

HITSat



HIT-SAT is an CubeSat Satellite developed by the "Hokkaido Cube Sat Development Team" which is a group of university staff and general engineers who are interested in satellite development in Hokkaido. On September 23, 2006, HITSat was launched as a sub payload of the solar observation satellite "SOLAR-B" on the MV rocket No. 7 of JAXA (Japan Aerospace Exploration Agency) into Earth orbit. The amateur radio station installed in HIT - SAT is tracking control operation by ground station in Hokkaido Institute of Technology, "Hokkaido Cube Sat Development Amateur Radio Club", an associate office of amateur radio.

The main objective of HIT-SAT development is that researchers, students and engineers who are gathering for Hokkaido satellite development actually participate in the satellite launch, so that they can accumulate actual space development experience in a short period of time.

After the main satellite SOLAR - B is released, HIT - SAT is injected from the rocket into space by the separation mechanism.

HIT-Sat has a mass of about 3 kg and a side length of 12 cm (not a standard CubeSat). The spacecraft is spin-stabilized, pointing into the sun direction.

The spacecraft structure consists of four angle bars, six surface panels and two inner panels (use of aluminum alloys, AL2219 and AL5052).

The EPS (Electric Power Subsystem) consists of six body-mounted solar panels, a primary battery (Li), secondary batteries (Li-polymer) and a H8/3048F microprocessor.

The primary battery is used in particular for initial attitude acquisition. About 0.5 W of average power is needed for spacecraft operations.

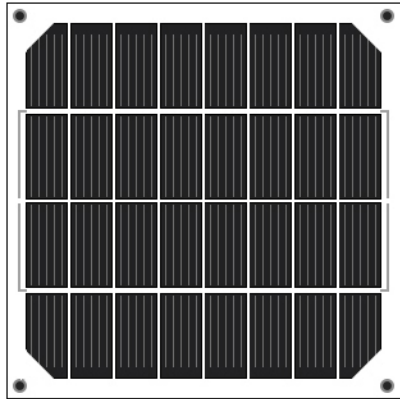
Size: 12 cm x 12 cm x 12 cm

Monopole antenna: 25 cm

Dipole antenna: 16 cm

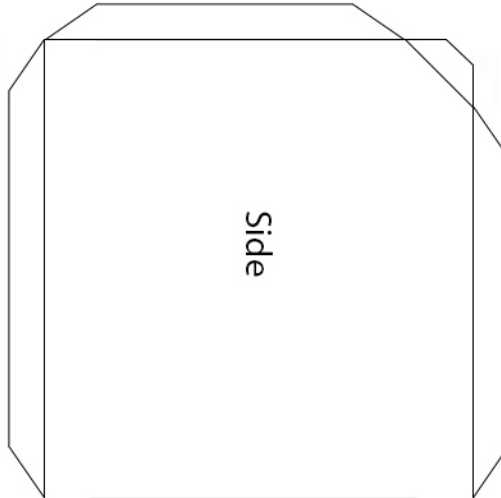
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FRONT

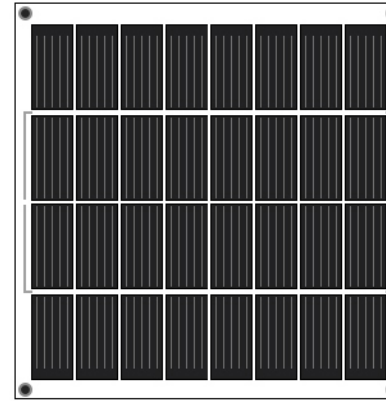


1

Side



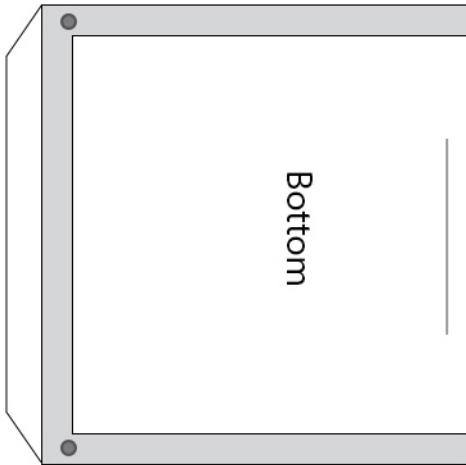
TOP



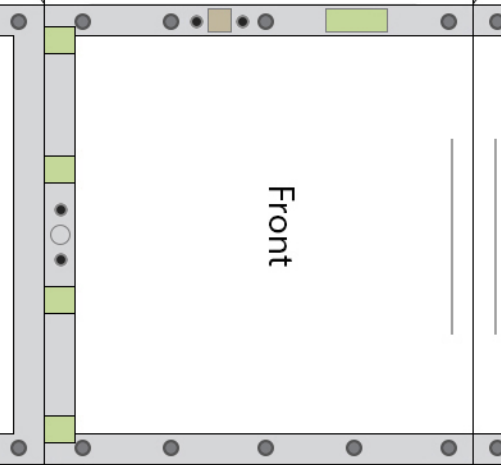
Need a tooth pic cut at 5mm long, colored light grey or silver.



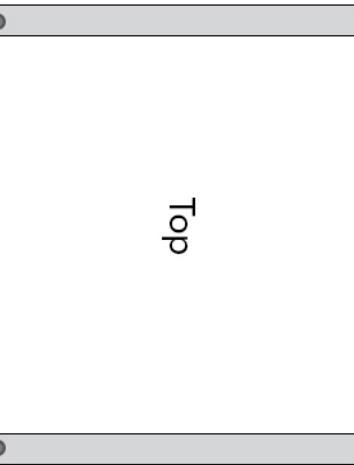
Bottom



Front



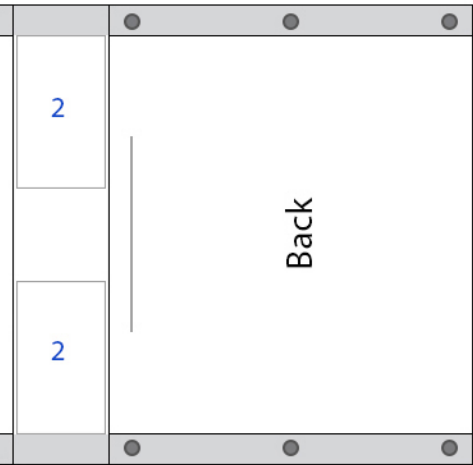
Top



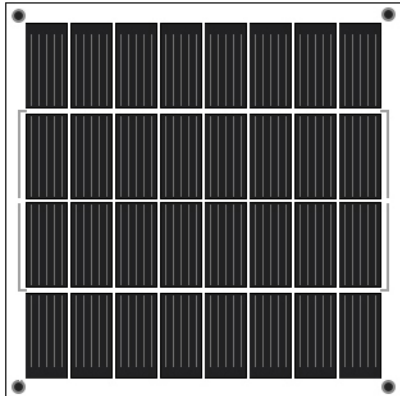
2

2

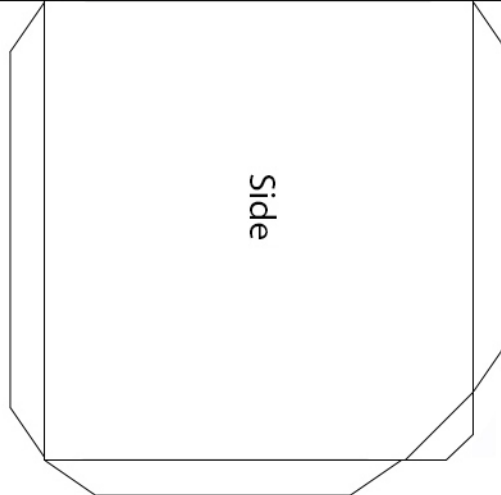
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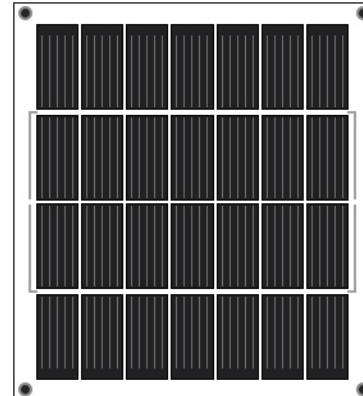
BOTTOM



Side

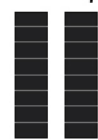
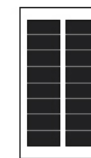


BACK



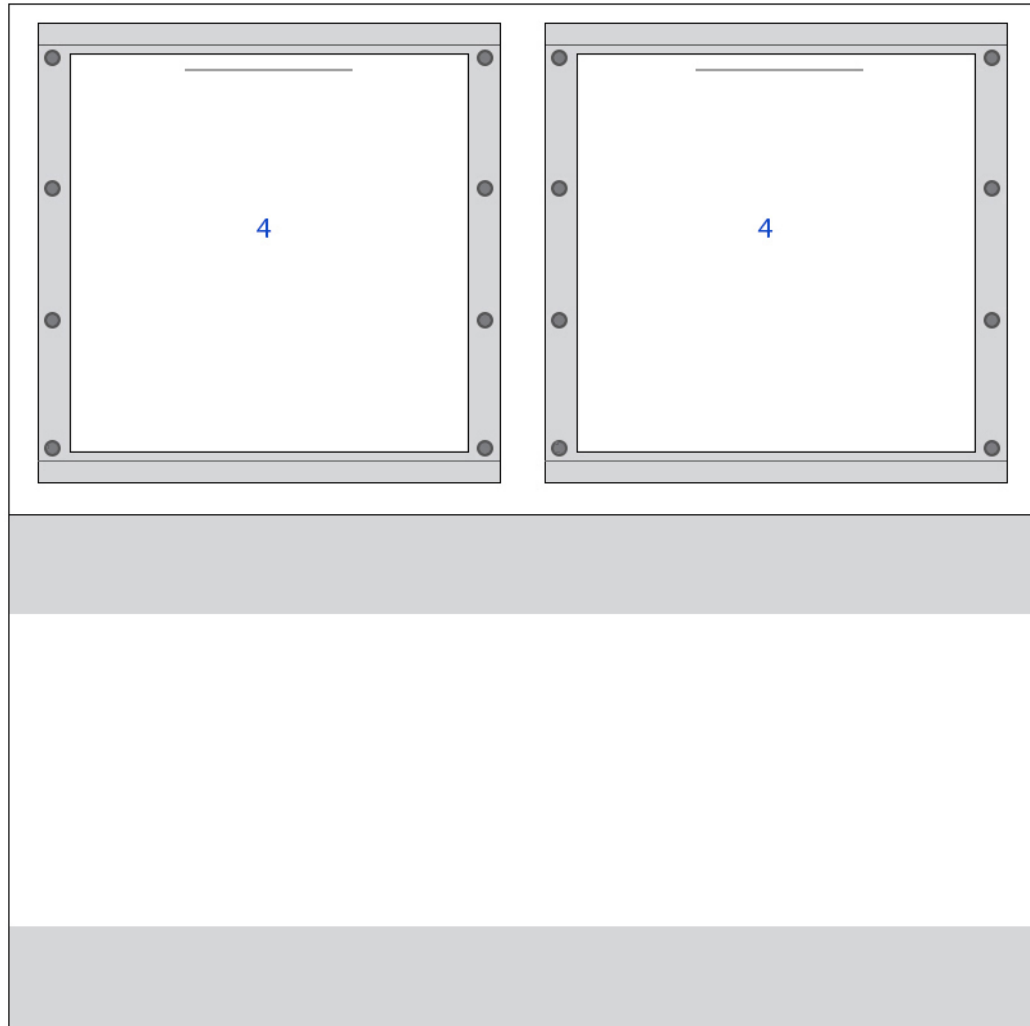
Optional detail parts for part 2.

2

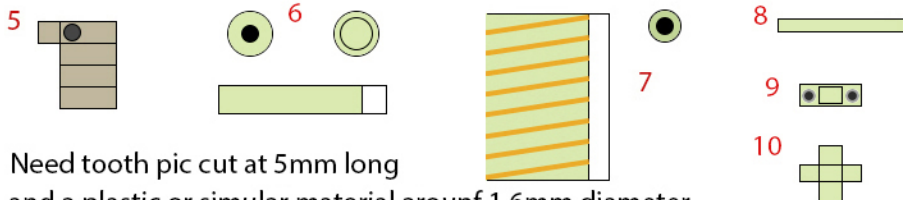


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SIDE panels - Score and fold back-to-back at the middle for color on both sides.

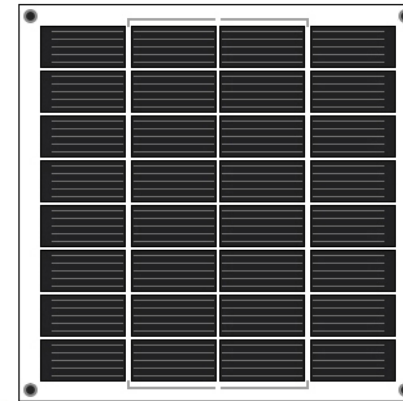


Optional Detail part for part 7

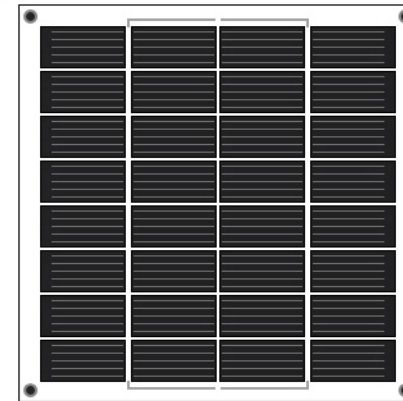


Need tooth pic cut at 5mm long
and a plastic or simular material aroundf 1.6mm diameter
cut at 115mm long, colored silver or light grey.

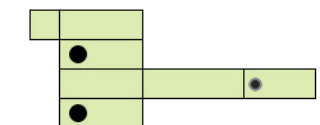
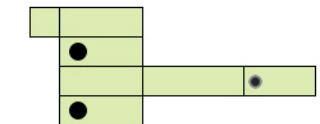
3 Glue to cardstock



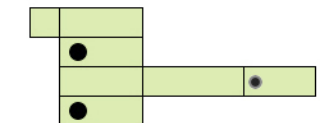
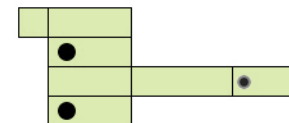
4



NOTES FOR Part 11
Poke holes on the black dots
before cutting and folding.
Need two plastic or simular
material around 1.6mm diameter
cut at 8cm (80mm) long colored
light grey or silver.
These will slide through the
holes when mounted onto the
spacecraft.

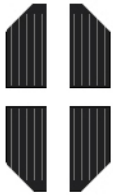


11



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Optional Detail parts



Cut out each strip, cut on the thin WHITE LINES to cut out individual solar cells.
Should get 90 cells.

Glue each to the matching graphics on each of the solar panels.
Each group is a little different.



Cut out each strip, cut on the thin WHITE LINES to cut out individual solar cells.
Should get 94 cells.



Spares