

SMARTPHONE FILMMAKING SETTINGS CHEAT SHEET

**Quick Reference for Camera Settings • Print
& Laminate for On-Set Use**

THE 180° SHUTTER RULE

**For cinematic motion blur, your shutter
speed should be DOUBLE your frame rate:**

Frame Rate	Shutter Speed	Use For
24fps	1/50 second	Cinema/film look
30fps	1/60 second	General video
60fps	1/120 second	Slow motion source

**Always use 24fps + 1/50 shutter for most
narrative filmmaking**

SETTINGS BY SCENARIO

**1 OUTDOOR BRIGHT SUNLIGHT
(10am-3pm)**

Settings:

- **ISO:** 100 (lowest for clean image)
- **Shutter Speed:** 1/50 (cinematic motion)
- **White Balance:** Daylight (5600K)
- **Frame Rate:** 24fps
- **Resolution:** 4K (if not overheating)

Pro Tips:

- Use ND filter if image is overexposed (or ND filter app)
- Position subjects in shade when possible (harsh light is unflattering)
- Expose for faces, let background blow out if necessary
- Avoid filming important dialogue (actors will squint)

Best For: Wide landscape shots, establishing shots, B-roll

2 GOLDEN HOUR (30-60 min after sunrise/before sunset)

Settings:

- **ISO:** 200-400 (light is dimmer than midday)
- **Shutter Speed:** 1/50 (maintain cinematic blur)
- **White Balance:** Daylight (5200K) - Slightly warm
- **Frame Rate:** 24fps
- **Resolution:** 4K

Pro Tips:

- Shoot FAST—you have 10-30 min of consistent quality
- Lock exposure immediately (light changes constantly)
- Position subjects with light behind them (backlit) or at 45° (side-lit)
- Prioritize most important shots first
- Use reflector to bounce fill light onto faces

Best For: Portraits, outdoor dialogue, romantic/emotional scenes, hero shots

! Critical: Arrive 45 min early to scout exact sun position. Missing golden hour means waiting 24 hours.

3 INDOOR NATURAL LIGHT (Window Light)

Settings:

- **ISO:** 400-800 (balance light/noise)
- **Shutter Speed:** 1/50 (cinematic)
- **White Balance:** Daylight (5000K)
- **Frame Rate:** 24fps
- **Resolution:** 1080p (better low-light performance)

Pro Tips:

- Position subject 45-90° to window (dimensional lighting)
- Use sheer curtains for soft diffusion
- Reflector opposite window fills shadows
- Avoid mixing window light with indoor artificial lights (color temp conflict)

- Shoot perpendicular to window (not facing it — camera will underexpose face)

Best For: Intimate dialogue scenes, character close-ups, interviews

Common Mistake: Positioning subject in front of window creates silhouette. Put window to SIDE of subject.

4 INDOOR ARTIFICIAL LIGHT (Lamps/Overhead)

Settings:

- **ISO:** 800-1600 (artificial light is dimmer)
- **Shutter Speed:** 1/50
- **White Balance:** Tungsten (3200K) or Custom
- **Frame Rate:** 24fps
- **Resolution:** 1080p

Pro Tips:

- Turn on ALL available lights in room

- Mix practical lights (lamps in frame) with your LED panels
- Avoid overhead fluorescent (causes flicker at 24fps)
- If using LED panel, match color temp to room lights
- Check for color casts (greenish fluorescent, orange tungsten)

Best For: Night interiors, scenes where you control lighting

Quick Fix: If colors look wrong, tap on subject's face in camera app before locking white balance.

5 LOW-LIGHT / NIGHT SCENES

Settings:

- **ISO:** 1600-3200 MAX (higher = excessive grain)
- **Shutter Speed:** 1/30-1/50 (slight compromise okay)

- **White Balance:** Manual (3000-4000K depending on source)
- **Frame Rate:** 30fps (allows 1/30 shutter for more light)
- **Resolution:** 1080p (significantly less noise than 4K)

Pro Tips:

- Add ANY light source (LED panel, practicals, streetlights)
- Expose slightly bright (+0.3 to +0.7 stops)—easier to darken in post than recover underexposed
- Use phone's Night Mode if available (multi-frame capture)
- Keep ISO at 1600 if possible—3200 is last resort
- Accept some grain—it's more natural than over-processing

Best For: Night exteriors, dark/moody interiors, noir aesthetic

Reality Check: Low-light is smartphone's biggest weakness. Add lighting whenever possible.

6 FAST ACTION / SPORTS

Settings:

- **ISO:** 100-400 (daylight shooting)
- **Shutter Speed:** 1/120-1/250 (freeze motion)
- **White Balance:** Auto or Daylight
- **Frame Rate:** 60fps (smooth action, slow-mo option)
- **Resolution:** 4K (cropping flexibility)

Pro Tips:

- Higher shutter speed removes motion blur (looks crisp but less cinematic)
- 60fps allows slowing to 40% speed in 24fps timeline (smooth slow-mo)
- Track subject smoothly (pan with action)
- Continuous autofocus okay for fast action

- Shoot in bright light (high shutter needs more light)

Best For: Sports, chase scenes, action sequences, anything with fast movement

Trade-off: Losing cinematic motion blur for sharpness. Intentional choice.

7 OVERCAST / CLOUDY DAY

Settings:

- **ISO:** 400-800 (clouds reduce light)
- **Shutter Speed:** 1/50
- **White Balance:** Cloudy (6000K)
- **Frame Rate:** 24fps
- **Resolution:** 4K

Pro Tips:

- Overcast is IDEAL for smartphone filming (soft, even light)
- No harsh shadows or squinting
- Film all day without worrying about sun position

- Colors may be muted—boost saturation slightly in post
- Perfect for dialogue scenes

Best For: Dialogue, character scenes, even lighting situations

Filmmaker Secret: Many pros prefer overcast to golden hour for consistency.

8 BLUE HOUR (20-30 min after sunset)

Settings:

- **ISO:** 800-1600
- **Shutter Speed:** 1/30-1/50
- **White Balance:** Daylight (5600K) - Preserves blue tones
- **Frame Rate:** 30fps (more forgiving)
- **Resolution:** 1080p

Pro Tips:

- Creates moody, dramatic atmosphere
- Balance natural blue sky with warm artificial lights

- Use LED panels on faces (cool color temp to match)
- Window for blue hour is SHORT (20-30 min max)
- Underexpose slightly for moodiness

Best For: Urban exteriors, establishing shots, transitional montages

9 BACKLIT SUBJECTS (Sun Behind Subject)

Settings:

- **ISO:** 200-400
- **Shutter Speed:** 1/50
- **White Balance:** Daylight (5600K)
- **Frame Rate:** 24fps
- **Resolution:** 4K

Pro Tips:

- Expose for subject's FACE (let background blow out)
- Use +1 to +2 stops exposure compensation

- Reflector is CRITICAL (bounce light onto face)
- Creates beautiful rim light/halo effect
- Without reflector, face will be silhouette

Best For: Dramatic portraits, music videos, dreamy aesthetic

Manual Override: Tap subject's face, then drag exposure slider UP until face is properly exposed.

10 HANDHELD RUN-AND-GUN

Settings:

- **ISO:** Auto (one less thing to manage)
- **Shutter Speed:** 1/50-1/60
- **White Balance:** Auto (or lock to scenario)
- **Frame Rate:** 30fps (more forgiving)
- **Resolution:** 1080p (easier to stabilize in post)

Pro Tips:

- Use phone's built-in stabilization + electronic stabilization
- Brace elbows against body (chicken wing technique)
- Breathe smoothly, move slowly
- Accept some shake—feels documentary-authentic
- Stabilize in post (CapCut, DaVinci Resolve)

Best For: Guerrilla shooting, documentaries, vérité style, spontaneous moments

When to Use: Time-sensitive situations where setup isn't possible.



UNIVERSAL SETTINGS CHECKLIST

Before Every Scene:

1. Lock Exposure (AE/AF Lock):

- Tap and hold subject until "AE/AF Lock" appears
- Prevents exposure "breathing" during take
- Critical for maintaining consistent look

2. Check Audio Levels:

- With headphones, verify audio is recording
- Levels should be -12dB to -6dB (green/yellow)
- Red = clipping (distortion)—lower gain

3. Frame and Compose:

- Enable grid overlay (rule of thirds)
- Check edges for distracting elements
- Leave appropriate headroom
- Ensure focus is sharp on subject

4. Record Test Clip:

- 10-second test before every scene
- Check exposure, focus, audio
- Better to catch problems in test than during take



RESOLUTION DECISION GUIDE

Shoot 4K When:

-  Bright lighting conditions

-  You need to crop/reframe in post
-  Festival submission requires 4K
-  Future-proofing project
-  Plenty of storage space
-  Phone doesn't overheat

Shoot 1080p When:

-  Low-light conditions (less noise)
-  Limited storage space
-  Long recording times
-  Phone overheats in 4K
-  Easier editing on older computer
-  Web/YouTube delivery only

Reality Check: Most viewers watch in 1080p or less. 4K is often overkill for smartphone projects.



WHITE BALANCE QUICK GUIDE

Lighting Condition	Kelvin Value	Camera Preset
Candlelight	1800K	Manual

Tungsten bulbs	3200K	Tungsten/ Indoor
Sunrise/Sunset	3500K	Manual/Shade
Fluorescent	4000K	Fluorescent
Daylight	5600K	Daylight/Sunny
Overcast	6000K	Cloudy
Open shade	7000K	Shade

Pro Tip: When in doubt, use Daylight (5600K) as starting point, adjust from there.

EXPOSURE GUIDE

Reading Exposure:

- **Zebras (if available):** Stripes appear on overexposed areas
- **Histogram:** Graph shows distribution of brightness
 - Left side = shadows/blacks
 - Middle = midtones
 - Right side = highlights/whites
- **Waveform:** More technical but most accurate

Proper Exposure:

- Skin tones should be middle-to-upper range
- Histogram should have information across range (not clipped)
- Highlights shouldn't be pure white (no recovery possible)
- Shadows can be dark but shouldn't be pure black

Exposure Compensation:

- Use +0.3 to +0.7 for low-light (slight overexposure)
- Use -0.7 to -1.5 for bright sun (protect highlights)



COMMON MISTAKES TO AVOID

✗ Using Auto Mode

- Everything: ISO, shutter, white balance, focus changes constantly
- Result: Unusable footage with exposure/color pumping

✓ **Solution:** Lock exposure and white balance before recording

✗ Ignoring the 180° Rule

- Using auto shutter or wrong shutter speed
- Result: Stuttery motion (too fast) or blurry smear (too slow)

✓ **Solution:** Always 1/50 for 24fps, 1/60 for 30fps, 1/120 for 60fps

✗ Shooting 4K in Low-Light

- More pixels = more noise/grain
- Result: Unusable grainy footage

✓ **Solution:** Switch to 1080p for all low-light scenarios

✗ Not Testing Before Shooting

- Assume settings are correct

- Result: Discover problems after actors have left

 **Solution:** Always record 10-second test, review carefully

Forgetting to Lock Focus

- Auto-focus hunts during take
- Result: Soft/blurry footage as focus shifts

 **Solution:** Tap subject, lock focus (AE/AF Lock), verify before recording

CAMERA APP RECOMMENDATIONS

Best Paid App:

- **Filmic Pro** (\$15, iOS/Android)
- Full manual controls
- Focus peaking, zebras, false color
- Audio metering
- Log recording option
- Worth every penny for serious work

Best Free Apps:

- **Blackmagic Camera** (Free, iOS/Android)
- Professional features, intuitive interface
- Direct integration with DaVinci Resolve
- **Open Camera** (Free, Android only)
- Extensive manual controls
- Highly customizable

Native Camera Apps:

- iPhone 13+ has excellent manual controls
- Most Android flagships now offer pro modes
- Test first—may be sufficient without buying apps

PRO TIPS

Tip #1: Create Presets Save your most-used settings as presets in camera app:

- "Outdoor Day" preset
- "Golden Hour" preset
- "Indoor Natural" preset
- Speeds up setup, ensures consistency

Tip #2: Check Settings Between Takes

Settings can drift (especially if you tap screen accidentally):

- Verify exposure lock hasn't released
- Confirm ISO/shutter hasn't changed
- Quick glance at settings before each take

Tip #3: Monitor Audio Throughout

- Wear headphones during ENTIRE take
- Catch wind noise, clothing rustle, background sounds
- Can't fix bad audio in post—catch problems live

Tip #4: Bring Reference Images

- Save stills from films with similar look/lighting
- Reference during setup to match exposure/color
- Helps communicate vision to crew

Tip #5: Shoot Log if Possible

- Log profile preserves maximum color information
- Requires color grading but gives flexibility
- Flat/desaturated in-camera, grade in post
- Available in Filmic Pro, some native apps



PHONE-SPECIFIC NOTES

iPhone Specific

Cinematic Mode (iPhone 13+):

- Auto rack focus between subjects
- Creates shallow depth-of-field effect
- Limited to 30fps
- Good for quick projects, less control

ProRes Recording (iPhone 13 Pro+):

- Requires 256GB+ storage
- Massive files (1GB per minute)
- Maximum quality, color grading flexibility
- Only use if serious post-production planned

Action Mode (iPhone 14+):

- Extreme stabilization for running shots

- Crops in significantly
- Great for handheld action

Android Specific

Expert RAW (Samsung):

- Captures RAW video on S21+ Ultra models
- Maximum post-production flexibility
- Large files, requires powerful editing computer

Night Sight Video (Pixel):

- Computational photography for low-light
- Automatically captures multiple frames
- Excellent for challenging lighting

BATTERY & STORAGE MANAGEMENT

Battery Life by Resolution:

- **4K Recording:** ~90-120 minutes continuous
- **1080p Recording:** ~150-180 minutes continuous

- **Factors:** Screen brightness, temperature, apps running

Storage Usage:

- **4K 24fps:** ~400MB per minute (24GB per hour)
- **4K 60fps:** ~800MB per minute (48GB per hour)
- **1080p 24fps:** ~130MB per minute (7.8GB per hour)
- **1080p 60fps:** ~200MB per minute (12GB per hour)

Battery Saving Tips:

- Lower screen brightness (30-40%)
- Close all background apps
- Turn off WiFi/Bluetooth when not needed
- Remove phone case (helps cooling)
- Use power bank between takes

Storage Management:

- Clear 50GB minimum before shoot day
- Offload footage during breaks

- Delete obviously bad takes on-location (carefully)
- Switch to 1080p if running low



TROUBLESHOOTING GUIDE

Problem: Overexposed (Too Bright)

Immediate Fix:

- Tap darker area to rebalance
- Use exposure compensation slider (drag down)
- Lock exposure on properly exposed area

Preventive:

- Use ND filter (physical or app)
- Shoot during different time of day
- Position subject in shade

Problem: Underexposed (Too Dark)

Immediate Fix:

- Tap subject's face to expose for it

- Increase exposure compensation (+0.5 to +1.5)
- Add LED light or reflector

Preventive:

- Increase ISO (up to 1600-3200)
- Slow shutter speed (1/30 instead of 1/50)
- Shoot in better lighting conditions

Problem: Image Looks Flat/Washed Out

Cause: Shooting in harsh midday sun or overcast with auto white balance

Fix:

- Manual white balance (Daylight preset)
- Increase contrast in camera if available
- Fix in post with color grading

Problem: Colors Look Wrong

Cause: Wrong white balance setting

Fix:

- Tap subject to set custom white balance
- Use appropriate preset (Daylight, Tungsten, etc.)
- Shoot grey card for perfect white balance

Problem: Motion Looks Stuttery

Cause: Shutter speed too fast

Fix:

- Use 180° rule (1/50 for 24fps)
- Don't exceed 1/250 shutter unless intentional

Problem: Motion is Blurry Smear

Cause: Shutter speed too slow

Fix:

- Return to 1/50 for 24fps
- Increase ISO if too dark
- Add light instead of slowing shutter

Problem: Phone Overheating

Immediate:

- Stop recording, let phone cool 10 minutes
- Remove case
- Put in shade, not direct sun
- Switch to 1080p

Preventive:

- Shoot in cooler conditions (morning, shade)
- Take breaks between takes
- Use 1080p instead of 4K
- Keep phone out of direct sunlight



COMPOSITION QUICK TIPS

Rule of Thirds:

- Position subjects at intersection points
- Horizon on top or bottom third (never middle)
- Eyes on top third line for portraits

Headroom:

- Leave space above subject's head

- Not too much ($\frac{1}{4}$ to $\frac{1}{3}$ of frame above head)
- Less headroom for close-ups, more for wide shots

Looking Room:

- Leave space in direction subject is looking
- More space in front than behind
- Applies to movement too (space ahead of motion)

Frame Within Frame:

- Use doorways, windows, arches
- Creates depth and focuses attention
- Natural vignette effect

Leading Lines:

- Roads, fences, railways lead eye to subject
- Creates depth on 2D screen
- Guides viewer's attention



MOVEMENT TECHNIQUES

Static (Tripod/Locked-Off):

- Most professional look
- Easiest for beginners
- Let action happen within frame

Handheld:

- Brace elbows against ribs (chicken wing)
- Move slowly, breathe smoothly
- Acceptable shake adds documentary feel

Pan (Horizontal Movement):

- Rotate hips, not just arms
- Slow and smooth (slower than feels natural)
- Start and end on static frame (hold 3 seconds each)

Tilt (Vertical Movement):

- Same principles as pan
- Use for revealing subject or environment
- Smooth, deliberate movement

Tracking (Following Subject):

- Walk with subject maintaining distance
- Ninja walk (heel-to-toe, bent knees)
- Lead subject slightly (don't chase)

Gimbal:

- Balance BEFORE powering on
- Walk slower than normal
- Practice movements before recording

PRE-SHOOT SETTINGS CHECKLIST

Print this and check before EVERY scene:

- ☐ Phone fully charged (or charging cable ready)
- ☐ Storage space verified (50GB+ free)
- ☐ Resolution set (4K or 1080p based on scenario)
- ☐ Frame rate set (24fps for cinema)
- ☐ Shutter speed set (1/50 for 24fps)
- ☐ ISO set (appropriate for lighting)
- ☐ White balance set (match lighting condition)
- ☐ Focus locked on subject (AE/AF Lock)
- ☐ Exposure locked (AE/AF Lock)
- ☐ Grid overlay enabled

- ☐ Audio levels checked with headphones
- ☐ Test clip recorded and reviewed
- ☐ All notifications silenced (Do Not Disturb)
- ☐ Screen brightness set to 70-80% (viewable but saves battery)
- ☐ Auto-lock disabled (screen won't turn off during takes)

FINAL REMINDERS

The Three Rules of Smartphone Filmmaking:

1. Lock Exposure and Focus

- Never shoot on full auto
- Prevents mid-take changes
- Professional consistency

2. Monitor Audio with Headphones

- Catch problems immediately
- Bad audio ruins good footage
- No exceptions

3. Record Test Clip First

- 10 seconds before every scene
- Review focus, exposure, audio
- Saves reshoots later

"Settings don't make great films—great stories do. But wrong settings can ruin great stories."

- Trent Peek, Smartphone Filmmaker

 **NEED HELP?**

Email: trentalor@peekatthis.com

Download more resources:

- Guerrilla Film Production Checklist
- Smartphone Film Festival Submission List
- Complete smartphone filmmaking guide

Visit: www.peekatthis.com

Created by Trent Peek, filmmaker of festival-screened smartphone shorts "Two Brothers, One Sister" and "Doggonit" (both made for under \$250 on iPhone 13 Pro).

Print this cheat sheet • Laminate it • Keep it in your gear bag

Last Updated: January 2025