

ICOM

INSTRUCTION MANUAL

HF/50 MHz ALL MODE TRANSCEIVER

IC-726



Icom Inc.

CAUTIONS

- (1) Before using the IC-726, read all instructions carefully and completely.
- (2) **SAVE THIS INSTRUCTION MANUAL** – This instruction manual contains important safety and operating instructions for the IC-726.
- (3) **NEVER** connect the DC power cable to an AC outlet. This will ruin the transceiver.
- (4) **NEVER** apply more than 16 V DC to the DC POWER SOCKET on the transceiver rear panel. Check the power source voltage before connecting the power cable.
- (5) **NEVER** allow children to touch the transceiver during operation.
- (6) **NEVER** expose the transceiver to rain, snow or any liquid.
- (7) **AVOID** using or storing the transceiver in temperatures below -10°C ($+14^{\circ}\text{F}$) or over $+60^{\circ}\text{C}$ ($+140^{\circ}\text{F}$).

OPERATING CAUTIONS

- (1) In any mobile operation, **DO NOT** operate the transceiver without running the vehicle's engine. The vehicle's battery will quickly run out if the transceiver power is ON while your vehicle's engine is OFF.
- (2) In maritime mobile operation, keep interconnection cables as far away as possible from electronic instruments to prevent instrument malfunctions.
- (3) **BE CAREFUL!** If the transceiver is not securely mounted with bolts and nuts, personal injury or transceiver damage could occur due to braking, wave shock, vibrations, etc.
- (4) **AVOID** using the transceiver in excessively dusty environments.
- (5) **AVOID** placing the transceiver in direct sunlight.
- (6) **BE CAREFUL!** The heatsink may become hot when operating the transceiver continuously for long periods.
- (7) Transmitting without an antenna may damage the transceiver.

INTRODUCTION

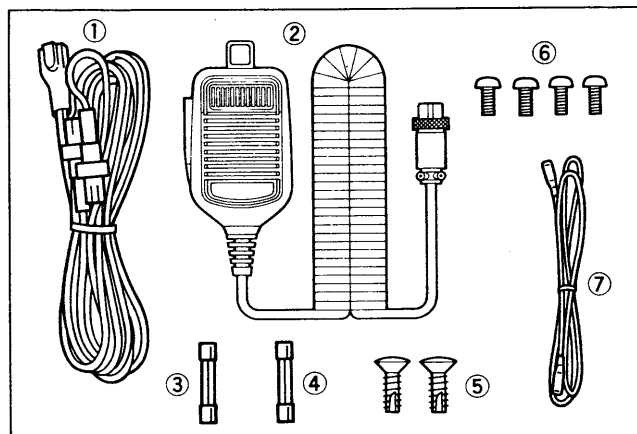
Icom's new IC-726 HF/50 MHz ALL MODE TRANSCEIVER is designed to meet the increasing demand of today's amateur radio users for transceivers with fewer controls and switches, especially for hands-free mobile operation from HF through 50 MHz bands.

The IC-726 has the following advanced features:

- Icom DDS (Direct Digital Synthesizer)
- 26 user-programmable memory channels
- 3 scan types
- Selectable tuning rate in 10, 20 or 50 Hz steps
- Band stacking register capability
- 10 dB preamplifier
- 20 dB attenuator

To thoroughly understand the capabilities of your new IC-726, please read this manual carefully before attempting operation. If you have any questions regarding the operation of the IC-726, feel free to contact your nearest authorized Icom Dealer or Service Center.

UNPACKING



Accessories included with the IC-726:

	Qty.
① DC power cable (OPC-025A)	1
② Hand microphone (HM-12)	1
③ Spare fuse (20 A)	1
④ Spare fuse (4 A)	1
⑤ Screws B1 4 x 12 CR (for optional MB-23 installation)	2
⑥ Screws C0 3 x 6 (for optional MB-23 installation)	4
⑦ Jumper wire	1

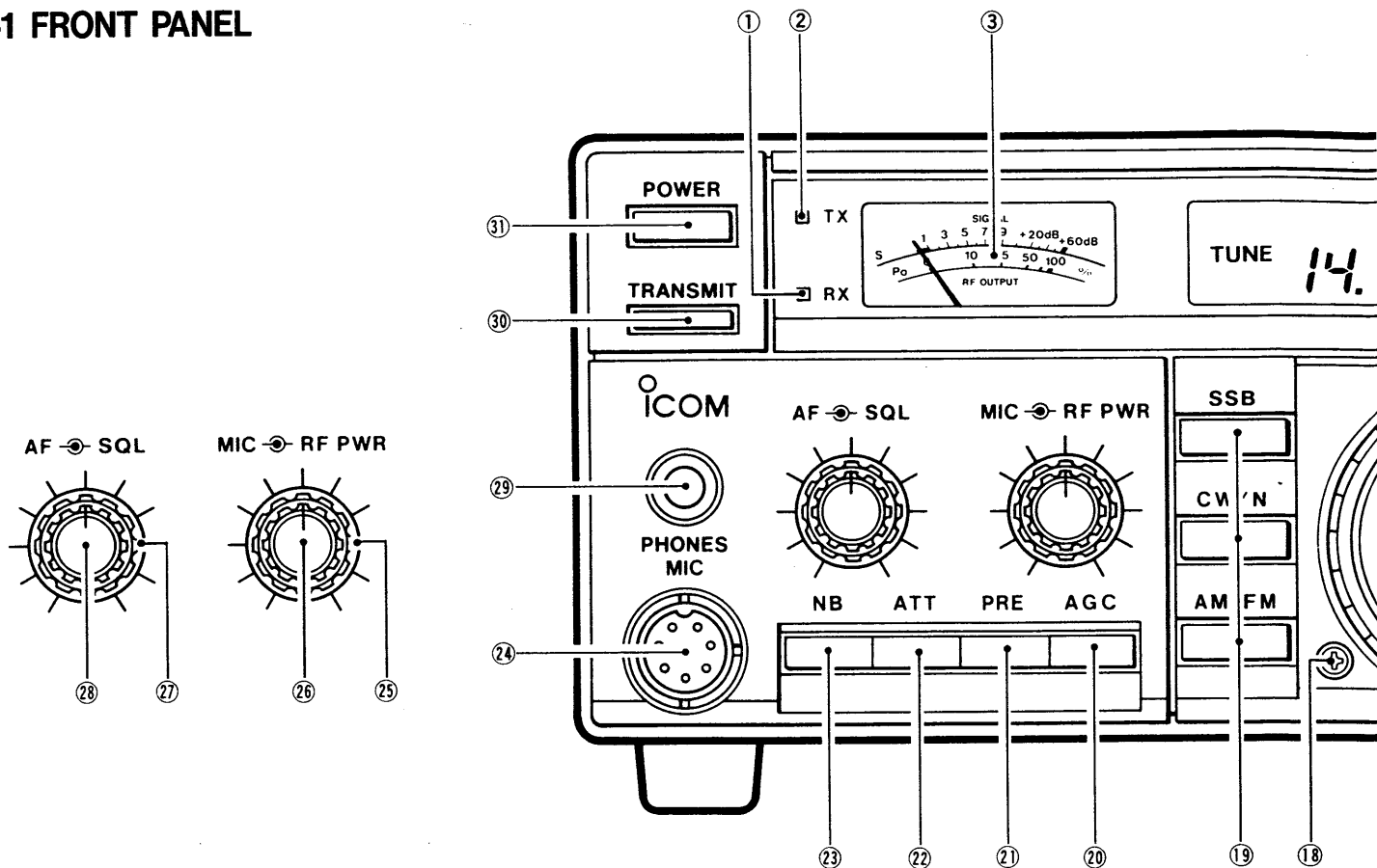
TABLE OF CONTENTS

CAUTIONS.....	i	6. MEMORY CHANNEL OPERATION	22
OPERATING CAUTIONS.....	i	6-1 VFO AND MEMORY MODE SELECTION	22
INTRODUCTION.....	i	6-2 MEMORY CHANNEL SELECTION....	22
UNPACKING	i	6-3 MEMORY WRITING	22
TABLE OF CONTENTS.....	ii	6-4 FREQUENCY TRANSFERRING [M ► VFO]	22
1. CONTROL FUNCTIONS.....	1 ~ 4	7. SCANNING OPERATION.....	23
1-1 FRONT PANEL.....	1	7-1 SCAN TYPES	23
1-2 REAR PANEL.....	3	7-2 PROGRAMMED SCAN.....	23
1-3 MICROPHONE (HM-12).....	3	7-3 MEMORY SCAN.....	23
1-4 FUNCTION DISPLAY	4	7-4 SELECTED MODE MEMORY SCAN...	23
2. INSTALLATION	5 ~ 6	7-5 SUPPLEMENTAL SCAN SETTINGS ...	23
2-1 UNPACKING.....	5	8. MAINTENANCE AND ADJUSTMENT.....	24 ~ 28
2-2 MOUNTING THE TRANSCEIVER.....	5	8-1 DISASSEMBLING THE TRANSCEIVER.....	24
2-3 ANTENNA	5	8-2 FUSE REPLACEMENT.....	25
2-4 GROUNDING	5	8-3 CPU RESETTING	25
2-5 WIRING THE DC POWER CABLE....	5	8-4 CPU BACKUP BATTERY.....	25
2-6 REAR PANEL CONNECTIONS.....	6	8-5 CLEANING	25
3. SYSTEM INTERCONNECTIONS	7 ~ 12	8-6 TROUBLESHOOTING.....	26
3-1 POWER SUPPLY CONNECTIONS.....	7	8-7 ADJUSTMENTS.....	27
3-2 LINEAR AMPLIFIER CONNECTIONS..	8	9. INSTALLATION OF OPTIONS....	29 ~ 30
3-3 ANTENNA TUNER CONNECTIONS ...	9	9-1 UT-30 PROGRAMMABLE TONE ENCODER UNIT.....	29
3-4 AH-3 OPERATING PROCEDURES	10	9-2 CW NARROW FILTERS.....	29
3-5 AFSK TERMINAL UNIT CONNECTION.....	10	9-3 MB-23 CARRYING HANDLE.....	29
3-6 MIC CONNECTOR INFORMATION....	10	9-4 CR-64 HIGH-STABILITY CRYSTAL UNIT	30
3-7 ACC SOCKET INFORMATION.....	11	10. INSIDE VIEWS	31 ~ 32
3-8 REMOTE JACK (CI-V) INFORMATION.....	12	10-1 MAIN UNIT	31
4. PRE-OPERATION	13 ~ 16	10-2 PLL UNIT.....	32
4-1 INITIAL SETTINGS.....	13	11. BLOCK DIAGRAM	33
4-2 FREQUENCY SELECTION.....	13	12. SPECIFICATIONS	34
4-3 VFO A AND VFO B SELECTION....	14	13. OPTIONS	35 ~ 36
4-4 RECEIVER CONTROLS AND SWITCHES	15	SCHEMATIC DIAGRAM.....	SEPARATE
4-5 TRANSMITTER CONTROLS AND SWITCH.....	16		
5. BASIC OPERATION	17 ~ 21		
5-1 SSB OPERATION	17		
5-2 CW OPERATION.....	18		
5-3 AM OPERATION.....	19		
5-4 FM OPERATION.....	20		
5-5 RIT/ Δ f FUNCTION.....	21		
5-6 SPLIT OPERATION.....	21		

Tech Talk from Icom

- What is the function of the band stacking register?..... 13
- What is ALC?..... 16

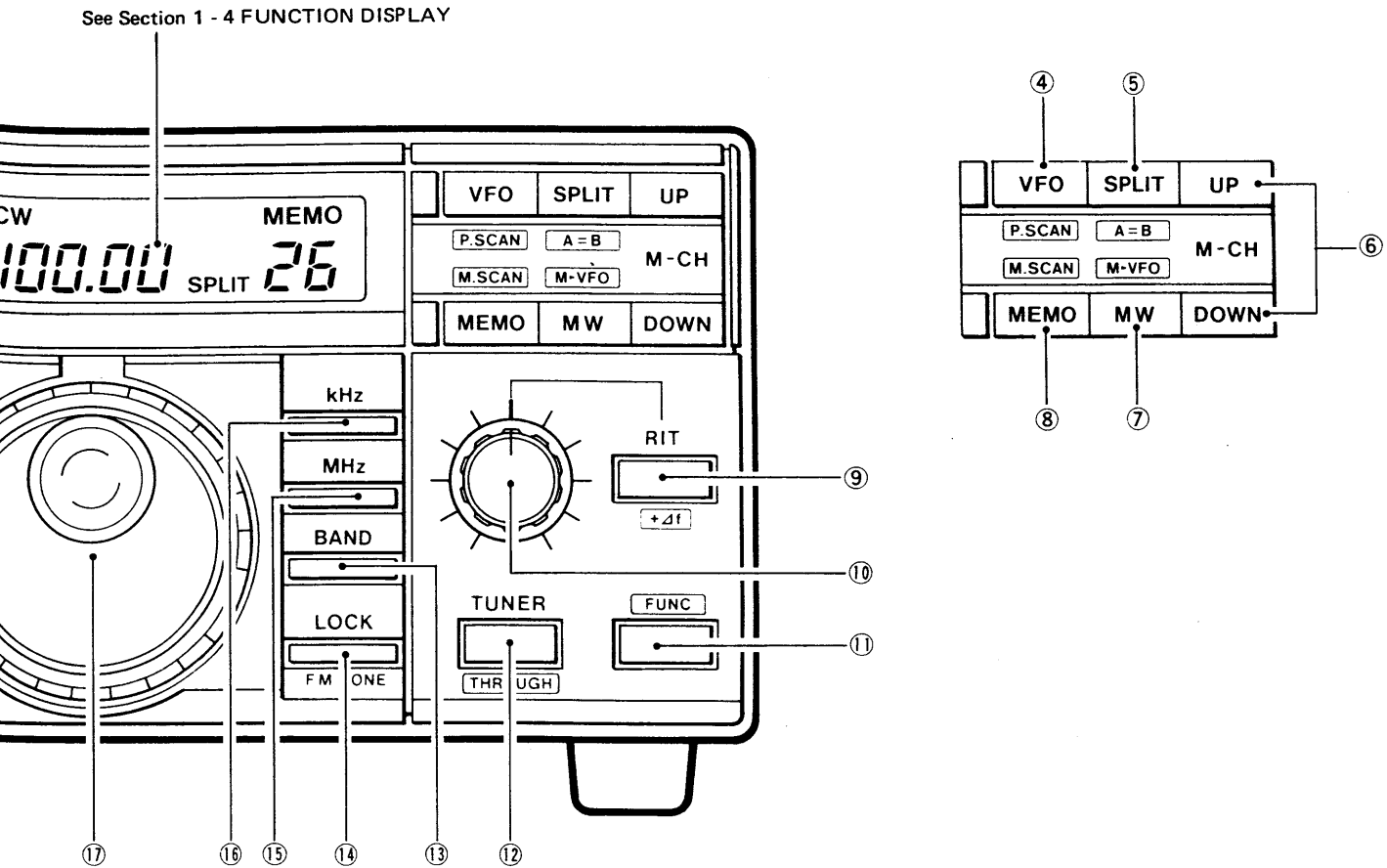
1-1 FRONT PANEL



- ① **RECEIVE INDICATOR**
Indicates that the squelch is open.
- ② **TRANSMIT/ALC INDICATOR (p. 16)**
Lights when the transceiver is transmitting.
- ③ **METER**
Shows the strength of a received signal and relative output power while transmitting.
- ④ **VFO SWITCH [VFO] (pgs. 14, 22)**
Selects VFO A or VFO B for tuning purposes.
- ⑤ **SPLIT SWITCH [SPLIT] (p. 21)**
Selects split operation.
- ⑥ **MEMORY CHANNEL UP/DOWN SWITCHES [UP] [DOWN] (p. 22)**
Changes memory channels.
- ⑦ **MEMORY WRITE SWITCH [MW] (p. 22)**
Stores the displayed frequency and mode into the displayed memory channel.
- ⑧ **MEMORY READ SWITCH [MEMO] (p. 22)**
Selects MEMORY CHANNEL mode.
- ⑨ **RIT SWITCH [RIT] (pgs. 15, 21)**
Turns ON and OFF the RIT circuit.
- ⑩ **RIT CONTROL (pgs. 15, 21)**
Shifts the receive frequency when the RIT function is ON.
- ⑪ **FUNCTION SWITCH [FUNC]**
Activates the secondary switch functions.

SWITCH	FUNCTION
[FUNC] + [VFO]	Activates programmed scan. (p. 23)
[FUNC] + [SPLIT]	Equalizes the frequency and mode of operation of the two VFOs.
[FUNC] + [MEMO]	Activates memory scan. (p. 23)
[FUNC] + [MW]	Activates the frequency transfer function. (p. 22)
[FUNC] + [RIT]	Adds the RIT shift frequency to the displayed frequency. (p. 21)
[FUNC] + [TUNER]	Bypasses the AH-3 HF AUTOMATIC ANTENNA TUNER (optional). (p. 10)
[FUNC] + [kHz]	Changes the tuning step. (p. 14)
[FUNC] + [BAND]	Turns ON and OFF the 10 Hz digit on the frequency display. (p. 14)
[FUNC] + [LOCK] + [MEMO]	Activates the mode selected memory scan. (p. 23)
[FUNC] + [AM/FM]	Turns ON and OFF the auto tuning step function. (p. 14)

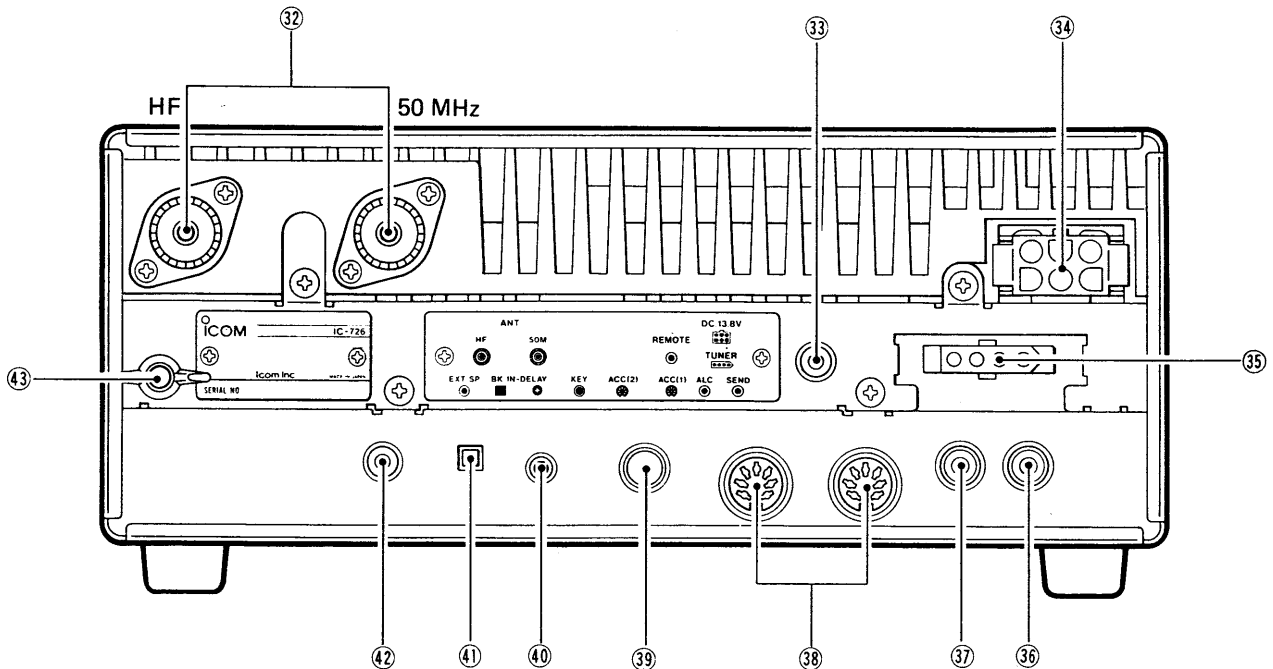
- ⑫ **ANTENNA TUNER SWITCH [TUNER] (p. 10)**
Tunes the AH-3 AUTOMATIC ANTENNA TUNER (optional).



- ⑬ **BAND SWITCH [BAND]** (p. 13)
Allows the MAIN DIAL to select bands only.
- ⑭ **DIAL LOCK SWITCH [LOCK]**
Deactivates the MAIN DIAL and transmits a subaudible tone signal in FM mode.
- ⑮ **MHz TUNING RATE SWITCH [MHz]** (p. 14)
Sets the tuning steps at 1 MHz.
- ⑯ **kHz TUNING RATE SWITCH [kHz]** (p. 14)
Sets the tuning rate for 1 kHz steps.
- ⑰ **MAIN DIAL**
Changes the displayed frequency.
- ⑱ **BRAKE ADJUSTMENT SCREW** (p. 27)
Adjusts MAIN DIAL tension.
- ⑲ **MODE SWITCHES** (pgs. 17 ~ 20)
Selects the desired operating mode.
- ⑳ **AGC SWITCH [AGC]** (p. 15)
Changes the time constant of the AGC circuit.
- ㉑ **PREAMP SWITCH [PRE]** (p. 15)
Activates the built-in 10 dB gain RF preamplifier.
- ㉒ **ATTENUATOR SWITCH [ATT]** (p. 15)
Activates the 20 dB attenuator.
- ㉓ **NOISE BLANKER SWITCH [NB]** (p. 15)
Activates the noise blanker circuit.
- ㉔ **MIC CONNECTOR [MIC]** (p. 10)
Accepts Icom hand or desk microphones. Refer to Section 13 OPTIONS.
- ㉕ **RF POWER CONTROL [RF PWR]** (p. 16)
Adjusts RF output power.
- ㉖ **MIC GAIN CONTROL [MIC]** (p. 16)
Adjusts microphone input gain.
- ㉗ **SQUELCH CONTROL [SQL]** (p. 15)
Adjusts the squelch threshold level.
- ㉘ **AF GAIN CONTROL [AF]** (p. 15)
Adjusts audio output level.
- ㉙ **HEADPHONES JACK [PHONE]**
Accepts a standard 1/4 inch plug from 4 ~ 16 Ω mono or stereo headphones.
- ㉚ **TRANSMIT/RECEIVE SWITCH [TRANSMIT]**
Selects transmit or receive.
- ㉛ **POWER SWITCH [POWER]**
Turns the power ON and OFF.

1 CONTROL FUNCTIONS

1-2 REAR PANEL



32 ANTENNA CONNECTORS (pgs. 5, 6)

Connect a 50 Ω antenna with a PL-259 plug to each connector.

33 CI-V REMOTE CONTROL JACK (p. 12)

Designed for use with a personal computer for remote operation of transceiver functions.

34 DC POWER SOCKET (p. 7)

Accepts 13.8 V DC using the supplied DC cable.

35 TUNER CONTROL SOCKET (p. 9)

Accepts the optional AH-3 HF AUTOMATIC ANTENNA TUNER control cable.

36 SEND CONTROL JACK (p. 8)

Goes to ground when transmitting.

37 ALC INPUT JACK (p. 8)

Connects to the ALC output jack of a non-Icom linear amplifier.

38 ACCESSORY SOCKETS (p. 11)

Input and output connections for external equipment.

39 CW KEY JACK (pgs. 6, 18)

Accepts a straight key or electronic keyer with a standard 1/4 inch 3-conductor plug.

40 CW BREAK-IN DELAY CONTROL (p. 18)

Adjusts the transmit-to-receive switching delay time for CW semi break-in operation.

41 CW SEMI BREAK-IN SWITCH (p. 18)

Turns ON and OFF the CW semi break-in operation.

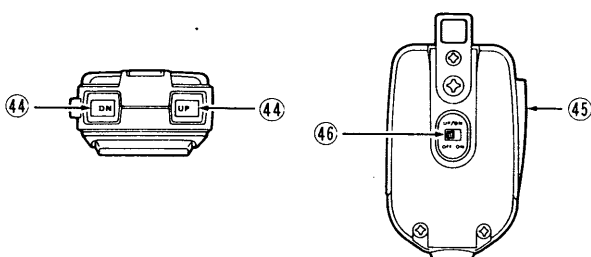
42 EXTERNAL SPEAKER JACK (p. 6)

Connect a 4 ~ 16 Ω speaker here, if required.

43 GROUND TERMINAL (pgs. 5, 6)

To prevent electrical shocks, TVI, BCI and other problems, connect this terminal to ground.

1-3 MICROPHONE (HM-12)



44 UP/DOWN SWITCHES

Changes the operating frequency or memory channel. Push and hold either of these switches to change the frequency or memory channel continuously.

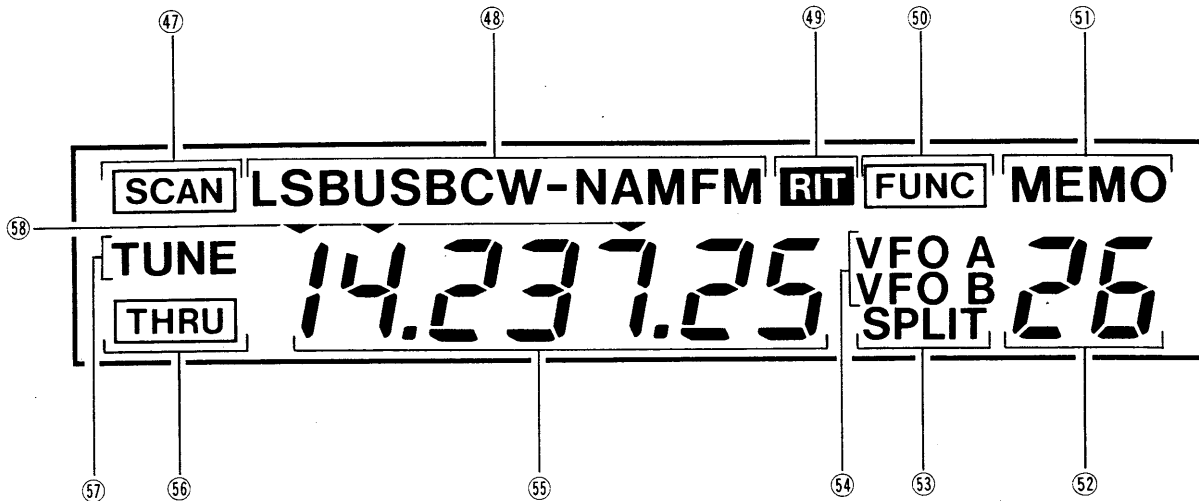
45 PTT SWITCH

Push to transmit.

46 UP/DOWN ON/OFF SWITCH

Prevents accidental changes of the [UP] and [DN] switches.

1-4 FUNCTION DISPLAY



④⑦ **SCAN INDICATOR "SCAN"** (p. 23)
Lights when scan is operating.

④⑧ **MODE INDICATORS**
Indicates the operating mode.

④⑨ **RIT INDICATORS "RIT"** (p. 21)
Lights when the RIT function is turned ON.

⑤⑩ **FUNCTION INDICATOR "FUNC"**
Lights when the [FUNC] switch is pushed.

⑤① **MEMORY INDICATOR "MEMO"** (p. 22)
Lights when MEMORY mode is selected.

⑤② **MEMORY CHANNEL INDICATOR** (p. 22)
Shows memory channel numbers.

⑤③ **SPLIT INDICATOR "SPLIT"** (p. 21)
Lights when split operation is being used.

⑤④ **VFO INDICATORS "VFO A" "VFO B"** (p. 14)
Indicate a VFO mode.

⑤⑤ **FREQUENCY DISPLAY**
Displays the operating frequency.

⑤⑥ **THROUGH INDICATOR "THRU"** (p. 10)
Lights when the AH-3 HF AUTOMATIC ANTENNA TUNER (optional) is bypassed.

⑤⑦ **TUNING INDICATOR "TUNE"** (p. 10)
Lights when the AH-3 HF AUTOMATIC ANTENNA TUNER (optional) is being tuned.

⑤⑧ **TUNING DIGIT INDICATORS "↖"** (pgs. 13, 14)
Points to the lowest digit changed when the MAIN DIAL is rotated.

2-1 UNPACKING

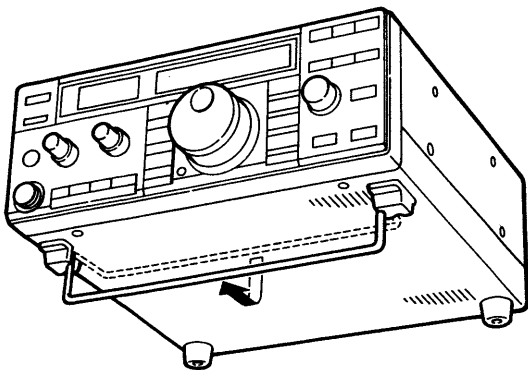
After unpacking, immediately describe any damage to the delivering carrier or dealer. Keep the shipping cartons. For a description and a diagram of accessory equipment included with the IC-726, see UNPACKING on the inside front cover.

2-2 MOUNTING THE TRANSCEIVER

Select a location for the transceiver that allows adequate air circulation and access to the front and rear panels. Do not place in areas subject to extreme heat, cold, or vibrations, or near TV sets, radios and electro-magnetic sources.

For mobile installations, an optional IC-MB5 MOBILE MOUNTING BRACKET is available. Select a location which can support the weight of the transceiver and does not interfere with the operation of the vehicle.

•ADJUSTABLE ANGLES



The stand on the bottom of the IC-726 gives the transceiver two selectable angles.

2-3 ANTENNA

Select an antenna, such as a well-matched 50 Ω antenna and feedline. The transmission line should be a coaxial cable. VSWR should be less than 1.5:1.

CAUTION: Protect your transceiver from lightning by using a lightning arrestor.

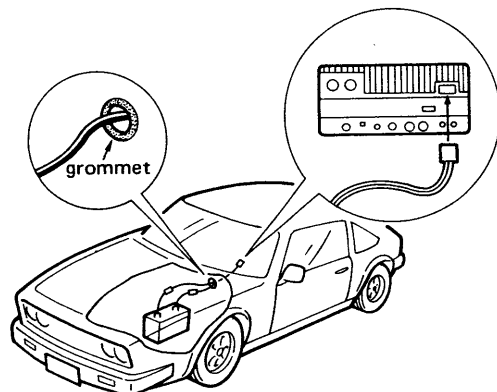
2-4 GROUNDING

To prevent electrical shocks, TVI, BCI and other problems, ground the transceiver through the GROUND terminal on the rear panel.

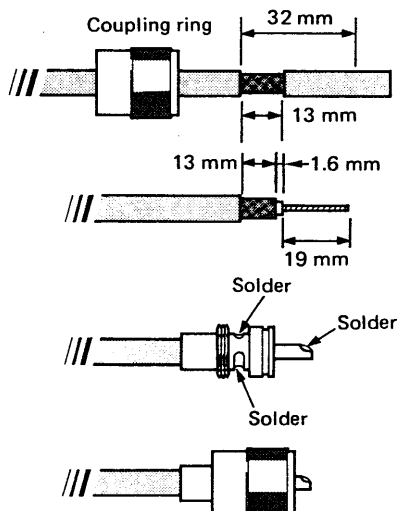
For best results, connect a heavy gauge wire or strap to a long earth-sunk copper rod. Make the distance between the GROUND terminal and ground as short as possible.

2-5 WIRING THE DC POWER CABLE

Insert a rubber grommet to the DC power cable to prevent shorting.



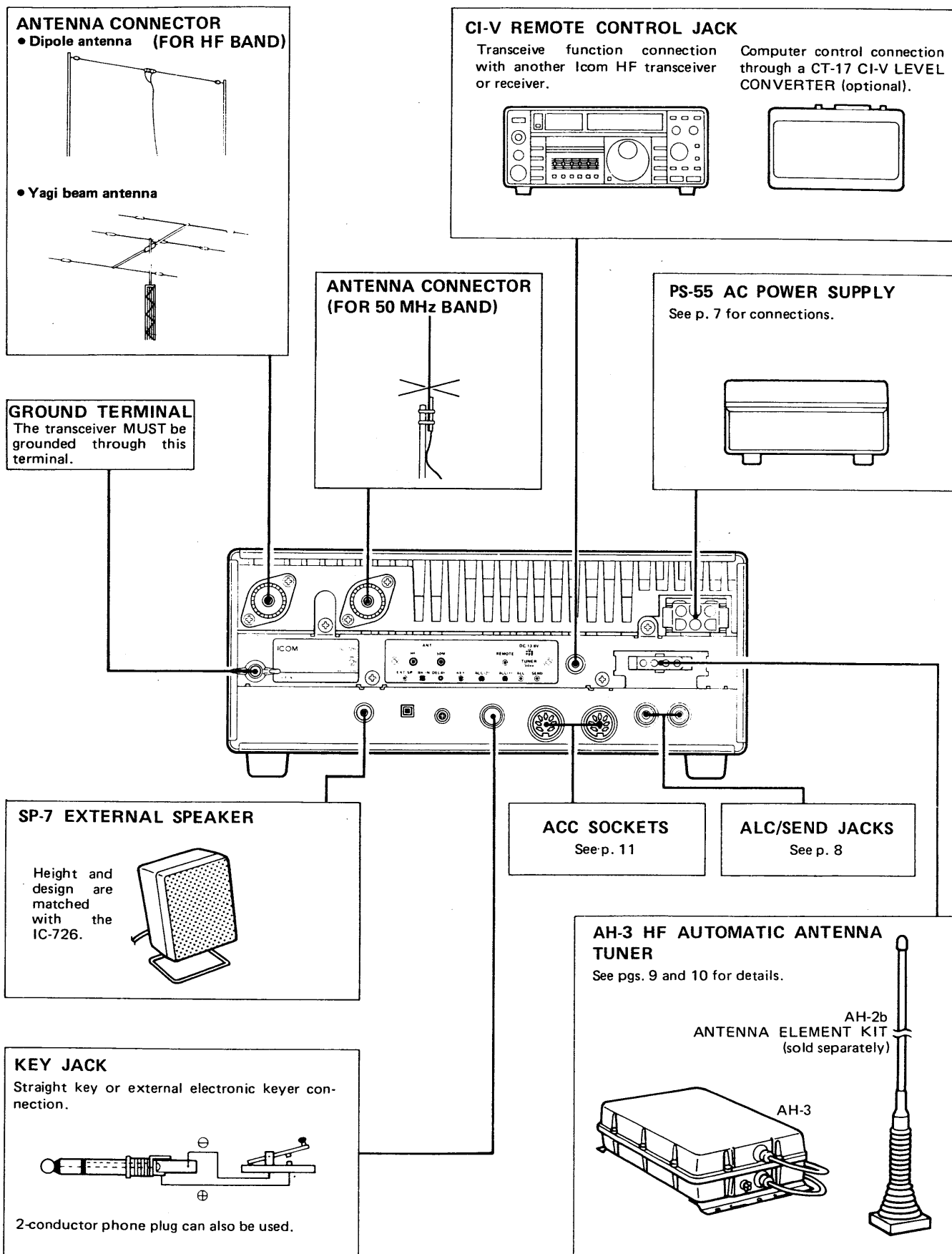
•PL-259 CONNECTOR INSTALLATION



- 1) Slide the coupling ring over the coaxial cable.
- 2) Strip the cable as shown in the diagram, and soft solder the center conductor.
- 3) Slide the connector body onto the cable and solder.
- 4) Screw the coupling ring onto the connector body.

1 inch = 25.4 mm

2-6 REAR PANEL CONNECTIONS



3-1 POWER SUPPLY CONNECTIONS

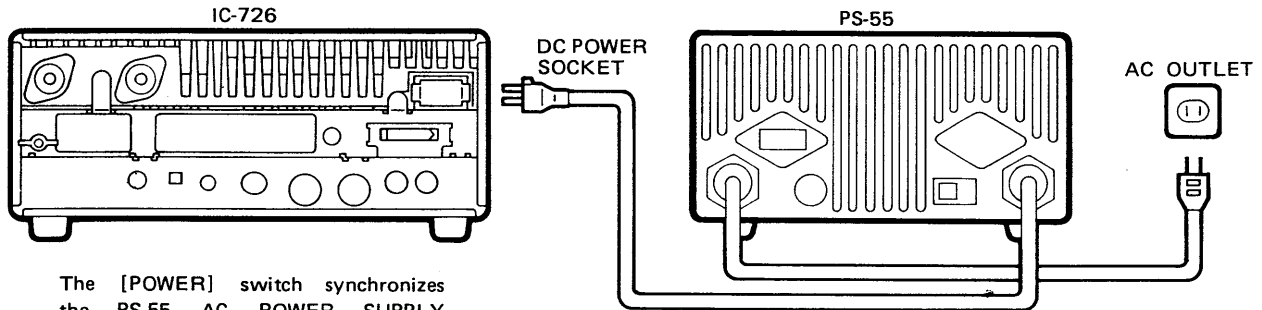
Use the PS-55 AC POWER SUPPLY (sold separately) when operating the IC-726 with AC power. Refer to the diagram below.

The [POWER] switch on the IC-726 front panel synchronizes the PS-55 with the IC-726.

CAUTION: Before connecting the DC power cable, check the following important items. Make sure:

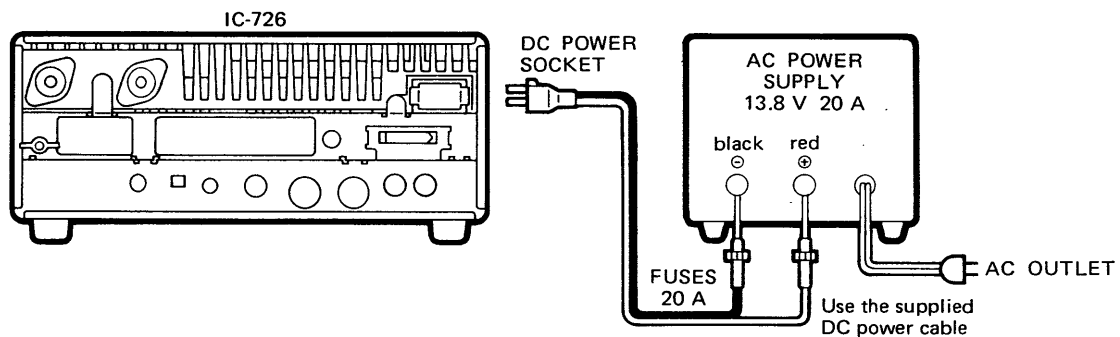
- The [POWER] switch is OFF.
- Output voltage of the power source is 12 ~ 15 V when you want to use a non-Icom power supply.
- DC power cable polarity is correct.
red → positive (+) terminal
black → negative (-) terminal

•CONNECTING THE PS-55



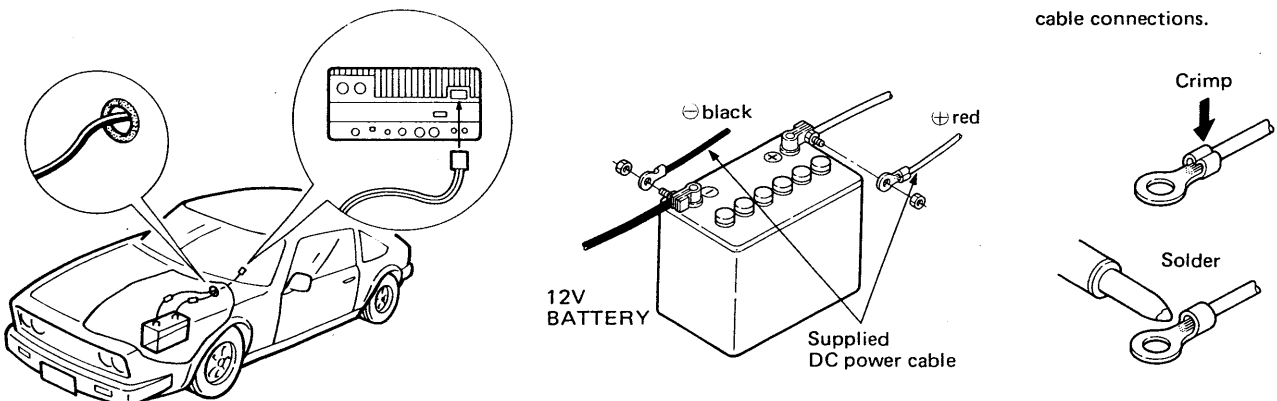
The [POWER] switch synchronizes the PS-55 AC POWER SUPPLY with the IC-726.

•CONNECTING A NON-ICOM AC POWER SUPPLY



•CONNECTING A VEHICLE BATTERY

NOTE: Use terminals for the cable connections.



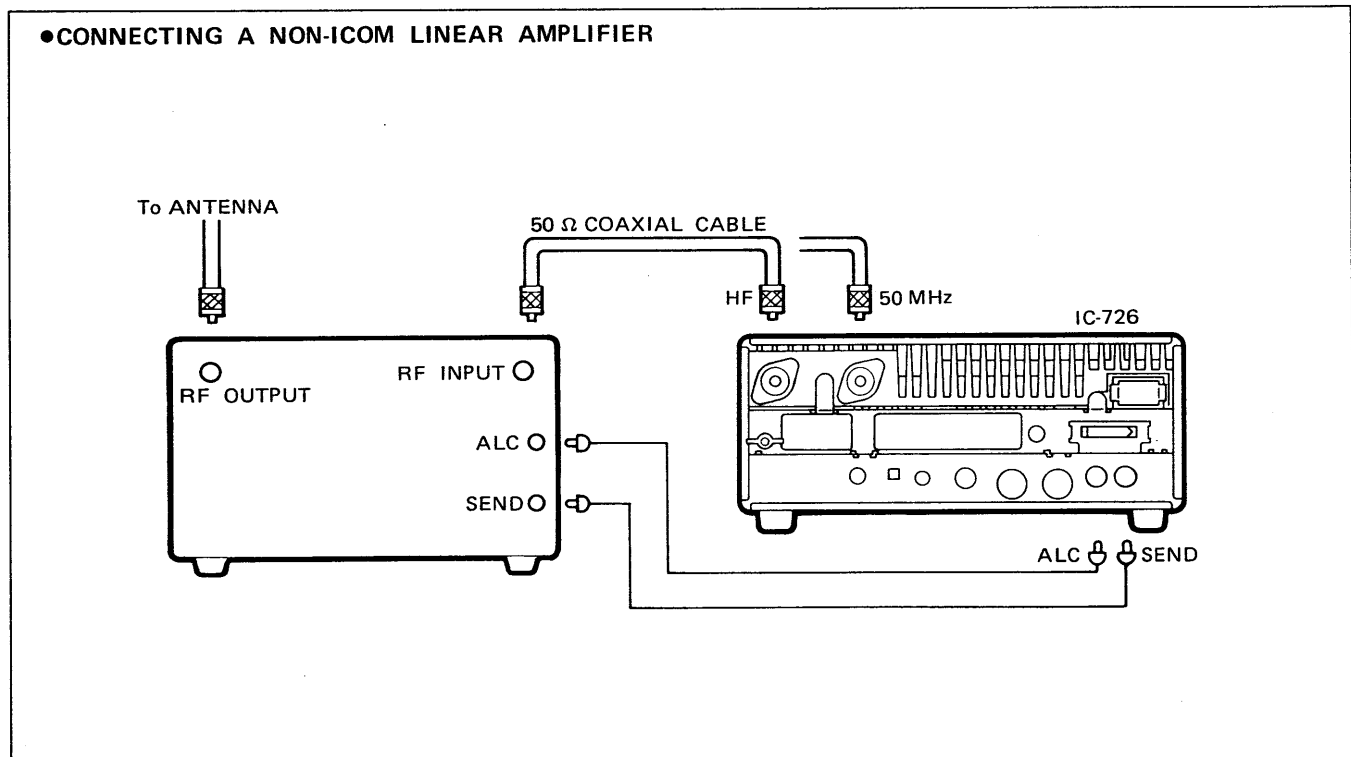
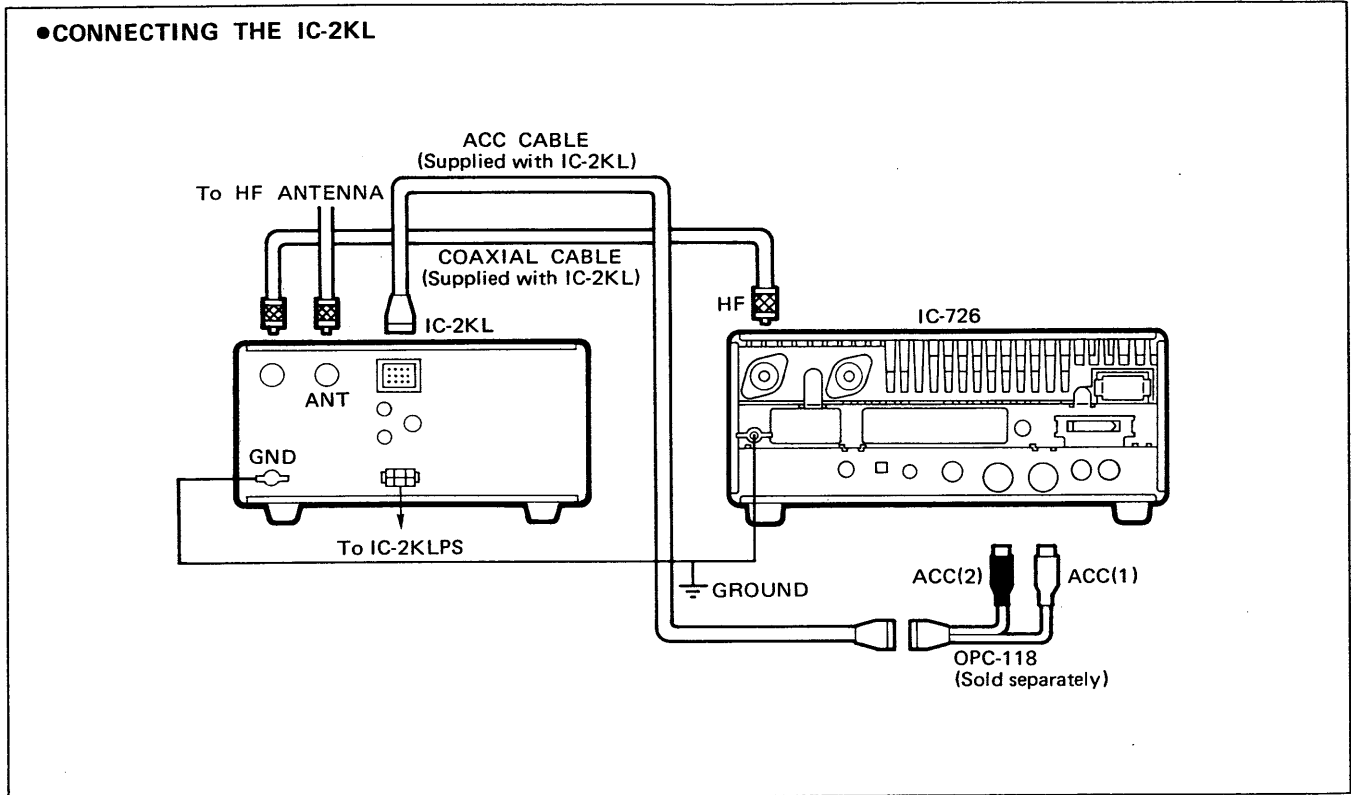
3-2 LINEAR AMPLIFIER CONNECTIONS

To connect the IC-2KL LINEAR AMPLIFIER or a linear amplifier not made by Icom, refer to the diagram below.

The optional IC-2KL HF LINEAR AMPLIFIER may be easily connected to the IC-726. OPC-118 (sold separately) is necessary.

When connecting the transceiver to a non-Icom linear amplifier, connect the cables as shown in the diagram below. The specification for the keying relay is DC 16 V, 2 A maximum.

If the linear amplifier requires greater voltage than the above value, a large relay must be installed between the amplifier and the transceiver.



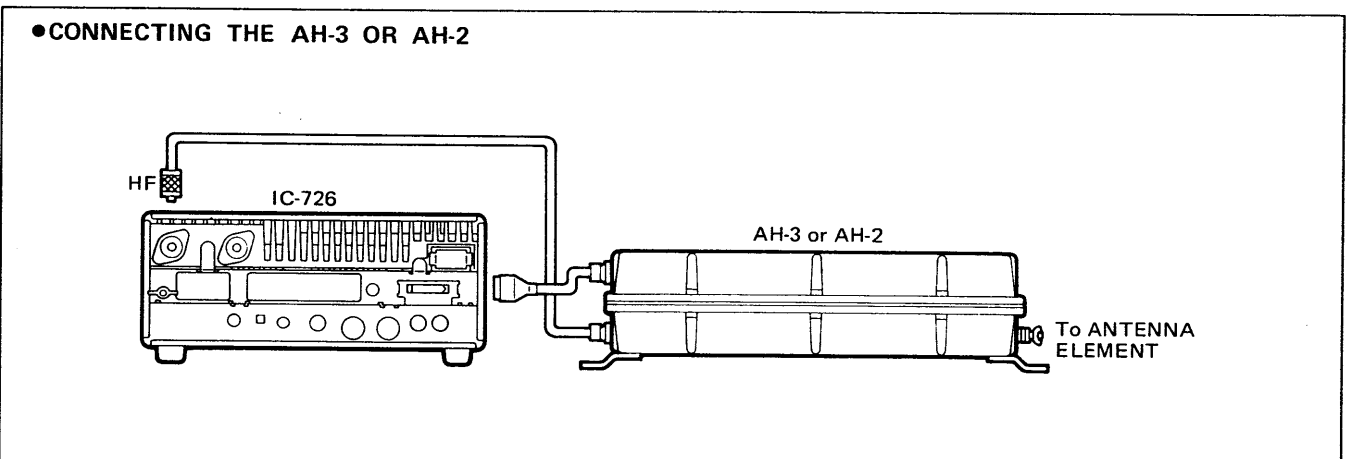
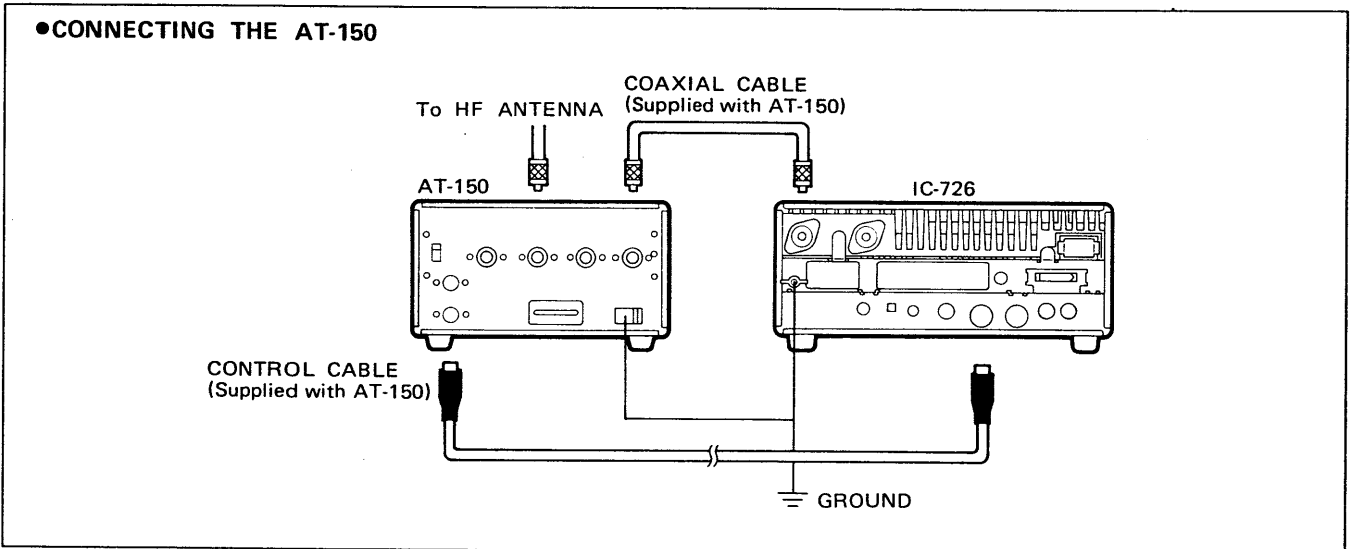
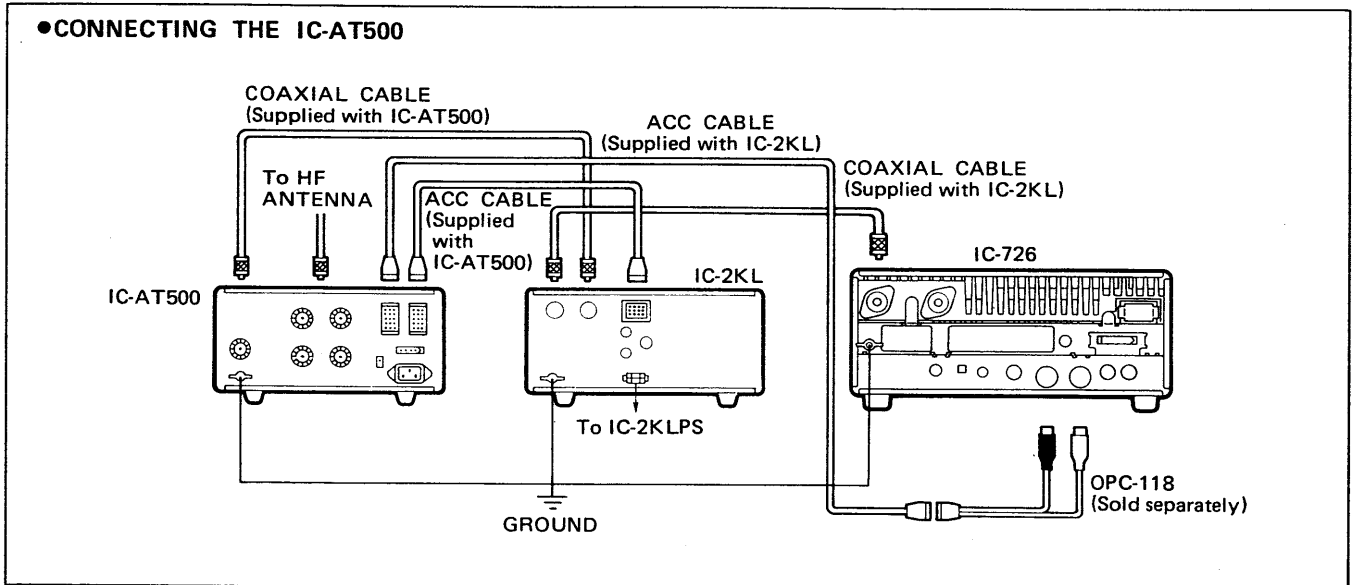
3 SYSTEM INTERCONNECTIONS

3-3 ANTENNA TUNER CONNECTIONS

It is recommended that an Icom antenna tuner be used between the IC-726 and the antenna system for maximum transceiver performance.

Refer to the instruction manuals of each antenna tuner below for more detailed connecting and operating information.

When connecting the IC-726 to the IC-AT500 or IC-AT100, the optional OPC-118 INTERFACE CABLE is necessary.



3-4 AH-3 OPERATING PROCEDURES

The AH-3 HF AUTOMATIC ANTENNA TUNER is designed for use with the IC-726. By pushing the [TUNER] switch on the IC-726 front panel, the AH-3 tunes at 50 Ω on 1.8 MHz ~ 30 MHz with a length of 12 m (40 ft) wire.

The AH-2a HF AUTOMATIC ANTENNA TUNER can be used with the IC-726 without the supplied CONTROLLER UNIT.

Following are the simple operation procedures for using the AH-3 HF AUTOMATIC ANTENNA TUNER:

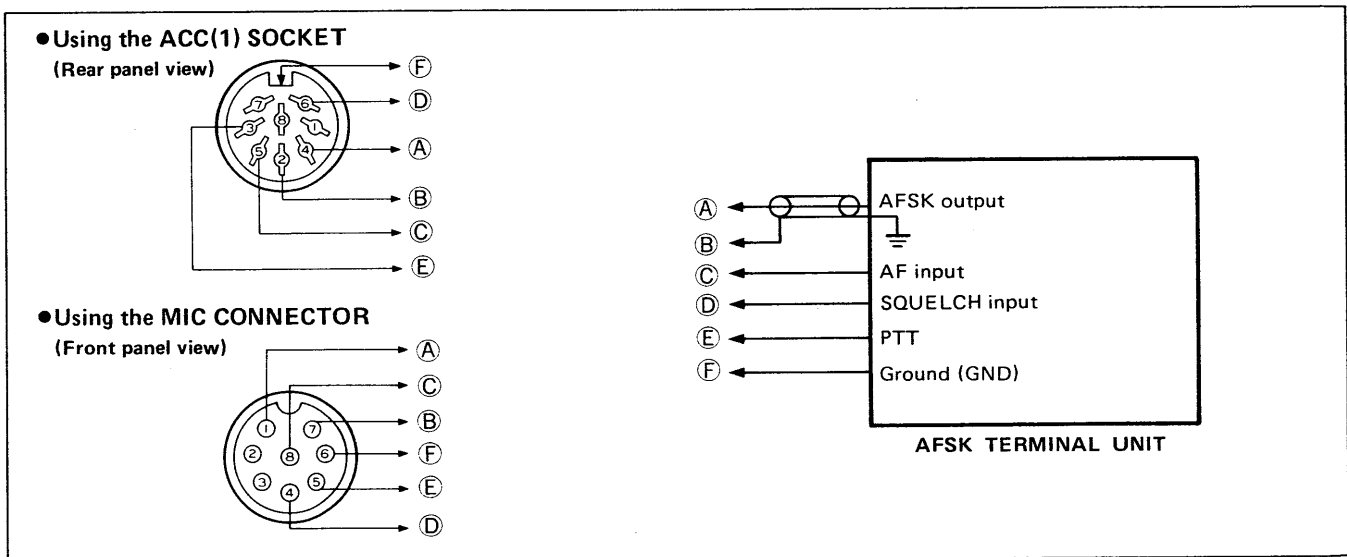
- 1) Connect cables from the AH-3 and antenna wire as shown in the diagram on p. 9.
- 2) Turn transceiver power ON.

- 3) Select the desired band and frequency.
- 4) Push the [TUNER] switch.
 - "TUNE" flashes on the FUNCTION DISPLAY.
 - The AH-3 automatically tunes at 50 Ω.
- 5) "TUNE" steadily appears when the AH-3 tunes at 50 Ω.
- 6) "THRU" appears when the AH-3 cannot tune at 50 Ω.
 - When "THRU" appears, the AH-3 is bypassed and the antenna wire is connected to the antenna connector on the IC-726 directly.
- 7) When you want to bypass the AH-3 manually, push the [FUNC] switch then push the [TUNER] switch.
 - "THRU" appears on the FUNCTION DISPLAY.

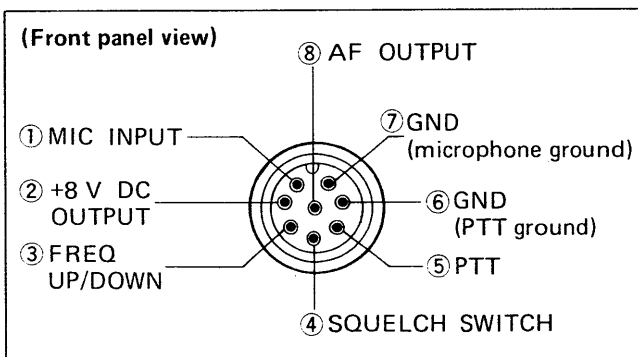
3-5 AFSK TERMINAL UNIT CONNECTION

When operating an AFSK such as RTTY, AMTOR or packet, connect external equipment to the ACC(1) SOCKET on the rear panel or MIC CONNECTOR on the front panel as in the following diagram below.

See p. 11 for ACC(1) and MIC CONNECTOR pin information.



3-6 MIC CONNECTOR INFORMATION

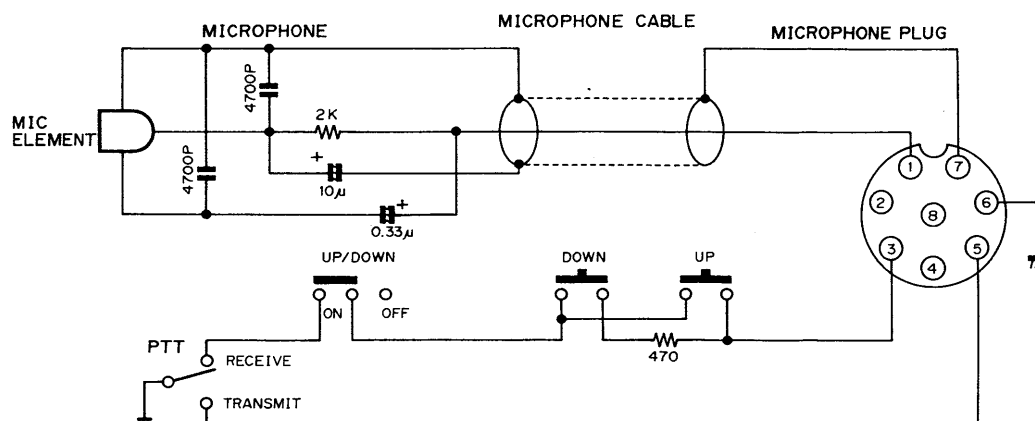


PIN NO.	FUNCTION	DESCRIPTION
2	+8 V DC output	Max. 10 mA
3	Frequency up	Ground
	Frequency down	Ground through 470 Ω
4	Squelch open	"LOW" level
	Squelch closed	"HIGH" level

CAUTION: DO NOT short pin 2 to ground as this can damage the internal 8 V regulator.

3 SYSTEM INTERCONNECTIONS

•HM-12 SCHEMATIC DIAGRAM



3-7 ACC SOCKET INFORMATION

(1) ACC(1) SOCKET

PIN NO.	PIN NAME	DESCRIPTION	SPECIFICATIONS
1	NC	No connection.	-----
2	GND	Connects to ground.	Connected in parallel with ACC(2) pin 2.
3	SEND	Input/output pin. Goes to ground when transmitting. When grounded, transmits.	Ground level : $-0.5 \sim 0.8$ V Input current : less than 20 mA Connected in parallel with ACC(2) pin 3.
4	MOD	Modulator input. Connects to a modulator.	Input impedance : 10 k Ω Input level : Approx. 100 mV rms
5	AF	AF detector output. Fixed, regardless of [AF] position.	Output impedance : 4.7 k Ω Output level : $100 \sim 300$ mV rms
6	SQLS	Squelch output. Goes to ground when squelch opens.	SQL open : Less than 0.3 V/5 mA SQL closed : More than 6.0 V/100 μ A
7	13.8 V	13.8 V output when power is ON.	Output current : Max. 1 A Connected in parallel with ACC(2) pin 7.
8	ALC	ALC voltage input.	Control voltage : $-4 \sim 0$ V Input impedance : More than 10 k Ω Connected in parallel with ACC(2) pin 5.

(2) ACC(2) SOCKET

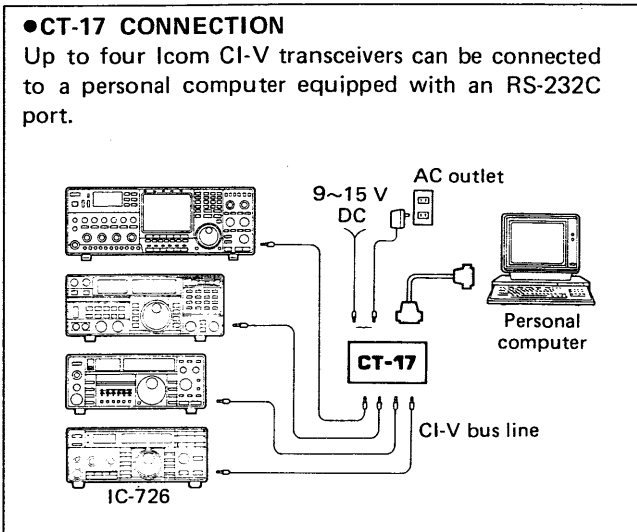
PIN NO.	PIN NAME	DESCRIPTION	SPECIFICATIONS
1	8 V	Regulated 8 V output.	Output voltage : 8 V \pm 0.3 V Output current : Less than 10 mA
2	GND	Same as ACC(1) pin 2.	
3	SEND	Same as ACC(1) pin 3.	
4	BAND	Band voltage output. (Varies with amateur band)	Output voltage : $0 \sim 8.0$ V
5	ALC	Same as ACC(1) pin 8.	
6	NC	No connection.	-----
7	13.8 V	Same as ACC(1) pin 7.	

3-8 REMOTE JACK (CI-V) INFORMATION

The IC-726 can be connected through a CT-17 CI-V LEVEL CONVERTER (optional) to a personal computer equipped with an RS-232C port. Icom Communication Interface - V (CI-V) controls frequency, mode, memory channels, etc.

●CT-17 CONNECTION

Up to four Icom CI-V transceivers can be connected to a personal computer equipped with an RS-232C port.



(1) CI-V CONDITION

Transmitters and receivers using the Icom CI-V System exchange serial information in the packet format. The contents of a data packet can be changed by diodes D2 ~ D4, D57 ~ D63 and D64 on the MAIN UNIT. See diagram at right below for the location of these diodes.

●Baud rate

Baud rate is the data transfer rate. The standard Icom CI-V baud rate is 1200 bps.

BAUD RATE (bps)	DIODE	
	D2	D3
9600	Insert diode	-----
1200	-----	Insert diode
300	Insert diode	Insert diode

: Default

●Frequency data

When connecting the transceiver with the IC-735, change the value to 4 bytes.

FREQUENCY DATA	DIODE (D4)
4 bytes	No diode (Cut D4)
5 bytes	Insert diode

: Default

●Address

You can set an independent address for your IC-726. The IC-726 has the address of 30H (48) as a default value.

Figures marked with an H are hexidecimals and bracketed figures () are decimals.

DIODE						
D57 (1)	D58 (2)	D59 (4)	D60 (8)	D61 (16)	D62 (32)	D63 (64)
---	---	---	---	Insert diode	Insert diode	---

: Default 28H (40)

●Transceive

Transceive operation is possible using the IC-726 with another transceiver such as the IC-781. Either transceiver can be used as the transmitter or receiver.

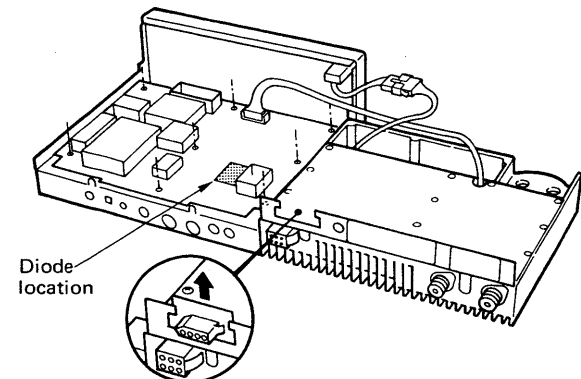
TRANSCIVE	DIODE (D64)
ON	Insert diode
OFF	No diode (Cut D64)

: Default

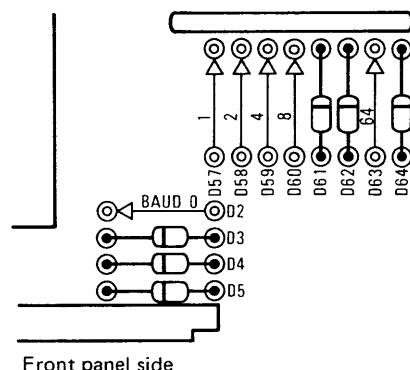
(2) DIODE LOCATION

Diodes are located on the PLL UNIT as shown in the diagram below.

See p. 24 for transceiver disassembly information.



●Magnification of the diode location



4-1 INITIAL SETTINGS

NOTE: Follow all instructions in Section 3 before operating the transceiver.

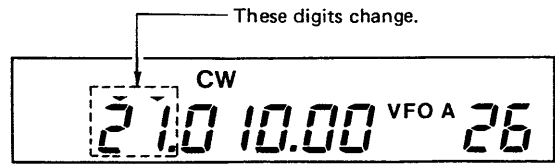
Turn the [POWER] switch OFF before connecting the DC power cable to the DC power socket on the rear panel.

Set switches and controls as shown in the table below.

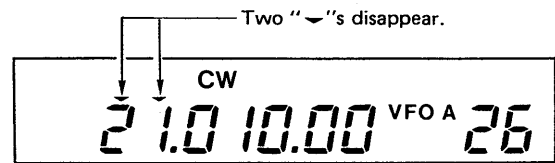
SWITCH	POSITION	SWITCH	POSITION
POWER	OUT	LOCK	OUT
TRANSMIT	OUT	AF	CCW
NB	OUT	SQL	CCW
ATT	OUT	MIC	CENTER
PRE	OUT	RF PWR	CW
AGC	OUT	—	—

CW: Clockwise CCW: Counterclockwise

- Rotate the MAIN DIAL to select the desired amateur band.
 - To select the desired operating frequency, see (2) OPERATING FREQUENCY SELECTION on the next page.
 - Band changes occur as shown in the following diagram.



- Push the [BAND] switch again to cancel the [BAND] switch function.

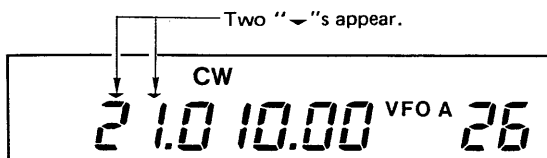


4-2 FREQUENCY SELECTION

(1) BAND SELECTION

The IC-726 covers all amateur bands from 1.9 MHz ~ 50 MHz for transmitting and has receive capability from 500 kHz ~ 54 MHz. The IC-726 has a convenient band stacking register function (see below).

- Push the [BAND] switch.
 - Two "~" appear above the digits that can be changed.



(2) OPERATING FREQUENCY SELECTION

- To select the desired operating band, see (1) BAND SELECTION on the previous page.
- Rotate the MAIN DIAL to set the desired operating frequency.
 - Faster MAIN DIAL rotation automatically shifts the tuning increment by 10 kHz steps.
- To change the frequency quickly, see Section (3) below.
- To change the minimum frequency step, see Section (4) below.

Tech Talk from Icom

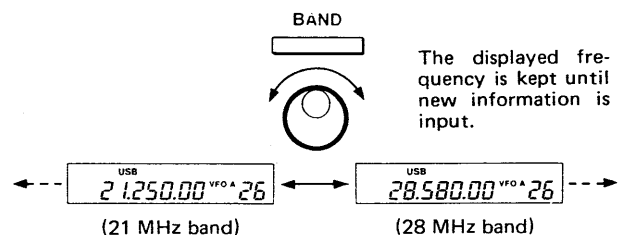
Q. What is the function of the band stacking register?

- The band stacking register stores operating frequencies in VFO modes, switches bands, and returns the transceiver to stored frequencies.

This is especially convenient when switching bands during contests and for quick monitoring of propagation conditions on other bands.

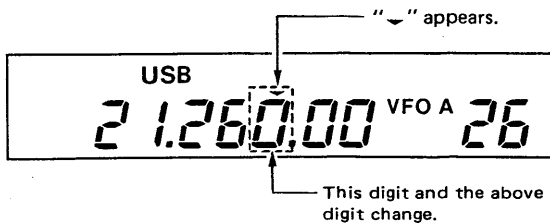
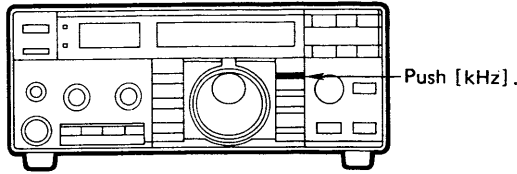
•BAND STACKING REGISTER EXAMPLE

Each band stores the last used frequency and mode.

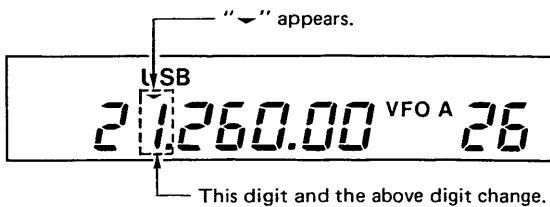
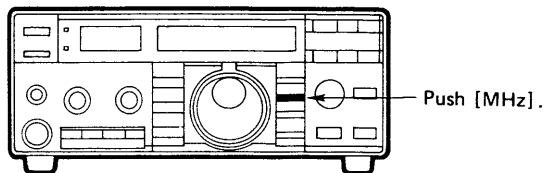


(3) QUICKLY CHANGING THE FREQUENCY

- To change the frequency in 1 kHz steps, push the [kHz] switch and "▼" appears above the kHz digit. Each push of the [kHz] switch alternately turns ON and OFF "▼".



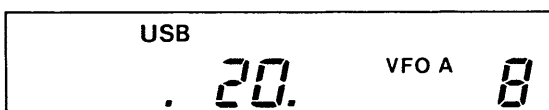
- To change the frequency in 1 MHz steps, push the [MHz] switch and "▼" appears above the MHz digit.



(4) CHANGING THE MINIMUM FREQUENCY STEP

The IC-726 is set at 10 Hz steps in SSB and CW modes, and is set at 1 kHz steps in AM and FM modes as default. However, the frequency steps can be changed to 10 Hz, 20 Hz or 50 Hz as follows:

- 1) Push the [FUNC] switch.
- 2) Push and hold the [kHz] switch, then rotate the MAIN DIAL.
 - The FUNCTION DISPLAY shows frequency steps for 10 Hz, 20 Hz and 50 Hz sequentially.



- 3) Select the desired frequency step then release the [kHz] switch.

(5) AUTO TUNING STEP FUNCTION

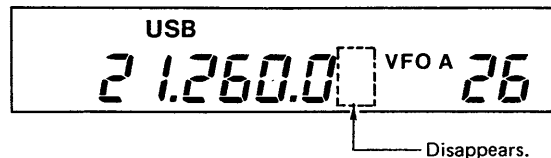
The tuning steps in AM and FM modes are set at 1 kHz as a default value at the factory. The tuning steps are automatically selected for tuning purposes when AM or FM is selected as the IC-726 has an auto tuning step function. The function can be turned OFF as follows when desired:

- 1) To turn OFF the function, push the [FUNC] switch, then push the [AM/FM] switch.
- 2) To turn ON the function again, repeat the procedure in item 1 above.

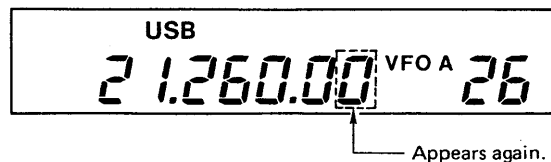
(6) TURNING ON AND OFF THE 10 Hz DIGIT

The 10 Hz digit can be turned ON and OFF. The frequency changes in the set frequency step even if the digit is turned OFF.

- 1) Push the [FUNC] switch.
- 2) Push the [BAND] switch.
 - The 10 Hz digit disappears.



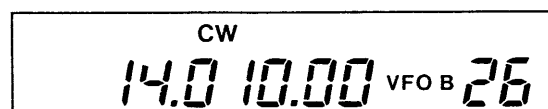
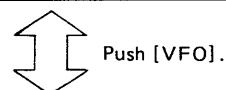
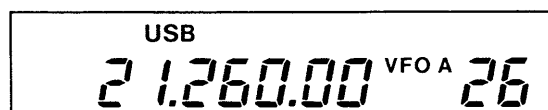
- 3) Push the [FUNC] switch then push the [BAND] switch to turn ON the 10 Hz digit.
 - The 10 Hz digit appears again.



4-3 VFO A AND VFO B SELECTION

The IC-726 contains two VFOs which both receive and transmit. The VFOs are called VFO A and VFO B. This dual VFO system provides tremendous operating flexibility.

Push the [VFO] switch to select VFO A or VFO B.



4 PRE-OPERATION

4-4 RECEIVER CONTROLS AND SWITCHES

Adjust the following controls and switches on the front panel for optimum reception.

SQUELCH CONTROL

Mutes the speaker. Signals and noises that are stronger than the squelch threshold level open the squelch and audio is emitted from the speaker.

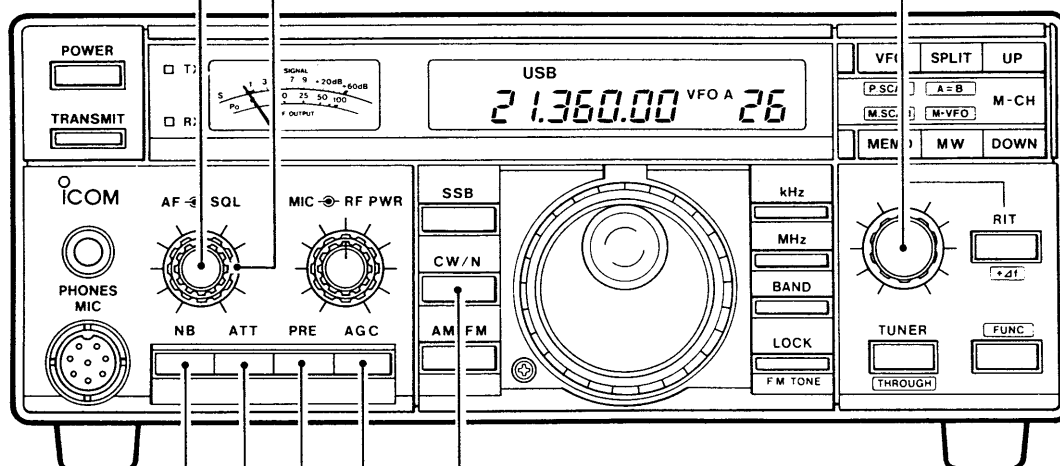
AF GAIN CONTROL

Varies the audio output level from the speaker. Clockwise rotation increases the volume.

RIT CONTROL

Used for fine tuning stations which call off frequency or for compensating for frequency drift.

Shifts the receive frequency up to ± 1 kHz from the displayed frequency without shifting the transmit frequency.



CW/N SWITCH

By installing an optional CW narrow filter. The transceiver has better receive selectivity in CW mode.

AGC SWITCH

Out position: AGC slow
Normally used when operating in SSB or AM mode.
In position: AGC fast
Normally used when operating in CW mode.

Note that the AGC switch does not function in FM mode.

PREAMP SWITCH

Used when receiving weak signals. Push [PREAMP] to the IN position to improve the S/N ratio and sensitivity. Especially useful during DX operation.

ATTENUATOR SWITCH

Used when the received sound from the speaker is distorted by very strong signals. Push [ATT] to the IN position to activate the 20 dB attenuator.

NOISE BLANKER SWITCH

Reduces pulse-type noise such as that generated by automobile ignition systems.

Note that the noise blanker function does not function in AM and FM modes and may not work well when strong signals are on nearby frequencies or when noise is continuous rather than pulse-type.

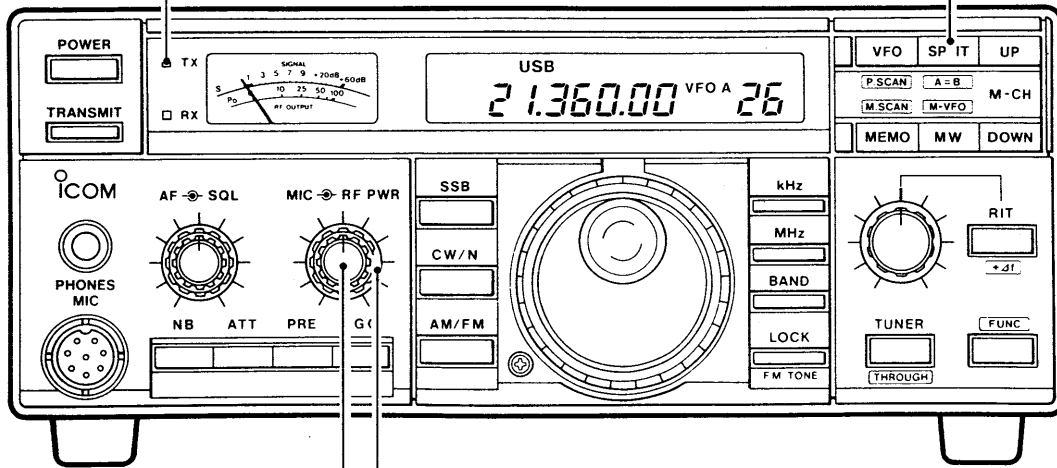
4-5 TRANSMITTER CONTROLS AND SWITCH

TRANSMIT/ALC INDICATOR

Lights up when transmitting. Lighting intensity depends on the mic gain and your voice level. See MIC GAIN control information below.

SPLIT SWITCH

For transmitting on one frequency and receiving on another. See detailed information on p. 21.



RF POWER CONTROL

Varies the RF output power from 10 W to maximum. Adjust this control for the desired output power level.

Maximum output power

- SSB : (HF) 100 W PEP, (50 MHz) 10 W PEP
- CW, FM : (HF) 100 W, (50 MHz) 10 W
- AM : (HF) 40 W, (50 MHz) 4 W

MIC GAIN

Used for adjusting the mic gain. Adjust this control to the point where the ALC indicator lights up at its brightest level while speaking into the mic using your normal voice level. See ALC INDICATOR information above.

Tech Talk from Icom

Q: What is ALC?

A: ALC means Automatic Level Control. The ALC circuit limits output power by controlling the input level of the RF power amplifier.

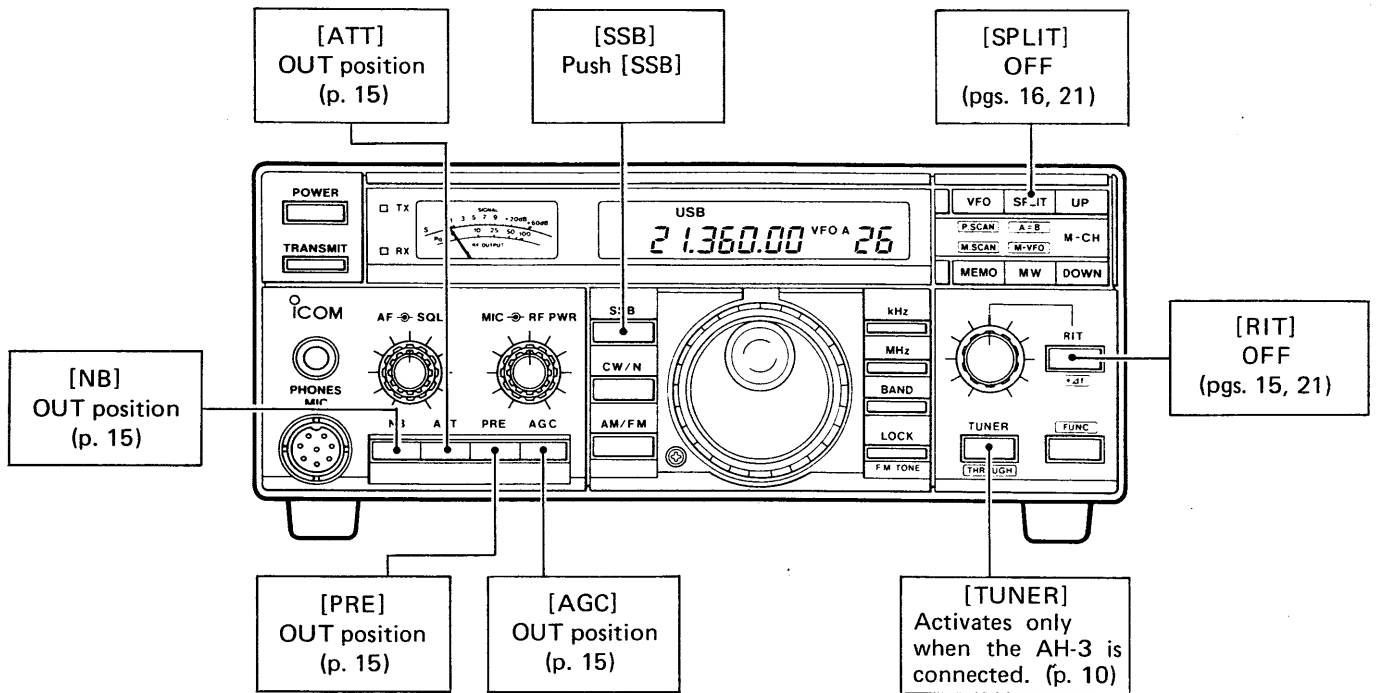
The RF power amplifier is designed as a linear amplifier to amplify an input signal proportionally. The linear amplifier functions in the linear area of

the signal. However, if the input signal level exceeds the limit of linearity, the linear amplifier outputs distorted signals because the signal is amplified in a non-linear area of the signal.

To prevent transmitting distorted signals, the ALC circuit detects a signal and applies it to a driver amplifier as feedback to reduce driver output power.

Therefore, the input signal level to the RF power amplifier is reduced and the transceiver transmits clear signals.

5-1 SSB OPERATION



(1) SSB RECEIVING

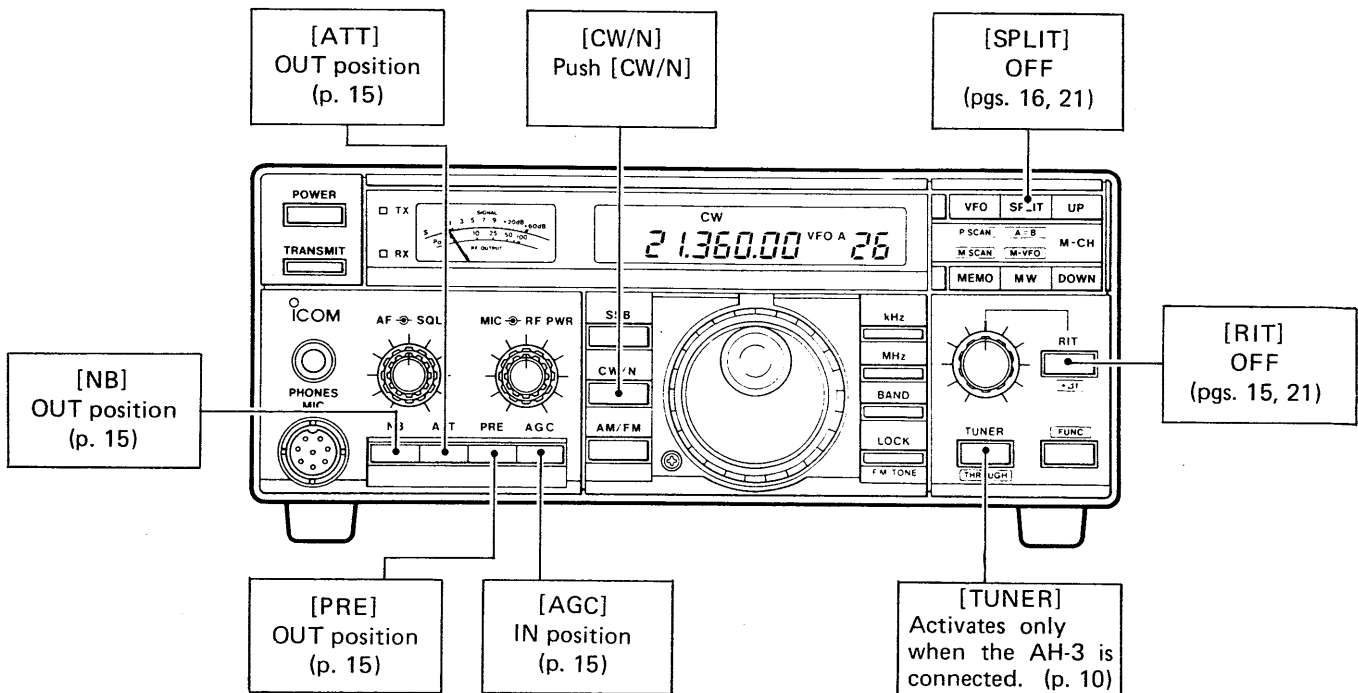
- 1) Set controls and switches as described on p. 13.
- 2) Push [POWER] IN to activate the transceiver.
- 3) Select the desired operating band. (See p. 13)
- 4) Push [SSB].
 - USB is automatically selected on bands above 7 MHz.
 - LSB is automatically selected on bands below 10 MHz.
 - Push [SSB] again to select the opposite side of the side band.
- 5) Adjust [AF] as desired. (See p. 15)
- 6) Adjust [SQL], if needed. (See p. 15)
- 7) Rotate the MAIN DIAL to receive a signal.
- 8) Use the controls and switches described on p. 15 for better receiving.

(2) SSB TRANSMITTING

NOTE: Listen before you transmit to prevent interference.

- 1) Push the PTT switch on the microphone or push [TRANSMIT] IN to transmit.
- 2) Speak naturally into the microphone.
 - When you transmit a signal, the meter needle moves.
- 3) Adjust [RF POWER] to the desired output power. (See p. 16)
- 4) Adjust [MIC], if needed. (See p. 16)
- 5) Release the PTT switch to return to receiving.

5-2 CW OPERATION

**(1) CW RECEIVING**

- 1) Set controls and switches as described on p. 13.
- 2) Push [POWER] IN to activate the transceiver.
- 3) Select the desired operating band. (See p. 13)
- 4) Push [CW].
 - Push [CW] again to select the CW narrow mode. Operating in CW narrow mode requires an optional CW narrow filter. (See p. 36)
- 5) Adjust [AF] as desired. (See p. 15)
- 6) Adjust [SQL], if needed. (See p. 15)
- 7) Push [AGC] IN to select the AGC fast condition. (See p. 15)
- 8) Rotate the MAIN DIAL to receive a signal.
- 9) Use the controls and switches described on p. 15 for better receiving.

(2) CW TRANSMITTING

Plug a straight key or electric keyer into the [KEY] jack on the rear panel.

NOTE: Listen before you transmit to prevent interference.

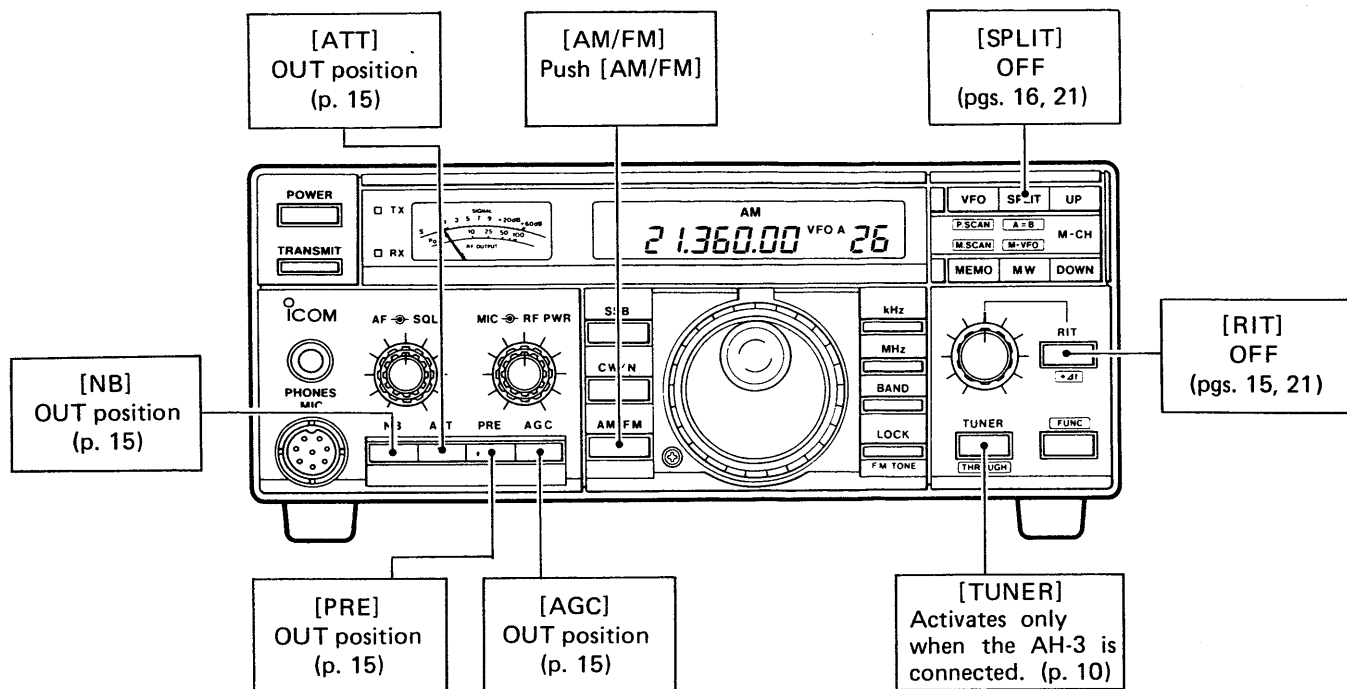
•NORMAL CW OPERATION

- 1) Make sure the [BK IN] switch on the rear panel is in the OUT position.
- 2) Push IN [TRANSMIT] to transmit.
- 3) Operate the CW key.
- 4) Adjust [RF POWER] to the desired output power level.
- 5) Push OUT [TRANSMIT] to return to receive.

•CW BREAK-IN OPERATION

- 1) Push IN the [BK IN] switch on the rear panel.
- 2) Operate the CW key.
- 3) Adjust [DELAY] control on the rear panel.
 - Clockwise rotation increases the transmit release delay time.
- 4) Adjust [RF POWER] to the desired output power level.
- 5) Transmit/receive switching is automatic.

5-3 AM OPERATION



(1) AM RECEIVING

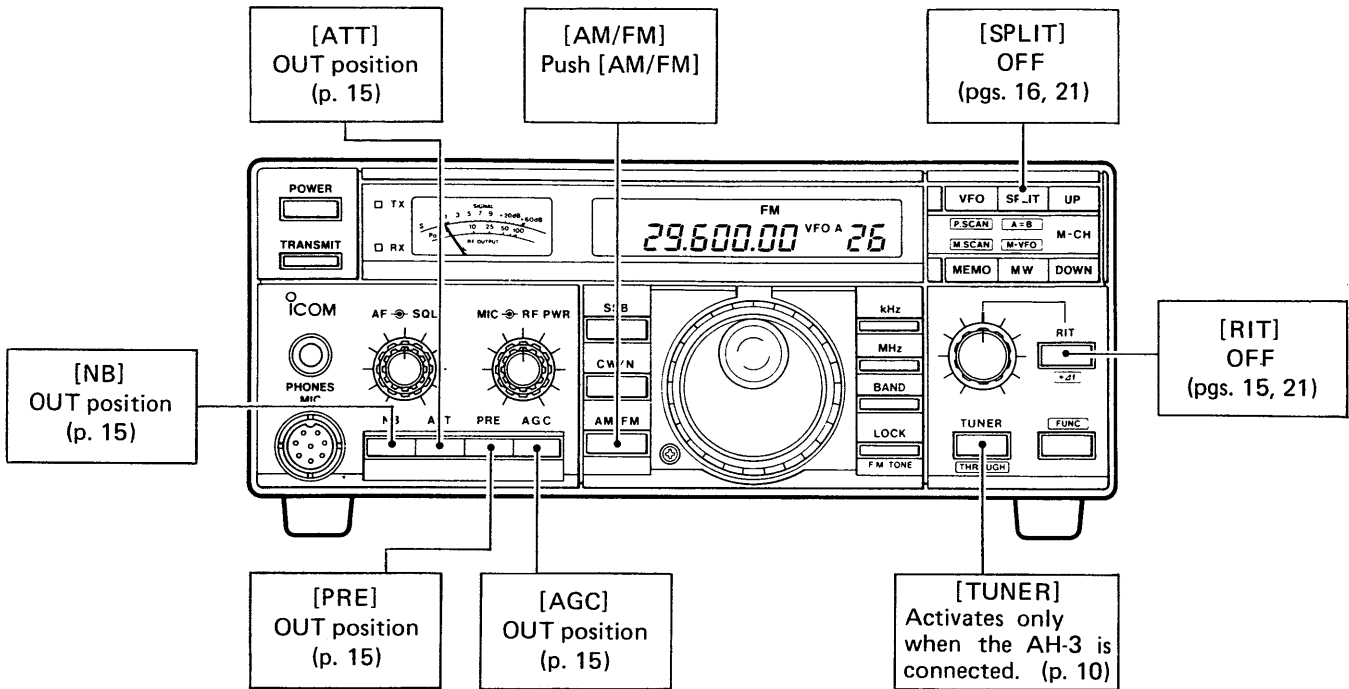
- 1) Set controls and switches as described on p. 13.
- 2) Push [POWER] IN to activate the transceiver.
- 3) Select the desired operating band. (See p. 13)
- 4) Push [AM/FM] to select AM mode.
- 5) Adjust [AF] control as desired. (See p. 15)
- 6) Adjust [SQL], if needed. (See p. 15)
- 7) Rotate the MAIN DIAL to receive a signal.
- 8) Use the controls and switches described on p. 15 for better receiving.

(2) AM TRANSMITTING

NOTE: Listen before you transmit to prevent interference.

- 1) Push the PTT switch on the microphone or push [TRANSMIT] IN to transmit.
- 2) Speak naturally into the microphone.
 - When you transmit a signal, the meter needle indicates a point and moves slightly according to your voice level.
- 3) Adjust [RF POWER] to the desired output power level.
 - AM output power : (HF) 40 W max.
(50 MHz) 4 W max.
- 4) Set [MIC] to the center position.
 - To increase the microphone gain, rotate [MIC] clockwise.
- 5) Release the PTT switch to return to receiving.

5-4 FM OPERATION



(1) FM RECEIVING

- 1) Set controls and switches as described on p. 13.
- 2) Push [POWER] IN to activate the transceiver.
- 3) Select the desired operating band. (See p. 13)
- 4) Push [AM/FM] to select FM mode.
- 5) Adjust [AF] as desired. (See p. 15)
- 6) Adjust [SQL], if needed. (See p. 15)
- 7) Rotate the MAIN DIAL to receive a signal.
- 8) Use the controls and switches described on p. 15 for better reception.

(2) FM TRANSMITTING

NOTE: Listen before you transmit to prevent interference.

- 1) Push the PTT switch on the microphone or push [TRANSMIT] IN to transmit.
- 2) Speak naturally into the microphone.
 - When you transmit a signal, the meter needle indicates a point and moves slightly according to your voice level.
- 3) Adjust [RF POWER] to the desired output power level.
- 4) Set [MIC] to the center position.
 - To increase the mic gain, rotate [MIC] clockwise.
- 5) Release the PTT switch to return to receiving.

•SUBAUDIBLE TONE TRANSMITTING

A subaudible tone is often required to access HF FM repeaters. See p. 29 when installing the UT-30 PROGRAMMABLE TONE ENCODER UNIT.

- 1) Push the PTT switch on the microphone or push [TRANSMIT] IN to transmit.
- 2) Push [LOCK] IN to transmit tone signals.
- 3) Push [LOCK] OUT to stop transmitting tone signals.

5 BASIC OPERATION

5-5 RIT/ Δ f FUNCTION

By using the RIT function, it is possible to shift the receive frequency up to ± 1 kHz on 10 Hz steps without moving the transmit frequency. This is useful for fine tuning stations which transmit using off frequency or for compensating for frequency drift.

The IC-726 has an added feature: the RIT shift frequency can be added to the displayed frequency.

- 1) Push the [RIT] switch to activate the RIT function.
 - "RIT" appears on the FUNCTION DISPLAY.
- 2) Rotate the RIT control.
 - Clockwise rotation : Increases frequency
 - Counterclockwise rotation : Decreases frequency
- 3) To add the RIT shift frequency to the displayed frequency, push the [FUNC] switch then push the [RIT] switch.
 - The displayed frequency changes.
 - "RIT" disappears.
- 4) To clear the RIT shift frequency, push the [RIT] switch.
 - "RIT" disappears.

5-6 SPLIT OPERATION

Split operation allows you to transmit and receive on two different frequencies.

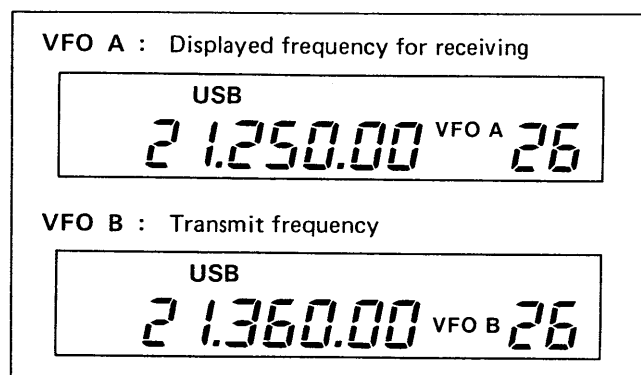
The IC-726 provides split operation using either of the following two methods:

- (1) Using the contents of VFO A and VFO B in VFO mode.
- (2) Using memory channel 23 or 24 in MEMORY mode.

(1) USING VFO A AND B MODES

Split operation is possible using the contents of VFO A and VFO B in VFO mode.

Following is an example for 21.2500 MHz / USB for receiving and 21.3600 MHz / USB for transmitting using split operation.



- 1) Set the frequency and mode for 21.2500 MHz and USB in VFO A mode.
- 2) Set the frequency and mode for 21.3600 MHz and USB in VFO B mode.
- 3) Push the [VFO] switch to select VFO A mode.
- 4) Push the [SPLIT] switch.
- 5) Push either the PTT or [TRANSMIT] switch to transmit.
 - You are transmitting on 21.3600 MHz in USB mode and receiving on 21.2500 MHz in USB mode.
- 6) To change the transmit and receive frequencies in the split operation, push the [VFO] switch to select the VFO B indicated.

(2) USING MEMORY CHANNEL 23 OR 24

Memory channels 23 and 24 can memorize both transmit and receive frequencies. This is useful for selecting the most often used split frequencies.

Following is an example for 21.2500 MHz / USB for receiving and 21.3600 MHz / USB for transmitting using split operation.

•How to memorize split frequencies into memory channel 23

- 1) Select VFO A mode and push the [UP] or [DOWN] switch to select memory channel 23.
- 2) Push the [SPLIT] switch.
 - "SPLIT" appears.
- 3) Set the frequency and mode to 21.2500 MHz and USB and push the [MW] switch to memorize the information.
- 4) Push the [VFO] switch to select VFO B mode.
- 5) Set the frequency and mode to 21.3600 MHz and USB, and push the [MW] switch to memorize the information.

•How to operate the split frequencies

- 1) Push the [MEMO] switch to select MEMORY mode and push the [UP] or [DOWN] switch to select memory channel 23.
- 2) Push the [SPLIT] SWITCH.
 - "SPLIT" appears.
- 3) Push either the PTT or [TRANSMIT] switch to transmit.
 - You are transmitting on 21.3600 MHz in USB mode and receiving on 21.2500 MHz in USB mode.
- 4) To reverse the transmit and receive frequencies, follow the steps above for memorizing frequencies, reversing the VFOs.

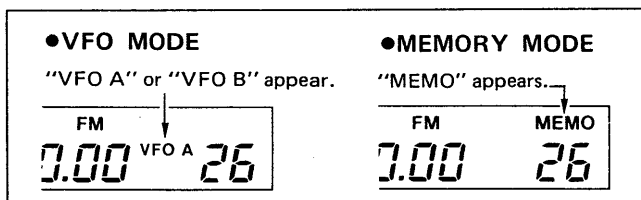
The IC-726 has 26 memory channels. The memory function is very useful for quickly changing to a desired frequency.

Memory channels 0 ~ 26 can be programmed with one frequency and one mode in each memory channel. Memory channels 23 ~ 26 also have the following special memory functions:

MEMORY CHANNEL NUMBER	CAPABILITY
0 ~ 22	One frequency and one mode in each memory channel.
23 and 24	Independent transmit and receive frequencies and mode on each channel for split operation.
25 and 26	One frequency and one mode on each memory channel as scan edges of Programmed Scan.

6-1 VFO AND MEMORY MODE SELECTION

- 1) Push the [MEMO] switch to select MEMORY mode.
- 2) Push the [VFO] switch to move to VFO mode.



6-2 MEMORY CHANNEL SELECTION

- 1) Push the [MEMO] switch to select MEMORY mode.
- 2) Push the [UP] or [DOWN] switch on the front panel, or the [UP] or [DN] switch on the microphone to select the desired memory channel.

NOTE: When the [LOCK] switch is pushed IN, only memory channels with the same operating mode as displayed are selected when the [UP] or [DOWN] switch is pushed.

6-3 MEMORY WRITING

- 1) Select either VFO or MEMORY mode.
- 2) Push the [UP] or [DOWN] switch to select the desired memory channel.
- 3) Set the desired frequency and mode you want to memorize.
- 4) Push the [MW] switch to memorize the information.

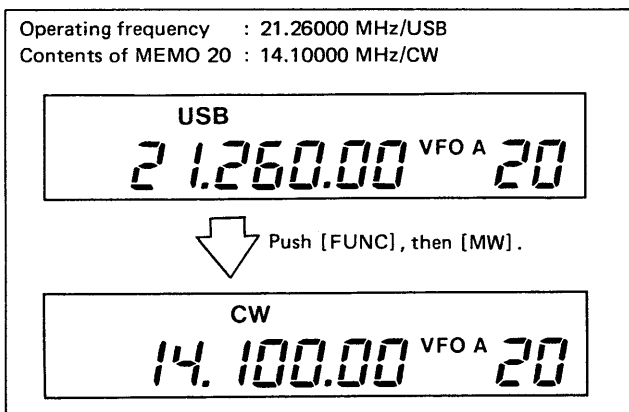
6-4 FREQUENCY TRANSFERRING [M▶VFO]

The selected memory contents in a memory channel can be transferred to a VFO mode. This switch operates differently depending on which mode the IC-726 is in.

(1) IN VFO MODE

The frequency and mode stored in the displayed memory channel are transferred to a selected VFO mode.

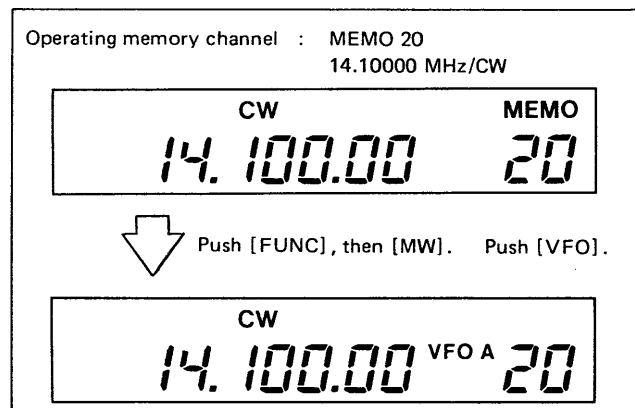
- 1) Push the [UP] or [DOWN] switch to select the desired memory channel you want to read.
- 2) Push the [FUNC] switch then the [MW] switch.
 - Memory contents in the displayed memory channel number appear on the FUNCTION DISPLAY.



(2) IN MEMORY MODE

The displayed frequency and mode are transferred to the VFO used immediately prior to changing to MEMORY mode.

- 1) Push the [UP] or [DOWN] switch to select the desired memory channel you want to read.
- 2) Push the [FUNC] switch then the [MW] switch.
 - The displayed memory contents are transferred.
- 3) Push the [VFO] switch.
 - The selected memory contents are displayed.

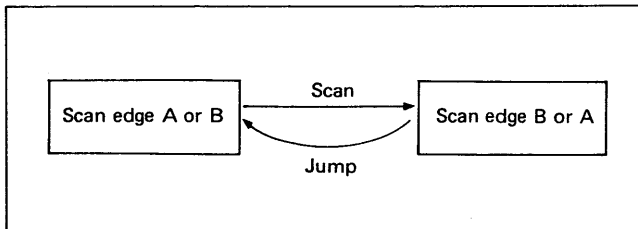


The IC-726 is equipped with three separate scan functions which provide tremendous scanning versatility at the touch of a few switches.

7-1 SCAN TYPES

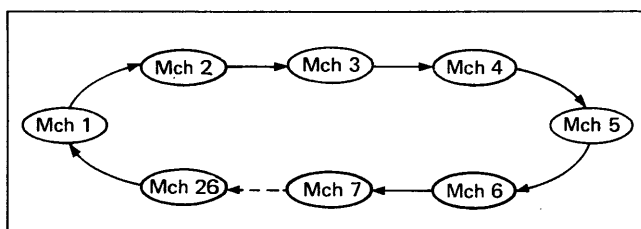
SCAN NAME	FUNCTION
PROGRAMMED SCAN	Repeatedly scans between two user-programmed scan edges (MEMO 25 and 26).
MEMORY SCAN	Repeatedly scans all memory channels.
SELECTED MODE MEMORY SCAN	Repeatedly scans memory channels with the same selected operating mode.

7-2 PROGRAMMED SCAN



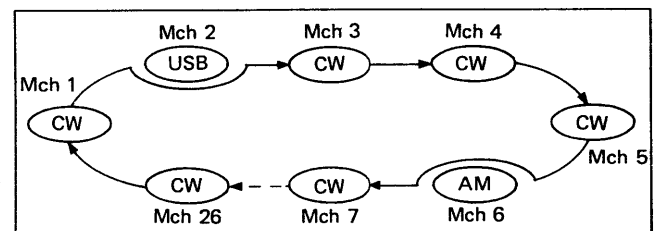
- 1) Program the high and low frequency edges of the desired scanning range into MEMO 25 and 26.
See p. 22 for programming the memory channels.
 - Either channel can have the higher or lower frequency stored.
- 2) Push the [VFO] switch to select VFO mode.
- 3) Select LSB, USB, CW, AM or FM mode.
- 4) Adjust the [SQL] control to the threshold point.
- 5) Push the [FUNC] switch then push the [VFO] switch.
 - The scan begins from the lower limit of the range.
 - The scan stops when a receive signal opens the squelch.
 - The scan resumes after the signal disappears.
- 6) Push the [VFO] switch again to stop the scan.
 - The following switches and controls also stop the scan: [PTT] [TRANSMIT] [MEMO] [MW] MAIN DIAL

7-3 MEMORY SCAN



- 1) Program the desired frequencies into memory channels.
See p. 22 for programming memory channels.
- 2) Push the [MEMO] switch to select the MEMORY mode.
- 3) Adjust the [SQL] control to the threshold point.
- 4) Push the [FUNC] switch then push the [MEMO] switch.
 - The scan begins.
 - The scan stops when a receive signal opens the squelch.
 - The scan resumes after the signal disappears.
- 5) Push the [MEMO] switch again to stop the scan.
 - The following switches and controls also stop the scan: [PTT] [TRANSMIT] [VFO] [MW] MAIN DIAL

7-4 SELECTED MODE MEMORY SCAN



- 1) Program the desired frequencies into memory channels.
See p. 22 for programming memory channels.
- 2) Push the [MEMO] switch to select MEMORY mode.
- 3) Adjust the [SQL] control to the threshold point.
- 4) Select LSB, USB, CW, AM or FM modes.
- 5) Push the [LOCK] switch IN.
- 6) Push the [FUNC] switch then push the [MEMO] switch.
 - The scan begins.
 - The scan stops when a receive signal opens the squelch.
 - The scan resumes after the signal disappears.
- 7) Push the [MEMO] switch again to stop the scan.
 - The following switches and controls also stop the scan: [PTT] [TRANSMIT] [VFO] [MW] MAIN DIAL

7-5 SUPPLEMENTAL SCAN SETTINGS

(1) SCAN SPEED

Scan speed in the IC-726 is set for fast speed at the factory. See p. 28 for converting to a slower scan speed.

(2) SCAN CLEAR

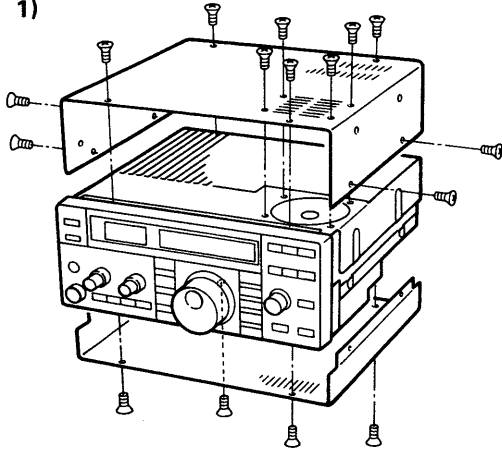
The scan function can be automatically cleared when the transceiver receives a signal. See p. 28 for setting the transceiver in the scan clear condition.

8-1 DISASSEMBLING THE TRANSCEIVER

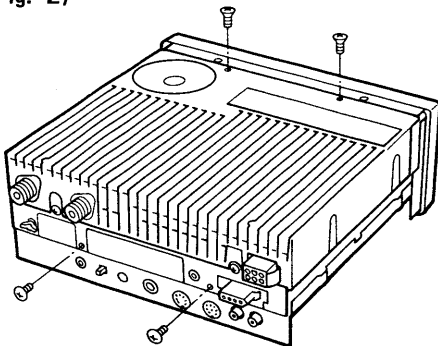
Follow the transceiver disassembly procedures shown here when you want to install an option or replace a component.

CAUTION: DISCONNECT the DC power cable from the transceiver before performing any work on the transceiver.

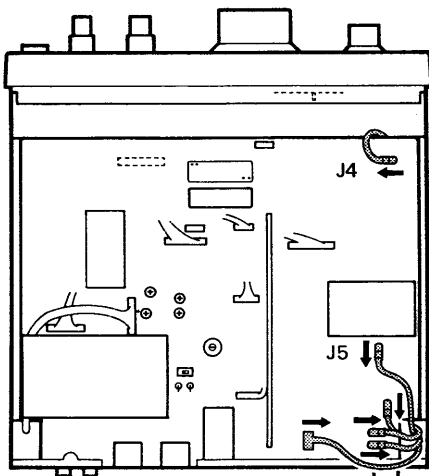
REMOVING COVERS (Fig. 1)



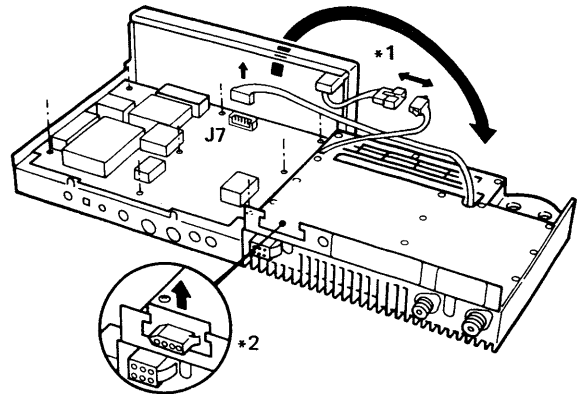
REMOVING PA UNIT SCREWS (Fig. 2)



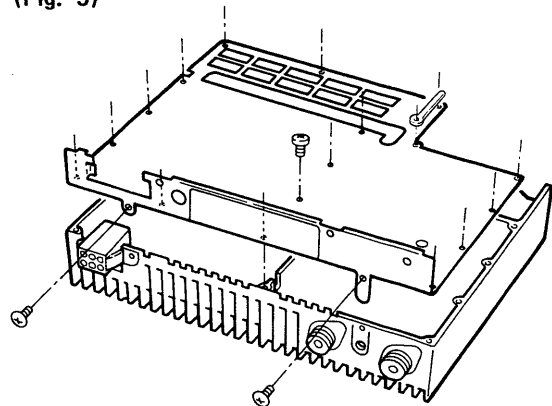
PREPARATION FOR OPENING THE PA UNIT AND LOGIC UNIT (Fig. 3)



OPENING THE PA UNIT (Fig. 4)



REMOVING THE PA UNIT SHIELD COVER (Fig. 5)



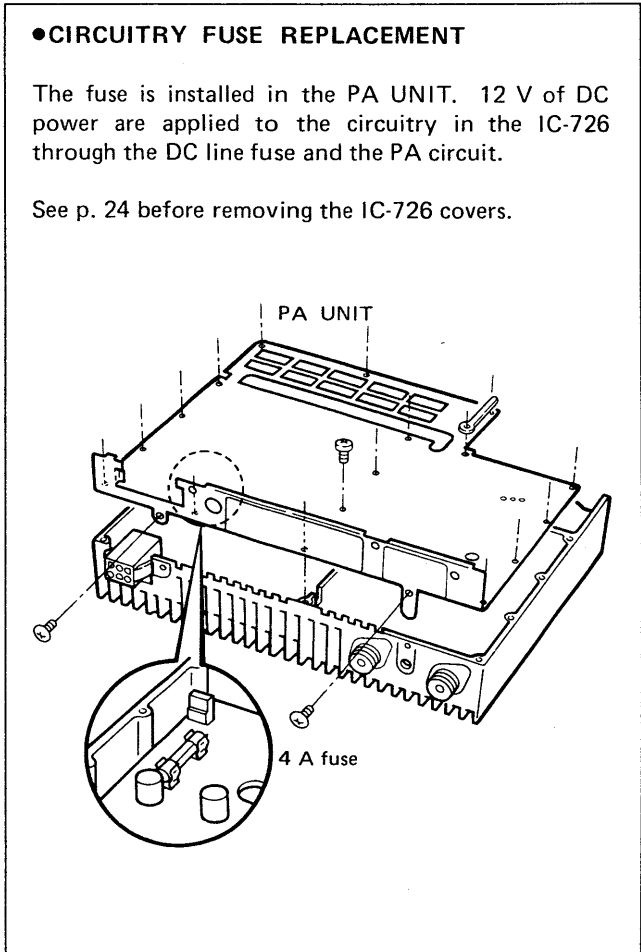
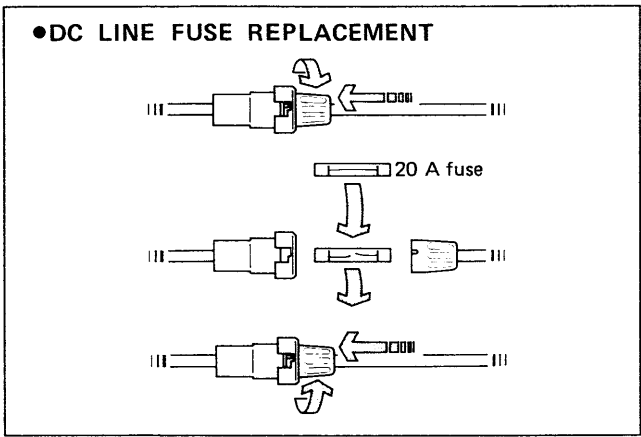
- 1) To remove top and bottom covers, unscrew the 16 screws shown in the diagram. (Fig. 1)
- 2) Unscrew the 4 screws shown in the diagram before opening the PA UNIT. (Fig. 2)
- 3) Unplug 2 plugs from J11 and J12 as shown in the diagram. (Fig. 3)
- 4) Disconnect the 8-pin connector from J7 on the PLL UNIT as shown in the diagram. (Fig. 4)
- 5) Disconnect the black connector (indicated by *1). (Fig. 4)
- 6) Slide up and remove the TUNER CONTROL SOCKET (indicated by *2) from the holder. (Fig. 4)
- 7) Open the PA UNIT as shown in the diagram. (Fig. 5)
- 8) Unscrew the 19 screws to remove the PA UNIT shield cover as shown in the diagram. (Fig. 5)
- 9) To remove the PLL UNIT, unplug the 4 plugs from J4, J5, J6 and J13 on the MAIN UNIT. (Fig. 3)
 - See pgs. 31 and 32 for plug connection information.

8-2 FUSE REPLACEMENT

If the fuse blows or the transceiver stops functioning, find the source of the problem if possible, and replace the damaged fuse with a new, rated fuse.

CAUTION: Disconnect the DC power cable from the DC POWER SOCKET on the rear panel when changing the fuse.

- DC power cable fuses 20A
- Circuitry fuse F.G.M.B. 125 V, 4 A



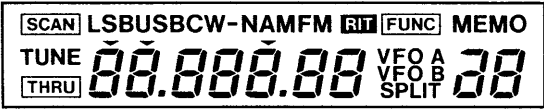
8-3 CPU RESETTING

The FREQUENCY DISPLAY may occasionally display erroneous information, e.g., when first applying power. This may be caused externally by static electricity or other factors.

If this problem occurs, turn the [POWER] switch OFF. Wait a few seconds, and then turn ON power again. If the problem continues, perform the following procedure:

NOTE: CPU resetting clears all memory information.

- 1) Turn the [POWER] switch OFF.
- 2) Push and hold the [FUNC] and [MW] switches, and push the [POWER] switch IN.
 - All information is displayed for a couple seconds then 14.1000 MHz is displayed.



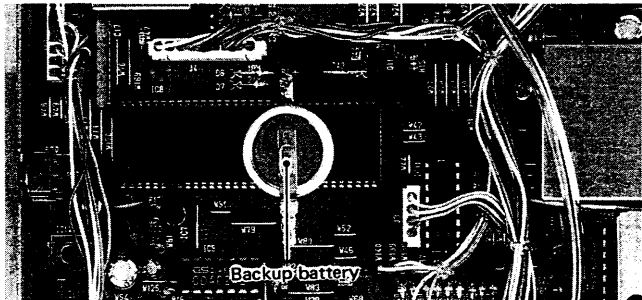
- 3) Release switches. The CPU is now reset.

8-4 CPU BACKUP BATTERY

The IC-726 has a lithium backup battery for retaining memory information.

The usual life of the backup battery is approximately five years. When the battery is exhausted, the transceiver transmits and receives normally but the transceiver cannot retain memory information.

NOTE: Backup battery replacement should be done by an authorized Icom Dealer or Service Center.



8-5 CLEANING

If the transceiver becomes dusty or dirty, wipe it clean with a dry, soft cloth. Avoid the use of strong cleaning agents such as benzine or alcohol as they may damage the surfaces of the transceiver.

8-6 TROUBLESHOOTING

The following chart is designed to help you correct problems which are not equipment malfunctions.

If you are not able to locate the cause of a problem or solve it through the use of this chart, contact your nearest Icom Service Center or Dealer.

PROBLEM	POSSIBLE CAUSE	SOLUTION	REF.
<ul style="list-style-type: none"> Power does not come on when the [POWER] switch is pushed. 	<ul style="list-style-type: none"> Power cable is improperly connected. Fuse is blown. (Fuses are installed in two places. One is installed in the DC power cable and the other is installed in the PA unit. See p. 25 for their locations.) Battery is exhausted. 	<ul style="list-style-type: none"> Reconnect the power cable securely. Check for the cause, then replace the fuse with a spare one. DC power cable PA UNIT Check the battery voltage with the transceiver turned ON. 	<p>p. 7 p. 25 p. 7</p>
<ul style="list-style-type: none"> No sound comes from the speaker. 	<ul style="list-style-type: none"> Volume level is too low. The squelch is closed. The transceiver is in transmit mode. An external speaker or headphones are in use. The transceiver is in CW narrow mode. 	<ul style="list-style-type: none"> Rotate the [AF] control clockwise to obtain a suitable listening level. Rotate the [SQL] control counterclockwise to open the squelch. Push the [TRANSMIT] switch to the out position to return to receive mode. Check the external speaker or headphones plug connection. Operating CW narrow mode requires either the FL-100 or FL-101 (sold separately). 	<p>p. 15 p. 15 p. 2 p. 6 p. 18</p>
<ul style="list-style-type: none"> Sensitivity is low. 	<ul style="list-style-type: none"> The antenna feedline is cut or shorted. Attenuator circuit is inserted in the RF circuit. Antenna is not properly tuned when using the AH-3. 	<ul style="list-style-type: none"> Check the feedline and correct any improper conditions. Push the [ATT] switch to the out position to disconnect the circuit. Push the [TUNE] switch to tune the antenna. 	<p>p. 5 p. 15 p. 10</p>
<ul style="list-style-type: none"> Receive signal is distorted with strong signals. 	<ul style="list-style-type: none"> The noise blanker function is turned ON. 	<ul style="list-style-type: none"> Push the [NB] switch to the out position to turn OFF the function. 	<p>p. 15</p>
<ul style="list-style-type: none"> Output power is low. 	<ul style="list-style-type: none"> Output power is set at low. Mic gain is set at low. The antenna feedline is cut or shorted. Operating mode is set to AM. 	<ul style="list-style-type: none"> Rotate the [RF PWR] control clockwise. Clockwise rotation increases the power. Rotate the [MIC] control clockwise. Clockwise rotation increases the mic gain. Check the feedline and correct any improper conditions. The transceiver outputs 40 W maximum in AM. 	<p>p. 16 p. 16 p. 5 p. 19</p>
<ul style="list-style-type: none"> No contact possible with another station. 	<ul style="list-style-type: none"> Transmit and receive frequencies are not the same. 	<ul style="list-style-type: none"> Push the [RIT] switch to turn OFF the function. 	<p>p. 15</p>
<ul style="list-style-type: none"> Transmitted signals are distorted. 	<ul style="list-style-type: none"> The mic gain is set too high. 	<ul style="list-style-type: none"> Rotate the [MIC] control counterclockwise to reduce the gain. 	<p>p. 16</p>
<ul style="list-style-type: none"> The displayed frequency does not change properly. 	<ul style="list-style-type: none"> The dial lock function is activated. The internal CPU has malfunctioned. 	<ul style="list-style-type: none"> Push the [LOCK] switch to the out position to release the function. Turn the power OFF. Then turn the power ON again while pushing the [FUNC] and [MW] switches. 	<p>p. 2 p. 25</p>
<ul style="list-style-type: none"> Scan does not operate properly. 	<ul style="list-style-type: none"> Both scan edges are set improperly for Programmed scan. Same frequencies are memorized in all memory channels for Memory scan. 	<ul style="list-style-type: none"> Reset scan edges. Program different frequencies into memory channels. 	<p>p. 23 p. 22</p>
<ul style="list-style-type: none"> All programmed memories have been erased. 	<ul style="list-style-type: none"> The backup battery is empty. 	<ul style="list-style-type: none"> Replace the backup battery. 	<p>p. 25</p>
<ul style="list-style-type: none"> All memory channels are not displayed. 	<ul style="list-style-type: none"> The [LOCK] switch is pushed IN. 	<ul style="list-style-type: none"> Push the [LOCK] switch OUT. 	<p>p. 22</p>

8 MAINTENANCE AND ADJUSTMENT

8-7 ADJUSTMENTS

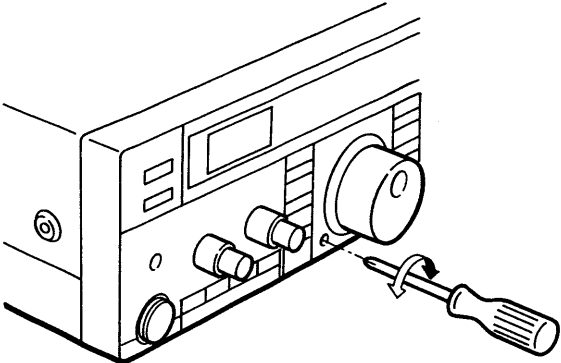
Your IC-726 has been thoroughly adjusted and checked at the factory before being shipped.

All adjustable trimmers and coils should be adjusted by an authorized Icom Dealer or Service Center. Your transceiver warranty does not cover problems caused by unauthorized internal adjustments.

(1) MAIN DIAL BRAKE ADJUSTMENT

The tension of the MAIN DIAL may be adjusted to suit your operating requirements.

• ADJUSTMENT POSITION

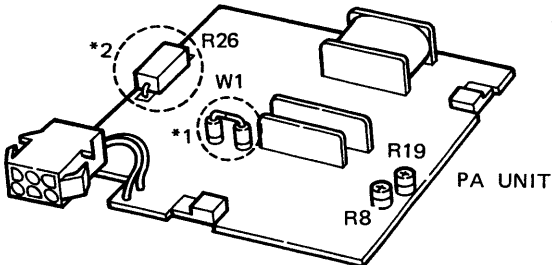


- 1) The brake adjustment screw is located on the left side of the MAIN DIAL.
- 2) Turn the brake adjustment screw clockwise or counterclockwise to a comfortable tension level while turning the MAIN DIAL continuously and evenly in one direction.

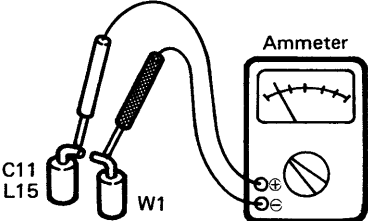
(2) HF BAND PA UNIT IDLING CURRENT

The PA unit operates with a linear amplifier and requires some idling current to flow through the driver and final transistors to obtain bias voltage.

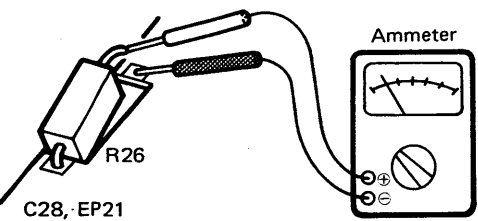
• PA UNIT



• DRIVER TRANSISTORS IDLING CURRENT



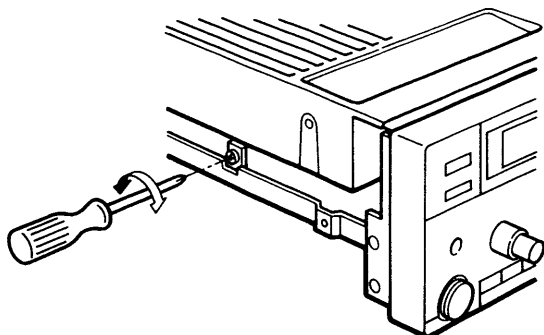
• FINAL TRANSISTORS IDLING CURRENT



- 1) Preparation:
 - [POWER] switch → OFF
 - [MIC] control → Max. counterclockwise
 - [RF PWR] control → Max. counterclockwise
 - Microphone → Disconnect
 - Ammeter → 100 mA range for driver transistors
500 mA range for final transistors
- 2) Unsolder points indicated by *1 and *2.
- 3) Properly connect test leads to points. See diagrams for the driver and final amp. adjustments.
- 4) Turn transceiver power ON.
- 5) Push the [SSB] switch to select LSB or USB mode.
- 6) Push the [TRANSMIT] switch IN to transmit.
- 7) Adjust R8 to set 50 mA for the driver amp.
Adjust R19 to set 300 mA for the final amp.
- 8) Turn transceiver power OFF.
- 9) Re-solder the de-soldered points.

(3) RIT CONTROL

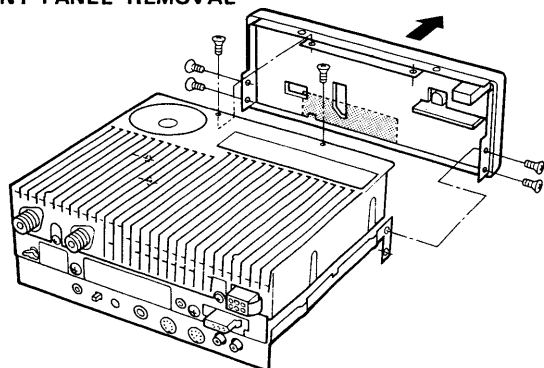
• ADJUSTMENT POSITION



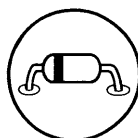
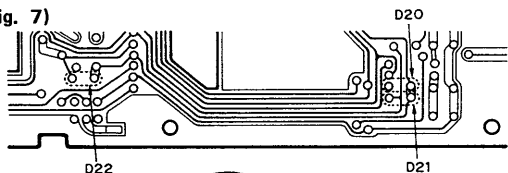
- 1) Rotate the [RIT] control to the center position and turn OFF the RIT function if it is turned ON.
- 2) Receive WWV or another signal emitted as a single tone from the speaker while in LSB, USB or CW mode.
- 3) Push the [RIT] switch to turn ON the RIT function and adjust R70 on the PLL UNIT as shown at left to the same tone pitch as that received.
- 4) Turn OFF and ON the RIT function to compare two tone pitches and adjust R70 until both tone pitches are the same.

(4) SCAN FUNCTION

• FRONT PANEL REMOVAL



• DIODE INSTALLATION LOCATION
(Fig. 7)



Insert a diode as shown in the diagram at left.

By inserting a silicon diode (sold separately) in the position indicated, the following functions can be changed:

DIODE	DEFAULT	AFTER MODIFICATION	REF.
D20	Scan resume	Scan clear	p. 23
D21	Faster scan speed	Slower scan speed	p. 23
D22	Faster scan speed with mic [UP]/[DOWN]	Slower scan speed with mic [UP]/[DOWN]	p. 3

- 1) Unscrew the 6 screws and remove the front panel from the transceiver body.
- 2) Diode leads should be bent and cut before inserting them into the P.C. board.
- 3) Insert a diode. Make sure it is inserted in the proper direction and in the desired position.
- 4) Solder leads.

(5) BFO

The BFO adjustment requires an accurate frequency counter (less than ± 1 ppm).

Connect the frequency counter to R266 on the MAIN UNIT. See p. 31 for the exact location.

Make the adjustments shown in the table at right in numerical order.

	MODE	FREQUENCY	ADJUSTMENT
1	USB	9.01300 MHz	C294
2	CW transmit	9.01060 MHz	L83
3	LSB	9.01000 MHz	L82
4	CW receive	9.00980 MHz	Verify
5	AM	No oscillation	-----

(6) OTHER ADJUSTMENTS

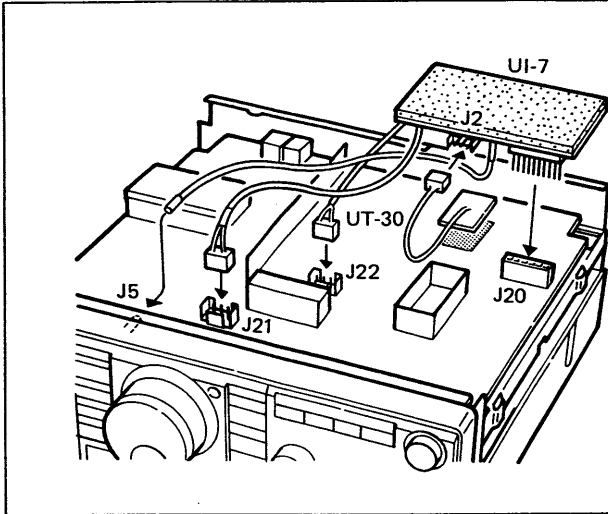
See pgs. 31 and 32 for information regarding other adjustments.

9

INSTALLATION OF OPTIONS

9-1 UT-30 PROGRAMMABLE TONE ENCODER UNIT

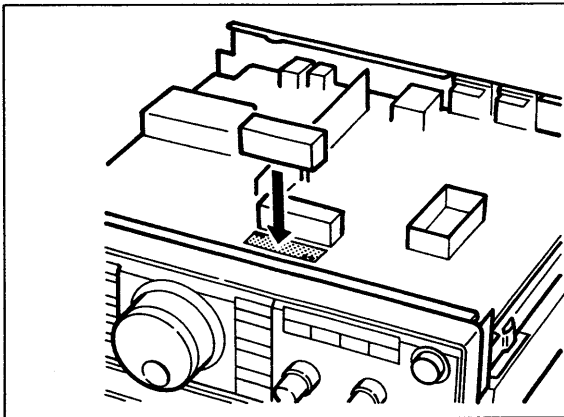
The UT-30 has 38 programmable tones available.



- 1) Remove top and bottom covers.
- 2) Remove the UI-7 AM•FM UNIT from the MAIN UNIT.
- 3) Remove the protective paper from the back of the UT-30 to expose the adhesive strip.
- 4) Install the unit in the location shown on the MAIN UNIT. See the diagram at left.
- 5) Connect the 3-pin plug on the UT-30 to J2 on the UI-7.
- 6) Re-connect the UI-7 on the MAIN UNIT.

9-2 CW NARROW FILTERS

The optional FL-100 and FL-101 CW NARROW FILTERS are available.

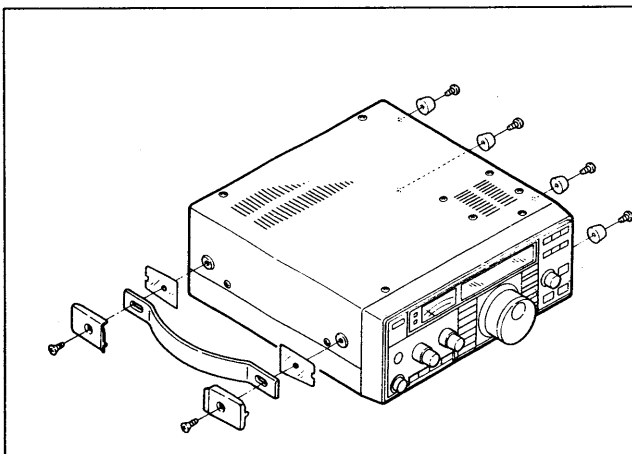


FL-100	500 Hz/−6 dB
FL-101	250 Hz/−6dB

- 1) Remove the bottom cover.
- 2) Insert a filter to the proper position. The location is shown in the diagram at left.
 - The filter works regardless of which direction it is inserted in.
- 3) Replace the cover. See p. 18 for CW operation.

9-3 MB-23 CARRYING HANDLE

The handle allows you to easily carry and transport the transceiver.



Attach the MB-23 as shown in the diagram.

NOTE:

Supplied screws with the MB-23 **CANNOT** be used with the IC-726. Please use the screws supplied in the IC-726 unpacking to correctly attach the MB-23.

9-4 CR-64 HIGH-STABILITY CRYSTAL UNIT

By replacing the original crystal unit with this unit, the total frequency stability of the transceiver will be improved.

PA UNIT

CR-64

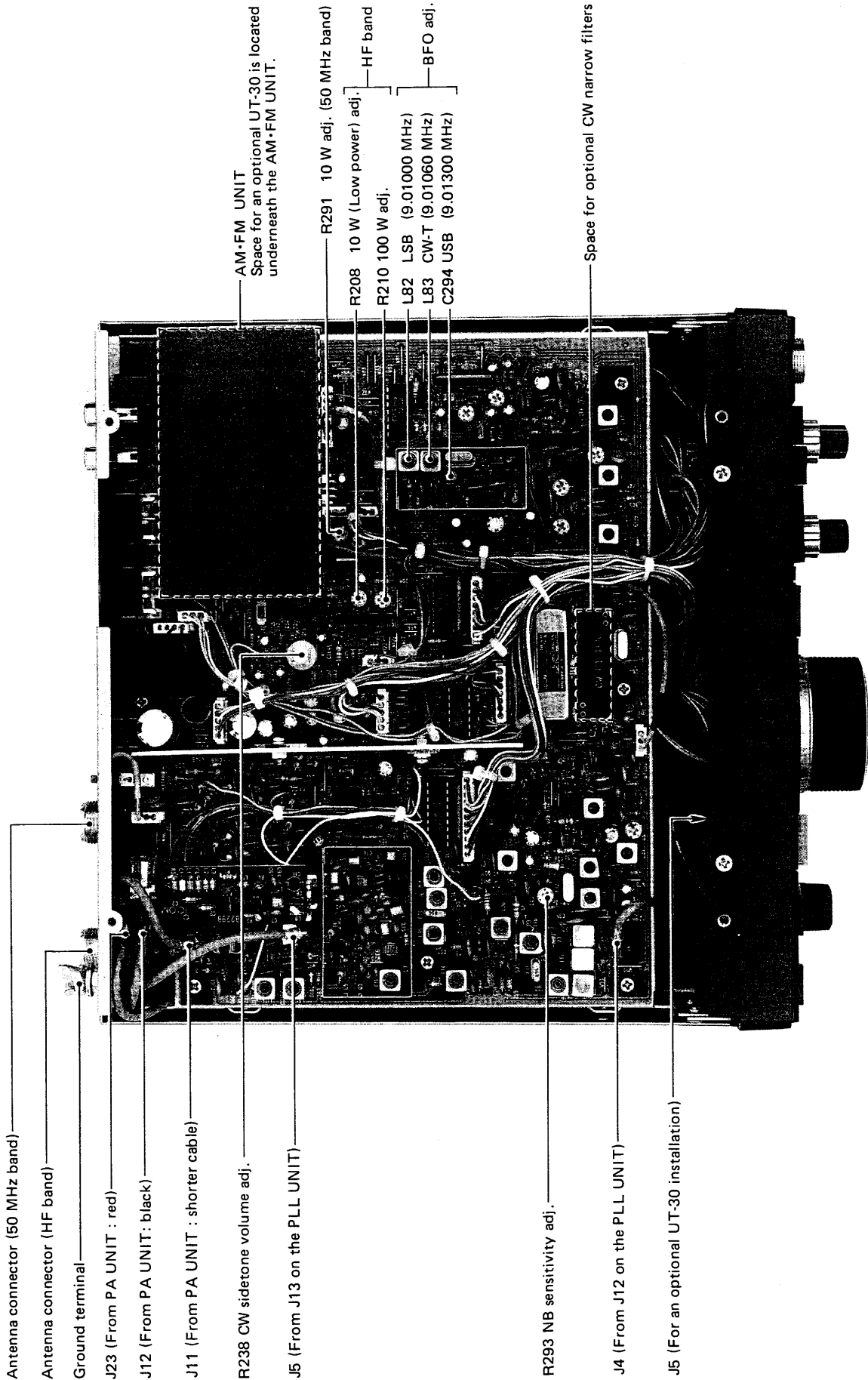
PLL UNIT

CR-64 frequency stability: ± 0.5 ppm
 ($-30^{\circ}\text{C} \sim +60^{\circ}\text{C}$,
 $-22^{\circ}\text{F} \sim +140^{\circ}\text{F}$)

- 1) Remove covers and the PLL UNIT following the disassembly procedures on p. 24.
- 2) Remove the crystal unit from the P.C. board (PLL UNIT).
- 3) Unsolder the 4 positions on the P.C. board where the CR-64 will be installed. Use a de-soldering braid.
- 4) Install the unit flush with the P.C. board and in the proper direction.
 - For correct installation, symbols on the bottom of the CR-64 must be identically matched with symbols on the P.C. board.
- 5) Bend the unit leads flush with the foil side of the P.C. board and solder them.
- 6) Trim the leads even with the solder points.
- 7) Replace the P.C. board and covers.

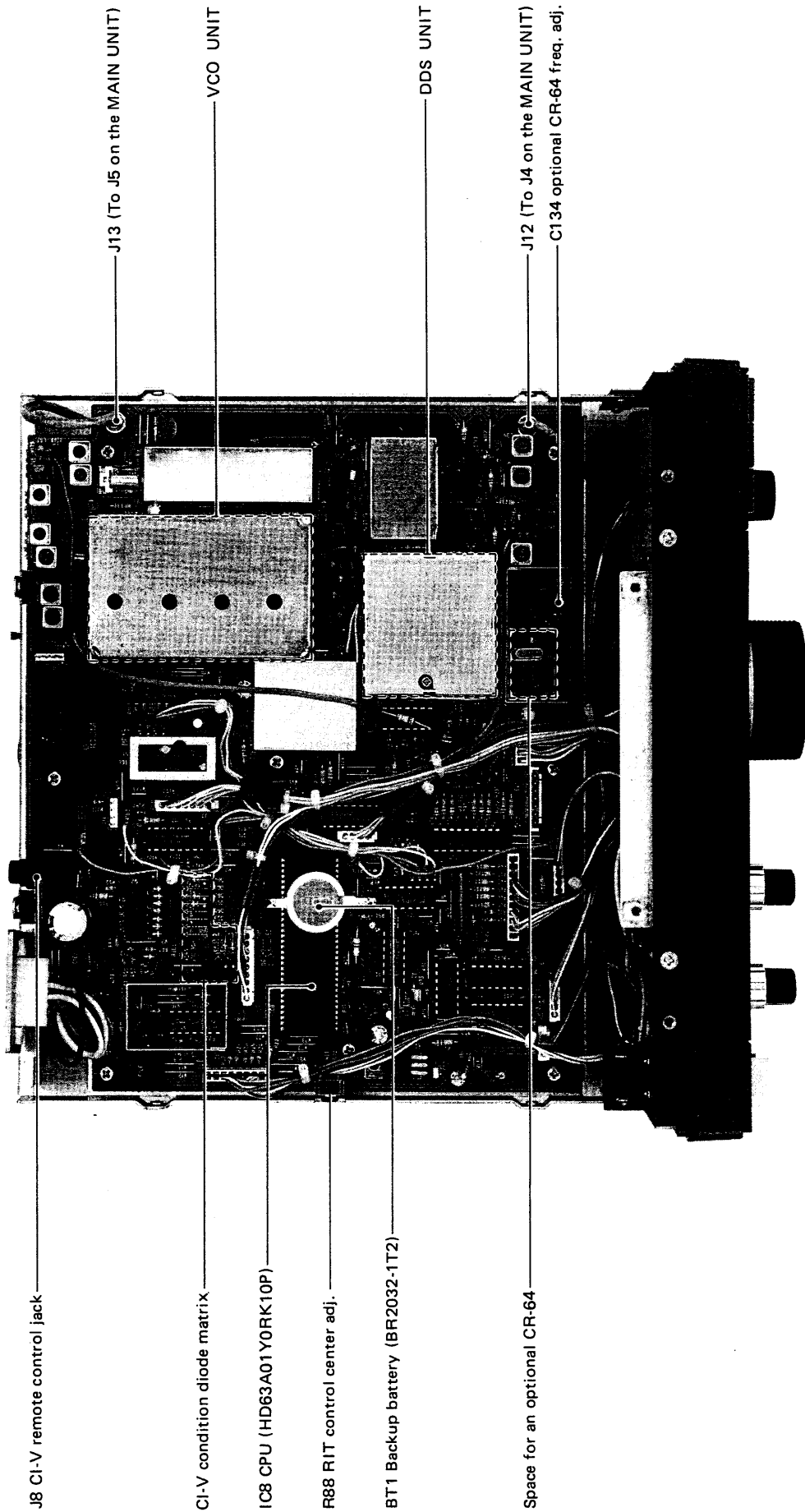
10 INSIDE VIEWS

10-1 MAIN UNIT



Internal components shown in the above picture may differ depending on versions.

10-2 PLL UNIT



J8 CI-V remote control jack

J13 (To J5 on the MAIN UNIT)

CI-V condition diode matrix

VCO UNIT

IC8 CPU (HD63A01YORK10P)

R88 RIT control center adj.

DDS UNIT

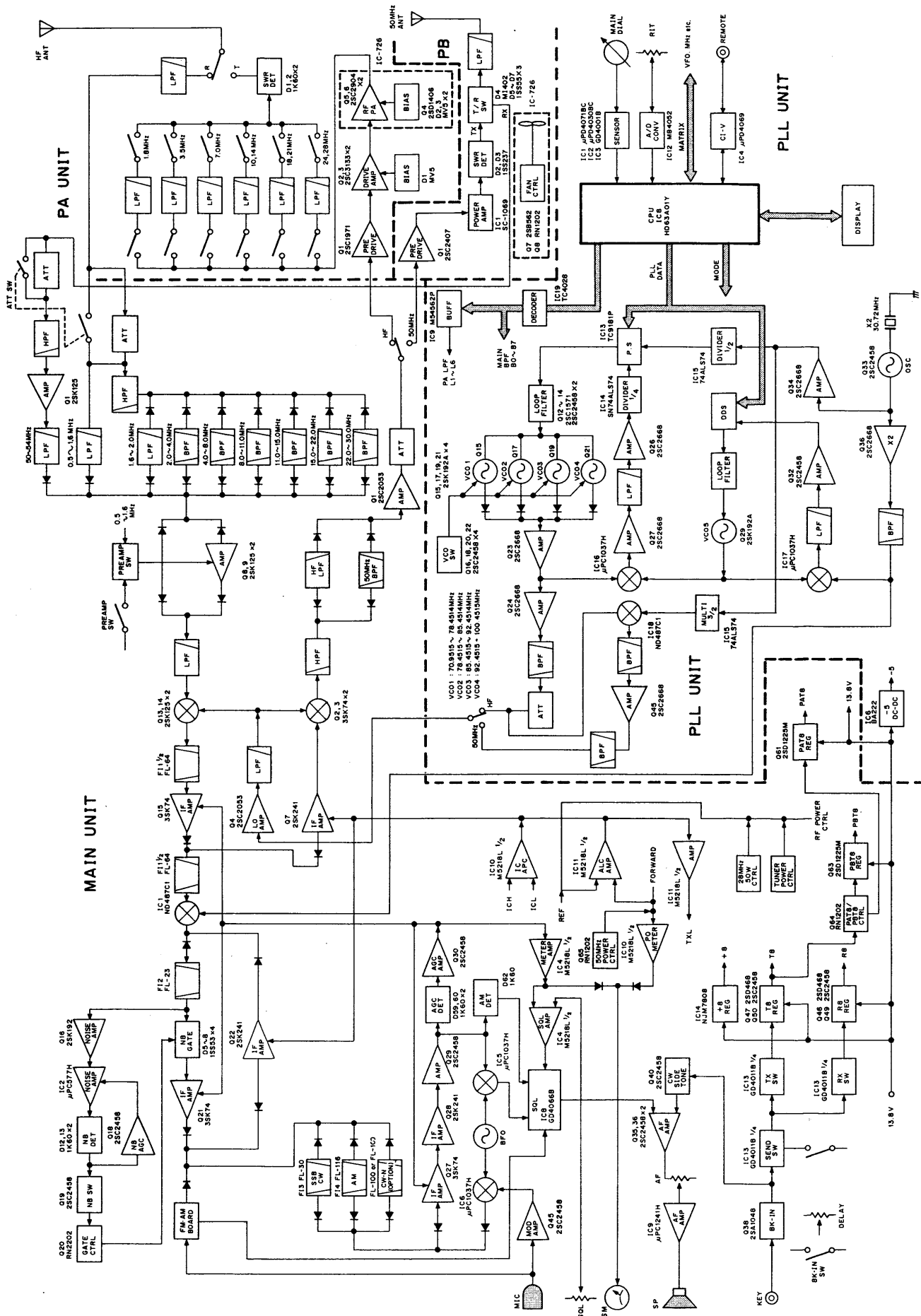
BT1 Backup battery (BR2032-1T2)

Space for an optional CR-64

J12 (To J4 on the MAIN UNIT)

CI34 optional CR-64 freq. adj.

Internal components shown in the above picture may differ depending on versions.



To upgrade quality, some components may be subject to change without notice.

■ GENERAL

• Frequency coverage:

Receive 500 kHz ~ 30 MHz
50 MHz ~ 54 MHz

Transmit	160-m band	1.8	~	2.0 MHz
	80-m band	3.5	~	4.0 MHz
	40-m band	7.0	~	7.3 MHz
	30-m band	10.1	~	10.15 MHz
	20-m band	14.0	~	14.35 MHz
	17-m band	18.068	~	18.168 MHz
	15-m band	21.0	~	21.45 MHz
	12-m band	24.89	~	24.99 MHz
	10-m band	28.0	~	29.7 MHz
	6-m band	50.0	~	54.0 MHz

• Modes:

SSB (A3J), CW (A1), AM (A3), FM (F3)

• Number of memory channels:

26

• Antenna impedance:

50 Ω unbalanced

• Usable temperature range:

-10°C ~ +60°C (+14°F ~ +140°F)

• Frequency stability:

Less than ±200 Hz up to one hour after power is turned ON.

Less than ±30 Hz after one hour at +25°C (+77°F).

Less than ±350 Hz at 0°C ~ +50°C (+32°F ~ +122°F).

• Power supply requirement:

13.8 V DC ±15%, negative ground

• Current drain (at 13.8 V DC):

Receive	squelched	1.3 A
	max. audio output	1.6 A
Transmit	20 A	

• Dimensions:

241(W) x 94(H) x 239(D) mm

9.5(W) x 3.7(H) x 9.4(D) in

(Projections not included)

• Weight:

4.8 kg (11 lb)

■ TRANSMITTER

• Output power:

SSB, CW, FM (HF) 100 W max., (50 MHz) 10 W max.
AM (HF) 40 W max., (50 MHz) 4 W max.

• Spurious emissions:

1.8 ~ 30 MHz Less than -50 dB

50 ~ 54 MHz Less than -60 dB

• Carrier suppression:

More than 40 dB

• Unwanted sideband:

More than 50 dB down with 1 kHz AF input

• Microphone impedance:

600 Ω

■ RECEIVER:

• Receive system:

SSB, CW, AM Double-conversion superheterodyne
FM Triple-conversion superheterodyne

• Intermediate frequencies:

1st	SSB	70.4515 MHz
	CW	70.4506 MHz
	AM, FM	75.4500 MHz

2nd	SSB	9.0115 MHz
	CW	9.0106 MHz
	AM, FM	9.0100 MHz

3rd	FM	455 kHz
-----	----	---------

• Sensitivity (preamplifier ON):

(1.8 ~ 30 MHz)

SSB, CW Less than 0.16 μV for 10 dB S/N

AM Less than 2.0 μV for 10 dB S/N

(28 ~ 30 MHz)

FM Less than 0.5 μV for 12 dB SINAD

(50 ~ 54 MHz)

SSB, CW Less than 0.13 μV for 10 dB S/N

AM Less than 2.0 μV for 10 dB S/N

FM Less than 0.3 μV for 12 dB SINAD

• FM Squelch sensitivity:

Less than 0.3 μV (preamplifier ON)

• Selectivity:

SSB, CW More than 2.3 kHz/-6 dB
Less than 4.0 kHz/-60 dB

AM More than 6.0 kHz/-6 dB
Less than 20.0 kHz/-40 dB

FM More than 15 kHz/-6 dB
Less than 30 kHz/-50 dB

• Spurious response rejection:

More than 70 dB

• Audio output impedance:

8 Ω

• Audio output power:

More than 2.6 W at 10% distortion with an 8 Ω load.

• RIT variable range:

More than ±1.2 kHz

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

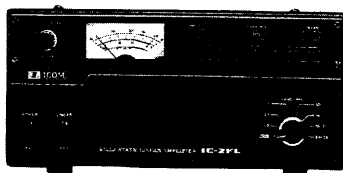
13 OPTIONS

IC-4KL HF 1 kW LINEAR AMPLIFIER*



This is an all solid-state 1 kW linear amplifier. The amplifier is separated with the remote controller unit and power amplifier/power supply unit.

IC-2KL HF 500 W LINEAR AMPLIFIER*



This is an all solid-state 500 W linear amplifier (including final transistors).

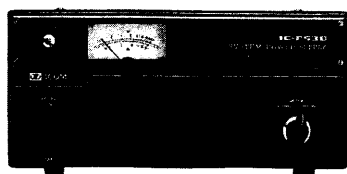
IC-AT100/IC-AT500 AUTOMATIC ANTENNA TUNERS*



Matches IC-726 to an antenna system.

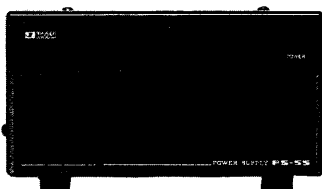
- Matching impedance : 16.7 ~ 150 Ω
- Input power rating : IC-AT100 100 W, IC-AT500 500 W

IC-PS30 AC POWER SUPPLY



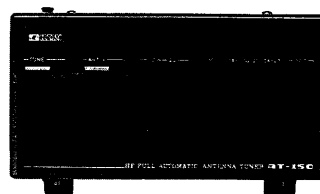
Provides 13.8 V DC output and 25 A maximum. Comes with 3 extra output connectors.

PS-55 AC POWER SUPPLY



Style and size are matched with the IC-726. Provides 13.8 V DC output and 20 A maximum.

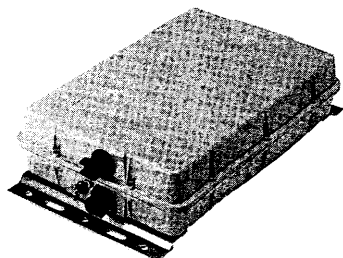
AT-150 HF AUTOMATIC ANTENNA TUNER*



Style and size are matched with the IC-726.

- Matching impedance : 16.7 ~ 150 Ω
- Input power rating : 100 W

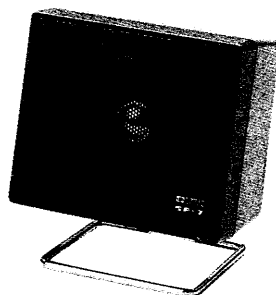
AH-3 HF AUTOMATIC ANTENNA TUNER*



Matches IC-726 to an antenna system, especially for portable operation.

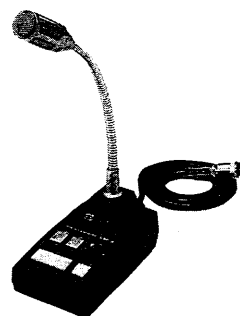
- Input power rating : 150 W

SP-7 EXTERNAL SPEAKER



An external speaker built for base station operation.

SM-8 DESK TOP MICROPHONE



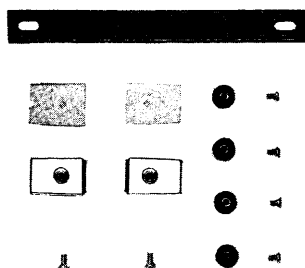
UP/DOWN switches included. Can be connected to 2 transceivers.

HP-2 COMMUNICATION HEADPHONES



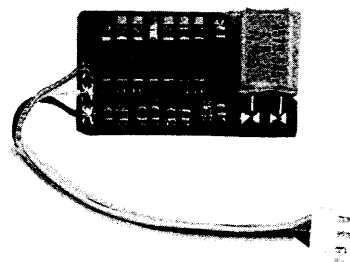
Provides clean audio and privacy in noisy environments.

MB-23 CARRYING HANDLE



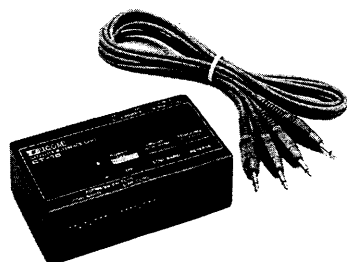
Carrying handle for easy portable operation.

UT-30 PROGRAMMABLE TONE ENCODER UNIT



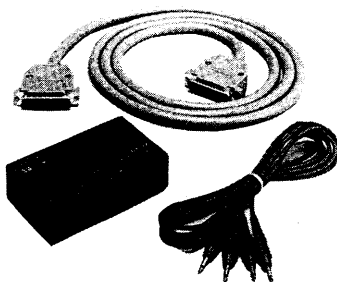
38 programmable tones available.

CT-16 SATELLITE INTERFACE UNIT



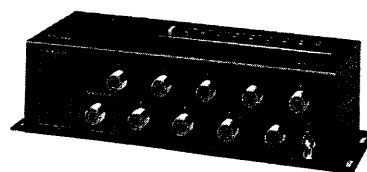
Easy tuning for instant satellite communications.

CT-17 CI-V LEVEL CONVERTER



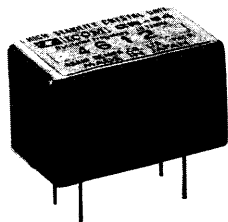
For remote transceiver control using a personal computer equipped with an RS-232C output port. You can change operating frequencies, memory channels, etc., with your computer keyboard.

EX-627 HF AUTOMATIC ANTENNA SELECTOR*



When connected to an Icom HF transceiver and up to 7 antennas, the EX-627 automatically selects the antenna for the band on which you are operating. (Manual selection is also possible.)

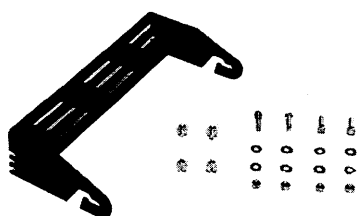
CR-64 HIGH-STABILITY CRYSTAL UNIT



Contains a temperature-compensating oven heater and crystal unit for improved frequency stability.

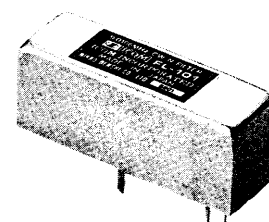
- Frequency stability :
0.5 ppm at $-30^{\circ}\text{C} \sim +60^{\circ}\text{C}$
($-22^{\circ}\text{F} \sim +140^{\circ}\text{F}$)

IC-MB5 MOBILE MOUNTING BRACKET



Transceiver bracket for mobile operation.

9 MHz CW NARROW FILTERS



Have good shape factor and provide you with better CW reception.

- FL-100 : 500 Hz/−6 dB
- FL-101 : 250 Hz/−6 dB

*Products marked with * cannot be used for 50 MHz operation.

Count on us!

