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Subject: Dialer Troubleshooting

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The Edwards dual line dialers (F-DACT for E-FSC conventional panels and SA-DACT for E-FSA addressable panels) are designed to work on POTS (Plain Old Telephone Service) analog phone lines over a PSTN (Public Switched Telephone Network). You should avoid using DSL (Data Subscriber Lines) and VoIP (Voice over Internet Protocol). These can cause difficulties with the dialer's ability to successfully send information to the central station. Some local codes do not even allow the use of them for fire alarm systems.

A DACT must always be the first device connected to the building's incoming phone line(s). Although NFPA 72 does not require dedicated phone lines, some local jurisdictions do, and are preferred when possible. For proper wiring, refer to the installation sheet supplied with each dialer.

If a dialer is having problems sending information to a Central Monitoring Station (CMS), it could be for several reasons. Troubles that may appear on the panel include Dialer Line 1(2) Fault, Dialer Configuration Trouble, and Dialer Delivery Failure. This bulletin will help explain what each trouble is, and what can be tried to correct it.

Before a dialer is connected to telephone lines, the lines should be checked to be sure they are working properly. The best way to do this is to connect a regular phone to the same RJ31X style jack that the dialer will plug into. First listen for dial tone. If no tone, check lines. If good tone, then try dialing the number that will be used to call the CMS (use the number given to you by the CMS for the account you have set up with them). You should hear the CMS receiver pick up, and then a tone or squealing (like a modem) sound on the other end. If you do not hear the receiver pick up, check the phone number.

### **Dialer Line 1(2) Fault**

Possible causes -

- A break in the phone line.
- A ground fault on the phone line.
- Incorrectly wired RJ31X style jack (refer to installation sheet provided with dialer).
- Poor cable connection (cable plug to dialer and/or cable plug to RJ31X jack).
- Excessive electrical noise on the phone line (sometimes caused by premises devices wired after the dialer, such as fax machines).
- The dialer is connected to a DSL. The higher frequencies used to transmit data on DSLs can cause problems with the dialer. Even if filtered, problems can still occur.

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- The dialer is connected to VoIP (or cable modem). Should not use.
- Low phone line voltage. The minimum voltage is 10 to 12Vdc.\*
- Low phone line current. The minimum current is 10 to 12mA.\*

\*Note: The dialer needs to see proper voltage *or* current levels (does not have to see both at the same time). A premises phone incorrectly wired *in front of* the dialer when it goes off hook will drop both the voltage across and current through the dialer, possibly causing a fault. A phone off hook correctly wired *after* the dialer will drop the voltage, but not the current, therefore not causing a fault. To check for premises phones wired incorrectly, unplug the phone line from the dialer (not from the RJ31X jack side). Then listen for dial tone on all phones and fax machines connected to the line. *You should not hear a dial tone on any other device.* If you do hear a tone, the device is wired incorrectly in front of the dialer.

## Dialer Configuration Trouble

Possible causes -

- A new dialer that's never been programmed or communicated with a CMS may show a configuration trouble until it makes its first successful connection. If everything is wired and programmed properly, the trouble will clear after that first connection.
- The dialer is not programmed, but physically connected to the panel. If not ready for connecting the dialer to a CMS, you can configure the dialer as a Modem (and/or LCD) only. You should have working phone lines, CMS account number and phone number(s) before you configure the dialer for central station reporting.
- The dialer is programmed, but not physically connected to the panel. Check the ribbon cable connections from the dialer to the panel's motherboard.

## Dialer Delivery Fail

Possible causes -

- Problems with phone lines (see Dialer Line 1(2) Fault).
- The dialer is not programmed (see Dialer Configuration Trouble).
- The phone numbers programmed into the dialer are incorrect. Verify phone number by using a regular phone and calling the CMS. If it's the right number, verify number is programmed correctly into dialer (if using two numbers, check both).
- Dialer is dialing too fast. Try changing the Line 1 (and 2) Dialing from Tone to Pulse. Can also insert a comma if a pause is needed between any digits.
- The CMS account number is wrong. Note: The account number is 4 digits. The default is FFFF. If left at default, the dialer will not dial out.

If everything checks out ok but the dialer still does not successfully connect with the CMS, with the E-FSA addressable panels there are two advanced configuration settings that can be adjusted that may help (not available with the conventional panel). *The following should only be changed as a last resort...*

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In the FSA-CU configuration utility program, on the CMS tab > Telco Dialer, there's a Properties box to the right (see figure 1). Under Properties there's a setting called Advance Configuration. By default this is left at No. Change this to Yes by clicking in the box next to Advance Configuration. You'll then see two additional choices appear: DTMF High Tone Level and DTMF Twist Ratio. You can try adjusting each of these up or down until the dialer connects (you'll have to make a change, test the dialer, if no connection, go back and make another change, etc.).

It is suggested that you start by increasing the DTMF High Tone Level by 1. Sometimes that's all it takes. Otherwise you may have to try different settings until you get it to work. Adjusting these settings may also overcome problems with using DSL (although DSL is still not recommended).

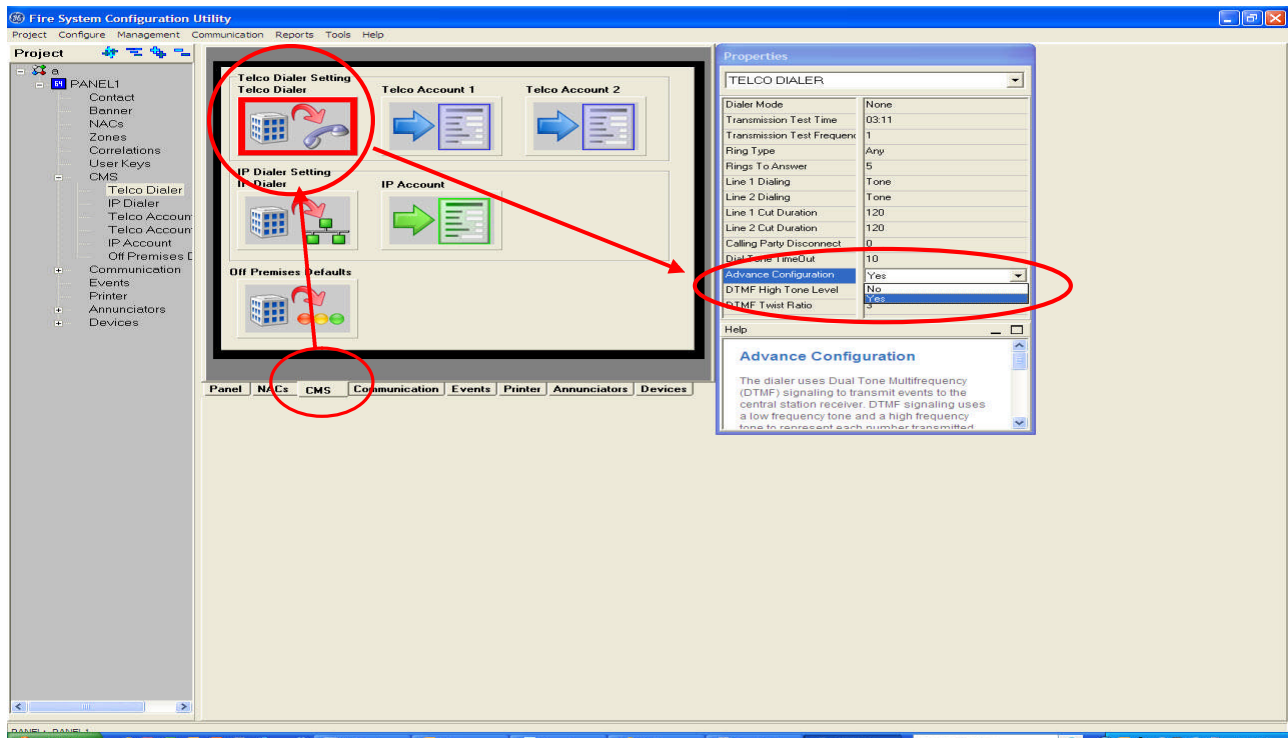


Figure 1

In most cases you can leave the rest of the dialer Properties settings at their default values. One exception, however, may be the Rings to Answer. With the FSA-CU and a modem on your pc, you can call into the panel for programming and status information. If the dialer is sharing a line with other in house devices, and someone calls in on that line, the panel's dialer may pick up the line before the premises device does. You can adjust the number of rings it takes for the panel to answer from 0 to 15. For example, you may want to set it to a higher number so that when a building is occupied, the people have time to answer the phone, but when the building is closed, you can still call into the panel with your pc. If you never want the panel to pick up, you can set the Rings to Answer to 0.