

Intel® Shooting Star™ Drones Featured in First-Ever Drone Integration during Pepsi Zero Sugar Super Bowl LI Halftime Show

Feb. 5, 2017 – During the Pepsi* Zero Sugar Super Bowl LI Halftime Show, three hundred Intel® Shooting Star™ drones lit up the sky in a choreographed aerial show to kick-off the performance.

Below are interesting facts about the show:

- This is the first time drones have been used during a televised event and/or Super Bowl.
- This is the first time drones were used to complement an entertainment act at this scale.
- The show featured 300 drones.
- The Intel Shooting Star drones are designed specifically for light shows and weigh only 280 grams – less than the weight of a volleyball.
- The Intel Shooting Star drones feature built-in LED lights that can create over 4 billion color combinations in the sky.
- The Intel Shooting Star drones are constructed with a soft frame made of flexible plastics and foam and contains no screws.
- The Intel Shooting Star drones can fly for up to 20 minutes.
- All 300 drones can be controlled by one computer and one drone pilot. However, there is always a second pilot on hand as backup.
- This is the highest the Intel Shooting Star drones have flown. Intel received a special waiver from the FAA to fly the fleet up to 700 feet. Intel also received an additional special waiver to fly the drones in the more restrictive class B airspace.

Materials and Engineering

Type	Quadcopter with encased propellers
Size	384 x 384 x 93 mm
Rotor Diameter	6 inches (~15 cm)
Maximum Take Off Weight	280 g
Flight Time	Up to 20 minutes
Maximum Range	1.5 km
Maximum Tolerable Wind Speed	10 m/s
Maximum GPS Mode Airspeed	10 m/s
Maximum Light Show Airspeed	3 m/s

Animation and Operation

The software and animation interface on the Intel Shooting Star drone system allows a light show to be created in a matter of days or weeks depending on the animation complexity. Intel's proprietary algorithms automate the animation creation process by using a reference image, quickly calculating the number of drones needed, determining where drones should be placed, and formulating the fastest path to create the image in the sky.

The light show software also runs a complete fleet check prior to each flight and is able to select the most optimized drones for each flight based on battery life, GPS reception and more. The fleet size is dependent on the animation needed and can range from hundreds of Intel Shooting Star drones or even more in the future.

The first-of-its-kind Shooting Star drone meets all FCC technical specifications, but has not yet been authorized as required by the rules of the Federal Communications Commission. This device is not, and may not be, offered for sale or lease, or sold or leased, until authorization is obtained.

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