

Traveling-Wave Tubes

- ∞ COUPLED CAVITY
- ∞ HELIX
- ∞ MINIATURE
- ∞ MILLIMETER-WAVE
- ∞ RING-BAR



Together, We Can Go Farther.

TRAVELING-WAVE TUBES (TWTs)

OVERVIEW

Stellant has delivered over 30,000+ Traveling-Wave Tubes (TWTs) for various defense missions as the leading domestic supplier of TWTs. For over 60 years Stellant has been pushing the boundaries of physics to detect, protect and connect people through exceptional technology designed to last in the most harsh environments and sometimes for decades. At our sites in Torrance, CA and Williamsport, PA, scientists, engineers, technicians and operators share unrivalled knowledge and objectives, ensuring Stellant is powering a safer, more aware and connected world—with our tubes!

COUPLED CAVITY

Our Coupled Cavity TWTs are primarily used in ground-based or airborne radar applications and available at power levels up to 150 KW peak, 5KW average, over the frequency range from C- to Q-Band.

Model #	Frequency Range (GHz)	Output Power, Peak, Sat or Rated CW (W)	Sat. Gain (dB)	Cathode Voltage (-kV)	Cathode Current (-mA)	Cooling	C.W. / Max Duty (%)
L6060	9.2-10.2	60 kW	45	-34.5	7.6	Liquid	3.5
L5906-52	9.35 to 10.15	70	58	33	7500	Air	1.2
L5755-50	9.37 to 9.99	70	45	26	5800	-	0.4
L5810	9.5-10	15	55	-25	4		1.25
L5844-50	9.7 - 9.9	20.0 kW	60	23	4500	Air	1.5
L5652	9.8-10.3	40	60	-35	6	Liquid	3.5
L5649	16-17	50	60	-37	6	Air	0.3



HELIX AND RING-LOOP

We are an industry leader in the design and manufacture of high-powered pulsed, CW Helix and Ring-Loop TWTs for radar, ECM and missile applications. Helix TWTs are used in ECM systems, missile data links and seekers, as well as for medium-range applications. These TWTs operate in the standard bands over the 2 to 18 GHz frequency spectrum.

Model #	Frequency Range (GHz)	Output Power, Peak, Sat or Rated CW (W)	Sat. Gain (dB)	Cathode Voltage (-kV)	Cathode Current (-mA)	C.W. / Max Duty (%)
L2086-99	1.8 to 3.6	500	30	5.6	770	
L5714-50	2.0 to 2.6	20000	45	20	5200	
L5894	5.85 to 6.425	170	52.5			
L5843-50	7.0 to 16.5	300	48	6.35	735	
L6113-50	8.0 to 10.0	1000	31	-7.5	1000	
L5850	8.5 to 10.5	2000	60	11	1400	
L6028-50	8.7 to 9.4	8000	60	15	2600	
L6120-01	26.0 to 36.0	100		8.5	140	0.04
L6122-03	30.0 to 36.0	50		7.1	110	0.06
L6112	40.0 to 46.0	40		7.6	110	125



MINIATURE

We have a complete line of miniature TWTs, covering multi-octave bandwidths over the 2 to 46 GHz frequency range, with output powers of up to 200 W. The tubes have multi-stage collectors for high-efficiency with a rugged, thermal design and offer long life through superior gun optics and beam magnetics.



Model #	Frequency Range (GHz)	Output Power, Peak, Sat or Rated CW (W)	S.S. Gain (dB)	Cathode Voltage (-kV)	Cathode Current (-mA)	Collector Voltages (kV)
L6115	2 - 6	65	21	-2.67	180	2.02/1.52/0.81
L6052	2 - 8	80	30	-2.63	200	1.82/1.33/0.74
L6066	4.5 - 18	35	30	-4.55	180	2.40/1.55
L6072	6 - 18	40	50	-3.9	135	1.9
L6152	6 - 18	200	30	-5.85	290	3.51/2.34/1.36
L5990	10 - 10.5	130	27	-4.1	165	2.25
L6108	13.75 - 14.5	90	38	-5.02	120	2.45/1.55
L6120	29 - 38	90	25	-8.5	120	3.40/2.12/0.85
L6122	30 - 36	50	30	-7.1	110	2.80/2.10/1.40
L6112	40 - 46	40	30	-7.6	110	2.80/2.10/1.40

MILLIMETER-WAVE (MMW)

Stellant manufactures a variety of mmW tubes that cover standard waveguide bandwidths while others are optimized for smaller bands requirement. Our mmW TWTs are rugged, lightweight devices for military airborne or ground-based systems.



Model #	Frequency Range (GHz)	Output Power, Peak, Sat or Rated CW (W)	Sat. Gain (dB)	Cathode Voltage (-kV)	Cathode Current (-mA)	C.W. / Max Duty (%)
18820H	12.7 to 14.8	2100	53	17.7	590	CW?
18815H	17.3 to 18.4	1600	59	17.3	480	CW?
8928H-1	18 to 26.5	200	50	14	108	CW
8927H	18 to 40	120 to 270	50	12.4	155	CW
8921HP	27.5 to 31.0	275	51	13.7	97	CW
8923H	30 to 31	350		15.9		CW
	43.5 to 45.5	200		14.2		
8925H	43.5 to 45.5	186	53	14.6	107	CW
8936H	47 to 51.4	150	56	16.5		CW

HIGH POWER RING-BAR

Stellant offers a variety of high-power Ring-Bar TWTs for low frequency, long range radars. They are available in UHF, L Band, and S-band frequencies with output power >200 kW peak.



Model #	Frequency Range (GHz)	Minimum Peak Output Power (kW)	Typical L.S. Gain (dB)	Cathode Voltage (kV)	Cathode Current (A)	Max Duty (%)
L4920	0.420 - 0.450	175 kW Pk	40	40	14	6.0
L4922	1.200 - 1.400	140 kW Pk	55	40	14	3.6
L4216	1.315 - 1.515	175 kW Pk	56	41	15	6.0

Together, We Can Go Farther!

Stellant Systems is a partner for civil, military, and commercial organizations whose missions seek to ensure a safe, aware, and connected world.

We are a premier manufacturer of critical spectrum and power amplification systems for defense, space, medical/scientific and industrial customers worldwide.

History of Innovation

Our business started as Charles Litton's Engineering Laboratories in 1932 (Redwood City, CA) and Howard Hughes Microwave Tube division in 1959 (Culver City, CA).

Along the way, there have been multiple acquisitions and consolidation of divisions that operated under larger organizations such as Sylvania, Loral, GM Hughes, Sperry, GE, RCA, Raytheon, Boeing & L3Harris—to name a few.

This heritage is preserved and continues today as Stellant Systems.



Our Business

- * Approximately 900 employees
- * 3 manufacturing facilities — all ISO 9001:2015, AS9100:2016, DCMA certified
- * ONLY Vertically Integrated Space TWTA supplier in the world
- * ONLY manufacturer of space-qualified TWTs in the USA



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