

# One-Way Audio on External VoIP Calls: Diagnostic and Resolution Guide for Zultys MX Deployments

Support Reference Document · Applicable to all Zultys ZIP models

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## Abstract

*This document is a reusable support reference for cases where a Zultys ZIP phone user can hear external callers but external callers cannot hear the user. The symptom is typically intermittent and does not affect internal calls. Following structured elimination of network, hardware, and signaling causes, the root cause in the documented reference case was identified as the absence of G.711 U-law (PCMU) in the device profile codec list — the primary codec required by external SIP trunks in North America. This guide covers the full diagnostic path and the corrective action to apply.*

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## 1. Symptom

The affected user answers an inbound external call normally. The user can hear the caller clearly, but the caller reports hearing nothing from the user's end. The call does not drop — signaling remains active throughout. Internal calls between extensions work correctly in both directions. The issue may be intermittent and difficult to reproduce on demand.

## 2. Applicable Environment

Component	Description
VoIP Platform	Zultys MX (any version)
Devices	Zultys ZIP series — 43G, 45G, 47G, 47GE, and similar models
Trunk type	External SIP trunk — North American carrier
Network	Any topology: LAN, VLAN-segmented, or VXLAN-extended VoIP segment

## 3. Diagnostic Process

The following areas must be evaluated and ruled out in order before applying a corrective action. Each item specifies the test method and the interpretation of a negative result.

### 3.1 Physical Hardware

Replace the phone unit, change switch ports, and perform a factory reset. If the symptom persists after replacing the device, hardware is ruled out as the cause.

### 3.2 LAN / VXLAN Connectivity

Ping the phone IP from a host on a different VLAN. Verify VXLAN tunnel state if applicable. Full connectivity with normal latency rules out the network layer.

### 3.3 Firewall / NAT

Confirm that other extensions on the same firewall receive external calls with audio in both directions. If they do, the firewall is ruled out.

### 3.4 SDP / Public IP Delivery

Enable SIP trace in the MX Administrator. During a live external call, inspect the `c=` field in the SDP. If it shows the MX public IP address, NAT handling is ruled out.

### 3.5 RTP Proxy Bypass

Review the extension media settings in MX Administrator. If the Direct Media or RTP Proxy Bypass option is not active, this setting is ruled out.

### 3.6 Firmware

Cross-reference the installed firmware version against Zultys release notes. If no known bug is documented for this symptom, firmware is ruled out.

### 3.7 Codec Profile

Open Device Profiles → assigned profile → Audio & RTP tab. Verify the codec list. If G.711 U-law is absent or not listed first, this is the root cause. See Section 4.

## 4. Root Cause

When all previous areas are ruled out, the cause resides in the **Audio & RTP configuration of the device profile** assigned to the affected extension. If **G.711 U-law (PCMU) is absent or not positioned as the primary codec**, the MX cannot complete audio negotiation with the external SIP trunk. The call connects at the signaling level — explaining why the user can hear the caller — but the return RTP stream fails to establish, producing silence on the caller's end.

Because this setting is scoped to the device profile rather than applied globally, an extension using an incorrectly configured profile will exhibit this behavior while all other extensions remain unaffected — which is why the issue appears isolated to a single user.

State	Codec Order
Incorrect ✗	G711 A-law → G729 A → G722 — G711 U-law absent
Correct ✓	G711 U-law → G711 A-law → G729 A

## 5. Corrective Action

Apply the following steps in the Zultys MX Administrator:

1. Navigate to *Device Profiles* → *[phone model]* → *[assigned profile]* → *Audio & RTP tab*.
2. Verify the codec list. If G.711 U-law is missing, add it and position it first.
3. Set final codec order to: **G.711 U-law** → **G.711 A-law** → **G.729 A**. Disable G.722 if not required.
4. Save the profile.

5. Go to *Users* → *[affected extension]* → *Re-provision device* to push the change without a physical reboot.

*Note: If multiple extensions share the same device profile and only one is affected, create a corrected copy of the profile and assign it exclusively to the affected extension to avoid unintended impact on other users.*

## **6. Verification**

After re-provisioning, request an inbound call from an external number and confirm that audio flows correctly in both directions. If the issue persists, enable a SIP trace in the MX Administrator and capture a live call to inspect codec negotiation in the SDP exchange between the MX and the external trunk.

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