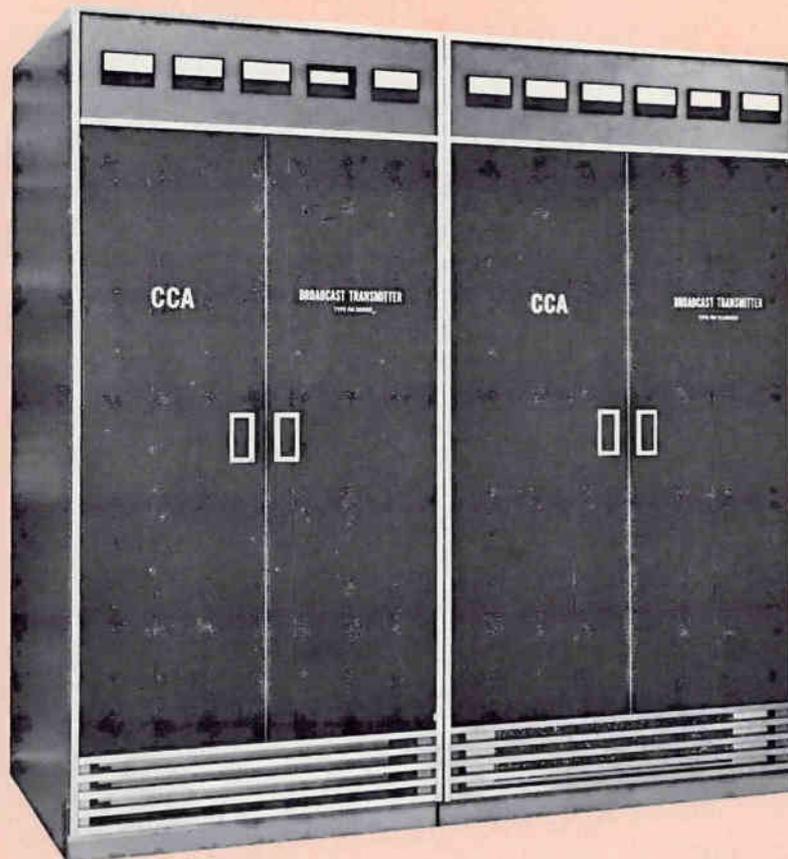


CCA

FM-25, 000D/DS 25 KW FM BROADCAST TRANSMITTER

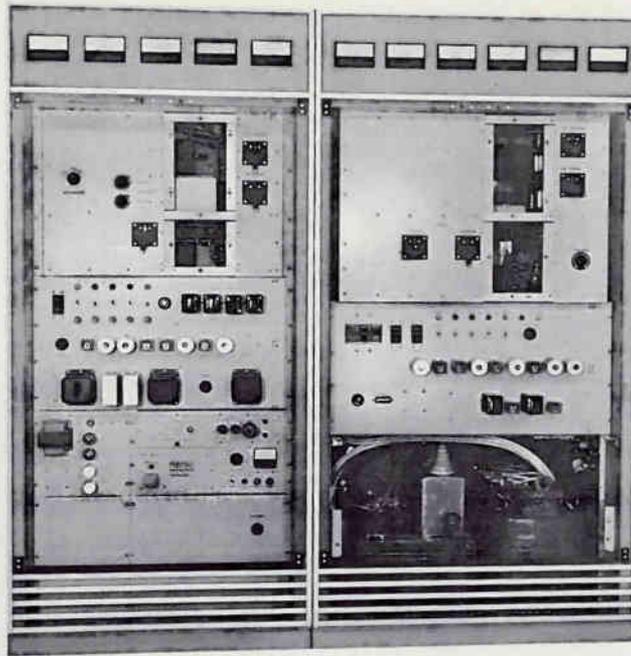


FEATURES

- **Field Proven, Trouble-Free Circuitry**
- **Conservative - 30KW Output Capability**
- **Only One Modest Priced Tube in Power Amplifier**
- **Zero Bias Grounded Grid Triode Type 3CX15,000A7 in PA**
- **Independent 3.5KW Transmitter Serves as 1.5KW Driver**
- **Minimum Floor Space - Self-contained in Two Cabinets - No External Parts**
- **Independent 25KW Power Amplifier Requires Only 1.5KW of RF Drive. Contains Own Power Supply and Circuitry.**
- **Built-in Spare Blower Provides 200% Reserve and Can Serve as Emergency Replacement.**
- **Each Tuning Control Operated from the Front Panel with Direct Couplings and Calibrated Counter**
- **NO REQUIREMENT FOR NEUTRALIZATION of any RF Stage**
- **No Tuning or Bypass Capacitors in RF Circuitry. Thus, there is no drifting or instability.**
- **Silicon Rectifiers with 200% PIV and 400% Current Reserve**
- **Automatic Overload Recycling in both Driver and Power Amplifier**
- **Standard Parts - Available from Local Sources Used as Much as Possible**
- **Vertical Panel Construction and Removable Front and Rear Covers Assure Full Accessibility.**
- **Provided with 40KW Harmonic Filter, 3 1/8" Elbow and Bi-Directional Coupler in Output Transmission Line**
- **Designed for Operation @ 7500 Feet Elevation on Continuous Basis**
- **Guaranteed to Meet or Exceed All FCC Broadcast Specifications for Both Monaural and Stereo Transmission**
- **Designed for Remote Control**
- **80% Plate Circuit Efficiency**

CCA**CCA ELECTRONICS CORPORATION**

716 JERSEY AVE., GLOUCESTER CITY, NEW JERSEY 08030



FRONT VIEW, DOORS REMOVED

APPLICATION

The CCA FM-25,000D/DS 25KW FM Broadcast Transmitter is designed to provide the FM broadcast industry with a super reliable high power transmitter which, in combination with an appropriate antenna, can achieve substantial radiated power. In the past, broadcasters have had to use extremely high gain antennas or parallel combinations of transmitter in order to achieve their desired radiated power. The CCA FM-25,000D/DS permits stations with 50KW ERP requirements in both horizontal and vertical planes to achieve their levels with only 4 or, in some cases, 5 bays of circularly polarized antennas. For stations with 100KW ERP in both planes, 8 to 10 bays would be required. Where only horizontal polarization is required, half the number of bays are required. (For example, 50KW ERP horizontal only requires only the CCA FM-25,000D/DS and a 2- or 3-bay horizontally polarized antenna.)

It should be noted, that although the transmitter can conservatively produce 30KW, it is rated at a nominal 25KW output. Thus, it can be operated by remote control in conformance with FCC regulations.

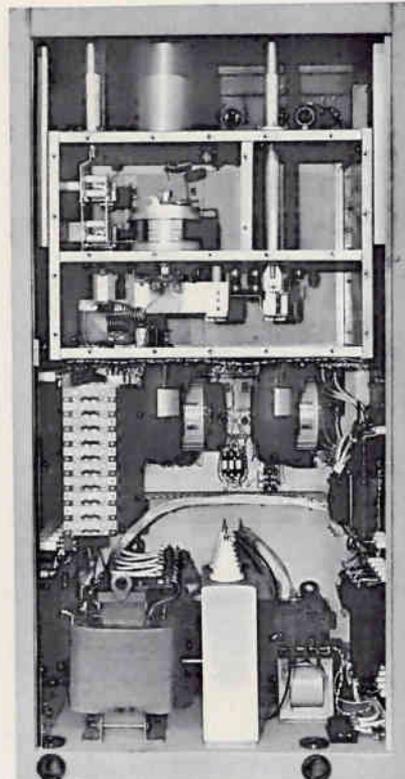
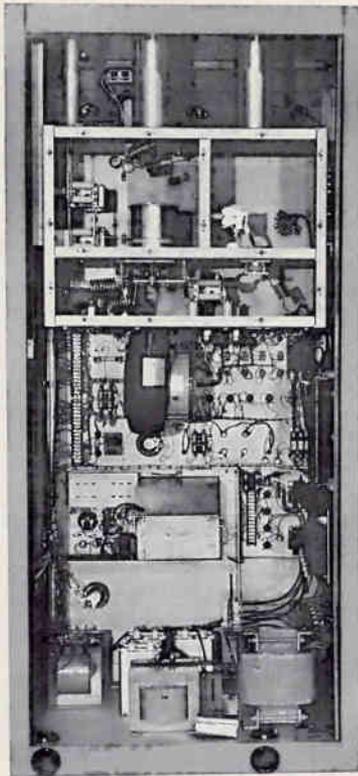
MECHANICAL DESCRIPTION

The CCA FM-25,000D/DS transmitter consists of two medium-sized cabinets interconnected by means of a 1 5/8" rigid or flexible coaxial cable. The two cabinets are essentially independent of each other, and thus there is no insistence on any particular placement of cabinets. Normally, however, the cabinets are placed adjacent to each other with the amplifier cabinet located to the left of the independent transmitter. Both cabinets are 76" high by 34" deep, but the amplifier cabinet is 4" wider (38") than the driver (34"). The transmitter is supplied with a 3 1/8" elbow, 40KW harmonic filter and 3 1/8" directional coupler. These units are mounted externally to the transmitter in series with the output transmission line. Their positions are not critical, but they are normally positioned as illustrated in the "cabinet layout" on the rear of this folder.

ELECTRICAL DESCRIPTION

(1) ONE 3CX15,000A7, ZERO BIAS TRIODE IN POWER AMPLIFIER: The simplicity and reliability of the CCA FM-25,000D/DS is exemplified by the rugged, comparatively inexpensive power amplifier tube. The 3CX15,000A7 is a high gain triode which is operated in a grounded grid configuration in which its control grid is connected directly to D. C. ground.

There is no requirement for any bias supply since this tube cannot over-dissipate even under the condition of full plate voltage and no RF drive.



REAR VIEW

NO NEUTRALIZATION OF ANY RF STAGE: All the power tubes used in the CCA FM-25,000D/DS are either UHF tetrode or VHF, zero bias triodes operated in a grounded grid configuration. This arrangement assures perfect isolation between input and output circuits and no neutralization is required.

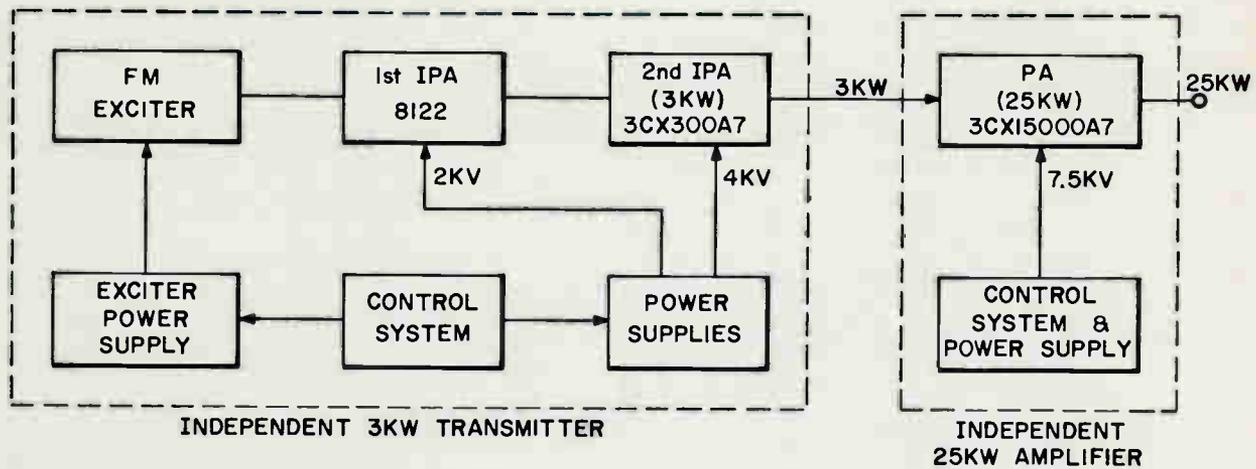
INDEPENDENT 3.5KW DRIVER: The CCA FM-25,000D/DS incorporates a substantial driver - the field-proven CCA FM-3000DS, 3.5KW FM Broadcast Transmitter. This unit, when used as a driver only, produces 1.5KW when driving the amplifier to 25KW output. With the introduction of a coaxial relay between cabinets, this driver can serve as an independent stand-by transmitter for emergency operation.

DEPENDABLE, DIRECT FM EXCITER: The CCA FM-25,000DS incorporates the FM-10DS, FCC type accepted exciter. This exciter represents the optimum features of solid state and vacuum tube components. Solid state circuitry are used in all low level, frequency determining, AFC and modulation circuitry. Three (3) dependable tubes are used in the RF power circuits. Details are available in individual catalog sheet.

CONSERVATIVE 25KW POWER OUTPUT: The CCA FM-25,000D/DS has reserve power to spare! By simply increasing the RF drive (normally operates at reduced output,) the transmitter can easily produce 30KW output power with only 35KW power input.

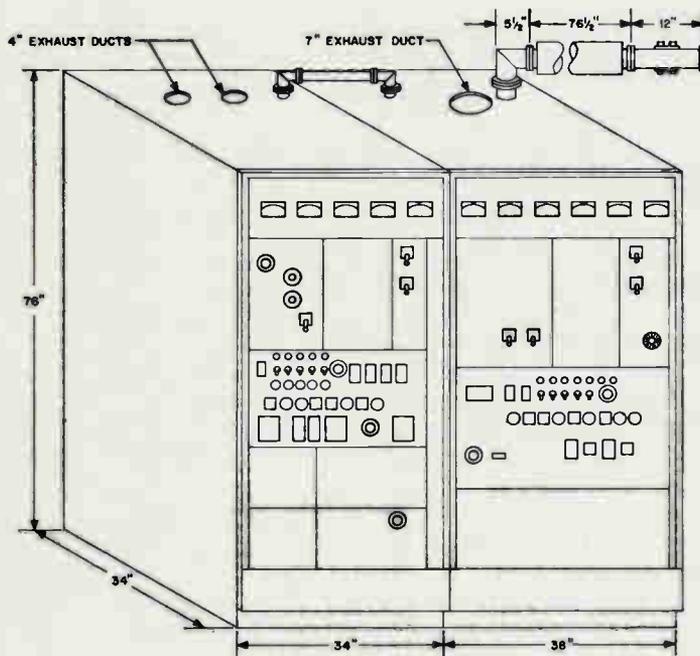
TECHNICAL SPECIFICATIONS

Power Output Capability	30KW
Frequency Range	50-150 MHz
Frequency Stability	.001%
RF Output Impedance	50 ohms
(Fitting)	3 1/8"
AF Input Impedance	150/600 ohms
AF Input Level @ 100% Mod.	+10 dbm Max.
AF Response (with 75 us pre-emphasis)	
50- 15,000 Hz (phase) (Mono)	±1 db
30- 15,000 Hz (direct FM) (Mono)	±1 db
AF Distortion (Maximum)	0.5%
(Typical)	0.2%
Noise (below 100% Mod.)	-65 db
Line Voltage	208/230V
Line Frequency	50/60 Hz
Phase	3
Power Consumption (Approx.)	35KW
Net Dimensions (W x H x D) inches	33" x 76" x 68"
Gross Cubage Cu. Ft.	220 Cu. Ft.
Gross Weight	2500 Lbs.
PA Tube	3CX15,000A7
Harmonic Level (below carrier)	-80 db



BLOCK DIAGRAM FM25,000D/DS

BLOCK DIAGRAM



CABINET OUTLINE - FM25KW

CABINET OUTLINE

EXPORT SALES: *Telesco International Corporation* * 1044 Northern Blvd. * Roslyn, L. I., New York 11576



CCA ELECTRONICS CORPORATION

716 JERSEY AVE., GLOUCESTER CITY, NEW JERSEY 08030