

Lightcube Packet Definition

Rev A - 25 April 2023

Mission description at lightcube.space
Transponder frequency and modulation details at
interplanetarylab.github.io/missions/lightcube

The satellite call sign (Callsign_sender): KJ7TZG

| Packet Byte Address | Data | Data Type |
|---------------------|-------------------------|-----------|
| 0 | start_packet_char - “#” | char |
| 1 | callsign_sender[0] | char |
| 2 | callsign_sender[1] | char |
| 3 | callsign_sender[2] | char |
| 4 | callsign_sender[3] | char |
| 5 | callsign_sender[4] | char |
| 6 | callsign_sender[5] | char |
| 7 | callsign_destination[0] | char |
| 8 | callsign_destination[1] | char |
| 9 | callsign_destination[2] | char |
| 10 | callsign_destination[3] | char |
| 11 | callsign_destination[4] | char |
| 12 | callsign_destination[5] | char |
| 13 | data_packet_len | uint8_t |
| 14 | crc_data | uint8_t |
| 15 | Unix Time[3] (upper) | uint8_t |
| 16 | Unix Time[2] (middle) | uint8_t |
| 17 | Unix Time[1] (middle) | uint8_t |

| | | |
|----|---------------------------------------|---------|
| 18 | Unix Time[0] (lower) | uint8_t |
| 19 | bat percentage | uint8_t |
| 20 | bat current (mA) | uint8_t |
| 21 | bat_temp (centigrade) | uint8_t |
| 22 | sa_highest_temp | uint8_t |
| 23 | sa_highest_temp index | uint8_t |
| 24 | antenna_deploy_sw | uint8_t |
| 25 | payload_state | uint8_t |
| 26 | flash_target | uint8_t |
| 27 | payload_voltage (in 2V) | uint8_t |
| 28 | flash_success_counter [1] | uint8_t |
| 29 | flash_success_counter [0] | uint8_t |
| 30 | flash_fail_counter [1] | uint8_t |
| 31 | flash_fail_counter [0] | uint8_t |
| 32 | ambient light sensor highest index | uint8_t |
| 33 | boot counter[2] | uint8_t |
| 34 | boot counter[1] | uint8_t |
| 35 | boot counter[0] | uint8_t |
| 36 | ambient light sensor ZP[3] | uint8_t |
| 37 | ambient light sensor ZP[2] | uint8_t |
| 38 | ambient light sensor ZP[1] | uint8_t |
| 39 | ambient light sensor ZP[0] | uint8_t |
| 40 | ambient light sensor ZM[3] | uint8_t |
| 41 | ambient light sensor ZM[2] | uint8_t |
| 42 | ambient light sensor ZM[1] | uint8_t |

| | | |
|----|---|---------|
| 43 | ambient light sensor ZM[0] | uint8_t |
| 44 | battery heat state | uint8_t |
| 45 | lowest temp solar panel (centigrade) | uint8_t |
| 46 | lowest temp solar panel index | uint8_t |
| 47 | Empty | uint8_t |
| 48 | Empty | uint8_t |
| 49 | Empty | uint8_t |
| 50 | Empty | uint8_t |
| 51 | Empty | uint8_t |