

VARA FM / USB Audio Interface — Pegged Input Troubleshooting Checklist

Email from John Trinterud - K9ONR

Root cause found (this case): Windows 11 "Enhance audio" feature in the modern Settings app was forcing gain/processing on the input, pegging the VU meter regardless of Windows mixer level or VARA FM settings. Turning it off restored normal, expected behavior — and also caused the legacy Custom/AGC tab (previously missing) to reappear in the classic Sound Control Panel.

Symptom: VU meter pegged full-scale in VARA FM despite Windows Recording level slider set to 0. Occurred on an HP ZBook with two different, known-good interfaces (RIM-Alinco 9600 and DRA50M), while the DRA50M worked correctly on a separate VHF gateway machine.

Settings to check, in order

1. **Windows Settings app > System > Sound > Input > [device] > "Enhance audio"** — Turn OFF. (*This was the actual fix in this case.*) This is a newer Windows 11 feature, separate from the legacy Control Panel, and can silently suppress/hide the classic Custom/Enhancements/AGC tab while active.
2. **Same Input device page > Windows Studio Effects / "Voice Focus"** — Turn OFF if present. Newer AI-driven mic processing, independent of GPU/NPU, can behave like an aggressive AGC/noise gate.
3. **Legacy Sound Control Panel > Recording > [device] > Properties > Levels tab** — Check for a separate **Microphone Boost** slider (can add +20–30dB even with the main slider at 0). Zero it out.
4. **Same Properties dialog > Custom / Enhancements tab** — Disable AGC and any enhancements. (Note: this tab may be *missing entirely* while "Enhance audio" is on — that's the tell.)
5. **Same Properties dialog > Advanced tab** — Uncheck "Allow applications to take exclusive control of this device."
6. **VARA FM > Settings > Soundcard tab** — Confirm the exact device name is selected (not "Default Device"), and check VARA's own internal RX level slider, separate from Windows.
7. **Device Manager > Audio inputs and outputs > [device] > Details > Audio Processing Objects (APOs)** — Disable OEM-injected APOs one at a time (e.g., Fortemedia SAM Soft Effects, Voice Clarity, Realtek Audio Effects, Sound Research Audio Effects). Ruled out in this case, but worth checking since they sit below the standard mixer UI.
8. **Device Manager > USB controllers > Power Management tab** — Uncheck "Allow the computer to turn off this device to save power" for the controller feeding the relevant ports. (Not the cause here, but relevant given the ongoing USB selective-suspend issue on the Beelink gateway.)
9. **Power Options > Advanced settings > USB settings > USB selective suspend** — Set to Disabled if present. May be hidden under OEM power plans (e.g., "HP Optimized"); can be unhidden via elevated PowerShell:
10. `powercfg /attributes 2a737441-1930-4402-8d77-b2bebbba308a3 48e6b7a6-50f5-4782-a5d4-53bb8f07e226 - ATTRIB_HIDE`
11. **Isolation test (if all else fails): record directly in Audacity/Voice Recorder**, bypassing VARA FM entirely, to determine whether the raw signal is clean (points to VARA/Windows config) or genuinely clipped (points to true hardware gain/level mismatch requiring inline attenuation).

Key lesson for next time

Check **Enhance Audio** (Settings app, not Control Panel) *first* — before disabling APOs, hunting USB controllers, or swapping ports/hardware. Its presence also explains an apparently missing Custom/AGC tab in the legacy Sound Control Panel.