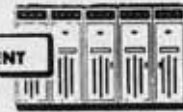
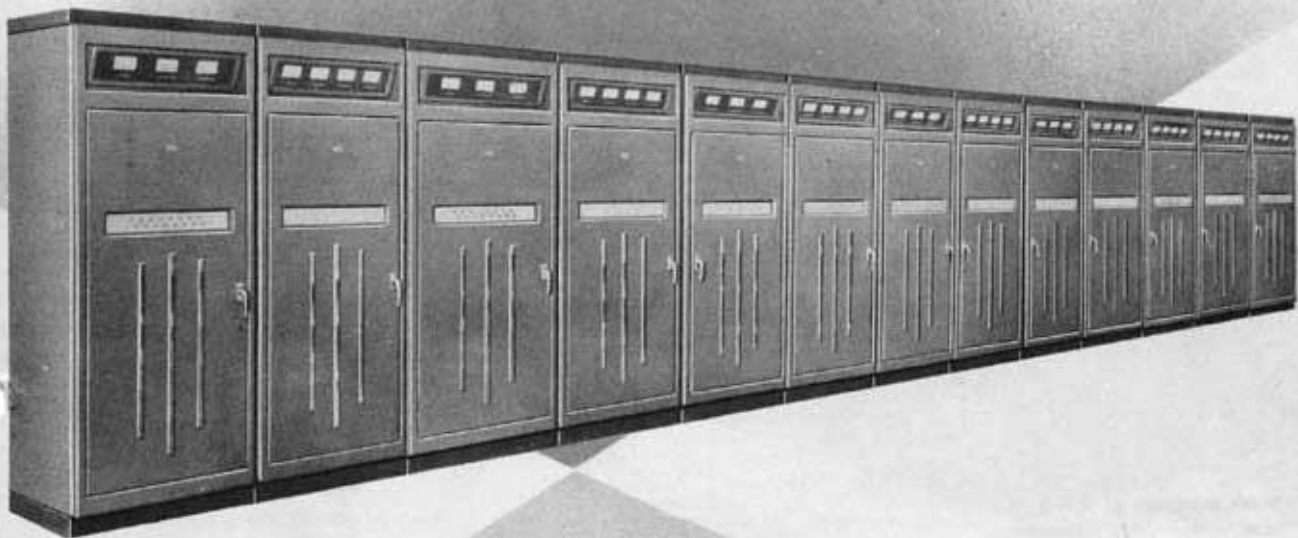


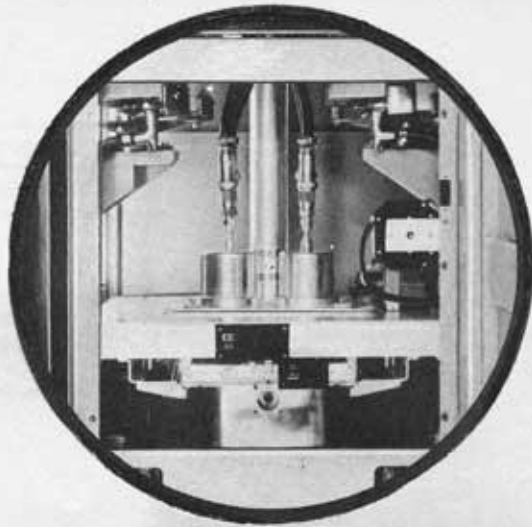
TRANSMITTER EQUIPMENT100 KW TELEVISION
TRANSMITTERBULLETIN
TR-887SERIES
19000**DU MONT****Series 19000 — 100 KW TELEVISION TRANSMITTER
Channels 7 - 13****FEATURES**

- Uses combinations of proven lower-power driver and amplifiers
- Economical 5 KW driver
- Simple emergency power cut-back to lower power
- Designed for color
- Minimum floor-space requirements
- Built-in band-pass indicator
- Trouble-shooting indicator system
- Simple design
- Quiet — water-cooled P.A. tubes.

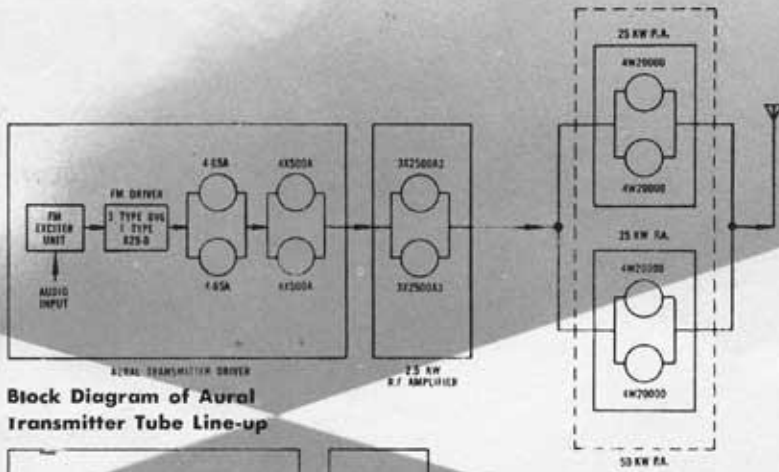
The Series 19000 100 KW Television Transmitter is designed for operation on any television channel from 7-13. It consists of a standard Du Mont Series 12000 50 KW transmitter to which additional 50 KW visual and 25 KW aural power amplifiers have been added in parallel to the existing P.A.'s, in order to provide a full 100 KW visual, 50 KW aural power output.

Two Type TA-177 Visual 50 KW amplifiers, operating in parallel, provide 100 KW visual power output. The outputs of a driver and each amplifier may be combined by patch-panel junctions, so that power cut-backs to 50 KW or 5 KW are possible from the normal 100 KW output. Similarly, outputs from the paralleled Type TA-176 25 KW aural amplifiers and their 2.5 KW driver may be brought out to patch-panel junctions to effect power cut-backs from the normal 50 KW to 25 KW or 2.5 KW.

Water-cooled Eimac Type 4W20000 tetrodes are used throughout as power amplifier tubes, resulting in compact, simple circuitry and low driving power requirements. The usual Du Mont features of built-in band-pass indication, trouble-shooting indicator system, no side-band filter requirements, dead-front design, and quietness of operation have been incorporated.



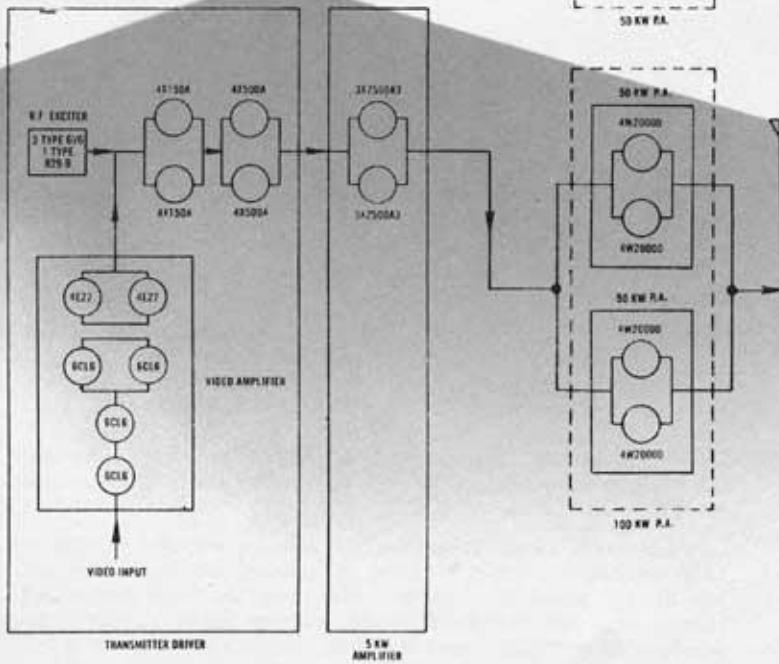
**100 KW VISUAL
FINAL AMPLIFIER SECTION**



**Block Diagram of Aural
Transmitter Tube Line-up**

TOTAL POWER REQUIREMENTS:

Power Requirements	
Aural Transmitter:	
440/460/480 v, 3 ϕ	105.0 KVA
208/230 v, 3 ϕ	14.5 KVA
208/230 v, 1 ϕ	16 KVA
Total	135.5 KVA



**Block Diagram of Visual
Transmitter Tube Line-up**

Power Requirements	
Visual Transmitter:	
440/460/480 v, 3 ϕ	75.6 KVA
208/230 v, 3 ϕ	6.3 KVA
208/230 v, 1 ϕ	15.6 KVA
Total	97.5 KVA

AURAL TRANSMITTER

Type of Emission	A3
Frequency Range	Channels 7-13
Power Output	50 KW
RF Output Impedance	>1.5 ohms
Carrier Frequency Stability	±800 cps
Modulation Capability	±50 KC
Method of Modulation	FM
Input Impedance	600/150 ohms
Input Level	+10 dbm
Frequency Response (pre-emphasis network is provided)	Uniform within ± 1 db from 50 to 15000 cps
Audio Frequency Distortion (at ±10 KC, ±25 KC, ±40 KC swing)	50 to 100 cps less than 1.5 % 100 to 7500 cps less than 1.0 % 7500 to 15000 cps less than 1.5 %
FM Noise Level	60 db below ±25 KC swing
AM Noise Level	Less than -55 db
Spurious Emission	-60 db relative to the aural transmitted power at frequencies of, or in excess of, 3 mc above or below the assigned channel

VISUAL TRANSMITTER

Type of Emission	A5
Frequency Range	Channels 7-13
Power Output	100 KW peak
RF Output Impedance	51.5 ohms
Carrier Frequency Stability	±200 cps
Modulation Capability	Down to 12.5 ±2.5 % of peak carrier amplitude
Method of Modulation	AM
Input Impedance	75 ohms
Input Level	1.0 v, p-p
Frequency Response (relative to the ideal amplitude frequency response)	Meets or exceeds the FCC requirements for color transmission as follows: +2, -2 db at 0.5 mc +2, -2 db at 1.25 mc +2, -3 db at 2.0 mc +2, -3 db at 3.0 mc +2, -2 db at 3.58 mc +2, -4 db at 4.0 mc In addition the amplitude of the signal shall not vary by more than ±2 db between the modulating frequencies of 2.1 mc and 4.18 mc
Envelope Delay (relative to the average envelope delay between 0.05 and 0.2 mc)	0 ±0.1 μsec. at 0.2 mc 0 ±0.1 μsec. at 2.1 mc 0 ±0.07 μsec. at 3.0 mc -0.17 ±0.05 μsec. at 3.58 mc -0.34 ±0.1 μsec. at 4.18 mc
Phase Amplitude Variation	±7° at 3.58 mc between color burst level and reference white level
Modulation Linearity	Minimum incremental gain not less than 80 % of maximum between reference black and white levels at 3.58 mc.
Lower Sideband Response (relative to a 200 KC sideband)	-20 db at frequencies 1.25 mc or greater -42 db at 3.58 mc
Upper Sideband Response (relative to a 200 KC sideband)	-20 db at frequencies of 4.75 mc or greater
Spurious Emission	-60 db relative to the visual transmitted power at frequencies of, or in excess of, 3mc above or below the assigned channel

SPECIFICATIONS

TUBE COMPLEMENT

Aural Transmitter		Visual Transmitter	
Type	Qty	Type	Qty
3X2500A3	2	2X2A	1
4W20000A	4	3X2500A3	2
4X500A	2	4E27	2
5R4-GY	2	4W20000A	4
6AC7	2	4X150A	2
6AL5	4	4X500A	2
6AS6	3	5R4-GY	8
6AS7-G	13	5UP1	1
6C4	4	6AC7	4
6H6	1	6AG7	3
6SJ7	2	6AH6	1
6V6	7	6AL5	6
6X4	4	6AS6	2
12AX7	2	6AS7-G	19
807	8	6AT6	1
829-B	1	6B4G	1
866-A	8	6CL6	4
869-B	12	6C4	4
5692	1	6SJ7	3
8008	16	6V6	3
OA3	2	6X4	4
OB2	4	12AX7	3
OC3	2	807	8
OD3	9	826	2
EL-C6J/A	4	829-B	1
		866-A	10
		869-B	12
		8008	20
		OA3	3
		OB2	4
		OC3	8
		OD3	15
		EL-C6J/A	4

DIMENSIONS

Each Cabinet (13)	Each Driver Plate Transformer (2)
height 86 $\frac{1}{8}$ "	height 26"
width 35 $\frac{1}{4}$ "	width 29"
depth 24"	depth 20"
average weight 1500 lbs.	weight 525 lbs.
Each Plate Contactor (4)	Each P.A. Plate Transformer (4)
height 26 $\frac{3}{4}$ "	height 56"
width 14 $\frac{1}{4}$ "	width 54"
depth 7 $\frac{3}{4}$ "	depth 30"
weight 70 lbs.	weight 2100 lbs.
Each Heat Exchanger (2)	Total Transmitter Weight:
height 100"	19,500 lbs.
width 79"	Transmitter Overall Length:
depth 35"	38'
weight 3000 lbs.	Output Transmission Line:
	3 $\frac{1}{8}$ " o.d.