



Noise Diagnosis

Plain-language screening summary | confirm by listening

controlled-diagnostics-demo.wav

48.0 kHz | Mono | 00:30 | Controlled fault demonstration

PRIMARY DIAGNOSTIC LEAD

Possible digital clipping

Samples reached the digital ceiling, which is consistent with an overloaded input or excessive gain.

HUM / BUZZ

50 Hz family

High

PERSISTENT TONE

Not detected

Low

BROADBAND NOISE

Broadband

High

CLIPPING

1,440 samples

High

Frequency evidence

HARMONIC 1

50.0 Hz

-33.9 dBFS

+31.6 dB local

HARMONIC 2

100.0 Hz

-39.8 dBFS

+27.4 dB local

HARMONIC 3

150.0 Hz

-42.9 dBFS

+24.1 dB local

HARMONIC 4

200.0 Hz

-46.9 dBFS

+20.2 dB local

Suggested retest

Lower the input gain and record again to check whether the clipped samples disappear.

Interpretation limit

This is automated engineering screening. A pattern consistent with hum, whine, hiss, or clipping does not prove the physical cause. Confirm the result by listening and by changing one condition at a time.

Engineering Audio Analysis

Full-file spectrogram | measurement record

controlled-diagnostics-demo.wav

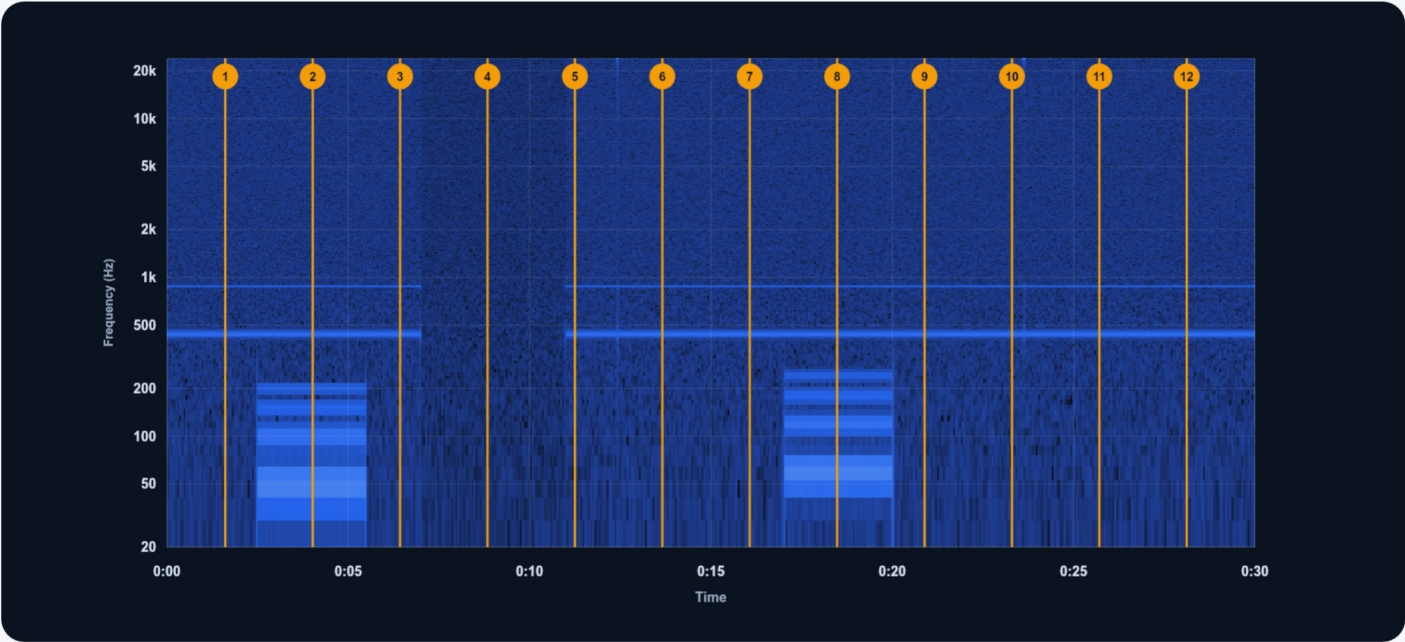
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STREAMING REFERENCE
Target -14 LUFS | <= -1 dBTP

OUTSIDE TARGET

INTEGRATED LOUDNESS -23.5 LUFS	LOUDNESS RANGE 9.8 LU	4X TRUE PEAK +1.63 dBTP	NOISE FLOOR -48.2 dBFS
MAINS HUM 50 Hz	SAMPLE PEAK -0.12 dBFS	CREST FACTOR 15.2 dB	FINDINGS 12

Full-file spectrogram



Assessment conclusion

Outside target: 9.5 LU below target; 2.63 dB above the True Peak ceiling. 12 automated findings recorded.

Method and scope

Reference assessment is engineering guidance, not a platform acceptance guarantee. OSA Engine 1.0. Controlled demonstration file with deliberately introduced faults. ITU-R BS.1770-5-aligned gated loudness and 4x reconstructed True Peak. Automated findings require confirmation by listening.



Loudness History

Streaming reference | full-file analysis

Momentary and short-term loudness

400 ms Momentary · 3 s Short-term · dashed line shows the selected integrated target



OUTSIDE TARGET · Streaming reference

Reference target: -14 LUFS | ≤ -1 dBTP

9.5 LU below target; 2.63 dB above the True Peak ceiling.

Interpretation

Momentary loudness exposes brief level changes; short-term loudness shows sustained programme movement. Review sharp excursions alongside the timestamped findings and confirm decisions by listening.



Automated Findings

controlled-diagnostics-demo.wav | confirm by listening

01 Clipping detected

1.61 s

Inter-sample peak exceeds the selected True Peak ceiling.

02 50 Hz mains hum

4.02 s

Fundamental and harmonics rise above nearby frequencies.

03 Elevated broadband noise

6.43 s

Sustained wideband energy is elevated above the measured noise floor.

04 Clipping detected

8.84 s

Inter-sample peak exceeds the selected True Peak ceiling.

05 50 Hz mains hum

11.25 s

Fundamental and harmonics rise above nearby frequencies.

06 Elevated broadband noise

13.66 s

Sustained wideband energy is elevated above the measured noise floor.



Automated Findings

controlled-diagnostics-demo.wav | confirm by listening

07 Clipping detected 16.07 s

Inter-sample peak exceeds the selected True Peak ceiling.

08 50 Hz mains hum 18.48 s

Fundamental and harmonics rise above nearby frequencies.

09 Elevated broadband noise 20.89 s

Sustained wideband energy is elevated above the measured noise floor.

10 Clipping detected 23.30 s

Inter-sample peak exceeds the selected True Peak ceiling.

11 50 Hz mains hum 25.71 s

Fundamental and harmonics rise above nearby frequencies.

12 Elevated broadband noise 28.12 s

Sustained wideband energy is elevated above the measured noise floor.