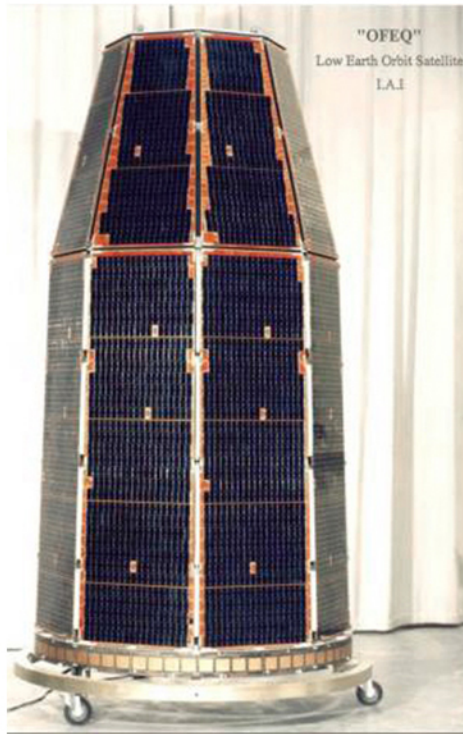


Ofeq-1



Israel's first step into space was a launch of a simple Ofeq-1 (ofeq means horizon in Hebrew) satellite on 19 September 1988, with the Israel Aircraft Industries (IAI) leading the effort as the prime contractor. The spacecraft was designed and built by IAI's MBT Division, and the satellite control center was established at MBT's facility in Yahud near Tel Aviv.

With that launch, Israel joined an exclusive club of countries - Russia, the United States, England, Japan, India, France and China - that have developed, produced and launched their own satellites.

The spin-stabilized (at 60 rpm) Ofeq-1 was deployed in a low-Earth orbit with perigee 248 km (154 miles) and apogee 1150 km (715 miles). Low orbit perigee resulted in large atmospheric drag, and the satellite reentered the atmosphere in four months on 14 January 1989.

It tested solar power generation, transmission and reception and verified the system's ability to withstand vacuum and weightless conditions. It also performed data collection on space environment conditions and Earth's magnetic field.

The Ofeq-1 spacecraft was an octagon with the lower- and upper-base diameters 1.3 m (4.3 ft) and 0.7 m (2.3 ft), respectively, and height 2.3 m (7.5 ft). The spacecraft total mass was 156 kg (344 lb), with the mass breakdown among the subsystems, as follows:

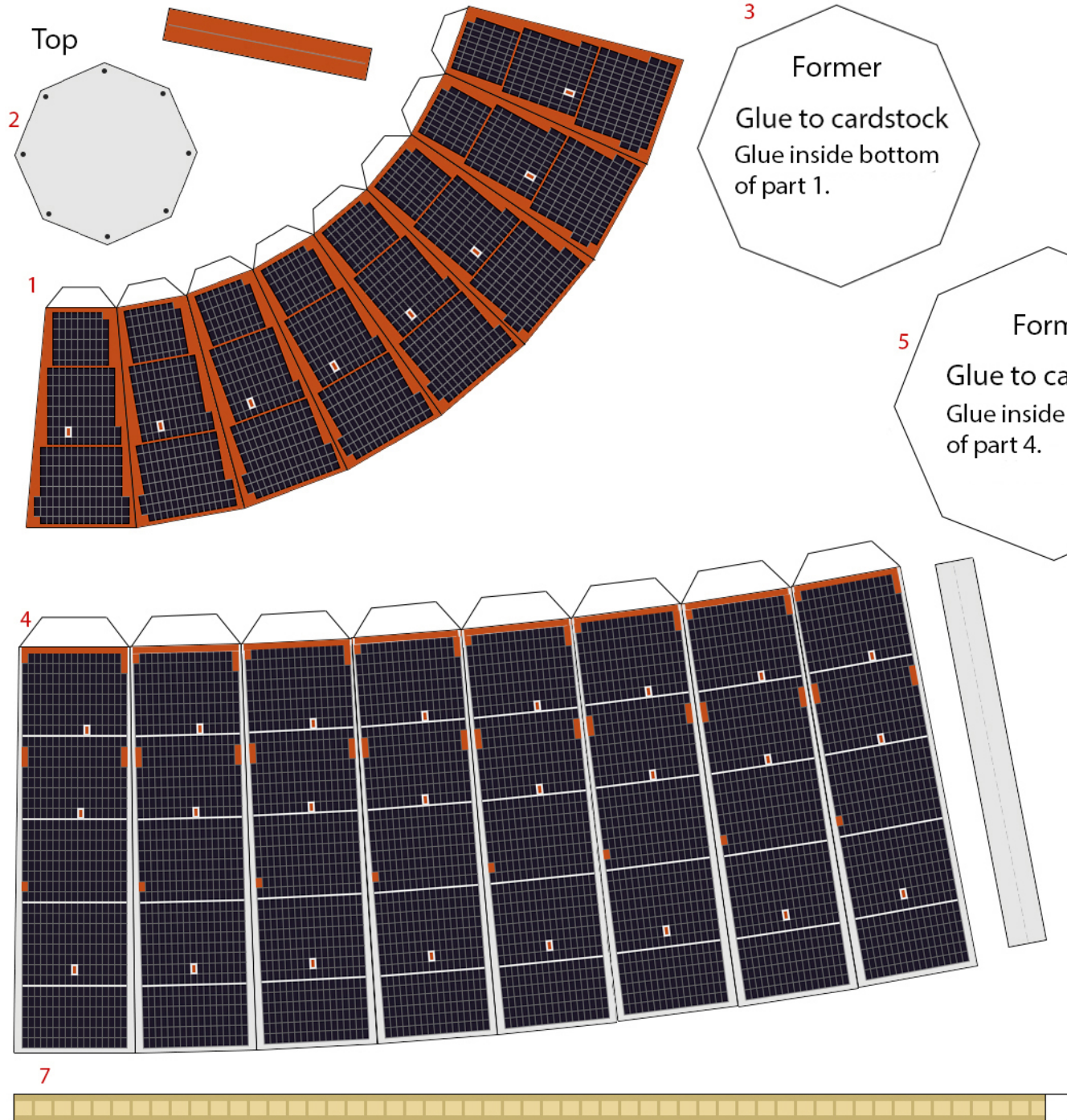
33 kg (73 lb) for structures, 58 kg (128 lb) for electric power, 5 kg (11 lb) for thermal control, 12 kg (26 lb) for communications, 7 kg (15 lb) for onboard computer, 32 kg (71 lb) for spacecraft instrumentation and balancing masses, and 9 kg (20 lb) for cabling. The body-mounted solar panels supported average power consumption of 53 W, and the onboard battery had capacity 7 A-h. The S-band communications system provided a 2.5-kbit/s transmission rate.

Shavit (Hebrew for "comet") is a space launch vehicle produced by Israel from 1982 onwards, to launch satellites into orbit. It was first launched on September 19, 1988 (carrying an Ofeq satellite payload).

Shavit rockets are launched from Palmachim Airbase by the Israel Space Agency into highly retrograde orbits over the Mediterranean Sea to prevent debris coming down in populated areas and also to avoid flying over nations hostile to Israel to the east; this results in a lower payload-to-orbit than east-directed launches would allow. The launcher consists of three stages powered by solid-fuel rocket motors, with an optional liquid-fuel fourth stage, and is manufactured by IAI.

Height 26.4 m (86.6 ft)
Diameter 1.35 m (4.43 ft)

Ofeq-1



3
Former
Glue to cardstock
Glue inside bottom
of part 1.

6
Top
Glue to top
of part 4.

5
Former
Glue to cardstock
Glue inside bottom
of part 4.

8 Bottom

9
TOP
Glue to cardstock
Fits inside of the
ring (Part 7).