

Required information for diagnosing Analog Line Issues

In order to diagnose line issues, we first run an ACIM Voltage Test on your phone system. Explained on Page 2 of this document.

If Line Voltage issues are found, we will advise and provide a screen shot of your system phone line tests. Please note: In the event we do test and find a line issue has occurred after first installation, our minimum diagnostics rate will apply.

IMPORTANT NOTE: See page 2 - Bell has confirmed standard voltage is usually 370 Ohms. If their technician comes on site and says "It's your phone system that's the problem." Provide them the screen shot of the line test we send you.

We will not get directly involved with your carrier, and *they must resolve the voltage issue*. If you require us to discuss the issue with the carrier, *our regular hourly rates* will apply for any and all telephone calls or on site communication with that provider, and will be invoiced accordingly.

Call log trace - Information required from you...

If other issues occur, which are NOT related to Line Voltage problems, we will require specific information to track and trace with the call logs.

Please provide the following information so we can trace the call logs to source the issue.

We will need a record from you for at least 5 calls - you can use the chart below to track and send back by printing this page:

- CALL DATE & TIME
- NUMBER CALLED / OR CALLING IN
- EXTENSION NUMBER THE CALL WAS TAKEN AT
- BRIEF DESCRIPTION OF THE PROBLEM, IE: AUDIO DROPPED, STATIC, POPPING, BROKEN CONVERSATION

Your company name:

DATE / TIME	NUMBER CALLED/CALLING IN	EXTENSION # INVOLVED	BRIEFLY DESCRIBE ISSUE

VOLTAGE TEST (ACIM) - How we diagnose problem lines

The ACIM tests your analog lines for VOLTAGE COMPLIANCE.

Line noise issues result because of **voltage changes**, which can occur in: due to wiring problems, wet weather, windy weather and a few other factors which change the voltage over time. **Symptoms of wiring problems can be:** static, popping and "echo talk back" on live telephone calls. The issue can be compounded if two parties *both* have voltage issues (IE: You and your caller have voltage issues: while talking, both lines compound and multiply call quality problems together).

Analog lines from Bell have always had voltage issues on many sites. This is due to aging wiring and issues beyond "Demarcation" which change line voltage condition with-out any warning. Bell technicians can also sometimes cause NEW issues when doing a service call for other parties on the same junction box in the neighborhood, beyond "Demarcation".

To identify problem analog phone lines - we run the "ACIM line test". We may have to run this test over a few days during weather changes to confirm if the lines are stable, or conditions change during weather changes.

The screenshot shows the 'FXO Port' configuration page with 'ACIM Settings' selected. A table lists ports 1 through 8 with their respective ACIM detection results. Port 2 is highlighted in red and labeled 'Problem line' with a red arrow icon. The other ports show standard voltage and capacitance values.

Port	ACIM Detection
Port 1:	370 Ω + (820 Ω 110 nF)
Port 2:	Problem line 350 Ω + (1000 Ω 210 nF)
Port 3:	370 Ω + (820 Ω 110 nF)
Port 4:	370 Ω + (820 Ω 110 nF)
Port 5:	370 Ω + (820 Ω 110 nF)
Port 6:	370 Ω + (820 Ω 110 nF)
Port 7:	370 Ω + (820 Ω 110 nF)
Port 8:	370 Ω + (820 Ω 110 nF)

ONGOING LINE ISSUES?

If you have regular issues or an intermittent voltage problem - **consider moving to our VoIP Telephone line service.**

In most cases, getting analog line issues resolved will be difficult as POTS (Plain Old Telephone Line Service) providers are not upgrading wiring or fixing old wiring.

This is where VoIP will solve line quality issues for you since your phone system already supports it! **VoIP is all digital, meaning the service is louder and much clearer vs. analog line service.**

IN EITHER CASE BELOW - The **MINIMUM VERIFIED SERVICE PROVIDERS VOLTAGE** IS HIGHLIGHTED IN RED.

BELL LINES - 370 Ohms is still "low quality" by ****today's standards****. But, **370 Ohms is also "standard" for Bell lines.** If voltage tests at 350 Ohms - this is the **ABSOLUTE lowest voltage allowed with the UCM systems.** Below that (320 Ohms, 275 Ohms, etc.) you will always have problems and in some cases, Bell will not or can not even fix those lines due to various reasons on their side. Voltage also changes once a call connects. Which can cause lowered voltage during active calls.

ROGERS LINES - 600 Ohms - NOTE: Rogers analog lines are VoIP lines which are converted to Analog from their telephone line box. ANY VARIANCE from 600 Ohms means there may be a Rogers Box Issue or telephone line cords themselves.

IMPORTANT - The PBX Phone System convert everything it hears on the analog lines to ALL DIGITAL. So line issues can be compounded as the volume is increased. Problem become even more present during conversion from analog line signal.