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CASDEM CONFERENCE RESOURCE

Phone Line Quick Reference

Troubleshooting guide for legacy utility meter communications, analog phone lines, and VOIP compatibility issues.

Legacy Meter → Phone/VOIP Line → Utility Data

When the line changes, the meter may stop communicating. Start with physical dial tone, cabling, and modem-friendly line settings.

Spark Energy | AlphaWifi connectivity support

Utility Meter Communication Triage

Use this fast diagnostic script before escalating to the phone provider or an independent phone technician.

NO — No Dial Tone

- Confirm number is active and bill is current
- Check cabling at meter and phone room / demarc
- Look for cut, vandalized, or damaged wiring
- Ask if the line is shared or provider changed

VOIP — Static / Incompatible Line

- Confirm if analog line changed to VOIP
- Check fax/data configuration for new VOIP line
- Ask about phone system hardware/software changes
- Verify no alarm, elevator, or other device shares line

Provider Call Script

Ask the phone provider to send a technician to the meter, not just test remotely.

- Physically verify dial tone at the meter
- Check termination in the phone room / demarc
- Re-terminate the line after provider changes
- Replace damaged cabling if found

Modem-Friendly Settings

Legacy meter modems may require the phone line to behave like an old-school fax line.

- G.711 uncompressed codec
- 20 ms packet size
- Transcoding cycles: 3
- Xcel: 2400 baud modem support

Quick decision point: If physical dial tone is present but communication still fails, escalate as a line-configuration or VOIP compatibility issue.

Source: Phone Line Quick Reference Guide. Designed for CASDEM webpage and conference handout use.

No Dial Tone: Full Diagnostic Checklist

Use this page when the meter phone line has no audible dial tone or appears fully offline.

POTENTIAL PROBLEM

- Is the phone number still active with your provider?
- Is your bill current and paid with your provider?
- Is the phone cabling properly connected to the meter?
- Is the phone cabling damaged, such as a cut or vandalized?
- Is the phone cabling still connected in the phone room / demarc?
- Is the phone line being shared?
- Did you change phone providers?

POTENTIAL SOLUTION

1. Check phone cabling for damaged wire.
2. Try a different phone line.
3. Call your phone provider and have a technician physically come to the meter to restore dial tone.
4. If you changed providers, the new provider may need to re-terminate the phone line.

Best escalation: request an on-site technician at the meter.

Static or Incompatible Phone Line: Full Checklist

Use this page when dial tone exists but the legacy meter modem cannot communicate reliably.

POTENTIAL PROBLEM

- Was the line changed from analog to VOIP?
- Were hardware or software changes made to the phone system?
- Was the new VOIP line configured as a fax line for data?
- Does the meter share the phone line with another device, such as an alarm system or elevator?
- Is the phone cabling damaged, such as split cabling?
- Was there a change in phone provider?
- Is the phone line fully connected in the phone room?

POTENTIAL SOLUTION

1. Call your phone provider and have a technician physically come to the meter.
2. Contact an independent phone technician when provider support is not enough.
3. Replace damaged cabling.
4. Try re-programming the port to: G.711 Uncompressed; 20 ms packet size; transcoding cycles - 3.

Key point: VOIP must be modem-friendly, not just voice-ready.

Xcel 2400 Baud Modem Support Notes

The line needs to act like an old-school fax line for legacy utility meter communications.

Important field note

Program the phone line like a fax machine.

Baseline VOIP configuration

- G.711 Uncompressed
- 20 ms packet size
- Transcoding cycles - 3
- Avoid line sharing with alarm, elevator, or other devices

Messenger Modem: Typical Telephone Line Specs

• AC Impedance:	600 Ohms
• Isolation from ground:	20 MΩ DC, 50 KΩ AC
• Voltage at Site:	42.5 - 56.5 Volts DC
• Loop Current:	20 - 140 mAmps
• Max voice power:	0 dbm
• Max data power:	-13 dbm
• Local loop loss:	16 db +/- 4 db
• Dial Tone:	350 & 440 Hz @ -13 dbm
• Busy Tone:	480 & 620 Hz @ -24 dbm
• Ring Signal:	20 Hz @ 100 Volts 2 sec on, 4 sec off
• Bandwidth:	300 - 3000 Hz
• Test Tone:	1004 Hz
• Maximum Noise Level:	-57 dbm

• Dropout:
- ✓ Definition: Signal minus 12 db
- ✓ Limit: Three dropouts in thirty minutes.

• Impulse Noise Limit:
- ✓ Definition: Signal minus 6 db
- ✓ Limit: Fifteen impulses in 15 Minutes

• Gain Hit:
- ✓ Definition: Signal ± 3 db
- ✓ Limit: Eight gain hits in 15 Minutes

Reference image retained from the original Phone Line Quick Reference Guide.

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FIELD ESCALATION SUMMARY

What to Do Before Escalation

A concise handoff page for facility teams, account teams, and phone technicians.

1 / PHYSICAL LINE

Confirm the basics

- Active number
- Paid provider account
- Dial tone at meter
- Cabling connected at meter
- Connected at phone room / demarc
- No visible damaged wire

2 / LINE CHANGES

Ask what changed

- Provider changed
- Analog converted to VOIP
- Hardware/software changed
- Shared with another device
- VOIP not set for fax/data
- Line not fully connected

3 / TECHNICIAN REQUEST

Escalate on-site

- Provider tech physically comes to meter
- Restore dial tone at meter
- Re-terminate line if provider changed
- Independent phone tech if needed
- Configure modem-friendly VOIP settings

Conference-ready note: This guide is intended for quick triage and technician handoff. Always follow site-specific utility and provider requirements.