



## **COLLINS 830E-1A 5,000 WATT FM TRANSMITTER**

Award-winning design and "humanized" engineering, hallmarks of Collins quality, are reflected in the Collins 830E-1A 5,000 Watt FM Transmitter.

One cabinet houses the A830-2 Direct FM Exciter and the 250 watt B830-1 Driver Unit; the other houses the 5,000 watt, single stage transmitter.

Features of the Collins 830E-1A are:

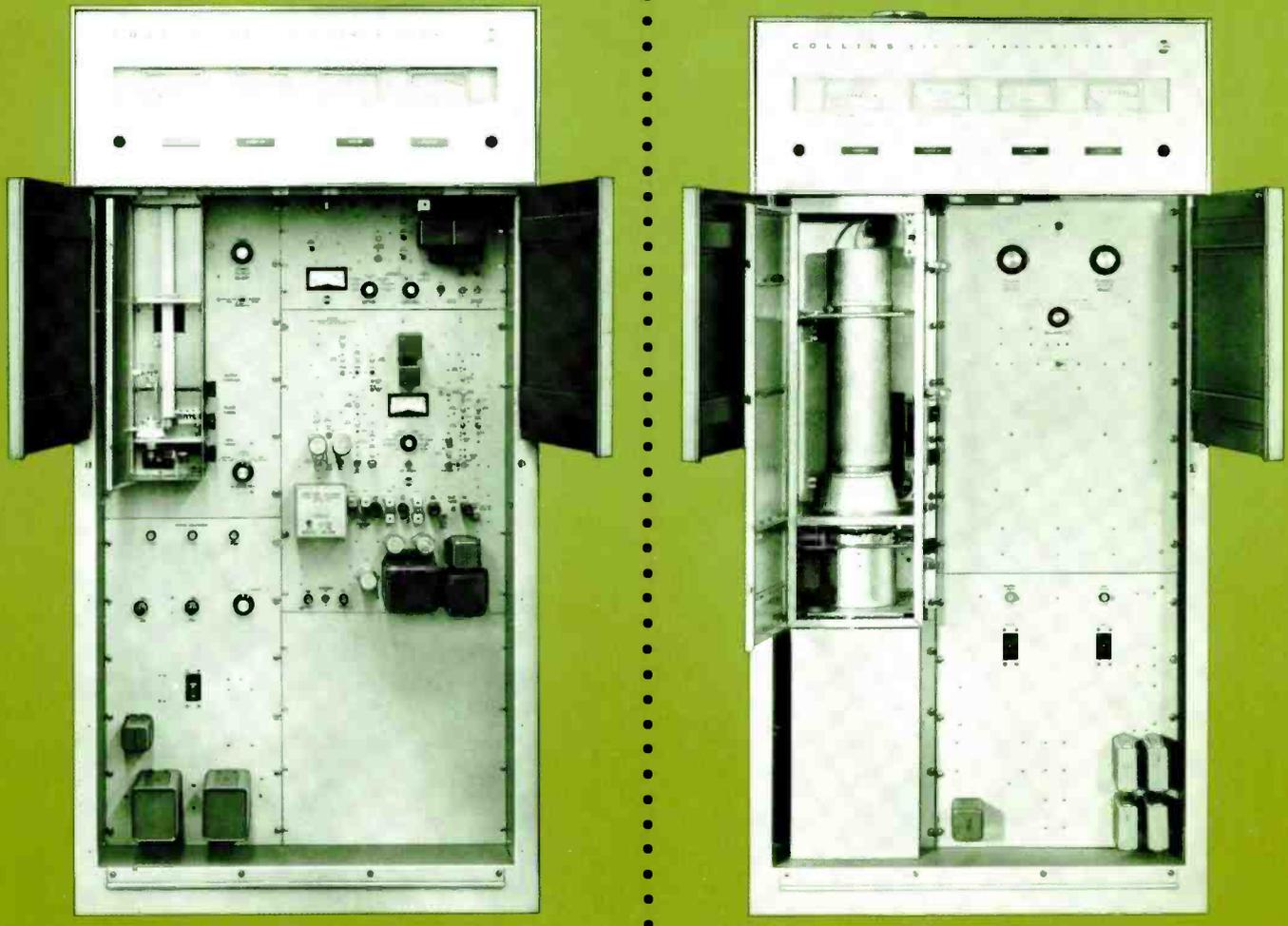
**SELF-CONTAINED** — Every component is housed inside the two cabinets, including power transformers, harmonic filter and directional coupler. An optional accessory is the Collins 786M-1 Stereo Generator which fits inside the driver unit cabinet. Installation of the 786M-1 is a matter of minutes.

**SIMPLE OPERATION** — The transmitter is pushbutton operated, featuring a "step-start" system in which start-

ing sequences are fully automatic. Highly stable RF circuits are tuned and metered from the front panel, and all adjustments can be made while the transmitter is on the air. No tuning or trimming of the harmonic filter is required. The PA stage is easily neutralized and is not critical in adjustment.

**DEPENDABLE** — Grounded screen, eliminating the screen bypass capacitor, does away with a common source of failure. Driver power supply uses silicon rectifiers which take little space and generate a minimum

Front view, cavities open



of heat. Efficient blowers force air directly on the 4CX250B and 4CX5000A power amplifier tubes. Power supply is all solid state with the exception of the final amplifier plate voltage supply which uses mercury vapor rectifiers.

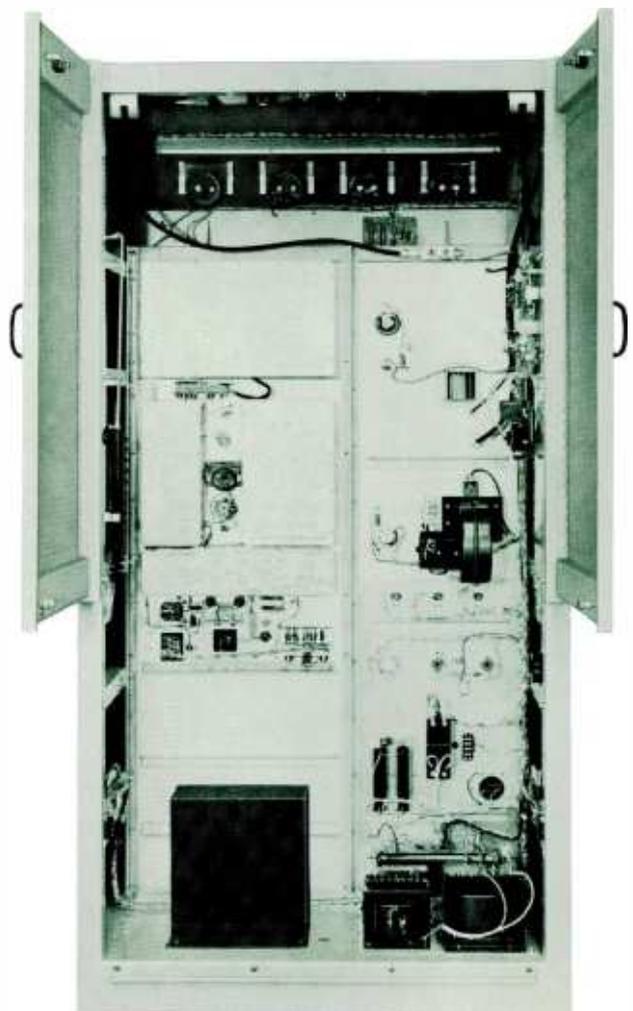
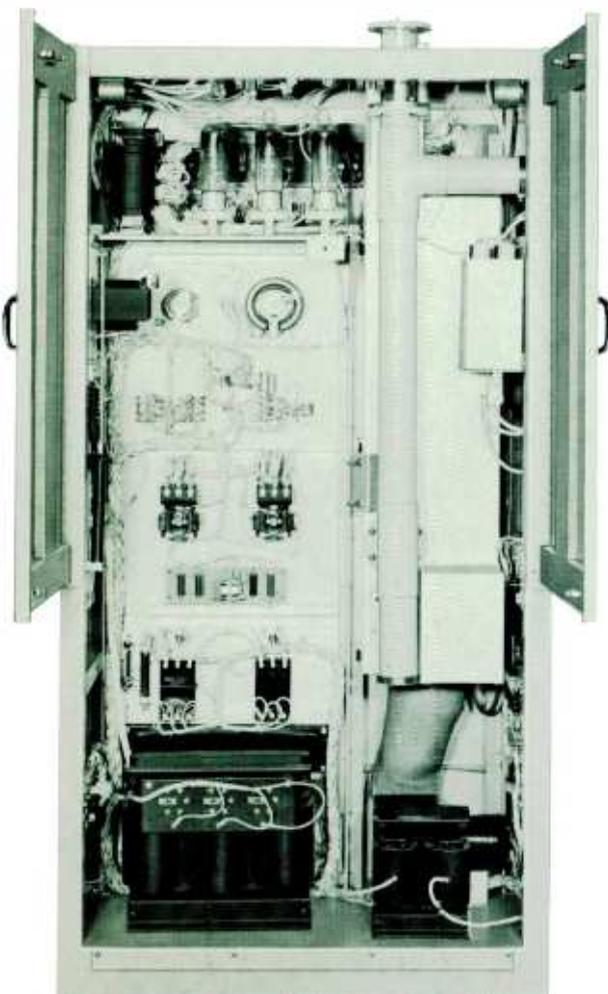
**MAINTENANCE EASE** — Vertical panel construction eliminates hidden components and allows rapid inspection and maintenance. Cabinet interlocks minimize danger during circuitry inspection and maintenance. A

grounded shorting stick is readily accessible to discharge capacitors before transmitter servicing.

**RIGID TESTING** — In keeping with rigid Collins standards, the 830E-1A is tested on the broadcaster's channel under proper load conditions *before* the unit is shipped.

While the transmitter nominally operates on 60 cycle power, only the two blower motors need be changed to convert to 50 cycle operation.

Rear view, panels removed



## SPECIFICATIONS

FREQUENCY RANGE: 88-108 mc.  
POWER OUTPUT: 5000 watts.  
CARRIER FREQUENCY STABILITY:  $\pm 1000$  cps.  
AUDIO FREQUENCY RESPONSE:  $\pm 1$  db, 50-15,000 cps.  
DISTORTION: Less than 1%, 50-15,000 cps.  
FM NOISE LEVEL: 65 db below  $\pm 75$  kc.  
AM NOISE LEVEL: -55 db rms.  
HARMONIC ATTENUATION: -80 db.  
MODULATION CAPABILITY:  $\pm 100$  kc.  
RF OUTPUT IMPEDANCE: 50 ohms; SWR not to exceed 2:1.  
AUDIO INPUT LEVEL: +10 dbm,  $\pm 2$  db.

POWER SOURCE: 230 v ac, 60 cps, 3 phase (tapped for 200-250 v in 10 v steps).  
INPUT POWER REQUIREMENT: 11 kw, 90% power factor.  
POWER LINE REGULATION: 3%.  
VARIATIONS: Slow line,  $\pm 5\%$ ; rapid line,  $\pm 3\%$ .  
TUBE COMPLEMENT: 2-OD3; 1-6U8; 1-12AT7; 1-6AU6; 1-5763; 1-2E26; 1-4CX250B; 6-872A; 1-4CX5000A.  
TEMPERATURE RANGE: 15°-45°C.  
HUMIDITY: 0%-95%.  
ALTITUDE: 6000 ft.  
SIZE: 76" W, 76" H, 27" D.

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