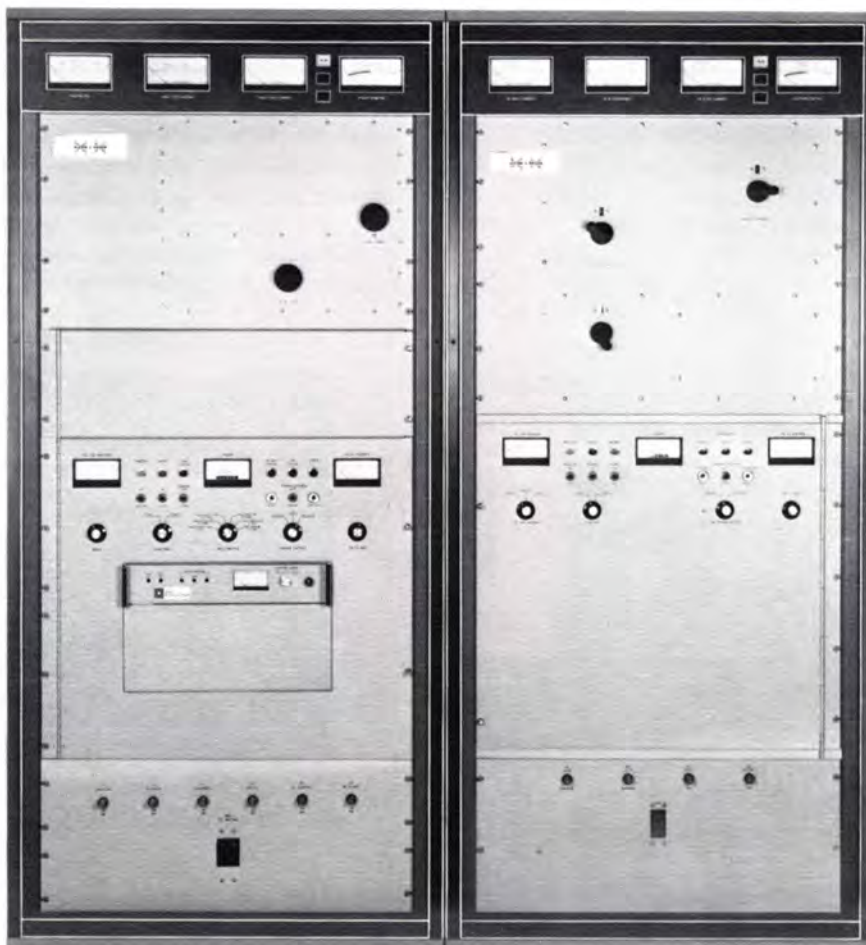


Models 610A-625A FM Transmitters, 7500-27500 watts



FRONT VIEW WITH
601-602A DRIVER

OPERATIONAL BENEFITS

- Solid State direct FM phase lock loop exciter.
- AFC status indication.
- Grounded grid power amplifier.
- No neutralization required.
- VSWR protection.
- Automatic power output control.
- Remote ready—wire or STL.
- Interface for standard teletimer control equipment.
- ATS interface.
- Built-in standby.
- Front panel circuit breaker.
- Fuses with fault indicator.
- Three (3) tube types.
- FCC primary circuits metered and continually monitored.
- Secondary operating parameters with multimeter readout.
- Solid State timing-diode logic and relays.
- Tally light fault indicator with memory system.
- Tuning controls with counter indicators.
- Unexcelled accessibility.



BROADCAST PRODUCTS

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Models 610A-625A FM Transmitters, 7500-27500 watts

GENERAL

Elcom • Bauer Models 610A or 625A power amplifier combined with a 601A or 603 comprise a family of high power FM transmitters for a nominal output power range of 10,000 watts to 25,000 watts. The 610A may be operated from 7500 watts to 13,000 watts or 7500 watts to 17,500 watts, while the 625A may be operated from 17,500 watts to 25,000 watts. Both are suitable for Class B and Class C station use. And they can be combined for a nominal 20,000 watts and 50,000 watts for redundancy and special high power/minimal number of antenna bays application.

Both transmitters use a grounded grid triode final amplifier driver by a lower power transmitter employing the model 690PLL phase-locked loop exciter. These 601A or 603 driver transmitters are capable of operating directly into the antenna feed should it ever be necessary.



690PLL EXCITER

690PLL EXCITER

The 690PLL exciter is the heart of both transmitter models. Its advanced phase-locked loop design provides great frequency stability while delivering an exceptionally clean signal for further amplification. A single crystal frequency is used to synthesize any carrier frequency in the FM band; the frequency can be programmed in 100 KHZ steps.

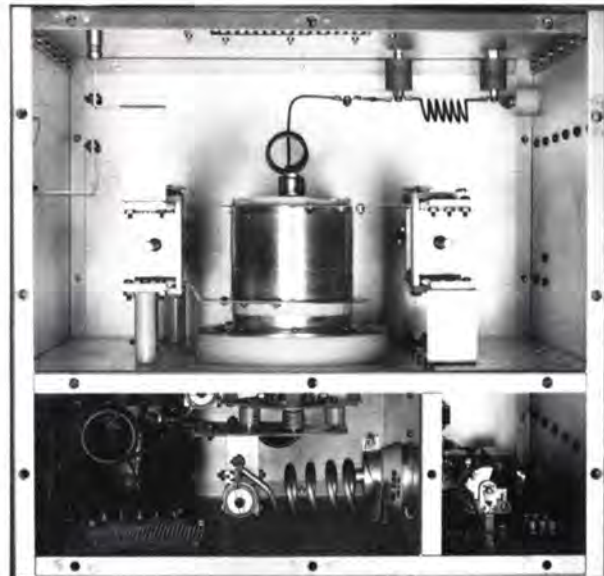
The 690PLL accepts input signals from monaural programming, composite stereo generators, and SCA generators. The applicable specifications for the 690PLL are incorporated into the transmitter specifications shown on the following pages. Also available from Elcom-Bauer are companion model 682 stereo generator and model 683 SCA generator.

INTERMEDIATE POWER AMPLIFIER

The 601A driver transmitter uses a 5CX1500A ceramic pentode tube as the intermediate power amplifier, whereas the 603 driver transmitter uses a 3CX3000A7 ceramic zero bias grounded grid triode as the intermediate power amplifier. Both IPA's are driven by a 4CX250BC ceramic tetrode. Each tube is contained in a separate aluminum enclosure for excellent RF shielding.



601A DRIVER (IPA)
SIMPLIFIED STRIPLINE TUNING



603 DRIVER (IPA)

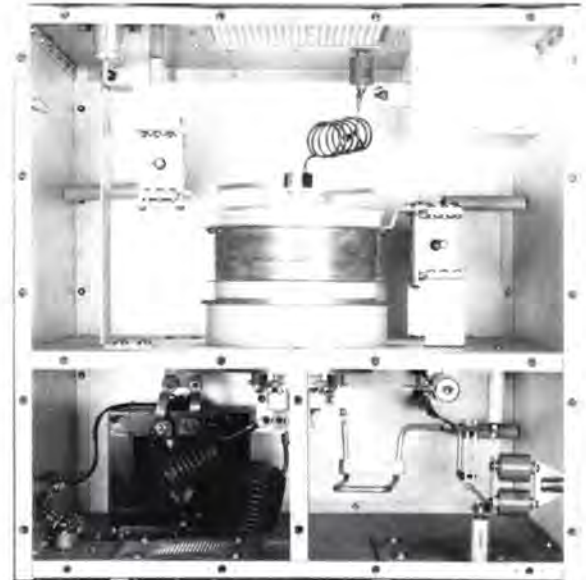
FINAL POWER AMPLIFIER

A ceramic zero bias grounded grid triode is used as a final power amplifier in both transmitters. The 610A uses a 3CX10,000A7 tube while the 625A uses a 3CX15,000A7 tube. Both operate at approximately 80% efficiency and require low drive power to attain full output due to excellent gain characteristics.

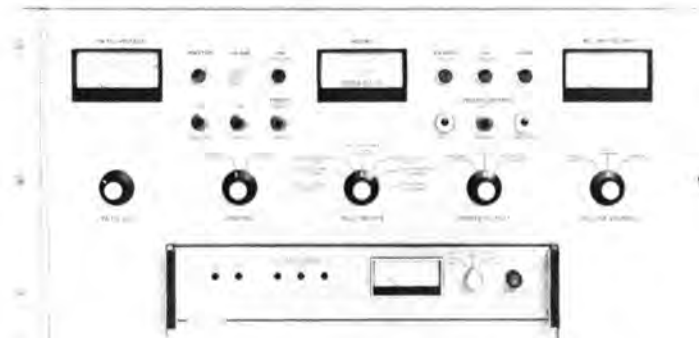
Heavy duty inductors are used to provide simple, stable tuning adjustments. An external harmonic filter and directional coupler are provided standard on both models.

POWER SUPPLY and CABINETS

Solid-state rectification is used exclusively in all transmitter power supplies. All power supply components are conservatively rated and easily accessible through the rear of the cabinets. The 610A power supply is completely self-contained, while the 625A uses a separate power supply vault for the final power amplifier plate supply. Full-length non-interlocked front doors and side panels, which may be removed if necessary, are provided along with interlocked rear doors. High voltage grounding switch and grounded shorting sticks are provided for additional protection.



625A FINAL CAVITY 3CX15000A7



METERING AND PROTECTIVE CONTROL SYSTEM

METERING CONTROL and PROTECTION CIRCUITS

All important operating parameters are metered, including operating elapsed time and AC line voltage. The driver transmitters have complete independent metering, and the 690PLL exciter has its own multi-meter as well as operating and AFC status indicators.

The final plate current and final input current, IPA plate current, IPA input current, IPA driver plate current and VSWR are overload protected and monitored by a tally light system with memory. Automatic recycling restarts the transmitter should a momentary fault occur. The tally light memory keeps the appropriate fault indicator lamp lit until it is reset.

A step-start high voltage system provides filament

warm-up time before plate voltage is applied, and a reduced power status is front-panel selectable for use during tuning. Automatic power control is standard on both models, allowing use of maximum power while compensating for power line voltage variations; this function is provided by a motorized IPA screen rheostat.

Interfacing to remote control or ATS systems is simple with all of the standard functions accessible via terminal strips. A four function remote control interface is standard to simplify remote control installation. All control circuits are accessible via two swing-out front panels.

SPECIFICATIONS for 610A-625A FM Transmitters

Electrical	610A	625A	Mechanical	610A	625A
Power Output:			Output connector:	3/4" EIA female, both models	
Nominal:	10,000 W	25,000 W	Weight:	2600 lbs. (1179 kg)	3000 lbs. (1361 kg)
Range:	7,500 W to 13,000 W*	17,500 W to 25,000 W**	Size:	75 In. H x 70 In. W x 30 In. D (191 cm H x 178 cm W x 76 cm D)	
Power Supply:	208-240 VAC, 50/60 Hz, three phase	208-240 VAC, 50/60 Hz, three phase	Power Supply Vault Size:	N/A	36 In. H x 34 In. W x 26 In. D (91 cm H x 86 cm W x 6.6 cm D)
Power Consumption at Nominal Output:	21,000 W	38,000 W	Maximum Altitude:*	7500 feet (2286 meters), both models	
Power Factor:	0.9	0.9	Ambient Temperature: Range:	-4°F to 113°F (-20°C to +40°C), both models	
Output Impedance:	50 ohms nominal	50 ohms nominal			
Audio Input Impedance:					
Monophonic:	600 ohms, balanced, both models				
Composite:	10K ohms, unbalanced, both models				
Audio Input Level:					
Monophonic:	+ 10 dBm, both models		*Higher available on special order		
Composite:	3.5 volts peak to peak, both models				
Audio Frequency Distortion:					
Monophonic:	Less than 0.25% THD, both models				
Composite:	Less than 0.25% THD, both models				
Frequency stability:	± 300 Hz, or better, both models				
Frequency range:	88 to 108 MHz, both models				
Modulation capability:	± 150 KHz, both models				
FM Noise, referred to 100% modulation, 400 Hz:	Better than -65 dB, both models				
AM Noise, referred to 100% equivalent AM modulation:	Better than -50 dB, both models				

* T.P.O. Power Level to 17.5 KW on request

** T.P.O. Power Level to 27.5 KW on request

