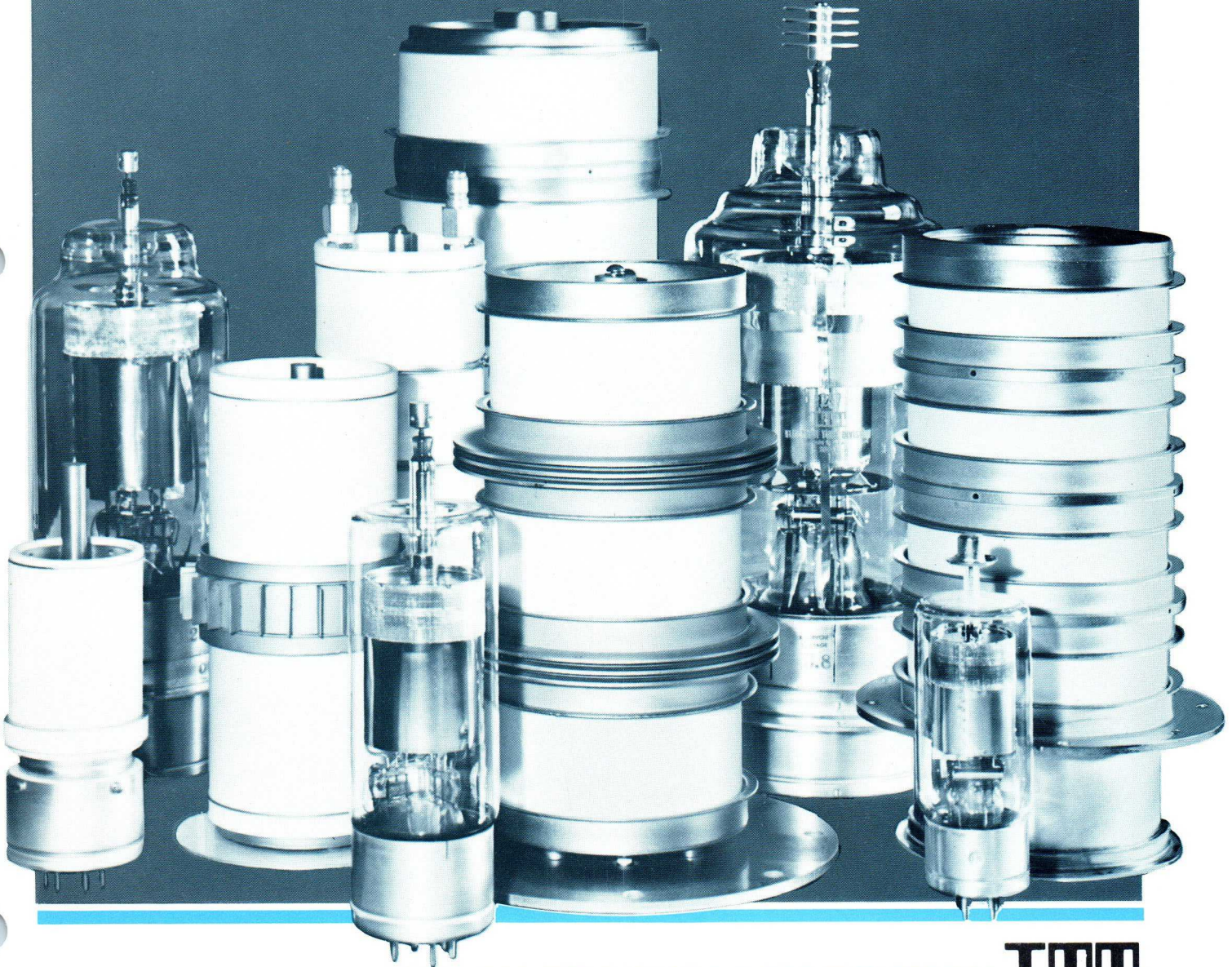


ITT

Hydrogen Thyatron Tubes

Including Crowbar Thyatrons
& Hydrogen Diodes



ELECTRON TECHNOLOGY DIVISION **ITT**

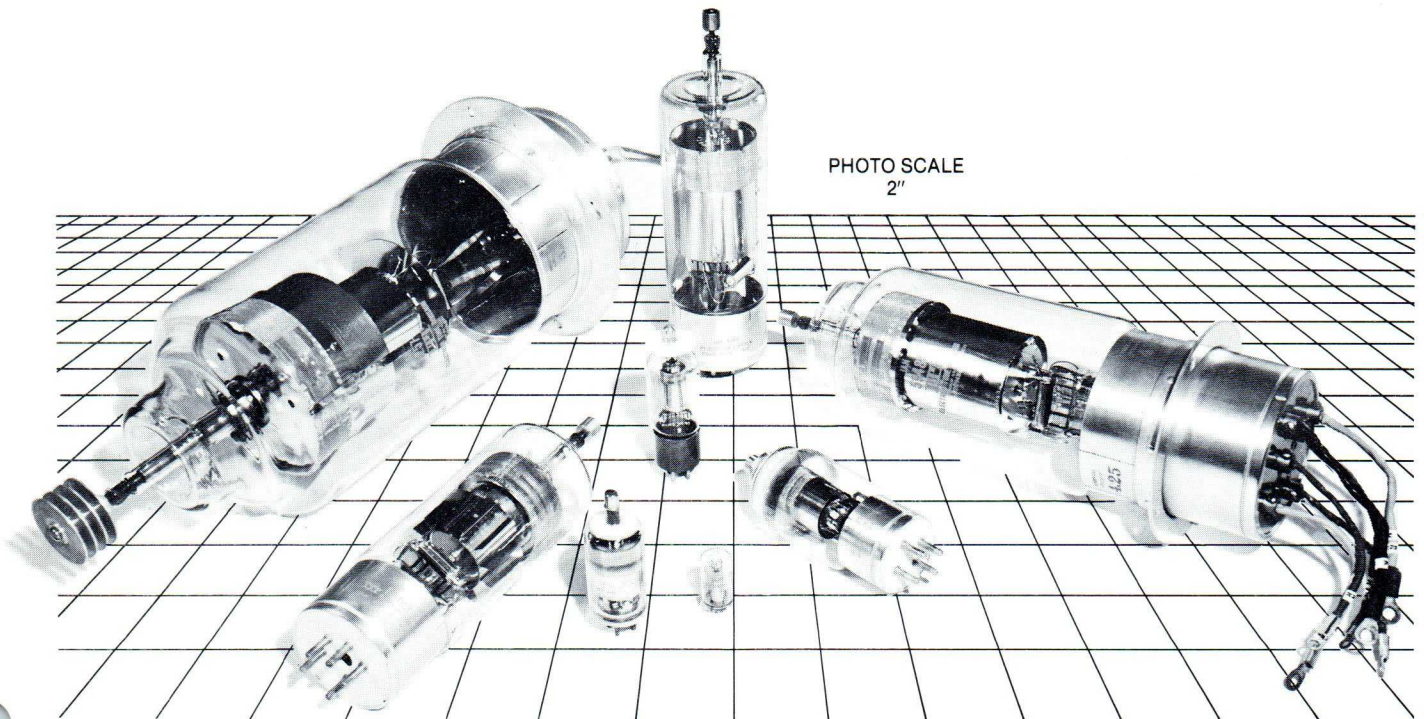
Ceramic Thyratrons

ITT Tube Type	RATINGS						HEATERS				GRID DRIVE		Feature/Notes
	PO MW	Pb x10 ⁶	opy KV	ib a	Ib Adc	Ip A rms	CATHODE		RESERVOIR		MINIMUM AMPLITUDE (Volts)	MAXIMUM IMPEDANCE (Ohms)	
							(6.3V) If Aac	Eres Vac	Ires Aac				
7621/KU-70C	0.4	2.7	8.0	100	0.100	2.0	3.0	I.C.	—	150	1500	1,6,9	
8803/F-115	0.4	2.0	8.0	90	0.100	3.0	6.7	I.C.	—	175	1500	1,5,9,10	
F-126	0.7	3.0	8.0	175	0.150	3.0	4.0	I.C.	—	150	1500	1,6	
7782/KU-71	2.0	4.0	14.0	350	0.200	5.0	5.5	6.3	1.5	175	1500	1,6,9	
8765/KU-71Z	2.0	4.0	12.0	350	0.200	5.0	6.0	I.C.	—	175	1500	1,5,10	
F-139	2.0	4.0	12.0	350	0.200	5.0	6.0	I.C.	—	175	1500	1,5,10	
F-116	2.8	5.0	16.0	350	0.500	6.5	6.0	I.C.	—	150	1500	1,5	
8553/KU-72Z	4.0	7.0	16.0	500	0.500	6.5	7.0	I.C.	—	200	500	1,5,9	
8613	4.0	10.0	16.0	500	0.500	8.0	11.5	I.C.	—	175	500	1,5,9	
F-180	4.0	10.0	16.0	500	0.500	8.0	11.5	I.C.	—	175	500	1,5,10	
F-137	4.0	10.0	16.0	500	0.500	8.0	11.0	6.3	1.5	175	500	1,5	
F-103	4.0	10.0	16.0	500	0.500	8.0	7.5	2.5-4.5	4.0	500	500	1,5,8	
F-181	4.0	10.0	16.0	500	0.500	8.0	11.0	6.3	1.5	175	500	1,5,8	
7665/KU-72	5.0	7.0	20.0	500	0.500	6.5	6.0	6.3	1.5	200	500	1,6,9	
F-131	5.0	7.0	20.0	500	0.500	6.5	6.0	6.3	1.5	200	500	1,6,8	
F-123	5.0	8.0	20.0	500	0.500	6.5	6.0	6.3	1.5	200	500	1,6,11	
F-150	12.5	12.5	25.0	1000	1.000	32	14.0	3.0-5.5	4.0	500	200	1,5	
7322	12.5	20.0	25.0	1500	2.000	40	14.0	6.3	4.0	500	200	1,9,15	
F-145	12.5	20.0	35.0	1500	2.000	40	14.0	6.3	4.0	500	200	1,15	
F-172	12.5	20.0	25.0	1500	2.000	40	14.0	6.3	4.0	500	200	1,10,15	
F-130	12.5	20.0	25.0	1500	2.000	40	14.0	6.3	5.0	500	200	1,8,9,15	
8354	12.5	25.0	25.0	1000	2.200	40	14.0	6.3	4.0	500	400	1,9,15	
F-195	12.5	25.0	25.0	1000	2.200	40	14.0	6.3	4.0	500	400	1,15,16	
F-162	12.5	25.0	25.0	1000	2.200	40	14.0	6.3	4.0	500	400	1,13,15	
F-188	12.5	25.0	25.0	1000	2.200	40	14.0	6.3	4.0	500	400	1,13,14,15	
F-199	12.5	25.0	25.0	1000	2.200	40	14.0	6.3	4.0	500	400	1,8,14,15	
7390	33.0	30.0	33.0	2000	4.000	72	28.0	3.5-5.5	8.0	1300	70	1,6,9	
7390A/F-127	33.0	30.0	33.0	2000	4.000	72	28.0	3.5-5.5	8.0	1300	70	1,6,9,12	
8789	33.0	30.0	33.0	2000	4.000	72	28.0	3.5-5.5	8.0	1300	70	1,6,9	
7667/KU-74	40.0	40.0	33.0	2400	4.000	90	28.0	3.5-5.5	8.0	1300	70	1,6	
7890/7866/KU-274	48.0	55.0	40.0	2400	2.600	75	28.0	2.5-5.5	8.0	1300	70	2,6,9	
F-117	50.0	30.0	33.0	3000	4.000	80	28.0	2.5-5.5	8.0	1300	70	1,6,8	
F-155	50.0	30.0	33.0	3000	4.000	80	28.0	2.5-5.5	8.0	1300	70	1,6,8,11	
F-191	50.0	30.0	33.0	3000	4.000	80	28.0	2.5-5.5	16.0	1300	70	1,6,8,17	
F-194	50.0	30.0	33.0	3000	4.000	80	28.0	2.5-5.5	8.0	1300	70	1,6,8,13	
F-186	50.0	30.0	33.0	3000	4.000	80	28.0	3.5-5.5	8.0	1300	100	1,6,8,13	
F-104	60.0	55.0	50.0	2400	4.000	90	28.0	3.5-5.5	8.0	1300	70	2,6,8	
8326/KU-74B	66.0	60.0	33.0	4000	7.000	120	28.0	3.5-5.5	8.0	1300	100	1,6	
8326A/F-128	66.0	60.0	33.0	4000	7.000	120	28.0	3.5-5.5	8.0	1300	100	1,6,9,12	
F-146	82.5	250.0	33.0	5000	8.000	200	55.0	3.5-6.0	25.0	1500	100	1,6,8	
F-190	87.5	140.0	35.0	5000	8.000	125	28.0	3.5-5.5	8.0	1300	100	1,6,8,11	
8614	100.0	160.0	40.0	5000	8.000	125	28.0	3.5-5.5	8.0	1300	100	1,6,9,16	
F-168	100.0	160.0	40.0	5000	8.000	125	28.0	3.5-5.5	8.0	1300	100	1,6,9,16	
8479/KU-275C	125.0	400.0	50.0	5000	8.000	200	55.0	3.5-6.0	25.0	1500	100	2,6,8	
F-171	330.0	300.0	33.0	20000	15.000	400	55.0	3.5-6.0	25.0	1500	100	1,6,8,14	
F-175	500.0	600.0	50.0	20000	15.000	400	55.0	3.5-6.0	25.0	1500	100	2,6,8	
F-176	500.0	600.0	50.0	20000	15.000	400	55.0	3.5-6.0	25.0	1500	100	2,6,8,14	
F-157	750.0	1000.0	75.0	20000	15.000	400	55.0	3.5-6.0	25.0	1500	100	3,6,8	
F-187	750.0	1000.0	75.0	20000	15.000	400	55.0	3.5-6.0	25.0	1500	100	3,6,8,14	
F-169	750.0	1000.0	100.0	20000	15.000	400	55.0	3.5-6.0	25.0	1500	100	4,6,8	
F-166	800.0	1200.0	50.0	40000	50.000	1400	65@15V	13.0	15.0	2500	50	2,6,8,16	

Glass Thyratrons

ITT Tube Type	RATINGS						HEATERS			GRID DRIVE		Feature/Notes
	PO MW	Pb x10*	epv KV	ib a	Ib Adc	Ip A rms	CATHODE	RESERVOIR		MINIMUM AMPLITUDE (Volts)	MAXIMUM IMPEDANCE (Ohms)	
							(6.3V) If Aac	Eres Vac	Ires Aac			
1258	0.008	0.10	1.0	20	0.050	1.0	2.0	None	—	175	1000	1,5,9
7190	0.010	0.10	1.2	20	0.050	1.0	2.0	None	—	175	1000	1,5,9
7191	0.010	0.10	1.2	20	0.050	1.0	2.0	None	—	175	1000	1,5,9
8653/7191H	0.010	0.10	1.2	20	0.050	1.0	2.3	None	—	175	1000	1,5,9
3C45	0.05	0.30	3.0	35	0.045	1.25	2.5	None	—	175	1500	1,5,9
6130	0.05	0.30	3.0	35	0.045	1.25	2.5	None	—	175	1500	1,5,9
3C45W	0.05	0.30	3.0	35	0.045	1.25	2.7	I.C.	—	175	1500	1,5,7
KU-99/HP45B	0.05	0.30	3.0	35	0.045	1.25	2.7	I.C.	—	175	1500	1,5,7
6777	0.12	0.75	8.0	35	0.045	1.25	2.7	I.C.	—	175	1500	1,5,7
7583/KU-82	0.12	1.10	8.0	35	0.045	1.25	2.5	None	—	175	1500	1,5
5957	0.33	2.00	8.0	83	0.100	2.9	6.7	I.C.	—	175	1500	1,5,7,9
KU-17	0.33	2.00	8.0	83	0.100	2.9	6.7	I.C.	—	175	1500	1,5,7,9
KU-17A	0.33	2.00	8.0	83	0.100	2.9	6.7	I.C.	—	175	1500	1,5,7,10
4C35A	0.35	2.00	8.0	90	0.100	3.0	6.7	I.C.	—	175	1500	1,5,7,9
SGR-1	0.35	2.90	8.0	83	0.100	3.0	6.7	I.C.	—	175	1500	1,5,7
5C22	2.00	3.20	16.0	325	0.200	6.3	11.6	I.C.	—	200	500	1,5,7,9
5949/5949A	6.00	6.30	25.0	500	0.500	15.0	22.0	3.0-5.5	6.0	550	200	1,5,7,9
F-198	6.00	6.30	25.0	500	0.500	15.0	22.0	3.0-5.5	6.0	550	200	1,5,7,9
F-154	7.50	7.6	30.0	500	0.500	15.0	22.0	3.0-5.5	6.0	550	200	1,5,7,9
F-133/CX1140	12.00	9.0	25.0	2000	1.25	35.0	22.0	I.C.	—	200	800	1,5,7,8
5948/5948A	12.00	9.00	25.0	1000	1.000	30.0	33.0	2.5-5.5	8.0	700	200	1,6,9
F-182	12.00	9.00	25.0	1000	1.0	30.0	33.0	2.5-5.5	8.0	700	200	1,6,8
F-183/CX1159	16.00	14.0	33.0	2000	1.25	35.0	22.0	I.C.	—	200	800	1,5,7,8,16

PHOTO SCALE
2"



Crowbar Thyratrons

ITT Tube Type	epy KV		MAX. PEAK CURRENT (ib)		MAX. S.C. CURRENT (Adc)			Ib Adc	HEATERS		
	Min	Max	FILTER DISCHARGE TIME		RECTIFIER DISCHARGE TIME				Cathode	Reservoir	
			Amperes	Coulombs	100 msec	50 msec	30 msec		(6.3V) If Aac	Eres Vac	Ires Aac
Glass Envelope											
7603	3	10	200	0.1	5	10	25	0.1	7	I.C.	—
8329	5	16	500	0.3	12	25	45	0.2	12	I.C.	—
7590	5	25	1000	0.8	25	50	85	0.5	22	2.5-5.5	5
7559	5	25	1500	1.0	50	100	170	1.0	30	2.5-5.5	5
7605	5	30	3000	1.2	90	180	300	2.5	30	2.5-5.5	5
Ceramic/Metal Envelope											
KU-471	0.5	20	250	0.2	5	10	20	0.2	5.5	6.3	1.5
KU-472	0.5	20	500	0.3	10	20	40	0.5	6	6.3	1.5
F-147	1.0	25	750	0.4	12	24	40	0.5	11.5	I.C.	—
KU-473	5	30	2000	1.0	50	100	200	2.0	14	6.3	4.0
KU-474	5	30	3000	1.2	100	200	300	2.5	28	4.5	8.0

Hydrogen Diodes

ITT Tube Type	PULSE DIODE				FAULT CURRENT	HEATERS			
	epx KV	Ib A	Ip Arms	Ib Adc	0.1 Sec. Max. Ib a	Ef Vac	If Aac	Eres Vac	Ires Aac
Glass Envelope									
8264/KU-52	18	100	6	0.2	300	5.0	11.5	5.0	4.0
7178/KU-53	20	500	15	0.5	750	5.0	22	5.0	5.0
Ceramic/Metal Envelope									
8274/KU-92	20	300	6	0.2	500	5.0	7	4.0-5.0	1.5
8376/KU-93A	33	750	20	1.0	1500	5.0	15	4.0-5.0	3
8276/KU-94	33	2000	60	2.0	2500	5.0	28	4.0-5.0	8

FEATURES/NOTES

1. Triode, Single (1) voltage holdoff gap.
2. Gradient Grid, Two (2) voltage holdoff gaps
3. Double gradient grid, three (3) voltage holdoff gaps.
4. Triple gradient grid, four (4) voltage holdoff gaps.
5. Base pin connections for plug-in socket application.
6. Cathode mounting flange; flying leads or terminals.
7. Reservoir connected internally across cathode heater.
8. Auxiliary (preionization) electrode type.
9. Qualified to military specification.
10. Low duty application.
11. High pulse repetition rate application.
12. Integral maximum safe anode temperature indicator.
13. Integral anode cooling chamber.
14. Reduced inductance, designed for dielectric immersion.
15. MT-4 mounting socket arrangement.
16. Deuterium gas fill.
17. Large volume reservoir.

ABBREVIATIONS and SYMBOLS

A	— Amperes (may be either ac rms or dc)	MW	— Megawatts
a	— Amperes (peak value)	Pb	— Plate dissipation factor (epy x prr x ib)
Aac	— ac amperes (rms)	rms	— Root mean square
Adc	— dc amperes	V	— Volts (may be either ac rms or dc)
epx	— Peak plate inverse voltage	v	— Volts, peak value
epy	— Peak forward anode voltage	Vac	— ac volts (rms)
Eres	— Reservoir voltage	Vdc	— dc volts
Ib	— dc anode current	Po	— Peak switching power = $\frac{epy \times ib}{2}$
ib	— Peak value of anode current. When used in reference to pulses, the maximum peak current excluding spike		
If	— Filament or heater current		
Ip	— rms value of anode current = $\sqrt{ib \times ib}$		
Ires	— Reservoir current		
KV	— Peak kilovolts		
KW	— Kilowatts		
ms	— Milliseconds		

ITT Capability

A leader in the special-purpose electron tube industry, ITT Electron Tube Division is the world's largest producer of hydrogen thyratrons. A prime supplier to both commercial and military markets, ITT provides hydrogen thyratrons for extensive use as system switches in high-technology radar, linear particle accelerators, and high-energy laser machines.

Specially designed features of ITT Hydrogen Thyratrons include gradient grid construction, auxiliary preionization, integral water cooling chambers, reduced inductance design, and deuterium gas fill for outstanding tube reliability and long life while providing minimum cost per operating hour.

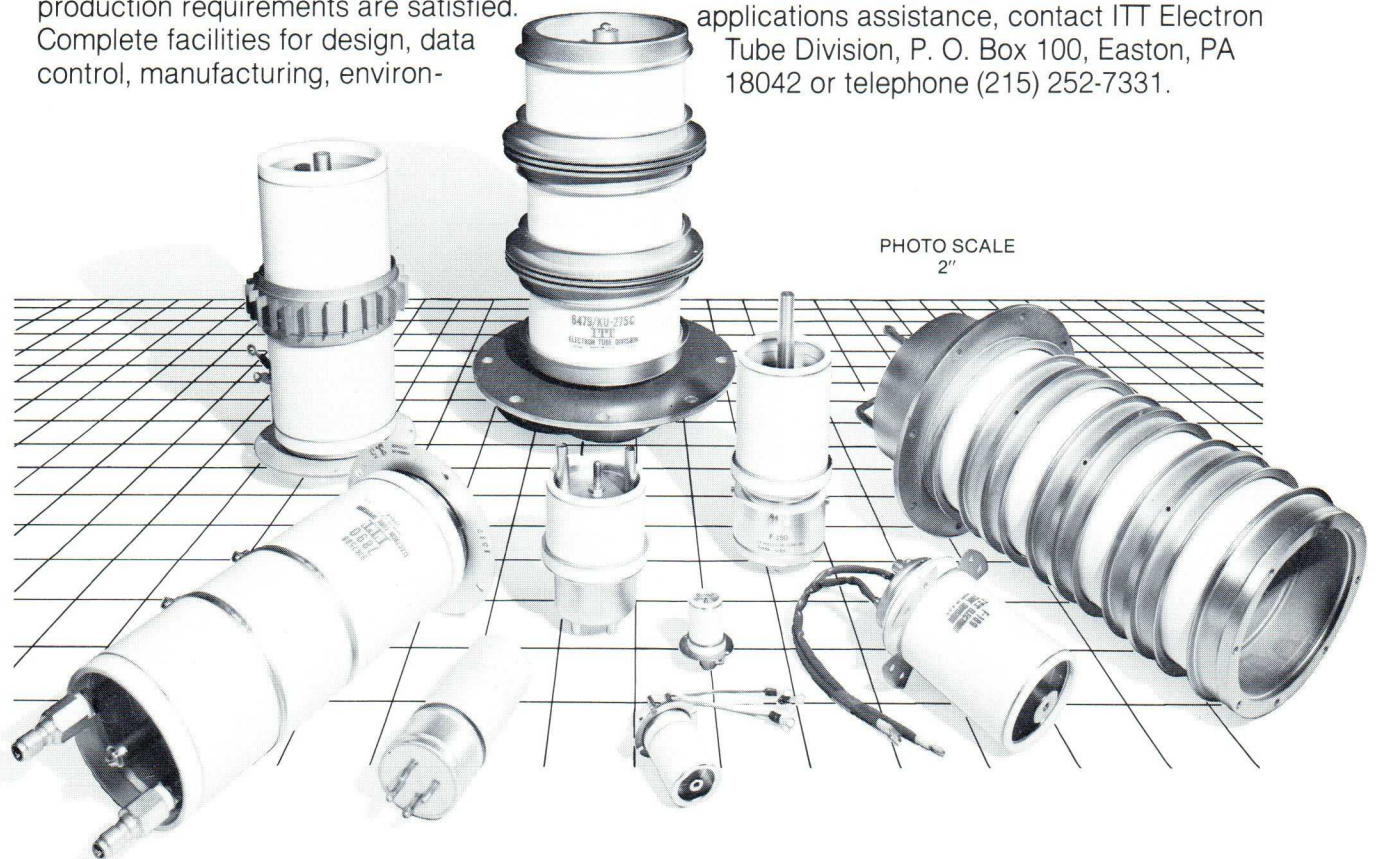
The Division's modern facilities are located in Easton, Pennsylvania, where research, prototype and high-volume production requirements are satisfied. Complete facilities for design, data control, manufacturing, environ-

mental testing and quality control are maintained to meet present and expanding customer requirements. Quality control practices meet stringent MIL-I-45208 specifications and calibration system MIL-C-45662.

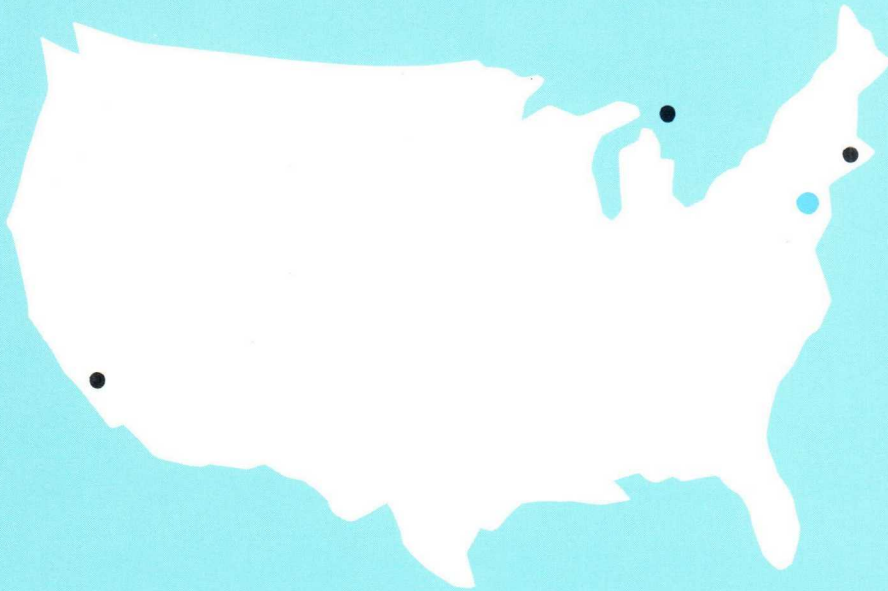
ITT Electron Tube Division's commitment of engineering and manufacturing resources offers an unlimited range of custom tube design and production services, uniquely qualified in providing optimum power gaseous switch devices.

Product offerings are not limited to the devices listed herein. ITT welcomes the opportunity to discuss your specific needs. Let ITT provide the engineering expertise in solving your development problem. Then, let ITT's high volume production facilities supply your production requirements.

For additional information and applications assistance, contact ITT Electron Tube Division, P. O. Box 100, Easton, PA 18042 or telephone (215) 252-7331.



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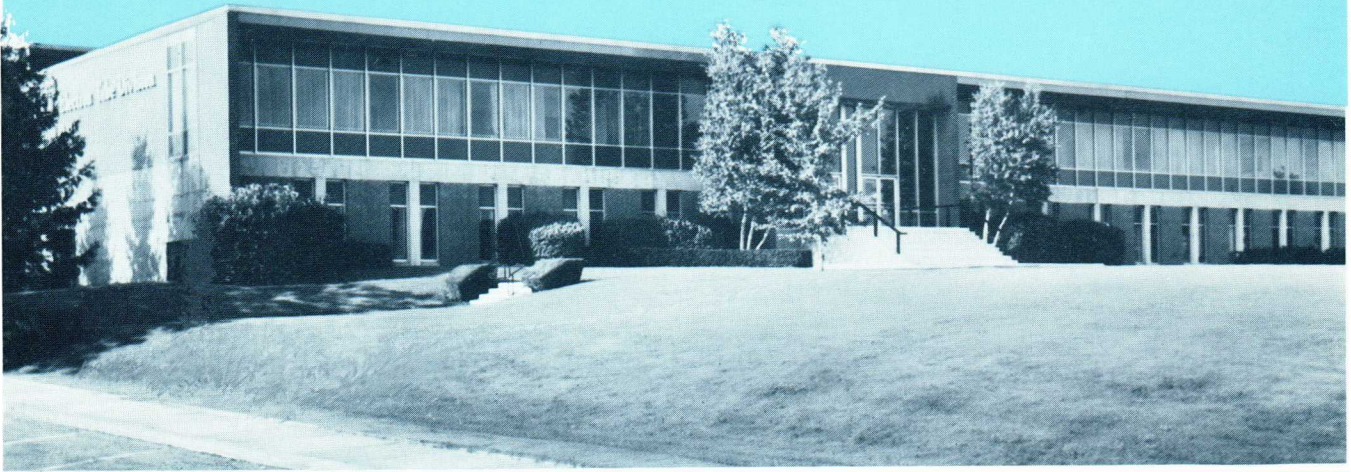
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