

IC-1200^{A/E}

1200MHz FM TRANSCEIVER

INSTRUCTION MANUAL

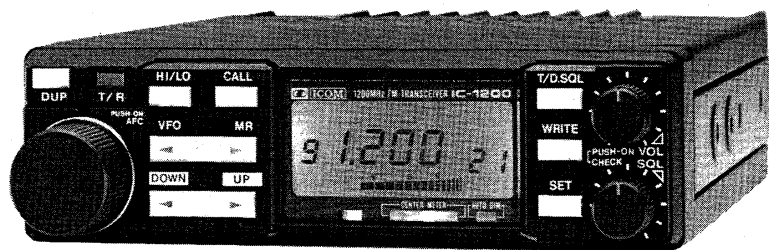


TABLE OF CONTENTS

SECTION	1	SPECIFICATIONS	1
SECTION	2	FEATURES	2
SECTION	3	CONTROL FUNCTIONS.....	3
SECTION	4	INSTALLATIONS	8
SECTION	5	GENERAL OPERATIONS	10
	5-1	RECEIVING	10
	5-2	FREQUENCY SELECTING.....	11
	5-3	TRANSMITTING	12
	5-4	AFC FUNCTION.....	12
SECTION	6	FUNCTION OPERATIONS.....	13
	6-1	MEMORY OPERATIONS	13
	6-2	SCAN OPERATIONS	14
	6-3	DUPLEX OPERATIONS.....	16
	6-4	CALL CHANNEL OPERATIONS.....	18
SECTION	7	MISCELLANEOUS FUNCTIONS	19
	7-1	MICROPHONE.....	19
	7-2	BACKUP BATTERY.....	19
	7-3	RESETTING THE INTERNAL CPU	19
	7-4	OPTIONAL UNITS.....	20
SECTION	8	INSIDE VIEWS	24
SECTION	9	MAINTENANCE	25
SECTION	10	BLOCK DIAGRAM	27
SECTION	11	OPTIONS	28

SECTION 1 SPECIFICATIONS

■ GENERAL

Frequency coverage	:	1240 ~ 1300MHz
Frequency resolution	:	IC-1200A 10 or 20kHz (programmable) IC-1200E 12.5 or 25kHz (programmable)
Frequency control	:	CPU based 5kHz (or 6.25kHz) step digital PLL synthesizer Simplex and semi-duplex capability (programmable offset)
Memory channels	:	21 channels
Usable temperature range	:	-10°C ~ +60°C (+14°F ~ +140°F)
Power supply requirement	:	13.8V DC ±15% (negative ground) AC power supply is available for AC operation.
Current drain (at 13.8V DC)	:	Transmit HIGH (10W) Maximum 5.5A LOW (1W) Approx. 2.5A Receive Max. audio output Approx. 900mA Squelched Approx. 600mA
Antenna impedance	:	50Ω unbalanced
Dimensions	:	140(140)mm(W) x 40(40)mm(H) x 196(211)mm(D) Bracketed values include projections.
Weight	:	1.5kg

■ TRANSMITTER

Output power	:	HIGH 10W LOW 1W
Emission mode	:	F3 (F2 when operating with an optional UT-28)
Modulation system	:	Variable reactance frequency modulation
Max. frequency deviation	:	±5.0kHz
Spurious emission	:	More than 50dB below carrier with high output power More than 40dB below carrier with low output power
Microphone	:	600Ω electret condenser with push-to-talk and scanning switches (IC-1200E: 1750Hz tone call switch)

■ RECEIVER

Receive system	:	Triple-conversion superheterodyne
Modulation acceptance	:	FM
Intermediate frequencies	:	1st 136.6MHz 2nd 17.2MHz 3rd 455kHz
Selectivity	:	More than 15.0kHz at -6dB Less than 30.0kHz at -60dB
Sensitivity	:	Less than 0.22μV for 12dB SINAD
Audio output	:	More than 2.4W at 10% distortion with 8Ω load
Audio output impedance	:	4 ~ 8Ω

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

SECTION 2 FEATURES

●AFC FUNCTION

The need to consider frequency drift is over with the IC-1200A/E since the transceiver incorporates ICOM's AFC (Automatic Frequency Control) function. AFC automatically and conveniently adjusts the frequency the IC-1200A/E receives to the frequency of the transmitting station.

●COMPACT AND HIGH OUTPUT POWER

Smaller and more compact than many conventional automobile transceivers, the IC-1200A/E still provides 10W of powerful output on any frequency in the 1200MHz band.

●SIMPLE PANEL DESIGN

Even with so many sophisticated functions available, the transceiver front panel layout is extremely simple, making the IC-1200A/E a mobile unit that is both versatile in performance and safe to use while driving.

●AUTOMATIC DIMMER CIRCUIT

A built-in light sensor automatically adjusts a dimmer circuit to control the backlighting of the LCD READOUT. This feature is convenient for reducing eye fatigue during night operation.

●21 MEMORY CHANNELS

The IC-1200A/E introduces a large capacity memory with 21 fully programmable memory channels, placing a variety of communications functions at the fingertips of the driver.

●DUAL SCANNING FUNCTIONS

●FREQUENCY SCAN:

Searches the entire band continuously with frequency increments specified by the operator.

●MEMORY SCAN:

Continuously checks all memory channels.

●SUBAUDIBLE TONE ENCODER

The IC-1200A/E incorporates 38 different subaudible tones, ensuring maximum communications coverage by allowing full access to all local repeaters.

●SQUELCH OPTIONS

The UT-28 and UT-29 are two new optional units specially designed for the IC-1200A/E and are ideal for handling the crowded band conditions found in many locations.

●UT-28 DIGITAL CODE SQUELCH UNIT:

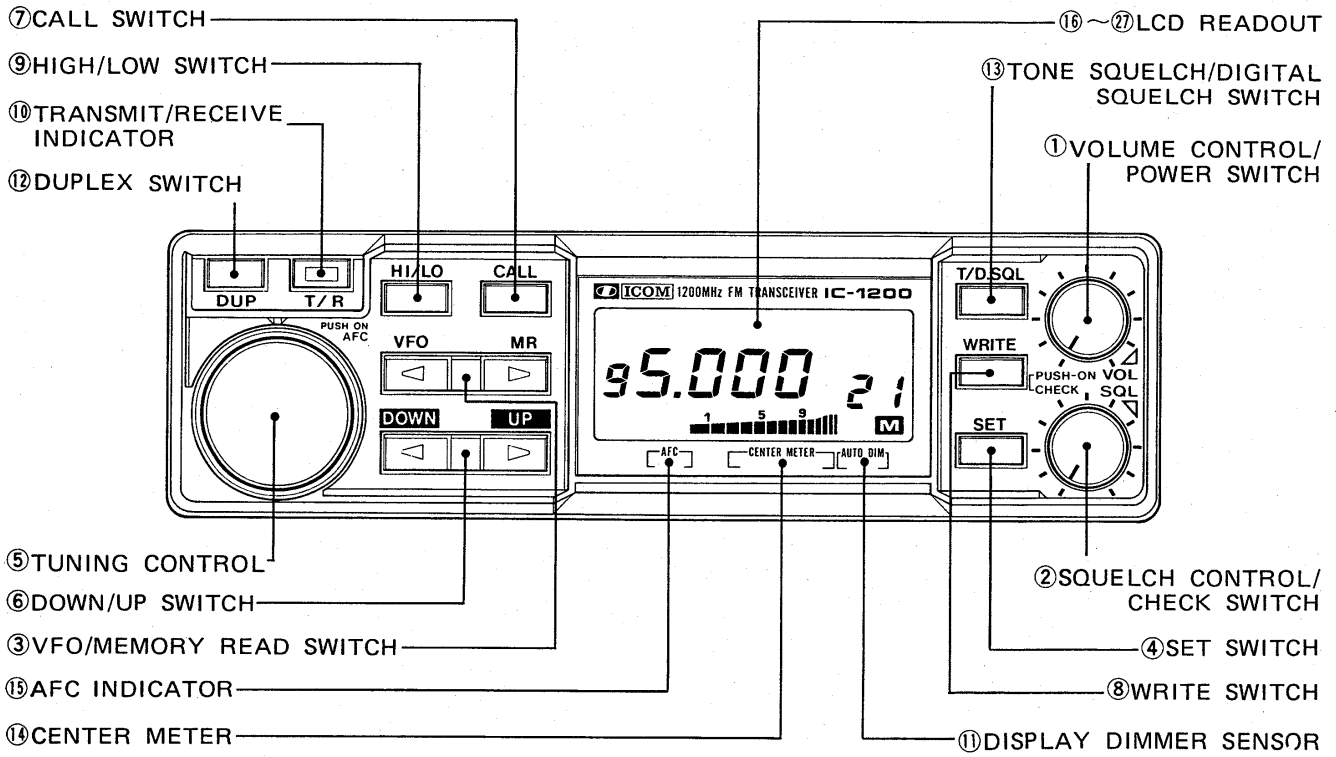
The UT-28 incorporates a system of digital coding and decoding, that allows a "personalized" squelch to be programmed using 1 of 100,000 different code numbers.

●UT-29 TONE SQUELCH UNIT:

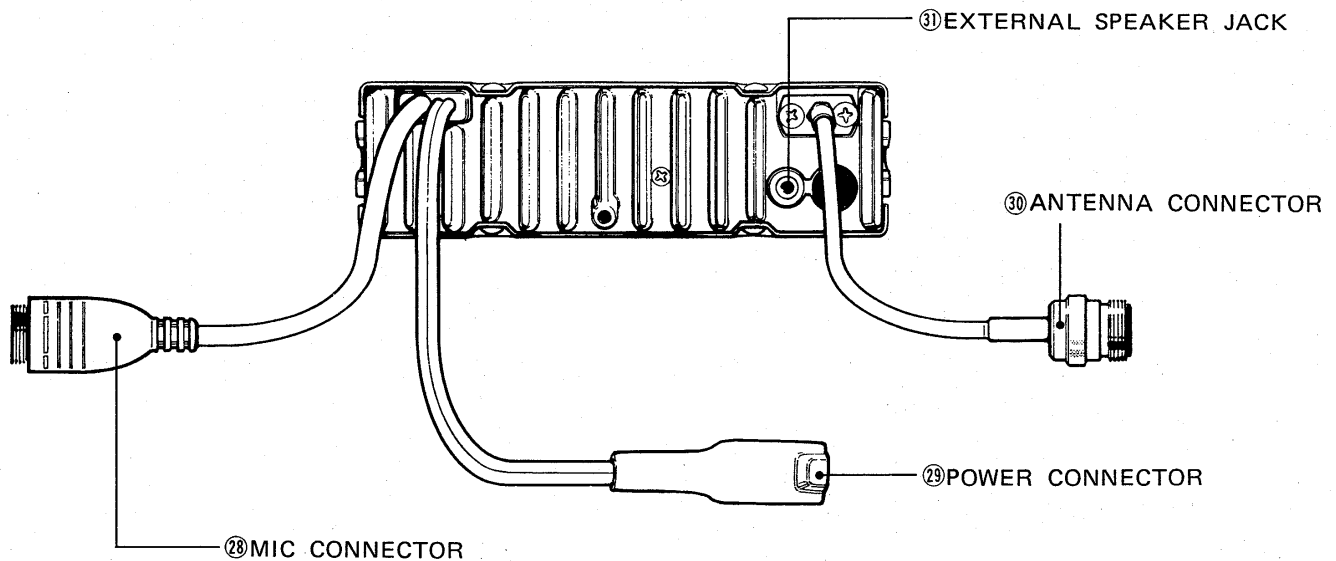
The UT-29 is a subaudible tone encoder/decoder that can be installed as an alternative to the UT-28 Digital Code Squelch Unit.

SECTION 3 CONTROL FUNCTIONS

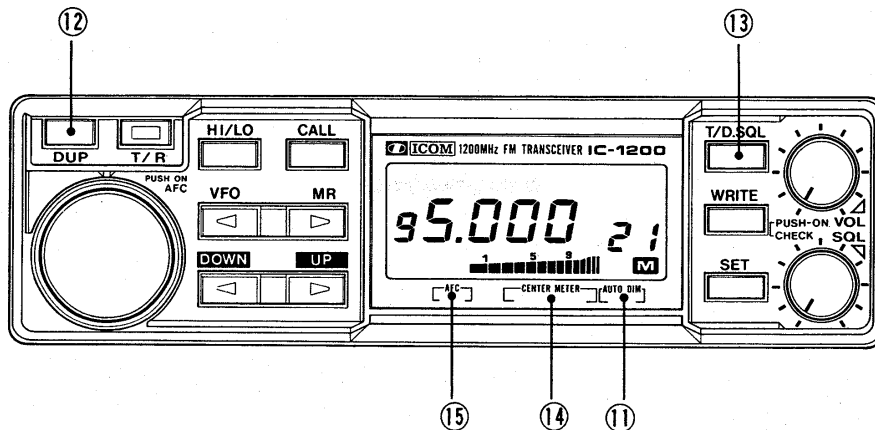
FRONT PANEL



REAR PANEL



- ① **VOLUME CONTROL/POWER SWITCH [VOL/PWR]** Push to turn the power ON and OFF. Turn clockwise to increase the audio level.
- ② **SQUELCH CONTROL/CHECK SWITCH [SQL/CHK]** The squelch circuit quiets noise from the transceiver while no signals are being received.
- A second feature is the CHECK function which monitors transmit frequency during Duplex operation while this switch is pushed. Refer to pp. 16 ~ 17 DUPLEX PROGRAMMING.
- ③ **VFO/MEMORY READ SWITCH [VFO/MR]** Push to select either VFO mode or MEMORY mode. Refer to p. 11 and p. 13.
- ④ **SET SWITCH [SET]** In VFO mode, push the [SET] SWITCH repeatedly to change the following set modes:
- | | |
|-------------------------|---------|
| Subaudible tone encoder | (p. 17) |
| Offset frequency | (p. 16) |
| Tuning step increment | (p. 11) |
| MHz step increment | (p. 11) |
| VFO mode | |
- In MEMORY mode, push the [SET] SWITCH to turn the memory skip function ON and OFF. Refer to p. 15.
- ⑤ **TUNING CONTROL** Controls digits on the LCD READOUT for operating frequencies, offset frequencies, step increments, memory channels, etc. Also controls AFC function ON/OFF and frequency shift.
- ⑥ **DOWN/UP SWITCH [DOWN/UP]** This switch operates differently depending on the setting of the [VFO/MR] SWITCH.
- In VFO mode, push to change the selected operating frequency in MHz step increments.
- In MEMORY mode, push to change the selected memory channels.
- ⑦ **CALL SWITCH [CALL]** Push to call the memory channel 21 (call channel) and cancel alternately. Refer to p. 18.
- ⑧ **WRITE SWITCH [WRITE]** In VFO mode, push to store the displayed frequency on the LCD READOUT in the displayed memory channel. Refer to p. 13.
- In MEMORY mode, push to transfer the contents of the selected memory channel to the VFO. Refer to p. 14.
- ⑨ **HIGH/LOW SWITCH [HI/LO]** Push to change HIGH (10W) and LOW (1W) transmit output power. "LOW" appears on the LCD READOUT when LOW power is selected.
- ⑩ **TRANSMIT/RECEIVE INDICATOR [T/R]** Indicates whether the IC-1200A/E is in transmit or receive mode. The indicator is red while transmitting and green while receiving with the squelch circuit open. The indicator is OFF when the squelch circuit is closed and the receiver is muted.



⑪ **DISPLAY DIMMER SENSOR**

Measures ambient light and controls the dimmer circuit which varies the intensity of the LCD READOUT backlighting.

⑫ **DUPLEX SWITCH [DUP]**

Push to select Simplex or Duplex operation:

- The transmit frequency is lower than the receive frequency by 12MHz (35MHz) or by the programmed offset when "DUP—" appears on the LCD READOUT.
- The transmit frequency is higher than the receive frequency by 12MHz (35MHz) or by the programmed offset when "DUP+" appears on the LCD READOUT.
- When neither "DUP—" nor "DUP+" appear on the LCD READOUT the IC-1200A/E is in Simplex mode. The transmit and receive frequencies are equal at this time.

NOTE: Bracketed values show offset frequencies for the IC-1200E.

⑬ **TONE SQUELCH/
DIGITAL SQUELCH SWITCH
[T/D.SQL]**

This switch turns ON and OFF the optional squelch systems:

- **TONE SQUELCH SYSTEM**
When activated, "TONE" and "D.SQL" appear on the LCD READOUT. Push the [SET] SWITCH to program the desired subaudible tone numbers. Refer to p. 21.
- **DIGITAL CODE SQUELCH SYSTEM**
When activated, "D.SQL" appears on the LCD READOUT. Push the [SET] SWITCH to program the desired group code. Refer to p. 20.

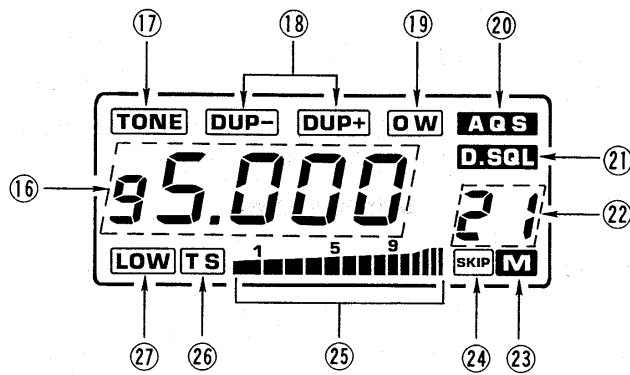
NOTE: This switch has no function when neither option is installed.

⑭ **CENTER METER**

Indicates if another station's transmitting frequency is higher or lower or the same as the IC-1200A/E's receive frequency. Refer to p. 10.

⑮ **AFC INDICATOR**

Lights up when the AFC function is activated. Refer to p. 12.



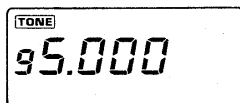
①⑥ FREQUENCY INDICATOR

Shows operating frequencies, step increments, group codes etc. Refer to items ①⑦ ~ ②⑦.

The decimal point disappears when the AFC function is activated.

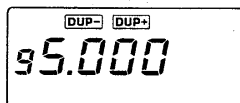
①⑦ SUBAUDIBLE TONE INDICATOR "TONE"

Appears when the subaudible tone encoder is activated. Also appears when the optional UT-29 TONE SQUELCH UNIT is activated. Refer to p. 17 and p. 22.



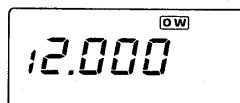
①⑧ DUPLEX MODE INDICATORS "DUP-, DUP+"

Appear while the IC-1200A/E is in Duplex mode (the transmit frequency is different from the receive frequency). Both indicators disappear while operating in Simplex mode. Refer to p. 16.



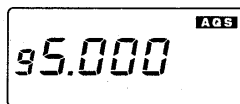
①⑨ OFFSET WRITE INDICATOR "OW"

Flashes when the IC-1200A/E is ready to have the transmit offset programmed for duplex operation. Refer to p. 16.



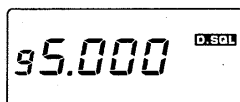
②⑦ GROUP CODE INDICATOR "AQS"

Flashes when the IC-1200A/E is ready to have the group code programmed when using the optional UT-28 DIGITAL CODE SQUELCH UNIT. Refer to p. 20.



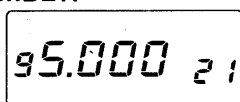
②① SQUELCH SYSTEM INDICATOR "D.SQL"

Appears when either the optional tone squelch or optional digital code squelch system is activated. Flashes with the "TONE" INDICATOR when the IC-1200A/E is ready to have the subaudible tone number for the tone squelch programmed. Refer to p. 20 or p. 21.



②② MEMORY CHANNEL NUMBER

This area displays various symbols:



- a) Memory channel numbers "1" to "21".
- b) Offset programming symbol "F" or "P".
- c) Call channel symbol "C".
- d) Subaudible tone memory channel numbers "1", "2" or "3". (IC-1200A only)



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