

Israel Missile Design Characteristics

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The following tables provide information based on the best available open source estimates of Israel's missile program, compiled by the James Martin Center for Nonproliferation Studies for the Nuclear Threat Initiative. See also, the accompanying [Israel Missile Overview](#):

<http://www.nti.org/country-profiles/israel/delivery-systems/>.

Table 1 – Design Characteristics of Israel's Ballistic Missiles

	Other name	Length (m)	Diameter (m)	Payload (kg)	Range (km)	Accuracy – CEP (m)	Propellant	Status
Jericho-1 [1]	YA-1	13.40	0.8	450	500	1,000	Solid	Obsolete
Jericho-2 [2]	YA-3	14.0	1.56	1,000	1,500-3,500	n/k	Solid	Deployed
Jericho-3 [3]	YA-4	15.5	1.56	750	4,800-6,500	n/k	Solid	Development
LORA [4]		5.2	0.62	440-600	200	10	Solid	Deployed
EXTRA [5]		4.0	n/k	120	150	10	Solid	Development
Lance [6]	MGM-52	6.41	0.56	100	130	150	Liquid	Decommissioned

Table 2 – Design Characteristics of Israel's Cruise Missiles

	Other name	Length (m)	Diameter (m)	Payload (kg)	Range (km)	Accuracy – CEP (m)	Propulsion	Status
Popeye-1 [7]	Have Nap, AGM-142	4.82	0.53	350	80 (A/B/C/D) or 90 (E/F)	3 (A/B/C/D) or 1(E/F)	Solid	Deployed
Popeye-2 [8]	Have Lite	4.25	0.53	350	75	n/k	Solid	Not Deployed
Popeye Turbo [9]				895	200-350	n/k	Turbojet	Unknown
Gabriel Mk 2 [10]		3.42	0.34	180	35	n/k	Solid	Deployed
Gabriel Mk 3 [11]		3.85	0.34	150	35	n/k	Solid	Deployed
Gabriel Mk 4 LR [12]		4.7	.44	240	200	n/k	Solid	Deployed?
Delilah [13]	STAR-1	2.71	0.33	30	300	n/k	Turbojet	Deployed
Harpoon [14]		4.64	0.34	222	130	n/k	Solid	Deployed

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Table 3 – Design Characteristics of Israel’s Defensive Missiles

	Length (m)	Diameter (m)	Warhead	Guidance	Range (km)	Propulsion	Status
Tamir (Iron Dome) [15]	3.0	0.16	HE Fragmentation [16]	Inertial	18	Solid	Deployed
Stunner/David’s Sling (Magic Wand) [17]	n/k	n/k	KV [18]	n/k	n/k	Solid	Development
Arrow-2 [19]	6.95	0.8	HE Fragmentation	Inertial	100	Solid	Deployed
Arrow-3 [20]	5.6	0.55	KV [21]	Inertial	250	Solid	Development

Sources:

- [1] Duncan Lennox, ed., “Jericho 1/2/3 (YA-1/YA-3) (Israel), Offensive Weapons,” *Jane’s Strategic Weapon Systems*, Issue 50, (Surrey: Jane’s Information Group, January 2009), pp. 84-86.
- [2] Duncan Lennox, ed., “Jericho 1/2/3 (YA-1/YA-3) (Israel), Offensive Weapons,” *Jane’s Strategic Weapon Systems*, Issue 50, (Surrey: Jane’s Information Group, January 2009), pp. 84-86.
- [3] Duncan Lennox, ed., “Jericho 1/2/3 (YA-1/YA-3) (Israel), Offensive Weapons,” *Jane’s Strategic Weapon Systems*, Issue 50, (Surrey: Jane’s Information Group, January 2009), pp. 84-86.
- [4] Duncan Lennox, ed., “LORA (Israel), Offensive Weapons,” *Jane’s Strategic Weapon Systems*, Issue 50, (Surrey: Jane’s Information Group, January 2009), pp. 86.
- [5] Duncan Lennox, ed., “EXTRA (Israel), Offensive Weapons,” *Jane’s Strategic Weapon Systems*, Issue 50, (Surrey: Jane’s Information Group, January 2009), pp. 82.
- [6] Duncan Lennox, ed., “MGM-52 Lance (United States), Offensive Weapons,” *Jane’s Strategic Weapon Systems*, Issue 50, (Surrey: Jane’s Information Group, January 2009), pp. 198-199.
- [7] Duncan Lennox, ed., “AGM-142 Popeye ½ (Have Nap/Have Lite/Raptor/Crystal Maze) (Israel), Offensive Weapons,” *Jane’s Strategic Weapon Systems*, Issue 50, (Surrey: Jane’s Information Group, January 2009), pp. 80-82.
- [8] While *Jane’s* lists the system as operational, a knowledgeable Israeli source interviewed by CNS believes the system is not deployed. *Jane’s* info: Duncan Lennox, ed., “AGM-142 Popeye ½ (Have Nap/Have Lite/Raptor/Crystal Maze) (Israel), Offensive Weapons,” *Jane’s Strategic Weapon Systems*, Issue 50, (Surrey: Jane’s Information Group, January 2009), pp. 80-82.
- [9] Andrew Feikert, “Missile Survey: Ballistic and Cruise Missiles of Selected Foreign Countries,” *CRS Report for Congress RL30427* (Washington, DC: The Library of Congress, 26 July 2005), p. 36.

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- [10] Duncan Lennox, ed., "Gabriel (Israel), Offensive Weapons," *Jane's Strategic Weapon Systems*, Issue 50, (Surrey: Jane's Information Group, January 2009), pp. 82-84.
- [11] Duncan Lennox, ed., "Gabriel (Israel), Offensive Weapons," *Jane's Strategic Weapon Systems*, Issue 50, (Surrey: Jane's Information Group, January 2009), pp. 82-84.
- [12] Duncan Lennox, ed., "Gabriel (Israel), Offensive Weapons," *Jane's Strategic Weapon Systems*, Issue 50, (Surrey: Jane's Information Group, January 2009), pp. 82-84.
- [13] Duncan Lennox, ed., "Delilah Cruise Missile/STAR-1 (Israel), Offensive Weapons," *Jane's Strategic Weapon Systems*, Issue 50, (Surrey: Jane's Information Group, January 2009), pp. 82-84.
- [14] "Cruise Missiles: RGM-84," *Missilethreat.com*, accessed 12 May 2011, www.missilethreat.com
- [15] Alon Ben-David, "Iron Dome advances to meet Qassam threat," *Jane's Defence Security Report*, 18 March 2008, accessed 12 May 2011.
- [16] Tamir Eshel, "Israel Delays Deployment of Iron Dome," *Defense Update*, 10 November 2010, www.defence-update.net, accessed 13 May 2011.
- [17] Duncan Lennox, ed., "Magic Wand (David's Sling/Stunner) (Israel), Defensive Weapons," *Jane's Strategic Weapon Systems*, 14 January 2011, www.janes.com, accessed 12 May 2011; and Duncan Lennox, ed., "Spyder/Derby and Python 5 (Israel), Defensive Weapons," *Jane's Strategic Weapon Systems*, Issue 50, (Surrey: Jane's Information Group, January 2009), pp. 253-256.
- [18] Tamir Eshel, "David's Sling Short Range Missile Defense System Enters a New Stage," *Defense Update*, 28 September 2010, www.defence-update.net, accessed 13 May 2011.
- [19] Duncan Lennox, ed., "Arrow 2 (Israel), Defensive Weapons," *Jane's Strategic Weapon Systems*, Issue 50, (Surrey: Jane's Information Group, January 2009), pp. 253-256.
- [20] Duncan Lennox, ed., "Arrow 2 (Israel), Defensive Weapons," *Jane's Strategic Weapon Systems*, Issue 50, (Surrey: Jane's Information Group, January 2009), pp. 253-256.
- [21] Tamir Eshel, "David's Sling Short Range Missile Defense System Enters a New Stage," *Defense Update*, 28 September 2010, www.defence-update.net, accessed 13 May 2011.

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