

OnePlus 9R Mobile

OnePlus 9R Mobile The OnePlus 9R is a smartphone released by OnePlus in April 2021 as part of the OnePlus 9 series. It sits between the flagship OnePlus 9/9 Pro and the more affordable OnePlus 9RT (released later).

Display:

- 6.55-inch Fluid AMOLED
- 120Hz refresh rate
- HDR10+ support
- 1080 x 2400 pixels (20:9 aspect ratio)

Performance:

- Qualcomm Snapdragon 870 5G (7nm, Octa-core)
- Adreno 650 GPU
- 8GB/12GB LPDDR4X RAM
- 128GB/256GB UFS 3.1 storage (non-expandable)

Cameras:

- Rear:
- 48MP (Sony IMX586, f/1.7, OIS) – Main
- 16MP (f/2.2, 123° ultra-wide)
- 5MP (Macro)
- 2MP (Monochrome)

Front:

- 16MP (f/2.4, fixed focus)

Battery & Charging:

- 4500mAh battery
- Warp Charge 65W (0-100% in ~39 mins)
- No wireless charging

Software:

- Upgradable to Android 13 (Oxygen OS 13.1)
- No Android 14 update (EOL reached)

Design & Build:

- Glass front (Gorilla Glass 5), plastic frame
- IP54 splash resistance (not fully waterproof)
- Colors: Lake Blue, Carbon Black

Other Features:

- Stereo speakers
- In-display fingerprint sensor
- 5G support (varies by region)
- No official IP rating or wireless charging
- No Hasselblad camera tuning (unlike 9/9 Pro).
- 9RT (released later) has a slightly better Sony IMX766 main sensor and Snapdragon 888.

Price & Availability (2024 Update)

- Originally priced around ₹39,999 (India) / \$499 (global).
- Now discontinued, but available via third-party sellers.
- Consider OnePlus 11R or Nord 3 for newer alternatives.

Pros & Cons:

- Smooth 120Hz AMOLED display
- Fast 65W charging
- Good performance (SD 870)
- No telephoto or Hasselblad cameras
- Plastic frame (not premium build like 9 Pro)
- No Android 14 update

1. Gaming Performance (Snapdragon 870)

- Benchmark Scores (An Tu Tu v9): ~700,000 (similar to POCO F4 GT, IQOO Neo 6).

Real-World Gaming:

- Gen shin Impact (High Settings): ~50-55fps (dips in long sessions).
- Call of Duty Mobile (Max Settings): Stable 60fps.
- Cooling: Uses VC liquid cooling but heats up under heavy load (Snapdragon 870 is more efficient than 888 but less powerful).
- Verdict: Great for casual/mid-core gamers, but not for hardcore sustained gaming like a ROG Phone or Black Shark.

2. Software Updates (2024 Status)

- Last Update: Oxygen OS 13.1 (Android 13) – Final major update.
- No Android 14 (OnePlus confirmed EOL).
- Security Patches: Ended in Q2 2023 (no further updates).
- Custom ROMs? Yes! Lineage OS 21 (Android 14), Pixel Experience, and Paranoid Android are available for MODDERS.

3. Camera Review (vs Competitors)

Daylight Photos:

- 48MP Main (IMX586): Good dynamic range, but weaker than IMX766 (9RT/9).
- Ultra-Wide (16MP): Decent but lacks autofocus (washed-out edges).

Low Light:

- No dedicated night mode (uses AI brightening).
- No OIS (only EIS for video).

Video:

- 4K@60fps (main cam only).
- OnePlus 9R Mobile 1080p@240fps slow-mo.

4. Battery Life & Charging

- Screen-On Time (SOT): ~5-6 hours (120Hz + 5G).
- Warp Charge 65W: Still faster than many 2024 phones (e.g., Galaxy S23 charges at 25W).
- No Battery Degradation? Users report ~85% health after 2 years (better than OnePlus 8T).

6. Should You Buy OnePlus 9R in 2024?

- Yes if: You find it under ₹20,000 and need a fast-charging SD 870 phone.
- No if: You want long updates, flagship cameras, or 5+ years of support.

1. Display Deep Dive: Calibration & Color Accuracy

- Panel Type: Samsung E3 AMOLED (same as OnePlus 8T, but not as advanced as E4 in 9/9 Pro).

Color Modes:

- Vivid (Default): 100% DCI-P3, but oversaturated.
- Cinematic: DCI-P3 with warmer tones.

Brightness:

- Peak (HDR): 1100 nits (great for outdoor use).
- Manual Max: 700 nits (still better than LCD rivals).
- PWM Dimming: Yes, at 60Hz (can cause eye strain in dark rooms).

2. Audio Quality: Speakers & Headphone Support

Stereo Speakers:

- Top (Earpiece): Weak bass, but clear MIDS.
- Bottom (Main): 30% louder than OnePlus 8T.
- Total THD: <1% (cleaner than POCO F3).
- Dolby ATMOS: Works well for movies, but virtual surround is gimmicky in games.
- No 3.5mm jack, but USB-C audio works with DAC dongles (supports LDAC/APTX HD).

3. Network & Connectivity Tests

- 5G Bands (India/Global):
- n1/n3/n28/n41/n78 (no mm Wave).
- Real-world speed: ~600Mbps on JIO 5G (NSA).
- Wi-Fi 6: Max throughput 1.2Gbps (vs 1.7Gbps on Snapdragon 888 phones).
- Bluetooth 5.1: Stable with TWS earbuds (but no dual-device pairing).

4. Long-Term Durability (2+ Years Later)

Battery Health:

- Avg. degradation: ~12% after 500 cycles (better than OnePlus 8T's 15%).
- ACCU Battery stats: [Example: 4,100mAh remaining from 4,500mAh].

Build Wear & Tear:

- Plastic frame: Prone to scratches (use a case).
- Screen: GG5 resists cracks but scratches at Mohs 6.
- Ports: USB-C doesn't loosen easily (unlike some Xiaomi phones).

5. Hidden Features & Easter Eggs

Developer Options Tricks:

- Force 90Hz/120Hz globally (no app restrictions).
- Disable RAM expansion (faster than virtual RAM).

Secret Codes:

- *#808# – Hardware diagnostics (sensor test, touch panel).
- *#800# – OnePlus Log kit (advanced debugging).
- Gaming Mode:
- "Pro Gamer" toggle (reduces touch latency to 85ms).

6. MODDING & Custom ROM Scene (2024)

- OnePlus 9R Mobile Unlockable Bootloader: Yes (but voids warranty).

Best ROMs:

- Pixel Experience Plus (Android 14, stable).

- Derp Fest (customizable AOSP).
- Lineage OS 21 (best for privacy).

Kernel Tweaks:

- Optimal CPU governor: "SCHEDUTIL" (balances battery/performance).
- Under VOLTING: Saves ~5% battery with Franco Kernel Manager.

8. Should You Still Buy It? (2024)

Buy if:

- You're a MODDER who loves custom ROMs.
- Need 65W charging + AMOLED under ₹20K.
- Avoid if:
- You care about Android 14+ or camera quality.
- Prefer newer designs (e.g., in-display fingerprint vs side-mounted).

1. Display Secrets: Beyond Specs

True Refresh Rate Behavior:

- Hidden 90Hz Mode: Enable via ADB (settings put global one plus_ screen_ refresh _rate 90). Smoother than 60Hz, saves battery vs 120Hz.
- PWM Flicker Fix: Use DC Dimming (in settings) to reduce eye strain, but crushes blacks slightly.

Touch Sampling Rate:

- 240Hz normal, 480Hz in gaming mode (beats Pixel 7a's 120Hz).

2. Battery & Charging: Hidden Limits

Actual Charging Speed:

- 0-50% in 12 mins, but last 10% takes 8 mins (curbing heat).
- Warp Charge 65W works ONLY with OEM charger (even 100W PD chargers max at 18W).

Battery Saver Hacks:

- "Suspend execution for cached apps" (in Developer Options) reduces background drain.
- Dark Mode + 1080p resolution saves ~8% battery vs QHD emulation.

3. Camera: G Cam vs Stock Showdown

- Best G Cam Port: BSG 8.1 (MGC_8.1.101_A9_GV2b).
- Config File Magic: Enables ZSL HDR+ on all lenses (ultrawide/macro).
- Night Sight outperforms stock by 2x in dynamic range.
- OnePlus 9R Mobile Stock Camera Tricks:
- Pro Mode RAW has 12-bit depth (vs 10-bit on Pixel 6).
- "Ultra Shot" HDR Algorithm: Pulls shadows better than Samsung's Scene Optimizer.

4. Performance: Kernel & Root Tweaks

- Best Custom Kernel: Radioactive Kernel (v11.5).
- CPU Under volt: Saves 5-7% power with no performance loss.
- GPU OC to 905MHz (from 670MHz)—gains 15% FPS in Gen shin Impact.
- Debloating Guide: Remove OnePlus bloat without root:

5. Hardware Teardown: Upgrade Potential

- Thermal Paste Mod: Replacing stock paste with Thermal Grizzly KRYONAUT drops temps by 4-6°C.
- Storage Speed Test:
- Seq. Read: 1800 MB/s (UFS 3.1), but random 4K lags vs iPhone 13's NVME.
- Haptics Upgrade: Flash OnePlus 9 Pro's motor driver via EDL for stronger feedback.

6. Network Hacks: 5G & Beyond

- Force LTE CA (Carrier Aggregation):
- Boosts speeds by 30% in weak signal areas.
- Wi-Fi Analyzer Trick: Lock to 5GHz Band to avoid 2.4GHz congestion.

7. Audio: Beyond Dolby

- USB-C DAC Compatibility:
 - Best Dongle: i Basso DC05 (supports 32-bit/384kHz).
 - Power Output: 1.1V (vs iPhone's 1V)—drives high-impedance IEMs better.
 - Stereo Speaker Mod: Force earpiece as tweeter via MAGISK module
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