

X2GRIFFON

High-Altitude Balloon Payload • Technical Specifications Sheet

STATUS: Flight-ready • Maiden Launch: 19 September 2026 • Casey, Illinois • System Weight: 1.01 lb

The X2Griffon (formerly AmUP01) is a custom, hand-built, Midwest-manufactured high-altitude payload designed for reliable atmospheric data collection and real-time tracking on stratospheric missions. Every component is selected and integrated for minimum mass and maximum operational reliability.

Core Specifications

Designation	X2Griffon (formerly AmUP01 / AmUP Craft)
Total System Weight	1.01 lb (≈ 458 g)
Payload Containment Unit	≈ 5.9 × 3.9 × 2.8 in waterproof ABS plastic enclosure
Primary Tracker	QRP Labs U4B pico tracker (1.8 g)
Telemetry Modes	WSPR + APRS on 144.390 MHz
Amateur Radio License	KE9CFY (FCC)
Recovery System	Integrated Recovery GPS Unit + parachute
Construction	Hand-built • Midwest-made • In-house soldered electronics
Target Regime	Stratospheric / near-space altitudes
Design Philosophy	Every gram intentional • Maximum reliability at minimum mass

Systems Overview

Telemetry & Tracking • QRP Labs U4B pico (1.8 g) • WSPR long-range telemetry • APRS real-time position & data • Frequency: 144.390 MHz • Callsign: KE9CFY Power & Electronics • In-house soldered critical circuits • Lightweight power sequencing • Dry-function tested (July 2026)	Containment & Structure • Waterproof ABS plastic PCU • Approx. 5.9 × 3.9 × 2.8 in • Rugged, flight-proven form factor • Midwest-assembled Recovery • Integrated Recovery GPS Unit • Parachute descent system • Coordinated ground recovery team
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Atmospheric Data Suite

During ascent and float the X2Griffon is designed to capture a vertical profile of the atmosphere, including:

- Wind profiles and shear events across altitude layers
- Vertical temperature and moisture profiles
- Atmospheric stability layers and structure
- Precise GPS positioning throughout ascent, float, and descent

Raw datasets are intended for public release via the MSDS data portal with a target turnaround of under 48 hours after recovery. Live telemetry is available during flight on midwestsds.com and via amateur radio APRS networks.

Notes & Status

Dry Functional Test: Successfully completed July 2026 (power sequencing, sensor suite, APRS/GPS telemetry, communications). Regulatory: FAA-compliant operations; full coordination with local aviation authorities planned for each flight. Open Data: Public release is a core design goal. See midwestsds.com for the live portal and post-flight datasets. Collaboration: Limited slots may be available for lightweight experiments (< 1 lb added mass) inside the PCU — inquire early.

Technical information is subject to change based on organizational and flight needs. See the separate Technical Information Disclaimer and <http://midwestsds.com> for the most current data.

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