Which Video Quality Measurement Setup Do You Have?

One question sorts every metric: how much of the pristine original do you have where you measure? Answer it first, then pick a metric from that row.

Setup	You compare against	Metrics & standards	Use / where it lies
Full-reference (FR)	The complete pristine original	PSNR, SSIM, MS-SSIM, VMAF; ITU-T J.144, J.247	Lab: encoder tests, regression, VOD QC, CI/CD gates. Most accurate — but useless with no master and BROKEN if misaligned.
Reduced-reference (RR)	A small feature fingerprint of the original	NTIA low-bandwidth model; ITU-T J.246, J.249	In-service broadcast monitoring. Needs a side channel to the source — rarely deployed today.
No-reference (NR / blind)	Nothing — the impaired video alone	NIQE, BRISQUE, NR-VMAF, UVQ; ITU-T P.1203, P.1204.3	Live, video calls, surveillance, UGC. The only option with no master — and the hardest to trust.

Two pitfalls to avoid

Quoting a full-reference metric where there is no reference.

“Our live stream scored VMAF 92” is a category error: VMAF needs a master a live capture does not have. Name the setup before the metric.

An unaligned full-reference score.

A few frames, one pixel, or a brightness shift makes PSNR/SSIM/VMAF report a collapse the eye never sees. Calibrate alignment first, score second.

Companion to: 'Full-, Reduced-, No-Reference Video Quality Metrics'
www.forasoft.com/learn/video-quality/articles-vqm/full-reduced-no-reference-metrics



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This sheet sorts quality metrics by how much of the original you have: full, reduced or no reference. We wrote seven volumes on the video stack. Volume 1 covers PSNR, SSIM and VMAF, Volume 6 covers learned and no-reference AI metrics, and Volume 3 covers QoE monitoring in delivery.

WHAT YOU WILL FIND INSIDE

- PSNR, SSIM and VMAF in practice
- QoE monitoring in live delivery
- No-reference and learned quality models
- Aligning video before scoring it

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Not sure which quality metric fits your live or VOD pipeline?

We will pick the metric for each point in your pipeline, align references properly and wire scores into QC and alerts. 250+ video products shipped since 2005.

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