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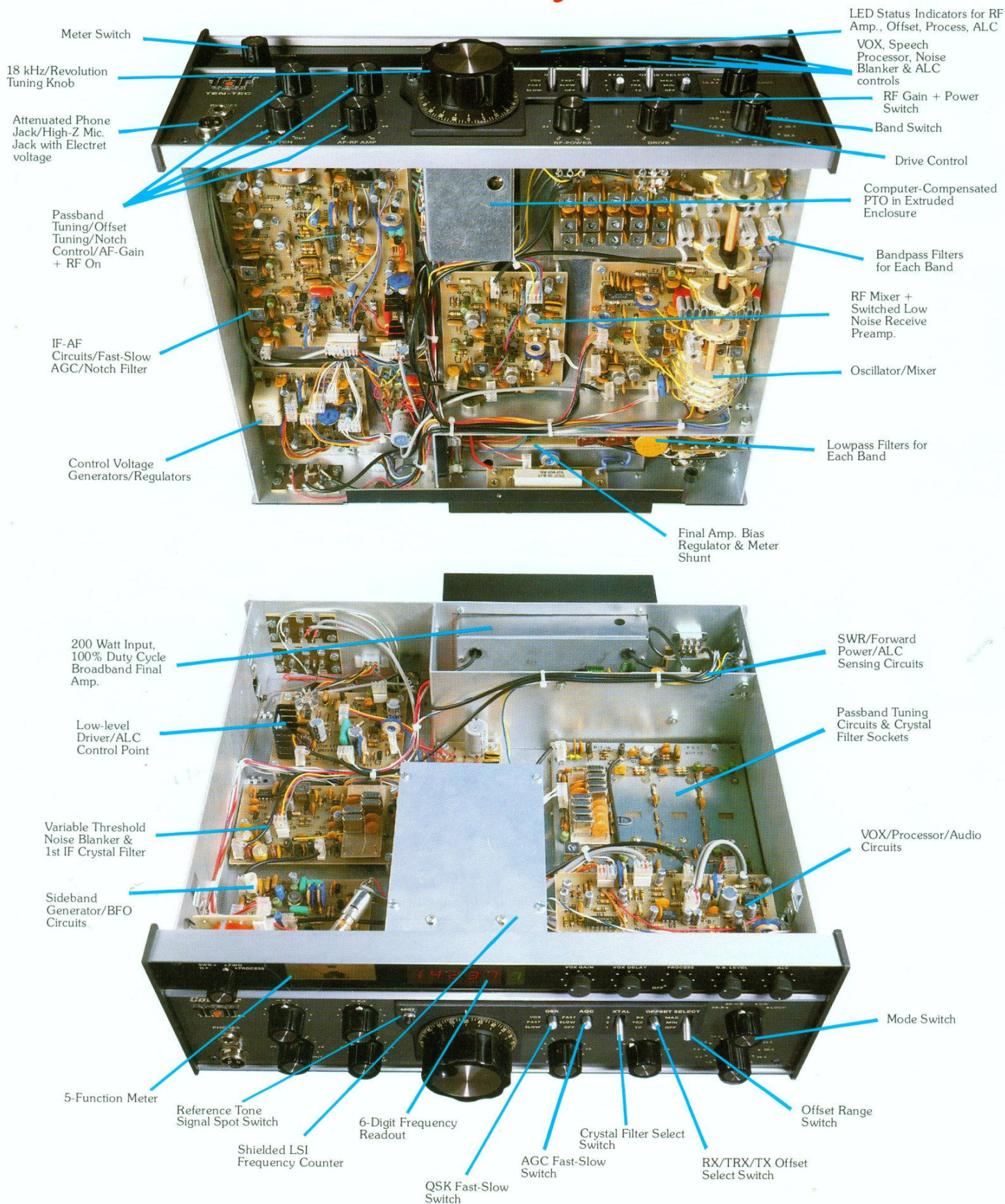
a new no-compromise
hf transceiver —

Corsair



A new level of achievement
in amateur radio.

Here's the inside story on CORSAIR



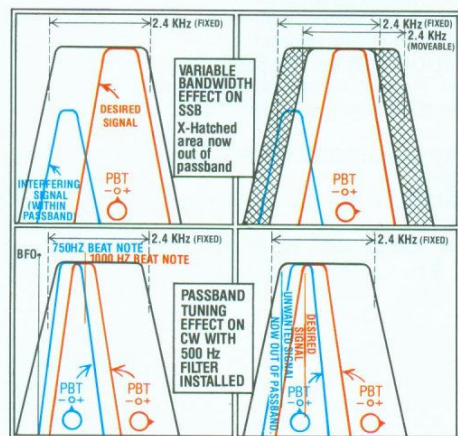
CORSAIR—a new level of achievement in amateur radio equipment design, the culmination of two years of intensive effort to produce an hf transceiver with every feature for effortless, effective operation.

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 final amplifier operates at **full output** at 100% duty cycle on **all** bands in **any** mode—and it won't automatically fold back in power with high SWR. CORSAIR operates on an over-current protection method that permits full power into SWRs of 2 or 3:1 without damage. So you can remain in control at all times.

All 9 HF Bands—with **all** the crystals supplied. CORSAIR is ready, nothing more to buy, nothing to add but an antenna.

Triple Conversion Receiver with Super Low Noise RF Preamplifier yields sensitivity figures of 0.25 μ v on **all** bands, with a dynamic range of better than 90 dB. Either rf preamplifier or attenuator is switched in so you have complete control of any situation—unusual versatility to give you an increase in strong signal handling without the usual sacrifice in sensitivity.

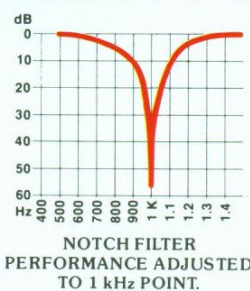
Variable Bandwidth Plus Passband Tuning. CORSAIR gives you the best of everything in this most sophisticated i-f system TEN-TEC has ever offered. With all filters in place, the operator has the ability to narrow the bandwidth to relegate interfering signals to the highly attenuated skirts or he may choose to move the passband to accomplish the same effect. In ssb, the variable bandwidth in effect narrows the passband from either side. Optional 1.8 kHz and 500 Hz filters may be added and moved within the 2.4 kHz bandwidth. In cw, the passband tuning effect permits moving any passband width to drop out interference



and permits choosing the beatnote pitch; filters are 1.8 kHz, 500 Hz, or 250 Hz. In RTTY, CORSAIR permits using a 500 Hz filter, regardless of sideband selected. 12-pole filter standard; optional 8-pole filter, Model 220, gives 16-pole performance.

Dual-Range, Triple-Mode, Offset Tuning Plus Variable Notch Filter.

To offer the CORSAIR owner even greater capabilities in any operating situation, this new transceiver offers offset tuning of the receiver, the transmitter, or both, in 1 kHz or 4 kHz ranges, and the variable notch filter effectively removes unwanted carriers in the phone band and adjacent cw signals. Combined with CORSAIR's unique i-f system, the notch filter and offset tuning provide potent weapons against any QRM.



Built-In Speech Processor and Noise Blanker. Both standard equipment, both front panel controlled. The new noise blanker offers improved performance and has 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.

Signal Purity — a TEN-TEC tradition. CORSAIR exceeds the FCC harmonic radiation requirements. And it offers less than 2% distortion to provide pleasant listening you can enjoy for hours. Sound quality is enhanced by bottom placement of the speaker within the cabinet for compression loading. Splatter-free transmissions are maintained by the adjustable ALC for proper drive levels.

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 preamplifier is "on", 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. **Electret polarizing voltage** at the microphone jack, if you need it.

The CW Operator Is Well Taken Care Of, Too. **Dual-speed QSK**, full or semi break-in, front panel selected, to fit conditions. **New CW signal spotter.** Ideal for CW pile-ups. Match the tone to the tone of the station being worked. **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.

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, and band switch deck for relay selection of appropriate antenna. Easy access to audio signals for RTTY operation or phone patch. It's all there, ready for no-hassle hookup.

Power Supply Versatility. CORSAIR uses a 13V dc design basis to offer convenient, low cost mobile/portable operation—no accessory supply is required. A separate 115/230V ac supply not only permits a light-weight chassis, but also isolates heat and ac noise from the transceiver for longer life and freedom from hum problems.

Beauty That's More Than Skin Deep. CORSAIR looks great with its new black-out dial panel, new lighted status indicators, and raised sub-panel, all in black/bronze with 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 is manufactured under one roof at the TEN-TEC factory in the foot hills 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 is accompanied by all the accessories needed for fun-filled, effective operating. See the back page.

See Your TEN-TEC Dealer. He will be happy to demonstrate the CORSAIR—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, 20 IC's, 94 transistors, 107 diodes, 6 LED readouts.
PC Boards: 22 PC assemblies with plug-in cables.
Construction: Rigid steel chassis. Black/Bronze finished aluminum front and rear panels, textured 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: 12-pole crystal ladder filtering. 2.4 kHz bandwidth, 1.7 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.
CW Spot: With 750 Hz reference tone.
I-F Frequencies: 9 MHz and 6.3 MHz.
Antenna Input: Low impedance, unbalanced.
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: Built-in, adjustable blanking threshold.
I-F Rejection: Greater than 60 dB.
S-Meter: Automatically switched on when receiving. Calibrated to 50 µV at S9, ±3 dB.
Dynamic Range: 90 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, 4-pole crystal ladder filter. Balanced modulator.
Carrier Suppression: 60 dB typical.
Unwanted Sideband Suppression: 45 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

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

REAR PANEL CONNECTIONS AND CONTROLS

EXT. T/R jack; AUDIO IN jack, AUDIO out jack; AUX. 12 VDC jacks (2); KEY jack; PTT jack; VFO IN jack; VFO OUT jack; ACCESSORIES socket; LINEAR socket; GND terminal; EXT. SPKR. jack; POWER socket; 50 OHM ANTENNA connector (SO-239); RX ANTENNA jack; RX-TRX switch.

MODEL 263 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 transmit and receive, REMOTE transmit and receive, CORSAIR transmit-REMOTE receive, REMOTE transmit-CORSAIR receive, CORSAIR 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.

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 263 comes with connecting cable, less crystals. Power is obtained from the CORSAIR system. SIZE: HWD 5¼ x 7½ x 14. Wt.: 4 lbs.

MODEL 280 Dual Primary Power Supply 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 260 Deluxe Power Supply/Speaker Includes the electronics of Model 280 power supply plus a built-in 2½" x 4" front facing speaker. Styled to match CORSAIR.

MODEL 215PC Microphone. Ceramic type for hand held or desk top operation. Includes cable, 3-circuit plug, PTT switch, and separate desk stand. Offers optimum articulation, free of power peaks, impervious to temperature and humidity changes. High impedance; 200-4000 Hz response; -50 dB level; die cast zinc and Cyclocac®; 8½" h; 4" coiled cable, single conductor shielded, two conductors unshielded. 3-circuit phone plug included.

MODEL 214 Low impedance type, electret microphone in same case style as Model 215PC. Includes coiled cable and 4 terminal connector to match CORSAIR and Model 234 Processor.

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 coiled 7' cord, Velcro® plus hook and eye mounting, and standard 4-terminal locking type connector. Low distortion with slightly rising frequency response. Sensitivity -65 dBV (0 dBV = 1V/uBar @ 1 kHz). Low impedance (typically 400 ohms @ 1 kHz). Low 300 uamp. current drain for long battery life approaching shelf life. Operating temp. range -10 to +60 C. Max. sound pressure level of 130 dB.

MODEL 234 Speech Processor. Extends operating range of ssb transmitters under adverse and low propagation conditions. Converts audio signal into ssb signal, clips and processes it through 4-pole monolithic filter for greater average envelope power and converts signal back into audio. Adjustable levels of processing and output plus disable switch and passband adjustment. Powered through the CORSAIR system or by calculator type plug-in AC adapter which supplies 12 VDC @ 75 mA.

MODEL 645 Dual Paddle Electronic Keyer. The 645 keyer uses transistor switching and is powered by the transceiver. Adjustable magnetic paddle return. Paddle force 5-50 gms. Speed 6-50 wpm. Weighting ratio 50-150% of classical dit length. Self completing characters. Dit/dah memories with defeat switches. Torque drive paddles with 4 ball bearing pivots. Powered through the CORSAIR system.

MODEL 670 Single Paddle Electronic Keyer. Uses transistor switching and is powered through the CORSAIR system. Speed 6-50 wpm. Self-completing characters. Preset weighting for optimum articulation in the most used speed range (dit length increased approx. 10% at 20 wpm).

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 220 2.4 kHz 8-Pole Crystal Ladder SSB Filter. To be installed in place of internal 4-Pole Filter.

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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