PRODUCT BULLETIN

DTMF Tones 8.13.C



Telephone Entry Systems

Touch Tone command operation

We often receive questions on the compatibility of Telephone Entry Systems with different telephone technologies, such as: Cell Phones, Cordless Phones, Digital Phone Service, Cable Phone Service, Fiber Optic service, VoIP, etc… This bulletin is to help clarify how Telephone Entry systems use simple Touch Tone commands to control the entry system operation.

FCC and DOC (Canada) Registration

FCC – DoorKing Telephone Entry Systems have been tested and found to comply with the limits for a class A digital device, pursuant to Part 15 of the FCC Rules and Regulations.
FCC Registration Number: **DUF6VT-12874-OT-T.**

DOC – The Canadian Dept of Communications label identifies certified equipment.
DOC Registration Number: **1736 4507 A**

Dual-Tone Multi-Frequency (DTMF)

Telephone Entry Systems utilize the standard DTMF tones generated from a telephone keypad to control the Entry System Functions. Dual-Tone Multi-Frequency, or DTMF, is a method for instructing a telephone switching system of the telephone number to be dialed, or to issue commands to switching systems or related telephony equipment. DTMF is basically telephone company lingo for the tones that you hear when you press the numbers on a touch-tone telephone. The version of DTMF used for telephone tone dialing is also known by the trademarked term Touch-Tone.

DTMF and Telephone Entry Systems

A Telephone Entry System utilizes these DTMF tones to control commands for the Entry System, such as to Open, Hold Open or Release the relay controlling an entry point. For example, dialing "9" is the default OPEN command for DoorKing Telephone Entry Systems. These are standard tones in all telephone devices, and for all types of telephone service providers. Standard hard wired phones, Cordless Phones, Digital Cordless Phones, Cell Phones and sophisticated multi-phone systems all provide these DTMF tones. However, there are factors that may affect the performance of the system:

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Factors that can affect DTMF Tone on Telephone Entry Systems:

Signal Strength / Digital Noise: The DTMF Tone can be affected by "Noise or Status" on the phone line, which interferes with the Tone quality of the DTMF tone. Cell Phones and Digital Cordless Phones may often encounter "Digital Noise". This is not something you hear like Buzzing or Static, but instead is the digital signal breaking up. An analogy of this is a voice breaking up on a Cell Phone. If you have poor signal strength, or encounter digital noise, this will break up the DTMF tone, and the Telephone Entry System may not recognize the Tone. This typically will occur when a cordless phone is too far from the base station, or when a cell phone has poor reception or poor signal strength.

Tone Duration: Most Telephone Entry Systems require a DTMF Tone duration of 50ms or more to activate the system. Telephone devices typically output minimum tone duration of around 100 ms. In some systems, the tone duration may be affected by signal strength or clarity. Cordless Phones and Cell Phones may output a shorter tone to help improve battery life. If this is affecting the system, dialing "99" can help overcome this issue.

Steps to help when Tone Open is not functioning on some phones:

Cell Phones: The two basic things to look for with Cell Phones are:

1. **Touch Tone Length:** Sometimes the Cell Phone uses very short pulse touch tones to save battery life. Or the Cell Service provider uses very short pulse tones. Here are some things to try:
    a. **Dial 99 to open gate**
    b. **Put phone in "speaker mode" and dial 9 or 99 to open the gate**
    c. **Turn OFF energy saving mode.**
    d. **Some phones have the ability to program for longer touch tones. Check phone manual.**
2. **Digital Noise:** Cell Phone noise is not static or noise that you can hear, but is indicated by signal strength. If you have low signal reception (1 or 2 bars) you may have problems with digital noise interfering with the touch tone. Try moving around to get a better signal.

1812 Models: ✱ 7 Call Down functions:

In the 1812, 1816 and 1820 series Telephone Intercom systems the ✱ key is used to initiate a "Call to the Entry System". An important part of this function is that the ✱ key must generate a DTMF Tone when activated. There are some brands of Cordless Phones that utilize the ✱ key as part of their "Speed Dialing" functions. For example, pressing "✱ 11" may dial your work phone number, and "✱ 12" may dial your friends phone number. In some phone systems using this Speed Dial function, the ✱ key will not generate a tone when it is initially activated. Check the manufactures user manual of the Telephone. There may be a combination required to get the ✱ key Tone. For example, you may have to dial "✱ ✱" or "✱ # ✱" to generate the Tone. An example would be dialing "✱ # ✱ 7" to Call Down to the Entry System. Check the user manual of the telephone for details on generating a ✱ key Tone.

Things to check at the Telephone Entry System:

"Noise" at the Telephone Entry System: If the Telephone Entry system has "Noise" on the system phone line, this can also affect the Tone Open functions. Hum, Static or Buzzing at the phone entry system interferes with the DTMF Tones. This can often be heard in the background when speaking to someone at the Entry System. If the Entry System has "Noise", the system may require service.

Telephone Entry Volume Settings: Another factor that may affect Tone Open functions is the volume setting at the Telephone Entry System. If the "Speaker Volume" at the entry system is set at an extremely high level, the DTMF Tones may be affected. This requires adjustments of the "Feedback Sensitivity" and the "Speaker Volume" to balance out the system.

Please contact DoorKing Technical Support for more information on this.