

discord|concord

About the Work

The ancient order of stars; the sky that songbirds and sailors have navigated by through the ages plays in harmony. Now our satellites cut across it, out of tune and out of scale. **What has always guided us now is confused by a false prophet that only speaks to a chosen few.** This work records a single night of beauty and clutter.

The night

Discord is one night of sky over Buckfield, Maine, turned into music: 2,362 photographs taken from dusk to dawn, about 14½ hours compressed into 3 minutes 56 seconds.

Place	Buckfield, Maine, a dark-sky site in the western foothills
Coordinates	44.2653° N, 70.3436° W, 155 m above sea level
Date	The night of October 9 to 10, 2026
Time	6:07 pm to 8:44 am EDT
Camera	GoPro HERO12 Black, one 20-second exposure after another, facing east
Conditions	Partly cloudy, a low of about 34 °F, on the new moon, so there was no moonlight

How the sky becomes music

A line runs through the frame, across the direction the stars move as the Earth turns. Everything is heard either as it crosses that line or for as long as it is in view.

- **The scale.** The natural sky plays only in the Chinese pentatonic scale, the five tones (*wǔ yīn*): gōng, shāng, jué, zhǐ and yǔ. Human-made objects play only the notes outside it, so they never sit in tune with the sky.
- **Stars.** Each star sounds once, as it crosses the line. Its colour sets its pitch: blue-white stars, the hottest, play highest, and red stars, the coolest, play lowest. Its brightness sets how loud it is. Every star is a sun; 2,566 of them crossed the line this night.
- **Planets.** Each planet holds its own tone for as long as it is in the open sky, following the classical Chinese pairing of the five planets with the five elements: Saturn, earth, on gōng; Venus, metal, on shāng; Jupiter, wood, on jué; Mars, fire, on zhǐ; Mercury, water, on yǔ. Uranus and Neptune, unknown to that tradition, take the two "changing" tones between them, biàngōng and biànzhǐ.
- **Clusters, nebulae and galaxies.** Each holds a chord within the five tones while it is in view, fading with cloud and swelling as it crosses the line.
- **The Milky Way.** A low hum runs all night, rising and falling with the glow of the sky and dimming when cloud passes over.
- **Meteors.** A quick fall from zhǐ to gōng, natural and inside the scale.
- **Satellites.** Each pass sounds for as long as the satellite is in frame, on a note outside the scale. When several are up at once, each new one grinds a semitone above the others.
- **Aircraft.** A pair of notes a tritone apart, outside the scale, bent slightly out of tune.

The instruments

The natural sky is voiced by soft, organic sounds; the human-made by struck metal.

Voice	Instrument	What it plays
Milky Way	Synthesizer hum	A low drone all night, following the sky's glow
Stars	Mandolin	One note per star, pitched by its colour
Star clusters	Egg	A held chord while in view
Nebulae	Tambourine	A held chord while in view
Galaxies	Water bowl	A deep held chord while in view

Planets	Darbuka bass	Each planet's own tone while in view
Meteors	Toy glockenspiel	A quick falling pair
Satellites	Anvil	A note outside the scale for each pass
Aircraft	Hi-hat	A tritone pair, bent out of tune

What crossed the sky

In one night over Buckfield, 2,566 stars crossed the line, alongside 49 satellite passes and 21 aircraft.

Natural

2,566 stars, seven of them named as they crossed: Capella, Elnath, Bellatrix, Betelgeuse, Castor, Pollux, Procyon

Planets: Mars, Jupiter, Saturn, Uranus, Neptune

Star clusters: the Pleiades, the Hyades, the Beehive, the Double Cluster, M35, and M36, M37 and M38 in Auriga

Nebulae: the Orion Nebula, the Rosette Nebula, the California Nebula, the Crab Nebula

Galaxies: the Andromeda Galaxy, the Triangulum Galaxy, Bode's Galaxy and the Cigar Galaxy

Meteors: one Draconid and five Orionids

The Milky Way, all night

Human-made

SpaceX: 19 Starlink satellite passes

China: 7 passes, spent Long March rocket stages and debris, the Tiangong space station, and an unnamed object from a 2026 launch

Argentina: the SAOCOM 1-B radar satellite

Italy: the COSMO-SkyMed 2 radar satellite

Globalstar: one satellite, launched in 2000

AST SpaceMobile: one satellite, launched in 2026

19 satellites that could not be identified

21 aircraft

Of the 30 identified satellite passes, 18 are firm matches and 12 are possible matches, marked as such in the captions. The oldest object identified was launched in 2000; several were launched in 2026, only months before this night. Sirius, the Dog Star, never rose into view; Procyon, whose name means "before the dog," crossed at 4:54 am.

How each object was identified

Every name in the piece comes from public scientific data matched against the photographs.

- **Planets:** positions calculated for every photograph from NASA JPL's published orbital elements.
- **Stars, clusters, nebulae and galaxies:** positions from standard star catalogues and the Messier and NGC catalogues. The camera's exact aim and lens shape were measured from 60 known stars in the photographs, so each object could be placed on the frame.
- **Satellites:** matched against orbits published by Space-Track.org, the US Space Force's tracking service, for the night itself. Each satellite's NORAD catalogue number, owner and launch year come from that record. Only satellites lit by the sun can be seen, so most passes fall at dusk and before dawn.
- **Meteors:** each streak traced back to the point its shower radiates from, as published by the International Meteor Organization, to tell Draconids from Orionids.
- **Aircraft:** told apart from satellites by the steady rhythm of their flashing lights.

Sources: [NASA JPL, Approximate Positions of the Planets](#) · [Space-Track.org](#) · [International Meteor Organization](#) · Jean Meeus, *Astronomical Algorithms*

Two versions

- *discord* plays the whole night as it was: the sky in its five tones, and every satellite and aircraft cutting across it, named as it passes.
- *concord* plays the same sky with the human-made voices removed, over the stars drawing their trails as the Earth turns around Polaris.

Tools and credits

Tool	Use
GoPro HERO12 Black	Capturing the night
MATLAB	Reading the photographs and writing the score: rule-based code, with no machine learning
REAPER	Sound design and mixing
G-Town sound samples	The instrument sounds
Adobe Premiere Pro	The video, overlay and captions

AI use: The MATLAB code for data analysis and sonification was written with the assistance of Claude, an AI model made by Anthropic, which also contributed technical analysis (camera calibration, meteor review, satellite identification). The artist conceived the work, captured the data, chose every sound and made all aesthetic and editorial decisions. No AI-generated imagery or audio appears in the work: all sound and visuals derive from the artist's photographs, her chosen samples and published scientific data, processed by rule-based code.

discord|concord (2026), Gin Stone.