

# KENWOOD

## HF TRANSCEIVER TS-50S

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



### 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 100W HF transceivers.

- AT-300**  
Automatic antenna tuner
- MB-13**  
Mobile mount
- YK-107C**  
500Hz CW filter
- SO-2**  
Temperature-compensated crystal oscillator
- PG-4M**  
Control cable for AT-50 (6m)  
This cable links the TS-50S with the AT-50 and is used when the antenna tuner is installed in a car's trunk. It is 6m long.
- PG-2Y**  
DC cable (4m)
- LF-30A**  
Low-pass filter
- IF-10D**  
Interface unit

- MA-5**  
5-band helical type HF mobile antenna
- VP-1**  
Bumper mount for MA-5
- SW-2100**  
SWR/Power meter (1.8 ~ 30MHz)
- PS-53**  
Heavy-duty power supply (22.5A)
- PS-33**  
Power supply (20.5A)
- TL-922A**  
HF linear amplifier
- MC-85**  
Multi-function desktop microphone
- MC-80**  
Desktop microphone
- MC-60A**  
Deluxe desktop microphone
- MC-47**  
Multi-function microphone (8-pin)
- MC-43S**  
Hand microphone
- SP-50B**  
Mobile speaker (8Ω)
- SP-41**  
Compact mobile speaker (4Ω)



### Specifications

General	
Mode	A1A, 2CW, 2E, 2SSB, 2E (AM), FSK (FM)
Memory channels	100
Antenna impedance	50Ω
Power requirement	13.8V DC ± 10%
Power consumption	1.4A (Receive (no signal)) 29.5A (Transmit (100W))
Temperature range	20 ~ +60°C
Frequency stability	less than ± 20 × 10 <sup>-6</sup> Hz / °C (0°C ~ +50°C) less than ± 0.5 × 10 <sup>-6</sup> Hz / °C (0°C ~ +50°C) with SO-2
Dimensions (W × H × D) (Projections not included)	7.1 1/8 × 2.36 × 5.3 1/8 inches (179 × 60 × 135mm)
Weight	6.48lb (2.94kg)
Transmitter	
Frequency range	
80m band	1.725 ~ 2.000MHz
40m band	7.0 ~ 7.300MHz
30m band	10.1 ~ 10.150MHz
20m band	14.1 ~ 14.350MHz
17m band	18.0 ~ 18.060MHz
15m band	21.0 ~ 21.450MHz
12m band	24.9 ~ 25.000MHz
10m band	28.1 ~ 30.000MHz
Output power	
SSB, CW, FSK, FM	100W
AM	25W
Modulation	
SSB	Balanced modulation
FM	Phase-locked modulation
AM	Low level modulation
Spectrum radiation	less than -50dB
Carrier suppression	more than 40dB
Unwanted sidebands suppression	more than 40dB
Maximum frequency deviation (FM)	± 5kHz
Frequency response (SSB)	400 ~ 2000Hz (less than -10dB)
Microphone impedance	800Ω

Receiver	
Circuitry	SSB, CW, AM FM
Frequency range	Double conversion system logic conversion system 500kHz ~ 30MHz
Intermediate frequency	1st: 15.045MHz, 2nd: 10.695MHz, 3rd: 4.55MHz (FM only)
Sensitivity	
SSB, CW (at 10dB S+N/N) 500kHz ~ 30MHz	less than 0.25μV
AM (at 10dB S+N/N) 500kHz ~ 30MHz	less than 2.5μV
FM (at 12dB SINAD) 20MHz ~ 30MHz	less than 0.5μV
Selectivity	
SSB, CW	more than 2.2kHz (-60dB) less than 4.0kHz (-80dB)
AM	more than 9kHz (-60dB) less than 8.0kHz (-80dB)
FM	more than 12kHz (-60dB) less than 25kHz (-50dB)
Image ratio	more than 70dB
IF resection	more than 80dB
RT variable range	more than ± 1.5kHz
Speech sensitivity	
SSB, CW, AM 500kHz ~ 30MHz	less than 3μV
FM 20MHz ~ 30MHz	less than 0.25μV
Audio output power	2W (8Ω) at 1% distortion
Audio output impedance	8Ω

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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# Born to be Free



**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 mounted in a vehicle, taken on a DX-pedition, or even permanently installed as a base

station transceiver. Yet 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 handy 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**

