KENWOOD

# INSTRUCTION MANUAL

144/440 MHz FM DUAL BANDER

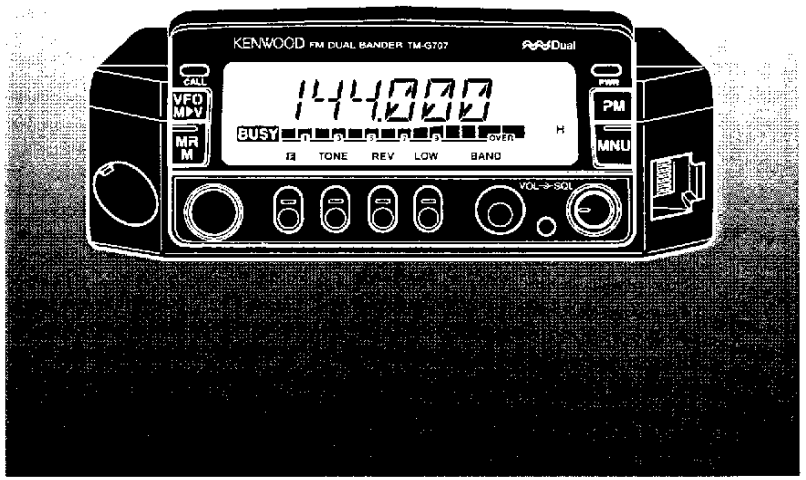
## TM-G707A

144/430 MHz FM DUAL BANDER

## TM-G707A

144/430 MHz FM DUAL BANDER

## TM-G707E




KENWOOD CORPORATION


09 08 07 06 05 04 03 02 01 00

## T OU!

V ateful you decided to purchase this
K )D FM transceiver. This series of mobile
t ers were developed to satisfy the requirement
f pact rig that's simple to operate yet contains
r s sophisticated features. The dual band
c will be appreciated by hams who want access
t, nd UHF bands with a transceiver smaller than
s gle banders.

H )D believes that the compact size, coupled with
t nable cost, will meet your satisfaction.

## COVERED BY THIS MANUAL

els listed below are covered by this manual.

**'A:** 144/440 MHz FM Dual Bander
(U.S.A./ Canada)

**'A:** 144/430 MHz FM Dual Bander
(General market)

**'E:** 144/430 MHz FM Dual Bander
(Europe)

## FEATURES

This transceiver has the g main features.

- Enhanced Programm mory (PM) channels store virtually entire c perating environments for your quick recall.
- Contains a total of 18 ry channels programmable with s receive and transmit frequencies as well a x frequencies, and other various data.
- Allows each memory to be named using up to 7 alphanumeric ch ; you may assign a name such as a calls peater name.
- Provides Easy Opera de for hams who want to use only the basic fu or now.
- If programmed, the b ontinuous Tone Coded Squelch System (CT jects unwanted calls from other persons w using the same frequency.
- Equipped with an ea ad large LCD with alpha-numeric displa ility.
- The compact front pa etachable from the main unit. If used with an front panel kit, the separated panel can nted in a convenient different place.
- The dedicated DATA tor is available for 1200 bps or 9600 bp t Operation.

## NOTICES TO SER

One or more ollowing statements may be applicable:

***FCC WARNING***

*This equipment g or uses radio frequency energy. Changes or modifications to t ment may cause harmful interference unless the modifications essly approved in the instruction manual. The user could lose th ity to operate this equipment if an unauthorized change or modifi made.*

***INFORMATION DIGITAL DEVICE USER REQUIRED BY THE FCC***

*This equipment h tested and found to comply with the limits for a Class B digital de suant to Part 15 of the FCC Rules. These limits are designe vide reasonable protection against harmful interference in a al installation.*

*This equipment g s, uses and can generate radio frequency energy and, if no and used in accordance with the instructions, may cause harm erence to radio communications. However, there is no guara the interference will not occur in a particular installation. If thi ent does cause harmful interference to radio or television recept n can be determined by turning the equipment off and on, the us couraged to try to correct the interference by one or more of th ng measures:*

- *Reorient or r he receiving antenna.*
- *Increase the on between the equipment and receiver.*
- *Connect the nt to an outlet on a circuit different from that to which the re connected.*
- *Consult the d technical assistance.*

When conde occurs inside the transceiver:

*Condensation p curs inside the transceiver in such a case where the room d using a heater on cold days or where the transceiver is qu ed from a cold room to a warm room. When condensation oc microcomputer and/or the transmit/receive circuits may bec table, resulting in transceiver malfunction. If this happens, turn O ansceiver and just wait for a while. When the condensed drop pear, the transceiver will function normally.*

## PRECAUTIONS

Please observe the fo lowing precautions it fire, personal injury, a d transceiver dama

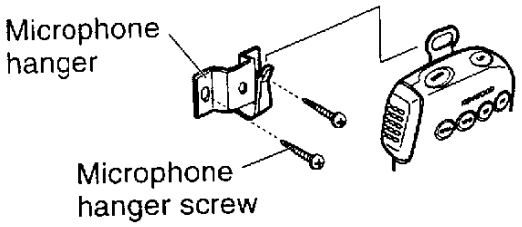
- When operating m bile, do not attemp ure your transceiver w ile driving because ly too dangerous.
- Be aware of local aws pertaining to th headphones/head ets while driving on roads. If in doubt, do not wear headph le mobiling.
- Do not transmit wi n high output powe extended periods. The transceiver ma at.
- Do not modify this transceiver unless i by this manual or by **KENWOOD** docume
- Do not expose the transceiver to long f direct sunlight nor place the transceive heating appliance .
- Do not place the t ansceiver in excess ty areas, humid area s, wet areas, nor on surfaces.
- If an abnormal od r or smoke is detec ng from the transceiv r, turn OFF the pow immediately. Con act a **KENWOOD** s ition or your dealer.
- The transceiver is designed for a 13.8 source. Never us a 24 V battery to p transceiver.

# CONTENTS

## SUPPLIED ACCESSORIES

| Accessory | Part Number | Quantity |
|---|---|---|
| Microphone<br>U.S.A./ Canada: MC-53DM [1]<br>Europe/ General: MC-45 [1] | <br>T91-0586-XX<br>T91-0396-XX | <br>1<br>1 |
| DC power cable | E30-2111-XX | 1 |
| Transceiver fuse (15 A) | F51-0017-XX | 1 |
| Mounting bracket | J29-0632-XX | 1 |
| Microphone hanger [2]<br>(U.S.A./ Canada only) | J19-1526-XX | 1 |
| Screw set (U.S.A./ Canada) [2] | N99-0382-XX | 1 |
| Screw set (Europe/ General) | N99-0331-XX | 1 |
| Warranty card (U.S.A./<br>Canada/ Europe only) | — | 1 |
| Instruction manual | B62-0864-XX | 1 |

[1] The MC-53DM and MC-45 microphones are also sold as optional accessories {page 66}.
[2] Attach the microphone hanger at an appropriate position.




## CONVENTIONS FOLLOWED IN THIS MANUAL

The writing conventions described below have been followed to simplify instructions and avoid unnecessary repetition.

***ATTENTION:*** *MOST PROCEDURES REQUIRE THAT YOU PRESS AN APPROPRIATE KEY IN EACH STEP WITHIN APPROXIMATELY 10 SECONDS, OR THE PREVIOUS MODE WILL BE RESTORED.*

| Instruction | What to do |
|---|---|
| Press **[KEY]**. | Press and release **KEY**. |
| Press **[KEY] (1 s)**. | Press and hold **KEY** for 1 second or longer. |
| Press **[KEY1]**, **[KEY2]**. | Press **KEY1** momentarily, release **KEY1**, then press **KEY2**. |
| Press **[KEY]+ POWER ON**. | With transceiver power OFF, press and hold **KEY**, then turn ON the transceiver power by pressing **[PWR]**. |
| Press ***[F]***, **[KEY] (1 s)**. | Press ***[F]*** momentarily, release ***[F]***, then press and hold **KEY** for 1 second or longer. |
| Press ***[F]*****+[KEY]**. | Press and hold ***[F]***, then press **KEY**. |

# P ARATION FOR MOBILE AND FIXED STATION PERATION

## MOBILE INSTALLATI

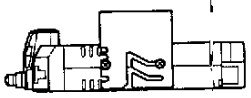
Install the transceiver
inside your vehicle tha
passengers and yours
For example, consider
the dash in front of the
legs will not strike the
your vehicle. Try to pl
shielded from direct s

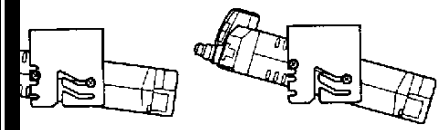
fe, convenient position
mizes danger to your
ile the vehicle is in motion.
ling the transceiver under
enger seat so that knees or
during sudden braking of
ell-ventilated location that is
.

### ■ Installation Examp

Use the supplied n
transceiver inside
viewing angle, you
bracket in a numb

ng bracket to install the
ehicle. To enjoy the best
osition the transceiver in the
ays as shown below.

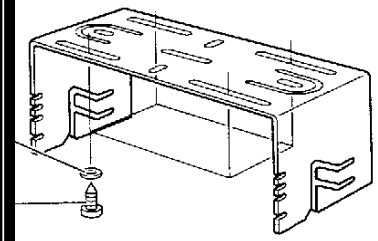




### ■ Installation Steps

1 Install the mou ing bracket in the vehicle using the supplied fla washers and self-tapping screws. There are 4 wa hers and 4 screws supplied.

- The bracket c n be mounted with the bracket opening for th transceiver facing down for underdash m unting, or with the opening facing up.
- The bracket r ust be installed so that the 4 screw holes on the e dge of each bracket side are facing forward.

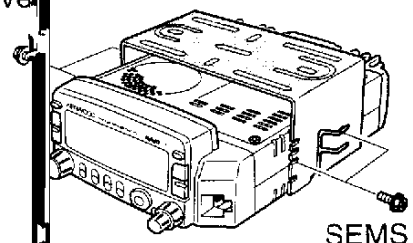


Flat washer

Self-tapping screw

2 Position the tra nsceiver, then insert and tighten the supplied h xagon SEMS screws and washers. There are 2 sc ews and 2 washers supplied for each side of th bracket.

- Double chec that all hardware is tightened to prevent vehi e vibration from loosening the bracket or transceive



SEMS screw

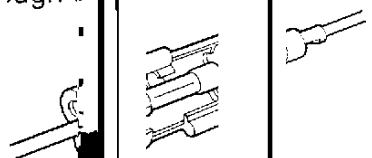
## DC POWER CA : CO CTIO

### ■ Mobile Ope n

The vehicle ery m ave a inal rating of 12 V.
Never conn ie tra iver t 4 V battery. Be
sure to use V ve batte at has sufficient
current capa If th rent t transceiver is
insufficient, lispla y dar during transmission,
or transmit ut po ay d xcessively.

1 Route th C po able plied with the
transcei direct the v le's battery
termina ing th iorte th from the
transcei

- If usir oise it shc ie installed with an
insula p prev from hing metal on the
vehicl
- It is n comn ed to u ie cigarette lighter
socke ce sc igaret hter sockets introduce
an ur ptabl tage c
- If the er ca ust be ed through a hole in
the v e cha or boc example in the
firew the f f the enger compartment,
use a ber g et to ct the cable from
abra Disr the f holder to pass the
cable ugh ewall



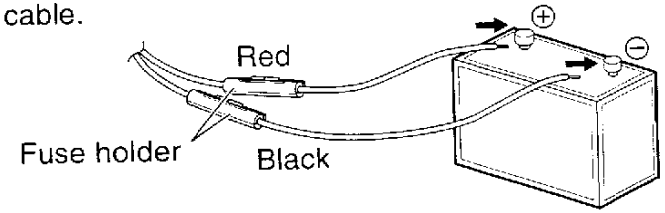
- The e leng the c must be dressed so it
is is d fror t, mo , and the engine
secc y (hig ltage) ion system/ cables.

2 After the cable is in place, wind heat-resistant tape around the fuse holder to protect it from moisture. Tie down the full run of cable.

3 To prevent the risk of short circuits, disconnect other wiring from the negative (–) battery terminal before connecting the transceiver.

4 Confirm the correct polarity of the connections, and attach the power cable to the battery terminals; red connects to the positive (+) terminal, black connects to the negative (–) terminal.

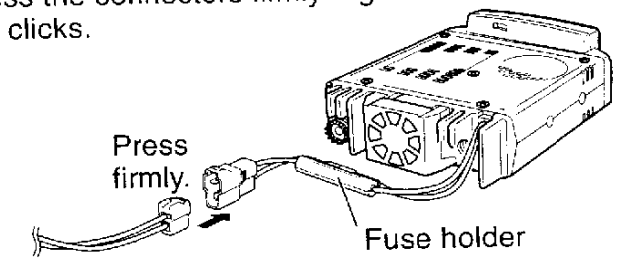
- Use the full length of the cable without cutting off excess even if the cable is longer than required. In particular, never remove the fuse holders from the cable.




5 Reconnect any wiring removed from the negative terminal.

6 Connect the DC power cable to the transceiver's power supply connector.

- Press the connectors firmly together until the locking tab clicks.

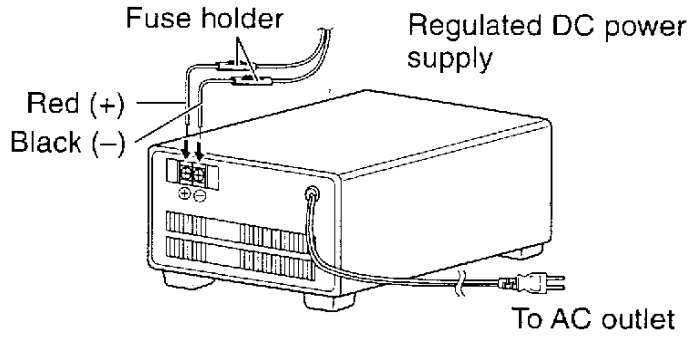


## ■ Fixed Station Operation

In order to use this transceiver for fixed station operation, you will need a separate 13.8 V DC power supply that must be purchased separately. The recommended current capacity of your power supply is 12 A.

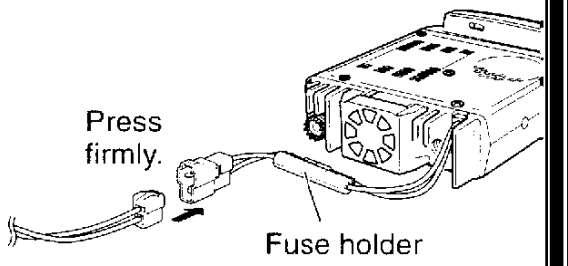
1 Connect the DC power cable to the regulated DC power supply and check that polarities are correct (Red: positive, Black: negative).

- DO NOT directly connect the transceiver to an AC outlet!
- Use the supplied DC power cable to connect the transceiver to a regulated power supply.
- Do not substitute a cable with smaller gauge wires.




2 Connect the transceiver's DC power conn tor to the connector on the DC power cable.

- Press the connectors firmly together until t ocking tab clicks.




***Note:***

- *For your transceiver to fully exhibit its performance ca ilities, the following optional power supply is recommended: PS-33 (20.5 A, 25% duty cycle).*
- *Before connecting the DC power supply to the transc r, be sure to switch the transceiver and the DC power supp OFF.*
- *Do not plug the DC power supply into an AC outlet ur ou make all connections.*

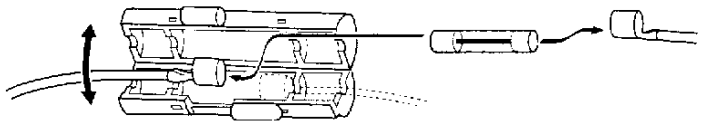
## ■ Replacing Fuses

If the fuse blows, determine the cause then correct the problem. After the problem is resolved, replace the fuse. If newly installed fuses continue to blow, disconnect the power cable and contact your dealer or the nearest Service Center for assistance.

| Fuse Location | Fuse Current Rating |
|---|---|
| Transceiver | 15 A |
| Supplied Accessory DC Power Cable | 20 A |

***CAUTION:*** *ONLY USE FUSES OF THE SPECIFIED TYPE AND RATING.*

***Note:*** *If you use the transceiver for a long period when the vehicle battery is not fully charged, or when the engine is OFF, the battery may become discharged, and will not have sufficient reserves to start the vehicle. Avoid using the transceiver under these conditions.*



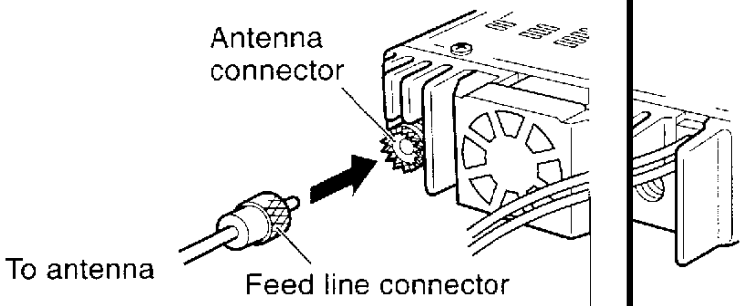
## ANTENNA CONNECTION

Before operating, you must first install a ffficient, well-tuned antenna. The success of yo nstallation will depend largely on the type of antenna a its correct installation. The transceiver can give e: llent results if the antenna system and its installation i iven careful attention.

You should choose a 50 Ω impedance a enna to match the transceiver input impedance. Use l -loss coaxial feed line that also has a characteristic i edance of 50 Ω. Coupling the antenna to the tran iver via feed lines having an impedance other than 5 Ω reduces the efficiency of the antenna system, and c cause interference to nearby broadcast televis receivers, radio receivers, and other electronic eq ment.

***CAUTION:***

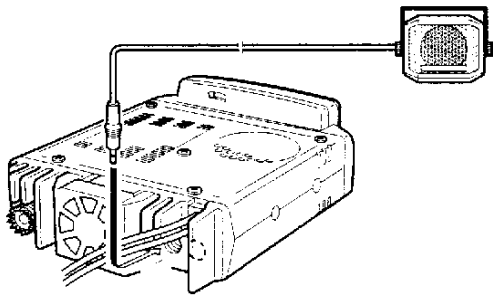
- *TRANSMITTING WITHOUT FIRST CONNEC G AN ANTENNA OR OTHER MATCHED LOAD MAY DAMAGE E TRANSCEIVER. ALWAYS CONNECT THE ANTENNA TO THE ANSCEIVER BEFORE TRANSMITTING.*
- *ALL FIXED STATIONS SHOULD BE EQUIPPE WITH A LIGHTNING ARRESTER TO REDUCE THE R OF FIRE, ELECTRIC SHOCK, AND TRANSCEIVER DA GE.*



## ACCESSORY CONNECTIONS

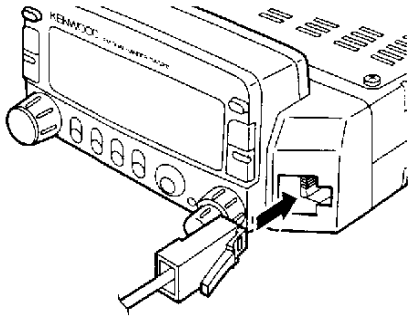
### ■ External Speaker

If you plan to use an external speaker, cho
speaker with an impedance of 8 Ω. The ex
speaker jack accepts a 3.5 mm (1/8") diam
(2-conductor) plug. Recommended speake
the SP-50B and SP-41.



### ■ Microphone

To communicate in the voice modes, plug a
microphone equipped with an 8-pin modula
connector into the modular socket on the fr
of the transceiver. Press firmly on the plug
locking tab clicks.





## PACKET EQUIPMENT CONNECTIONS

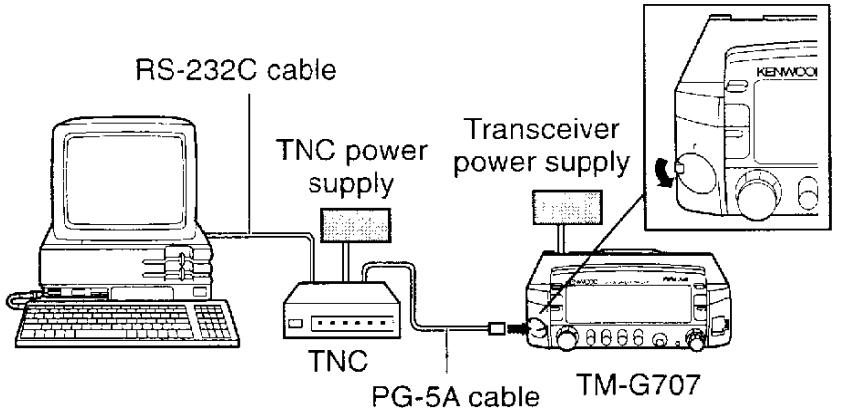
If you intend to use this transceiver for Packet operation, you will need the following equipment.

- Personal computer with communications software
- Terminal Node Controller (TNC)
- TNC power supply
- RS-232C cable
- 6-pin mini DIN plug (optional PG-5A)

For the DATA connector pins, refer to "PACKET OPERATION" {page 61}.

***Note:***

- *Do not share a single power supply between the transceiver and the TNC.*
- *Keep as wide a separation between the transceiver and computer as practical to reduce noise-pickup by the transceiver.*
- *One end of the optional PG-5A cable has not been connectorized. Attach the appropriate connector that mates with the TNC connector.*



# YOUR FIRST QSO

If you tend to discard instruction manuals along with the packaging material .....please don't. The 7 steps given here will get you on the air in your first QSO right away. So, you can enjoy the exhilaration that comes with opening a brand new transceiver.

After trying the rig for a while, settle back in your most comfortable operating chair with this manual and your favorite drink for an hour or two. The time spent will be worthwhile.


MC-53DM

❶ Switch ON the DC power supply, then press the **PWR** switch.

▼

❷ Turn the **VOL** and **SQL** controls to approximately 9 o'clock.

▼

❸ Press ***[BAND]*** to select the VHF or UHF band.

▼

❹ Turn the **Tuning** control to select a frequency.

▼

❺ Press and hold Mic **[PTT]**, then speak in a normal tone of voice.

▼

❻ Release Mic **[PTT]** to receive.

▼

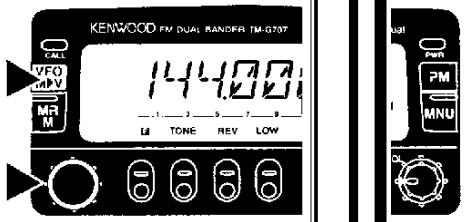
❼ Repeat steps ❺ and ❻ to continue communication.

## BASIC TRANSCEIVER MOD

3 This section introduces you tc asic modes you can select.

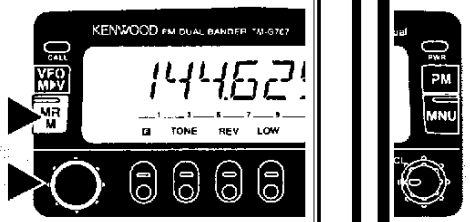
### VFO mode

Press **[VFO]** to select. In this you can change the operating frequency using the ng control or Mic **[UP]**/ **[DWN]**.



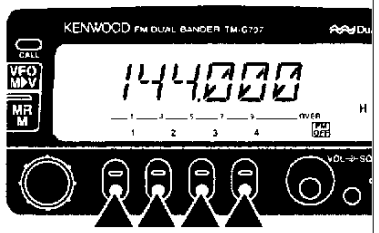

### Memory Recall mode

Press **[MR]** to select. In this you can change memory channels, using the g control or Mic **[UP]**/ **[DWN]**, where you stored frec es and related data. For further information, refer t MORY CHANNELS" {page 27}.



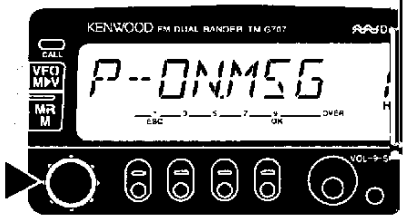

### Programmable Memory (PM) mode

Press **[PM]** to select. In this mode can select the transceiver environment, by pressin ] to *[4]*, that you stored in PM channels {page 36}.



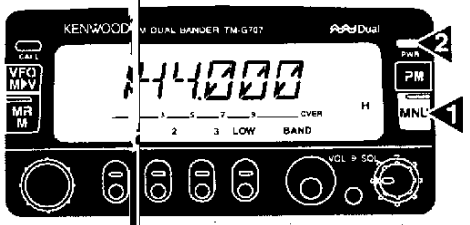

### Menu mode

Press **[MNU]** to select. In this mod u can change Menu Nos. using the **Tuning** contro Mic **[UP]**/ **[DWN]**. For further information, ref "MENU SET-UP" {page 19}.



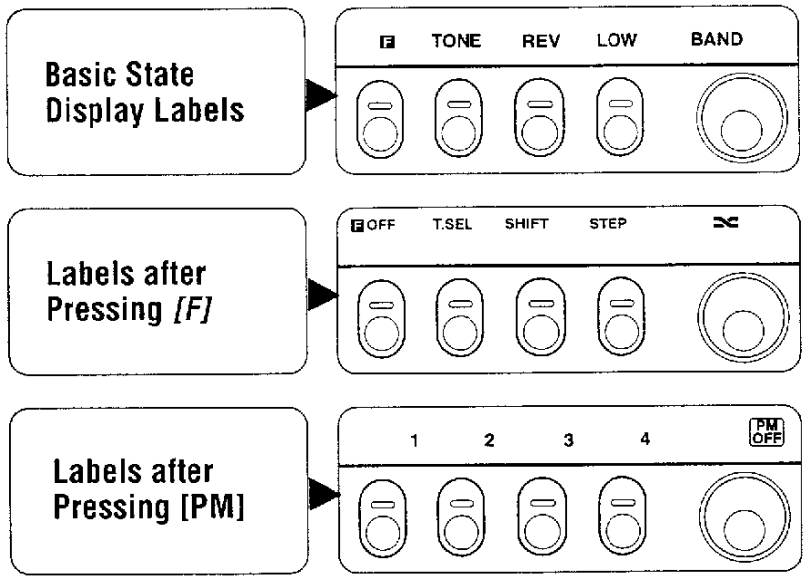
## Easy Operation mode

Press **[MNU]+ POWER ON** to select. In this mode only the basic functions are available and the memory storing procedures are simplified. You may prefer this mode if you seldom use functions other than the basic ones. For further information, refer to "EASY OPERATION" {page 18}.




## BUTTON FUNCTION DISPLAY

The lower portion of the display has labels that indicate the current function of each of the 5 front panel buttons. The Italic font is used to show these 5 buttons in the description of each operation step. After pressing *[F]*, pressing *[F]* again or waiting for 10 seconds restores the basic state.

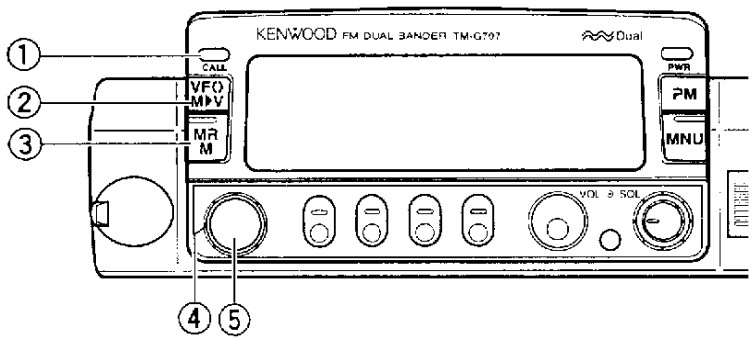



***Note:*** *After pressing **[F]**, press the appropriate key within approximately 10 seconds, or the Basic State display will be restored.*

## FRONT PANEL

***Note:*** *This section describes only the main functions of the front p controls and buttons. For the functions not described here, you wil explanations in the appropriate sections of this manual.*






### ① CALL button

Recalls the Call channel {page 31}. Also starts c stops Call/VFO Scan {page 43} when in VFO mc or Call/Memory Scan {page 43} when in Memory Recall mode.

### ② VFO button

Selects the VFO mode. In this mode you can ch e the operating frequency, using the **Tuning** contrc Mic **[UP]**/ **[DWN]**. Also provides:

- VFO Scan start/stop to scan the entire VFO range {page 40}.
- Program Scan start/stop to scan a programmed ra of frequencies {page 43}.

### ③ MR button

Selects the Memory Recall mode {page 29}. In this mode you can change memory channels, using the **Tuning** control or Mic **[UP]**/ **[DWN]**. Also starts or stops Memory Scan {page 40}.

### ④ Tuning control

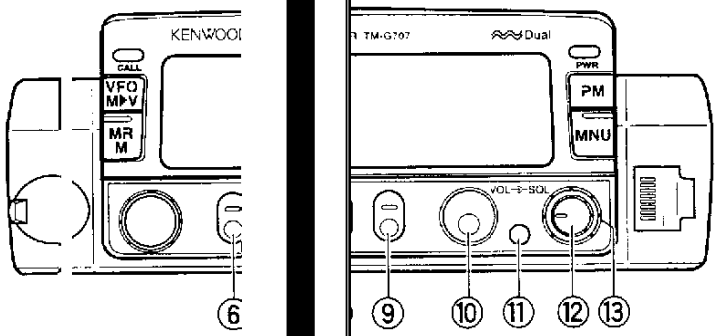
Selects:

- Operating frequencies when in VFO mode {page 16}.
- Memory channels when in Memory Recall mode {page 29}.
- Menu Nos. when in Menu mode {page 19}.

This control is used for various other selections.

### ⑤ MHz button

Selects the MHz mode. In this mode you can change the operating frequency in 1 MHz steps or 10 MHz steps {page 16}, using the **Tuning** control or Mic **[UP]**/ **[DWN]**. Also starts or stops MHz Scan {page 41}.




**⑥ F (Fur ction) button**

Allow you to sele
availa ole using th

**⑦ TONE utton**

Switc es the Tone
funct on {page 46
deac vates Auton

**⑧ REV b tton**

Switc es the tran
frequ ncy when o
offse {page 23} o
{pag 28}.

**⑨ LOW utton**

Sele ts High, Me
{pag 17}.

ifferent functions that are
unction buttons.

n {page 24} or CTCSS
OFF. Also activates or
ne frequency ID {page 47}.

quency and receive
g with a standard transmit
d-split memory channel

Low transmit output power

**⑩ BAND button**

Selects the VHF UHF band. On some versions,
also selects the MHz band.

**⑪ DIM button**

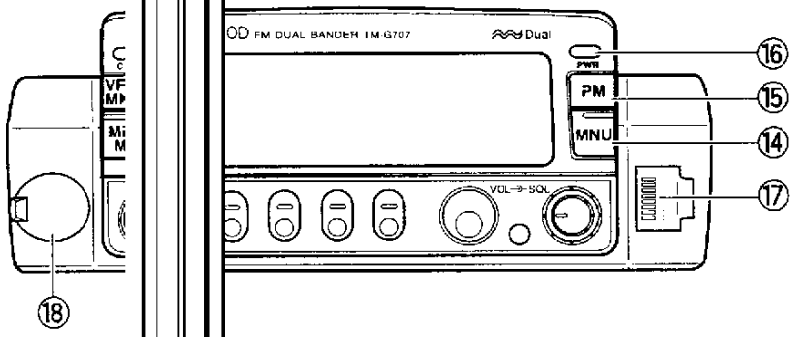
Selects the disp llumination from 5 levels,
including OFF { e 56}.

**⑫ VOL control**

When turned, a ts the level of receive audio from
the speaker {pa 5}.

**⑬ SQL control**

When turned, a ts the squelch threshold level
{page 15}. This ws you to mute speaker output
while no station e being received.




**⑭ MNU butt**

Selects t nu mode {page 19}.

**⑮ PM buttoı**

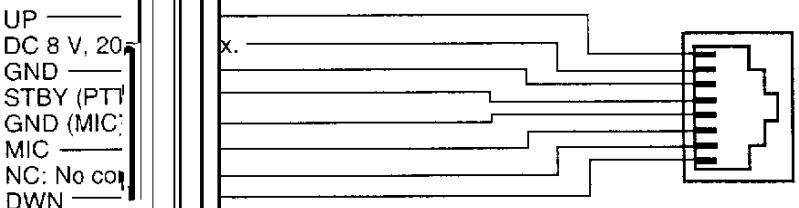
Selects t grammable Memory mode {page 36}.

**⑯ PWR swi**

Switches ansceiver ON or OFF {page 15}.

**⑰ Microphc nector**

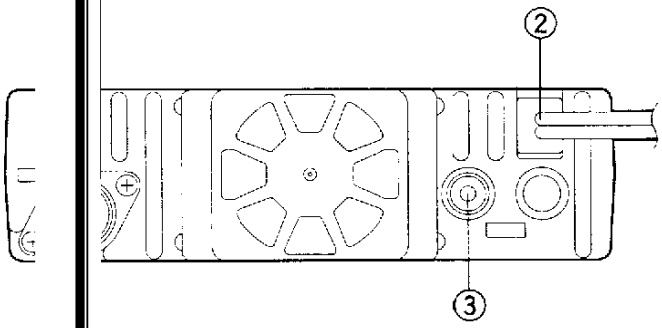
Insert th modular connector plug until the locking t cks".




**⑱ DATA cor**

Connect ninal Node Controller (TNC) for Packet operatio epts a 6-pin mini DIN plug {page 6}.

## REAR P




**① Anten nnector**

Conn in external antenna {page 5}. When makir st transmissions, connect a dummy load in place ne antenna. The antenna system or load shoul ve an impedance of 50 Ω. The TM-G707E accep male N-type connector and other versions accep nale PL-259 connector. This transceiver has o one antenna connector because of a built-in duple

**② Powe t 13.8 V DC cable**

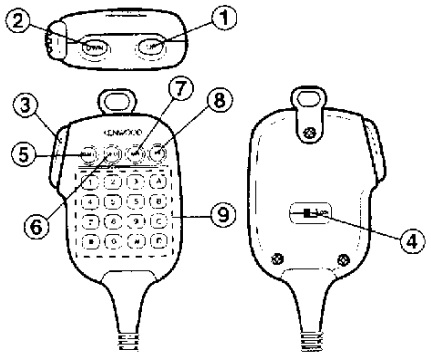
Conn a 13.8 V DC power source. Use the suppl DC power cable {pages 3 and 4}.

**③ Speak ck**

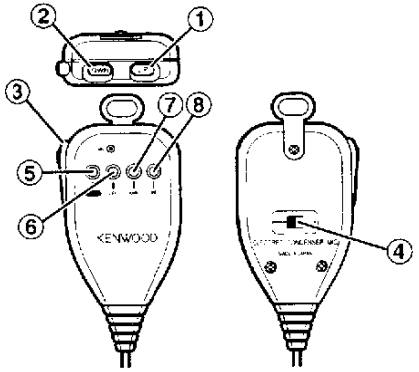
If you , connect an optional external speaker for cleare idio. This jack accepts a 3.5 mm (1/8") diamd 2-conductor plug. See page 6 for more inform n. The right jack is unavailable.

## MICROPHONE

MC-53DM




MC-45




**① UP button**
**② DWN button**

Raises or lowers the operating frequency, the memory channel number, the menu number, etc. Holding either button down causes the action to be repeated. Also, switches between values for functions with multiple choices.

**③ PTT (Push-to-talk) switch**

Press and hold to transmit, then release to receive.

**④ LOCK switch**

Locks all microphone keys except **[PTT]** and the DTMF keypad, if equipped.

**⑤ LL key**
**⑥ O key**
**⑦ ? key**

entical to the front panel **CALL**, **VFC** and **MR** ttons. These keys can be re-progra med, if sired {page 50}.

**⑧ key**

epending on which function you sele by accessing F1" in Menu No. 20 {page 51}, the f ction of this y differs. Refer to "PROGRAMMAB E FUNCTION F) KEYS" {page 50}.

**⑨ MF keypad (MC-53DM only)**

ne 16-key keypad is used for DTMF nctions age 48}, or to directly enter a freque cy or a emory channel number {page 54}.

## INDICATORS

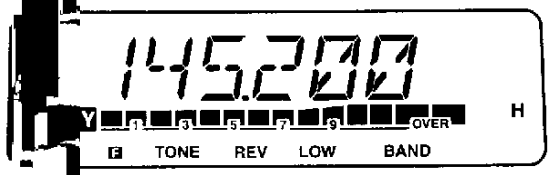
On the display you will see various indicat… show what you have selected. Sometimes you may … what those indicators mean or how you can cancel th… setting. In such a case, you will find this table very u…

| Indicator | What You Selected | …u Press to …ncel |
|---|---|---|
| 🔑 | Transceiver Lock | …z] |
| 🔑 (Blinking) | All Lock | …POWER …[F], [MHz] |
| ♠[1] | AM mode | …u No. 0. |
| CT | CTCSS | |
| T | Tone function | …[TONE] |
| – | Minus offset direction | …IFT] …07E: one …], [SHIFT]) |
| – –[2] | Minus offset direction (–7.6 MHz) | …IFT] |
| + | Plus offset direction | …IFT], [F], …07E: one …], [SHIFT]) |
| R | Reverse | |
| PRI | Priority Scan | …U] |
| ⇄ | Cross-band Operation | …] |

[1] U.S.A./ Canada only
[2] TM-G707E only

| Indic… | What You Selected | What You Press to Cancel |
|---|---|---|
| AF | Automatic Power OFF | Use Menu No. 12. |
| 96 | 9600 bps transfer | Use Menu No. 19. |
| AI | Advanced Intercept Point | *[F], [DIM]* |
| ★ | Locked-out memory channel | Use Menu No. 3. |
| ◀ | Memory channel containing data | — |
| O… A… | Transmit mode | Release Mic **[PTT]**. |
| H | High transmit power | Default |
| M | Medium transmit power | *[LOW]*, *[LOW]* to select the default (High) |
| L | Low transmit power | *[LOW]* to select the default (High) |

**When …ceive a signal:**




- "BU… …ppears when the squelch {page 15} is open.
- The … …eter shows the strength of received signals.

## SWITC

1 Swi
- If

2 Pre

3 To
aga
- I
s
u

## ADJU

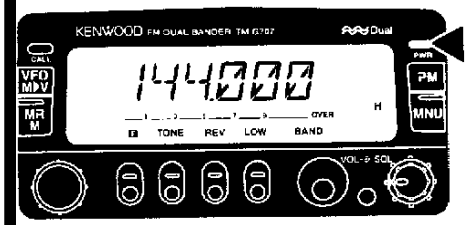
Turn t
increa

## G POWER ON/OFF

ON the DC power supply.

rating mobile, skip this step.

e **PWR** switch to switch ON the transceiver.

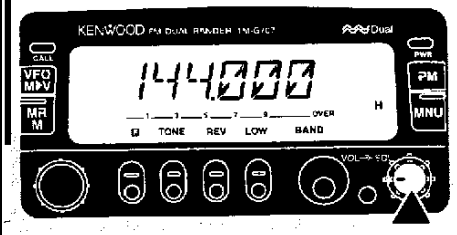



ch OFF the transceiver, press the **PWR** switch

xed installation, after the transceiver has been
ed ON, it can then be switched OFF or ON by
only the power switch on the DC power supply.

## NG VOLUME

**OL** control clockwise (or counterclockwise) to
or decrease) the audio level.




## ADJUSTI

The purpo
backgrour
closed) wh
level is se
opened) o

Turn the S
noise whe

- As you t
required

***Note:*** *The p*
*called the sq*

## SELECTI

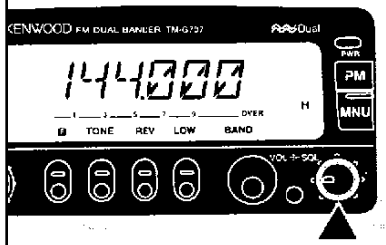
Press *[BA*

## QUELCH

the Squelch function is to silence
se output from the speaker (squelch
o signals are present. When the squelch
ectly, you will hear sound (squelch
hile a station is actually being received.

ontrol to just eliminate the background
signal is present.

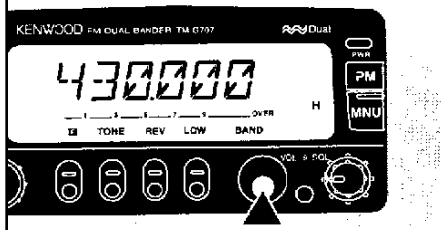
e control clockwise, stronger signals are
en the squelch.




*which ambient noise on a frequency just disappears,*
*threshold, depends on the frequency.*

## BAND

to select the VHF or UHF band.



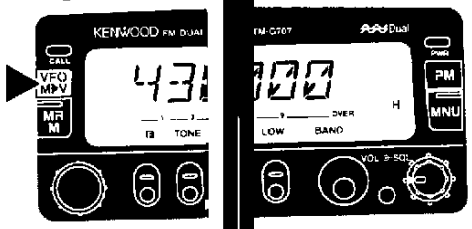
## SELECTING FREQUEN ES

### ■ Tuning Control

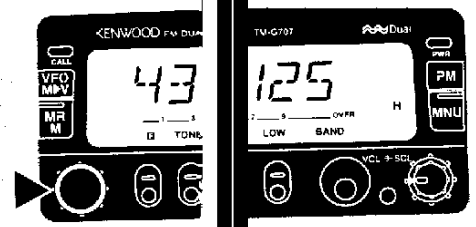
Using the **Tuning** c ol is convenient when yo e within easy reach of e transceiver front panel, the frequencies to b elected are near the curr frequency.

4

1 Press **[VFO]** to s ct VFO mode.



2 Turn the **Tuning** ntrol clockwise to increas ne frequency or co erclockwise to decrease t frequency.



- You can also s ct frequencies via the micro keypad (MC-5 M only). See "KEYPAD DIR ENTRY" {page }.
- To change fre ncies in steps of 1 MHz, pre **[MHz]** first. P sing **[MHz]** again cancels th MHz function.

- To change frequencies in steps 10 MHz, press ***[F]*+[MHz]** first; do not press ***[F]*** r longer than 1 second. Pressing ***[F]*** cancel e 10 MHz function; pressing **[MHz]** starts 1 MHz function.

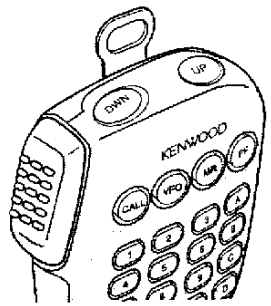
***Note:*** *If you cannot select a particular freq cy, you need to change the frequency step size. See "CHA ING FREQUENCY STEP SIZE" {page 55} for further informatic*

### ■ Microphone [UP]/ [DWN] Buttons

Using Mic **[UP]**/ **[DWN]** for freque y selection is useful when mobiling or any time u are not immediately in front of the transc er.

Press Mic **[UP]** or **[DWN]** once to ange the frequency by one step in the dire n indicated by the button.

- Pressing and holding the button c es the frequency to step repeatedly. Release it to sto e frequency change.
- To change frequencies in steps of MHz (or 10 MHz), press **[MHz]** (or ***[F]*+[MHz]**) first.

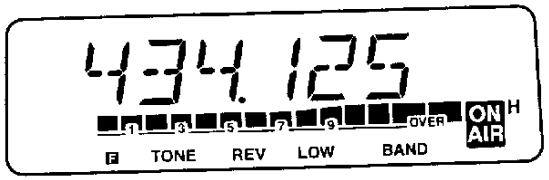



MC-53DM

## TRANSMITTING

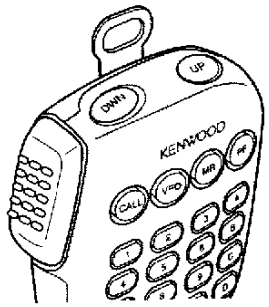
1 When ready to begin transmitting, press and hold Mic **[PTT]** and speak in a normal tone of voice.

- "ON AIR" and the RF power meter appear.




- Speaking too close to the microphone, or too loudly, may increase distortion and reduce intelligibility of your signal at the receiving station.
- The RF power meter shows the relative transmit output power.

2 When you finish speaking, release Mic **[PTT]**.

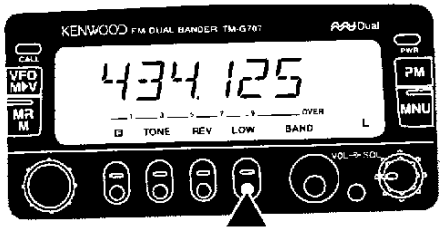



MC-53DM

## ■ Selecting Output Power

It's wise, and required by law, to select the lowest power that allows reliable communication. If operating from battery power, lower transmit power will give you more operating time before a charge is necessary. Reducing power lowers the risk of interfering with others on the band.

Press ***[LOW]*** to select high ("H"), medium ("M"), or low ("L") power. The default is high.




***CAUTION:***

- *DO NOT TRANSMIT WITH HIGH OUTPUT POWER FOR EXTENDED PERIODS. THE TRANSCEIVER MAY OVERHEAT AND MALFUNCTION.*
- *CONTINUOUS TRANSMISSION CAUSES THE HEAT SINK TO OVERHEAT. NEVER TOUCH THE HEAT SINK WHEN IT MAY BE HOT.*

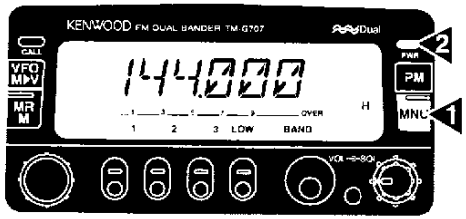
***Note:*** *When the transceiver overheats because of ambient high temperature or continuous transmission, the protective circuit may function to lower transmit output power.*

# Y OPERATION

If you are a person who has just acquired a ha license and wants to use only the basic functic for now, use Easy Operation mode. Only the b functions are available in this mode so you nee not worry about studying other functions.

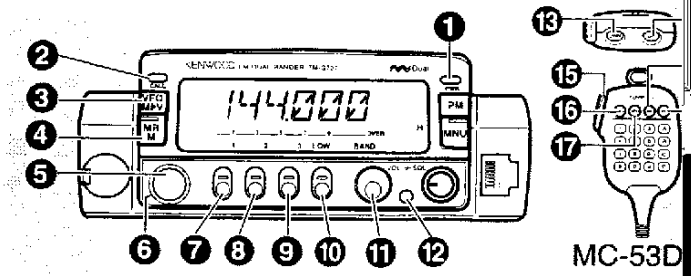
When in this mode, you can store a simplex frequency in up to 3 memory channels by just pressing a single key; the channels are shared both bands.

Press **[MNU]+ POWER ON** to enter (or exit) E Operation mode.




***Note:*** *Settings made in Easy Operation mode are indepen settings in the normal mode.*

The available keys and functions in this mode a listed in the table. The **VOL** and **SQL** controls function.




| | Press | To | P R |
|---|---|---|---|
| ❶ | **PWR** | switch ON (or OFF) the transceiver. | |
| ❷ | **CALL** | recall the Call channel. | |
| ❷ | **CALL** (1 s) | store the currently selected frequency in the Call channel. | |
| ❸ | **VFO** | select VFO mode. | |
| ❹ | **MR** | select Memory Recall mode. | |
| ❺ | **MHz** | change the frequency in steps of 1 MHz. | |
| ❻ | **Tuning** control | change the frequency. | |
| ❼ ❽ ❾ | *1 (1 s)* *2 (1 s)* *3 (1 s)* | store the currently selected frequency in memory channel 1, 2, or 3; ex. *[1] (1 s)* to store in channel 1. | |
| ❼ ❽ ❾ | *1* *2* *3* | recall memory channel 1, 2, or 3, if data stored; ex. *[1]* to recall channel 1. | |
| ❿ | **LOW** | switch the transmit output power. | |
| ⓫ | **BAND** | change the current band. | |
| ⓬ | **DIM** | change the display illumination. | |
| ⓭ | Mic **DWN** | lower the operating frequency. | |
| ⓮ | Mic **UP** | raise the operating frequency. | |
| ⓯ | Mic **PTT** | transmit. | |
| ⓰ | Mic **CALL** | recall the Call channel. | |
| ⓱ | Mic **VFO** | select VFO mode. | |
| ⓲ | Mic **MR** | select Memory Recall mode. | |
| ⓳ | Mic **PF** | change the current band. | |

# MENU SET-UP

## WHAT IS A MENU?

Many functions on th
configured via a soft
physical controls on
the Menu system, yo
offers.

eiver are selected or
trolled Menu instead of
ceiver. Once familiar with
preciate the versatility it

## MENU ACCESS

1 Select the desire

- For some Menu
on each band.

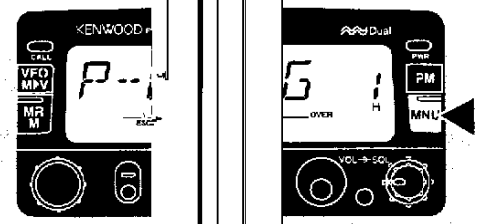
2 Press **[MNU]** to e

- The last Menu N

can select a different setting

u mode.

ppears.



3 Turn the **Tuning** control, or press Mic **[UP]**/ **[DWN]**, to select the Menu No.

- "ESC" and "OK" appear as button labels.
- To cancel the selection and restore the previous display, press ***[ESC]***.


4 Press ***[OK]***.

- Depending on Menu Nos., "▶" also appears. For the subsequent steps, see the appropriate sections in this manual.

5 Turn the **Tuning** control, or press Mic **[UP]**/ **[DWN]**, to switch the selection.


6 Press ***[OK]*** again to complete the setting and exit Menu mode.

***Note:*** *As required, operate keys or the* ***Tuning*** *control in each step within approximately 10 seconds, or the previous mode will be restored.*

## MENU CONFIGURATION

***Note:*** *For the shaded Menu functions, select the appropriate band (VHF or UHF) before entering Menu mode.*

| Menu No. | Description | Selections | Default | Ref. Page |
|---|---|---|---|---|
| 0 | AM/ FM Mode Switch (U.S.A./ Canada only) | AM/ FM | See reference page | 59 |
| 1 | Power-On Message | See reference page | KENWOOD | 57 |
| 2 | Auto Dimmer Change | ON/ OFF | OFF | 56 |
| 3 | Memory Channel Lockout [1] | ON/ OFF | OFF | 41 |
| 4 | Memory Recall Method | All bands (ALL)/ Single band (ONE) | All bands | 29 |
| 5 | Memory Channel Name [1] | See reference page | | 30 |
| 6 | Auto PM Channel Storage | ON/ OFF | OFF | 37 |
| 7 | Automatic Repeater Offset (U.S.A./ Canada/ Europe only) | ON/ OFF | ON | 25 |
| 8 | Offset Frequency | 00.00 MHz ~ 29.95 MHz in steps of 50 kHz | See reference page | 23 |
| 9 | Programmable VFO (Upper/ lower limits) | Frequencies selectable on the band | Upper/lower RX frequency limits on the band | 53 |
| 10 | Scan Resume Method | Time-Operated (TO)/ Carrier-Operated (CO) | Time-Operated | 39 |
| 11 | Priority Scan Method | Mode A/ Mode B | Mode A | 45 |
| 12 | Automatic Power Off (APO) | ON/ OFF | OFF | 52 |
| 13 | Time-Out Timer (TOT) | 3/ 5/ 10 minutes | 10 minutes | 52 |
| 14 | S-meter Squelch | ON/ OFF | OFF | 58 |
| 15 | S-meter Squelch Hang Time [2] | 125 ms/ 250 ms/ 500 ms/ OFF | OFF | 58 |

[1] Menu No. 3 and No. 5 are selectable only after a memory channel has been recalled.
[2] Menu No. 15 is selectable only when S-meter Squelch is ON.

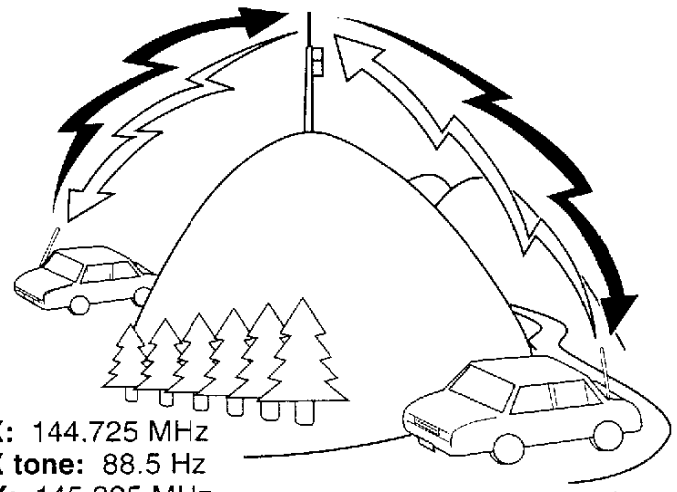
| Menu No. | Description | Selections | Default | Ref. Page |
|---|---|---|---|---|
| 16 | Beep Volume | Level 1 (min.) ~ 7 (max.) / OFF | Level 5 | 56 |
| 17 | Voice Synthesizer [1] | English/ Japanese/ OFF | English | 63 |
| 18 | DIM/ VOICE Function Switch [1] | DIM/ VOICE | DIM | 63 |
| 19 | Data Transfer Rate | 1200 bps/ 9600 bps | 1200 bps | 61 |
| 20 ~ 23 | Programmable Function Keys | See reference page | User setting | 51 |
| 24, 25 | Not currently used | | | |
| 26 | 1750 Hz Tone Transmit Hold (TM-G707E only) | ON/ OFF | OFF | 51 |
| 27 | Microphone Control (U.S.A./ Canada only) | ON/ OFF | OFF | 60 |
| 28 | Mic Keypad Confirmation Tones (U.S.A./ Canada only) | ON/ OFF | OFF | 48 |
| 29 ~ 38 | DTMF Number Storage (U.S.A./ Canada only) | See reference page | | 49 |

[1] Menu No. 17 and No. 18 are selectable only when the optional VS-3 is installed.

# OPERATING THROUGH REPEA

Repeaters are often installed and maintained by radio clubs, sometimes with the cooperation of local businesses involved in the communications industry.

Compared to simplex communication, you can usually transmit over much greater distances by using a repeater. Repeaters are typically located on a mountain top or other elevated location. Often they operate at higher ERP (Effective Radiated Power) than a typical station. This combination of elevation and high ERP allows communications over considerable distances.



**TX:** 144.725 MHz
**TX tone:** 88.5 Hz
**RX:** 145.325 MHz

**TX:** 144.725 MHz
**TX tone:** 88.5 Hz
**RX:** 145.325 MHz

## REPEATER

S

Most amateu
receive and
transmit freq
offset directi
addition, sor
transmit a to
transmit this
and select a

voice repeaters use a
t frequency. You can
by selecting the offset
respect to the receive
aters may require the
re the repeater can be
d tone, activate the To
equency.

The required
frequency de
Consult your

direction, offset freque
n the repeater you are
epeater reference.

### Flow Chart fo

er Access

Activa
Sele

Select a band.
a receive frequency.
t an offset direction.
an offset frequency.
Tone function, if neces
e frequency, if necess
and hold Mic **[PTT]**.

ate
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ncy and
ncy. In
eiver to
To
ction

nd tone
ssing.

## ■ Selecting Offset Direction

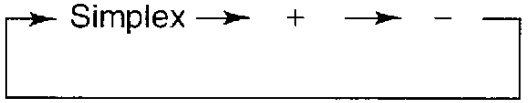
Select whether the transmit frequency will be higher (+) or lower (–) than the receive frequency.

1 Select the desired band.

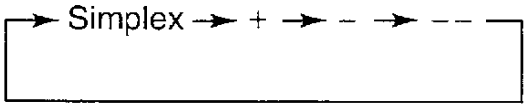
2 Press ***[F]***, ***[SHIFT]***.

- Each time you repeat this key operation, the offset direction changes as shown below.

TM-G707A/E (VHF)
TM-G707A (UHF)




TM-G707E (UHF)




***Note:***

- *If the offset transmit frequency falls outside the allowable transmit frequency range, transmitting is inhibited. Use one of the following methods to bring the transmit frequency into the allowable range:*
  - *Move the receive frequency further inside the band.*
  - *Change the offset direction.*
- *While using an odd-split memory channel or transmitting, you cannot change the offset direction.*

***TM-G707E Only:*** *If you select "- -" for the offset direction, you cannot change the default offset frequency (7.6 MHz).*

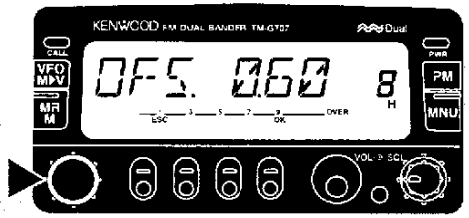
## ■ Selecting Offset Frequency

Select how much the transmit frequency will be offset from the receive frequency. The default offset frequency on the VHF band is 600 kHz no matter which market version; the default on the UHF band is 5 MHz (TM-G707A) or 1.6 MHz (TM-G707E).

1 Select the desired band.

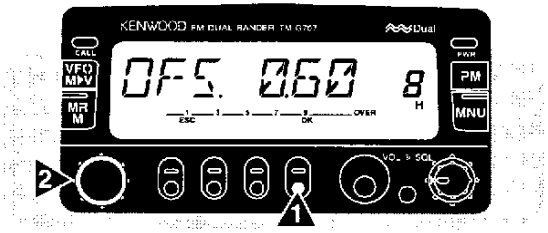
2 Press **[MNU]** to enter Menu mode.

3 Select Menu No. 8 (OFS).




4 Press ***[OK]***, then select the appropriate offset frequency.

- The selectable range is from 00.00 MHz to 29.95 MHz in steps of 50 kHz.




5 Press ***[OK]*** again to complete the setting and exit Menu mode.

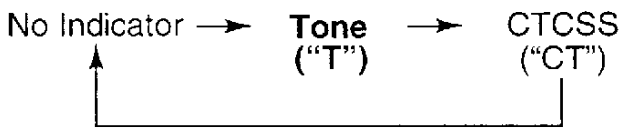
***Note:*** *After changing the offset frequency, the new offset frequency will also be used by Automatic Repeater Offset.*

## ■ Activating Tone Function

1 Select the desired band.

2 Press ***[TONE]*** to activate the Tone function.

- Each time you press ***[TONE]***, the selection changes as shown below.




***TM-G707E Only:*** *When you access repeaters that require 1750 Hz tones, you need not activate the Tone function. No matter which selection you make here, pressing the Mic PF key assigned the 1750 Hz Tone function {page 51} causes the transceiver to transmit 1750 Hz tones.*

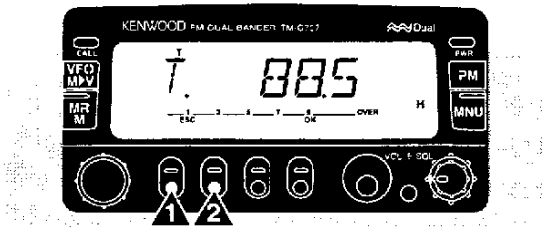
## ■ Selecting a Tone Frequency

1 Select the desired band.

2 Press ***[TONE]*** to activate the Tone function.

3 Press ***[F]***, ***[T.SEL]***.

- The current tone frequency appears and blinks. The default is 88.5 Hz.




4 Turn the **Tuning** control, or press Mic **[UP]**/ **[DWN]**, to select a tone frequency.

5 Press ***[OK]*** to complete the setting.

***TM-G707E Only:*** *To transmit a 1750 Hz tone, assign the 1750 Hz Tone function to one of the Programmable Function (PF) keys of the microphone {page 51}.*

***Note:*** *If you store tone settings in memory channels, you need not make the settings every time. Recalling the memory channels will restore the tone settings which you make this time. Refer to "MEMORY CHANNELS" {page 27}.*

| No. | Freq. (Hz) | No. | Freq. (Hz) | No. | Freq. (Hz) | No. | Freq. (Hz) |
|---|---|---|---|---|---|---|---|
| 01 | 67.0 | 11 | 97.4 | 21 | 136.5 | 31 | 192.8 |
| 02 | 71.9 | 12 | 100.0 | 22 | 141.3 | 32 | 203.5 |
| 03 | 74.4 | 13 | 103.5 | 23 | 146.2 | 33 | 210.7 |
| 04 | 77.0 | 14 | 107.2 | 24 | 151.4 | 34 | 218.1 |
| 05 | 79.7 | 15 | 110.9 | 25 | 156.7 | 35 | 225.7 |
| 06 | 82.5 | 16 | 114.8 | 26 | 162.2 | 36 | 233.6 |
| 07 | 85.4 | 17 | 118.8 | 27 | 167.9 | 37 | 241.8 |
| 08 | 88.5 | 18 | 123.0 | 28 | 173.8 | 38 | 250.3 |
| 09 | 91.5 | 19 | 127.3 | 29 | 179.9 | | |
| 10 | 94.8 | 20 | 131.8 | 30 | 186.2 | | |

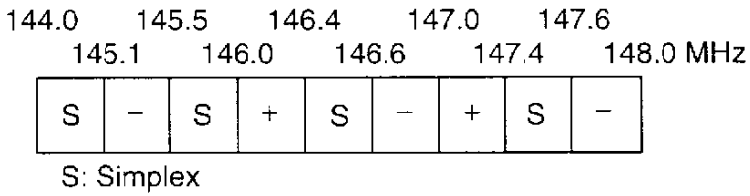
***U.S.A./ Canada Only:*** *Use Nos. 01 to 38 shown in the table above when selecting tone frequencies via Keypad Direct Entry {page 55}.*

## ■ Automatic Repeater Offset (U.S.A./ Canada/ Europe Only)

This function automatically selects an offset direction and activates the Tone function, according to the frequency that you select on the VHF band. The transceiver is programmed for offset direction as shown below. To obtain an up-to-date band plan for repeater offset direction, contact your national Amateur Radio association.

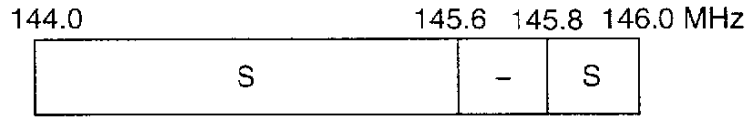
### U.S.A. and Canada versions

This complies with the standard ARRL band plan.




S: Simplex

### European versions



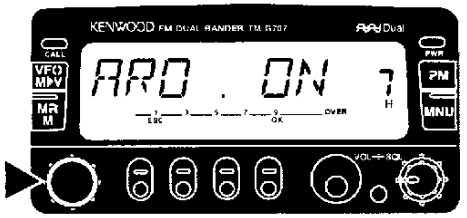

S: Simplex

***Note:*** *Automatic Repeater Offset does not function when Reverse or CTCSS is ON. However, pressing* ***[REV]*** *after Automatic Repeater Offset has selected an offset (split) status, exchanges the receive and transmit frequencies.*

1 Select the VHF band.

2 Press **[MNU]** to enter Menu mode.

3 Select Menu No. 7 (ARO).




4 Press ***[OK]***, then switch the function ON (default) or OFF.

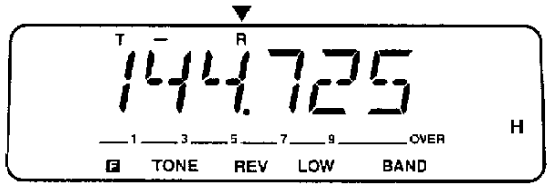

5 Press ***[OK]*** again to complete the setting and exit Menu mode.

## REVERSE FUNCTION

After setting a separate receive and transmit frequency, you can exchange these frequencies using the Reverse function. While using a repeater, this function allows you to check the signal strength of a station accessing the repeater. If the station's signal is strong, move to a simplex frequency to continue the contact and free up the repeater.

⑦ Press ***[REV]*** to switch the Reverse function ON (or OFF).

- "R" appears when the function is ON.




***Note:***

- *If pressing **[REV]** places the transmit frequency outside the allowable transmit frequency range, then pressing Mic **[PTT]** causes an error beep to sound; transmission is inhibited.*
- *If pressing **[REV]** places the receive frequency outside the receive frequency range, an error beep sounds and no reversal occurs.*
- *Automatic Repeater Offset does not function while Reverse is ON.*
- *You cannot switch Reverse ON or OFF while transmitting.*

# MEMORY CHANNELS

In memory channels, yo
related data that you oft
reprogram those data ev
wanted channels by sim
180 memory channels a

You can also store a nar
For more information, se
CHANNELS" {page 30}.

## SIMPLEX & REPEATER
## CHANNEL?

You can use each memo
repeater channel or odd
frequency to use as a si
separate frequencies to
Select either application
the operations you have

Simplex & repeater char

- Simplex frequency oper
- Repeater operation with
  (If an offset direction is

Odd-split channel allows

- Repeater operation with

***Note:*** *Not only can you store d
overwrite existing data with new*

store frequencies and
. Then you need not
ne. You can quickly recall
eration. A total of
lable for VHF and UHF.

each memory channel.
MING MEMORY

## DD-SPLIT MEMORY

nnel as a simplex &
hannel. Store only one
& repeater channel or two
an odd-split channel.
ch channel depending on
d.

ows:

dard offset

standard offset

*emory channels, but you can also*

The data listed below can be stored in each memory channel:

| Parameter | Simplex & Repeater | Odd-split |
|---|---|---|
| Receive frequency | Yes | Yes |
| Transmit frequency | | Yes |
| Tone frequency | Yes | Yes |
| Tone ON | Yes | Yes |
| CTCSS frequency | Yes | Yes |
| CTCSS ON | Yes | Yes |
| Frequency step size | Yes | Yes |
| Offset direction | Yes | N/A |
| Reverse ON | Yes | N/A |
| Memory channel lockout | Yes | Yes |
| Memory channel name | Yes | Yes |

Yes: Can be stored in memory.
N/A: Not applicable

8

## STORING SIMPLEX FREQUENCIES OR STANDARD REPEATER FREQUENCIES

1 Press **[VFO]** to select VFO mode.

2 Press **[BAND]** to select the desired band.

3 Turn the **Tuning** control, or press Mic **[UP]**/ **[DWN]**, to select the desired frequency.

- You can also enter digits directly from the microphone keypad (MC-53DM only). See page 54.

8

4 If storing a standard repeater frequency, select the following data:

Offset direction {page 23}
Tone ON, if necessary {page 24}
Tone frequency, if necessary {page 24}

- If storing a simplex frequency, you may select other related data (CTCSS ON, CTCSS freq. etc.).

5 Press ***[F]***.

- A memory channel number appears.
- A triangle icon appears above the memory channel number if the channel already contained data.

6 Turn the **Tuning** control, or press Mic **[UP]**/ **[DWN]**, to select the desired memory channel (within approx. 10 seconds).

7 Press **[MR]**.

- The selected frequency and related data are stored in the memory channel.

## STORING ODD-SPLIT REPEATER FREQUENCIES

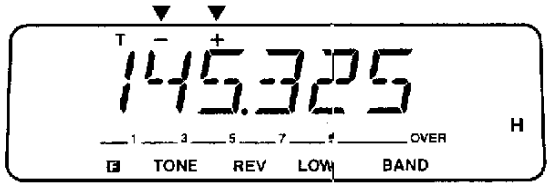
Some repeaters use a receive and transmit frequency pair with a non-standard offset. To access those repeaters, store two separate frequencies in a memory channel. You then can operate on those repeaters without changing the offset programming in the Menu.

1 Select the appropriate receive frequency by using steps 1 to 6 (not 7) given for simplex or standard repeater frequencies.

- If necessary, select Tone ON {page 24} and tone frequency {page 24}.

2 Press **[MR] (1 s)**.

- "–" and "+" appear.




3 Select the appropriate transmit frequency (within approx. 10 seconds).

4 Press **[MR]**.

- The selected transmit frequency is stored in the memory channel.

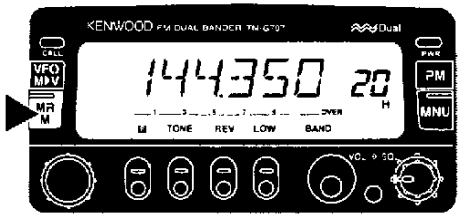
***Note:***

- *When you recall an odd-split memory channel, "–" and "+" appear on the display. Press **[REV]** to display the transmit frequency.*
- *In step 2 you cannot use Mic **[MR]**, nor Mic **[PF]** programmed with Memory Recall.*
- *Transmit Offset status and Reverse status are not stored in an odd-split memory channel.*

## RECALLING MEMORY CHANNELS

1 Press **[MR]** to enter Memory Recall mode.

- The memory channel used last is recalled.




2 Turn the **Tuning** control, or press Mic **[UP]**/ **[DWN]**, to select the desired memory channel.

- You can also recall memory channels by directly entering numeric digits via the microphone keypad (MC-53DM only). See page 54.
- You cannot recall empty memory channels.
- To restore VFO mode, press **[VFO]**.

You may want to recall only memory channels that store frequencies of the current band. Access Menu No. 4 (MR) to select "ONE". The default is "ALL".

ONE: Recalls only memory channels of the current band.

ALL: Recalls all programmed memory channels. For example, allows you to recall a VHF frequency channel when operating the UHF band.

***Note:***

- *When you recall an odd-split memory channel, "–" and "+" appear on the display. Press **[REV]** to display the transmit frequency.*
- *After recalling a memory channel, you may program data such as Tone or CTCSS. These settings, however, are cleared once you select another channel or the VFO mode. To permanently store the data, overwrite the channel contents {page 28}.*

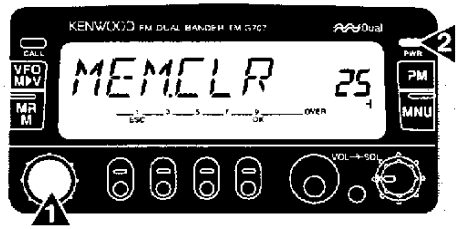
## CLEARING MEMORY CHANNELS

1 Recall the desired memory channel.

2 Switch OFF the power to the transceiver.

3 Press **[MHz]+ POWER ON**.

- A confirmation message appears.




4 Press ***[OK]***.

- The contents of the selected memory channel are erased.

## NAMING MEMORY CHANNELS

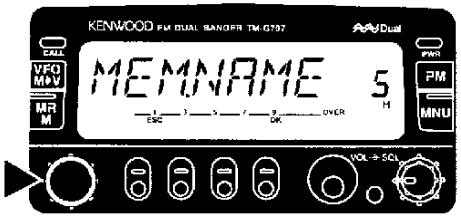
You can name memory channels using up to 7 alphanumeric characters. When you recall a named memory channel, its name appears on the display instead of the stored frequency. Names can be callsigns, repeater names, cities, names of people, etc.

***Note:*** *You can also name the Priority channel, but you cannot name the Call, L1 to L6, nor U1 to U6 channels.*

**1** Recall the desired memory channel.

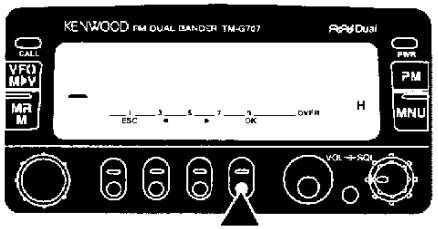
**2** Press **[MNU]** to enter Menu mode.

**3** Select Menu No. 5 (MEM.NAME).




**4** Press *[OK]*.

- The first digit blinks.




- If you recall a memory channel that has a name stored, the last digit blinks.

**5** Turn the **Tuning** control, or press Mic **[UP]**/ **[DWN]**, to select the first digit.

- You can select "0" to "9", "A" to "Z", "–", "/ ", or a space.
- To enter a dot after the digit, press **[MR]**. Pressing **[MR]** again clears the dot.

**6** Press *[▶]*.

- The second digit blinks.

**7** Repeat steps 5 and 6 to enter up to 7 digits.

- After selecting the 7th digit, you need not press *[▶]*.
- To re-enter the preceding digit, press *[◀]*.
- To clear all digits and move back to the first digit, press **[VFO]**.

**8** Press *[OK]* to complete the setting and exit Menu mode.

***Note:***

- *You can assign names only to memory channels in which you have stored frequencies and related data.*
- *The stored names can be overwritten by repeating steps 1 to 8.*
- *The stored names also are erased by clearing memory channels.*

## SWITCHING MEMORY NAME/ FREQUENCY DISPLAY

After storing memory names, you can switch the display between memory names and frequencies. You may sometimes want to confirm frequencies stored in named memory channels.

**1** Press **[MR]** to enter Memory Recall mode.

**2** Press **[MHz]** to switch between memory name and frequency display.

## CALL CHANNEL

The Call channel
and related data
channel also can
repeater or odd-s
transceiver is in,
selected quickly.
channel as an em
this case, the Cal

The default frequ
shown below:

| Version | VHF | UHF |
|---|---|---|
| U.S.A./ Cana | 144.000 MHz | 440.000 MHz |
| Europe/ Gene | 144.000 MHz | 430.000 MHz |

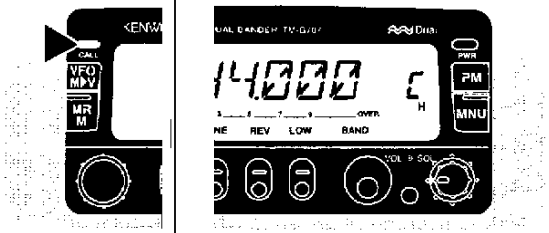
The contents of th
however, you can
described in the f

### ■ Recalling the

1 Select the

2 Press [CAI

- "C" appe



- To restore

be used to store any frequency
you will recall often. The Call
programmed either as a simplex &
channel. No matter what mode the
Call channel can always be
may want to dedicate the Call
ency channel within your group. In
O scan {page 43} will be useful.

y stored in the Call channel is

all channel cannot be deleted;
erwrite old data with new data as
wing section.

### Channel

ired band.

to recall the Call channel.



previous mode, press [CALL] again.

### ■ Changing Call Channel Contents

1 Select the desired band.

2 Select the desired frequency and related data (Tone, CTCSS, etc.).

- When you program the Call channel as an odd-split channel, select a receive frequency.

3 Press *[F]*, [CALL].

- The selected frequency and related data are stored in the Call channel.
- The previous mode is restored.
- When programming as an odd-split channel, press *[F]*, **[CALL] (1 s)** instead. "–" and "+" appear.

To use as an odd-split channel, proceed to the next step.

4 Turn the **Tuning** control, or press Mic **[UP]**/ **[DWN]**, to select the desired transmit frequency.

5 Press [CALL] again.

- The selected transmit frequency is stored in the Call channel, and the previous mode is restored.

***Note:***

- *Transmit Offset status and Reverse status are not stored in an odd-split Call channel.*
- *To store data other than frequencies, select the data in step 2 not step 4.*

## MEMORY ➡ VFO TRANSFERS

Transferring the contents of a memory channel or the Call channel to the VFO can be useful if you want to search for other stations or a clear frequency, near the selected memory channel or Call channel frequency.

1 Recall the desired memory channel or the Call channel.

2 Press *[F]*, **[VFO]**.

- The entire contents of the memory channel or the Call channel are copied to the VFO. VFO mode is selected after the transfer is completed.

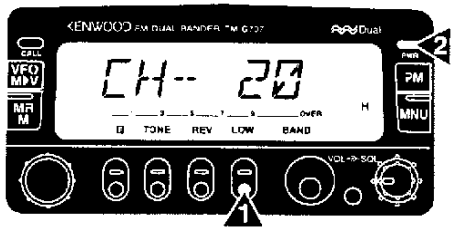
***Note:***

- *A transmit frequency from an odd-split memory channel or odd-split Call channel is not transferred to the VFO. To transfer a transmit frequency, press **[REV]**, then press **[F]**, **[VFO]**.*
- *Lockout status and memory names are not copied from a memory channel to the VFO.*

## CHANNEL DISPLAY FUNCTION

When this function is switched ON, the transceiver displays only a memory channel number instead of a frequency.

Press ***[LOW]+ POWER ON*** to switch this function ON (or OFF).




When in Channel Display mode, you cannot use the following functions:

- VFO Select
- Programmable Memory Recall
- Memory Channel Store
- Memory ➡ VFO Transfer
- Freq. Step Size Change
- Easy Operation Select
- Programmable Memory Reset
- MHz Function Select
- Programmable Memory Store
- Call Channel Store
- Memory Channel Clear
- VFO Scan
- Partial/ Full reset

***Note:***

- *You cannot switch this function ON if you have stored frequencies in no memory channels.*
- *When in Channel Display mode, you may want to recall only memory channels of the desired band. Before pressing **[LOW]+ POWER ON**, select "ONE" in Menu No. 4 (MR), then select the desired band.*

## INITIALIZING MEMORY

If your transceiver seems to be malfunctioning, initializing the transceiver may resolve the problem.

In addition, doing Full Reset is a quick way to clear all memory channels; however, you then need to re-program memory channels after initialization.

***Note:*** *While using the Channel Display or All Lock function, you cannot do Partial Reset nor Full Reset.*

### VHF Band Defaults

| Version | VFO Frequency | Frequency Step | Tone Frequency |
|---|---|---|---|
| U.S.A./ Canada | 144.000 MHz | 5 kHz | 88.5 Hz |
| Europe/ General | 144.000 MHz | 12.5 kHz | 88.5 Hz |

### UHF Band Defaults

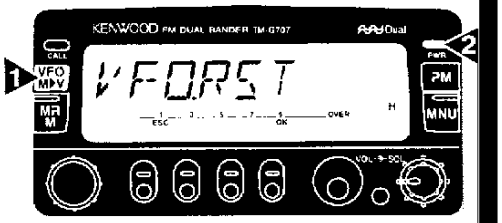
| Version | VFO Frequency | Frequency Step | Tone Frequency |
|---|---|---|---|
| U.S.A./ Canada | 440.000 MHz | 25 kHz | 88.5 Hz |
| Europe/ General | 430.000 MHz | 25 kHz | 88.5 Hz |

### ■ Partial Reset (VFO)

Use to initialize all settings except the mory channels, the Call channel, the PM ch els, and Memory Channel Lockout.

1 Press **[VFO]+ POWER ON**.

- A confirmation message appears.




- To quit resetting, press any key oth an ***[OK]***.

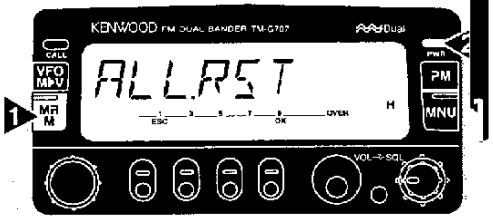
2 Press ***[OK]***.

### ■ Full Reset (Memory)

Use to initialize all settings that you h customized.

1 Press **[MR]+ POWER ON**.

- A confirmation message appears.




- To quit resetting, press any key oth an ***[OK]***.

2 Press ***[OK]***.

***Note:*** *You can also do Partial Reset or Full Reset b hing the RESET switch on the transceiver {page 73}.*

8

# PROGRAMMABLE MEMORY (PM)

Programmable Me
virtually all settings
you can quickly rec
later. This transcei
are the type of pers
offered by modern
remembering how
you will find Progra

(PM) allows you to store
ently set on the transceiver. So
xactly the same environment
rovides 4 PM channels. If you
who likes the many features
ceivers, but dislikes
ake all the necessary settings,
able Memory particularly useful.

## 9 PROGRAMMABLE ORMATION

The following progr
VHF and UHF ban

able settings are shared by the

| | |
|---|---|
| Band Select | |
| Priority Scan meth | |
| Time-Out Timer | |
| Auto Dimmer Cha | |
| Data transfer rate | |
| Scan resume met | |
| Microphone keypa confirmation tone Canada only) | A./ |

| | |
|---|---|
| | Memory Recall method |
| | Automatic Power Off |
| | Display Dimmer |
| | Beep volume |
| | 1750 Hz Tone Transmit Hold (TM-G707E only) |
| | S-meter Squelch |
| | |

The following settings can be separately stored for the VHF and UHF bands:

| | |
|---|---|
| VFO frequency | VFO mode |
| Memory Recall mode | Call Channel mode |
| Frequency step size | Transmit output power |
| Tone frequency | CTCSS frequency |
| Tone ON | CTCSS ON |
| Offset direction | Offset frequency |
| Automatic Repeater Offset | Reverse ON |
| Upper frequency limit (for Programmable VFO) | Lower frequency limit (for Programmable VFO) |
| Advanced Intercept Point | AM/ FM mode (U.S.A./ Canada only) |

## APPLICA ON EXAMPI

The follow ıg are examp how might use Programmable Memory. These examples not represent
applicatio ; useful to yc you v nderstand the flexibility of this function.

**m 1**

You sha ; your transc with of members in le, up to 4
your fan y or club. H , eac dividual has transceiver and
persona preferences they to set various Then each
function You have t chan many settings her favorite
each tin you use the eiver annel.

**Solutio**

Because 4 PM channels are a
persons can separately progra
store their customized environ
person can quickly change to
settings, simply by recalling a
It is too much trouble to chang
after somebody else has recor
application may avoid having
transceiver but never using m

k the settings
ed them. So this
ure-rich
seful features.

**m 2**

While o erating mobil e wa work every operating data
morning you prefer a ransc r that does not , and store
interrup he morning n ad , you feel that a mer and Beep
bright d play is a was lectri sunlight. all the best
At night when driving you r e the Beep
functior ruly serves a se ar u acknowledge
it is nice o see a brigl ay af ark.

**Solutio**

In two PM channels, store the
such as frequency, offset, ton
different settings for the Displa
functions. Then you can quick
settings for day or night opera

**m 3**

You ca ıot figure out ou ca ake the ntains an exact
transce er exit the cu node. onment. You will
y channels.

**Solutio**

Simply recall PM channel 1 th
copy of the transceiver defaul
not lose the contents of any m

9

## STORING DATA IN PM CHANNELS

1 Confirm that the following conditions have been satisfied:
- The transceiver is in the receive mode.
- Scan is not being used.
- Microphone Control is OFF.

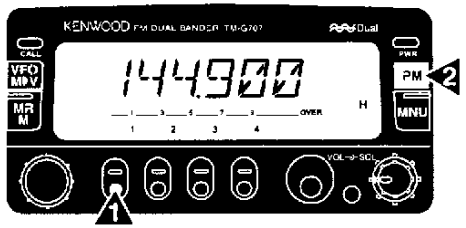
2 Select the desired band.

3 Select the desired frequency and related data (Tone, CTCSS, etc.) using VFO mode.

9

4 If required, select another band, then select the desired frequency and related data.

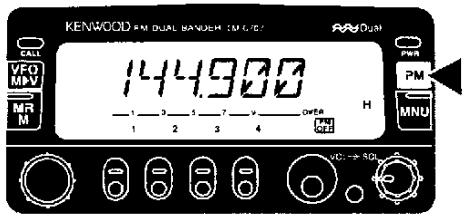
5 Press *[F]*, **[PM]**.
- The PM channel numbers appear and blink.



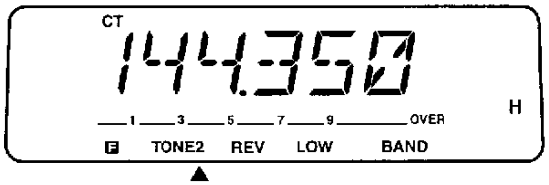

6 Press *[1]* to *[4]* corresponding to the desired PM channel.
- The selected frequency and related data are stored in the PM channel.

## RECALLING PM CHANNELS

1 Press **[PM]**.
- The PM channel numbers appear.




2 Press *[1]* to *[4]* corresponding to the desired PM channel.
- The contents of the selected channel are recalled.
- The selected channel number appears and slowly blinks.




- To exit PM Recall mode, press **[PM]**, ***[PM OFF]***.

***Note:*** *You cannot recall a PM memory channel while transmitting.*

## AUTO

After y
autom
prese

- You
- You
- You

Use th

1 Pre

2 Se

3 Pr

4 Pr
Me

## CHANNEL STORAGE

ecalled a PM channel, this function
lly overwrites the current PM channel with the
erating environment when:

l another PM channel.

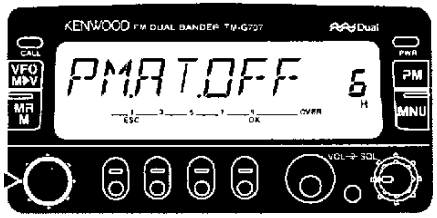
s **[PM]**, ***[PM OFF]***.

h OFF the transceiver.

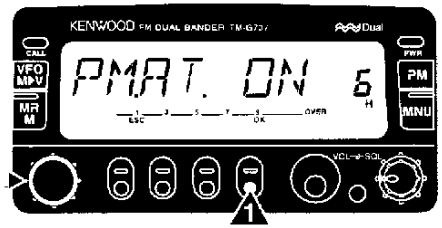
lowing procedures to activate this function:

**MNU]** to enter Menu mode.

Menu No. 6 (PM.AT).




***OK]***, then switch the function ON (or OFF).



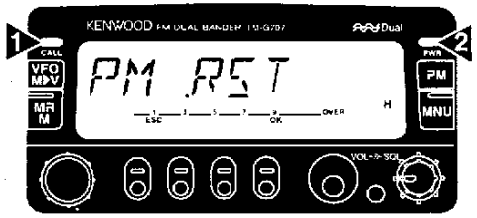

***OK]*** again to complete the setting and exit
node.

## RESETTING PROGRAMMABLE MEMORY

Use this procedure to reset the PM channels to the factory defaults.

1 Press **[CALL]+ POWER ON.**

- A confirmation message appears.



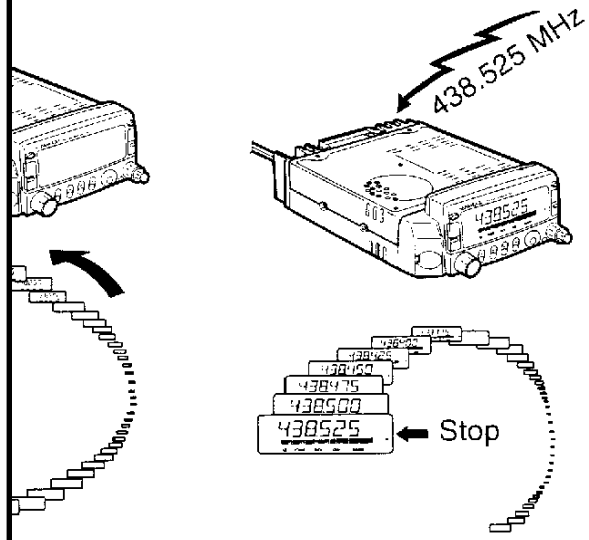

- To quit resetting, press any key other than ***[OK]***.

2 Press ***[OK]***.

9

# SCAN

feature for hands-off monitoring of your cies. After becoming comfortable with ypes of Scan, the monitoring flexibility ease your operating efficiency.




*djust the squelch threshold level before using Scan.*

*CSS, Scan stops for any signal received; however, ens only for signals that contain the same CTCSS ected on your transceiver.*

*meter Squelch, Scan stops when the received signal es or exceeds the S-meter setting. Scan resumes r the signal level drops below the S-meter setting.*

This transceiver provides the following conventional scans in addition to "Priority Scan" {page 44} that may be new to you:

| Scan Type | Scan Range |
|---|---|
| VFO Scan | All frequencies tunable on the band |
| Memory Scan | Frequencies stored in the memory channels |
| MHz Scan | All frequencies within 1 MHz range |
| Program Scan | All frequencies in the range selected on the band |
| Call/VFO Scan | Call channel plus the current VFO frequency |
| Call/Memory Scan | Call channel plus the memory channel last used |

## SCAN RESUME METHODS

Before using Scans other than Priority Scan, it's necessary to decide under what condition you want your transceiver to continue scanning after detecting and stopping for a signal. You can choose Time-Operated mode or Carrier-Operated mode. The default is Time-Operated mode.

- **Time-Operated mode**

  Your transceiver stops scanning when detecting a signal, remains there for approximately 5 seconds, and then continues to scan even if the signal is still present.

- **Carrier-Operated mode**

  Your transceiver stops scanning when detecting a signal and remains on the same frequency until the signal drops out. There is a 2 second delay between signal drop-out and scan resumption to allow time for any responding stations to begin transmitting.

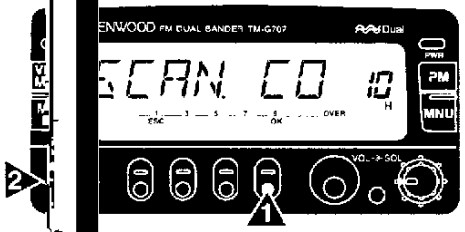
***Note:*** *To temporarily stop scanning and monitor weak signals, press and hold the Mic PF key assigned the Monitor function (page 51). Release the key to resume scanning.*

### ■ Selecting an Resume Method

1 Press [MNU] to enter Menu mode.

2 Select Menu No. 10 (SCAN).

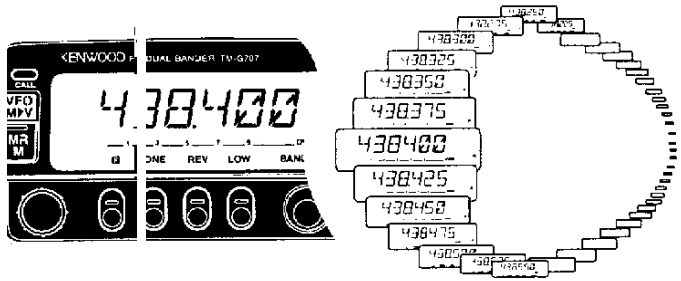

3 Press [MNU], then select Time-Operated (default) or Carrier-Operated.




4 Press [MNU] again to complete the setting and exit Menu mode.

## VFO SCAN

VFO Scan allows you to scan all frequencies from the lowe frequency to the highest frequency on the band. The urrent frequency step size {page 55} is used.



1 Select the desired band.

2 Press **[VFO]** (1 s).

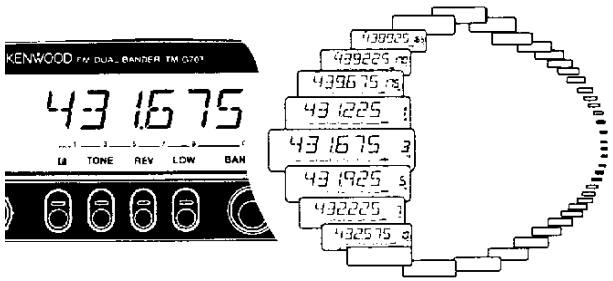
- The 1 MHz decimal blinks while scanning is in progress.
- Scan starts at the frequency currently displayed.
- To reverse the scan direction, turn the **Tuning** control clockwise (upward scan) or counterclockwise (downward scan), or press Mic **[UP]**/ **[DWN]**.

3 To quit VFO Scan, press any key other than **[MHz]** and Mic **[UP]**/ **[DWN]**.

***Note*** *The squelch must be closed for Scan to function.*

## MEMO SCAN

Memo can allows all memory channels containing data to scanned.



1 Pre **MR] (1 s).**

- 1 MHz decimal blinks while scanning is in progress.
- starts with the channel last recalled.
- verse the scan direction, turn the **Tuning** control wise (upward scan) or counterclockwise nward scan), or press Mic **[UP]**/ **[DWN]**.

2 To Memory Scan, press any key other than Mic **[UP]**/ **DWN]**.

***Note:***

- *2 or more memory channels must contain data and must not be l d out.*
- *The elch must be closed for Scan to function.*
- *The o L6 and U1 to U6 memory channels and the priority channel are canned.*
- *You also start Memory Scan when in Channel Display mode. Wh an is being interrupted, the channel number blinks.*
- *If yo lect "ONE" using Menu No. 4 (MR), memory channels on only current band will be scanned; otherwise, memory channels on t VHF and UHF bands will be scanned.*

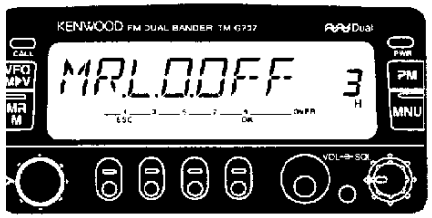
## Out Memory Channels

channels that you prefer not to monitor while ], can be locked out.

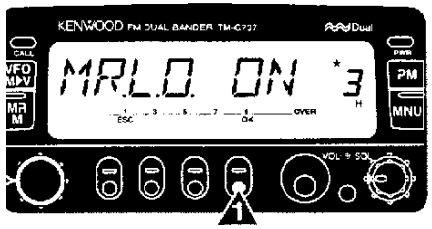
ll the desired memory channel.

s **[MNU]** to enter Menu mode.

:t Menu No. 3 (MR.L.O.).

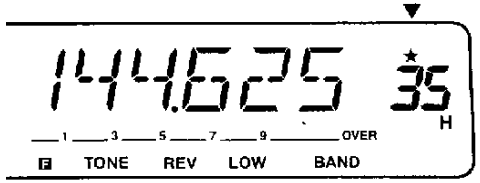



s *[OK]*, then switch Lockout ON (or OFF).




s *[OK]* again to complete the setting and exit ] mode.

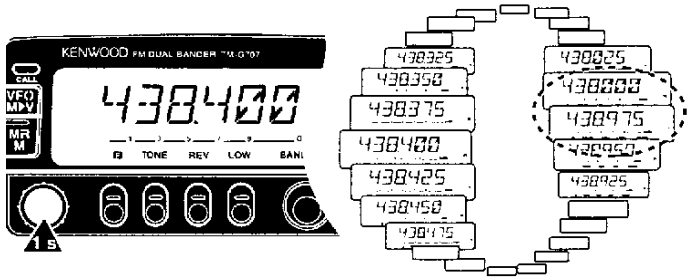
ou recall a locked out memory channel, a star above the memory channel.




*e L1 to L6 and U1 to U6 memory channels and the priority annot be locked out.*

## MHz SCAN

MHz Scan allows you to scan a 1 MHz segment of the band. The current 1 MHz digit determines the limits of the scan. For example, if the current frequency is 438.400 MHz, then MHz Scan would scan from 438.000 MHz to 438.975 MHz. The exact upper limit depends on the step size selected.




1 Select the desired band.

2 Press **[VFO] (1 s)** to start VFO Scan first.

3 Press **[MHz]** to start MHz Scan.

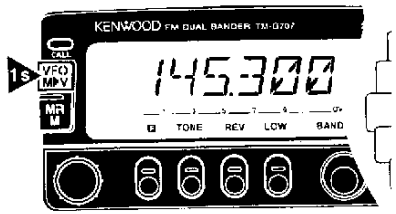
- The 1 MHz decimal blinks while scanning is in progress.
- Scan starts at the frequency currently displayed.
- To reverse the scan direction, turn the **Tuning** control clockwise (upward scan) or counterclockwise (downward scan), or press Mic **[UP]**/ **[DWN]**.

4 To quit MHz Scan, press any key other than **[MHz]** and Mic **[UP]**/ **[DWN]**.

10

## PROGRAM SCAN

Program Scan is identical with Scan cept that you select the frequency rang ne sca




### ■ Setting Scan Limits

10

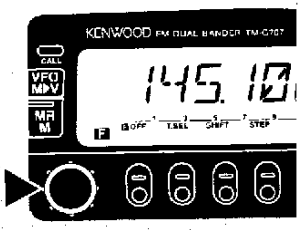
You can store up to 6 scar es in nory channels L1/U1 to L6/U6.

1 Select the desired ban

2 Select the desired freq as th wer limit.

3 Press *[F]*.

4 Select a channel in the e from to L6.




5 Press **[MR]**.

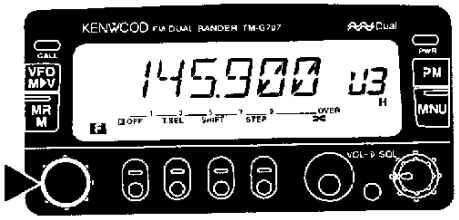
- The lower limit is stor ne cha .

6 Select the desired frec y as th pper limit.

7 Press *[F]*.

8 Select a matching channel in the range from U1 to U6.

- If you have selected, for example, L3 in step 4, select U3.




9 Press **[MR]**.

- The upper limit is stored in the channel.

10 To confirm the stored scan limits, press **[MR]**, then select the L and U channels.

***Note:***

- *The lower limit must be lower in frequency than the upper limit.*
- *The lower and upper frequency steps must be equal.*
- *The lower and upper limits must be selected on the same band.*

## ■ Using Program Scan

1 Select a frequency equa to or between the programmed scan limits

2 Press **[VFO] (1 s)**.

- The 1 MHz decimal blin s while scanning is in progress.
- Scan starts at the frequ ncy currently displayed.
- To reverse the scan dir ction, turn the **Tuning** control clockwise (upwa d scan) or counterclockwise (downward scan), or pr ss Mic **[UP]**/ **[DWN]**.

3 To quit Program Scan, p ess any key other than **[MHz]** and Mic **[UP]**/ **[D VN]**.

***Note:***

- *The squelch must be closed fo Scan to function.*
- *If the frequency step of the cu ent VFO frequency differs from that of the programmed freque cies, you cannot use Program Scan.*
- *If the frequency steps of the lo er limit and upper limit differ, you cannot use Program Scan.*
- *If the current VFO frequency f within more than one programmed scan range, the nge stored in the smallest channel numbers is used.*

## CALL/VFO N

Use Call/V an to monitor both the Call channel and the current frequency on the selected band.

1 Pre s [ to select VFO mode.

2 Selec t sired band.

3 Selec t sired frequency.

4 Press [ ] **(1 s)** to start Call/VFO Scan.

- The decimal blinks while scanning is in progress.

5 To quit FO Scan, press any key other than Mic [UP]/ [

## CALL/ME ' SCAN

Use Call/M y Scan to monitor both the Call channel and the de memory channel.

1 Recall esired memory channel.

2 Press .] **(1 s)** to start Call/Memory Scan.

- The decimal blinks while scanning is in progress.
- The annel on the same band as of the selected mem annel is used for Scan.

3 To quit Memory Scan, press any key other than Mic [U WN].

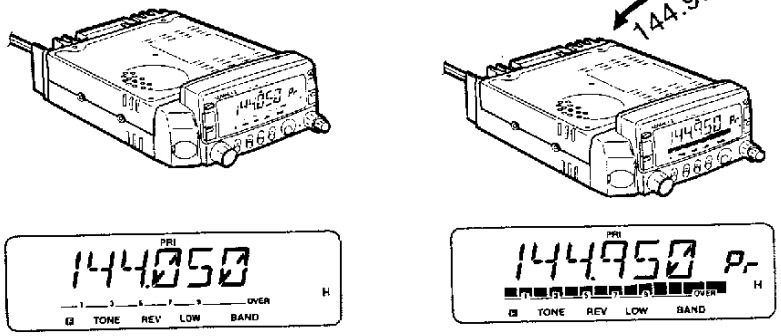
***Note:*** *The channel last used is scanned even if it has been locked out.*

## PRIORITY SCAN

You may sometimes want to monitor your favorite frequency on one band while operating on another band. Use Priority Scan. This Scan always monitors your favorite frequency in the background. When receiving signals on your specific frequency, the transceiver immediately recalls that frequency on the display and allows you to use it for QSO. First store your favorite frequency in the Priority channel and select one of the two Priority Scan methods.

***Note:*** *If you do not operate any control or key for 3 seconds after signals drop, the transceiver resumes Priority Scan.*






### ■ Storing Frequency in Priority Channel

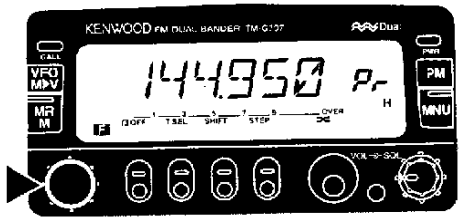
1 Select the desired band.

2 Select the desired frequency.

3 Press ***[F]***.

- A memory channel number appears.

4 Select the Priority channel ("Pr").




5 Press **[MR]**.

***Note:*** *Not only can you store data in the Priority channel, but you can also overwrite existing data with new data.*

## ■ Selecting Priority Scan Method

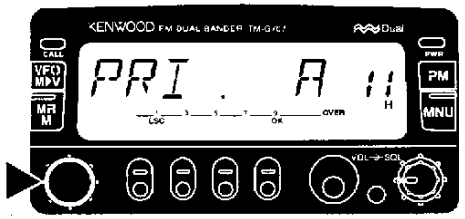
This transceiver prepares the following two modes for Priority Scan. Use mode B when you do not want Priority Scan to disrupt your current QSO.

Mode A: Monitors the Priority channel every 3 seconds no matter whether or not signals are being received on the current operating frequency.

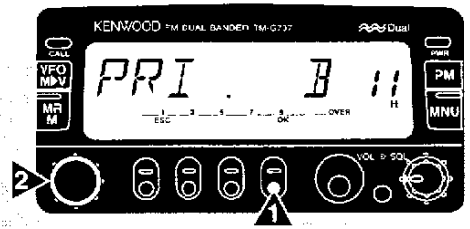
Mode B: Monitors the Priority channel every 3 seconds only when no signals are present on the current operating frequency.

1 Press **[MNU]** to enter Menu mode.

2 Select Menu No. 11 (PRI).




3 Press ***[OK]***, then select mode A (default) or mode B.

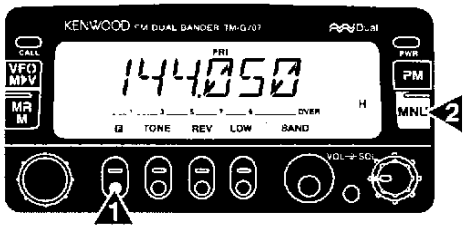



4 Press ***[OK]*** again to complete the setting and exit Menu mode.

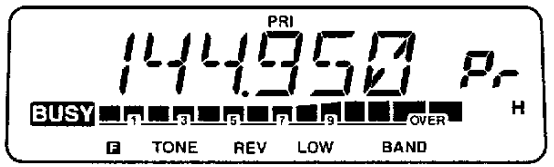
## ■ Using Priority Scan

1 Press ***[F]***, **[MNU]** to start Priority Scan.

- "PRI" appears.




- When signals are received on the Priority channel, a beep sounds and the Priority channel is recalled. In addition, "PRI" blinks.




2 Press and hold Mic **[PTT]** to transmit on the Priority channel and release Mic **[PTT]** to receive.

- Approximately 3 seconds after signals drop, Priority Scan resumes.

3 To quit Priority Scan, press ***[F]***, **[MNU]** again.

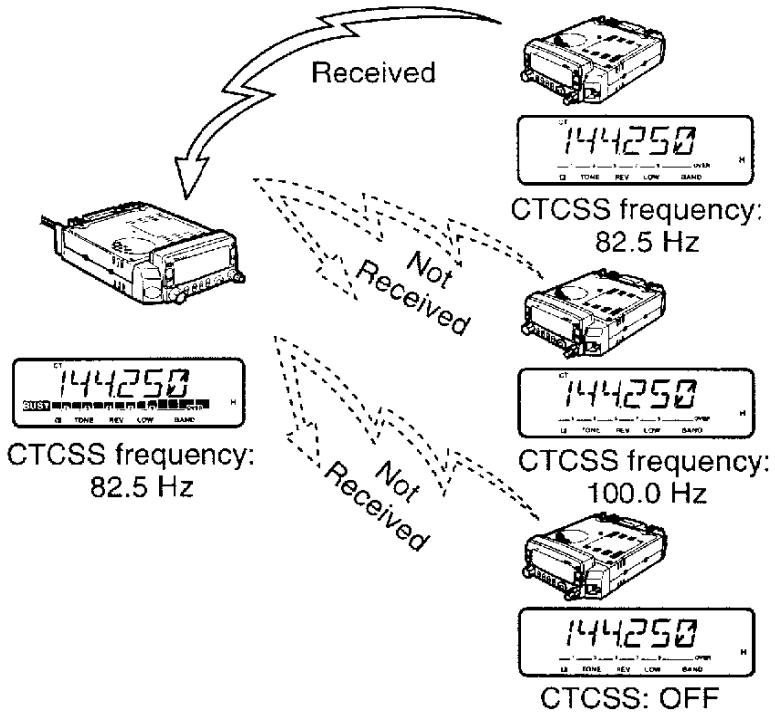
***Note:***

- *When signals are received on the Priority channel programmed with CTCSS, the Priority channel is recalled; however, the squelch does not open unless the signals contain the matching CTCSS tone.*
- *You can simultaneously use Priority Scan and any other type of Scan; however Priority Scan does not function while the other scan is being paused.*
- *To monitor the current operating frequency while using Priority Scan, press and hold the Mic PF key assigned the Monitor function {page 51}. Release the key to resume Priority Scan.*

# CONTINUOUS TONE CODED SQUELCH SYSTEM (CTCSS)

You may sometimes want to hear calls from only specific persons. The Continuous Tone Coded Squelch System (CTCSS) allows you to ignore (not hear) unwanted calls from other persons who are using the same frequency. Simply select the same CTCSS tone as selected by the other persons in your group. A CTCSS tone is subaudible and is selectable from among the 38 standard tone frequencies.

***Note:*** *CTCSS does not cause your conversation to be private. It only relieves you of listening to unwanted conversations.*




## USING CTCSS

1 Select the desired band.

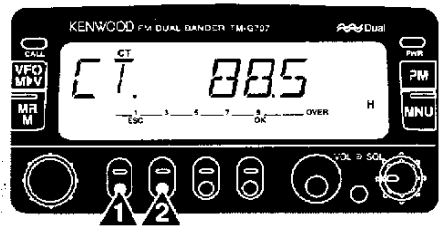
2 Press ***[TONE]*** to activate the CTCSS function.

- Each time you press ***[TONE]***, the selection changes as shown below:

No Indicator → Tone ("T") → **CTCSS ("CT")**

3 Press ***[F]***, ***[T.SEL]***.

- The current CTCSS frequency appears and blinks.




4 Turn the **Tuning** control, or Mic **[UP]**/ **[DWN]**, to select a CTCSS frequency.

5 Press ***[OK]*** to complete the setting.

6 **When you are called:**

The squelch of your transceiver opens only when the selected tone is received.

**When you make a call:**

Press and hold Mic **[PTT]**.

***Note:***

- *Skip steps 3 to 5 if you have already programmed the CTCSS frequency.*
- *You can select a separate tone frequency for the CTC functions.*
- *You cannot use the CTCSS and Tone functions simult*
- *If you select a high tone frequency, receiving audio or contains the same frequency portions may cause CTC incorrectly. To prevent noise from causing this proble appropriate noise squelch level (page 15).*

| No. | Freq. (Hz) | No. | Freq. (Hz) | No. | Freq. (Hz) | N | Freq. (Hz) |
|---|---|---|---|---|---|---|---|
| 01 | 67.0 | 11 | 97.4 | 21 | 136.5 | 3 | 192.8 |
| 02 | 71.9 | 12 | 100.0 | 22 | 141.3 | 3 | 203.5 |
| 03 | 74.4 | 13 | 103.5 | 23 | 146.2 | 3 | 210.7 |
| 04 | 77.0 | 14 | 107.2 | 24 | 151.4 | 3 | 218.1 |
| 05 | 79.7 | 15 | 110.9 | 25 | 156.7 | 3 | 225.7 |
| 06 | 82.5 | 16 | 114.8 | 26 | 162.2 | 3 | 233.6 |
| 07 | 85.4 | 17 | 118.8 | 27 | 167.9 | 3 | 241.8 |
| 08 | 88.5 | 18 | 123.0 | 28 | 173.8 | 3 | 250.3 |
| 09 | 91.5 | 19 | 127.3 | 29 | 179.9 | | |
| 10 | 94.8 | 20 | 131.8 | 30 | 186.2 | | |

***Note:*** *Use Nos. 01 to 38, shown in the table above, when frequencies via Keypad Direct Entry (page 55) (U.S.A./C*

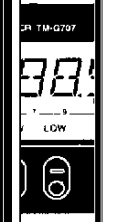
## ■ Automatic To ency

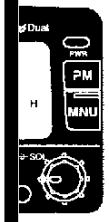
This function ically tifies the incoming tone frequenc eceiv ignal.

1 Select the banc

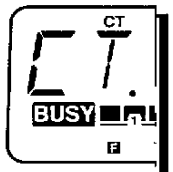
2 Press *[TC* ;) to ate the function.

- The curr freque appears and the 1 Hz decimal

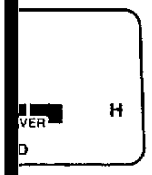




- When a receiv ne transceiver begins scannin all to equencies in order to identify ing to equency.
- When th equen identified, the identified frequenc s and ks.








- The ide quenc rogrammed in place of the curre CTCS quency.

3 Press any uit th nction.

***Note:*** *Received e audib le scanning is in progress.*

***Note:*** *Use Nos. 01 to 38, shown in the table above, when cting tone frequencies via Keypad Direct Entry (page 55) (U.S.A./C a only).*

# DUAL TONE MULTI-FREQUENCY (DTMF) FUNCTIONS (U.S.A./ CANADA ONLY)

You can send DTMF tones by using the DTMF keys on the MC-53DM microphone. The keypad includes the 12 keys found on a push-button telephone plus 4 additional keys (A, B, C, D). These additional keys are required for various control operations by some repeater systems.

## MAKING DTMF CALLS

1 Press and hold Mic **[PTT]**.

2 Press the keys in sequence on the keypad to send DTMF tones.

- The corresponding DTMF tones are transmitted.
- Your transceiver remains in the transmit mode for 2 seconds after you release each key. So you can release Mic **[PTT]** after beginning to press keys.

| Freq. (Hz) | 1209 | 1336 | 1477 | 1633 |
|---|---|---|---|---|
| 697 | 1 | 2 | 3 | A |
| 770 | 4 | 5 | 6 | B |
| 852 | 7 | 8 | 9 | C |
| 941 | * | 0 | # | D |

## ■ Autopatch

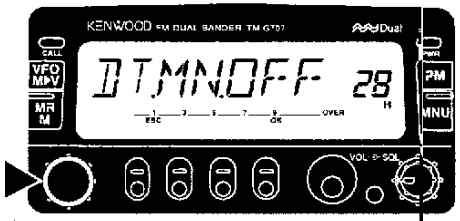
Some repeaters in the U.S.A. and Canada offer a service called Autopatch. Autopatch allows you to access the public telephone network by sending DTMF tones. Some repeaters require a special key sequence to activate Autopatch. Check with the repeater control operator.

## ■ Mic Keypad Confirmation Tones

When pressing the desired keys on the microphone keypad, this function produces feedback tones for your confirmation.

1 Press **[MNU]** to enter Menu mode.

2 Select Menu No. 28 (DT.MN).




3 Press *[OK]*, then turn the **Tuning** control to switch the function ON or OFF (default).

4 Press *[OK]* again to complete the setting and exit Menu mode.

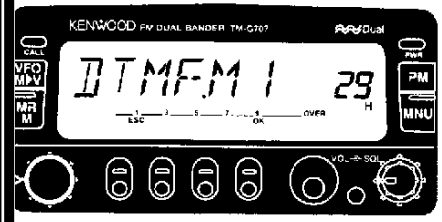
## STOR DTMF NUMBERS FOR AUTOMATIC DIALER

To sto DTMF number with a maximum of 16 digits in any of edicated DTMF memory channels, follow the proce below.

***Note:*** *DTMF tones from other transceivers near you may be picked our microphone. If so, this could prevent the function from working tly.*

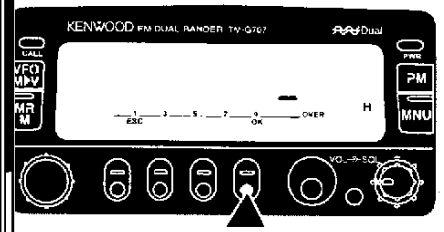
1 Pre **MNU]** to enter Menu mode.

2 Se Menu No. 29 to 38 (DTMF) corresponding to the red memory channel.




3 Pre ***OK].***

- splay for entering a DTMF number appears.




4 Use keypad to enter the digits of the number to be sto

- rresponding DTMF tones are heard.
- I enter an incorrect digit, press **[VFO]** to erase all c entered.

5 Pre ***OK]*** to complete the entry and exit Menu mo

## CONFIRMING STORED DTMF NUMBERS

1 Press **[MNU]** to enter Menu mode.

2 Select Menu No. 29 to 38 (DTMF) corresponding to the desired memory channel.

3 Press **[MR]**.

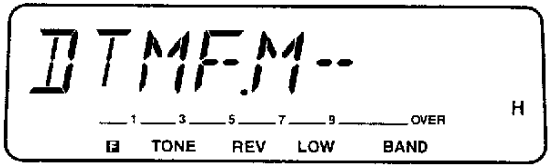
- The number stored in the channel scrolls across the display accompanied by DTMF tones from the speaker.

4 Press **[MNU]** to exit Menu mode.

## TRANSMITTING STORED DTMF NUMBERS

To transmit a stored DTMF number, follow the procedure below.

1 Press Mic **[PTT]**+ Mic **[PF]**.




2 Press a single key **[0]** to **[9]** to select the desired channel.

- The number stored in the channel scrolls across the display accompanied by DTMF tones from the speaker.
- After the transmission, the frequency display is restored.

# PROGRAMMABLE FUNCTION (PF) KEYS

The Programmable Function keys are **[PF]**, **[MR]**, **[VFO]**, and **[CALL]** located on the face of the microphone. If you prefer, you can change the default functions assigned to these keys.

| Programmable Function Key | Default Function |
|---|---|
| **[PF]** (PF1) | Band Select |
| **[MR]** (PF2) | Memory Recall |
| **[VFO]** (PF3) | VFO Select |
| **[CALL]** (PF4) | Call Channel Select |



## ASSIGNING FRONT PANEL KEY FUNCTIONS

1 Press one of the following key combinations depending on which key you want to re-program:

Mic **[PF]+ POWER ON** ("PF1" appears)

Mic **[MR]+ POWER ON** ("PF2" appears)

Mic **[VFO]+ POWER ON** ("PF3" appears)

Mic **[CALL]+ POWER ON** ("PF4" appears)

2 Press the key or key combination on the front panel that you want to assign.

- The following types of front panel key functions cannot be assigned:

| | | |
|---|---|---|
| **PWR** switch | **[KEY]+ POWER ON** | *[F]* |
| **[KEY] (1 s)** | **Tuning** control | **VOL** control |
| **SQL** control | | |

- The front panel key will still function normally after "copying" its function to a Programmable Function key.
- To restore the default functions, do a Full Reset {page 33}.

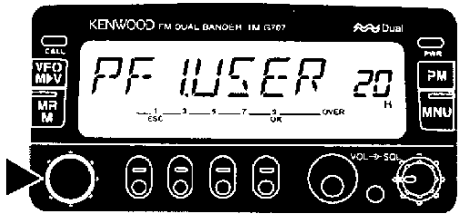
***Note:***

- *If the **LOCK** switch located on the rear of the microphone is ON, you cannot re-program the Programmable Function keys.*
- *Pressing the **PTT** switch in step 2 assigns the VFO/Memory Recall Switch function.*

## ASSIGNING SPECIAL KEY FUNCTIONS

1 Press **[MNU]** to enter Menu mode.

2 Select Menu No. 20 (PF1) to No. 23 (PF4).




3 Press ***[OK]***, then turn the **Tuning** control to select the desired function.

- As you turn the **Tuning** control clockwise the selection changes as shown below:

  User Setting → Monitor → Enter (U.S.A./ Canada only) → Voice → PWR switch (PF 1 only) → 1750 Hz Tone (TM-G707E only)

4 Press ***[OK]*** again to complete the setting and exit Menu mode.

**User Setting:**
Selects the front panel key function you assigned {page 50}.

**Monitor:**
Makes the squelch open and allows you to monitor activity on the current frequency. This function is useful when adjusting the volume or when receiving weak signals.

- Pressing the re-programmed Mic key switches Monitor ON or OFF.
- Scan will not function if Monitor is ON (squelch open).

**Enter (U.S.A./ Canada only):**
Allows you to enter digits from the MC-53DM microphone. Refer to "KEYPAD DIRECT ENTRY" {page 54}.

**Voice:**
Activates or deactivates the function that announces the current frequency using beeps of different frequencies. Press any key to stop the beeps.

**PWR switch:**
Turns the transceiver ON or OFF. This function can be assigned only to PF 1.

**1750 Hz Tone (TM-G707E only):**
Activates the Tone Function and transmits a 1750 Hz tone while you are holding down the re-programmed Mic key. You need not press Mic **[PTT]**.

- You can also use Transmit Hold to continuously send a 1750 Hz tone for 2 seconds after releasing the re-programmed Mic key. To activate this function, access Menu No. 26 (T.HLD) and select ON.

## TIME-OUT TIMER (TOT)

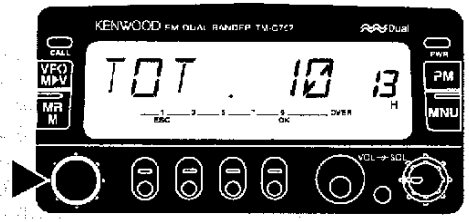
It is sometimes necessary or desirable to r trict a single transmission to a specific maximum time. is feature can be useful when accessing repeaters to revent repeater time-outs, or when trying to conse e battery power.

When TOT times out, the transceiver gene tes beeps and automatically returns to receive mode. o resume transmitting, release and then press Mic [P T] again.

You can change the default TOT time (10 r utes).

1 Press **[MNU]** to enter Menu mode.

2 Select Menu No. 13 (TOT).




3 Press ***[OK]***, then turn the **Tuning** contr to select the desired TOT time.

- The selectable time are 3, 5, and 10 minu s.

4 Press ***[OK]*** again to complete the settin and exit Menu mode.

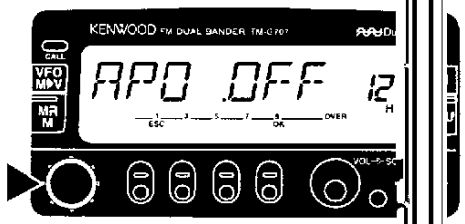
## AUTOMATIC POWER OFF (APO)

Automatic Power Off is a backgroun nction that monitors whether any buttons or ke ave been pressed, or whether the **Tuning** con has been turned. After 3 hours pass with no operation PO turns OFF the power. However, 1 minute befor e power turns OFF, "APO" appears and blinks, anc series of warning tones sound.

***Note:*** *If the squelch opens or any settings are nged during the 3 hour period while APO is ON, the timer resets. Whe e squelch closes or you stop changing the settings, the timer begin unting again from 0.*

1 Press **[MNU]** to enter Menu mod

2 Select Menu No. 12 (APO).




3 Press ***[OK]***, then turn the **Tuning** ntrol to switch the function ON (or OFF).

4 Press ***[OK]*** again to compete the ting and exit Menu mode.

## PROGRAMMABLE VFO

If you want, you can set limits for the minimum and maximum frequencies that are selectable using the **Tuning** control. For example, if you select 145 MHz for the lower limit and 146 MHz for the upper limit, the tunable range will be from 145.000 MHz to 146.995 MHz. This function will be useful if you always check frequencies within a certain range.

***Note:***

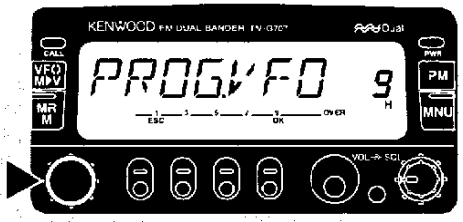
- *You cannot program the 100 kHz and subsequent digits.*
- *The exact 100 kHz and subsequent digits of the upper limit depend on the step size selected.*
- *You can select the lower and upper limits within the allowable receive frequency range that differs depending on the markets.*

1 Press **[VFO]** to select VFO mode.

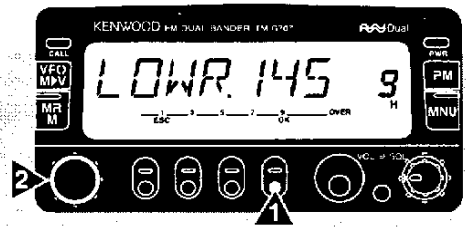
2 Select the desired band.

3 Press **[MNU]** to enter Menu mode.

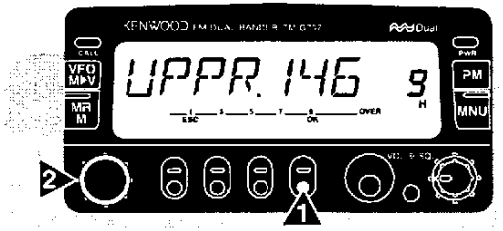
4 Select Menu No. 9 (PROG.VFO).




5 Press ***[OK]***, then select the lower frequency limit.




6 Press ***[OK]*** again, then select the upper frequency limit.




7 Press ***[OK]*** once again to complete the setting and exit Menu mode.

## KEYPAD DIRECT ENTRY (U.S.A./ CA ONLY)

You can select the desired operating fr y, memory channel, or tone frequency by entering ers directly from the MC-53DM microphone. To us unction, assign the Enter function to any Progra le Function key first {page 51}.

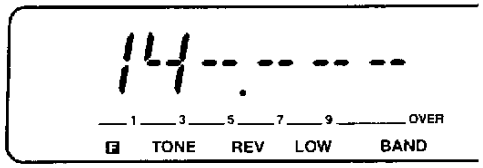
### ■ Frequency Entry

1 Press **[VFO]** to select VFO mod

2 Select the desired band.

3 Press the Mic key re-programme Enter.

- The display for Direct Frequency ppears.




4 Use the Mic keypad to enter the d frequency.

- Enter the digits in order from the gnificant to the least significant.
- When the current step size is 5, 20, or 50 kHz, enter numeric values to Hz digit. Enter either 0 or 5 for the 1 kHz
- On versions with receiver covera er than 10 MHz, enter from the 10 MHz or other versions, begin entering from the digit.

*Note:*

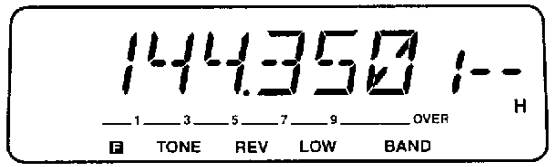
- *When the current step size is 6.25, 12.5, or 25 kHz, entering the 10 kHz digit completes frequency setting. The 10 kHz and subsequent digits are corrected according to which key is pressed for the 10 kHz digit.*
- *If you press any key other than **[0]** ~ **[9]** or **[Enter]**, or if you do not make the next entry within 10 seconds, direct entry is canceled and the VFO mode is restored.*
- *If you press Mic **[Enter]** while entering a frequency, the new data is accepted for the digits entered and the previous data remains unchanged for the digits not yet entered.*
- *Except for the 1 kHz digit, entering a digit that is outside the allowable range causes the nearest digit within range to be displayed. For the 1 kHz digit, pressing **[0]** ~ **[4]** selects "0" and pressing **[5]** ~ **[9]** selects "5".*

### ■ Memory Channel Number Entry

1 Press **[MR]** to enter Memory Recall mode.

2 Press the Mic key re-programmed with Enter.

- "1 - -" appears.




3 Use the Mic keypad to enter 3 digits.

- To recall channel 3, for example, enter "003".
- If you press any key other than **[0]** ~ **[9]**, or if you do not make the next entry within 10 seconds, the previous frequency display will be restored.
- If you enter a memory channel that does not contain data, an error beep sounds.

## ■ Tone Frequency Number Entry

1 Select the desired band.

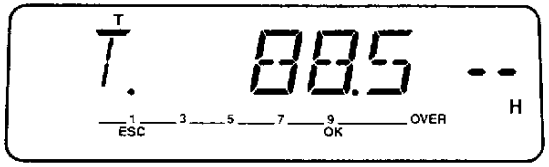
2 Press **[TONE]** to activate the Tone or CTCSS function.

3 Press *[F]*, *[T.SEL]*.

- The current tone frequency appears.

4 Press the Mic key re-programmed with Enter.

- "- -" appears.




5 Use the Mic keypad to enter the Tone No. corresponding to the desired tone frequency.

- Consult the tables given in pages 24 and 47 to find out how the Tone Nos. correspond to the tone frequencies.
- To select Tone No. 3 (74.4 Hz), for example, enter "03".
- If you press any key other than **[0]** ~ **[9]**, or if you do not make the next entry within 10 seconds, the previous frequency display will be restored.

## CHANGING FREQUENCY STEP SIZE

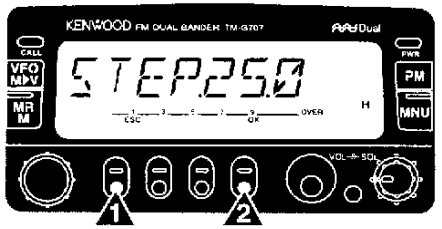
Choosing the correct step size is essential in order to select your exact receive frequency using the **Tuning** control or Mic **[UP]**/ **[DWN]**. The default step size on the VHF band is 5 kHz (U.S.A./ Canada) or 12.5 kHz (Europe/ General). The default on the UHF band is 25 kHz no matter which market version.

1 Press **[VFO]** to select VFO mode.

2 Select the desired band.

3 Press *[F]*, *[STEP]*.

- The current step size appears.




4 Turn the **Tuning** control, or press Mic **[UP]**/ **[DWN]**, to select the desired step size.

- The selectable step sizes are 5, 6.25, 10, 12.5, 15, 20, 25, and 50 kHz.

5 Press *[OK]* to complete the setting.

***Note:*** *Changing between step sizes may correct the displayed frequency. For example, if 144.995 MHz is displayed with a 5 kHz step size selected, changing to a 12.5 kHz step size corrects the displayed frequency to 144.975 MHz.*

## DISPLAY DIMMER

### ■ Manual Dimmer Change

You can manually change the display illumination to suit the lighting conditions where you are operating.

Press **[DIM]** to select from 5 levels, including OFF.

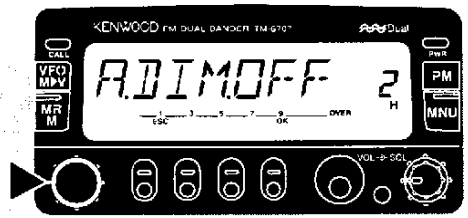
***Note:*** *Selecting OFF automatically switches Auto Dimmer Change ON.*

### ■ Auto Dimmer Change

This function increases the display intensity one step brighter for approximately 5 seconds when you press a front panel button or Mic key, or turn the **Tuning** control. No change occurs if you have selected the brightest level.

1 Press **[MNU]** to enter Menu mode.

2 Select Menu No. 2 (A.DIM).




3 Press ***[OK]***, then turn the **Tuning** control to switch the function ON (or OFF).

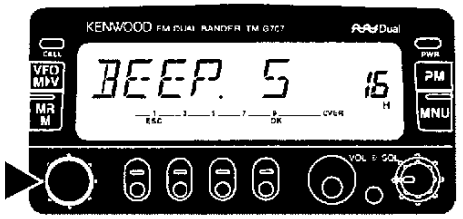
4 Press ***[OK]*** again to complete the setting and exit Menu mode.

## BEEP VOLUME CHANGE

The transceiver beeps each time you press  panel button or Mic key. You can change the bee  ne or turn it off.

1 Press **[MNU]** to enter Menu mode.

2 Select Menu No. 16 (BEEP).




3 Press ***[OK]***, then turn the **Tuning** contro  ect the volume from levels 1 to 7 and OFF.

- The default is level 5.

4 Press ***[OK]*** again to complete the setting  xit Menu mode.

## DISPLAY DEMONSTRATION

By initiating this function, various pre-program  splays appear. You still can normally use the transce  this mode. Pressing a front panel button or Mic k  urning the **Tuning** control restores the operating disp  g immediately. If there is no button/key entry or  e control adjustment for approximately 12 seco transceiver reverts back to Demonstration mo

Press ***[F]*+ POWER ON** to switch the functi  (or OFF).

## LOCK

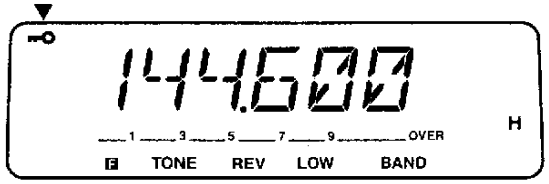
### ■ Transceiver Lock

Transceiver Lock is suitable for a typical mobile installation where you alter most functions with your microphone. This Lock disables all functions excluding the following:

- **PWR** switch
- *[F]*, [**MHz**]
- **VOL** controls
- *[F]*
- **SQL** controls
- Microphone keys

Press *[F]*, [**MHz**] to switch Transceiver Lock ON (or OFF).

- A key icon appears when the function is ON.




### ■ All Lock

All Lock is ideal when you have no plans to transmit but you want to monitor a specific channel. This Lock disables all functions excluding the following two:

- **PWR** switch
- **[MHz]+ POWER ON**

1 Switch Transceiver Lock ON.

2 Switch OFF the power to the transceiver.

3 Press **[MHz]+ POWER ON** to switch All Lock ON (or OFF).

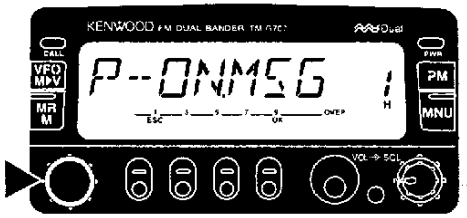
- The key icon slowly blinks when the function is ON.

## POWER-ON MESSAGE

Each time you switch the transceiver ON, the factory-default message appears and stays for approximately 2 seconds. You can program your favorite message in place of "KENWOOD".

1 Press **[MNU]** to enter Menu mode.

2 Select Menu No. 1 (P-ON).




3 Press *[OK]*.

- The current message appears and the last digit blinks.

4 Press **[VFO]** to clear all digits and move back to the first digit.

5 Turn the **Tuning** control, or press Mic **[UP]**/ **[DWN]**, to select the first digit.

- To enter a dot after the digit, press **[MR]**. Pressing **[MR]** again clears the dot.

6 Press *[▶]*.

- The second digit blinks.

7 Repeat steps 5 and 6 to enter up to 7 digits.

- After entering the 7th digit, you need not press *[▶]*.
- To re-enter the preceding digit, press *[◀]*.

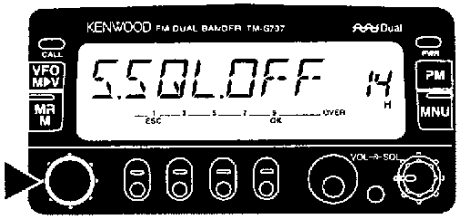
8 Press *[OK]* again to complete the setting and exit Menu mode.

## S-METER SQUELCH

By activating S-meter Squelch, the squelch does
open until a signal with the same or greater stren
than the S-meter setting is received. This functio
useful to eliminate constantly resetting the squelc
receiving weak stations that you have no interest

1 Press **[MNU]** to enter Menu mode.

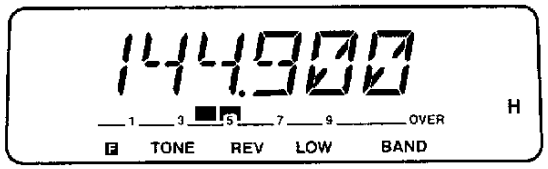
2 Select Menu No. 14 (S.SQL).




3 Press ***[OK]***, then turn the **Tuning** control to sw
the function ON (or OFF).

4 Press ***[OK]*** again to complete the setting and
Menu mode.

- The S-meter setting segments appear.




5 Turn the **SQL** control to select the desired S-m
setting from the 7 levels.

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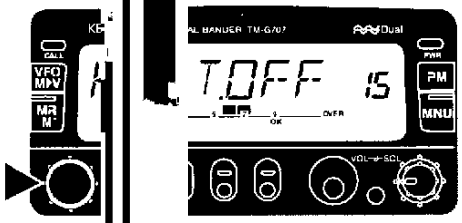
## ■ Squelch Han e

When using er Squelch, you may want to
adjust the tim rval between when the received
signals drop hen the squelch closes.

1 Press **[MI** enter Menu mode.

2 Select Me . 15 (HNG.T).




3 Press ***[O*** n turn the **Tuning** control to select
from OFF ult), 125 ms, 250 ms and 500 ms.

4 Press ***[O*** in to complete the setting and exit
Menu mo

***Note:*** *Menu No electable only when the S-meter Squelch is ON.*

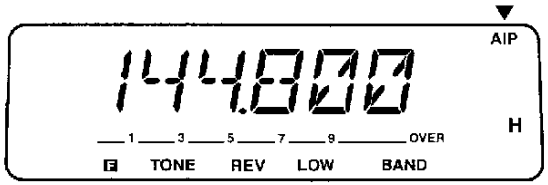
## ADVANCED INTERCEPT POINT (AIP)

AIP helps eliminate interference and reduce audio distortion caused by intermodulation. This problem is often apparent in urban areas when the band is extremely crowded.

1 Select the desired band.

2 Press *[F]*, **[DIM]** to switch the function ON (or OFF).

- "AIP" appears when the function is selected.




***Note:*** *You can make a separate AIP setting between the VHF and UHF bands.*

## SWITCHING AM/FM MODE (U.S.A./ CANADA ONLY)

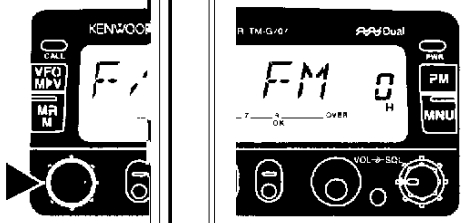
This transceiver is also capable of receiving in AM mode. The default mode for the 118 MHz band is AM; the default for the 144 MHz or 440 MHz band is FM. You can select either mode for each band.

***Note:*** *The AM mode is available to receive only. You cannot use AM mode to transmit.*

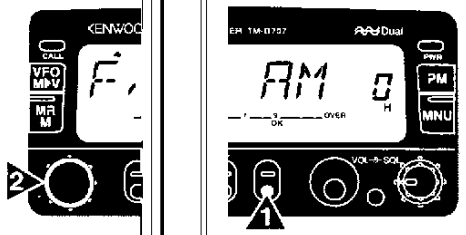
1 Select the desir nd.

2 Press **[MNU]** to Menu mode.

3 Select Menu Nc /A).

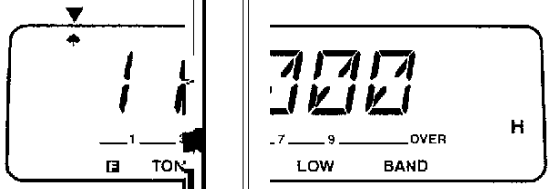



4 Press *[OK]*, the ct FM or AM mode.




5 Press *[OK]* onc in to complete the setting and exit Menu mod

When you select A de, a spade icon appears.




14

# MICROPHONE CONTROL (U.S.A./ CANADA ONLY)

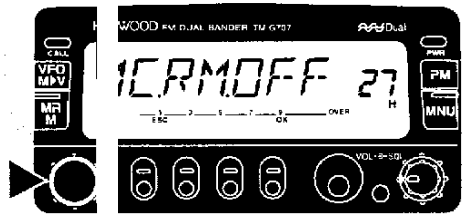
You can change numerous transceiver settings by using the MC-53DM microphone keys. DTMF tones are used for this remote control operation. First switch Microphone Control ON using Menu Set-up.

***Note:***

- *Audible DTMF tones from other transceivers near you may be picked up by your MC-53DM microphone. If so, this could prevent the function from working correctly.*
- ***U.S.A. only:** It is illegal to transmit control codes on the VHF band. Transmit control codes only on the UHF band.*

1 Press **[MNU]** to enter Menu mode.

2 Select Menu No. 27 (MC.RM).




3 Press ***[OK]***, then turn the **Tuning** control to switch the function ON (or OFF).

4 Press ***[OK]*** again to complete the setting and exit Menu mode

The following table shows what function is switched ON and OFF or which setting is changed. For the shaded items, press **[D]** first (ex. **[D]** then **[2]**).

| Key | Function | Key | Function |
|---|---|---|---|
| 1 | Priority Scan | B | Dimmer Level Change |
| 2 | Tone/ CTCSS | C | — |
| 3 | Reverse | D | ***[F]*** key |
| 4 | 1 MHz Step Change | ✳ | Down [4] |
| 5 | Monitor | # | Up [4] |
| 6 | Frequency Readout by Beeps [1] | 2 | Tone Select [2, 5, 6] |
| 7 | Volume Change [2, 3] | 3 | Offset Direction Select |
| 8 | Cross-band Operation | 5 | DTMF Keypad Lock |
| 9 | Squelch Adjustment [2, 3] | 6 | DTMF Keypad Unlock |
| 0 | TX Power Change | 0 | Frequency Step Change [2, 6] |
| A | Enter | B | AIP |

[1] Transceivers equipped with the optional VS-3 unit announce the displayed information {page 63}.

[2] After entering the selection mode, press **[✳]** or **[#]** to change the level or selection.

[3] Both Volume Change and Squelch Adjustment cannot be activated at the same time.

[4] Both Volume Change and Squelch Adjustment must be OFF to change the tone or frequency step using this key.

[5] First press **[2]** to activate the Tone or CTCSS function.

[6] Press ***[OK]*** on the front panel of the transceiver to complete the setting.

Connect this transceiver to your personal computer via a Terminal Node Controller (TNC) {page 6}. You can send E-mail to far away stations or obtain a variety of information via your local bulletin boards, or you may enjoy other Packet applications. Reference material for starting Packet operation should be available at any store that handles Amateur Radio equipment.

## 1200/ 9600 bps OPERATION

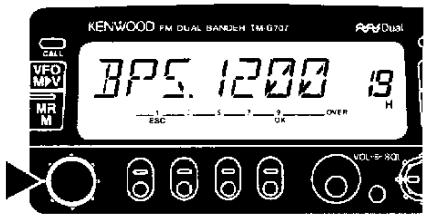
Select 1200 bps or 9600 bps for the data transfer rate, depending on the type of your TNC.

**1200 bps:**
The Transmit data input (PKD) sensitivity is 40 $mV_{P-P}$, and the input impedance is 10 kΩ. This is suitable for a typical 1200 bps TNC.

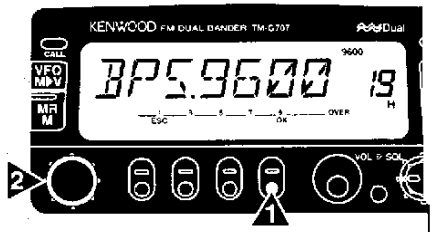
**9600 bps:**
The Transmit data input (PKD) sensitivity is 2 $V_{P-P}$, and the input impedance is 10 kΩ. This is suitable for most 9600 bps TNCs. Select 9600 bps if using a TNC with dual speed capability that only has a 2 $V_{P-P}$ output.

1 Press **[MNU]** to enter Menu mode.

2 Select Menu No. 19 (BPS).

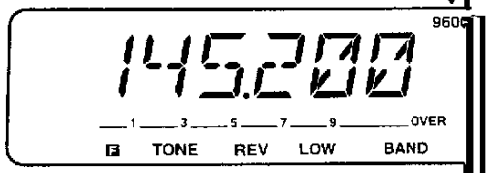



3 Press ***[OK]***, then switch 1200 bps 9600 bps.




4 Press ***[OK]*** again to complete the Menu mode.

If you select 9600 bps, "9600" appear




lt) or

and exit

16

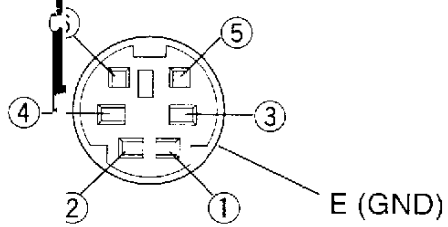
***Note:***

- *If the TX delay of your TNC is not long enough, connection errors may occur. If connection errors frequently occur, it is recommended to set the TX delay parameter on the TNC to 300 ms by using your computer.*
- *Using a modulator input level that is far different from the optimum 40 $mV_{P-P}$ or 2 $V_{P-P}$ specifications may result in deterioration of the S/N ratio or signal distortion. This could result in increased errors or a complete failure to connect with other stations.*
- *If the modulator input level exceeds approximately 3 $V_{P-P}$, the limiter circuit functions to maintain the same transmit bandwidth as that of 3 $V_{P-P}$.*
- *Packet operation, easily affected by transmit and receive conditions, requires a full-scale S-meter reading for reliable communication. When the S-meter reads less than maximum during 9600 bps operation, communication errors are frequent.*
- *Inputting 9600 bps GMSK signals at too high a level or inputting significantly distorted signals into the transceiver can cause errors and a wide transmit bandwidth that may interfere with other stations.*

## ■ DATA Connector Pin Functions

This section describes each pin of the DATA connector equipped on this transceiver.

DATA connector




| Pin No. | Pin Name | Function |
|---|---|---|
| 1 | PKD | Packet data input<br>• TX data from TNC to transceiver |
| 2 | DE | Ground for PKD |
| 3 | PKS | Packet standby<br>• TNC can use this pin to inhibit the transceiver microphone input while transmitting packet signals. |
| 4 | PR9 | Output of detected 9600 bps data (500 $mV_{P-P}$, 10 kΩ)<br>• Also functions as a common pin for 1200 bps and 9600 bps data output. |
| 5 | PR1 | Output of detected 1200 bps data (500 $mV_{P-P}$, 10 kΩ) |
| 6 | SQC | Squelch control output<br>• Inhibits TNC data transmitting while transceiver squelch is open.<br>• Prevents interference to voice communications on the same frequency. Also prevents retries.<br>• Output Level<br>Open squelch: +5 V (High)<br>Closed squelch: 0 V (Low) |

***Note:***

- *If your TNC has a common pin for 1200 bps and 9600 bps data input, connect this pin to the DATA connector PR9 pin. Shorting the PR9 and PR1 pins will cause the TNC to malfunction.*
- *When DC voltage is input to the PR1 pin, the TNC may not function. If this problem happens, add a 10 μF capacitor between the PR1 pin and the TNC. Be careful with the polarity of the capacitor.*

# VS-3 VOICE SYNTHESIZER (O ONAL)

Install the optional VS-3 unit to use this function {page 67}. Each time you change the transceiver mode, such as VFO or Memory Recall, the transceiver automatically announces the new mode.

The table below shows what the transceiver automatically announces when it enters a new mode.

| Key Pressed | New Mode | Announcement |
|---|---|---|
| **[VFO]** | VFO | "VFO" |
| **[MR]** | Memory Recall | "MR" |
| **[CALL]** | Call Channel | "Call" |
| **[PM]** | Programmable Memory | "PM" |
| **[MNU]** | Menu | "Menu" |
| ***[BAND]*** | New operating band | Current frequency |
| Mic PF key programmed with Enter {page 51} [1] | Keypad Direct Entry | "Enter" |

[1] When pressed in VFO or Memory Recall mode.

In additio
informati
Microphc
programr

- In VFO
band b
decima
- In Mem
"chann
annour
frequer
the frec
- In Char
and "ch
"up" an
annour
- In Call
- While a
tone fre

After inst
reprogra
Access M

transceiver announces the displayed
follows when pressing Mic **[6]** in
ontrol mode {page 60} or the PF key
/ith Voice {page 51}.

, announces the VFO frequency on the cur
ng with the 100 MHz digit. For the MHz
, announces "point".

ecall mode, announces the channel numbe
d the frequency. For the L or U channels,
ow" or "up", the channel number, and the
or the Priority channel, announces "PR" an
/.

isplay mode, announces the channel numb
". For the L or U channels, announces "low
channel number. For the Priority channel,
nly "PR".

iel mode, announces "call" and the frequen

frequency is being selected, announces the
cy.

the optional VS-3 unit, you can also
DIM button on the front panel with Voic
No. 18 (KEY), and select Voice (VOIC).

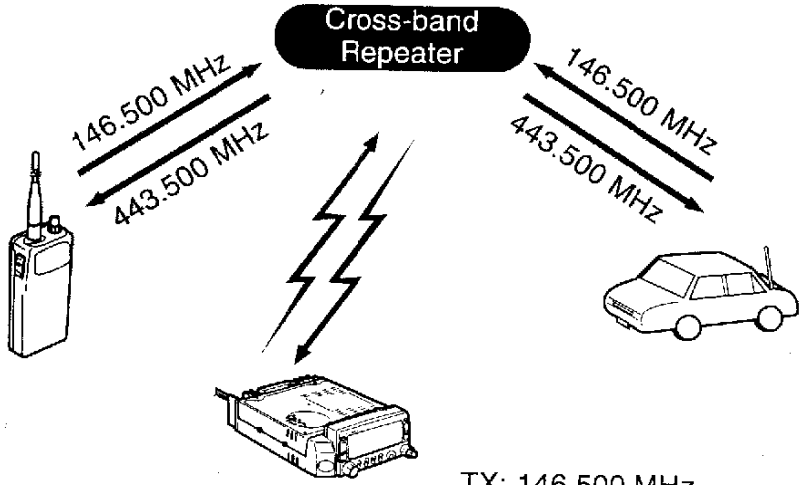
***Note:***

- *To deac he Voice Synthesizer function after installing the optiona unit, access Menu No. 17, and select OFF.*
- *While u ansceiver Lock, the transceiver makes an announ t only when pressing Mic **[6]** in Microphone Contro mode o F key programmed with Voice. When in All Lock mode, p g these keys simply causes an error beep to sounc the tran does not make an announcement in any case.*
- *The Vo thesizer function does not work while transmitting scannir*

# CROSS-BAND OPERA ON

This transceiver is capable of receiving signals on one band and transmitting signals on another band. This function, however, is neither Cross-band Repeater nor Full Duplex. Cross-band Operation does not repeat signals originating from one band, using another band, and it does not receive and transmit signals simultaneously. This function is useful, for example, when joining in a group talk via a Cross-band Repeater. Participants in a group talk need to set a receive and transmit frequency on different bands so as not to miss any conversations within the group.

***Note:*** *It is illegal to use Cross-band Repeater in some countries. Check with your local regulations.*




TM-G707

TX: 146.500 MHz
RX: 443.500 MHz

1 Pres ***BAND]*** to select the band for transmitting.

2 Sele ne appropriate transmit frequency.

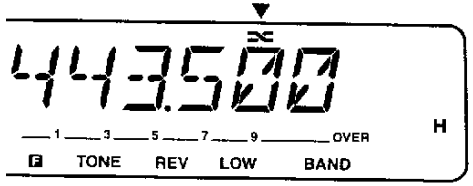
3 Pres ***BAND]*** to select another band.

- Th and will be used for receiving.

4 Sele ne appropriate receive frequency.

5 Pres ***F], [⋉]*** to enter Cross-band Operation mode.

- A c s icon appears.




6 To ex ross-band Operation mode, press ***[F], [⋉]*** again

***Note:***

- *You ca e only 144 MHz and 430/ 440 MHz bands to perform Cross- l operation.*
- *When oss-band Operation mode, pressing **[BAND]** switches the receive l transmit band.*

# CLONE

Clone is used t
another TM-G7
in one transcei
one time. The
transceivers is
contact a **KEN**

***Note:***

- *Before connect
transceivers.*
- *The two TM-G7
use the Clone f*
- *If "ERROR" app
incorrect operat
and exactly foll*

1 Connect one
DATA conne

2 Connect the
connector o

3 Configure o
- This transc
transceive

4 On the sour
***[F]+[REV]+***
- "CLONE" a


)y exactly all transceiver settings to
ansceiver. Everything set or stored
copied into another transceiver at
e for connecting the two TM-G707
able as an option (E30-3326-05);
**D** service center.

*e cable, switch off the power to the two*

*nsceivers must be the same market versions to*
*n.*

*on the display, you might have performed*
*Switch off the power to the two transceivers*
*procedures given in this manual.*

l of the appropriate cable to the
of one transceiver.

r end of the cable to the DATA
ther transceiver.

ansceiver as required.

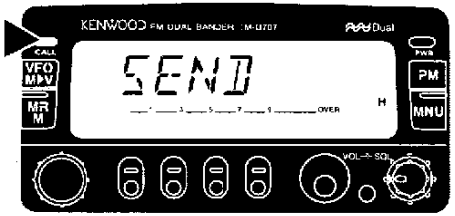
is referred to as the "source
eafter.

ansceiver, press
**VER ON**.

urs.

5 On the target transceiver, press ***[F]+[REV]+*** **POWER ON**.
- "CLONE" appears.

6 On the source transceiver, press **[CALL]**.
- Data transfer starts.
- "SEND" appears.

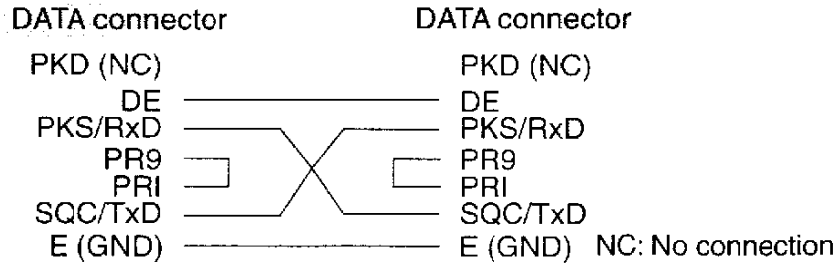



- When data transfer finishes, "END" appears on the source transceiver.
- If data transfer fails, "ERROR" appears on the source transceiver.

7 Switch off the power to the two transceivers.

8 Disconnect the cable from the two transceivers.

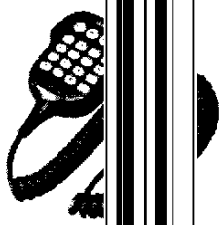
The connection cable equipped with 6-pin mini DIN plugs is wired as below:



# OPT L ACCESSORIES

**MC-45**
Multi-function Microphone

**MC-53**
Multi-fu
Microph



h DTMF

**PS-33**
Regulat
Supply

Microphone
required)

C Power

**DFK-3C**
Detachable Front Panel Kit (3 m)

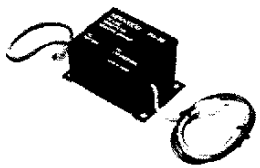
**DFK-4C**
Detachable Front Panel Kit (4 m)

**DFK-7C**
Detachable F
Panel Kit (7

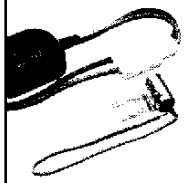
**PG-2I**
DC Pow

e

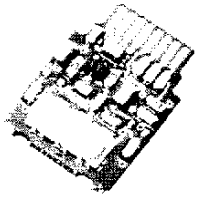
**PG-3G**
DC Line Noise Filter



**-3B**
Line Noise Filter



**VS-3**
Voice Synthesizer Unit



**SP-41**
Mobile Speaker

**SP-5**
Comm
Speak

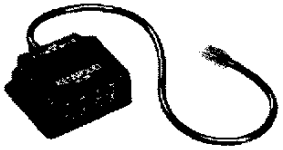
ons

A
able

**MJ-88**
Microphc
Adapter

ug

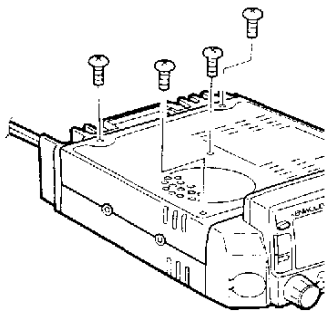
**MJ-89**
Modular Plug Microphone Switch



## INSTALLING THE VS-3

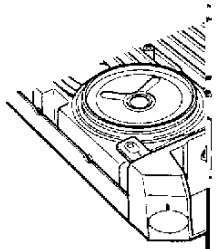
***CAUTION:*** *ALWAYS SWITCH*
*DC POWER CABLE FIRST.*

1 Remove the five scre
transceiver.



2 Hold the VS-3 unit wit
inward, and insert the
corresponding transc

Component side -



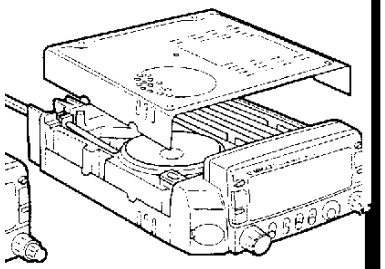
3 Replace the upper co

## INSTAL G OPTIONS

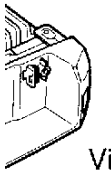
## E SYNTHESIZER UNIT

*HE POWER AND UNPLUG TH*

m the upper cover of the



component side facing
connector into the
connector.



Viewed with the fron
panel removed

screws).

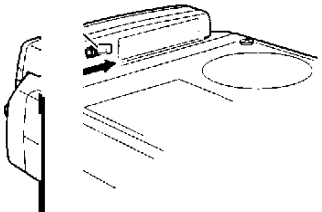
## INSTALLI A DETACHABLE FRONT PANEL (DFK-3C/ K-4C/ DFK-7C)

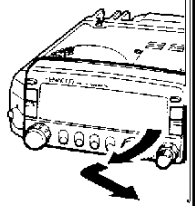
***CAUTION:*** *A AYS SWITCH OFF THE POWER AND UN THE*
*DC POWER LE FIRST.*

1 While s g the spring-loaded release swit the
rear of front panel, remove the front pan m
the mai nit.

- Be ca ul not to drop the front panel when re g it.

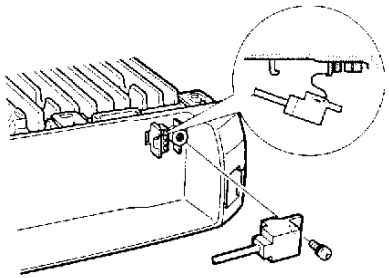
Releas vitch





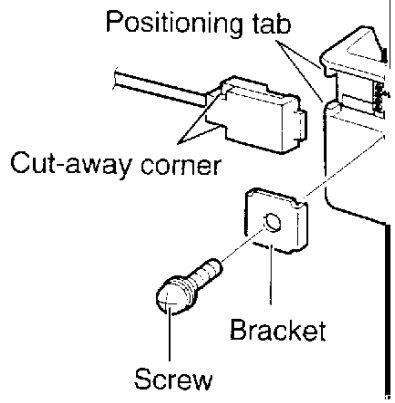
2 Hang th connector of the connectorized fr nel
cable o the catch on the main unit, and s e the
connec using the supplied screw.

- If the ew is loose, the transceiver may not on
prope



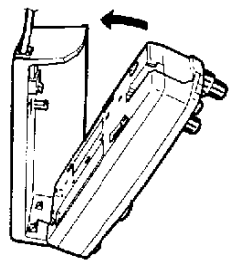
3 Connect the other end of the con ed front panel cable to the One Touch pa

- The cut-away corners of the conn uld be inserted first into the space such rners mate with the positioning tab.



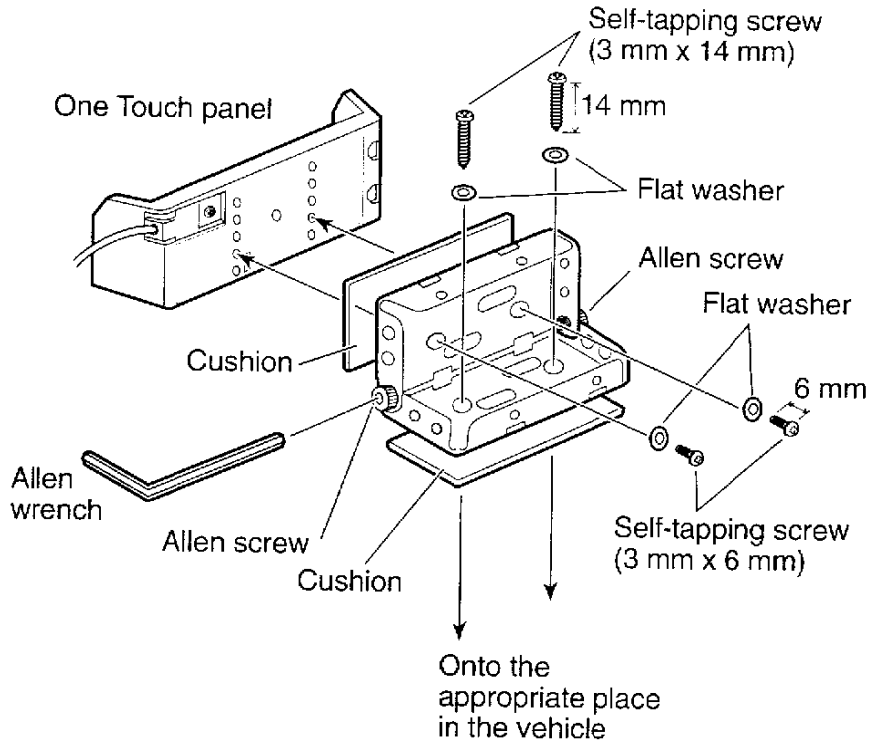

4 Install the front panel onto the On panel by first positioning the left rear edge nt panel, then pressing the right side of the nel firmly against the One Touch panel.

- When the release switch clicks, th nel is secured.



5 Assemble the mounting brackets, and install the front panel on the appropriate place in the vehicle.

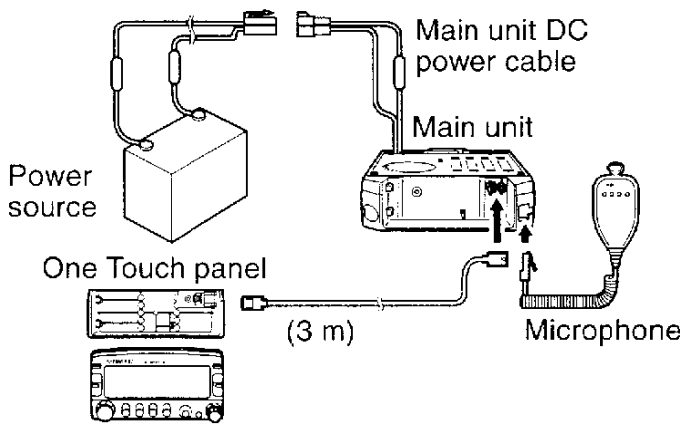
- When installing the front panel in the vehicle, use a cushion under the bracket to protect the vehicle.
- Adjust the angle of the front panel before firmly tightening the two Allen screws.
- Route the cable so neither the connections nor the cable are under stress.



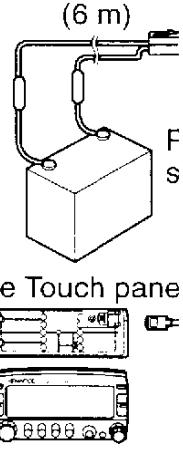

***Note:*** *Consider the safety of driver and passengers when deciding where to install the front panel. Tighten all screws firmly.*

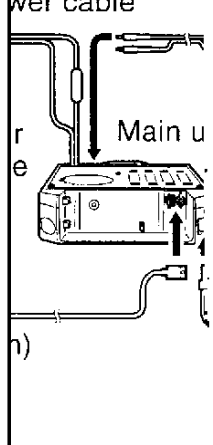
## ■ Installation Examples

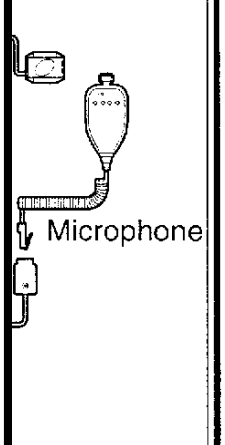
**DFK-3C**



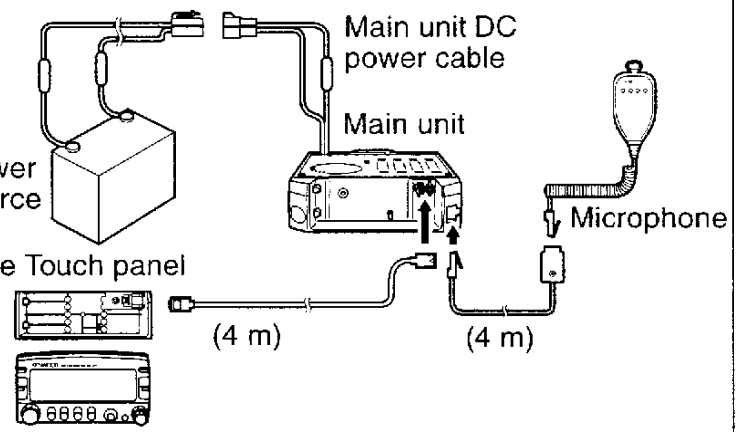

**DFK-7C**



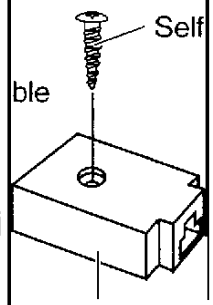




**DFK-4C**




To install the micr one cable incl with DFK-4C
or DFK-7C, secu e microphone t at the
appropriate positi your vehicle the long
self-tapping screv mm x 25 mm)

Microphor ble g screw

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## GENERAL INFORMATION

Your transceiver has been factory aligned and tested specification before shipment. All adjustable trimmers and resistors in the transceiver were preset at the factory. They should only be readjusted by a qualified technician who is familiar with this transceiver and has the necessary test equipment. Attempting service or alignment without factory authorization can void the transceiver warranty.

## SERVICE

When returning the equipment to your dealer or service center for repair, pack the transceiver in its original packing material. Include a full description of the problem experienced. Include both your telephone number and fax number (if available) along with your name and address in case the service technician needs to call you. Do not send accessory items unless you feel they are directly related to the service problem.

You may return your transceiver for service to the authorized **KENWOOD** dealer from whom you purchased or any authorized **KENWOOD** service center. A copy of the service report will be returned with the transceiver. Please do not send subassemblies or printed circuit boards. Send the complete transceiver.

Tag all returned items with your name and call sign for identification. Please mention the model and serial number of the transceiver in any communication regarding the problem.





## SERVICE NOTE

If you desire to correspond on a technical problem, please make your note specific to the point. Help us help you by providing the following:

1. Model and serial number of equipment
2. Question or problem you are having
3. Other equipment in your station connected to the problem
4. Meter readings
5. Other information (Menu setup, frequency, button sequence to induce malfunction, etc.)

***CAUTION:*** *DO NOT PACK THE EQUIPMENT IN NEWSPAPERS FOR SHIPMENT! EXTENSIVE DAMAGE MAY RESULT DURING ROUGH HANDLING OR SHIPPING.*

***Note:***

- *Record the date of purchase, serial number, and the dealer from whom the transceiver was purchased.*
- *For your own information, retain a written record of any maintenance performed on the transceiver.*
- *When claiming warranty service, please send a photocopy of the bill of sale, or other proof-of-purchase showing the date of sale.*

## CLEANING

Remove the controls from the transceiver when they become soiled and clean them with a neutral detergent and warm water. Use a neutral detergent (no strong chemicals) and a damp cloth to clean the case.

## TROUBLESHOOTING

The problems described in this table are com
are usually caused by improper hook-up, acc
programming. These problems are usually n
section(s) of this instruction manual, before a

ıly encountered operational malfunctions. These types of difficulties
ıtal incorrect control settings, or operator error due to incomplete
aused by circuit failure. Please review this table, and the appropriate
ming your transceiver is defective.

| Problem | Prob | Cause | Corrective Action | Page Ref. |
|---|---|---|---|---|
| The transceiver will not power up after connecting a 13.8 V DC power supply and pressing the **PWR** switch. Nothing appears on the display. | **1** The power c backwards. | was connected | **1** Connect the supplied DC power cable correctly: Red → ( + ); Black → ( – ). | 3, 4 |
| | **2** One or more fuses are op | he power cable | **2** Look for the cause of the blown fuse(s). After inspecting and correcting any problems, install a new fuse(s) with the same ratings. | 5 |
| | **3** The front pa connected s unit of the tr | vas not ely to the main ceiver. | **3** Separate the front panel from the main unit by using the release switch on the rear of the front panel, then lock the front panel securely to the main unit by using the same switch. | 67 |
| | **4** The connect correctly con | ed cable was not ted. | **4** Connect the connectorized cable correctly. | 3, 4 |
| The way the transceiver functions or displays information is strange. | The electrical c panel and mair | acts on the front t were soiled. | Clean the electrical contacts on both the front panel and the main unit using a clean damp cloth. | — |

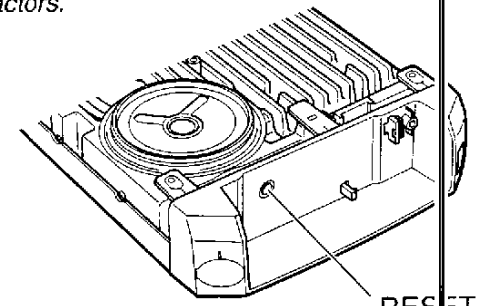
Continued

| Problem | Probable Cause | Corrective Action | Page Ref. |
|---|---|---|---|
| The display is too dim, even though you selected a high dimmer level. | The supply voltage is too low. | The supply voltage requirement is 13.8 V DC ± 15% (11.7 V to 15.8 V DC). If the input voltage is outside this range, recharge your battery, adjust your regulate power supply, and/or check all power cable connections. | 3, 4 |
| The frequency cannot be selected by turning the **Tuning** control or by pressing Mic **[UP]**/ **[DWN]**. | Memory Recall was selected. | Press **[VFO]**. | 8 |
| Most buttons/keys and the **Tuning** control do not function. | **1** One of the Lock functions is ON.<br>**2** The front panel was not connected securely to the main unit of the transceiver. | **1** Unlock all of the Lock functions.<br>**2** Separate the front panel from the main unit by using the release switch on the rear of the front panel, then lock the fro panel securely to the main unit by using the same switch. | 57<br>67 |
| Memory channels cannot be selected by turning the **Tuning** control or by pressing Mic **[UP]**/ **[DWN]** when using Memory Recall. | No data has been stored in any memory channels, or stored data was erased by Full Reset. | Store data in some memory channels. | 28 |

C inued

| Problem | Probable Cause | Corrective Action | Page Ref. |
|---|---|---|---|
| You cannot transmit even though you press Mic **[PTT]**. | **1** The m crophone plug was not insert d completely into the front panel connector. | **1** Switch OFF the power, then insert the microphone plug until the locking tab clicks in place. | 6 |
| | **2** You s lected a transmit offset that p aces the transmit freque ncy outside the allowable transr it frequency range. | **2** Press *[F]*, *[SHIFT]* repeatedly so neither "+" nor "–" is visible. | 23 |
| Packet operation results in no connects with other stations. | **1** Your equency differs from the target station's frequency. | **1** Adjust your frequency using the **Tuning** control. | 16 |
| | **2** The n odulation level from the TNC is incorrect. | **2** Adjust the TNC modulation level according to the TNC instruction manual. | 61 |
| | **3** There is multi-path distortion. | **3** Reorient or relocate the antenna. The strongest signal does not always provide the best operation on packet. | — |
| | **4** The T X delay of your TNC may not b long enough. | **4** It is recommended to set the TX delay parameter on the TNC to 300 ms by using your computer. | 61 |

***Note:*** *You can also use the RESET switch to ini alize settings. Push the switch momentarily to do Partial Reset or press it for 1 second or longer to do Full Reset {page 33}. No confirmation message ppears. Use this switch when the microcomputer and/or the memory chip malfunction because of ambient factors.*



Viewed with the front panel removed

RES T switch

# SPECIFICATIONS

Specifications are subject to change without notice due to advancements in technology.

| General | | VHF Band | |
|---|---|---|---|
| Frequency range | U.S.A./ Canada | 144 ~ 148 MHz | 43 |
| | General | 144 ~ 148 MHz [1] | 43 |
| | Europe | 144 ~ 146 MHz | 43 |
| Mode | | F3E (FM) | |
| Antenna impedance | | 50 Ω | |
| Usable temperature range | | –20°C ~ +60°C (–4°F ~ + | |
| Power supply | | 13.8 V DC ±15% (11.7 ~ | |
| Grounding method | | Negative ground | |
| Current | Transmit (max.) | 11.0 A or less | 1 |
| | Receive (at 2 W output) | 1.0 A or less | |
| Frequency stability (–10°C ~ +50°C) | | Within ±3 ppm | |
| Dimensions (W x H x D projections not included) | | 140 x 40 x 189 mm / 5.51" x 1 | |
| Weight | | 1.2 kg / 2.6 lb | |

[1] Taiwan: 144 ~ 146 MHz

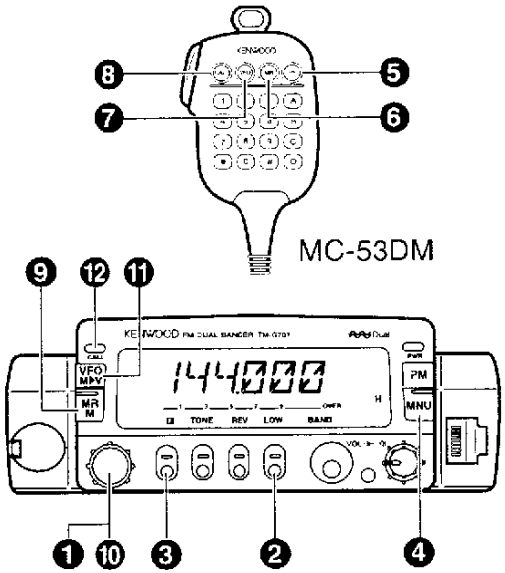
| Transmitter | | VHF Band | UHF Band |
|---|---|---|---|
| Power output | High | 50 W[1] | 35 W[1] |
| | Medium | Approx. 10 W | |
| | Low | Approx. 5 W | |
| Modulation | | Reactance | |
| Spurious emissions | | –60 dB or less | |
| Maximum frequency deviation | | ±5 kHz | |
| Audio distortion (at 60% modulation) | | 3% or less | |
| Microphone impedance | | 600 Ω | |

[1] Taiwan: 25 W (both bands)

| Receiver | VHF Band | UHF Band |
|---|---|---|
| Circuitry | Double conversion superheterodyne | |
| Intermediate frequency (1st/ 2nd) | 38.85 MHz/ 450 kHz | |
| Sensitivity (12 dB SINAD) | 0.16 µV or less | |
| Selectivity (–6 dB) | 12 kHz or more | |
| Selectivity (–60 dB) | 28 kHz or less | |
| Squelch sensitivity | 0.1 µV or less | |
| Audio output (8 ohms, 5% distortion) | 2 W or higher | |
| Audio output impedance | 8 Ω | |

# POWER ON FUNCTIONS SUMMARY

This table concludes the functions that you can initiate using the **PWR** switch. After switching OFF the transceiver, press and hold the appropriate key, then press the **PWR** switch.




| | Function | Key Combination | | Ref. Page |
|---|---|---|---|---|
| ❶ | All Lock ON/ OFF [1] | [MHz] | + POWER ON | 57 |
| ❷ | Channel Display ON/ OFF | *[LOW]* | | 32 |
| ❸ | Display Demonstration ON/ OFF | *[F]* | | 56 |
| ❹ | Easy Operation ON/ OFF | [MNU] | | 18 |
| ❺ | Program Function Keys [2] | Mic [PF] | | 50 |
| ❻ | | Mic [MR] | | |
| ❼ | | Mic [VFO] | | |
| ❽ | | Mic [CALL] | | |
| ❾ | Full Reset (Memory) | [MR] | | 33 |
| ❿ | Memory Channel Clear [3] | [MHz] | | 29 |
| ⓫ | Partial Reset (VFO) | [VFO] | | 33 |
| ⓬ | Programmable Memory Reset | [CALL] | | 37 |

[1] First press *[F]*, **[MHz]** to switch Transceiver Lock ON.
[2] Next press the key or key combination on the front panel that you want to assign.
[3] First recall the memory channel that you want to clear.

# INDEX

KENWOOD