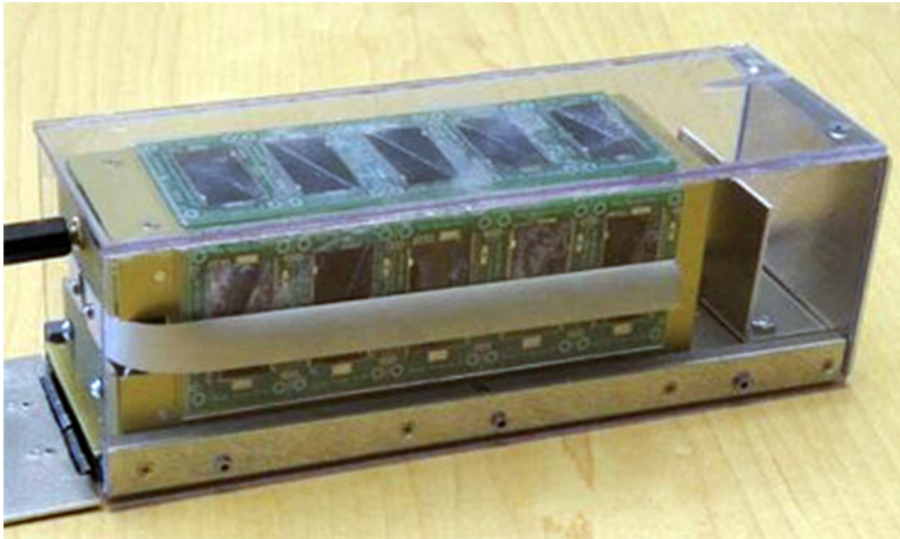


T-LogoQube (Eagle 1)



PocketQubes are pico-class satellites (mass between 0.1 and 1 kg) invented by Professor Robert J. Twiggs (Morehead State University) that are envisioned to fly in constellations and perform a variety of functions from communications to Earth remote sensing and space research.

A PocketQube is a type of miniaturized satellite for space research that usually has a size of 5 cm cubed, has a mass of no more than 180 grams, and typically uses commercial off-the-shelf components for its electronics.

Beginning in 2009, Morehead State University (MSU) and Kentucky Space developed the PocketQube specifications to help universities worldwide to perform space science and exploration. While the bulk of development comes from academia, several companies build PocketQube, such as PocketQube Shop. PocketQube projects have even been the subject of Kickstarter campaigns. The PocketQube format is also popular with amateur radio satellite builders.

The PocketQube specification accomplishes several high-level goals. Simplification makes it possible to design and produce a workable satellite at low cost. Encapsulation of the launcher-payload interface takes away the prohibitive amount of managerial work that would previously be required for mating a piggyback satellite with its launcher. Unification among payloads and launchers enables quick exchanges of payloads and utilization of launch opportunities on short notice. PocketQube is similar to Cubesat in this regard.

First proposed in 2009 as a solution to the increasing costs of Cubesat launches to Low Earth Orbit, the world's first 4 PocketQube Satellites were launched on 21 November 2013 aboard the Italian UniSat 5 microsatellite. They were The Wren, T-Logoqube (Eagle-1), \$50Sat (eagle2) and Qubescout-S1.

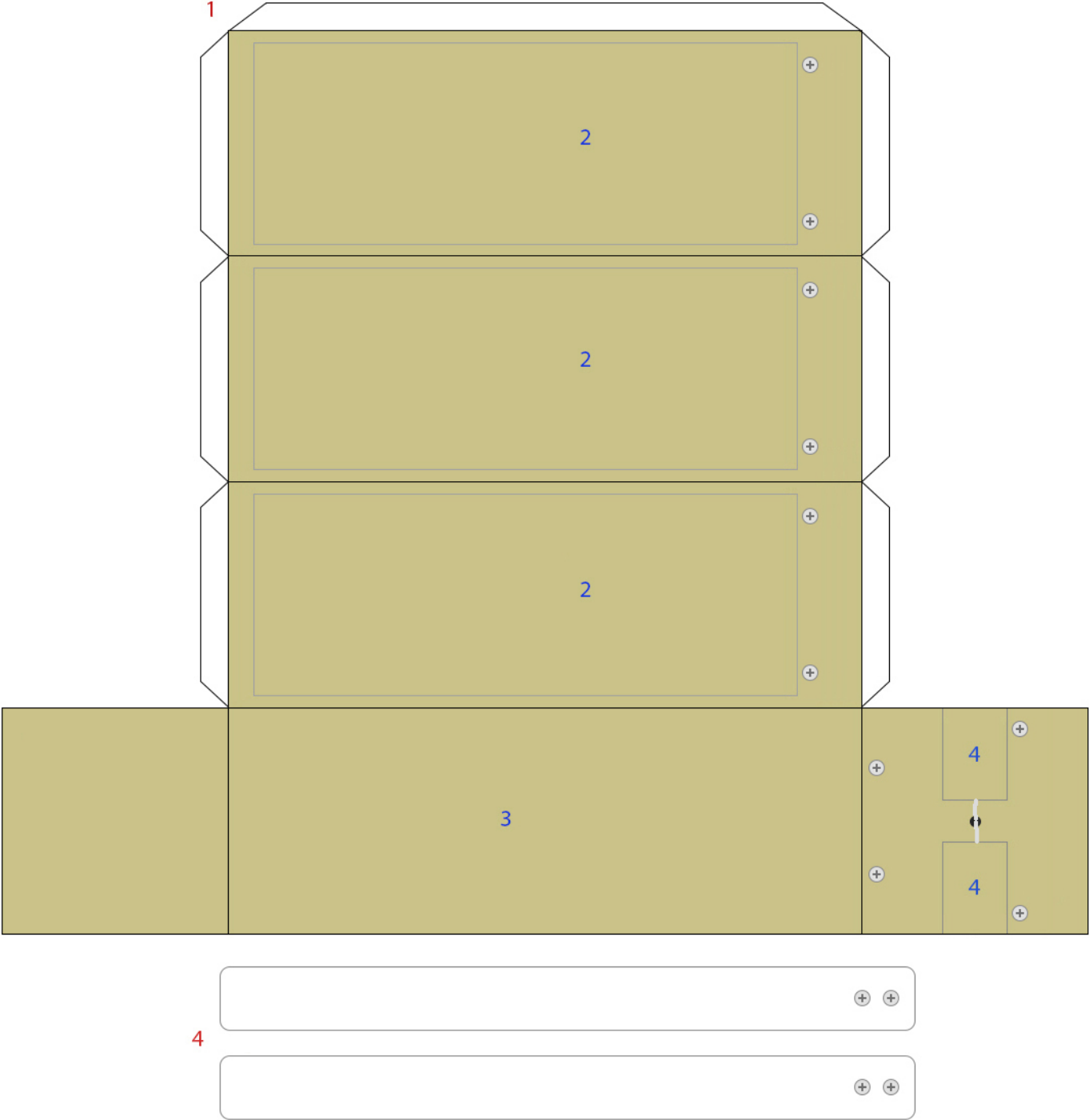
This model you're building:

T-LogoQube the one-pound satellite, measuring 5 cm x 5 cm x 15 cm, thundered into orbit on Nov. 21 from Dombarovsky Cosmodrome at Yasny, Russia to measure the magnetic field of the earth. It uses on-board magnetic torque coils to control its orientation and crosses Sonoma County at noon and midnight every 24 hours. The satellite transmits magnetic field and other data to ground stations at Dr. Garrett Jernigan's Little H-Bar Ranch in Petaluma, Calif. and the Space Science Center in Morehead, Kentucky.

The first data packets were received and decoded using the Little H-Bar Ranch ground system on Nov. 23. Commands were successfully sent back to T-LogoQube the next day from the radio transmitter at the ranch. Prior to launch, T-LogoQube was known by several other names: "Eagle-1", "BeakerSat-2" and "MagPocketQube." It was renamed after launch, a common tradition for successfully operating satellites. The "T" in T-LogoQube stands for "tiny". The "Logo" in T-LogoQube refers to the Logo programming language, which has been used for the first time in orbit.

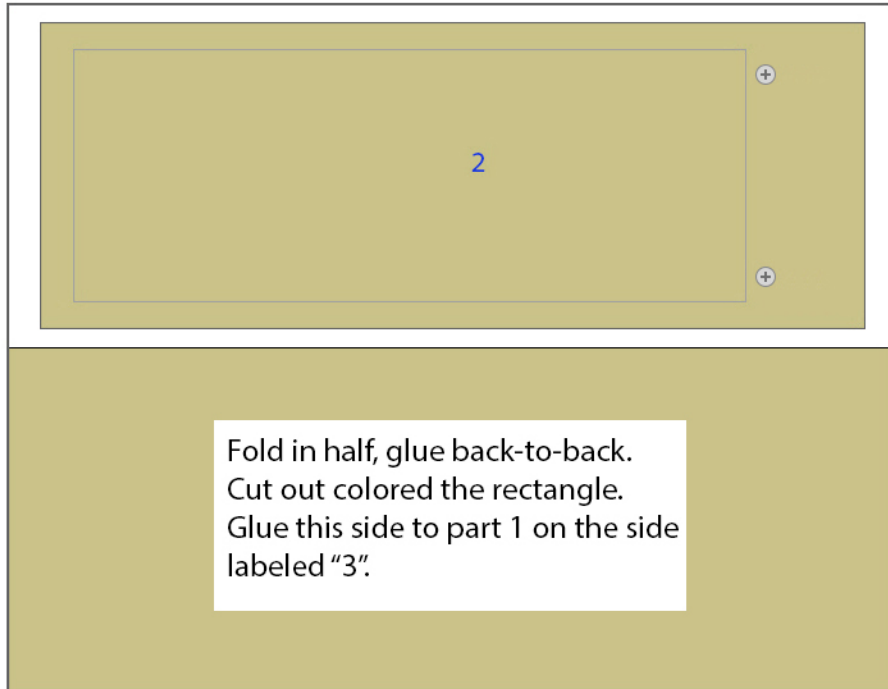


T-LogoQube (Eagle 1)

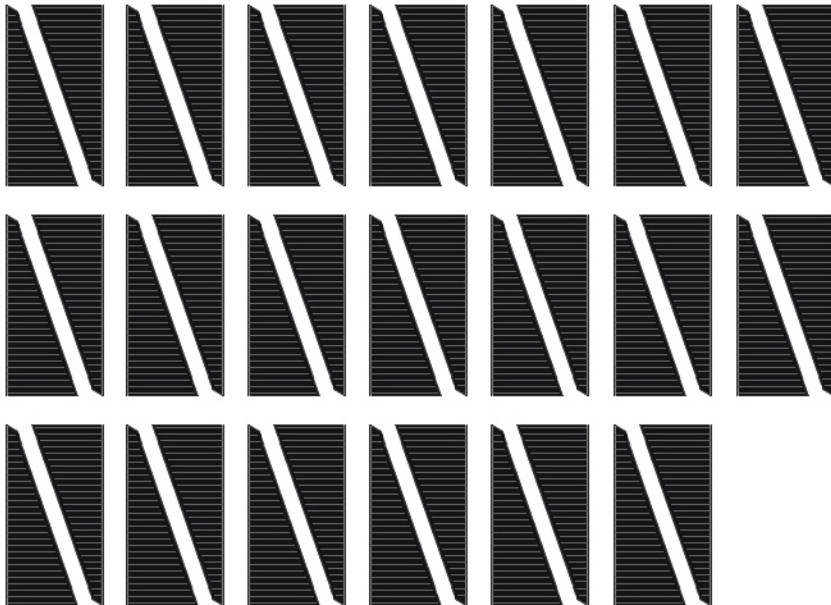


T-LogoQube (Eagle 1)

3



5



2

Glue these to two layers of cardstock

