

 **KENWOOD**

**SSB  
TRANSCEIVER**

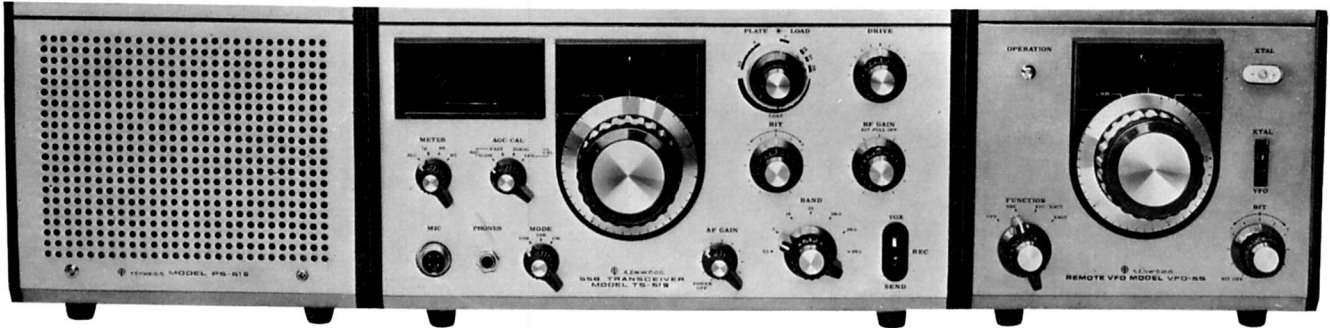
# 515 SERIES

TS-515 / PS-515 / VFO-55



# SSB TRANSCEIVER 515 SERIES

The SSB 515 Series are the most ideal communications equipment!



POWER SUPPLY & SPEAKER  
**PS-515**

SSB-TRANSCEIVER **TS-515**

REMOTE VFO **VFO-5S**

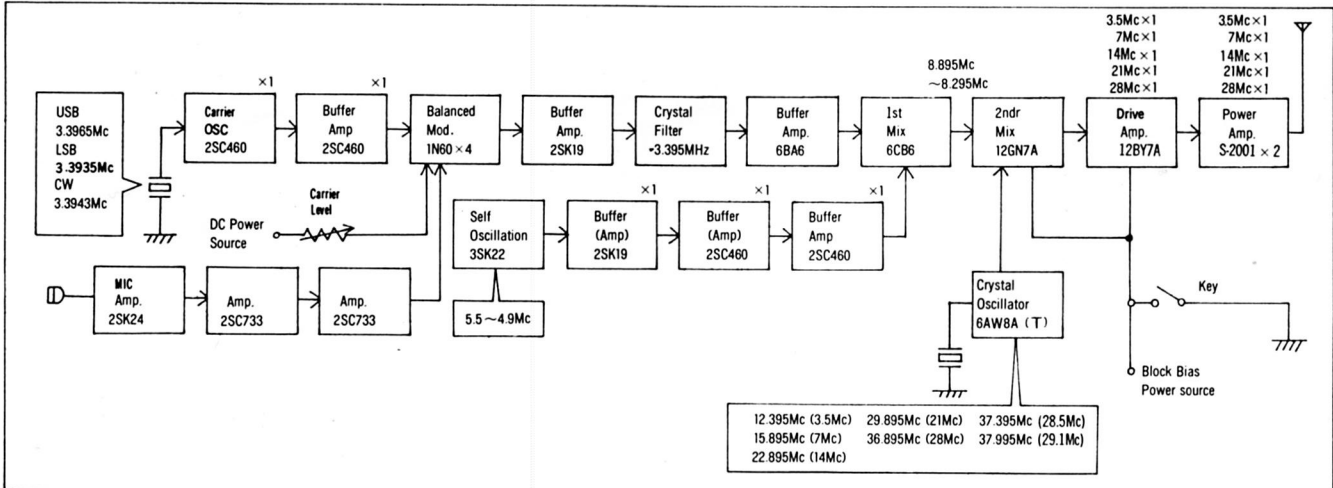
## SPECIAL FEATURES

- TS-515 is the definitive version of the 515 Series having all the design philosophy of KENWOOD incorporated in it most effectively. Two S-2001 are used for the final stage tubes. It has a maximum input of 180W, and is a DX type transceiver which every SSB fan has been long waiting.
- TS-515 is provided with plenty of accessory circuits including, the circuit switches for VOX, PTT, amplifier type AGC, ALC, RIT, AVR, CAL, as well as the metering switches for ALC, IP, RF, HV, etc. plus AGC time constant switch and an external VFO terminal.
- TS-515 has a good design with a silver-alumite and a hairline finish, which will be a good match with PS-515 and VFO-5S. The dial light is provided with a colored luminous system.
- TS-515 is provided with amplifier type ALC circuit

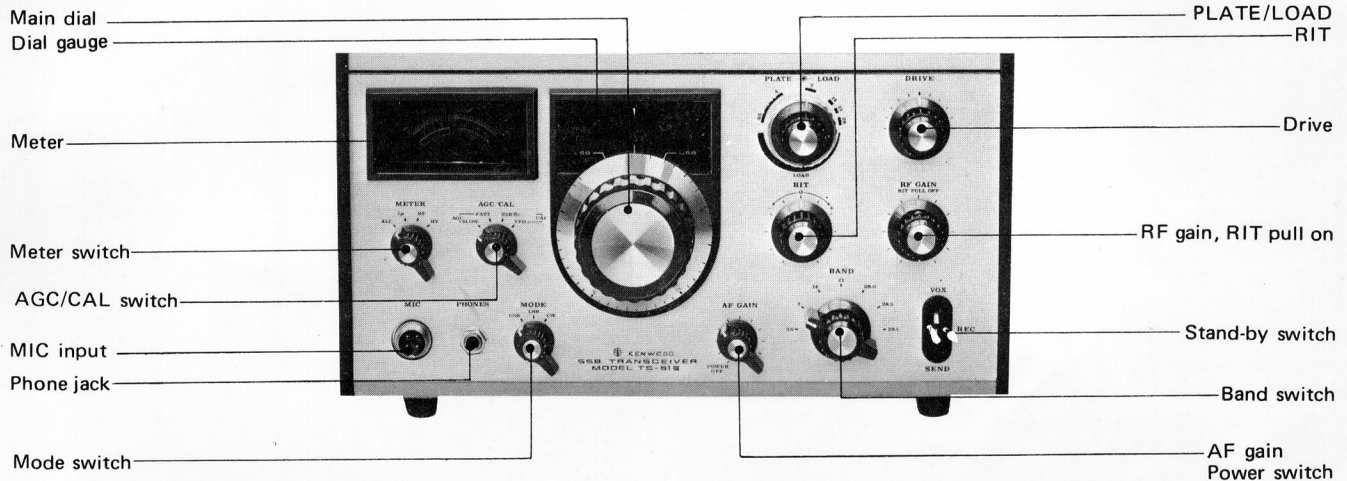
which has the unique performance in improving the rising and compression effect. By an indication of the ALC voltage meter, you achieve an on-air optimum operational condition.

- The direct reading frequency dial, marked in 1kHz increments enables an easy selection of your desired station. The combination of the high precision double gear, coupled to the direct line variable condenser allows the main dial frequency change of 25kHz per rotation.
- You can receive SSB (USB, LSB) and CW in the amateur band 80 ~ 10m.
- A crystal calibrator is built-in so that you can accurately adjust the dial at 25kHz.
- By utilizing the auxiliary remote VFO (VFO-5S) you can achieve split station operation. The same as operating two complete stations.
- AGC can be switched either to Slow or Fast, and is capable of answering any input signal of SSB or CW.

## TS-515 BLOCK DIAGRAM



The KENWOOD 515 Series equipment will achieve the highest performance which only KENWOOD's technology has been able to develop. The design and engineering philosophy of KENWOOD to achieve the highest level of high-power and high-stability performance permissible in SSB-transceiver is best and ideally achieved in KENWOOD's SSB-transceiver. You will find it extremely marvelous with its reputedly good sound, highly functional design on the basis of human-engineering, highly reliable performance due to the abundant use of solid state as well as the incorporation of many new improvements. This is the most ideal transceiver which meets all users' requirements. This 515 Series, which will transmit your personality throughout the world, will give you the genuine charm and satisfaction of SSB communication.



- Having the high performance amplifier type AGC circuit which will not distort any high power input signal, you can obtain an accurate indication of S-meter regardless of the location of RF inter-volume. It has also been improved to read under extremely weak DX signals.
- TS-515 has adopted the highly reliable wire-wrapping system.
- SSB-filters are built-in, which can be conveniently and easily switched on and off by the diode switch. Thus, you can enjoy a high selectivity of the sound of SSB.
- Accelerated by the combined use of high frequency type crystal filter and band pass filter of high performance, the reception section of this equipment with the crystal control of double conversion has a dual effect of high sensitivity and stability.
- High reliability and long life are assured by the hybrid of ten vacuum tubes and 88 semi-conductors.
- VFO, which is the key point of the transmitter-receiver using 2 FET, 2 transistors, and 3 diodes in order to give higher stability and lower rate of distortion.
- Provided with a side tone oscillator for CW, you can enjoy accurate CW operation, monitoring your own code signals.
- With two high powered S-2001 for the final stage amplifier, the TS-515 has a maximum input of 180W.
- Having RIT circuit built-in, you can make precision reception tuning without touching the main dial.
- A forced air cooling system utilizing a six blade fan. This cooling system will serve to prolong the life of the final stage tubes and to stabilize the operation.
- When connected with the KENWOOD TL-911 linear amplifier, a perfect match in performance can be achieved.
- The PS-515, speaker-power supply should be used for peak performance.

## SPECIFICATIONS

Transmitting and Receiving Frequency	80m band	3.5 ~ 4.0 MHz
	40m band	7.0 ~ 7.3 MHz
	20m band	14.0 ~ 14.35 MHz
	15m band	21.0 ~ 21.45 MHz
	10m A-band	28.0 ~ 28.5 MHz
	10m B-band	28.5 ~ 29.1 MHz
	10m C-band	29.1 ~ 29.7 MHz
Type of Emission	SSB (A <sub>3</sub> J)	CW (A <sub>1</sub> )
Power Input	3.5~21MHz PEP	180W
	28MHz PEP	120W
	(When PS-515 is used)	
Antenna Impedance	50 ~ 75Ω	unbalanced
Carrier Suppression	Under	-40dB
Side Band Suppression	Under	-40dB
Mic Input Impedance	High impedance type	(50kΩ)
Transmission Frequency Characteristics	400 ~ 2,600Hz	(-6dB)
Unnecessary Transmission Radiation Strength	Under	-40dB
Audio Frequency Response	0.5μV S/N10dB	at 3.5~21MHz band
	1.5μV S/N10dB	at 28MHz band
Image Ratio	Above	50dB
IF Interference Ratio	Above	50dB
Frequency Stability	Within ±2kHz	from one minute to 60 minutes after switch on.
	Within 100Hz	at each 30 minutes thereafter.
Selectivity: SSB	Above ± 1.2kHz	(-6dB)
	Under ± 2.4kHz	(-60dB)
CW	Above ± 1.2kHz	(-6dB)
	Under ± 2.4kHz	(-60dB)
Audio Output	Above	1W (when 10% distortion)
Audio Output Impedance	Speaker and headphones	8Ω
Power Consumption	Transmission Max.	350W
	Reception Max.	120W
	(When PS-515 is used)	
Vacuum tubes	10 vacuum tubes	
Semiconductors	33 transistors and 51 diodes, and 4 FET	
Dimensions	W: 13-1/8" (330mm), H: 7-1/4" (185mm), D: 13-1/2" (340mm)	
Weight	22 lbs. (10kg)	

Note: Specifications and design may be subject to change without prior notice due to improvements.

## REMOTE VFO

# VFO-5S

VFO-5S is a Remote VFO, and has a completely matched design with that of TS-515.

### SPECIAL FEATURES

- The frequency change of VFO is 25kHz by one rotation of its main dial. If you give the main dial 24 rotations, the gauge of the sub-dial will turn from zero to 600kHz. The main dial, however, is not directly connected with the main dial knob. A mechanical spread of specific mechanism is applied for speed reduction at 1:4, which naturally makes easy selection of stations.
- The remote terminal has its own independent relay circuit, which makes it easy and convenient to make a remote control of any outside accessory equipment.
- Having an independent solid state crystal oscillator circuit built-in, you can enjoy any reception-waiting or a spot reception by use of the fixed channel.
- Different from any ordinary VFO, VFO-5S has a special circuit called "braced-up circuit". With the combination of TS-515 and VFO-5S, you will have a high operational performance as if you are operating two sets of transmitter and receiver.
- All power is supplied from the main equipment. The solid state construction of this equipment eliminates most of the heat generating sources, and enables it to operate on a stable basis as soon as it is switched on.
- With built-in RIT, the transceiving range is wider, and its function as the outside VFO can be fully demonstrated.
- The ground effect of the transmitter is greatly demonstrated, and a separate ground is provided to control and eliminate unnecessary emission of unwanted frequencies when connected to a linear amplifier.

### POWER SUPPLY AND SPEAKER

# PS-515

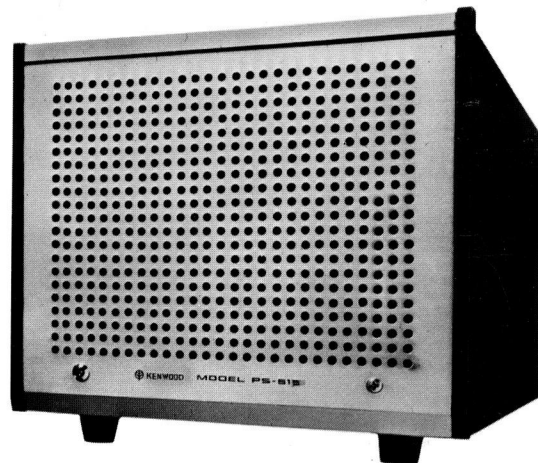
The PS-515 is an AC power supply containing a built-in 16 cm speaker which has been designed exclusively for use with the TS-515. A silicon rectifier is employed for high-voltage rectifications and high stability obtained through the use of stabilized circuitry. Since the power supply is turned ON and OFF at the TS-515, it can be installed at any location, either on a table, when space is scarce, under a table, etc.



### SPECIFICATIONS

Oscillator Frequency	4.9 ~ 5.5MHz
Oscillator System	VFO Section, clap circuit Crystal Oscillator, Pierce C-B circuit
Output Voltage	1.0V (Terminal resistor 470Ω)
Frequency Stability	Within 100Hz from 3 minutes of power induction and thereafter every 30 minutes (at room temperature)
Semiconductors	6 transistors, 8 diodes
Power Source	AC-12.6V 130mA DC-150V 30mA
Dimensions	W: 8" (200mm), H: 6-3/4" (170mm), D: 7-1/2" (192mm)
Weight	7.7 lbs. (3.5kg)
Accessories	One power output cord, two supplementary legs

Any of the specifications given here may be changed or modified without notice.



A product of  
**TRIO ELECTRONICS, INC.**  
6-17, 3 CHOME, AOBADAI, MEGURO KU, TOKYO, JAPAN