

# KENWOOD

## HF TRANSCEIVER TS-50S

*Enjoy high-performance  
communications plug go-anywhere  
convenience with the world's  
smallest HF transceiver*





**K**enwood's TS-50S is going places. As the smallest HF transceiver in the world, it opens up a whole new world for the Amateur Radio enthusiast. It can be taken on a DX-pedition, or even permanently installed as a sub transceiver. Yet

# Born to be Free

despite its compact dimensions, the TS-50S packs a hefty punch. Maximum output is 100W, and there's a powerful cooling



fan with heat sink to ensure stable operation. Sophisticated features include DDS with innovative "fuzzy" control, and Kenwood's own AIP. For user-friendly operation on the move, there's also a multi-function microphone, a powerful menu system, and an optional antenna tuner. All this and more, for the TS-50S is equipped with dual VFOs for split-frequency operations.



### 160m to 10m Amateur band operation with 500kHz to 30MHz general coverage receiver

Despite its small size (179mm wide, 60mm high, 233mm deep), the TS-50S offers transmit/receive performance on a par with most of the large HF transceivers on the market. Naturally, it supports LSB, USB, CW, AM and FM.

### DDS (Direct Digital Synthesizer) with fuzzy control

For the first time, Kenwood has introduced "fuzzy" logic control circuitry to enable the main encoder to tune smoothly from 5Hz steps to fast forward mode.

### AIP (Advanced Intercept Point)

Kenwood's AIP system — an exclusive circuit design capable of raising dynamic range to 105dB — ensures first-class receiver performance with a significantly reduced noise floor level.

### 100 memory channels

The TS-50S is equipped with 100 channels for independent storage of transmit and receive parameters such as frequency, mode, and filter setting. Memory shift facilitates transfer of data to the VFOs.

### Easy-to-use scan functions

Convenience is further improved with the provision of a carrier-operated scan stop mode, a first for HF rigs.

### Comprehensive interference reduction

- CW reverse mode  
The pitch of interference competing with the CW signal is reversed so the operator can approach the signal from either side.
- All-mode squelch  
The squelch circuit effectively suppresses undesirable background noise when there is no signal present.

- Switchable AGC circuit (SLOW/FAST)  
AGC (automatic gain control) can be changed via the menu system. This ensures optimum receiver operation in SSB, AM and CW modes under all signal strength conditions.
- IF shift
- 20dB attenuator
- Noise blanker (pulse)

### Powerful menu system

First featured on the top-of-the-line TS-950SDX, Kenwood's versatile menu system is provided on the TS-50S — to select CW full or semi break-in, change repeater sub-tone, adjust microphone UP/DOWN step size, and perform many other operations using just a few keys. The menus are also accessible via the supplied microphone.

### Dual VFOs (A and B)

Since VFO data is stored independently for each band, even after switching bands the previously used frequency will still be available.

### TF-SET

TF-SET is provided so the TS-50S can be used for split operations and DX applications. This function is available when the receive frequency is locked, so the operator can avoid losing a targeted DX station.

### Multi-function microphone supplied

Like other Kenwood VHF mobile transceivers, the TS-50S is compatible with remote-control microphones featuring 4 programmable function keys.

- RF output power control (100W, 50W, 10W)
- Auto-mode capability
- Full break-in and semi break-in
- Large LCD Panel with digital bar meter



## Optional Equipment



**AT-50**  
Automatic  
antenna tuner

Useful for both mobile and fixed installations, this ensures good performance even at band edges. Accurate tuning is initiated simply by pressing the AT TUNE key on the TS-50S. And since band data is transferred to the tuner, there is no need to operate the AT-50 directly — it can be installed in a car's trunk. The AT-50 can also be used with other transceivers.

**MB-13**

Mobile mount



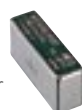
**PG-4M**

Control cable for AT-50 (6m)  
This 6m cable links the TS-50S with the AT-50 and is used when the antenna tuner is installed in a car's trunk.



**YK-107C**

500Hz CW filter



**PG-2Z**

DC cable



**SO-2**

Temperature-compensated crystal oscillator



**PG-2Y**

DC cable (4m)



**MA-5**

5-band helical type HF mobile antenna



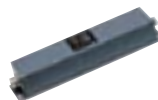
**MC-85**

Multi-function desktop microphone



**LF-30A**

Low-pass filter



**MC-80**

Desktop microphone



**PS-33**

Power supply (20.5A)



**MC-60A**

Deluxe desktop microphone



**SP-50B**

Mobile speaker (8Ω)



**MC-47**

Multi-function microphone (8-pin)



**SP-41**

Compact mobile speaker (4Ω)



**MC-43S**

Hand microphone



## Specifications

GENERAL	
Mode	A1A (CW), J3E (SSB), A3E (AM), F3E (FM)
Memory channels	100
Antenna impedance	50 Ω
Power requirement	13.8 V DC ±15%
Power consumption	
Receive (no signal)	1.45A
Transmit (max.)	20.5A
Temperature range	-20 °C – +60 °C
Frequency stability	Within ±10 x 10 <sup>-4</sup> (-10 °C – +50 °C) Within ±0.5 x 10 <sup>-4</sup> (-10 °C – +50 °C with SO-2)
Dimensions (W x H x D) [Projections not included]	179 x 60 x 233 mm
Weight (approx.)	2.9 kg
TRANSMITTER	
Frequency range (*Europe type, **Belgium type)	
160m band	1.8/1.81*/1.83** to 1.85**/2.0 MHz
80m band	3.5 to 3.8*/4.0 MHz
40m band	7.0 to 7.1*/7.3 MHz
30m band	10.1 to 10.15 MHz
20m band	14.0 to 14.35 MHz
17m band	18.068 to 18.168 MHz
15m band	21.0 to 21.45 MHz
12m band	24.89 to 24.99*/25.0 MHz
10m band	28.0 to 29.7 MHz
Output power	
SSB/CW/FM	100 W
AM	25 W
Modulation	
SSB	Balanced modulation
FM	Reactance modulation
AM	Low-power modulation
Spurious radiation	Less than -50 dB
Carrier suppression	More than 40 dB
Unwanted sidebands suppression	More than 40 dB
Maximum frequency deviation (FM)	±5 kHz
Frequency response (SSB)	400 – 2600 Hz (less than -10 dB)
Microphone impedance	600 Ω



TS-50S

AT-50

RECEIVER	
Circuitry	Double conversion system Triple conversion system
SSB/CW/AM FM	
Frequency range	500 kHz – 30 MHz
Intermediate frequency	
1st IF	73.045 MHz
2nd IF	10.695 MHz
3rd IF	455 kHz (FM only)
Sensitivity	
SSB/CW (at 10 dB S+N/N, 500 kHz – 30 MHz)	Less than 0.25 μV
AM (at 10 dB S+N/N, 500 kHz – 30 MHz)	Less than 2.5 μV
FM (at 12 dB SINAD, 28 – 30 MHz)	Less than 0.5 μV
Selectivity	
SSB/CW	More than 2.2 kHz (-6 dB), Less than 4.8 kHz (-60 dB)
AM	More than 5 kHz (-6 dB), Less than 40 kHz (-60 dB)
FM	More than 12 kHz (-6 dB), Less than 25 kHz (-50 dB)
Image ratio	More than 70 dB
IF rejection	More than 80 dB
RTI variable range	More than ±1.1 kHz
Squelch sensitivity	
SSB/CW/AM (500 kHz – 30 MHz)	Less than 2 μV
FM (28 – 30 MHz)	Less than 0.32 μV
Audio output power	2W (8 Ω at 5% distortion)
Audio output impedance	8 Ω

The equipment meets or exceeds published specifications. Specifications are subject to change without notice due to advances in technology. KENWOOD reserves the right to add or delete models or products without notice to maintain its competitive position in the market. Products included in this catalog are products that were a part of KENWOOD's product line as of the date of this printing.

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ISO9001 FM34304 JQA-1205  
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