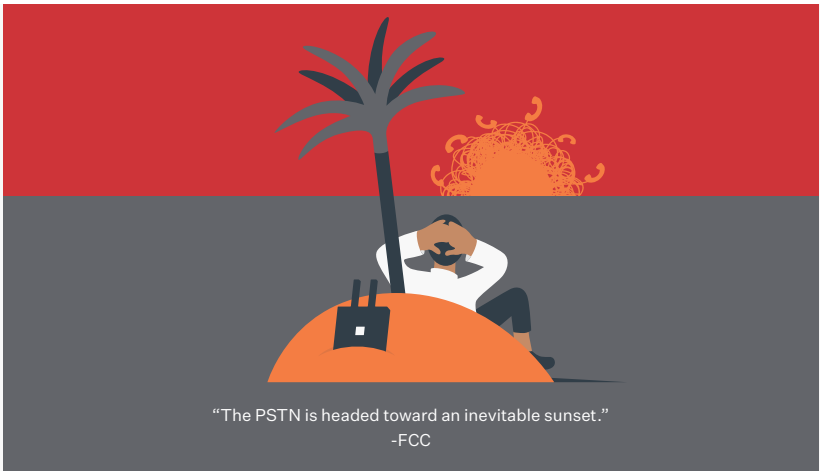
Ooma | TouchTone communications

Ooma AirDial Fire Safety Regulatory Compliance



When considering solutions to replace legacy POTS lines connected to fire panels, it's important the replacements comply with fire safety regulations. Ooma AirDial was built with the applicable guidelines of the National Fire Protection Agency (NFPA) in mind.

Introduction

Ooma AirDial is a full-featured drop-in POTS replacement solution for connecting alarm panels, elevators, faxes, PBXs, and other types of systems to the public switched telephone network (PSTN). It's a turnkey solution that is easy to install, remotely managed, and fully compatible with legacy lines from CLECs or ILECs.

POTS line replacement is a particularly relevant solution for fire panels. For this specific use case, AirDial was built with the applicable guidelines of the National Fire Protection Agency (NFPA) 72 code for communications equipment and services used with fire panels in mind. These guidelines are available here.

What AirDial is Not

Before outlining compliance, it is worth noting what parts of the fire code do not apply to AirDial.

- Although AirDial will connect on-premise with a Digital Alarm Communication Transmitter (DACT), also known as the "panel", it is not a DACT itself. AirDial will not perform functions such as fire detection or initiating calls to a central station in an emergency.
- Although AirDial will communicate with a remote Digital Alarm Communication Receiver (DACR), also known as the "central station", neither Ooma nor its dealers supply or operate a DACR.
- AirDial is not a security system. It is a connection device which transmits the signal from a specific location to a designated central station. AirDial does not ensure that the signal will always be transmitted.
- AirDial is not an "IP dialer capture module". AirDial does not attempt to intercept, interpret, translate, or otherwise manipulate the signals passing between the DACT and the DACR.

Benefits of AirDial

- Fully backwards-compatible with POTS lines
- No reconfiguration of fire and security panel required
- Easy-to-install and mount
- Remotely managed and monitored
- Fully managed end-to-end MFVN solution

Interested in learning more? Contact TouchTone Communications, an Ooma Authorized Partner, at 800.900.3668 or sales@touchtone.net.

Compliance Checklist

✓ Standby Power

Section 26.6.3.13.1.1 of NFPA 72 requires that communications equipment connected to the DACT must provide at least eight hours of secondary power capacity. AirDial includes an integrated backup battery that will supply more than eight hours of both standby and active usage of the device. Additionally, AirDial customers can monitor real-time battery status through the Remote Device Management (RDM) portal, including charge level and whether the battery is in use or not. Users can also program AirDial to send alerts, via email or SMS text message, for events related to the battery. These events include when the AirDial device changes from AC to battery power and when the battery charge level drops below 10%.

AirDial fulfills UL 2054 requirements for portable primary (non-rechargeable) and secondary (rechargeable) batteries for use as power sources in products. These requirements are intended to reduce the risk of fire or explosion when batteries are used in a product.

AirDial also conforms to UL-62368-1 which is applicable to the safety of electrical and electronic equipment with a rated voltage not exceeding 600 volts.

✓ Loop Start Interface

Section 26.6.4 of NFPA 72 requires that communications equipment connected to the DACT must provide a loop start interface. AirDial provides a standard loop start interface via its four FXS ports, each with an RJ-11 jack. AirDial does not provide a ground start interface.

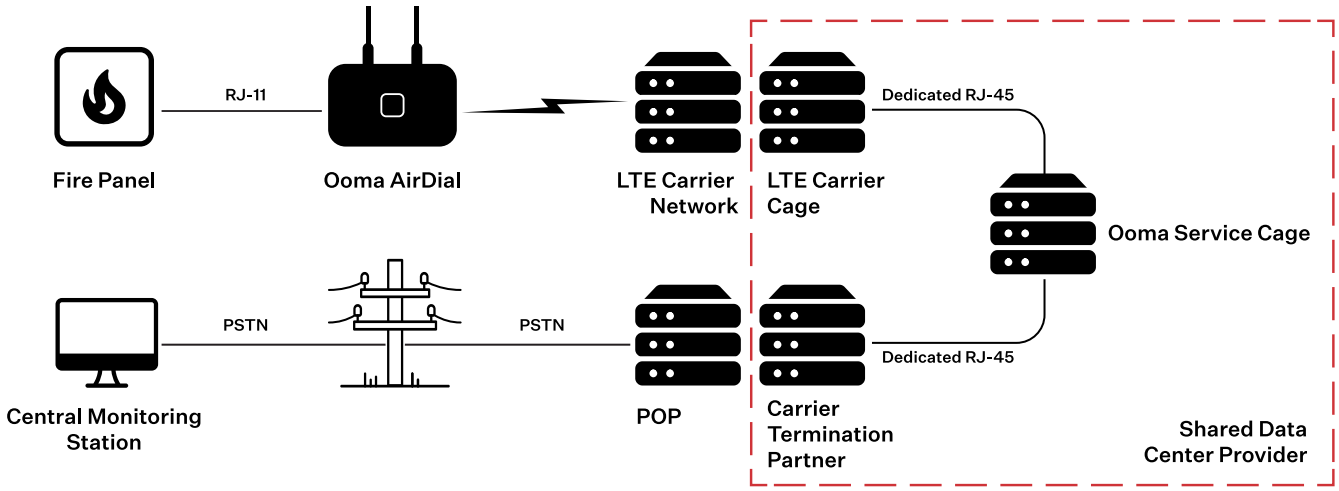
✓ Pathway Reliability

The NFPA 72 code requires communications paths for DACT to use a managed facilities-based voice network (MFVN), a physical network owned and operated by a voice service provider that delivers traditional telephone service via a loop start analog telephone interface. MFVNs are interconnected with the PSTN and provide dial tone to end users. Historically, this was provided by equipment at Bell company central offices; however, today's MFVNs can include a combination of access network (last mile network of copper, coaxial cable, or fiber optics), customer premises equipment (CPE), network switches and routers, network management systems, voice call servers, and gateways to the larger PSTN. Section 3.3.161 of NFPA 72 now describes a MFVN as “a physical facilities-based network capable of transmitting real-time signals with formats unchanged that is managed, operated, and maintained by the service provider to ensure service quality and reliability from the subscriber location to the interconnection point with other MFVN peer networks or the supervising station.”

AirDial routes all communications over network paths that are proactively managed and maintained by MFVN-compliant providers. Outbound AirDial traffic is first routed over an MFVN-compliant LTE cellular data connection. AirDial has partnered closely with our cellular provider to create a direct ethernet connection to the Ooma MFVN network in a shared data center. From Ooma’s data center, traffic is passed to an MFVN-compliant gateway provider, again with a direct hardwired connection in a shared data center. Our gateway partner then terminates the call to the PSTN.

This set of direct connections is designed so that **AirDial communications will not traverse the public Internet**. This is a critical feature of the AirDial architecture that is different from many VoIP solutions. In many competing solutions, traffic is handed off to the public Internet for one or more legs of the path.

In addition, Ooma AirDial has flexible support for combinations of communication pathways through a mix of LTE and wired broadband connections where specified or tolerated as pathway options by the Authority Having Jurisdiction (AHJ).



✓ Line Seizure

Section 26.6.4.1.3 of NFPA 72 requires that DACTs must be able to seize the line and disconnect any outgoing or incoming telephone call and prevent use of the line for outgoing calls until signal transmission is completed.

Each AirDial FXS port and its associated RJ-11 connector operates as an independent POTS line replacement. AirDial does not allow multiple virtual lines to be assigned to any single FXS port. AirDial does not operate as a "party line".

It is recommended that each AirDial port be connected to only one device. If AirDial is replacing a POTs line serving multiple devices, those other devices should be re-assigned to use additional FXS ports on AirDial, or on additional AirDials as necessary.

If a single AirDial line must be used to support multiple devices, the line seizure equipment, such as an RJ31X device, must be inspected and approved by the AHJ. AirDial is intended to behave just as a legacy POTS line would behave in this situation, with the same on-hook and off-hook behavior.

✓ Central Office Requirements

MFVN requirements in Section A.3.3.161 of NFPA 72 provide that central office facilities maintain 24 hours of standby power supply capacity. The equivalent of "central office" for AirDial are the data centers through which traffic is routed and terminated.

All data centers in the AirDial MFVN network include more than 24 hours standby power capacity.

Section A.3.3.161 also requires that network equipment be safeguarded to prevent unauthorized access to the equipment and its connections.

All of AirDial's data centers include extensive security measures to allow only authorized access to the equipment. AirDial data centers maintain disaster recovery plans to address both individual customer outages and widespread events such as tornados, ice storms or other occurrences of a catastrophic nature, which include specific network power restoration procedures equivalent to those of traditional landline telephone services.

Conclusion

In its design of Ooma AirDial, Ooma has considered the applicable regulations related to POTS line replacement in fire safety applications, including MFVN, standby power, loop start support, line seizure support, and end-to-end pathway reliability. The Ooma team and its distributors look forward to working with customers and AHJs to replace legacy POTS lines with AirDial and enhance the value of systems that require analog phone connections.