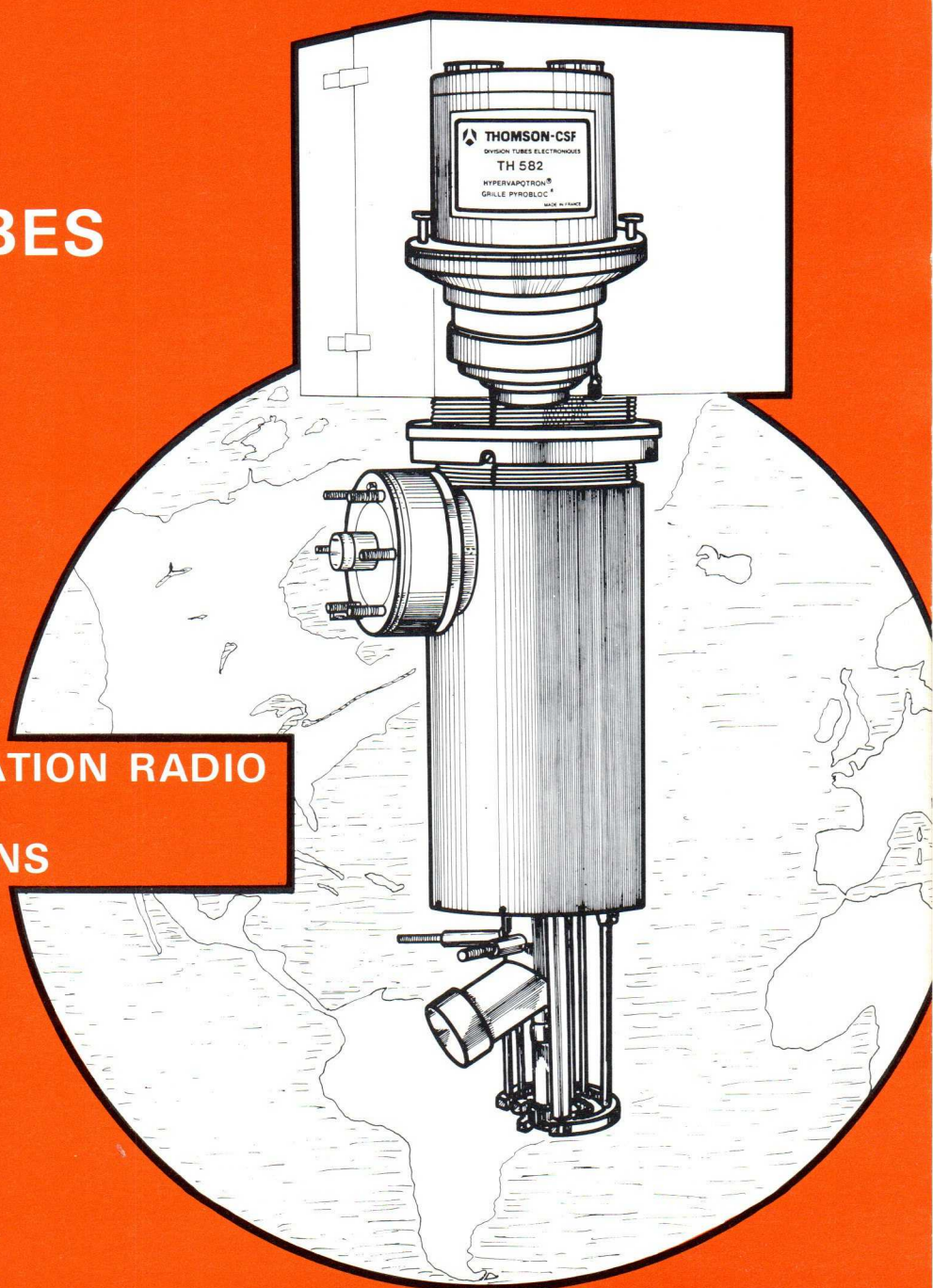




VHF & UHF ELECTRON TUBES AND CAVITIES

- FREQUENCY-MODULATION RADIO
- TELEVISION
- TELECOMMUNICATIONS



Almost since the beginning of broadcast television, the Electron Tube Division of THOMSON-CSF has been in the forefront of the effort to supply ever improved power grid tubes for TV transmitters and translators. In particular, THOMSON-CSF has taken a world-leading role on the development of high-performance tetrodes for TV and FM service leading to:

- Extremely high efficiency for lower operating costs;
- Greatest stability, thanks to THOMSON-CSF patented Pyrobloc® Grids.

TRIODES AND TETRODES

FOR COMMON AMPLIFICATION OF SOUND AND VIDEO CARRIERS
IN TV TRANSMITTERS AND TRANSLATORS

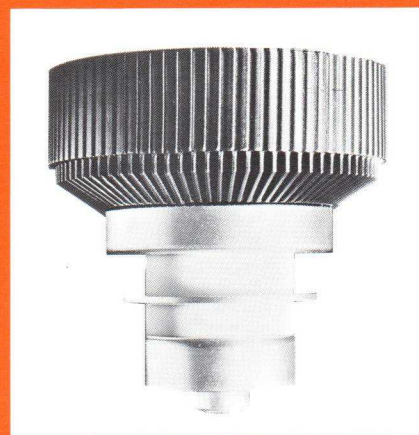
TYPICAL OPERATION

TUBE NUMBER	Filament		Anode voltage	Screen-grid voltage	Output power*	Gain	FREQUENCY max.	CAVITY NUMBER	TV BANDS
	Vf**	If**							
	V	A	kV	V	kW	dB	MHz		
TRIODES									
TH 326	5	2	1.8	—	0.050	20	1000	TH 18261	IV-V
TH 308	5.7	5.5	1.8	—	0.100	16	1000	TH 18362	IV-V
TH 328	5.5	5.4	1.8	—	0.100	20	1000		
TH 338	5.7	5.5	2.4	—	0.220	16	1000	TH 18462	IV-V
TH 339	5.5	5.4	2	—	0.220	20	1000		
TH 340	5.7	5.5	2.4	—	0.220	18	1000		

TETRODES

TH 298	6	50	3	600	1.1	15	300	TH 18324	III
TH 327	6.1	30	2.8	600	0.550	16	1000	TH 18363	IV-V
TH 347	6.1	33	3.2	600	1.1	16	1000		
TH 547	6.1	33	3.2	600	1.1	16	1000	TH 18563	IV-V
TH 331	4.8	65	3.5	500	1.1	13	1000	TH 18665	IV-V
TH 393	6	70	5.5	600	2.2	16	1000		
TH 361	7	140	3.5	600	5.25	17	300	TH 18326	III
TH 382	4.2	125	5.5	600	5.25	16	1000	TH 18482	IV-V
TH 561	7	140	6.2	500	10	17	300	TH 18526	III
TH 371	8	185	5.2	600	11	18	300	TH 18327	III
TH 582	4.2	125	6	600	10	16	1000	TH 18582	IV-V

* Peak-of-sync video output power
** Approximate values



VHF & UHF CAVITIES

- FREQUENCY-MODULATION RADIO
- TELEVISION (SEPARATE OR COMMON AMPLIFICATION OF VIDEO AND SOUND)

CAVITY NUMBER	Output power (kW)	TV BANDS	TUBE NUMBER
TH 18104*	3	—	TH 298
TH 18106*	12 5	—	TH 399 TH 369
TH 18107*	30	—	TH 374
TH 18261	0.050	IV-V	TH 326
TH 18324	1	III	TH 298
TH 18326	5-15	III	TH 361
TH 18327	20-30	III	TH 371
TH 18362	0.100	IV-V	TH 308 TH 328
TH 18363	0.500 1	IV-V	TH 327 TH 347

* For frequency-modulation radio

CAVITY NUMBER	Output power (kW)	TV BANDS	TUBE NUMBER
TH 18462	0.200	IV-V	TH 338 TH 339 TH 340
TH 18482	10	IV-V	TH 382
TH 18524	1	III	TH 598
TH 18526	10-15	III	TH 561
TH 18527	30-40	III	TH 571A
TH 18563	1-2	IV-V	TH 547
TH 18565	2-5	IV-V	TH 593
TH 18582	10	IV-V	TH 584 TH 582
TH 18665	1 2-4	IV-V	TH 331 TH 393



TRIODES AND TETRODES

- FREQUENCY-MODULATION RADIO
- TELECOMMUNICATIONS

TYPICAL OPERATION

TUBE NUMBER	Filament		Anode voltage	Screen-grid voltage	Max. output power	Gain max.	FREQUENCY NUMBER	CAVITY
	V _f	I _f						
	V	A	kV	V	kW	dB	MHz	

FREQUENCY-MODULATION RADIO

TH 298	6	50	5	400	3	23	120	TH 18104
TH 369	7	87	5	500	5	24	120	TH 18106
TH 399	7	140	7.5	300	12	24	120	
TH 374	8	185	8	600	30	25	120	TH 18107

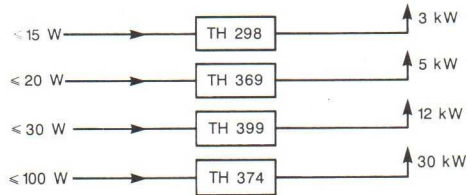
UHF TELECOMMUNICATIONS

TH 293	5	47	5	600	1.1	15	1000	TH 18465
TH 313	5	65	5.7	700	3.5	13	1000	—
F 6007	6.3	5.5	2	—	0.2	16	1000	—
TH 294	6.3	5.5	2	—	0.2	16	1000	—

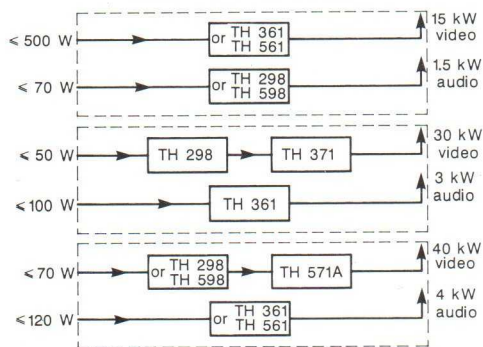


PRACTICAL STRUCTURES OF TRANSMITTERS AND TRANSLATORS USING THOMSON-CSF TRIODES AND TETRODES WITH ASSOCIATED CAVITIES CCIR SPECIFICATIONS

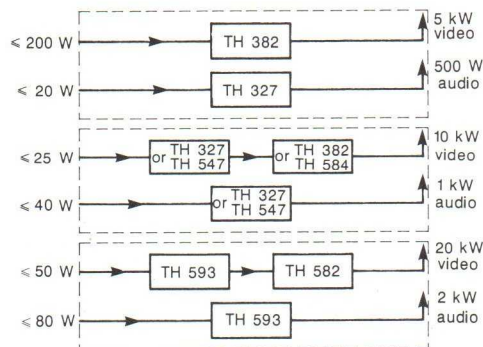
FM TRANSMITTERS



VHF-TV TRANSMITTERS separate amplification

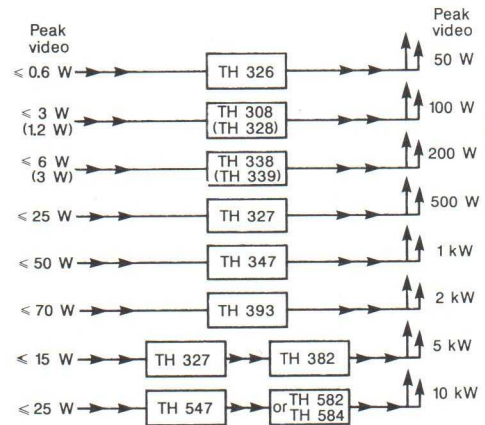


UHF-TV TRANSMITTERS separate amplification

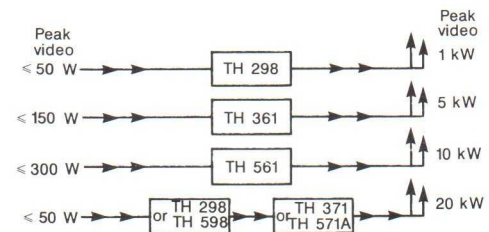


TV TRANSMITTERS OR TRANSLATORS using common amplification of sound and video carriers

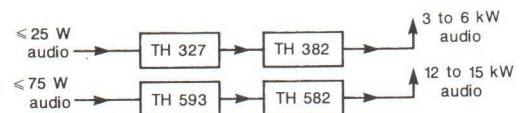
- UHF -



- VHF -



HIGH POWER - UHF-TV TRANSMITTERS sound amplification



Note : Input power levels depend on circuits; the indicated values take into account usual losses such as circulators, filters, etc.



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