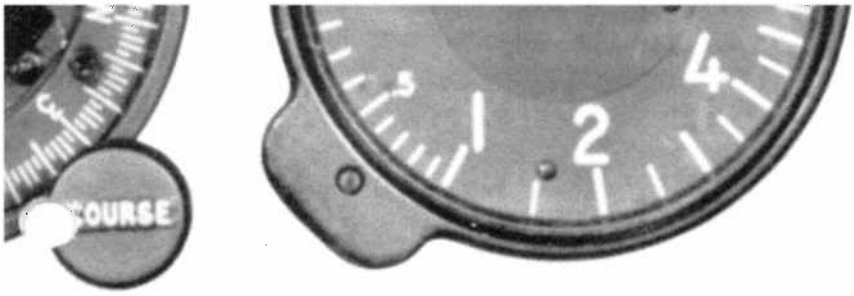
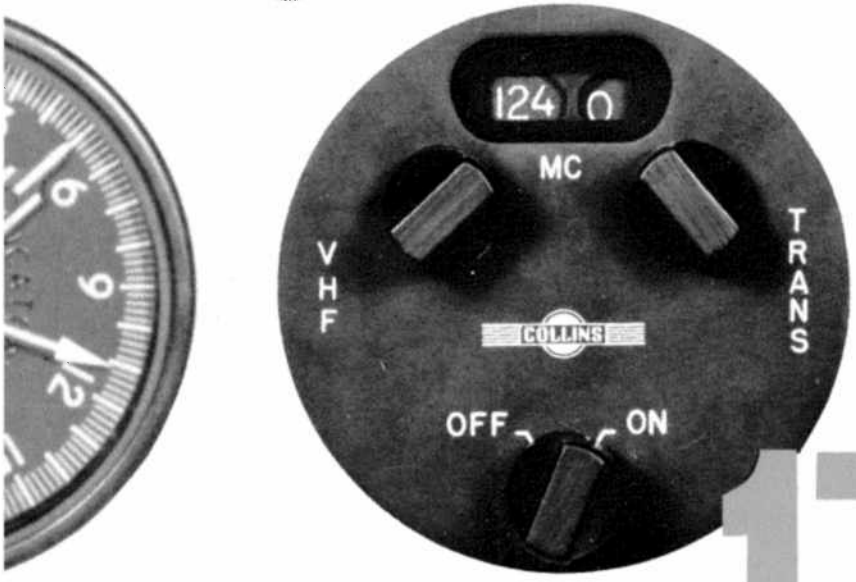


COLLINS CREATIVE LEADER IN AVIATION ELECTRONICS



COLLINS 17L-8 VHF TRANSMITTER

3-Watt, 90 Channel Transmitter

for any aircraft

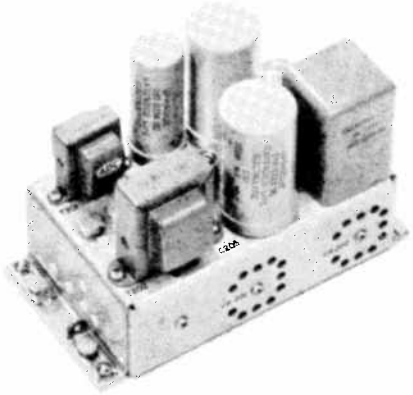
a high quality, compact transmitter . . . 90 channels between 118-126.9 mc . . . minimum power output is 3 watts . . . modulation by carbon mike of up to 90% from transistorized modulator . . . airplane performance

COLLINS 17L-8 VHF TRANSMITTER

The 17L-8 provides 90 separate channels in the range between 118 to 126.9 mc. Crystals for the complete coverage are built in the transmitter. This gives the user every channel for VHF communication by private and business aircraft. A minimum power output of 3 watts is available. Modulation by a carbon mike of up to 90% from the transistorized modulator permits efficient and crisp communication.

CIRCUITRY

The RF portion of the 17L-8 consists of a frequency-doubling arrangement in which 19 crystals are combined in pairs to give a total of 90 RF channels. Each of two knobs on the front panel control crystal switches—one for megacycle changes, one for tenth of megacycle changes. The output from two oscillators are mixed and the output is doubled twice in the following two stages to produce the final frequency which is amplified straight through in the power amplifier. RF stages are capacitively tuned by a condenser attached to the megacycle control shaft. Slug tuning of each stage is provided for trimming of the transmitter circuits to provide for required tracking accuracy.



Completely transistorized 427A-1 modulator-power supply, mounts anywhere without shockmounts. Easily operated slide fasteners facilitates removal of bottom plate.

The modulator section of the 427A-1 is completely transistorized with a class B final stage. Properly designed filtering eliminates any possibility of hash from the 27.5V DC input. Reduced distortion and increased stability are aided by utilizing common collector circuitry. The output to the load impedance is limited before the overmodulation point is reached.

The transmitter operates entirely from 27.5V DC, and high voltage is provided by a transistorized oscillator-rectifier circuit. This type power supply is widely used in Collins New Airborne Electronic System.

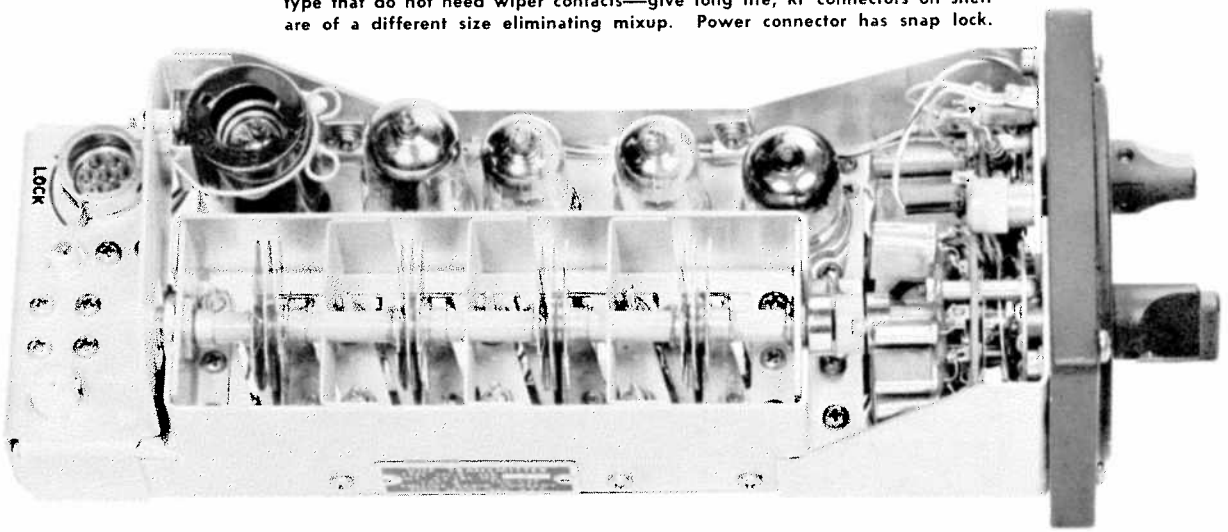
The 17L-8 incorporates 5 tubes; 5 transistors are used in the 427A-1 power supply-modulator. The use of transistors increase the reliability greatly by reducing heat. The use of a transistor power supply in is to give increased perfor tio and further increase bility and reduce mainter

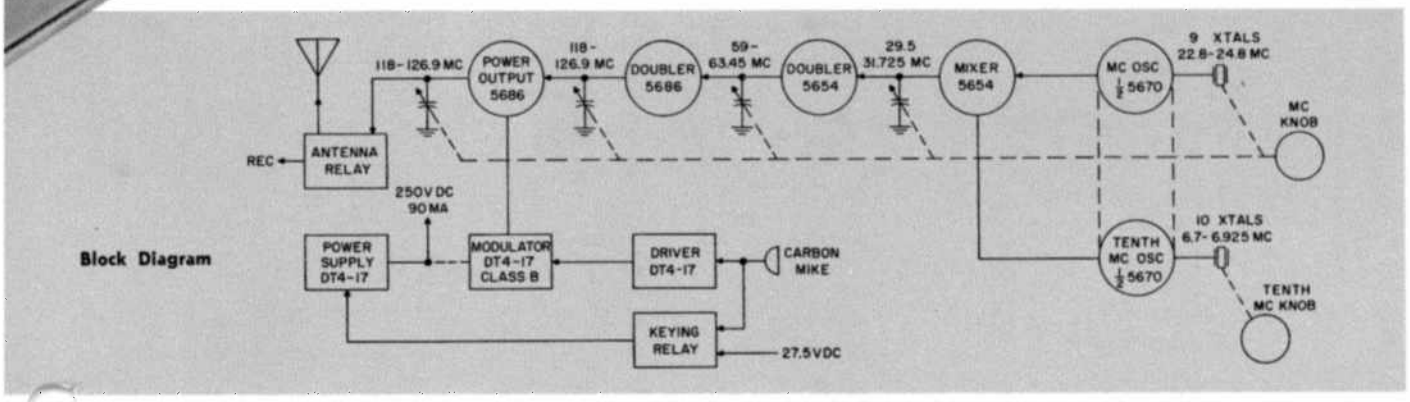
CASE SIZE AND MOUNT

The RF portion of the 17L- tained in a case design mounting in either of tw instrument mounting cut either common $3\frac{9}{64}$" cir tary standard MS 33550) out with beveled corners MS 33556). This allows back panel mounting on mounting on the former. is $8\frac{5}{8}$" long from the back mounting surface. Anten nectors connect to a she therefore do not need to $8\frac{5}{8}$" dimension. The du square with beveled corn cutout from the front.

The modulator-power sup of $6\frac{1}{64}$" long, by $4\frac{7}{16}$" high, dimensions allow the use power supply units e short ⅜ ATR moun able base plate has 4 mou by 5.797" centers for mo the aircraft without shock

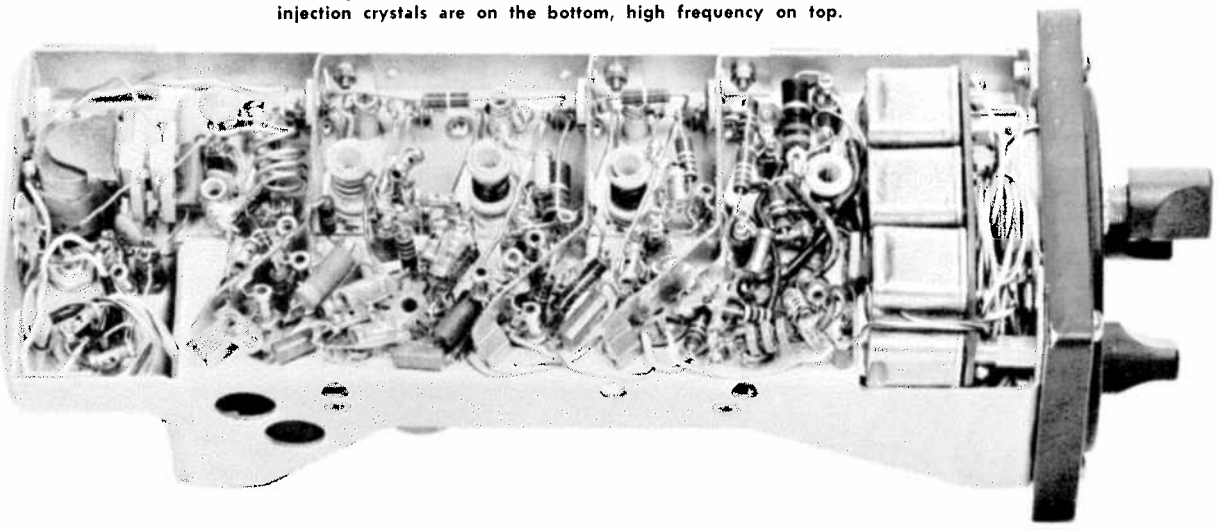
TOP VIEW Top View of RF section of transmitter. Variable condensers are butterfly type that do not need wiper contacts—give long life, RF connectors on shelf are of a different size eliminating mixup. Power connector has snap lock.





Block Diagram

BOTTOM VIEW Bottom View of RF section. At left is the antenna switching relay. Circuits from right are oscillator, mixer, two doublers, and final. Low frequency injection crystals are on the bottom, high frequency on top.



SPECIFICATIONS

FREQUENCY RANGE: 118 to 126.9 mc in 100 kc steps.
NUMBER OF CHANNELS: 90.
FREQUENCY CONTROL: Crystal controlled.
SIZE: Transmitter-standard 3" instrument case 8⅛" long
Modulator-power supply 6$\frac{13}{64}$" L, 4$\frac{7}{16}$" H, 3$\frac{9}{16}$"W.
WEIGHT: 5¼ pounds total — 17L-8 and 427A-1.
NUMBER OF TUBES: 5.
INPUT POWER: 10 W standby, 62 W operate @ 27.5V DC.
OUTPUT POWER: 3 W.
OUTPUT IMPEDANCE: 52 Ohms.
TYPE OF EMISSION: A-3.
MODULATION CAPACITY: 90%.
AF RESPONSE: 300 to 3000 cps.
ALTITUDE: 30,000 feet.
FREQUENCY STABILITY: .01% over frequency range.
HUMIDITY RANGE: Up to 100%.
SHOCK: 15 G Operational.
30 G Non-Operational.
VIBRATION: 10 to 55 cycles at 0.06" excursion on 427A-1.
10 to 55 cycles at 0.03" excursion on 17L-8.
TSO approved by CAA.

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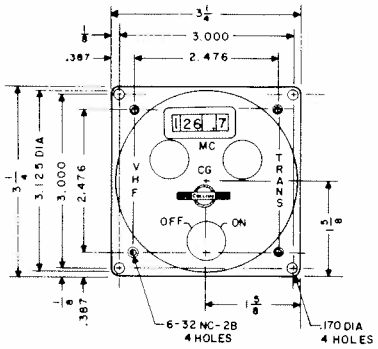
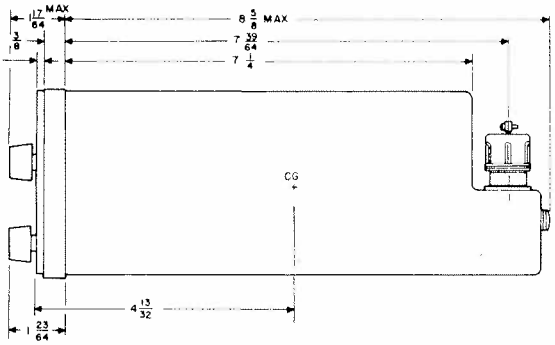
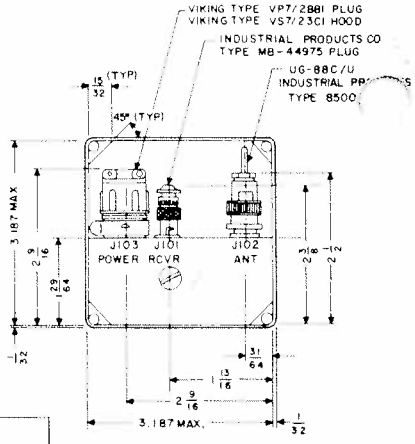
17L-8 Installation Drawing







INTERCONNECTION DATA

Modulator-Power Supply		RF Unit		Aircraft	
Pin	Wire Code	Pin	Wire Code	Wire Code	Function
A	DAS 95			DAS 95	MICROPHONE
B	DA 913	B	DA 913	DA 913	KEY
C	DA 93			DA 93	RECEIVER AUDIO IN
D	DA 92	D	DA 92		
E	DA 96	E	DA 96		
F	DA 916			DA 916	SIDE TONE/RECEIVER
H	RB 91	C	RB 91		
J	DA 9			DA 9	MICROPHONE GROUND
K	RB 9			RB 9	MAIN GROUND
L	Do not use				
		A	RB 90	RB 90	27.5-VOLT SUPPLY
		H	DA 901	DA 901	DIAL LIGHT

CONNECTIONS ON RF UNIT POWER PLUG (VIKING VP7/2BB1)

Pin	Wire Code	Function
A	RB 90	27.5-V INPUT FROM MAIN SUPPLY
B	DA 913	AIRCRAFT KEY
C	RB 91	27.5 V TO MODULATOR
D	DA 92	250 V B FROM MODULATOR
E	DA 96	250 V MODULATED
F	RB 9	GROUND
H	DA 901	DIAL LIGHT 27.5 VOLTS

427A-1 Installation Drawing

CONNECTIONS ON MODULATOR POWER SUPPLY PLUG (CANNON KO3-16-10SN)

Pin	Wire Code	Function
A	DAS 95	MICROPHONE INPUT (SHIELDED)
B	DA 913	PUSH TO TALK "KEY"
C	DA 93	RECEIVER AUDIO IN
D	DA 92	250 V. B
E	DA 96	MODULATION
F	DA 916	SIDE TONE/RECEIVER
H	RB 91	27 V FROM RF UNIT
J	DA 9	MICROPHONE GROUND
K	RB 9	MAIN GROUND
L		DO NOT USE