

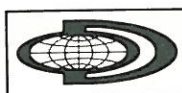


DRAKE Model **SPR-4 RECEIVER**

- Programmable to meet specific requirements: SWL, Amateur, Laboratory, Broadcast, Marine Radio, etc.
- Direct Frequency Dialing: 150-500 kHz plus any 23 500 kHz ranges, 0.5 to 30 MHz
- FET Circuitry, All solid state
- Linear dial, 1 kHz readout
- Band-widths for: CW, SSB, AM
- Crystals supplied for LW, BC and seven SW bands.
- Notch filter
- Built-in speaker

RECEIVERS FOR SHORTWAVE LISTENERS
 GILFER ASSOCIATES, INC.
 P.O. BOX 239 (52 PARK AVE.)
 PARK RIDGE, N.J. 07656

R. L. DRAKE COMPANY



DRAKE

®

*Equipment
 for Radio
 Communications*

GENERAL

The Drake model SPR-4 communications receiver may be programmed to suit your present and future needs. It is ideal for short wave listening or monitoring, aircraft radio and weather, marine ship and shore stations, HF communications, WWV time signals, CB, standard broadcast monitoring or DXing, amateur radio, civil defense, government, or use as a laboratory instrument.

In designing the SPR-4, Drake engineers incorporated the dual gate FET to produce the first no-compromise solid state receiver. Unlike receivers with bipolar transistors which have poor cross-modulation, intermodulation, AGC, and overload performance; the SPR-4 has signal handling capabilities superior to the best tube receivers. In addition, the SPR-4 has all of the advantages of a solid-state design such as low power consumption, mechanical and thermal stability, reliability, etc.

The SPR-4 comes with ten bands installed which cover long wave, standard broadcast, and seven shortwave broadcast bands. Other bands, each with 500 kHz tuning range, can be added by purchasing a crystal which comes with an adhesive transparent dial sector for that range. A total of 24 bands are possible from 150 kHz to 30 MHz.

The main tuning dial reads 0 to 500 kHz with 1 kHz graduation marks using two concentric transparent discs, 0 to 100 kHz is indicated on one disc and hundreds of kHz are indicated on the other disc.

SPECIFICATIONS

Frequency Coverage	Can be programmed with accessory crystals for 23 ranges (each tuning a 500 kHz band) from 0.5 to 30 MHz plus 150 to 500 kHz. Crystals supplied with the receiver allow coverage on these ranges: 150-500 kHz, 0.5-1.0 MHz, 1.0-1.6 MHz*, 6.0-6.5 MHz, 7.0-7.5 MHz, 9.5-10 MHz, 11.5-12 MHz, 15-15.5 MHz, 17.5-18 MHz, 21.5-22 MHz.
Modes of Operation	AM, CW, LSB, USB, (RTTY with RY-4 accessory installed)
Selectivity	AM: 4.8 kHz @ -6 dB, 10 kHz @ -60 dB SSB: 2.4 kHz @ -6 dB, 7.2 kHz @ -60 dB CW: 0.4 kHz @ -6 dB, 2.7 kHz @ -60 dB
Intermediate Frequencies	1st IF 5645 kHz four pole crystal lattice filter, 2nd IF 50 kHz four pole Hi-Q Ferrite LC filter.
Frequency Stability	At room temperature, drift for all causes (including $\pm 10\%$ change in supply voltage) is less than ± 100 Hz.

*Generous overtravel gives additional 50 kHz or more off each end of range.

Sensitivity	SSB and CW: 0.25 microvolt for 10 dB $\frac{S+N}{N}$, AM: 0.5 microvolt with 30% modulation for 10 dB $\frac{S+N}{N}$.
Image Rejection	Greater than 60 dB below 15 MHz Greater than 50 dB above 15 MHz
Blocking	An undesired unmodulated signal at least 20 kHz above or below a desired signal of .25 microvolt must be 90 dB stronger than the .25 microvolt signal to cause a 3 dB reduction of the signal to noise ratio of the desired signal.
Cross Modulation	An unwanted signal (modulated 30% at 1 kHz) removed by at least 20 kHz from a desired signal of 1 microvolt, must have a signal level of at least 10 millivolts to produce a noticeable crossmodulation of the desired signal.
Intermodulation	Using a reference signal of .25 microvolt, two interfering signals of equal strength within the passband of the receiver front-end selectivity must each have a strength of at least 65 dB above the reference signal to produce third order products equal to the .25 microvolt reference signal.
Automatic Gain Control	AGC is used on AM, CW, and SSB. Time constants are selected for the optimum effectiveness on each mode. Audio output is held constant to 6 dB over a 100 dB range of input signals. Jumper wire allows choice of fast or slow release on CW.
Input Impedance	50 ohms approximately (high impedance 150 kHz to 1500 kHz)
Excessive RF Input Voltage Protection	Withstands 30 volts RMS from a 50 ohm generator continuously.
Output Power	3 watts into 4 ohm load (less into higher impedance loads)
Power Consumption	18 watts on 120 VAC or 5¾ watts on 12 VDC, 2.5 watts on 12 VDC with dial lights turned off and with audio output adjusted for normal listening level.
Calibration	Dial is accurate to better than ± 1 kHz when calibrated at nearest 100 kHz calibration point.
Hum and Noise	More than 60 dB below rated output.
Size and Weight	5½" H x 10¾" W x 12¼" D (140 mm H x 274 mm W x 324 mm D). 18 lbs (8.2 kg).

ACCESSORIES

Matching Speaker	Same size as SPR-4, has 5 x 7 speaker. Model MS-4
Calibrator	Plug-in 100 kHz crystal oscillator with harmonics that occur at 100 kHz intervals throughout the range of SPR-4. Model SCC-4
Noise Blanker	Plug-in IF Type noise blanker mutes receiver for duration of each noise pulse. 16 transistors, 2 diodes. Model 5-NB
Loop Antenna	Directional antenna nulls out undesired stations, plugs into receptacle through top of the cabinet, operates from 150 kHz to 1600 kHz only. Model AL-4
Antenna Kit	Consists of wire, insulators, lead-in, and instructions. Model AN-5
DC Power Cord	Plugs into cigar lighter in an automobile, allows SPR-4 to be used on 12 volts DC supply. Model DC-PC
Teletype Adapter	Allows reception of standard teletype tones 2125/2975 Hz and 2125/2295 Hz by remote shifting BFO. Model RY-4
Transceive Adapter	Allows SPR-4 to transceive with all T-4 and T-4X Transmitters. Consists of printed circuit board and connectors. Model TA-4

CRYSTAL KITS

Amateur Bands	160 M, 80 M, 20 M, 15 M, and 10 M ranges. Six crystals cover 1.5-2, 3.5-4, 14-14.5, 21-21.5, 28-28.5, 28.5-29 MHz.
Marine Bands	2-2.5, 2.5-3, 4-4.5, 8-8.5, 8.5-9, 12-12.5, 13-13.5, 16.5-17, 17-17.5, 22-22.5, 22.5-23. Eleven Crystals.
Aeronautical Overseas	2.5-3, 3-3.5, 4.5-5, 5.5-6, 6.5-7, 8.5-9, 13-13.5. Seven Crystals
Time and Frequency Standard, WWV	2.5-3, 5-5.5, 10-10.5, (15-15.5 original equipment), 20-20.5, 25-25.5. Five Crystals
CB	27-27.5 MHz*. One Crystal
Tropical Broadcast	2.0-2.5, 3.0-3.5, 4.5-5 MHz. Three Crystals
Mars	2.0-2.5, 3-3.5, 4-4.5, 5-5.5, 18-18.5. Five Crystals
Teletype Commercial	UPI, AP, Stock Market, Weather, etc. 7.5-8, 9-9.5, 13.5-14, 15.5-16. Four Crystals
Individual Bands	Crystals may be ordered for any 500 kHz tuning range. Specify Range in MHz.

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