Stellant

Traveling Wave Tubes (TWT)

Coupled Cavity • Helix • Miniature • Millimeter-Wave • Ring-Bar

F-16 image courtesy of Jamie Hunter/Avia.com.

Together We Can Go Farther.

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 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, 5 kW 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	CW / Max Duty (%)
L6060	9.2 - 10.2	60 kW	45	-34.5	7.6	Liquid	3.5
L5906-52	9.35 - 10.15	70	58	33	7500	Air	1.2
L5755-50	9.37 - 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 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

Our high-powered CW Helix and Ring-Loop TWTs deliver critical performance for radar, ECM systems, and missile applications, supporting secure data links and precision seekers across the 2–18 GHz spectrum.

Model #	Frequency Range (GHz)	Output Power, Sat or Rated CW (W)	Sat. Gain (dB)	Cathode Voltage (-kV)	Cathode Current (-mA)	CW / Max Duty (%)
L2086-99	1.8 - 3.6	500	30	5.6	770	-
L5714-50	2.0 - 2.6	20000	45	20	5200	-
L5894	5.85 - 6.425	170	52.5	-	-	-
L5843-50	7.0 - 16.5	300	48	6.35	735	-
L6113-50	8 - 10	1000	31	-7.5	1000	-
L5850	8.5 - 10.5	2000	60	11	1400	-
L6028-50	8.7 - 9.4	8000	60	15	2600	-
L6120-01	26 - 36	100	-	8.5	140	0.04
L6122-03	30 - 36	50	-	7.1	110	0.06
L6112	40 - 46	40	-	7.6	110	125

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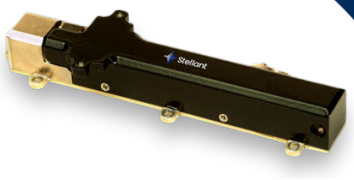
COUPLED CAVITY



We have a complete line of miniature TWTs, covering multi-octave bandwidths over the 2-46 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 magnets.

Model #	Frequency Range (GHz)	Output Power, 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	2.80/2.10/40
L6112	40-46	40	30	-7.6	110	2.80/2.10/40

MILLIMETER-WAVE (MMW)

We manufacture 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, Sat or Rated CW (W)	S.S. Gain (dB)	Cathode Voltage (-kV)	Cathode Current (-mA)	CW/Max Duty (%)
18820H	12.7-14.8	2100	53	17.7	590	-
18815H	17.3-18.4	1600	59	17.3	480	-
8928H-1	18-26.5	200	50	14	108	CW
8927H	18-40	120-720	50	12.4	155	CW
8921HP	27.5-31	275	51	13.7	97	CW
8923H	30-31 / 43.5-45.5	350 / 200	-	15.9 / 14.2	-	CW
8925H	43.5-45.5	186	53	14.6	107	CW
8936H	47-51.4	150	56	16.5	-	CW

HIGH POWER RING-BAR

We offer 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 LSGain (dB)	Cathode Voltage (kV)	Cathode Current (A)	Max Duty (%)
L4920	0.42-0.45	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

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Stellant

Stellant Systems is a premier manufacturer of critical spectrum and RF power amplification products to the space, defense, medical, scientific and industrial markets for both domestic and international customers.

HISTORY OF OUR INNOVATION

Stellant Systems carries forward a legacy that began with Charles Litton's Engineering Laboratories (1932, Redwood City, CA) and Howard Hughes' Electron Tube Laboratory (1959, Culver City, CA). Through decades of acquisitions and consolidations — including Sylvania, Loral, GM Hughes, Sperry, GE, RCA, Boeing, Raytheon, Northrop Grumman, L3Harris, and Comtech — this heritage remains the foundation of our innovation today.

OUR BUSINESS

- Approximately 1100 employees
- 4 manufacturing facilities
- Qualified to ISO 9001 and AS9100
- DCMA Certified

FACILITIES

Torrance, CA (Headquarters)

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ISO 9001:2015 & AS9100:2016

AS9100D CERTIFIED ISO 9001

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