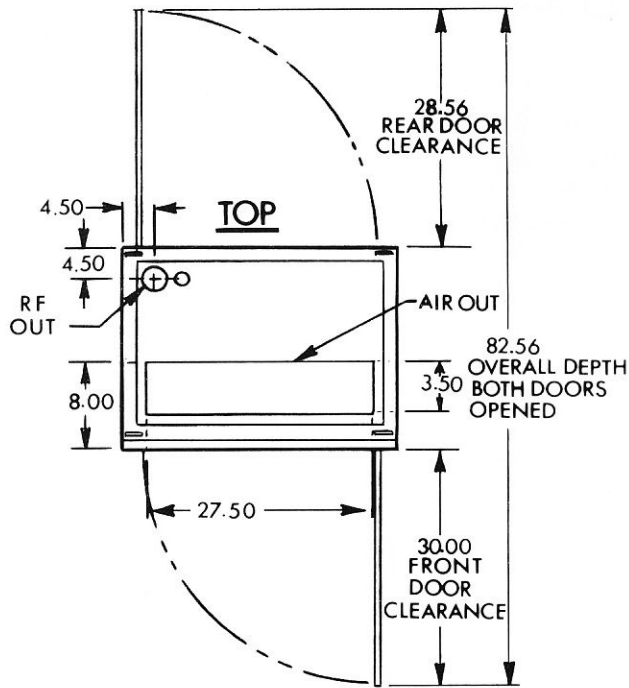


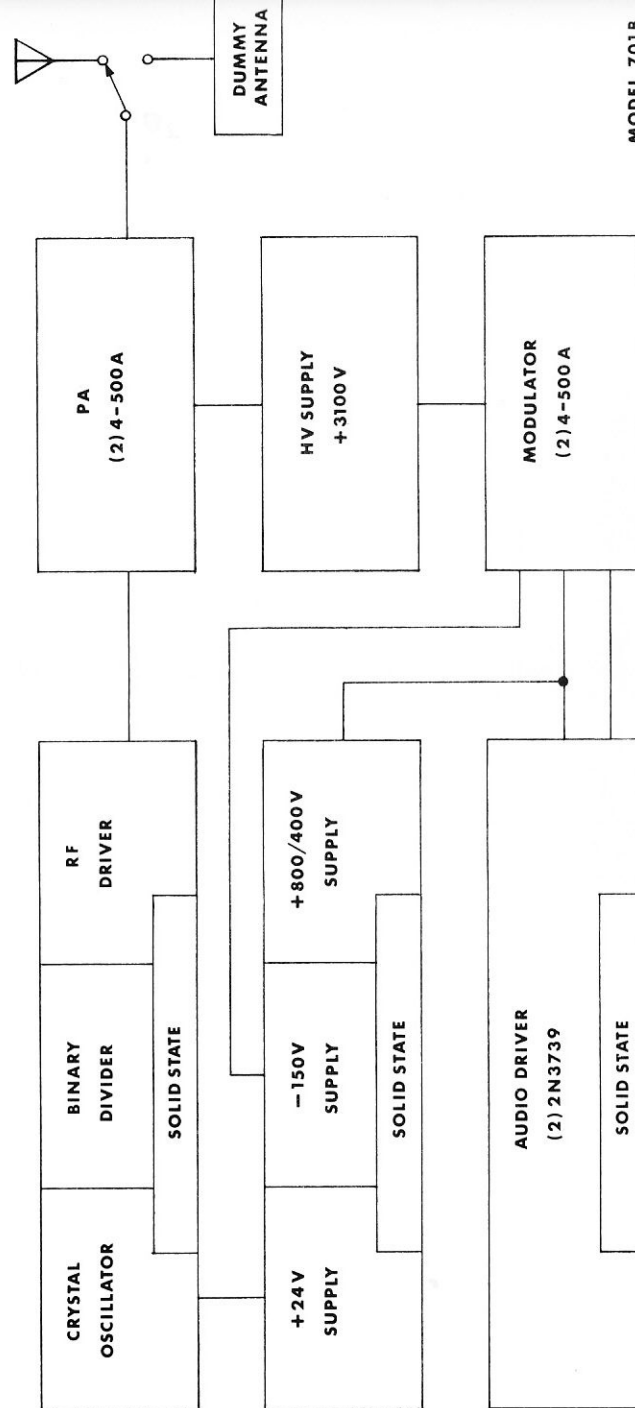
OPTIONAL EQUIPMENT: (factory installed) RMK-1 — Remote Control Kit, including control relay interface assembly and motor rheostat. CVT — Constant Voltage Transformer to maintain filament and low voltage supplies within $\pm 1\%$. 60 Hz only.

ORDERING INFORMATION: the 701B is supplied complete with tubes, transistors and crystal, tuned and tested on frequency. Specify one maximum and one switchable lesser power level between 250 and 1,000 Watts. If no specification is made the transmitter will be furnished in 1,000/250 Watt switchable configuration.

POWER REQUIREMENT: the 701B operates from 208-240 volt, 50/60 Hz, single phase power supply.




FLOORPLAN, MODEL 701B. Two alternatives should be kept in mind: (1) the FRONT door can be switched in the field to open in the opposite manner to the drawing, and (2) the RF output is standard at top of cabinet, but can also emerge exactly below the position in the drawing for trench feed to tower.

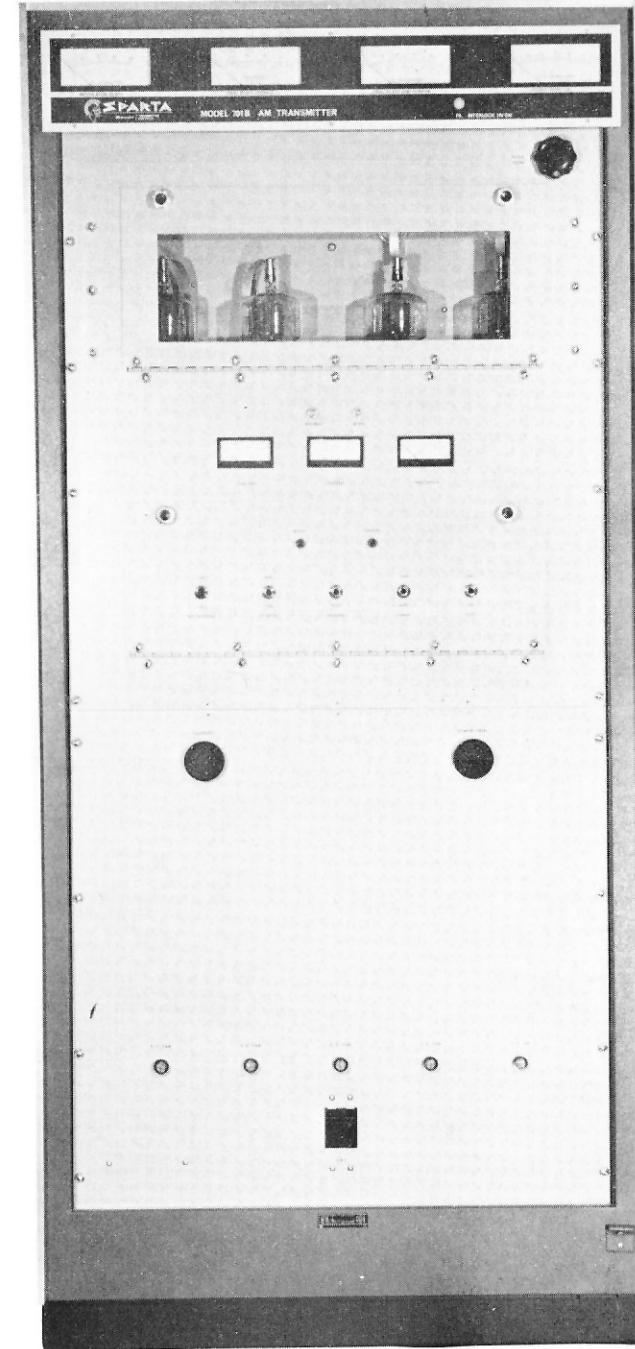


MODEL 701B



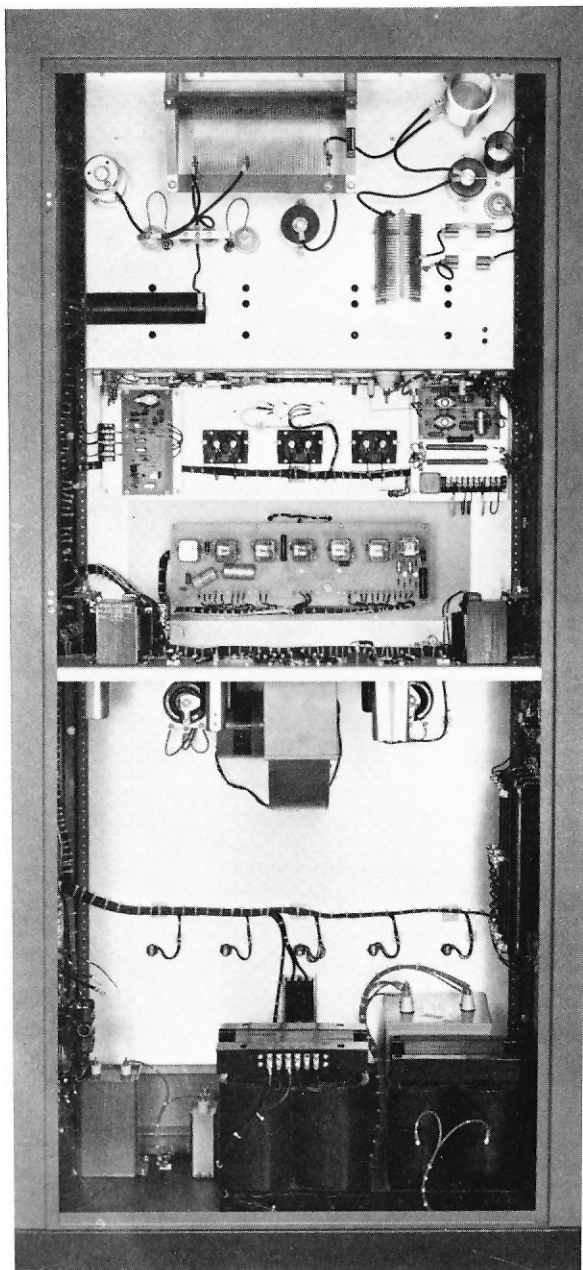
SPARTA
ELECTRONIC CORPORATION

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a Subsidiary of  Cetec Corporation



MODEL 701B

1000/500/250 Watt AM TRANSMITTER



MODEL 701B
1000/500/250 Watt AM Transmitter

The Sparta 701B is a self-contained plate modulated AM transmitter capable of up to 1,100 Watts output in the 535 to 1620 KHz band.

Solid state devices are combined with only one tube type to provide a simple, highly dependable design. A high quality oil filled modulation transformer eliminates moisture deterioration and assures long lasting reliability. Another quality feature is the vacuum capacitor used for

plate tuning which eliminates arcing and roller coil freezing, associated with conventional tuning methods. The 'Tally Light' system will reduce downtime and help preventive maintenance by identifying the point of overload. The 701B has a dummy load as standard equipment.

Frequency response of the 701B is excellent, distortion is low, and 125% positive peak modulation capability is there for those who wish to use it.

Simultaneous full meter display of all important functions can be monitored with doors of the 701B closed. Access to the front panel switches and subsidiary metering is through a non-interlocked hinged front door, which can be changed to open from either side. Rear access is provided through a full-size, hinged and interlocked door. All control circuitry is mounted on a swing-down front panel for easy accessibility. There is only one front panel tuning control. Remote control interface kits are optional for the user's choice of systems.

The entire transmitter is housed in a single steel cabinet which is mounted on a sturdy 12-gauge steel base.

SIMPLIFIED POWER CUTBACK

The 701B is supplied in the user's choice of two powers. A single switch controls final plate voltage, audio, and RF drive simultaneously. (See 'Ordering Information')

SOLID STATE POWER SUPPLIES

All power supplies use encapsulated silicon bridge rectifiers which provide low power drain, cooler operation, and reliable performance. A single low voltage transformer provides bias voltage for the modulator tubes, 25 volts for the RF drive section, 800 volts for the modulator screens, and 400 volts for the solid state audio driver.

An epoxy-sealed plate transformer provides high voltage for the modulator and final amplifier tubes.

SOLID STATE OSCILLATOR AND RF DRIVER

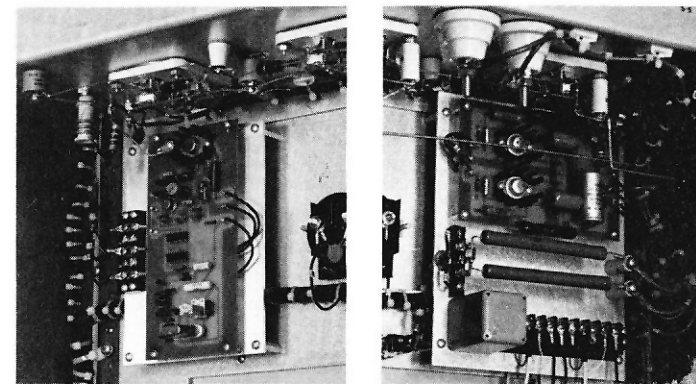
Adding an extra measure of transmitter stability, the 701B utilizes a solid state oscillator and RF driver. An ovenless crystal operating in the highly stable area four times carrier frequency is used. Two binary divider IC's operating in tandem count down the oscillator to the desired carrier frequency. A buffer transistor follows the divider, then an output transistor that is matched to the final grids through an "L" network.

Type 4-500A tetrodes have been used in the RF section of the transmitter, reducing the required stages and the power consumption. Tetrodes also eliminate the need for neutralization.

The parallel operated final tubes operate in conventional Class C at an average efficiency of 75%. The built-in dummy load is capable of full power operation continuously.

HIGH QUALITY MODULATOR

A simple two stage transistor amplifier provides ample audio drive for two 4-500A tetrode modulator tubes operating Class AB-1. A high quality modulation transformer, sealed in oil, provides exceptional sound and modulation capability.



AUDIO DRIVER ASSEMBLY: the simplicity and space-saving design of the 2-stage transistor amplifier is evident in this closeup. Two 4-500A tetrodes operating AB-1 are powered by this stage (right). **RF DRIVER ASSEMBLY:** this solid state system enables a highly stable ovenless crystal to operate at its best frequency, the output being counted down to operating frequency (left).

Specifications:

AF INPUT IMPEDANCE: 600 ohms

AF INPUT LEVEL: +10 dBm ± 2dBm (100% Modulation)

AF RESPONSE: 50-10,000 Hz (95% Modulation) ±1.5 db (typical - ±1 db)

AF DISTORTION: 50-10,000 Hz (95% Modulation) less than 3% (typical - 1.5%)

NOISE: (below 100% Modulation) 1000 Watts — 55 db; 250 Watts — 52 db

FREQUENCY RANGE: 540-1600 KHz

FREQUENCY STABILITY: ±10Hz 0-50°C

OUTPUT IMPEDANCE: 50 Ohms unbalanced — others available on special order

CARRIER SHIFT: 3% or less (0-100% Modulation)

DUMMY ANTENNA: 50 Ohms — Capable full time operation 100% Program Modulation

POWER OUTPUT: 1000/500/250 Watts — Any combination of two power levels (capable 1100 Watts)

POWER SUPPLY: 208-240 volts ± 5%, 50/60 Hz, Single Phase

POWER CONSUMPTION: (1000 Watts output — 90% PF Approximate: 0% Modulation 2950 Watts; 30% Modulation 3400 Watts; 100% Modulation 4150 Watts)

AMBIENT OPERATING TEMPERATURE: To 113°F

ALTITUDE RANGE: To 7500 — Higher Altitudes on special order

SIZE: 75" High, 34" Wide, 25½" Deep

WEIGHT: 1000 lbs. NET