO

When?

10.) Date: (mm/dd/yyyy)

11.) Time (HrMin - 24 Hour Time, hhmm):

Who signed it?

12.) Name:

13.) Title:

14.) HAS YOUR EMERGENCY OPERATIONS CENTER BEEN ACTIVATED? (check one)

YES NO

15.) Can you tell me what MAJOR INCIDENTS are occurring now? (check one)

YES NO

16.) Please Summarize INCIDENT, LOCATON and STATUS in the text areas below:

INCIDENT

LOCATION

STATUS

16a.

17.) Are you requesting any ADDITIONAL RESOURCES from the Operation Area? (check one)

YES NO

If you Checked YES, YOU NEED TO SUBMIT RESOURCE REQUEST.

SANTA CLARA COUNTY LOGISTICS REQUEST FORM

JavaScript Version for Packet Transmission

< Items in RED are required >

TO: LOGISTICS

A.) When Receiving Msg. Senders's Msg. No. <input type="text"/>	B.) Msg. Number <input type="text"/>	C.) When Sending Msg. Receiving Msg. No. <input type="text"/>
<input type="checkbox"/> Unlock msg. nos. A) & C)		

D.) Situation Severity	E.) Msg. Handling Order	F.) Message Requests You to: REPLY (Check one)
<input type="checkbox"/> EMERGENCY <input type="checkbox"/> URGENT <input type="checkbox"/> OTHER	<input type="checkbox"/> IMMEDIATE <input type="checkbox"/> PRIORITY <input type="checkbox"/> ROUTINE	<input type="checkbox"/> Yes, by <input type="text"/> <input type="checkbox"/> No

REQUESTING AGENCY INFORMATION

2. REQUESTING AGENCY/ORGANIZATION: <small>Display Dropdown List of Cities</small>		3. POINT OF CONTACT:
4. POC PHONE NO.: <input type="text" value="000-000-0000"/>	5. EOC POC:	6. APPROVED BY:
7. DATE/TIME OF REQUEST (mm/dd/yyyy @ hhmm -24 hour time) <input type="text" value="09/30/2011 @ 1636"/>	8. LOCAL INCIDENT NUMBER	9. LOCAL REQUEST NO. (If Applicable)

INFORMATION ABOUT RESOURCES REQUIRED

10. DESCRIPTION OF RESOURCES REQUIRED	11. QUANTITY:
12. WHY NEEDED? TO DO WHAT?	13. HOW LONG NEEDED:

REPORTING/DELIVERY INSTRUCTIONS

14. WHEN NEEDED? DATE/TIME (mm/dd/yyyy @ hhmm -24 hour time)	15. DELIVER TO (NAME/TITLE):	16. PHONE: <input type="text" value="000-000-0000"/>
17. DELIVERY LOCATION:		
18. BEST LOCAL ACCESS ROUTE:		

THE FOLLOWING SECTION IS FILLED OUT WHEN RESOURCES ARE RECEIVED

31. DELIVERY TIME/DATE: <input type="text"/>	32. VERIFIED BY: <input type="text"/>
33. REMARKS: <input style="width: 100%;" type="text"/>	
34. FINANCE REMARKS/TRACKING: <input style="width: 100%;" type="text"/>	

EOC/ARK Packet

To Start Node:

Erect Antenna

Connect 120vac to computer/printer/radios

Start computer (no password)

Double Click **Outpost SCC**

In Outpost Packet Message Manager

Menu **Setup > Identification**

Set **User Call Sign** to your call sign

Menu **Setup > BBS > BBS Name**

Select **BBS Name** from drop-down

e.g. **LAHEOC**

Menu **Tools > Message Settings > New Messages**

Check **Default Destination** and Enter (if desired)

e.g. **WA6LAH**

Radio: 433.550 (must display "PACKET12")

To Check Mailbox for Messages:

In Outpost Packet Message Manager

Click **Send/Receive** (should cause some commotion on radio)

Click **In Tray**

Select Message

Click **Open**

To Send a Plain Text File:

In Outpost Packet Message Manager

Click **New**

Adjust Header (if desired)

Enter Body Text

Click **Send** (puts message in Out Tray)

Click **Out Tray**

Click **Send/Receive**

Please restore settings to EOC/ARK Packet after alternate use.

Trailers

Voice Radio Setup/Operation

Operate using vehicle mobile unit or HT
WHAT: LAH repeater
WHERE 146.745-110.9
PURPOSE Primary voice communication with the LAH-EOC and Trailers
TO DO: Contact the LAH-EOC and acknowledge presence and ready to operate.

The K6AIR/r repeaters on 146.940 and 441.525 (each with PL 123) are available if W6LAH is down, or for additional capacity.

GMRS Radio Setup/Operation

Use Handheld Midland radio
WHAT: CERT team communications
WHERE CH #9 or coordinate using 8-14 as available
PURPOSE Primary voice communication with the CERT teams
TO DO: Net Control for CERT teams.

Frequencies

Los Altos Hills Communications Frequency List

	Freq	PL	Shift Dir	Shift Offset	Display Name	HT Mem Ch #	Station ID
LAH Local Area				Local LAH			
Command Net LAH Primary Repeater	146.745	110.9	-	0.600MHz	LAH R1	1	W6LAH/r Primary
Alt Command - LAH Primary Backup	146.745	118.8	-	0.600MHz	LAH R2	2	W6LAH/r BackUp
LAH Aux VHF Repeater	146.940	123.0	-	0.600MHz	LAH R3	3	K6AIR/r VHF
LAH Aux UHF Repeater	441.525	123.0	+	5.000MHz	LAH R4	4	K6AIR/r UHF
LAH Simplex	147.435		Off		LAH S1	5	LAH Simplex
Resource Net - LAH Simplex	146.745		Off		LAH S2	6	LAH Simplex (Repeater output)
LAH Aux Repeater - Simplex	146.940		Off		LAH S3	7	K6AIR Simplex (Repeater output)
County				County			
Resource Net North	145.270	100.0	-	0.600MHz	SPC N1	8	W6ASH
Resource Net North Resource 2	440.800	100.0	+	5.000MHz	SPC N2	9	W6ASH
Resource Net	146.115	100.0	-	0.600MHz	SCC N1	10	AA6BT
Message Net	147.360	110.9	+	0.600MHz	SCC M1	11	W6T1
Alt Message	145.450	100.0	+	0.600MHz	SCC M2	12	K6FB
Command Net	442.500	100.0	+	5.000MHz	SCC C1	13	WB6ZVW
Alt Command	443.275	107.2	+	5.000MHz	SCC C2	14	K6SNY
Hospital Net	145.230	100.0	+	0.600MHz	HOSNET	15	N6NFI
Local Cities				Local Cities			
Campbell Tactical	146.565		Off				CAM T1
Campbell Alt Tactical	147.585		Off				CAM T2
Cupertino Tactical 1	147.570		Off		CUP T1	16	CUP T1
Cupertino Tactical 2	146.460		Off		CUP T2	17	CUP T2
Cupertino Tactical 3	440.150	100.0	+	5.000MHz	CUP T3	18	CUP T3 - W6TDM
Cupertino ATV EOC Feed	427.250		Off				CUP ATV FEED
Los Altos Command	145.270	100.0	-	0.600MHz			LA C1 - W6ASH
Los Altos Command Alt	440.800	100.0	+	5.000MHz			LA C2 - W6ASH
Los Altos Tactical 1	146.595		Off		LA T1	19	LA T1
Los Altos Tactical 2	145.570		Off		LA T2	20	LA T2
Los Altos Tactical Alt	440.875	100.0	+	5.000MHz	LA T3	21	KH6N
Los Gatos Command	147.390	151.4	+	0.600MHz			LG C1 - W6PIY
Los Gatos Tactical	147.480		Off				LG T1
Los Gatos Tactical 2	146.595		Off				LG T2

Mountain View Resource North	145.270	100.0	-	0.600MHz			MTV N1 - W6ASH
Mountain View Command	440.800	100.0	+	5.000MHz			MTV C1 - W6ASH
Mountain View Tactical 1	146.535		Off		MTV T1	22	MTV T1
Mountain View Tactical 2	146.415		Off		MTV T2	23	MTV T2
NASA Ames Tactical 1	146.445		Off		NAS T1	24	NAS T1
NASA Ames Tactical 2	146.505		Off		NAS T2	25	NAS T2
NASA-Ames Tactical 3	146.550		Off				NAS T3
NASA-Ames Tactical 4	147.465		Off				NAS T4
NASA Ames Event	146.490		Off		NAS EV	26	
NASA Ames Command	145.250	123.0	-	0.600MHz	NAS C1	27	NAS C1 - NA6MF
Nat'l FM Call Freq S VHF CALL	146.520		Off		NCFVHF	28	Simplex VHF CALL
Nat'l FM Call Freq S UHF CALL	446.000		Off		NCFUHF	29	Simplex UHF CALL
Palo Alto Command	145.270	100.0	-	0.600MHz			PA C1 - W6ASH
Palo Alto Command Alt	145.230	100.0	-	0.600MHz			PA C2 - N6NFI
Palo Alto Tactical 1	147.540		Off		PA T1	30	PA T1
Palo Alto Tactical 2	147.480		Off		PA T2	31	PA T2
Palo Alto Tactical 3	147.555		Off		PA T3	32	PA T3
Santa Clara Tactical	442.025	100.0	+	5.000MHz			SC T1 - K6SNC
Santa Clara Tactical	147.510		Off				SC T2
Santa Clara Tactical Alt 1	146.580		Off				SC T3
Santa Clara Tactical Alt 2	147.450		Off				SC T4
Santa Clara ATV Broadcast	434.000		Off				SC ATV
Saratoga Command	146.655	114.8	-	0.600MHz			SAR C1 - K6SA
Saratoga Command	443.150	100.0	+	5.000MHz			SAR C2 - K6SA
Saratoga Tactical Alt	146.505		Off				SAR T2
Saratoga Tactical Alt 2	146.595		Off				SAR T3
Saratoga Tactical HF	28.400		Off				SAR T1 - USB
Stanford U Primary	440.200	123.0	+	5.000MHz	SU C1	33	SU C1 - N6BDE
Stanford U Tactical 1	146.490		Off		SU T1	34	SU T1
Stanford U Tactical 2	146.550		Off		SU T2	35	SU T2
Stanford U Tactical	1282.500	88.5H	-	12.0000MHz			SU T3 - W6YX
Stanford U Tactical	1292.550	88.5H	-	12.0000MHz			SU T4 - WA6ITV
Stanford U Packet tcp/ip 1200	145.750		Off				SU PK1 - W6YX - 9
Stanford U Packet tcp/ip 9600	433.430		Off				SU PK2 - W6YX - 10
Sunnyvale Primary	145.170	94.8	-	0.600MHz			SVL C1 - K6GL
Sunnyvale Tactical	147.405		Off				SVL T1
Sunnyvale Tactical 2	147.495		Off				SVL T2

Sunnyvale Tactical 3	147.585		Off				SVL T3
Sunnyvale Alt repeater	443.275	107.2	+	5.000MHz			SVL R1 - K6SNY
Gilroy Tactical 1	147.480		Off				GIL T1
Gilroy Tactical 2	146.445		Off				GIL T2
Gilroy Tactical - CERT	146.595		Off				GIL T3
Loma Prieta Tactical 1	440.550	94.8	+	5.000MHz			LPR T1 - AB6VS
Loma Prieta Tactical 2	146.835	94.8	-	0.600MHz			LPR T2 - AE6KE
Milpitas Primary	224.720	100.0	-	1.600MHz			MIL C1 - W7MLP
Milpitas Primary	145.430	85.4	-	0.600MHz			MIL C2 - W6MLP
Milpitas Secondary	147.525		Off				MIL C3
Morgan Hill Tactical 1	146.490		Off				MGH T1
Morgan Hill Tactical 2	147.540		Off				MGH T2
Morgan Hill Tactical - CERT	146.550		Off				MGH T3
South County SoCo InterCity	147.825	100.0	-	0.600MHz			SCC RS - W6GGF
Red Cross							
				Red Cross Frequencies			
Command Net	444.300	173.8	+	5.000MHz	RC C1	36	W7AFG
Alt Command	444.600	141.3	+	5.000MHz	RC C2	37	WB6OQS
Tactical 1	147.165	162.2	+	0.600MHz	RC T1	38	KB6FEC
Tactical 2	147.675	162.2	-	0.600MHz	RC T2	39	KB6FEC
Alt Tactical	146.760	151.4	-	0.600MHz	RC T3	40	WB6OQS
Link	224.260	100.0	-	1.600MHz			WB6OQS
Talk Around	444.300	162.2	+	5.000MHz	RC S	41	WB6RNH
FRS Frequencies				FRS Frequencies			
FRS Ch 8	467.5625		Off		FRS S8	42	FRS Ch 8
FRS Ch 9 - Call Channel	467.5875		Off		FRS S9	43	FRS Ch 9 - Call
FRS Ch 10	467.6125		Off		FRS SA	44	FRS Ch 10
FRS Ch 11	467.6375		Off		FRS SB	45	FRS Ch 11
FRS Ch 12	467.6625		Off		FRS SC	46	FRS Ch 12

Emergency Services (Monitor Only)

Police / Sheriff / CHP							
Police Frequencies *** MONITOR Only							
CHP Mobile Repeater	154.905		Off		CHP R1	47	
SC County Law Mutual Aid	154.920		Off		SCCLMA	48	CLEMARS
SC Sheriff Countywide	156.210	179.9	+	0.795MHz	SCC C1	49	SCSHER1
National Law Mutual Aid	155.470		Off		NATLMA	50	NLEMARS
SC Sheriff TACTICAL 4	154.650		Off		SCC T4	51	SCSHER2
SC Sheriff TACTICAL 5	154.800		Off		SCC T5	52	SCSHER3
SC Sheriff TACTICAL 6	155.370		Off		SCC T6	53	SCSHER4
Fire							
Fire Frequencies *** MONITOR Only							
CDF Air - Gnd	151.220		Off		CDF AG	54	CDF Air – Ground
CDF Air Tank 2	151.280		Off		CDFAT2	55	CDF Air Tank 2
CDF Air Tank 3	151.295		Off		CDFAT3	56	CDF Air Tank 3
CDF Air Tank 4	151.310		Off		CDFAT4	57	CDF Air Tank 4
CDF CMD 1	151.355		Off		CDF C1	58	CDF Cmd 1
CDF CMD 2	151.265		Off		CDF C2	59	CDF Cmd 2
Palo Alto Fire	153.770	110.9	+	0.675MHz	PA F1	60	PAFIRE
Palo Alto Fire 2	154.055	110.9	+	2.005MHz	PA F2	61	PAFIRE 2
Los Altos/Hills Fire Primary	154.400		Off		LAH F1	62	LAFIRE
SC County Fire Primary	154.250	162.2	+	4.105MHz	SCC F1	63	SCFIRE
SC CFD 2	155.985		Off		SCC F2	64	SC Co Fire 2
SC Co Fire 2 Mut	153.845		Off		SCC F2	65	SC Co Fire 2 Mutual Aid
SC Co Fire LA	154.400		Off		SCCFLA	66	SC Co Fire LA
SC Co Fire Tac	154.175		Off		SCC FT	67	SC Co Fire Tac
SC Co Fire YEL W	153.830		Off		SCC FY	68	F-YELLOW
Fire Mutal Aid White 1	154.280		Off		SCCFW1	69	F-WHITE1
Fire Mutal Aid White 2	154.265		Off		SCCFW2	70	F-WHITE2
Fire Mutal Aid White 3	154.295		Off		SCCFW3	71	F-WHITE3
Fire Mutual Aid - Blue	153.845		Off		SCC FB	72	F-BLUE
Utilities							
Nearby Utilities *** MONITOR Only							
PA Public Works	453.700	173.8	+	5.000MHz	PA PW	73	PA Public Works
PA Utility Tac	451.100		Off		PA UTL	74	PA Utility Tac
PA Wtr - Gas	451.125		Off		PA WG	75	PA Water - Gas
Pacific Gas and Electric	153.590		Off		PGE	76	Pacific Gas and Electric
PHWD	173.300		Off		PHWD	77	PHWD
SF WATER	451.200	127.3	+	5.050MHz	SF WTR	78	SF Water
Stanford U HOSP	155.160	114.8	-	39.000MHz	SU HSP	79	Stanford U Hospital

News & Traffic							Traffic and News Frequencies – Listen to find out local news							
KCBS Rptr	450.088		+	5.000MHz	KCBS R	80	KCBS Repeater							
KGO 7 Rptr	450.463		+	5.000MHz	KGO7 R	81	KGO 7 Repeater							
Weather							Weather SFBA							
Weather 1 - SFBA	162.400				WEATHR	82	Weather 1 - SFBA							
Marine Frequencies							Marine Call Ch - Useful for understanding what is going on in the Bay							
Marine Ch 16 (Call Channel)	156.800				MARINE	83	Marine Channel 16							
Aviation Frequencies							(AM Mode Only) Useful for seeing if Airports are functional							
Emergency / Guard	121.500				EMERG	84	Emergency / Guard							
PAO ATIS	135.275				PAOATS	85	PAO ATIS							
PAO TWR	118.600				PAOTWR	86	PAO TWR							
SFO TWR	120.500				SFOTWR	87	SFO TWR							
SJC TWR	124.000				SJCTWR	88	SJC TWR							

Packet Frequencies / ID	Packet (BBS) Frequencies				
LAH Packet (EOC / ARK)	433.550	Off	LAHPKT	89	WA6LAH
SC County Primary Packet	144.310	Off	SCCPK1	90	W6XSC-3
SC County Secondary Packet	144.990	Off	SCCPK2	91	W6XSC-1
Primary BBS (1.25m)	223.540	Off			W6XSC-3
Secondary BBS (1.25m)	223.620	Off			W6XSC-1

County BBS's

Call Sign	Host.Domain	1.25m Access	2m Access
W6XSC-1	w6xsc-1.ampr.org	223.62	144.99
W6XSC-2	w6xsc-2.ampr.org	-none-	145.73
W6XSC-3	w6xsc-3.ampr.org	223.54	144.31
W6XSC-4	w6xsc-4.ampr.org	223.56	145.69
W6XSC-5	w6xsc-5.ampr.org	varies	varies

BBS Assignment

Agency	Prefix	Secondary BBS (2.2)	Primary BBS (2.1)
CalFire VIPs - Santa Clara Unit	SCU	W6XSC-1	W6XSC-2
Campbell, City of	CBL	W6XSC-3	W6XSC-1
County Communications Center	CCC	W6XSC-3	W6XSC-1
Cupertino, City of	CUP	W6XSC-3	W6XSC-1
Gilroy, City of	GIL	W6XSC-1	W6XSC-2
Hospitals (all SCCo) & DEOC	HOS	W6XSC-1	W6XSC-2
Loma Prieta Region	LMP	W6XSC-3	W6XSC-1
Los Altos, City of	LOS	W6XSC-1	W6XSC-3
Los Altos Hills, Town of	LAH	W6XSC-1	W6XSC-3
Los Gatos, City of	LGT	W6XSC-3	W6XSC-1
Los Gatos Red Cross	LGR	W6XSC-3	W6XSC-1
Milpitas, City of	MLP	W6XSC-3	W6XSC-1
Monte Sereno, City of	MSO	W6XSC-3	W6XSC-1
Morgan Hill, City of	MRG	W6XSC-1	W6XSC-2
Mountain View, City of	MTV	W6XSC-1	W6XSC-3
NASA/Ames	NAM	W6XSC-1	W6XSC-3
Palo Alto, City of	PAF	W6XSC-1	W6XSC-3
Palo Alto Red Cross	PAR	W6XSC-1	W6XSC-3
San Jose, City of	SJC	W6XSC-3	W6XSC-1
San Jose Red Cross	SJR	W6XSC-3	W6XSC-1
San Jose Water Co	SJW	W6XSC-3	W6XSC-1
Santa Clara, City of	SNC	W6XSC-3	W6XSC-1
Santa Clara County	XSC	W6XSC-3	W6XSC-1
Santa Clara Valley Water District	VWD	W6XSC-3	W6XSC-1
Saratoga, City of	SAR	W6XSC-3	W6XSC-1
Stanford University	STU	W6XSC-1	W6XSC-3
Sunnyvale, City of	SNY	W6XSC-3	W6XSC-1

User Guides

Voice Handheld

IC-W32A	2m/440 HT
FT-530	2m/440 HT
FT-60	2m/440 HT
DJ-G7	2m/440/1200 HT

Voice Base Station

TH-79A	
TM-221A	2m
TM-271A	
TM-331A	220 MHz
TM-441A	440 MHz
IC2720H	2m/440

Packet / Voice Base Station

TM-D700	2m/440
TM-D710	2m/440

GMRS

Midland X-tra Talk FRS/GMRS Radio
IC-F221S FRS/GMRS Base Station

IC-W32A

Dual band unit -- two channels

Switch transmit channel

[MAIN]

Switch transmit between VHF and UHF

[BAND]

Right knob for right channel and left knob for left channel

Basic Operation

Tune Frequency

[VFO]

Select frequency using tuning knob

Tone

[TONE]

Tone Frequency

[SET (H/L)] for 2 seconds

[TONE ▼] until RT appears

Select frequency using tuning knob

[VFO]

Power Level

[H/L]

Memory

Recall

[MR]

Select memory using tuning knob

Store

Tune frequency

Set offset

Set tone

Set tone frequency

[S,MW] momentarily else lose data

Select memory using tuning knob

[S,MW] for 2 seconds to store

Function	Yaesu FT-530 Command Set	
Setting the Clock	Press	FM REV FM (Now, rotate the dial to correct hour, remember 24 hour format)  (Now, rotate dial to correct minutes) Now, press REV to save correct time
Band Selection	Press	BAND to select main band
Enter a Frequency	Enter 146.520	      Enter 447.525      
Repeater Offset	Press	FM Then 6 to select '-', '+' or simplex
CTCSS Tone ON	Press	FM 1 a small 'T' will appear above the frequency display
Select CTCSS Frequency	Press	 2 now turn dial to desired frequency Press 2 to confirm selection
Hi/Lo Power Selection	Press	FM 3 Turn dial to select L1, L2 or L3. Press 3 again to select Hi Power
Storing a Memory	Press & Hold	Select desired frequency, repeater offset, CTCSS tone and Power Level. FM for 1/2 Second. Now turn dial & select memory channel location Press FM again to store memory
ABS - Automatic Battery Saver - ON	Press	FM 4 9 Display will show [ABS]
Tx Battery Saver ON	Press	FM 0 4 Display will show [tS ON]
Clock or Battery Voltage Readout ON	Press	FM 0 FM Band Display will show [clock] Repeat again for voltage readout - display will show [btry] (Sub-Band must be off)
Lock Back Light ON	Press	FM Then lamp button (Hint: Repeat function again to turn light OFF)
Auto Tone Search	Select "T" and "SQ" on display. Press	 2 Now, Press  for 1/2 second (Hint: can only search one display at a time)
AM Rcv ON/OFF	Press	FM 0 FM VFO Display will show [A3 On] - Repeat to turn OFF Hint: this can be done on Left VHF Display only. AM or FM modes can be stored in memory
Busy LEDs ON / OFF	Press	FM 0 7 (on each band) Repeat to reverse

Function	Yaesu FT-530 Command Set
Monitor / Squelch w / Reverse	Press FM 0 REV <i>display will show [rE On]</i>
Cross Band Repeat ON / OFF	Press and hold 6 key while tuning ON the radio Repeat to turn off Cross-band Repeat function
Automatic Repeater Shift	FM 0 6 Press FM to toggle ON / OFF
Keypad Beeper ON / OFF	FM 2 Press FM to toggle beeper ON / OFF
Keypad & PTT Lock	FM 5 Press 5 again to toggle through Lock-out Modes
Dial Lock ON / OFF	FM 0 5 [dL On] Press 5 to select OFF [dL OFF]
Automatic Power OFF	FM 0 3 Press 3 again to toggle through 10, 20, 30, or OFF
VOX ON / OFF	FM 8 Press 8 again to select Hi, Lo or OFF
VOX Hang Time Select	FM 0 8 Press 8 again to select 0.5, 1.0 or 1.5
Select Earphone or Speaker Mic Audio	FM 0 VFO Press VFO to select audio path (<i>for speaker / ear mic only</i>) SP I E (<i>Left display Internal, Right display External</i>) SP E E (<i>Left display External, Right display External</i>) SP E I (<i>Left display External, Right display Internal</i>)
Setting Automatic ON Timer	FM REV 1 Select ON Hour, Press  to select Minutes Press FM to turn "ON" Timer ON / OFF Press REV to return display to normal
Setting Automatic OFF Timer	FM REV 2 Select OFF Hour, Press  to select Minutes Press FM to turn "OFF" Timer ON / OFF Press REV to return display to normal
Reverse Keypad	FM 0 MR Display will show [t rE]
Normal Keypad	0 MR Display will show [t nor]

FT-60 Short Guide

Key:

Modes are in curly braces. Button presses are in [square brackets]. Follow with L for Long press, H for Hold until display provides feedback.

Mode switches:

{VFO}/{Mem} toggle with [V/M] VFO is Frequency Mode, Mem is memory mode.

{Weather} toggle in/out [1]H

{MemoryScan} {Mem}[UpArrow]H

Add Memory Item:

{VFO}<set frequency,pll,etc> [F/W]L [Knob to select memory[Band adds 100]][F/W]

if final [F/W]L, then [Knob for Label Letter][F/W] for letter, [F/W]L to store

Scanning skip an item: {Mem}<select item>[F/W][0/Set][Knob to Skip][F/W][Knob to Skip]

Scanning prefer an item: {Mem}<select item>[F/W][0/Set][Knob to Skip][F/W][Knob to Only]

Add Memory Item to Bank:

{Mem} [Band]H [Knob to Bank] [F/W]H

Delete Memory Item:

{Mem}[F/W]L [Knob to channel to delete][HM/RV]

Bank Select:

Locks to a memory bank, or unlocks from band select.

{Mem} [Band]H [Knob to Bank] [V/M]

Memory Scanning:

Multiple modes here: Bank scan, Channel Scan, Preferential Channel Scan

Bank Scan: {Mem} [Band]H [Knob to Bank] [V/M]

Multiple Bank Scan: {Mem} [Knob to Bank] [F/W to toggle period in BAN.K][V/M]H

Memory Scan: {Mem}[F/W][0/Set][Knob to SCN MD][F/W][Knob to MEM]

Preferential Scan: {Mem}[F/W][0/Set][Knob to SCN MD][F/W][Knob to ONLY]

Include Weather Alerts: [F/W][0/Set][Knob to WX ALT][F/W][Knob to ALT ON][PTT]

Bank	Channels	Bank	Channels
1	LAH CERT/ARES/RACES	6	CalTrain
2	Police/Fire/EMT	7	Red Cross
3	GMRS/FRS	8	
4	unused	9	Temp/Vacation/Travel
5	Airports	10	Important Emergency Services

DJ - G7 Radio - - General Information

Basic Operations		If data entered in error, press [PTT] or [FUNC] Key and re-enter		XMT only on MAIN Operating Band	
Volume P30	Rotate Lower MAIN dial for MAIN Band	Rotate Lower SUB dial for SUB Band			
Squelch MAIN Band P31	Push Upper Main Band Dial to set Squelch	Rotate Upper MAIN Dial to set Squelch			
Squelch SUB Band P31	Push Upper SUB Band Dial to set Squelch	Rotate Upper SUB Dial to set Squelch			
XMT Mode P37	Press [PTT] to Transmit	Press [MONI] for Tone CALL on XMT P38 & 80			
MEM Channel Select P39	Press [MAIN] or [SUB] Key to Select Ops band	Press [V/P/M] Key until MEM Mode selected	Press [MAIN] or [SUB] Key to cycle to desired MEM Bank	Rotate Top MAIN or SUB dial to select MEM Channel	Memories must have frequencies stored first
Frequency Select	Press [V/P/M] Key until VFO Mode Selected	Rotate MAIN or SUB Upper Dial to select frequency	1 MHz steps if [FUNC] Key held down		- OR - Enter frequency directly as below
KHz Input Frequency P35			720 KHz → [0-7-2-ENT]		Once Frequency is entered, it can be memorized or used directly. Use → only when entering MHz Frequencies
MHz Input Frequency P35	Press [MAIN] or [SUB] Key to Select Ops band	Press [V/P/M] Key to Select VFO Mode	146.520 MHz → [1-4-6--5-2-4-ENT]		Set Mode, Split, Tones, etc. If Error, press PTT or [FUNC] and repeat
GHz Input Frequency P35			1282.640 MHz → [1-2-8-2-6-4-ENT]		
Monitor Function P32, P39 & P103	Press [MONI] to Listen	In MONI Push & Hold Mode, Press [MONI] to Listen, Again for Quiet			Only used on MAIN Ops Band
Mute Function P32	Press [MONI] to Mute	In Mute Push & Hold Mode, Press [MONI] to Mute, Again to Exit			If Squelch is OPEN, Scanning Stops
Illumination	Press [FUNC] Key	Press [MONI] key		Adjust Upper Dial for Light Level	
Wild Key		Press [1 / WILD] key		Programmable	See P38 - 102

Operation Bands

MAIN & SUB Band Operations - P32	Press [MAIN] or [SUB] Key to select Operation Band	Selected band is shown in Larger Characters	Press [V/P/M] Key to select VFO Mode	Press repeatedly to select Desired Freq Band	Press & Hold [MAIN] or [SUB] keys & rotating Upper Dial moves Bands quickly
Mono Band Operation P33					Only one frequency is shown in Mono Band
Dual Band Operation P33					Two Frequency Bands Shown
Switch MAIN and SUB Freq's P33	Press [MAIN] or [SUB] Key to select Ops Band	Press and HOLD [MAIN] or [SUB] Key for -1 second	Press [SUB] Key	Frequencies Switch	Only Legal HAM Bands in MAIN Ops band allowed

Operation Modes

MEM Mode P34, P39	Press [MAIN] or [SUB] Key to select Ops Band	Press [V/P/M] Key to Select MEM Mode	Rotate Upper Dial to Select Desired MEM	Memories must have frequencies stored (registered) first	
Preset Mode P34, P36	Press [MAIN] or [SUB] Key to select Operation Band	Press [V/P/M] Key to Select PRESET Mode	Mode indicated in display	Press [MAIN] or [SUB] repeatedly to select desired Band	Rotate Upper SUB Dial to select Frequency
VFO Mode P30, P34	Press [MAIN] or [SUB] Key to select Operation Band	Press [V/P/M] Key to Select VFO Mode	Press [SUB] Key Repeatedly to Select Desired Band Displayed	Rotate Upper Dial to select Frequency	Change frequency in 1 MHz Steps →



Memories - Page 39

MEM Banks	Banks 0 to 9	PRG Program [SCAN] Bank	DUAL Dual Frequency MEM Bank	PRI0 Priority Bank	CALL Call Channel Bank 3 Memories	PASS Search Pass MEM Bank	TSF Bank Transmitter Detection	BUG Bug Detect Preprogrammed Freq's
MEM Bank Capacity	100 Memories per Bank 0 - 089	Up to 50 (Lo-H) pairs of frequency ranges	Up to 100 Frequency Pairs MAIN & SUB Bands are in one MEM	Up to 100 Priority Channels	One per Band 3 total	Up to 100 Frequencies 0 - 089	Up to 100 Frequencies 0 - 089	Pre-Populated Often used frequencies stored here
MEM Bank Use	General Purpose Up to 1000 Memories Total	Programmed Scanning A & B freq's are Lower and Upper Scan Limits	Dual Frequencies for different XMT / RCV on MAIN & SUB must be displayed	Priority Channels	Affected Bands: 144 MHz 440 MHz 1200 MHz	Holds Skip Frequencies (Noise or Unwanted Frequencies)	Freq's found in XMTR Detection	Can't register or delete from keyboard MEM Skip OK (SW can change)

MEM Settings

Suggest MEM Overwrite be Enabled for MEM Programming Operations - They can be protected for normal operations - - P90 - 91

Register Quick MEM Keys 1 - 9 Used P47	Press [VP/M] Key to Select MEM Mode	Select MEM Bank	Rotate Dials to Select Source MEM desired	Press any [1 - 9] key for >1 second	Registers Quick MEM	To Release, Repeat Registration Steps
Recall Quick MEM Keys 1 - 9 Used P47	Press [1 - 9] Key	Press [VP/M] Key	Can be recalled from any Operation Mode			
Register (Memorize) MEM P40 - P42	Press [VP/M] Key to Select VFO Mode	Set Frequency, Tones, Modes, Tone Squ, Skip & Shift Settings	Press [FUNC] Key	Rotate Lower Dial to select MEM Bank	Rotate Upper Dial to select MEM Number	Register (Memorize) and EXIT
Retrieve Memories P43	Press [VP/M] Key to Select MEM Mode	Select MEM Bank Press [MAIN] or [SUB] Key Repeatedly		Rotate Upper Dial to select MEM Number	Ready to Use	
Register Call Channel MEM P46	Press [VP/M] Key to Select VFO Mode	Select / Input Frequency to be Stored	Press [FUNC] Key	Rotate Lower Dial to select Call Bank	Press [VP/M] Key	Register (Memorize)
Retrieve Call Channels P61	Select Ops Band using [MAIN] or [SUB] Keys	Press [FUNC] Key	Press & HOLD [9 / Call] key		Release key	Retrieve Call Channel only works on MAIN Band
Delete (Over Write) MEM Channels P44, P51				Press [FUNC] Key	Press [ENT] Key to complete Delete	Enable MEM Overwrite First P91
Move MEM Channels P45	Press [VP/M] Key to Select MEM Mode	Select MEM Bank	Rotate Upper Dial to Select desired MEM	Press [FUNC] Key	Rotate dials to select new Bank & MEM desired location	Enable MEM Overwrite First P91
Copy MEM to VFO P62				Press [CLR] Key	Move MEM Frequency to VFO	Cancel - Press [PTT] & [FUNC] keys
MEM Skip P47				Press [CLR] Key	MR display changes to SKIP	When complete, unit will be in VFO Mode
Register MEM for XMTR Detection P46	Press [VP/M] Key to Select VFO Mode	Select / Input Frequency to be Stored	Press [FUNC] Key	Rotate Lower Dial to select TSF display	Rotate Upper Dial to Select desired MEM	Register (Memorize) and EXIT
Name Memories P48	Press [VP/M] Key to Select MEM Mode	Press [FUNC] Key	Press [VP/M] key several times to set MEM Name Mode		Enter / Edit Display Lower Dial sets Cursor	Press [PTT] or [FUNC] Key to save
					Input Name from Keyboard P49 - 51	Press [PTT] or [FUNC] Key Pressing [MEM] will show frequency

Scanning Modes - Pages 65 & 92

Set Scanning Timers P92		Press and HOLD [SCAN] Key		Mono Bank, Group or Full Bank Scans can be selected		Scan starts when [SCAN] Key is released		Scans selected MEM Banks	
SCANNING P65 & P92	Press [V/P/M] Key to Select MEM Mode	Rotate Upper Dial to select Type of MEM Scan	Rotate Upper Dial to select 'Program Scan'	Rotate Upper Dial to select 'Tone Scan'	Release [SCAN] Key	Scans all freq's in selected Band	Scans for DCS Codes in a single frequency	Scans selected MEM Banks	Stop [SCAN] with PTT, [FUNC], [V/P/M] or [SCAN] keys
MEM Scan P66	Use [MAIN] or [SUB] Keys to select OPS Band	Rotate Upper Dial to select VFO Scan	Press and HOLD [SCAN] Key	Rotate Upper Dial to select 'Tone Scan'	Press [SCAN] Key	Scans all freq's in selected Range (See Memories)	Scans for tones in a single frequency	Scans selected MEM Banks	Stop [SCAN] with PTT, [FUNC], [V/P/M] or [SCAN] keys
VFO Scan P65		Press [V/P/M] Key to Select VFO Mode	Press and HOLD [SCAN] Key	Rotate Upper Dial to select DCS Scan		Scans for tones in a single frequency	Scans for DCS Codes in a single frequency		
Program Scan P67	Set VFO Frequency to monitor	Press [V/P/M] Key to Select PRESET Mode	Press [V/P/M] Key to Select PRESET Mode	Press [SCAN] Key	Press and Release [SCAN] Key	Scans for tones in a single frequency	Scans for DCS Codes in a single frequency	Scans selected MEM Banks	Stop [SCAN] with PTT, [FUNC], [V/P/M] or [SCAN] keys
Tone Scan P67		Indicates RCV signal levels while scanning during Channel Scope Operation	Set up Channel Scope Mode P98 - - - ->	Press [FUNC] Key		Rotate Upper Dial to select center frequency (Either VFO or MEM)	Scans for tones in a single frequency		
DCS Scan P68	Register Target Frequency in a TSF MEM P40, P70	Press [V/P/M] Key to Select MEM Mode	Press [MAIN] or [SUB] key to Select Band	Rotate Dials to select Target Frequency in TSF MEM Bank	Only detecting tone will be heard	Scans for tones in a single frequency	Scans for DCS Codes in a single frequency	Scans selected MEM Banks	Stop [SCAN] with PTT, [FUNC], [V/P/M] or [SCAN] keys
PRESET Scan P66 & P69		Indicates RCV signal levels while scanning during Channel Scope Operation	Set up Channel Scope Mode P98 - - - ->	Press [MAIN] or [SUB] key to Select Band		Rotate Dials to select Target Frequency in TSF MEM Bank	Only detecting tone will be heard		
Sweep Scan P68	Register Target Frequency in a TSF MEM P40, P70	Press [V/P/M] Key to Select MEM Mode	Press [MAIN] or [SUB] key to Select Band	Rotate Dials to select Target Frequency in TSF MEM Bank	Only detecting tone will be heard	Scans for tones in a single frequency	Scans for DCS Codes in a single frequency	Scans selected MEM Banks	Stop [SCAN] with PTT, [FUNC], [V/P/M] or [SCAN] keys
Transmitter Detection Function P40, P70	Radio OFF	Radio OFF	Radio OFF	Radio OFF	Radio OFF	Scans for tones in a single frequency	Scans for DCS Codes in a single frequency	Scans selected MEM Banks	Stop [SCAN] with PTT, [FUNC], [V/P/M] or [SCAN] keys
Reset Partial	Radio OFF	Radio OFF	Radio OFF	Radio OFF	Radio OFF	Scans for tones in a single frequency	Scans for DCS Codes in a single frequency	Scans selected MEM Banks	Stop [SCAN] with PTT, [FUNC], [V/P/M] or [SCAN] keys
Reset Complete P107	Radio OFF	Radio OFF	Radio OFF	Radio OFF	Radio OFF	Scans for tones in a single frequency	Scans for DCS Codes in a single frequency	Scans selected MEM Banks	Stop [SCAN] with PTT, [FUNC], [V/P/M] or [SCAN] keys
Packet Comm P106	Radio OFF	Radio OFF	Radio OFF	Radio OFF	Radio OFF	Scans for tones in a single frequency	Scans for DCS Codes in a single frequency	Scans selected MEM Banks	Stop [SCAN] with PTT, [FUNC], [V/P/M] or [SCAN] keys
Cloning P104	Radio OFF	Radio OFF	Radio OFF	Radio OFF	Radio OFF	Scans for tones in a single frequency	Scans for DCS Codes in a single frequency	Scans selected MEM Banks	Stop [SCAN] with PTT, [FUNC], [V/P/M] or [SCAN] keys
Data Transfer to Radio P105	Radio OFF	Radio OFF	Radio OFF	Radio OFF	Radio OFF	Scans for tones in a single frequency	Scans for DCS Codes in a single frequency	Scans selected MEM Banks	Stop [SCAN] with PTT, [FUNC], [V/P/M] or [SCAN] keys

Reset Functions

Reset Partial	Radio OFF	Scans for tones in a single frequency	Scans for DCS Codes in a single frequency	Scans selected MEM Banks	Stop [SCAN] with PTT, [FUNC], [V/P/M] or [SCAN] keys				
Reset Complete P107	Radio OFF	Scans for tones in a single frequency	Scans for DCS Codes in a single frequency	Scans selected MEM Banks	Stop [SCAN] with PTT, [FUNC], [V/P/M] or [SCAN] keys				

Data Operations - Page 104

Connect Cables per drawings, P106		Power ON		Press [PTT] 3 Times		Release MONI Key		Ready to Exchange Data	
Packet Comm P106	Connect ERW-7 and EDS-10 cables between Radio and Computer	Power ON	Power ON	Press [PTT] 3 Times	Release MONI Key	Ready to Exchange Data	Ready to Exchange Data	Ready to Exchange Data	Don't hit any Key until Radio Restarts
Cloning P104	Connect ERW-7 and EDS-10 cables between Radio and Computer	Power ON	Power ON	Press [PTT] 3 Times	Release MONI Key	Ready to Exchange Data	Ready to Exchange Data	Ready to Exchange Data	Don't hit any Key until Radio Restarts
Data Transfer to Radio P105	Repeat Above to get ready to transfer data	Power ON	Power ON	Press [PTT] 3 Times	Release MONI Key	Ready to Exchange Data	Ready to Exchange Data	Ready to Exchange Data	Don't hit any Key until Radio Restarts

Set Mode - Page 71 - See actual pages for full descriptions						
SET Mode	Press [MONI] Key to get TOP menu (if needed)	Rotate Upper Dial to Select TOP Menu Item	Press Upper Dial	Rotate Upper Dial to select SUB Menu Item	Press [MONI]	Press [PTT] to Exit
Screen Display P72 - P74		Screen Display		Language Illumination Dimmer Contrast Font Size Bold Font		
Power & Battery P74 - P76		Power & Battery		Auto Power Off Batt Save Ratio Battery Type		
Sound P76 - P77		Sound		Beep Sound Level Pager End-Beep VOX TOT		
Transmitter P78 - P81	Press Upper Dial to Enter	Transmitter		TOT Penalty Busy Chan LO Tone Burst Full Duplex		
Repeater P81 - P82		Repeater	Rotate	Auto Repeater Set	Rotate	
DTMF P82 - P85	Press [FUNC] Key	DTMF	Upper Dial to Select	Auto Dialer Wait Timing DTMF 1st DTMF Burst time DTMF Pause time	Lower Dial to Select	Press [PTT] to EXIT
Receiver P86 - P89	SET Mode Press [MONI] Key	Receiver	TOP -->	AM Antenna CLK noise shift Tone SQ Pri DCS Ops TSF Ops Rovr Range Preset Mode	to Return to TOP Menu	
MEM P90 - P91	to get Top Menu (if needed)	MEM	Menu Item	Bank Link GRP Over Write		
Scanning P91 - P93		Scanning		Scan Mode Scan Skip Pri Interval Pri Duration Backlight Setting		
Bug Detector P94 - P97		Bug Detector		Activate Detect Mode Sensitivity		
Key Assignment P98 - P102		Key Assignment		Key Lock Mode Moni Key Mode Moni Active On [MONI] Band dial Dial Freq Dial Ring WILD Key Assign Lamp Key Assign Batt Transition Set Mode Exit		
Channel Mode P104	Memories must be Registered		Set Radio to Mem Mode and turn Off		Now in Channel Mode	To Exit. Repeat steps

Set Mode - Undocumented Setup Modes			
Undocumented Setup Modes		Rotate Upper Dial to Change Menu Items	Item Selections
Volume Display Type	Press [V/P/M] key for ~ 2 seconds	Press [MONI] Key to Change Menu Items	Normal Center (Non Active) Center (Non Active) 1 Touch Disable Sub-Band Main Bnd, Lo Pwr Main Bnd, HI Pwr Normal Simple 0 to 2540 ms. 0 to 254
MONI key TX			
S Meter		Rotate Upper Dial ---> to Change Menu Items	Press [PTT] to Exit
FSK Round Time			
FSK Tx Amount			
Key Definition Matrix			
KEY	Function	After pressing [FUNC] Key	Continuously Pressing Keys (~ 1 Sec)
1	Inputs '1'	Wild Key	Registers and Releases Quick MEM (When MEM Mode is ON)
2	Inputs '2'	XMT Power Set	
3	Inputs '3'	Attenuator Setting	
4	Inputs '4'	Selects Radio Mode Types	
5	Inputs '5'	Tone Squelch / DCS / Modulated-Tone	
6	Inputs '6'	Channel Scope Set	
7	Inputs '7'	Channel Step	
8	Inputs '8'	Microphone Gain Set	
9	Inputs '9'	Recalling Channel Step	
0	Inputs 0	Priority	
" . "	Inputs Decimal Point	MEM Clear (when MEM mode is ON)	X
ENT	Determination of Inputs, Repeater shift	Repeater Function	X
MAIN	Switches between Bands & Banks	Shift	Select Main Band Dual / Mono Band
SUB	Switches between Bands & Banks	Switches MAIN / SUB Band Frequencies	Selects SUB Band Dual / Mono Band
V/P/M	Switches Operation Modes	MEM Registration MEM Editing MEM Name Function	X
SCAN	SCAN Function	M --> V Function	Selecting Scan Mode
FUNC	Function Key	Turns ON - OFF F	Enables 1 MHz up / down

TH-79A

Dual band unit -- two channels

Switch transmit channel

[BAND]

Switch transmit between VHF and UHF

[F]
[BAND]

Switch between single and dual channel operation

[DUAL]

Basic Operation

Tune Frequency

[VFO]
Select frequency using right-knob

Tone

[F]
[TONE (SHIFT)]

Tone Frequency

[F]
[TONE SEL (6)]
Select frequency using right-knob
[TONE SEL]

Power Level

[LOW]

Memory

Recall

[MR]
Select frequency using right-knob

Store

Tune frequency
Set offset
Set tone
Set tone frequency
[F]
Select memory using right-knob
[MR]

TM-221A

Single band unit -- single channel

Power Level

[LOW]

Memory

Basic Operation

Tune Frequency

[VFO]
Select frequency using tuning knob

Tone

[TONE] until **TONE** appears

Tone Frequency

[M.in]
[Tone]
Select frequency using tuning knob
[VFO] to exit mode

Recall

[VFO/M] alternate
Select memory with tuning knob

Store

Tune frequency
Set offset
Set tone
Set tone frequency
[M.in]
within 5 seconds
Select memory with tuning knob
within 5 seconds
[M.in]

TM-271A

Single band unit – one channel

- [MENU] -- push knob on right
- [AK] -- any key
- [F] -- button at lower right

Power Level

- [F]
- [MENU]
- Select **6** using tuning knob
- [MENU]
- Select **H or L** using tuning knob
- [MENU]
- [AK]

Basic Operation

Tune Frequency

- [VFO]
- Select frequency using tuning knob

Tone

- [F]
- [CALL]

Tone Frequency

- [F]
- [MENU]
- Select **2** using tuning knob
- [MENU]
- Select ton frequency using tuning knob
- [MENU]
- [AK]

Memory

Recall

- [MR]
- Select memory using tuning knob

Store

- Tune frequency
- Set offset
- Set tone
- Set tone frequency
- [F]
- Select memory using tuning knob
- [MR]

Kenwood

TM-331A

TM-441A

Single band units -- single channel

Basic Operation

Tune Frequency

[VFO]

Select frequency using tuning knob

Tone

[TONE] until **T** appears

Tone Frequency

[F] longer than one second

[Tone]

Select frequency using tuning knob

[VFO] to exit mode

Power Level

[LOW]

Memory

Recall

[MR]

Select memory with tuning knob

Store

Tune frequency

Set offset

Set tone

Set tone frequency

[F]

Select memory with tuning knob

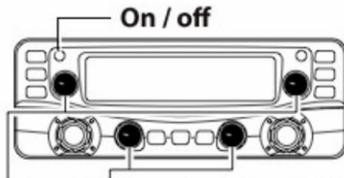
[MR] *within 10 seconds*

IC-2720H Quick Start

Turning on the transceiver.

Set squelch and volume controls to the 9-10 o'clock position.

Press the on/off button and hold for 3 seconds.



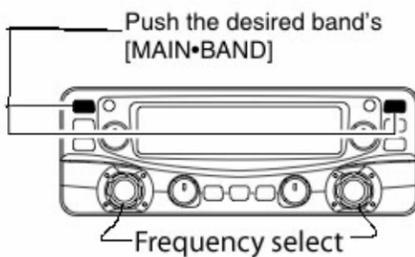
Set both [VOL] and [SQL] controls to 9-10 o'clock positions.

Select the main and secondary bands, then dial in the frequencies. To change mHz

Press the “V/MHz*SCAN” button. If held for more than 1 second scanning starts.

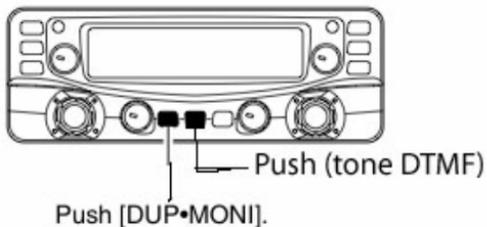
The frequency may be entered using the push buttons on the HM-133 microphone.

Either side may be VHF or UHF. MAIN appears for the main band.



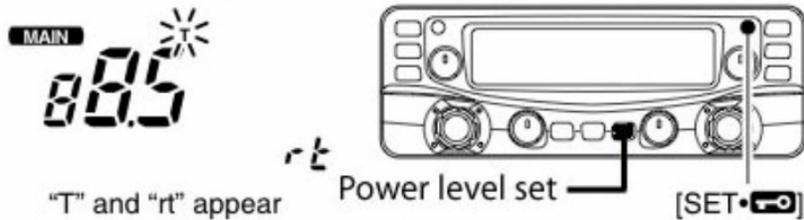
Push desired band's [MAIN•BAND] to select the main band.
Push [DUP•MONI] once or twice to select minus duplex or plus duplex.

• The USA version has an auto repeater function, therefore, setting duplex is not required.



To set repeater tone press Tone DTMF until tone displays this is “T”

After setting the main band press set button to enter set mode press set or (DUP*MON) several until T and “rt” appear.

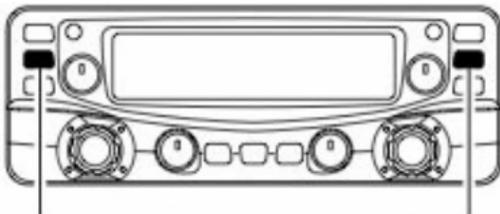


"T" and "rt" appear

- ④ Rotate the main band's [DIAL] to select and set the desired subaudible frequency.
- ⑤ Push [TONE•DTMF] to exit set mode.

Memory operation

Push the desired bands (M/CALL**MW*) several times to select memory mode.



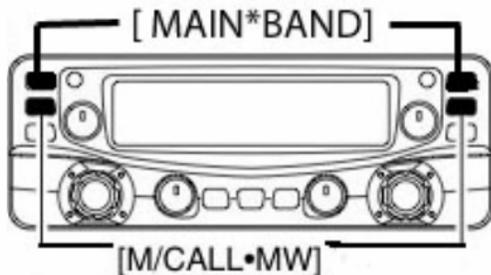
Push [M/CALL•*MW*] to select memory mode.

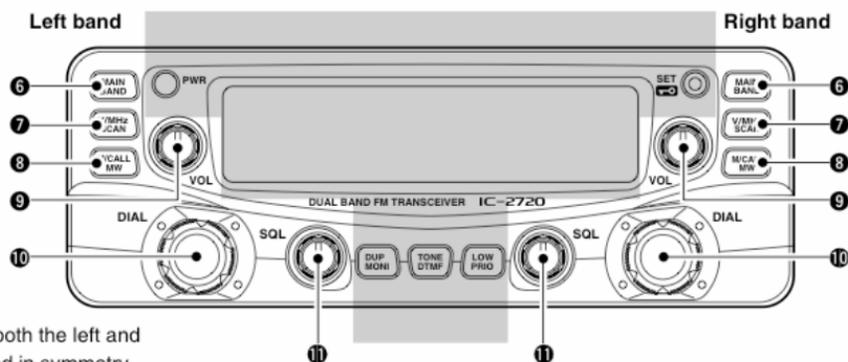
"M" indicator appears. Rotate the same bands tuning dial to select the desired memory channel. Only programmed channels will appear.

To program a memory channel set frequency and other data in the main VFO. Push the same bands "M/CALL**MW*" for 1 sec, 3 beeps should sound and the "M" indicator and memory channel number blink. Turn the tuning control for that band to select the memory channel to be programmed. Push the "M/CALL**MW*" button for 1 second, 3 beeps will sound.

To transfer the contents of a memory channel to the VFO select the band using the "MAIN**BAND*" button.

Push the "M/CALL**MW*" button for that band for 1 second to transfer the contents of the selected memory to the VFO, VFO mode is selected automatically.





*The same controls for both the left and right bands are arranged in symmetry.

6 MAIN-BAND SWITCH [MAIN-BAND]

- Push to select the main band. (p. 11)
- Enters operating band select condition when pushed for 1 sec. (p. 11)

7 VFO/MHz TUNING-SCAN SWITCH [V/MHz-SCAN]

- Selects and toggles VFO mode and 1 MHz (or 10 MHz for some versions) tuning when pushed. (p. 12)
- Starts scan when pushed for 1 sec. (p. 41)
 - Cancels a scan when pushed during scan.

8 MEMORY/CALL-MEMORY WRITE SWITCH [M/CALL-MW]

- Push to select and toggle memory, call and weather channel* modes. (pgs. 12, 29, 38, 65)
 - *Weather channels available for USA versions only.
- Selects a memory channel for programming when pushed for 1 sec. (pgs. 30, 39, 42)

9 VOLUME CONTROL [VOL] (p. 16)

Adjusts the audio level for relative band.

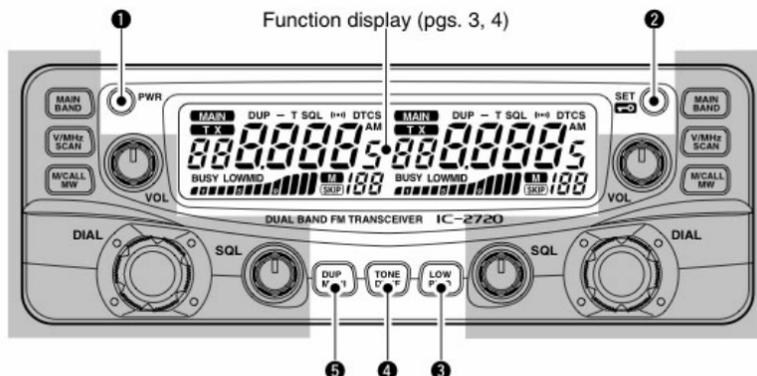
10 TUNING DIAL [DIAL]

Selects the operating frequency (p. 13), memory channel (p. 29), the setting of the set mode item and the scanning direction (p. 41) for the relative band.

11 SQUELCH CONTROL [SQL]

Varies the squelch level for relative band. (p. 16)

- The RF attenuator activates and increases the attenuation when rotated clockwise to the center position and further. (p. 17)



*The switches 2 to 5 are for the MAIN band only.

1 POWER SWITCH [PWR]

Turns power ON and OFF when pushed for 1 sec.

2 SET-LOCK SWITCH [SET-LOCK]

- Enters set mode when pushed. (p. 56)
- Switches the lock function ON and OFF when pushed for 1 sec. (p. 15)

3 OUTPUT POWER-PRIORITY SWITCH [LOW-PRIO]

- Each push changes the output power selection. (p. 20)
- Starts priority watch when pushed for 1 sec. (p. 47)

4 TONE-DTMF SWITCH [TONE-DTMF]

- Each push selects a tone function. (pgs. 23, 52)
 - Subaudible tone encoder, pocket beep (CTCSS), tone squelch, pocket beep (DTCS), DTCS squelch or tone function OFF can be selected.
- Turns DTMF memory encoder ON and OFF when pushed for 1 sec. (p. 48)

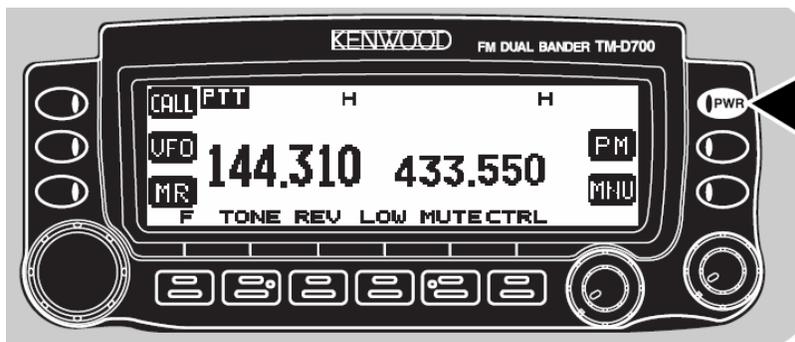
5 DUPLEX-MONITOR SWITCH [DUP-MONI]

- Push to select DUP-, DUP+ and simplex operation. (p. 23)
- Push for 1 sec. to switch the monitor function ON and OFF. (p. 16)

TM-D700 Quick Reference Guide

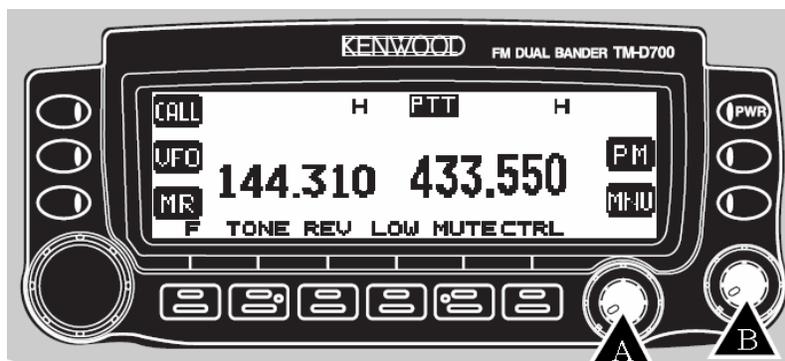
A full manual is available for this radio; it is stored at the ARK on the packet node laptop and on the EOC computer labeled EOC4. This Guide is a minimal quick start – other functionality can be investigated with the manufacturer’s manual. The TM-D700 is used in the EOC with a PK-96 TNC to allow packet communication with the ARK. Generally this radio and the TNC are left running at all times.

Power On



Make sure the antenna is connected to the radio. Turn on the Power Supply (this is normally sufficient to power-up the radio). If the radio display remains off push and release the PWR button (top-right).

Select Band A/B



The radio has 2 bands, the Left side (A) and the Right side (B) which can be selected by pushing and releasing the appropriate volume control. The frequency in the selected band appears larger. The frequency in the other band either appears smaller or disappears. The “PTT” symbol appears over the active band. This guide generally uses band A (the left side).

Select Sub-Band

By Default Band A is for 2m, Band B is for 440MHz. You may select the sub-band for either side by first pressing and releasing the button labeled “F” then pressing and releasing the volume control for that side. This will step through the frequency sub-bands supported by the radio (only 2m and 440MHz work for transmission).

Volume, Squelch and Transmit Power

Rotate the inner dial clockwise to increase the volume for that band. The outer dial is the Squelch control for each band.

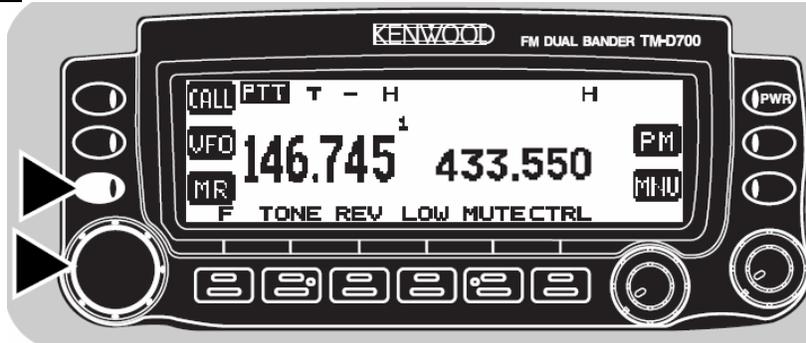
Transmit Power Level may be chosen by pushing and releasing the button labeled LOW. Power level for the currently active band (A or B) will be chosen from the list:

Low – Medium – High (and the list repeats). The setting is indicated at top of screen.

Choosing a Frequency

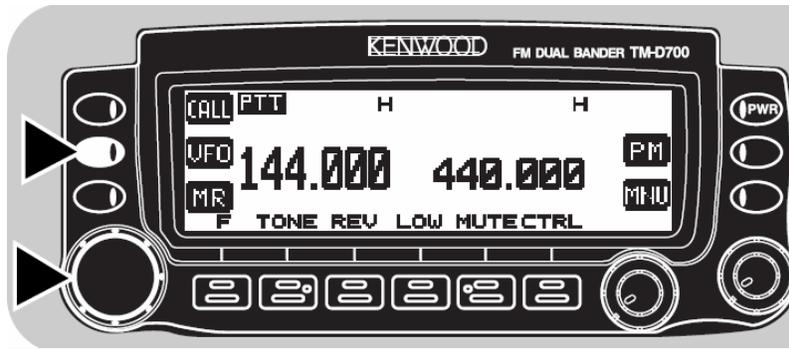
This display is the Basic Operating Mode. From this mode you may choose Memory Recall to access pre-stored frequencies, VFO to enter frequency and setup directly, or CALL to access the call channel.

Memory Recall MR



Press and release the button labeled MR: The last selected memory number appears above the frequency. Rotate the tuning dial to rapidly select one of the memory channels. Memory can store frequency, repeater offset, tone, and power level. Only those memory channels which have been programmed will appear.

Direct Entry VFO



Press and release the button labeled VFO: now rotate the tuning dial to adjust the KHz portion of the frequency. Push and release the tuning dial to adjust the MHz portion of the frequency (the least significant MHz digit will flash). Now adjust the Mhz part of the frequency with the tuning dial. Push and release the tuning dial again to revert to the KHz part of the frequency.

When you choose a frequency which is in one of the ranges reserved for a repeater (according to the ARRL Band Plan) an offset is selected automatically.

Sub-audible Tone may be activated by pushing and releasing the TONE button. Each push and release of the TONE button steps through the following functions:

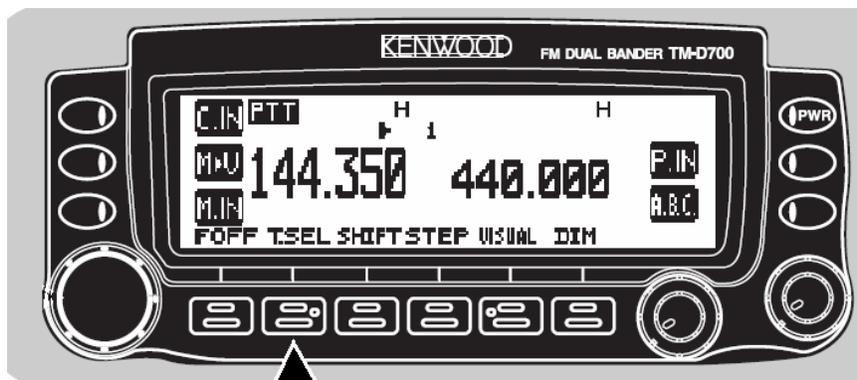
Tone – CTCSS – DCS – None (and then the list repeats)

The selection is indicated at the top of the screen (e.g. 'T' means send a sub-audible Tone).

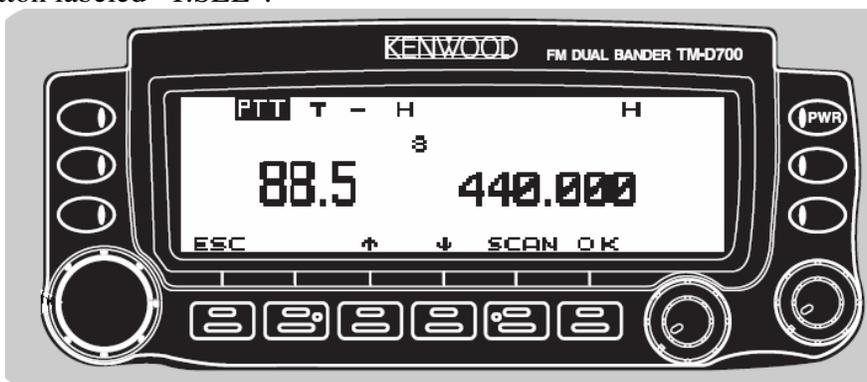
Tone Frequency

To specify the tone frequency we must switch to the Function operating mode.

When you push and release the 'F' key it switches the radio to the Function operating mode. The button labels change in this mode.



Next push the button labeled "T.SEL".



Either rotate the tuning dial or push the up/down arrows to get to the required Tone Frequency. Then Press the "OK" button to accept this frequency or the "ESC" button to exit this mode without changing anything.

Note: If Function mode is selected inadvertently you may return to Basic Operating mode by pressing and releasing the same F button (now labeled FOFF).

Copy Memory to VFO

To change anything in a programmed memory location you must: Copy it into VFO; change it there; Save it back to Memory.

From the Basic Operating Mode push and release "F" to get to the Function Operating Mode. Rotate the tuning dial to select a pre-programmed memory then push and release the "M>V" button. All stored settings from the memory location are transferred to VFO (the memory is not changed).

VFO mode may be used for communication or edited as appropriate.

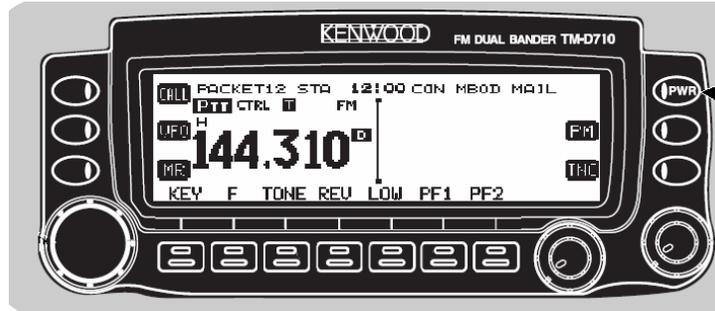
Save VFO to Memory

From the Basic Operating Mode push and release "F" to get to the Function Operating Mode. Rotate the tuning dial to select any memory: pre-programmed locations will appear as a filled-in triangle above the frequency; un-programmed locations will appear as an empty triangle. Push the "M.IN" button to store the VFO settings to that memory location.

TM-D710 Quick Reference Guide

A full manual is available for this radio; it is stored at the ARK on the packet node laptop and on the EOC computer labeled EOC4. This Guide is a minimal quick start – other functionality can be investigated with the manufacturer’s manual. The TM-D710 is used at the EOC for packet communication with the County and at the ARK for Packet communication with the EOC, in both cases using the internal TNC. The radio is similar but not identical to the TM-D700.

Power On



Make sure the antenna is connected to the radio. Turn on the Power Supply (this is normally sufficient to power-up the radio). If the radio display remains off push and release the PWR button (top-right).

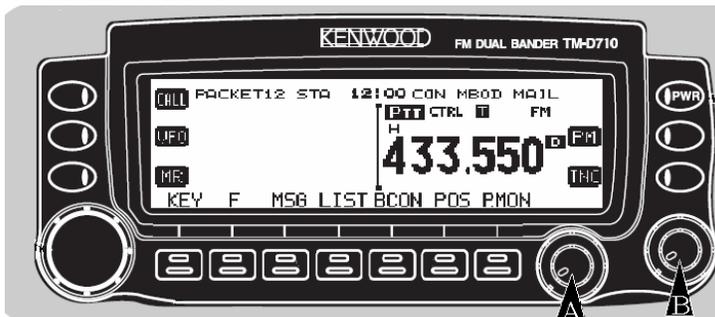
Alternate Screen



Pressing and releasing the “KEY” button selects the alternate functions of the bottom row of keys. Pressing “KEY” again reverts to the Basic operation screen.

Select Band A/B

The radio has 2 bands, the Left side (A) and the Right side (B) which can be selected by pushing and releasing the appropriate volume control.



The “PTT” symbol appears over the active band. This guide generally uses band A (the left side).

Select Sub-Band

By Default Band A is for 2m, and B is for 440MHz. You may select the sub-band for either side by first pressing and releasing the button labeled “F” then pressing and releasing the volume control for that side. This will step through the frequency sub-bands supported by the radio (only 2m and 440MHz work for transmission).

Volume, Squelch and Power

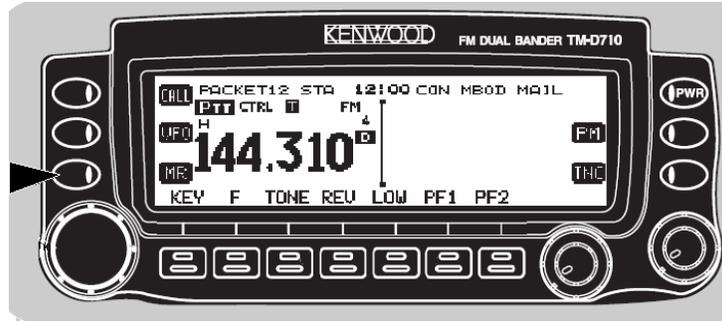
The 2 concentric dials you used to select band A or B are the volume and Squelch controls for those bands. Rotate the inner dial clockwise to increase the volume for that band. The outer dial is the Squelch control for each band.

Transmit Power Level may be chosen by pushing and releasing the button labeled “LOW” in the Basic Operation screen. Power level for the currently active band (A or B) will be chosen from the list: High – Medium – Low (and the list repeats). The setting is displayed under the PTT symbol.

Choosing a Frequency

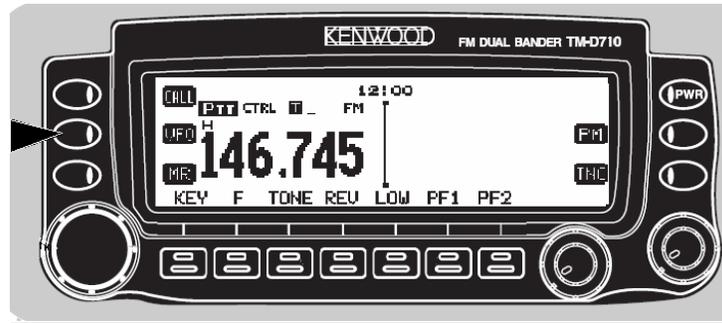
From the Basic Operating mode you may choose Memory Recall to access pre-stored frequencies, VFO to enter frequency and setup directly, or CALL to access the call channel.

Memory Recall MR



Press and release the button labeled MR: The last selected memory number appears above the frequency. Rotate the tuning dial to rapidly select one of the memory channels. Memory can store frequency, repeater offset, tone, and power level. Only those memory channels which have been programmed will appear.

Direct Entry VFO



Press and release the button labeled “VFO”: The Tuning Dial is the large knob at lower left. Rotate it to adjust the KHz portion of the frequency. Push and release the tuning dial to adjust the MHz portion of the frequency (the least significant MHz digit will flash). Now adjust the Mhz part of the frequency with the tuning dial. Push and release the tuning dial again to revert to the KHz part of the frequency. When you choose a frequency which is in one of the ranges reserved for a repeater (according to the ARRL Band Plan) an offset is selected automatically.

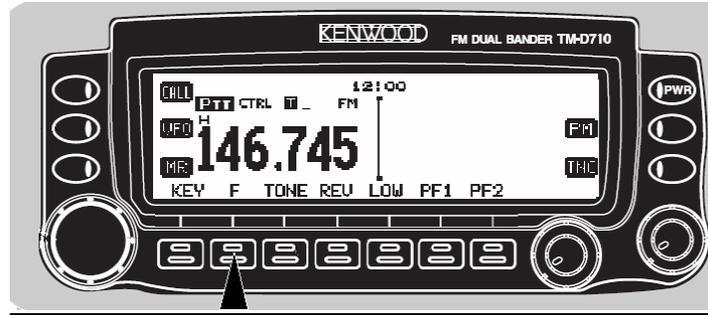
Enable Tone

Sub-audible Tone may be activated by pushing and releasing the “TONE” button in the Basic Operation screen.. Each push and release of the TONE button steps through the following functions:

Tone – CTCSS – DCS – None (and then the list repeats)

The selection is indicated at the top of the screen (e.g. ‘T’ means send a sub-audible Tone).

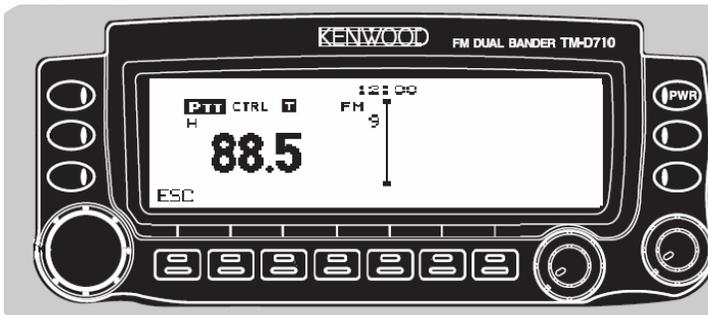
Tone Frequency



To specify the tone frequency we must switch to the Function operating mode. When you push and release the “F” key in the Basic Operating Mode, it switches the radio to the Function operating mode. The button labels change in this mode.



Next push the button labeled “T.SEL”.



Rotate the tuning dial to get to the required Tone Frequency. Then press the microphone Push-to-Talk button to accept this frequency or the “ESC” button to exit this mode without changing anything. (The radio will not transmit until you exit this screen).

Note: If Function mode is selected inadvertently you may return to Basic Operating mode by pressing and releasing the same F button (now labeled FOFF).

Copy Memory to VFO

To change anything in a programmed memory location you must: Copy it into VFO; change it there; Save it back to Memory.

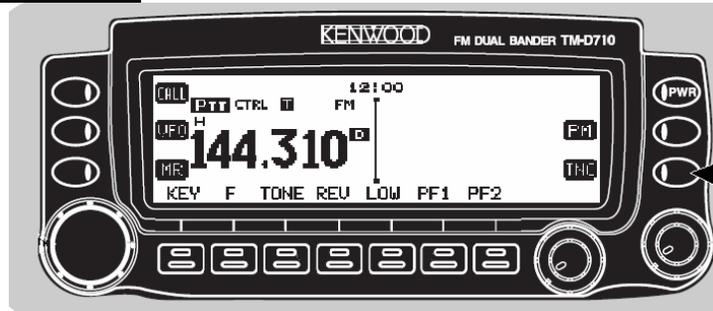
From the Basic Operating Mode recall a memory location by pressing “MR” then rotating the tuning dial. Then push and release “F” to get to the Function Operating Mode. Push and release the “M>V” button. All stored settings from the memory location are transferred to VFO (the memory is not changed).

VFO mode may be used for communication or edited as appropriate.

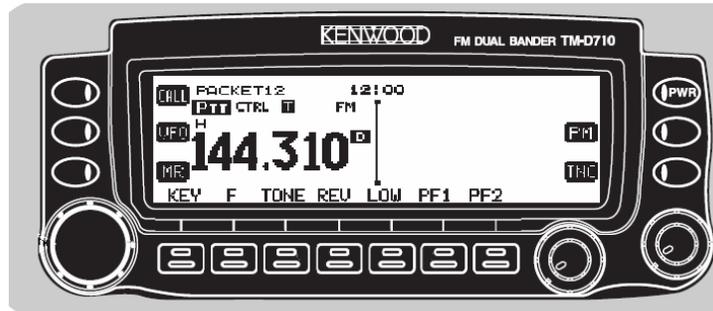
Save VFO to Memory

From the Basic Operating Mode push and release “F” to get to the Function Operating Mode. Rotate the tuning dial to select any memory: pre-programmed locations will appear as a filled-in triangle above the frequency; un-programmed locations will appear as an empty triangle. Push the “M.IN” button to store the VFO settings to that memory location.

Select Packet Data (TNC) Mode



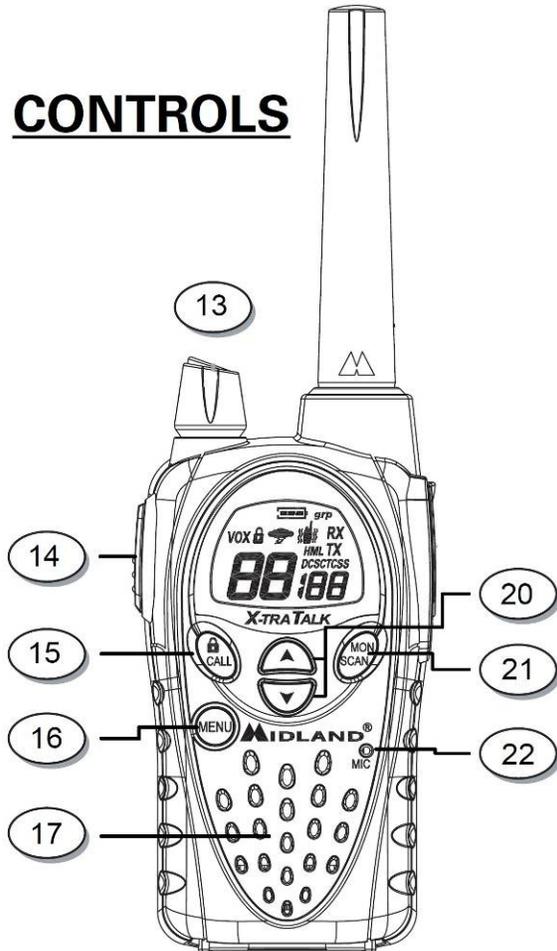
From the Basic Operating screen press and release the “TNC” button. The top part of the screen will indicate the data operation selected. It will change from blank to “APRS” and after another push, to “PACKET12”.



This is the mode used for packet communication at the EOC and the ARK.

Midland X-tra Talk FRS/GMRS Radio - Quick Start Guide

CONTROLS



Turn On:

1. twist knob (13) clockwise to turn on and adjust volume, counterclockwise until click turns off

Lock/Unlock Buttons: (when LCD has a Lock icon above the number, front buttons are disabled)

1. hold Lock/Call (button 15) down for 2 seconds to lock or unlock

Change channel:

1. if necessary, unlock buttons (see Lock/Unlock above)
2. short press of Menu button (button 16)
3. channel number blinks
4. use up and down arrow keys (button 20) to change to desired channel
5. push PTT (button 14) or wait until blinking stops (~10 seconds)
6. re-Lock front buttons

Talk/Listen:

1. push *and hold* Push To Talk (PTT) (button 14) on left side
2. speak into the microphone (22) on the front of the radio
3. release PTT button to listen
4. adjust volume knob on top

CERT Communications:

- Use channel 1 to speak with the ARK, use channel 9 within, or between teams.
- Identify “To” and “From” parties first: “ARK, ARK, this is CERT Team 6. Urgent Message.”
- Wait to be recognized by radio network controller: “CERT 6, this is the ARK, go ahead”
- Be brief, but complete. “ARK, this is CERT 6. I am reporting a residential gas leak at 123 Main Street. Unable to approach or shut off. Requesting PG&E or Fire Department assistance.”
- Wait for confirmation and/or questions: “CERT 6, this is the ARK, understood gas leak on Main Street, but did not get address. Please repeat street address.”

FRS/GMRS Limitations:

Only 1 person can talk at a time. If multiple people try to talk at the same time, communication is garbled for all. Let the radio network control operator direct the conversation.

FRS/GMRS radios have limited range. They work best when there is a clear “line of sight” between radios. If you can't communicate, try a different location: a hilltop, outside the building, away from trees and metal fences. Hills, buildings and forests will block radio signals.

Channels 8-14 are low power, unlicensed FRS channels that CERT is free to use. Channels 1-7 and 15-22 are higher power GMRS channels that require an FCC license to use. You will get longer range on channel 1, but lower battery life.

Fixing undesired radio behavior:

- Wrong channel set → see changing channels above
- Channels changing → tap Mon/Scan button 21 (less than 2 seconds), change to correct channel, LOCK BUTTONS
- 9r in display, oF blinking → press PTT (button 14)
- Weather mode (cloud icon) → press PTT (button 14)
- Other weird modes → usually, press PTT (button 14)
- Radio noisy, RX in Display → hold down Mon/Scan 2 seconds (button 21)
- Full "reset" to normal operation →
 1. short press Menu, select channel with up/down arrows
 2. press menu again, press up/down arrows until oF (off) is blinking
 3. repeat item 2 for menu selections: 9r, Sc, Vox, bP, rb, (ignore CA number), Ub

Display	Means	Comment
9r (gr)	Group Mode	Leave off
Sc	Scan	Scans all channels, leave off
Vox	Voice Open Transmissions	Leave off
bP	beep	Beep on button press, leave off
CA	Call Alert	Sets ringtone, don't use ringtone
Ub	ViBrate	Leave off

Batteries:

Radio comes with recharge-able battery pack, but will accept 4 AA batteries. Undo the clip at the bottom to change batteries.

IC-F221S FRS/GMRS Base Station



Erect the FRS/GMRS antenna before operating this radio. (See page ARK 2-1)

- Turn on the power supply associated with the radio. If none of the LED lights come on, push the small blue button to the right of P3.
- The knob top left adjusts volume for the integral speaker.
- Button P3 cycles through the pre-programmed channels 1, 2, 8 and 9; Indicated by LEDs 1, 2, 3, and 4.
- The functions of buttons P0, P1, P2 are not known.
- The microphone is connected to the socket at lower left.
- Push-to-talk function is on the microphone.

Use Channel 9 when in the field and communication among field teams.

Use Channel 1 when communicating with the ARK from a field position.

NOTES:

The radio is pre-programmed by the ICOM approved supplier. Programming equipment and software is not available to regular users.

The FRS channels (8 – 14) are on 25KHZ spacing and are limited to ½ watt.

The GMRS channels (1 – 7) are intended for simplex or repeater outputs (up to 50 watts and any antenna) and are also on 25KHZ spacing **but are offset by 12.5KHZ from the FRS frequencies and interleaved between them.** Therefore, there should be no conflict assuming adequate front end selectivity.

Also, since the IC-221S is programmed for FRS frequencies, the output may be either ½ watt or 5 watts on channels 1 and 2 (GMRS) but should be ½ watt on channels 8-14 (FRS).

GMRS stations are permitted to use FRS channels 1-7 to talk to FRS stations and use up to 5 watts and any antenna.

The LAH GMRS Base Station license is:

Call sign- WQOL435

file # 0004940140

expires 11/5/16

The license is held by:

Michael Sanders, Emergency Services Coordinator,

Santa Clara County Fire Department, Los Altos Hills County Fire District.

Office @ El Monte Fire Station, Foothill College Campus. Phone: 650-922-1055