


KENWOOD

HF TRANSCEIVER

TS-950SDX



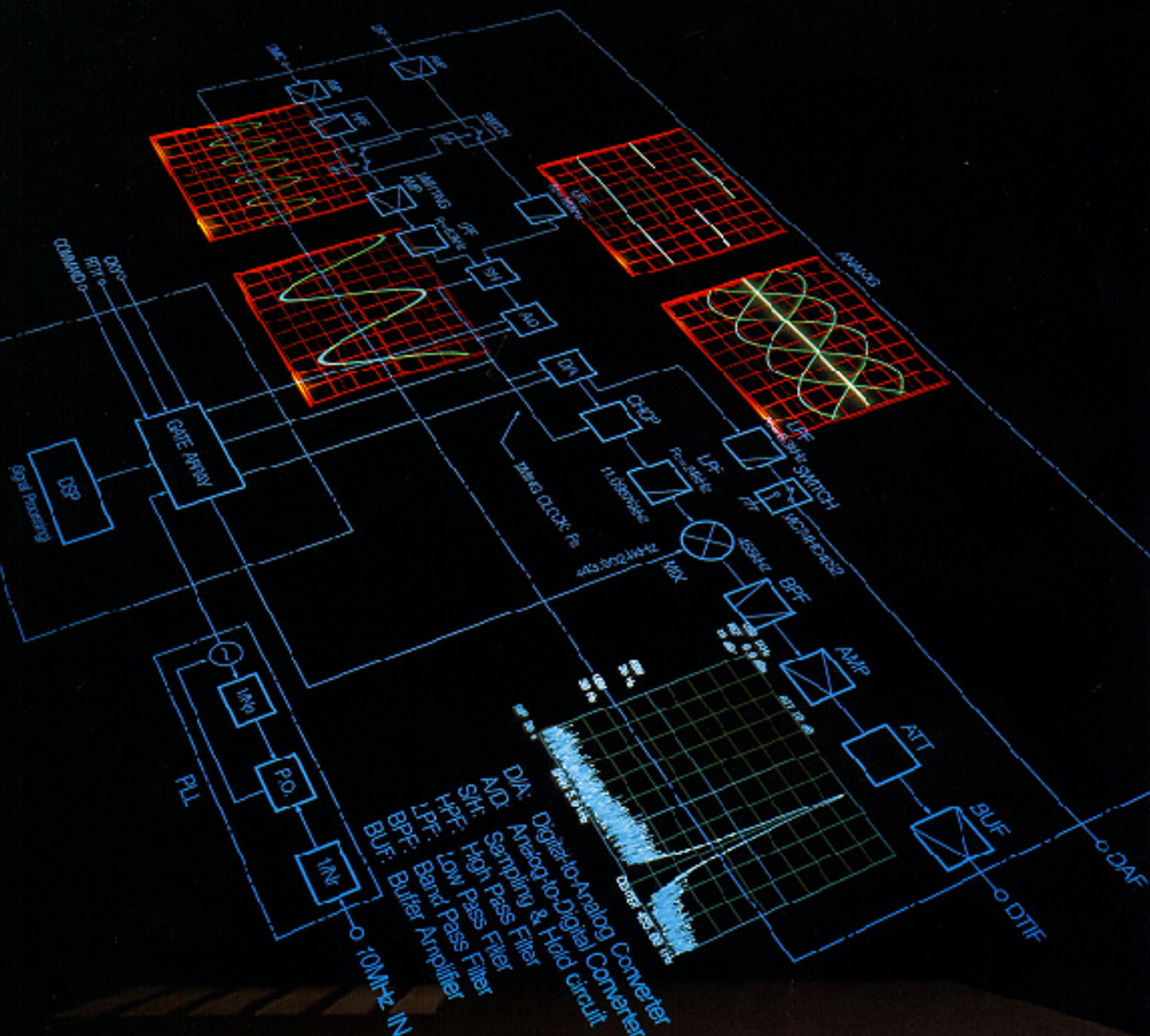


*Like a cheetah in pursuit
of game, Kenwood's new
TS-950SDX transceiver
blends an aesthetic
simplicity of form with
swift performance and*

The Call of the Wild

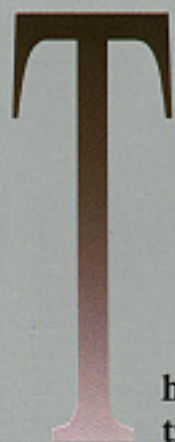
Time in to Top-Notch Performance with Kenwood's New TS-950SDX

*surgical precision. Featuring
a built-in DSP (digital
signal processor) and a
MOS-type FET final
section—a first in the
world of Amateur
Transceivers—the TS-950SDX
offers exceptional
transmission signal purity
and first-class audio quality.
In fact, it represents a new
benchmark for HF
communications. And yet its
menu system and many
other user-friendly features
reflect a strong emphasis
on operating ease and
efficiency—the key to
unleashing the full potential
of this phenomenal rig.*



Exceptional transmission signal purity is assured by the TS-950SDX's high-performance digital signal processor





he Digital Revolution. Everywhere—in communications and the media, information and entertainment—digital processing is coming to play an invaluable role in our lives. And for good reason: it suffers none of the uncertainties of analog processing. There is no ambiguity about ones and zeroes. Together with the Power MOS type FET final section, digital technology gives Kenwood's TS-950SDX transceiver an unprecedented advantage in HF communications.

Role

Quite simply, the DSP (digital signal processor) inside Kenwood's new TS-950SDX offers a quantum leap in TX and RX performance. This is achieved by modulation and filtering using numeric means rather than conventional RC circuits and analog ICs. Specifically, the job of the DSP is to process transmitter signals in the SSB, CW, AM, and FSK modes.

PSN modulation

The TS-950SDX employs the PSN (phase shift network) approach to modulation. Instead of using an analog filter with steep cutoff characteristics, it suppresses the unnecessary sideband by adding the incoming signal and carrier to a copy of the original audio signal that has been phase-shifted by 90°. This is far superior to the filter method in obtaining a wide frequency response, and thanks to digital processing it is very accurate and reliable.

Outstanding performance

The specifications speak for themselves; carrier suppression is more than 50dB, while unwanted-sideband suppression is greater than 50dB.

Digital AF filters

A variety of digital AF filters can be selected through the menu system. Included are 15 LPFs for SSB and CW modes (with cutoff frequencies ranging from 600Hz to 6kHz), and 3 BPFs for FSK use (with a central frequency of 2200Hz).

Key clicks banished

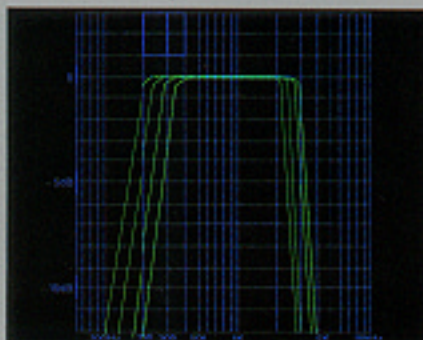
In CW mode the DSP detects the leading edge (key down) and trailing edge (key up) of the keying signal, refers to the internal Gaussian characteristics ROM, and obtains the shaped CW output. As a result, even steep CW waveforms—with a selectable leading edge characteristic of 2ms, 4ms, 6ms, or 8ms—have no key clicks.

Superior FSK transmission circuit

The data control oscillator provides rapid switching for the cleanest FSK signal. You can choose 170, 200, 425 or 850Hz FSK shift.

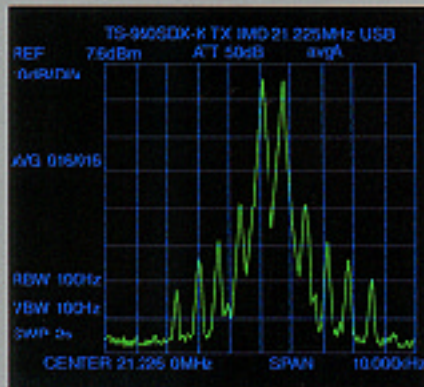
Selectable sound quality

Flat frequency response means clean, high-quality sound. The operator can select from 5 low-cut filters and 4 high-cut filters.



Dedicated Power MOS-type FET (MRF 150MP) final section

Better signals travel farther, and a major factor in determining just how far is the transceiver's final section. Here again the TS-950SDX is breaking new ground, ranking as the first Amateur radio transceiver to feature an FET final section. The excellent linearity of this design means greatly improved transmitter performance and enhanced reliability.



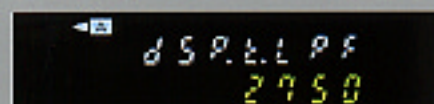


**Operating ease, of the kind only Kenwood can offer,
puts the TS-950SDX in a league of its own**

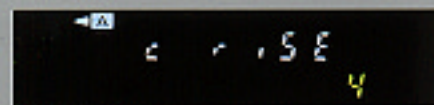
S

imple operation. Every aspect of transceiver operation has been analyzed in detail by Kenwood engineers and this has led to the development of a two-track approach to designing controls and displays on the TS-950SDX. While providing a comprehensive menu system, the value of individual time-saving functions—such as Quick Memory—has not been overlooked.

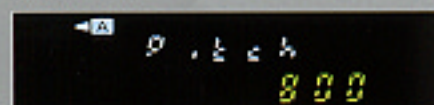
Menu system



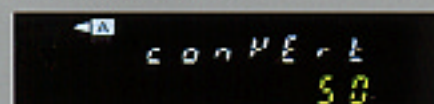
Setting transmit LPF cutoff frequency



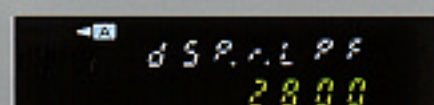
Setting CW rise time



Displaying current CW pitch frequency



Switching converter display color



Setting receive LPF cutoff frequency

The essence of simplicity: you engage the menu system by pressing the MENU key, and then select your desired menu item by rotating the M.CH/VFO CH control. The UP/DOWN pushbuttons on the front panel are used for changing the function on each menu. Press the MENU key a second time and you're back to the normal frequency display

10 direct band access keys

The BAND/KEY is used to select one of the 10 amateur radio bands from the front panel. When used in conjunction with the ENT key, frequencies can be entered directly from the keypad.



Quick Memory

As the name suggests, Kenwood's Quick Memory feature allows for stacking and recalling frequency, mode and filter information on the fly. The 5 channels reserved for this purpose are independent of main memory.



Remote function keypad

When you want to sit back and relax, reach for the RM-1 remote function keypad (supplied). Functions that can be controlled remotely include REC and PLAY, CLR, TF-SET and QUICK MEMO. A CW message keyer is built-in, while the optional DRU-2 digital recording unit provides voice message capability.



Ultra-fine (1Hz) tuning

The TS-950SDX uses a microprocessor-controlled Direct Digital Synthesizer (DDS) and digital PLL system to control the frequency in 1Hz steps. This is particularly useful for HF packet and AMTOR data communications.

Dual digital VFOs

The dual digital VFOs operate independently to facilitate split-frequency or cross-band operations without the need for external VFOs. An A=B key makes it possible to transfer tuning data (frequency, mode) from the active VFO into the inactive VFO.

100 memory channels

Memory galore. This transceiver is equipped with 100 channels for independent storing of transmit and receive parameters such as frequency, mode, filter setting, auto-tuner and tone frequency. The upper 10 memory channels can be used to establish the upper and lower limits for the programmable band marker.

Versatile scanning

Any or all of the memory channels may be scanned, with selected channels skipped using the programmable memory channel lock-out function. The TS-950SDX can scan up to 10 groups automatically within the limits specified by the programmable band marker, and can also scan sub receive frequencies. You can vary scan speed continuously using the RIT/XIT control.

M. CH (Memory Channel)/VFO CH (VFO Channel) control

Another highly convenient feature, this control is used during VFO operations to change the frequency; step size varies between 1kHz and 10kHz (10 choices), selected via the menu system.

Digital display

The main operating frequency can be seen at a glance in the large multi function fluorescent display. To the right are separate displays for the sub frequency and the TX frequency. With the ΔF feature you can verify frequency difference. Also displayed is IF filter selection, and indicators light to show whether VFO A, VFO B or the memory function is in operation.

Digital bar meter

Integrated with the main display is a high-precision digital bar meter. This indicates received signal strength with peak hold function, RF power, ALC (automatic level control), IC (final amplifier current), SWR or COMP simultaneously. During sub receive, the sub S meter can also be viewed at the same time.



Engineering expertise. The TS-950SDX is fully primed for demanding contest applications with such features as dual-frequency receive, an AIP circuit, and an automatic antenna tuner. Superior receiver sensitivity and reduced interference are assured by a variety of high-performance filters, an all-mode squelch, and other advanced circuitry. As well as raising precision to new heights, this technology also simplifies operation.

Dual-frequency receive

For maximum convenience when operating split frequencies, the TS-950SDX can simultaneously receive two frequencies, which can be within 1MHz of each other. Front panel controls are optimally oriented for such operations and include M/S (main/sub) select and an RX \leftrightarrow SUB key for instantly swapping the two frequencies. Handy too is the TF-W (transmit frequency watch) function for monitoring the transmit frequency. And with an external speaker or headphones, main and sub receivers can be monitored simultaneously yet independently; monaural and mixed monitoring are also available (menu selection). A CW narrow filter is provided for sub-receiver use.

Superb frequency stability

To ensure the highest accuracy and stability, the TS-950SDX is equipped with a TCXO (temperature-compensated crystal oscillator) and a microprocessor-controlled digital PLL, DDS circuits to control the frequency in 1Hz steps. Consequently, the reference frequency (20MHz) is accurate to within ± 0.5 ppm between -10° and $+50^{\circ}$ C.

Kenwood's AIP system for clearer reception

AIP (Advanced Intercept Point) is an exclusive circuit design that provides superior dynamic range (when AIP is selected). The use of two selective RF amplifiers—one with large gain for enhanced sensitivity, the other with utility gain for better intermodulation characteristics—results in a significantly reduced noise floor level.



Automatic antenna tuner

Built into the TS-950SDX, for maximum operator convenience, is a completely automatic antenna tuner (compatible with impedances of between 20Ω and 150Ω) covering all HF amateur covering all HF amateur bands. For easy coupling, this built-in tuner is controlled by a microprocessor, that has been preprogrammed to rapidly tune for minimum SWR.

All-mode data operation

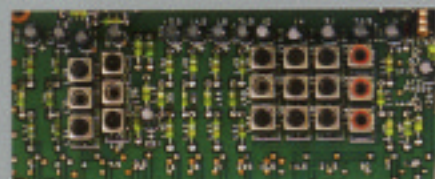
Simply depressing the mode keys will set up the transceiver for data communications on the appropriate mode via the data communications jack on the rear panel. Modes of operation include USB, LSB, AM, FM and FSK—each has its own front panel key.

Wideband general coverage receiver

Ready for any challenge, the TS-950SDX covers all Amateur bands from 160 to 10 meters. Reception is possible for any frequency from 100kHz to 30MHz.

15 band-pass filters

The RF amplifier section and 15 band-pass filters—including 10 BPFs for amateur bands—together offer outstanding two-signal characteristics.



Independent IF and AF circuits

The TS-950SDX has separate IF and AF circuits for the sub and main receivers, ensuring a sub-receiver signal that is of the same high quality as the main signal—even under the most severe operating conditions.

Simple data transfer between 2 transceivers

Data transfers are enabled just by hooking up two transceivers with a 6-pin DIN cable (E30-3047-05).

All-mode squelch

The squelch circuit effectively suppresses undesirable background noise when there is no signal present.

Noise-select function

Performance can be enhanced by dedicating the sub receiver to noise detection and using the blanking pulse it generates to blank the main receiver. By adjusting the sub receive frequency (± 1 MHz), the operator can soon determine the optimum position for noise blanking.

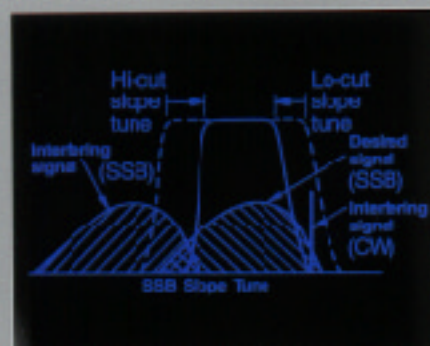
RF Attenuator

A 4-step (0, 6, 12, or 18dB) RF attenuator can be switched into the receiver front end to provide optimum rejection of intermodulation distortion from extremely strong signals.

Switchable AGC circuit

AGC (automatic gain control) is controlled by a 5 position (OFF/AUTO/SLOW/MID/FAST) switch to provide optimum receiver operation in SSB and CW modes under all signal strength conditions. You can use the menu system to set the desired AGC time constant for these two modes when AUTO is selected.

SSB IF slope tuning

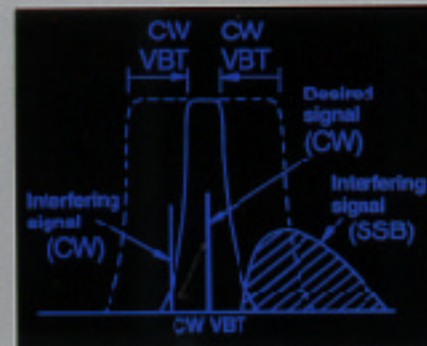


For LSB and USB modes, independent high-cut and low-cut controls permit the operator to select the ideal IF passband width quickly and easily.

Selectable IF filters with memory

From the front panel you can select the optimum filter bandwidth for the particular mode, band, and operating conditions. Plus you can store the optimum filter combination in memory.

IF VBT & AF VBT

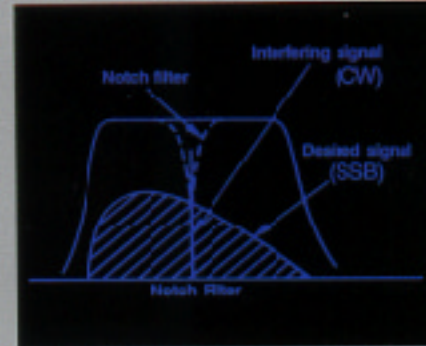


With the variable-bandwidth tuning control, you can adjust passband width without affecting the center frequency. In CW, PSK and AM modes, the AF VBT control allows you to avoid interfering signals while maintaining optimal signal-to-noise ratio.

Dual-mode noise blanker

The TS-950SDX's noise blanker, which offers two modes—NB-1 ("pulse") and NB-2 ("longer duration noise")—can be tailored to match specific noise and signal level conditions. Two front panel controls allow independent adjustment of main- and sub-band threshold levels.

IF notch filter



Available for all modes except FM, the tunable IF notch filter provides approximately 45dB of attenuation in a very narrow frequency range.

CW reverse mode

In reverse mode the pitch of interference competing with the CW signal is reversed, so the operator can approach the target from either side.

CW pitch control

Using the pitch control, CW pitch frequency can be varied between 400Hz and 1000Hz in 20Hz steps.



MC-90

SP-950

TS-950SDX

SW-2100

SM-230

TL-922/922A

Kenwood Options— Precision Tools for the Discerning DXer

SM-230 Station Monitor

Featuring a 6-inch square CRT, BNC terminals and a smart black cabinet that matches the TS-950SDX, the SM-230 serves as a band scope, monitor and tone generator. This versatile station monitor is thus an invaluable asset for supporting, monitoring and calibrating high-performance communications equipment.

Power requirements: 120/220/240V AC $\pm 10\%$, 50/60Hz (120V for USA and Canada)
Power consumption: 29W
Dimensions (W x H x D): 260 x 141 x 400mm (10-1/4 x 5-5/16 x 15-3/4in)
Weight: 7.5kg (16 lb 9oz)

Monitor
Frequency range: 1.8—150MHz
Sensitivity: Better than 30 μ Vrms/div (1.8—30MHz), 410 μ V/div (30—150MHz)
Maximum power: 2kW PEP (1.8—30MHz), 100W PEP (30—150MHz)

Band scope
Input center frequency: 5.83MHz
Input sensitivity: Better than 10 μ Vrms/div
Scan width: ± 25 kHz, ± 100 kHz, ± 250 kHz, switchable $\pm 10\%$

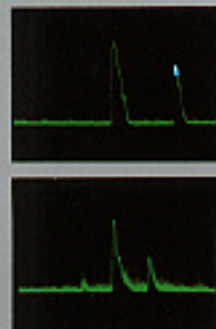
Two-tone generator
Oscillator frequency: 1000Hz and 1575Hz ($\pm 0.1\%$)
Output voltage: 5Vrms $\pm 10\%$
Output impedance: 500 Ω

Vertical amplifier
Deflection sensitivity: 10mV—10mV/div (3 ranges, with fine adjustment)
Input impedance: 1M Ω /50pF or less
Frequency response: DC—10MHz
Max. input voltage: 500Vp-p or 250V (DC+AC peak)

Sweep circuit
Sweep frequency: 10Hz—100kHz (4 ranges, with fine adjustment)
Sync. system: Synchronised sweep

Band scope

When used to analyze the IF output of a transceiver (up to 500kHz bandwidth), the SM-230 offers many advantages. As well as the AUTO position—which automatically selects optimum sweep speed for the chosen scan width, you may manually select sweep speed for any of three scan widths: 50kHz, 200kHz, and 500kHz. And since signals are displayed in real-time on the band scope, you can keep a careful watch on DX activity. When using the dual-frequency receive capability of the TS-950SDX, it is possible to display the position of the RX frequency on the screen, enabling you to identify the position of the main and sub signals.



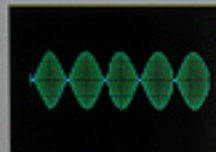
10MHz synchronized oscilloscope

Employed as an oscilloscope, the SM-230 is ideal for stable and accurate observation of waveforms. Switches enable DC input measurement, and output terminals provide a 1kHz 0.5Vp-p square-wave signal to facilitate calibration of the vertical input level.



Wideband transmission monitor

Signals of up to 150MHz can be passed through the station monitor using dedicated I/O terminals and thus eliminating troublesome cable connections. This allows constant monitoring of the waveforms of the transmitted signal from your transceiver. A quick glance at the screen is all that is needed for making accurate adjustments—microphone gain setting, for example—so you can improve signal quality while reducing distortion and eliminating key clicks.



X-Y TUNE

The X-Y TUNE function displays the typical "cross" pattern for RTTY tuning.



Two-tone generator (1000Hz & 1575Hz)

Equipped with 1000Hz and 1575Hz Wien bridge audio frequency oscillators for two-tone generation, the SM-230 can also be used to generate either tone on its own—useful for adjusting a microphone amplifier.

TL-922/TL-922A HF Linear Amplifier*

The TL-922/TL-922A covers all bands, 160m through 10m* (except for the three new Amateur bands), in SSB, CW and RTTY modes. This class AB₂ grounded-grid linear amplifier employs twin EIMAC 3-500Z power tubes to assure peerless performance. Note that it operates with semi break-in but not full break-in.

*Model TL-922A, available only in the USA, does not cover the 10m band.

FEATURES

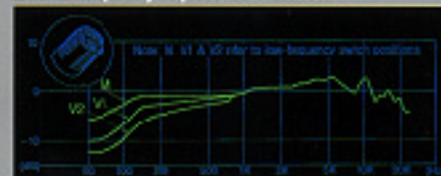
- Twin EIMAC 3-500Z high-performance transmitting tubes
- Class AB₂ G-G circuit
- Excellent IMD (intermodulation products distortion) characteristics
- Blower turn-off delay circuit
- Variable threshold level type ALC circuit
- Two easy-to-read meters

Frequency range: 1.8—2.0MHz, 3.5—4.0MHz, 7.0—7.3MHz, 14.0—14.35MHz, 21.0—21.45MHz, 28.0—29.7MHz (not TL-922A)
Modes: SSB, CW, RTTY
Drive power: 50W or more for full output
RF input power: SSB=2,000W PEP, CW/RTTY=1,000W DC
Circuitry: Class AB₂ grounded-grid linear amplifier
Input impedance: 50 Ω
Output impedance: 5 Ω —75 Ω
Cooling: Forced air
Fan motor delay stop time: 140 \pm 30 seconds
ALC: Negative going adjustable threshold -8V DC max. output (typical)
Tubes: 2 x 3-500Z (optional)
Power requirements: 120/220V 28A, 50/60Hz type; also, 220/240V, 14A, 50/60Hz type
Dimensions (W x H x D): 390 x 190 x 407mm (15-3/8 x 7-1/2 x 16in)
Weight: 31kg (68 lb 8oz)

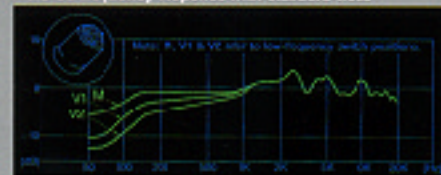
MC-90 DSP-Compatible Desktop Microphone (250 Ω)

The MC-90 is a high-quality communications microphone with a moving-coil design engineered specifically to exploit DSP performance characteristics, providing unparalleled audio quality. Supplied with it are two interchangeable heads: one has an output level characteristic that peaks at around 3kHz, making it ideal for DX applications, while the other has a flat frequency response more suited to general operations. There is also a 3-position switch to adjust low-frequency response.

MC-90 frequency response with DX head



MC-90 frequency response with standard head



MC-90



SM-230

SW-2100



TL-922/922A

SP-950 External Speaker

Like the SM-230 station monitor, the SP-950 is designed to match the TS-950SDX in size, color and appearance. This high-quality speaker features a panel made of reinforced ABS plastic and an expanded metal speaker grill to improve tone quality.



Speaker diameter: 100mm (4in)
Input power (max): 15W (3.0W)
Impedance: 8Ω

Frequency response: 160Hz-7kHz
Filter cut-off frequency: 1/1W 400Hz (-3dB); HIGH1 3kHz (-3dB); HIGH2 1.2kHz (-3dB); HIGH1 + HIGH2 900Hz (-3dB)

Filter attenuation: -6dB/OCT
Dimensions (W x H x D): 180 x 141 x 50mm (7-1/16 x 5-3/16 x 1-13/16in) (Projections not included)
Weight: 21g (4/8 oz) approx.

SW-2100 SWR/POWER Meter

Convenient for base station use, the SW-2100—with built-in coupler—has selectable RMS and SWR/POWER meters.



Dimensions (W x H x D): 208 x 95 x 85mm (8-3/16 x 2-5/8 x 3-3/8in)
Weight: 850g (1lb 14oz)
Connector: M type (ISO 239)
Impedance: 50-30Ω
Frequency range: 1.8-30MHz

Maximum through power: 200W/PEP
Insertion loss: Less than 0.2dB
Residual SWR: Within 1.2
Power measurement range: 0-200W, 0-2000W
Power measurement accuracy: 1.8-30MHz: 10% (full scale)
Minimum power for SWR measurement: 30W approx.

DRU-2 Digital Recording Unit

The DRU-2 allows transmission voice recording using 3 audio memories—2 of 8 seconds, one of 16 seconds—for SSB, FM and AM calling. You can operate it from the remote function keypad (RM-1). It can also be programmed, using the menu system, for continuous recording of the received signal; this allows the operator to replay the last 8- or 16-second segment should confirmation be needed.



MC-60A Deluxe Desktop Microphone (50kΩ/500Ω)

Featuring a built-in pre-amplifier, this high-quality communications microphone has a zinc die-cast base to provide extra stability. The MC-60A is also equipped with PTT and LOCK switches, UP/DOWN switches, an impedance selector switch, and an 8-pin connector.



MC-80 Desktop Microphone (700Ω)

The MC-80 is an omnidirectional electret condenser microphone using an 8-pin connector. Featured are an UP/DOWN switch, volume adjustment for output level, PTT and LOCK switches, and a built-in pre-amplifier.



MC-85 Multi-Function Desktop Microphone (700Ω)

Built-in audio level compensation distinguishes the MC-85, a unidirectional electret condenser microphone with three output selections, audio level compensation circuit, low-cut filter, level meter, 8-pin connector, PTT and LOCK switches.



MC-43S Hand Microphone (500Ω)

The MC-43S is a dynamic hand microphone with both PTT and UP/DOWN switches. (8 pin)



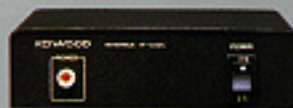
PC-1A Phone Patch Controller

(Available only where phone patch operation is legal)

ICC Part 68 Registered



IF-232C Interface Unit



VS-2 Voice Synthesizer Unit



HS-5 Deluxe Headphones (8Ω)



(Monaural)

HS-6 Small Headphones (12.5Ω)



(Monaural)

YK-88CN-1 270Hz CW Filter for 8.83MHz IF



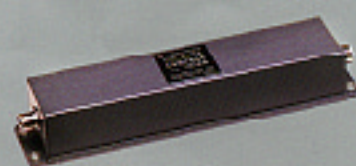
YK-88SN-1 1.8kHz SSB Narrow Filter for 8.83MHz IF



YG-455CN-1 250Hz CW Narrow Filter for 455kHz IF



IF-30A Low-Pass Filter



SPECIFICATIONS

		TS-950DX		
General	Mode	J3E (SSB), A1A (2W), A3E (AM), F3E (FM), F1D (FSK)		
	Memory Channels	100		
	Antenna impedance	50Ω With Antenna Tuner 20-150Ω (1.5-28MHz band)		
	Power requirement	USA, CANADA type	120V AC ± 10%	
		GENERAL type	230/220V AC ± 10%	
		EUROPE type	230V AC ± 10%	
		UK, AUSTRALIA type	230/240V AC ± 10%	
	Power consumption	Receive (no signal)	110W	
		Transmit (Max.)	850W	
	Temperature range	-10 to +50°C (+14 to +122°F)		
Frequency stability	± 0.5 × 10 ⁻⁵ (-10°C ~ +50°C)			
Dimensions (W x H x D)	302 x 141 x 400mm (15.83 x 5.55 x 15.75 inches)			
Weight	23kg (50.7 lbs)			
Frequency range	160m band	1.8/1.81/1.83** to 1.85/1.87/2.0MHz		
	90m band	3.5 to 3.8/4.0MHz		
	40m band	7.0 to 7.1/7.3MHz		
	30m band	10.1 to 10.15MHz		
	20m band	14.0 to 14.35MHz		
	17m band	18.068 to 18.168MHz		
	15m band	21.0 to 21.45MHz		
	12m band	24.89 to 24.95MHz		
	10m band	28.0 to 29.7MHz		
	Transmitter	Output power (with auto antenna tuner in "THRU")	150W PEP	
SSB		40W		
SSB		balanced modulation		
FM		Reactance modulation		
AM		Low level modulation		
Spectrum radiation		Less than -40dB		
Carrier suppression		More than 50dB		
Unwanted sideband suppression (Modulation frequency: 1kHz)		More than 50dB		
Maximum frequency deviation (FM)		Wide: Less than ± 5kHz; narrow: Less than ± 2.5kHz		
Frequency response (SSB)		100 to 3100Hz (variable)		
XIT variable range	± 9.99kHz			
Microphone impedance	2000 to 6000			
Circuitry	Main	SSB, CW, FSK, AM	Quadruple conversion system	
		FM	Triple conversion system	
	Sub	SSB, CW, FSK	Double conversion system	
	Frequency range	Main	100kHz to 30MHz	
		Sub	100kHz to 30MHz	
	Intermediate frequency	Main	1st: 73.00MHz, 2nd: 8.83MHz, 3rd: 455kHz, 4th: 100kHz	
		Sub	1st: 40.355MHz, 2nd: 10.695MHz	
	Sensitivity	(Main/Sub)	SSB, CW, FSK (at 10dB S+N)	100kHz-150kHz: Less than 2.5μV 150kHz-490kHz: Less than 1μV 490kHz-1.62/1.70**MHz: Less than 4μV 1.62/1.70**MHz-30MHz: Less than 0.2μV
			100kHz-150kHz: Less than 2.5μV 150kHz-490kHz: Less than 1μV 490kHz-1.62/1.70**MHz: Less than 3.2μV 1.62/1.70**MHz-30MHz: Less than 2.0μV	
		(Main) AM (at 10dB S+N)	100kHz-150kHz: Less than 2.5μV 150kHz-490kHz: Less than 1μV 490kHz-1.62/1.70**MHz: Less than 3.2μV 1.62/1.70**MHz-30MHz: Less than 2.0μV	
20MHz-30MHz: Less than 0.5μV				
Main		SSB, CW-W, FSK, CW-N	More than 2.4kHz (-6dB), Less than 3.4kHz (-60dB) More than 500Hz (-60dB), Less than 800Hz (-60dB)	
		AM	More than 6kHz (-6dB), Less than 15kHz (-50dB)	
Sub	FM	More than 12kHz (-6dB), Less than 24kHz (-50dB)		
	SSB, CW-W, FSK, CW-N	More than 2.2kHz (-6dB), Less than 4.8kHz (-50dB) More than 500Hz (-60dB), Less than 2kHz (-50dB)		
Image ratio		More than 80dB (1.8-30MHz)		
IF rejection		More than 70dB (1.8-30MHz)		
Notch filter attenuation		More than 45 dB		
RIT variable range		± 9.99kHz		
Squelch sensitivity (Main/Sub)	SSB, CW, FSK, AM	100kHz-150kHz: Less than 6.3μV 150kHz-490kHz: Less than 2.5μV 490kHz-1.62/1.70**MHz: Less than 10μV 1.62/1.70**MHz-30MHz: Less than 0.5μV		
		20MHz-30MHz: Less than 0.32μV		
	FM	150kHz-490kHz: Less than 2.5μV 490kHz-1.62/1.70**MHz: Less than 10μV 1.62/1.70**MHz-30MHz: Less than 0.32μV		
		20MHz-30MHz: Less than 0.32μV		
Audio output power		15W (8Ω at 10% distortion)		
Audio output impedance		8Ω		

*Europe type; **Belgium type; ***JSA type

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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JQA-1205

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