

Corsair II



Treat yourself to Ten-Tec technology

Built on the solid success of the CORSAIR, the CORSAIR II goes a step further in features and performance.

A new computer designed 16 pole ladder filter is standard, providing over 100 dB of skirt selectivity. Weak signals adjacent to those of high intensity are easily read. And aided by optional front panel controlled narrow band i-f filters and a variable active audio filter to 150 Hz, selectivity is near ultimate.

The virtual absence of phase noise and the low noise floor allows weak signals to be copied that lesser rigs mask . . . especially those with PLL oscillators.

In addition to outstanding receiver performance, the CORSAIR II offers other niceties such as a built-in keyer with a memory bank for up to 40 characters, full or semi break-in, unique band width/pass-band tuning, dual mode noise blanker and wide and narrow offset tuning.

The CORSAIR II has an optional second VFO that does a great deal more than just simply another VFO built-in. It allows you to listen to the frequency on which it is transmitting and will even provide reception of two signals on different frequencies simultaneously.

What the CORSAIR II does not do is add complexity that interferes with efficient operating. The size is convenient for comfortable control spacing so you can enjoy communicating effortlessly without a myriad of adjustments.

The World at your finger



Model 425 TITAN

Model 260 Power Supply

CORSAIR II — The lowest noise, cleanest and most selective Amateur hf transceiver on the world market.

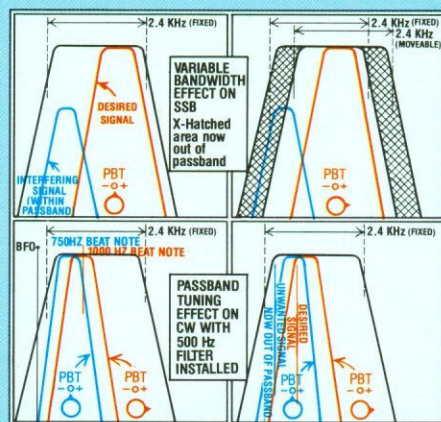
All Solid-State, Broadband Design, from the pioneer, TEN-TEC, who introduced the first solid-state hf transceiver in 1970, and presents this latest refinement today: the CORSAIR II final amplifier operates at **full output** at 100% duty cycle on **all** bands in **any** mode — and it won't fold back with high SWR.

All 9 HF Bands — with **all** the crystals supplied.

Triple Conversion Receiver with Super Low Noise RF Preamplifier yields sensitivity figures of $0.25 \mu\text{v}$ on **all** bands, with a dynamic range of better than 95 dB.

Variable Bandwidth Plus Passband Tuning. CORSAIR II gives you the best of everything in this most sophisticated i-f system TEN-TEC has ever offered. With all filters in place, the operator has the ability to narrow the bandwidth to relegate interfering signals to the highly attenuated skirts or he may choose to move the passband to accomplish the same

effect. In ssb, the variable bandwidth in effect narrows the passband from either side. Two 8-pole cascaded crystal ladder filters provide ultimate skirt selectivity greater than 100 dB. Optional narrow band filters may be added and moved within the 2.4 kHz bandwidth. In cw, the passband tuning effect permits moving the passband to drop out interference and permits choosing the beatnote pitch; filters are 1.8 kHz, 500 Hz, or 250 Hz. In RTTY, CORSAIR II permits using a 500 Hz filter, regardless of sideband selected.



New 8 pole Audio Bandpass Filter. Variable control tunes from flat to fully filtered frequency response.

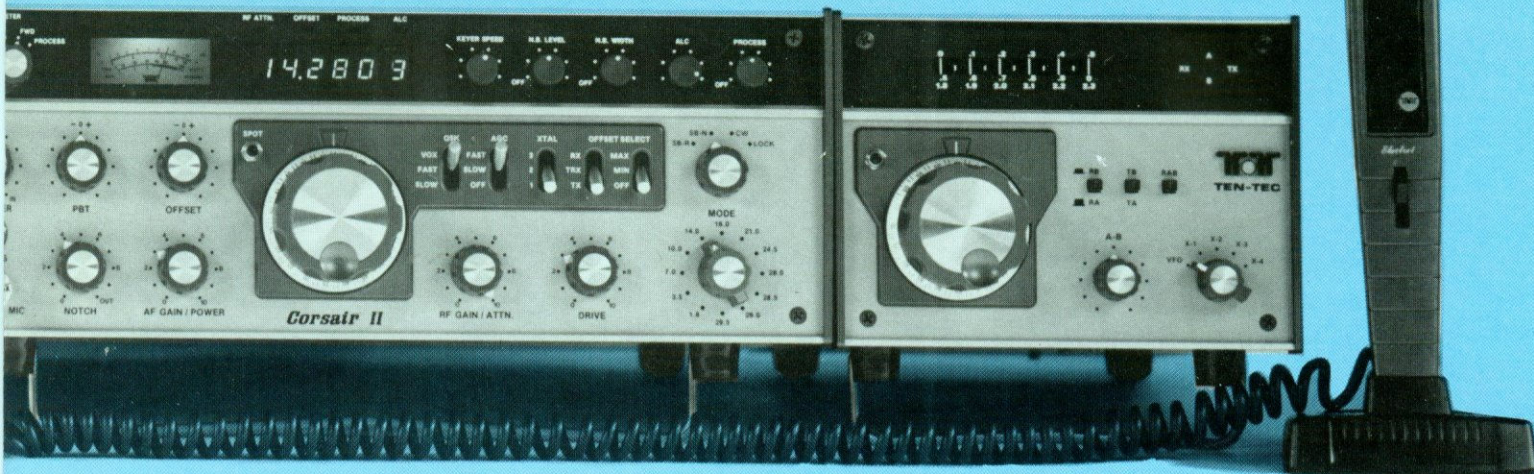
Dual-Range, Triple-Mode, Offset Tuning Plus Variable Notch Filter. Combined with CORSAIR II's unique i-f system, the notch filter and offset tuning provide potent weapons against any QRM.

Built-In Speech Processor and Dual-Mode Noise Blanker. Both standard equipment, both front panel controlled. The new noise blanker offers improved performance with variable width control and a threshold control for that fine-line adjustment between intelligibility and loss. The speech processor uses a clipper/compressor design with a range of up to 10 dB of processing, front panel controlled, to substantially increase intelligibility by holding vowel sounds constant while increasing consonant sound levels.

Fully AMTOR compatible. Receiver and transmitter switching times are well within requirements for perfect AMTOR performance.

Signal Purity — a TEN-TEC tradition. CORSAIR II exceeds the FCC harmonic radiation requirements. And it offers less than 2% distortion to provide pleasant listening and clean transmission.

ertips . . . with Ten-Tec



Model 561 Corsair II

Model 263G Remote VFO

Model 214 Microphone

All The Operator Conveniences. The built-in *headphone attenuator* permits using a higher gain setting to enhance the signal-to-noise ratio. **5-function meter** monitors collector current, processor level, peak forward power on voice and cw, SWR, and "S" levels with all-band accuracy, up to 60 dB over S9. **WWV reception** on the 10 MHz band. **Lighted status indicators** show when the rf attenuator is "in," Speech Processor "on," as well as ALC and Offset Tuning. **6-digit readout** with the sixth digit in green for easy, fast reading of the basic frequency. True frequency counter is accurate on both sidebands.

The CW Operator Is Well Taken Care Of, Too. **Dual-speed QSK**, full or semi break-in, front panel selected, to fit conditions. **CW signal spotter.** Ideal for DX pile-ups. Lets you transmit exactly where the DX station is listening. **High articulation keying** — 3.5 msec rise-decay time. Keying independent of VOX setting. **Adjustable sidetone** — both pitch and volume the way you like it.

New Built-in 40 Character Memory Keyer. Front panel speed control

8-50 wpm. Optional KR1B paddle recommended for utilizing memory.

Complete Interfacing with Other Equipment. A full complement of back panel connections makes it easy. Jacks for a separate receive antenna for split operation or for a QSK linear. Inputs for separate VFO, keyer; outputs for 12V dc, speaker. Access to audio signals for RTTY/AMTOR operation or phone patch.

Power Supply Versatility. CORSAIR uses a 13V dc design basis to offer convenient, low cost mobile/portable operation. Separate 115/230V ac supply not only permits a light-weight chassis, but isolates heat and ac noise from the transceiver for longer life and freedom from hum.

Beauty That's More Than Skin Deep. CORSAIR II looks great with its black-out dial panel, gold LED readout, and extruded front panel with aluminum accents. And, the size is just right — large enough for comfortable control usage, but not too bulky for fixed station arrangement or mobile use.

Reliable, American Manufacture and Service, Fully Warranted. CORSAIR II is manufactured under one roof at the TEN-TEC factory in the foothills of the Great Smoky Mountains. We make our own circuit boards, sheet metal parts, turnings, stampings, injection molded parts, transformers, coils — we even make our own tools and molds. And our machines are the latest, with numerical controls for accuracy. We do our own servicing, in a fraction of the time of others, right here in the USA — we offer phone aid to pin-point any problems — we offer replacement modules free for 12 months after purchase and only a nominal charge after warranty — and we warrant the final amplifier transistors for 5 years on a pro-rata basis.

Full Accessory Line. CORSAIR II is accompanied by all the accessories for effective operating, including the legal limit output Titan linear amplifier. See the back page.

See Your TEN-TEC Dealer. He will be happy to demonstrate the CORSAIR II — the best hf transceiver we've ever made.

Specifications and Accessories

GENERAL

Frequency Coverage: 1.8-2.3, 3.5-4.0, 7.0-7.5, 10.0-10.5, 14.0-14.5, 18.0-18.5, 21.0-21.5, 24.5-25.0, 28.0-30.0 MHz transceive. (VFO provides approximately 40 kHz overrun on each band edge.)

VFO Stability: Less than 15 Hz change per F° averaged over a 40° change from 70° to 110° F after 30 minutes warmup. Less than 10 Hz change from 105 to 125 V ac line voltage when using a TEN-TEC power supply.

Tuning Rate: Vernier, 18 kHz per revolution, typical.

Readout: 6 digit, 0.3" LED numerals.

Accuracy: ± 100 Hz.

Semi-Conductors: 1 LSI, 25 IC's, 94 transistors, 109 diodes, 6 LED readouts.

PC Boards: 22 PC assemblies on glass-epoxy boards with mass-term plug in cables.

Construction: Rigid steel chassis. Extruded aluminum front panel with two-tone gray inserts. Textured gray top and bottom snap-up stainless steel bail.

Power Required: 12-14 V dc., 850 mA receive, 18.5 A max transmit.

Dimensions: HWD 5¼" x 15" x 14" (13 x 38 x 36 cm), bail retracted.

Net Weight: 14 lbs (6.4 kg).

RECEIVER

Sensitivity: 0.25 µV for 10 dB S + N/N, all bands. 0.8 µV typical with RF amplifier off.

Selectivity: 16-pole crystal ladder filtering, 2.4 kHz bandwidth, 1.6 to 1 shape factor at 6/60 dB. Three position switch selects standard ssb filter, optional 1.8 kHz ssb filter, 500 Hz cw filter, or 250 Hz cw filter.

Notch Filter: Greater than 50 dB notch tunable between 200 Hz and 3.5 kHz.

Audio Bandpass Filter: 8 pole active band pass centered at 750 Hz. Variable fader control selects filtered or flat audio response.

CW Spot: Removes offset and shifts BFO 750 Hz.

I-F Frequencies: 9 MHz and 6.3 MHz.

Pass Band Tuning (PBT): Shifts 2nd IF frequency ± 1.5 kHz.

Antenna Input: Low impedance unbalanced.

Rx Antenna Input: Switchable 50 Ohm RCA phono jack provides separate input to receiver section only.

Audio Output: 1 watt @ 8 ohms with less than 2% distortion. Built-in speaker.

Spurious Responses: All below equivalent 10 dB S + N/N signal except 1.838 MHz (less than 15 dB S + N/N), 21.300 MHz (less than 20 dB S-N/N), and 28.980 MHz (which can be eliminated by using low end of 29.0-29.5 MHz band segment).

Noise Blanker: Switchable on/off with adjustable threshold and blanking width.

I-F Rejection: Greater than 60 dB.

S-Meter: Automatically switched on when receiving. Calibrated to 50 µV at S9, ± 3 dB.

Dynamic Range: 95 dB, typical.

Offset Tuning: Dual range, MAX ± 4 kHz; MIN ± 500 Hz, typical.

TRANSMITTER

DC Power Input: Maximum 200 watts @ 14 V dc cw and ssb. 100% duty cycle for up to 20 minutes.

RF Power Output: 85-100 watts, typical.

Output Impedance: 50 ohms, unbalanced.

Microphone Input: High impedance. Accepts high or low impedance microphones with 5 mV output. Polarizing voltage available for electrets.

T/R Switching: VOX or PTT on ssb. Instant break-in or semi-break-in on cw.

CW Sidetone: Internally generated. Adjustable tone and volume independent of af gain control. Operates only in cw mode.

SSB Generation: 9 MHz, 8-pole crystal ladder filter. Balanced modulator.

Programmable Iambic Keyer: 8-50 wpm with 40 character memory.

Carrier Suppression: 60 dB typical.

Unwanted Sideband Suppression: 60 dB typical at 1.5 kHz tone.

Spurious Output: Better than -45 dB relative to full output.

Meter: Forward power, collector current, SWR, processing level. Selectable 4 position switch.

CW Offset: 750 Hz, automatic.

ALC Control: Front panel adjustable. 30 to 100 Watts output, LED indicator.

FRONT PANEL CONNECTIONS AND CONTROLS

BP FILTER: PBT: OFFSET; NOTCH; AF GAIN/POWER; RF GAIN/ATTN; DRIVE; Bandswitch; Main Tuning Knob; MODE; METER Switch; KEYSPEED; N.B. LEVEL; N.B. WIDTH; ALC threshold; PROCESS level; QSK/VOX switch; AGC switch; XTAL switch; OFFSET SELECT switches (2); SPOT push-button; PHONES: MIC

REAR PANEL CONNECTIONS AND CONTROLS

High speed QSK output jack (open collector); EXT. T/R jack (relay closure); SPARE jack (uncommitted RCA phono); AUX. 12 VDC jacks (2); KEYS MEM. jack for controlling keyer memory; KEY jack; PTT jack; VFO in jack; VFO OUT Jack; AUDIO IN jack; AUDIO OUT jack; ACCESSORIES socket; GND terminal; EXT. SPKR jack; KEYS PADDLE jack; POWER socket; 50 OHM ANTENNA connector (SO-239); RX ANTENNA jack (RCA phono); RX-TRX switch for separate receive antenna; DELAY, GAIN, ANTI-VOX CONTROLS.

ACCESSORIES

MODEL 425 TITAN Linear Amplifier. Easily delivers full 1500 watt output. Separate power supply for compact station layout.

MODEL KR1B Keyer Paddle. Powered by the transceiver, the KR1B has a dual paddle for iambic operation. Adjustable magnetic paddle tension. Switches for memory read and memory write. Heavy weight for stable operation.

MODEL 263G Remote VFO. Duplicate of CORSAIR VFO, Model 263 VFO is housed in a matching enclosure and provides 6 modes of dual frequency operation. LEDs indicate selection of any of six modes of operation: CORSAIR II transmit and receive, REMOTE transmit and receive, CORSAIR II transmit — REMOTE receive, REMOTE transmit — CORSAIR II receive, CORSAIR II transmit — both receive, or REMOTE transmit —

both receive. When in dual receive mode, front panel control A-B adjusts balance of the two received signals for most comfortable listening. Full break-in is retained in all modes. Frequency range and accuracy is the same as CORSAIR II.

In addition to the remote VFO capability, Model 263 also has a 4-position crystal oscillator for fixed frequency operation. Out-of-band crystal frequencies (with some limitations) may be used as well as any in-band amateur frequencies.

Model 263G comes with connecting cable, less crystals. Power is obtained from the CORSAIR II system. SIZE: HWD 5¼ x 7⅞ x 14. WT.: 4 lbs.

MODEL 260 Deluxe Power Supply/Speaker. Ideal for powering the CORSAIR transceiver on either 115 or 230 VAC, 50-60 Hz. Easy to change for either primary voltage. Regulated output, over-voltage and over-current protected, and can be switched from transceiver or power supply.

Specifications: INPUT: 105-125 VAC, 50-60 Hz or 210-250 VAC, 50-60 Hz. OUTPUT: 13.5 VDC ± 0.5 VDC. REGULATION: Better than 1% no load to full load at 117 VAC. OUTPUT CURRENT: 20 ampere, full load. RIPPLE: Less than 60 mV peak-to-peak at 18A at 117 VAC. CIRCUIT BREAKER: Electronic latching. Factory set at 20A. OVER-VOLTAGE PROTECTION: Trips above 16V output. CONNECTORS: One 4-pin AMP MATE-N-LOC, two phono jacks for low current. SIZE: HWD, 5½" x 7" x 12". WT. 15 lbs.

MODEL 214 Microphone. Low impedance type, electret microphone for handheld or desk top operation. PTT switch and separate desk stand. Offers optimum articulation, free of power peaks, impervious to temperature and humidity changes. Polarizing Power; 1.5 to 10 VDC. 0.5 mA @ 6 VDC, die cast zinc and Cyclocac®; 8½" h; 4' coiled cable; 4 terminal connector to match CORSAIR II; Single conductor shielded, two conductors unshielded.

MODEL 700C Hand-held IC Electret Microphone. High quality electret condenser microphone cartridge with built-in IC preamplifier powered by self-contained 9V battery or by transceiver (steering diodes select the higher voltage if both are present). Comes with 7' coiled cord, Velcro® plus hook and eye mounting, and standard 4-terminal locking type connector. Low distortion with slightly rising frequency response.

MODEL 229A Antenna Tuner/SWR Bridge. 2KW PEP, 1KW cw. Heavy duty ceramic switch with silver plated contacts, silver plated roller inductor. Features built-in balun, dual range wattmeter, 4 position antenna selector/bypass switch.

MODEL 227 Antenna Tuner. Matches 50 ohm unbalanced output of CORSAIR to variety of balanced or unbalanced antenna impedances. 46-tap inductor allows vernier adjustment. 200 watts intermittent, 100 watts continuous.

MODEL 288 1.8 kHz 8-Pole Crystal Ladder SSB Filter.

MODEL 285 500 Hz 6-Pole Crystal Ladder CW Filter.

MODEL 282 250 Hz 6-Pole Crystal Ladder CW Filter.



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