

TwoBit Aerial - Matrice 4T

FIELD GUIDE

Choose detail first. Set speed last.

CONSTRUCTION PROGRESS

Repeatable site-progress capture.

STOCKPILE / VOLUME

Geometry, toe visibility, and base definition.

CAPTURE WORKFLOW - HOW EVERYTHING CONNECTS

1 DELIVERABLE

Define use and accuracy.

2 GSD / DETAIL

Pick required ground detail.

3 HEIGHT

Set height above target.

4 CAMERA MODE

Choose 48/12 MP or thermal.

5 OVERLAP

Set front/side and interval.

6 SHUTTER / ISO

Protect shutter; keep ISO low.

7 SPEED

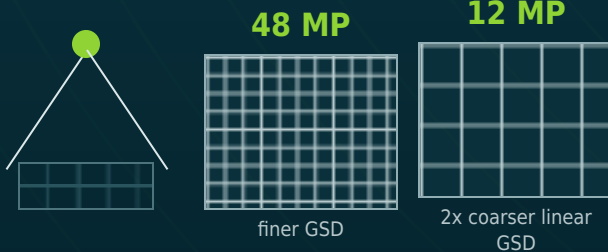
Use the tightest limit.

8 TEST STRIP

Review EXIF and sharpness.

SAME FOOTPRINT, DIFFERENT DETAIL

Same wide-camera FOV + same 4:3 view + same height = same nominal coverage.



At 200 ft: both cover about 278 x 209 ft. 48 MP is 0.41 in/px; 12 MP is 0.83 in/px.

CAMERA MODE QUICK GUIDE

Mode	Best use	Detail	Timed JPEG
48 MP still	Mapping / inspection	Highest	0.7 s listed*
12 MP still	Faster workflow / context	Half linear	0.7 s listed*
4K video	Progress / context	Lower	30 fps - not mapping cadence
Thermal	Heat screening	Scene-dependent	0.7 s listed*

DJI's M4T product-specific specs list the same JPEG interval menu for 12 MP and 48 MP: 0.7, 1, 2, 3, 5, 7, 10, 15, 20, 30, 60 s. Treat 0.7 s as the listed selectable minimum and confirm sustained realized cadence from EXIF. The 48 MP 8064 x 6048 image is an 8K-width still, not an 8K video mode.

EXPOSURE DECISION

- Set a shutter floor from GSD, speed, and mission quality.
- Start ISO 100; use 200, then 400 to hold shutter.
- If ISO is too high, slow down before accepting a blurrier shutter.
- If bright, keep ISO 100 and increase shutter.

Rolling-shutter estimate: 48 MP about 60 ms; 12 MP about 26 ms. Reasonable proxies from similar DJI cameras - not measured on the M4T and not official DJI values.

48 MP QUICK REFERENCE

Height	GSD	Footprint
100 ft	0.21 in/px	139 x 104 ft
150 ft	0.31 in/px	209 x 156 ft
200 ft	0.41 in/px	278 x 209 ft
250 ft	0.52 in/px	348 x 261 ft

Approximate: 82 deg diagonal FOV, 4:3 still, nadir, flat target plane.

WORKED SETUP - 200 FT SITE ORTHO

48 MP | 1/1000 s | 80% frontlap | 2 s interval

Mission speed band: 3-8 mph. Use the smallest active limit.

START 5-6 MPH -> FLY TEST STRIP -> REVIEW AT 100%

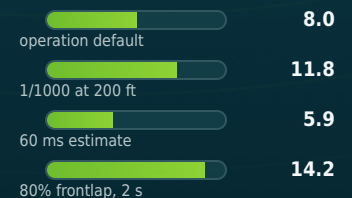
At 8 mph, ordinary blur is still only 0.34 px and cadence is adequate, but the 48 MP rolling-shutter proxy reaches about 20 px.

Mission upper band

0.5 px blur cap

15 px RS target

Cadence cap



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Mission starting settings - preserve the established TwoBit speed bands.

1 RGB ROOF DOCUMENTATION

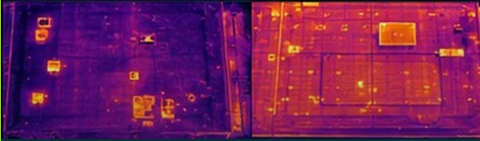


HEIGHT	10-100 ft above roof
MODE	48 MP still
OVERLAP	85 / 80-85 mapped
SHUTTER	1/1000-1/2000 target
ISO	100-200; 400 if needed
START SPEED	1-6 mph

CHANGE IF NEEDED

Lower for detail. If shutter falls below the floor, slow down first.

2 THERMAL ROOF SCREENING



HEIGHT	30-120 ft above roof
MODE	R-JPEG + High Gain
OVERLAP	85 / 80-85 mapped
SHUTTER	Thermal automatic
ISO	Thermal automatic
START SPEED	1-4 mph

CHANGE IF NEEDED

Dry roof, low wind, clear calm evening. Preserve radiometric originals.

3 SOLAR PV THERMAL



HEIGHT	50-150+ ft above panel
MODE	R-JPEG + High Gain
OVERLAP	75-80 / 65-70 screening
SHUTTER	Thermal automatic
ISO	Thermal automatic
START SPEED	2-6 mph

CHANGE IF NEEDED

Stable irradiance; pause for cloud transitions; keep modules distinguishable.

4 PROPERTY / SITE ORTHO



HEIGHT	120-225 ft target-relative
MODE	48 MP still
OVERLAP	80-85 / 75-80
SHUTTER	1/1000-1/1600 preferred
ISO	100-200; 400 acceptable
START SPEED	3-8 mph

CHANGE IF NEEDED

Choose height from required GSD. Verify EXIF cadence and edge sharpness.

5 CONSTRUCTION PROGRESS

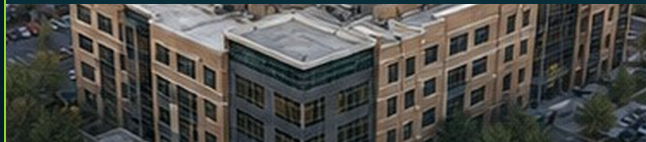


HEIGHT	150-225 ft target-relative
MODE	48 MP still
OVERLAP	80 / 75-80
SHUTTER	1/1000+
ISO	100-200; 400 usually fine
START SPEED	4-7 mph

CHANGE IF NEEDED

Repeat the same route, time, lighting, and oblique viewpoints.

6 OBLIQUE / 3D SUPPORT



HEIGHT	25-120 ft from target
MODE	48 or 12 MP still
OVERLAP	80-85 / 75-80
SHUTTER	1/1000+
ISO	100-200; up to 400
START SPEED	1-5 mph

CHANGE IF NEEDED

Closer standoff requires slower speed and stronger obstacle awareness.

7 STOCKPILE / VOLUME



HEIGHT	3-4x pile height standard
MODE	48 MP still
OVERLAP	75-80 / 65-70 minimum
SHUTTER	1/1000+
ISO	100-200; 400 usually fine
START SPEED	2-5 mph

CHANGE IF NEEDED

Protect toe/base visibility. Fly wider than the pile and define the base plane.

ALTITUDE SCALING FROM THE 200 FT REFERENCE

100 ft 0.50x | 150 ft 0.75x | 200 ft 1.00x
250 ft 1.25x | 300 ft 1.50x

Scale blur, RS, and cadence limits by height / 200. Use height above target.

INTERVAL AND OVERLAP

DJI's M4T product-specific specs list 0.7 s as the selectable minimum for both 12 MP and 48 MP interval JPEG. Frontlap and the actual EXIF interval set the along-track speed cap.

EXPOSURE AND ROLLING SHUTTER

Protect shutter with ISO 100 -> 200 -> 400. Rolling-shutter proxies: about 60 ms at 48 MP and 26 ms at 12 MP; estimates from similar DJI cameras, not measured or official.