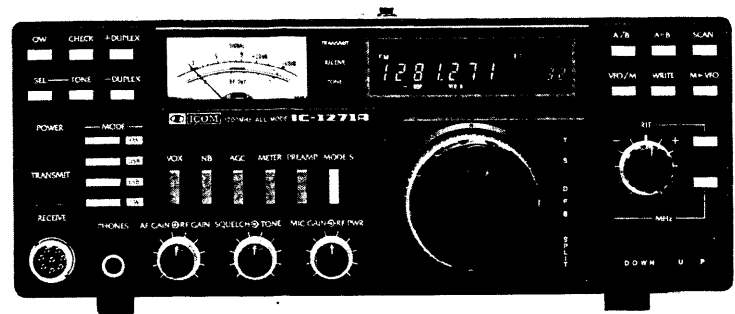


# IC-1271A

1200MHz ALL-MODE TRANSCEIVER

## INSTRUCTION MANUAL



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## SECTION 1 SPECIFICATIONS

### 1 - 1 GENERAL

Frequency coverage	: 1240 ~ 1300MHz
Operating modes	: J3E (A3J) SSB (Upper and Lower Sideband) A1A (A1) CW F3E (F3) FM
Frequency resolution	: SSB, CW 100Hz FM 25kHz
Frequency control	: CPU based 100Hz step digital PLL synthesizer. Independent transmit/receive frequency available.
Frequency readout	: 7 digit, 1kHz display.
Usable temperature range	: $-10^{\circ}\text{C} \sim +60^{\circ}\text{C}$ ( $+14^{\circ}\text{F} \sim +140^{\circ}\text{F}$ )
Frequency stability	: Within $\pm 0.0003\%$ in the range of $0^{\circ}\text{C} \sim +50^{\circ}\text{C}$ .
Memory channels	: 32 channels with any in-band frequency programmable.
Power supply requirements	: 13.8V DC $\pm 15\%$ (negative ground). Current drain 7.5A maximum.
Current drain (at 13.8V DC)	: Transmitting Approx. 7.5A Receiving At maximum audio output Approx. 1.5A Squelched Approx. 1.3A
Antenna impedance	: 50 ohms unbalanced.
Weight	: 7.1kg
Dimensions	: 111(127)mm(H) x 286(303)mm(W) x 276(348)mm(D) ( ) Shows dimensions including projections.

### 1 - 2 TRANSMITTER

RF output power	: J3E (SSB) 10 watts PEP A1A (CW), F3E (FM) 10 watts Continuously adjustable output power from 1 to 10 watts.
Modulation system	: SSB: Balanced modulation. FM: Variable reactance frequency modulation.
Max. frequency deviation	: $\pm 5\text{kHz}$ .
Spurious emissions	: More than 50dB below peak power output.
Carrier suppression	: More than 40dB below peak power output.
Unwanted sideband	: More than 40dB down with 1000Hz AF input.
Operating modes	: Simplex or semi-duplex.
Microphone	: 600 ohm electret condenser microphone with push-to-talk switch and scanning buttons.

### 1 - 3 RECEIVER

Receive system	: J3E (SSB), A1A (CW) : Double conversion superheterodyne. F3E (FM) : Triple conversion superheterodyne.
Intermediate frequencies	: SSB, CW 1st : 133.8600 ~ 133.8699MHz 2nd : 10.75MHz FM 1st : 133.860 ~ 133.869MHz 2nd : 10.75MHz 3rd : 455kHz
Sensitivity	: SSB, CW : Less than $0.16\mu\text{V}$ for 10dB S+N/N. FM : Less than $0.22\mu\text{V}$ for 12dB SINAD. Less than $0.32\mu\text{V}$ for 20dB noise quieting.
Selectivity	: SSB, CW : More than 2.4kHz at $-6\text{dB}$ point. Less than 4.8kHz at $-60\text{dB}$ point. FM : More than 15kHz at $-6\text{dB}$ point. Less than 30kHz at $-60\text{dB}$ point.
Audio output	: More than 2 watts at 10% distortion with 8 ohm load.
Audio output impedance	: 8 ohms

## SECTION 2 DESCRIPTION

### ■ MICROWAVE TECHNOLOGY

The front end and transmitter circuits employ the latest microwave devices.

The RF amplifiers use low noise figure, high gain, disk type GaAs-FETs for microwave applications. Also, the power amplifiers are equipped with rugged power module which exhibit high gain characteristics at microwave frequencies, and are suitable for long duty cycles such as amateur television (ATV).

### ■ NEWLY DEVELOPED PLL CIRCUIT COVERS ENTIRE BAND

The PLL circuit newly developed by ICOM covers the entire band from 1240 to 1300MHz, a total of 60MHz. SSB, CW and FM modes may be used anywhere in the band, thus the IC-1271A/E is ideal for DX, local calls, mobile, satellite or moonbounce operation.

### ■ 1200MHz ALL-MODE TRANSCEIVER WITH MICROCOMPUTER TECHNOLOGY

CPU control with ICOM's original programs provides various operating capabilities, and the band edge detector and endless tuning system provides out-of-band protection. In addition, a no-backlash dial controls the unique rotary encoder tuning circuit, eliminating the need for variable capacitors or gears.

### ■ VARIOUS SCANNING FUNCTIONS

Memory Scan allows rapid monitoring of all different memory channels, whereas Programmed Scan provides scanning between any two programmed frequencies. Also, Mode Selective Scan automatically monitors only those memories which contain frequencies with a similar mode. The Auto-Stop feature functions when a signal is received in any mode. Scanning of frequencies and memories is possible from either the transceiver or the IC-HM12 scanning microphone.

### ■ EASY-TO-OPERATE, LIGHT-WEIGHT

The IC-1271A/E is the most compact and lightest all-mode 1200MHz transceiver currently available. It uses an advanced pulse power supply (optional) which contributes to the overall light weight. A 50mm diameter tuning control allows smooth and easy frequency changes, and an LED indicator clearly shows whether the transmit or receive mode is selected.

### ■ SUITABLE FOR BOTH FIXED AND PORTABLE STATIONS

The transceiver operates with either a 117/240 volt AC (optional) or 12 volt DC power supply. A convenient Dial Lock switch is included, helpful during mobile operation, as well as a comfortable carrying handle. The Noise Blanker effectively reduces interference when in areas with much pulse noise. The SM-8 or IC-SM6 quality desk microphones (optional) are well-suited for fixed station operation. Also, a powerful audio output, 2 watts into 8 ohms, allows easy listening even in a noisy environment.

### ■ OUTSTANDING PERFORMANCE

The RF amplifier and first mixer circuits incorporate GaAsFETs which, in conjunction with other circuits, provide excellent intermodulation and two-signal selectivity characteristics. The IC-1271A/E has high sensitivity specifications, especially important for mobile operation, plus it is highly stable and uses Crystal Filters with carefully designed shape factors and selectivity.

## ■ 32 MEMORIES

Programmable memories are provided to store the mode and frequency in 32 different channels. An internal backup battery maintains the contents of these memories for up to 5 years.

## ■ OPTIONS AVAILABLE

### ● TV-1200

This is an interface unit to allow amateur television (ATV) operation with only the addition of a video recorder and video camera for transmission, and a television for reception. A few simple interconnections will allow you to explore the field of video hamming.

### ● IC-EX310

When used with the IC-1271A/E, this unit orally announces your operating frequency with an electronically-generated voice.

### ● UT-15

This is a CTCSS (Continuous Tone Coded Squelch System) encoder/decoder interface which, when used with the TS-32 encoder/decoder, may be programmed with one of thirty-one subaudible tones. These tones are often required to access FM repeaters.

### ● IC-EX309

This is an interface unit which, when installed in the IC-1271A/E, allows connection of the transceiver to a personal computer.

### ● IC-PS25

The IC-PS25 is a 13.8 volt DC, 8 ampere internal AC power supply. It uses a newly developed switching regulator system, resulting in a light-weight, highly efficient power source.

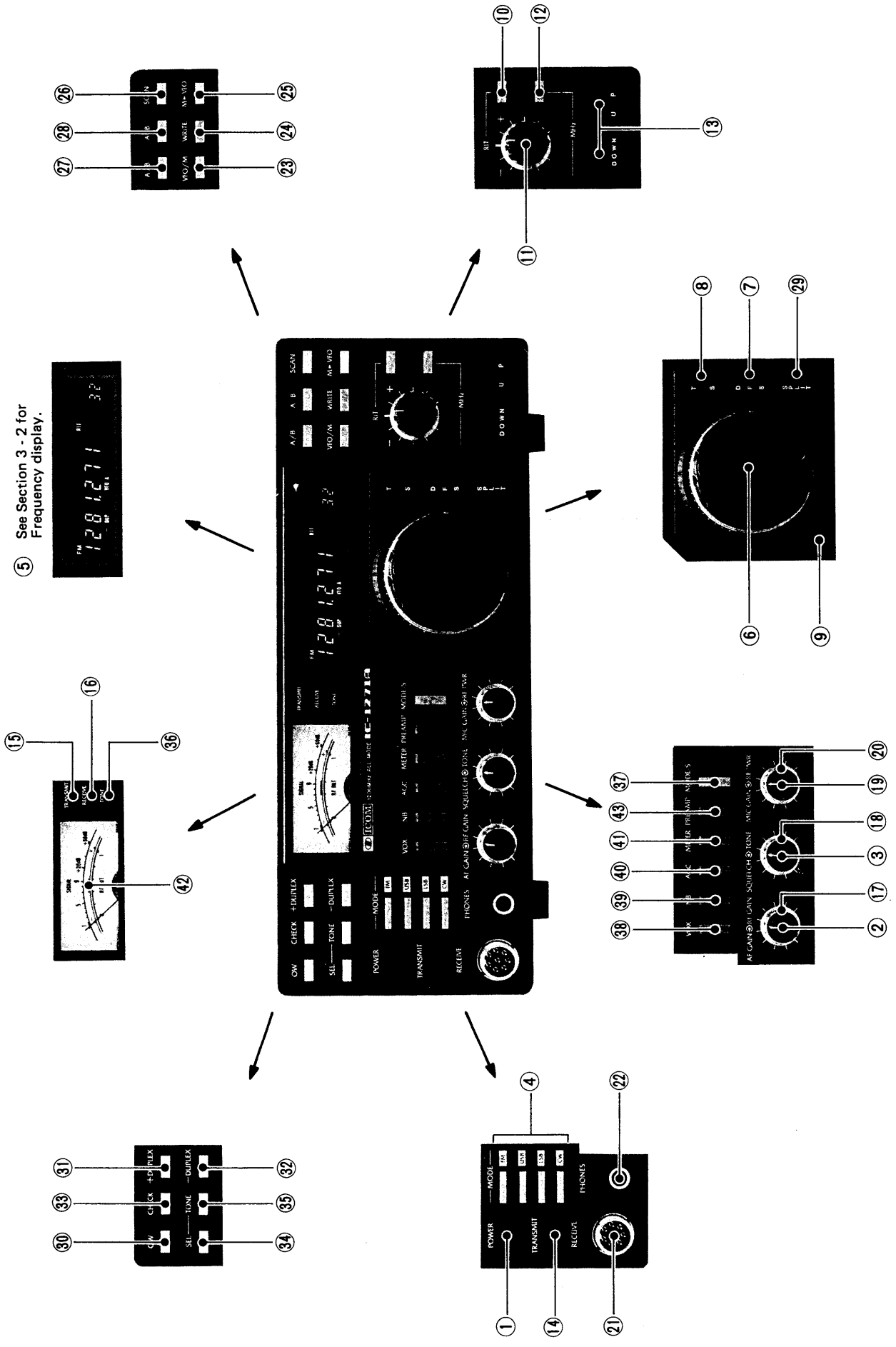


IC-1271A

TV-1200

# SECTION 3 CONTROL FUNCTIONS

⑤ See Section 3 - 2 for Frequency display.



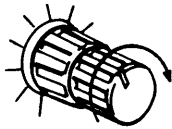
### 3-1 FRONT PANEL

#### ① POWER SWITCH

This is a push-lock switch which controls the input DC power to the IC-1271A/E. When the IC-PS25 AC power supply is used, the switch also acts as the AC power supply switch. Power is supplied to the transceiver when the switch is pushed in and locked. Power to all circuits is cut (except to the PA unit when using an external DC power source) when the switch is pushed again and released.

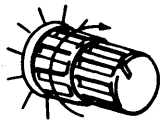
#### ② AF GAIN CONTROL

This control varies the audio output level in the receive mode. Clockwise rotation increases the level.



#### ③ SQUELCH CONTROL

This control sets the squelch threshold level. To turn off the squelch function, rotate this control completely counterclockwise. To set the threshold level higher, rotate the control clockwise.



#### ④ MODE SELECT SWITCHES

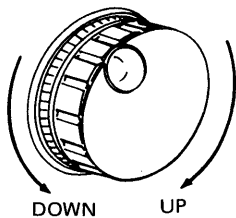
These switches select any one of four operating modes: FM, USB, LSB or CW. Push the appropriate switch for the mode desired.

#### ⑤ FREQUENCY DISPLAY

See Section 3-2 for details of the FREQUENCY DISPLAY.

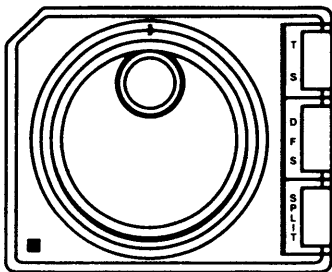
#### ⑥ TUNING CONTROL

Rotate this control clockwise to increase, and counterclockwise to decrease the frequency or memory channel number. The frequency changes in 100Hz steps in USB, LSB and CW modes, and in 25kHz steps in the FM mode.



#### ⑦ DFS (Dial Function Select) SWITCH

While using the VFO mode, push this switch IN to lock the displayed VFO operating frequency, and rotate the TUNING CONTROL to change the displayed memory channel number.



While using the MEMORY CHANNEL mode, push this switch IN to lock the displayed memory channel, and rotate the TUNING CONTROL to change the displayed frequency.

#### ⑧ TS (Tuning Speed) SWITCH

Push this switch IN to alter the tuning rate as shown in the chart below.

MODE	TS OFF (OUT POSITION)	TS ON (IN POSITION)
FM	25kHz	1kHz
USB LSB CW	100Hz	1kHz



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