

Astrophotography Calibration Frame Field Guide

This quick-reference guide is intended for use during astrophotography shoots. It outlines how many of each type of frame to take, their purpose, and how to capture them.

Light Frames:

- Purpose: Capture your astronomical target.
- Settings: Normal exposure settings.
- Quantity: 20–100+ (more = better signal-to-noise ratio).

Dark Frames:

- Purpose: Remove thermal noise and hot pixels.
- Settings: Same ISO/gain, exposure time, and temperature as light frames.
- Quantity: 15–50.

Bias Frames:

- Purpose: Remove read noise from sensor; calibrate flats.
- Settings: Shortest possible exposure with same ISO/gain as lights. Lens cap on.
- Quantity: 25–50.

Flat Frames:

- Purpose: Correct vignetting and dust shadows.
- Settings: Same focus, optical setup, and ISO as lights. Uniform light source.
- Quantity: 15–30.

Dark Flat Frames:

- Purpose: Calibrate flat frames, especially useful with CMOS sensors.
- Settings: Same settings as flat frames. Lens cap on.
- Quantity: 15–30.

Tips:

- Don't change focus between light and flat frames.
- Capture calibration frames during or right after imaging session.
- Store frames in labeled folders for easier stacking.
- Use consistent file naming conventions.