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Technical Specifications For Click2Enter-I.V4 Emergency Access Control System

Section 1: Operational Requirements

Items for the public safety official to consider when gathering information to be programmed into the Click2Enter-I.V4 (C2E) emergency access control units being deployed in your city, county or region (global programming data):

1. Activation "Pulse" Mode; Either Single Pulse or Double Pulse
    a. The C2E can operate in either a single pulse or double pulse mode, this feature can be set on a channel by channel basis. However, it is recommended that you assign one operational mode for your city, county or region to avoid confusion among the various system user/s:
        i. *Double Pulse Mode*: In this mode two distinct pulses are required to operate the device. Using this mode will generally prevent almost all unwanted activations. This mode is not able to be used in conjunction with trunk'ed radio systems that don't have simplex or off trunk frequencies allocated. Training support for double pulse activation is available at our website: ***www.click2enter.net/tutorial/index.asp*** and follow the instructions for the simulator.

Single Pulse most widely used and preferred method.

        ii. *Single Pulse Mode*: This allows for an on-trunk activation of the C2E (in most cases). Simply key the transceiver once and release after the LED goes off and the C2E opens. The potential for unwanted activation is increased slightly in this mode, thus we encourage a tighter operational range setting to support single pulse activation. All of the allocated trunk frequencies will need to be programmed into the C2E in order to work in an "on-trunk" mode.
2. Frequency Assignment
    a. Selection of a frequency to operate the C2E does not mean that you lose the ability to continue to use it for communication purposes, this just informs the user/s of the system what channel to select in order to operate any C2E deployed in your city, county, or region.
    b. Since the C2E can manage up to 100 different frequency assignments you can generally setup your system to accommodate many different channels/agencies. Mutual aid agencies should be considered in your basic set of allocated activation frequencies to include: Fire, EMS, Sheriff, Police, Regional Fire, Public Works etc.
    c. In a standard radio system you might consider allocating a main (repeat) carrier and another direct (non-repeat) frequency. This would support routine and non-routine activations of the C2E.
    d. The C2E requires the use of "**TRANSMIT**" (TX) not receive (RX) carrier/frequency of the mobile and portable radios. Also, described as "Repeater Input"
    e. Private Line (PL) or Digital Private Line (DPL) coding (CTCSS). The C2E can accommodate either a PL or DPL code assigned along with your selected operational activation frequency. These codes offer a little more specific selectivity and enhanced security, however they are not mandatory. Be aware that most public safety agencies opt **not to allocate** them as the level of operational security provided by the carrier frequency is clearly acceptable for gate activation.

Simplex mode, talk-around, or direct mode is the preferred method.

    f. When setting up operation for a trunk'ed radio system you will need to provide all of the available frequencies of the system. This includes the command channels as well. The C2E requires the repeater "input" frequencies typically allocated to the mobile and portable radios (the repeater TX frequencies will not work). However, the preferred method of operation for a trunk system is by way of simplex mode, talk-around, or direct mode.
3. Latch Back
    a. Consideration should be given to whether or not you want the C2E to hold open the gate for a pre-set period of time to support the arrival of back-up or support engines. The C2E can hold open the gate in increments of: 1) 1-59 minutes [M]; 2) 1 to 15 Hrs. [H]; 3) Stay Open permanently [S] with a hard reset required (Highly specific function rarely used).
    b. The C2E can also, once in latch back mode, be set to either "override" or "non-override" mode.
        i. *Override*: Simply if latch back is initiated the system can be pulsed another time and the gate will close; the system opens and closes on command.
        ii. *Non-Override*: When set in this mode the C2E will hold the gate open for the predetermined amount of time and not allow an override request to close. In this mode the activation LED blinks in a slow mode to indicate that it will not accept another pulse request pending it's completion of the countdown time interval assigned.

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4. Range of Operation
    a. Typically the portable setting for operation is approximately 20 Ft., which places the mobile radio operation (vehicle) at about 80 Ft. to 100 Ft. Greater distances of operation can be achieved, but consideration should be given to the potential of unwanted operation with greater distances. Generally, the 20 Ft. portable and 80 Ft. to 100 Ft. mobile settings do well for all emergency access situations.
5. Password Assignments
    a. The C2E supports two levels of password assignment to facilitate programming and access to stored data. Typically the LEVEL 1 password is allocated to the installing dealer. The LEVEL 2 password is available to the public safety agency of jurisdiction for purposes of assigning their own system-wide point of access. This system wide access porthole facilitates access to any unit in the field by a designate of the agency of jurisdiction to make changes the C2E or allow access to the stored data.
6. TDMA Radio Systems
    a. The C2E receiver will not operate with TDMA radio systems in the “DIGITAL” mode. However, the C2E will operate on any TDMA channel/frequency set in the “ANALOG” mode.

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Section 2: Click2Enter-I Features

- MODIFIED SCANNING RECEIVER RADIO
- VARIABLE ACTIVATION RANGE VIA PROGRAMMING
- ONE OR TWO RADIO TRANSMISSION “CLICKS” FOR ACTIVATION
- 100 CHANNEL CAPACITY (PRIMARY OPERATINAL BANK)
- MUTUAL AID COMPATIBLE
- INDEPENDENT RELAY CONTROL FOR ROLL-UP DOORS
- BRIGHT ACTIVATION LED AND POWER LED
- TIME/DAY/AGENCY MEMORY RECALL
- CTCSS, PL/DPL PRIVATE LINE (PL) PROGRAMMING CAPABILITY
- AUTO DETECT AND LOAD OF PRIVATE LINE CODES
- COMPATIBLE WITH ANALOG OR DIGITAL RADIO TRANSMITTERS, USING PRIVATE LINE SUB-AUDIBLE TRANSMISSIONS
- WILL OPERATE WITH CARRIER ONLY FOR USE WITH DIGITAL RADIO SYSTEMS
- ENHANCED USER-PROGRAMMABLE LATCH OPEN FEATURE LETS YOU SPECIFY GATE OPEN PERIODS FROM ONE MINUTE TO UNLIMITED
- LATCH BACK AND HOLD FEATURE FOR EXTRA SAFETY
- ABILITY TO HANDLE HIGH POWER MOBILE TRANSMITTERS AND LOWER POWER HAND HELD PORTABLE TRANSMITTERS
- PROPRIETARY PROGRAMMING SOFTWARE BUILT INTO EACH UNIT
- FIELD PROGRAMMABLE USING EITHER A LAPTOP OR NET-BOOK COMPUTER WITH TERMINAL EMULATION SOFTWARE
- PROGRAMMABLE VIA USB STANDARD TO MINI JACK
- USER-SELECTED PIN FOR SECURITY OF PROGRAMMED FREQUENCIES
- ABLE TO CAPTURE AND EXHIBIT ACTIVATION DATA LOG, VIA SOFTWARE
- COMPUTER SOFTWARE PROGRAMMABLE USING STANDARD TERMINAL EMULATION SOFTWARE
- USES REGULATED 12V TO 24V DC @ 500mA POWER SUPPLIES
- LIGHTNING SURGE CURRENT PROTECTION KIT AVAILABLE
- REFLECTIVE LOGO FOR NIGHT IDENTIFICATION.

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- ABLE TO USE TALK AROUND CARRIERS (CAR TO CAR) OF TRUNK LINE RADIO SYSTEMS
- ABLE TO OPERATE IN AN "ON-TRUNK" MODE TRUNK'ED RADIO SYSTEMS (SINGLE PULSE MODE ONLY)
- ABLE TO RECEIVE RADIO TRANSMISSIONS TO INCLUDE ALL PUBLIC SAFETY BANDS
- LATCH OPEN AND CLOSE FEATURES
- UNIT ENCLOSED IN A NEMA TYPE 4 BOX, WITH SECURITY SCREWS SUPPLIED
- RELAY OR DRY CONTACT READY
- EXTRA SET OF RELAY CONTACTS TO ACTIVATE A MULTITUDE OF DEVICES
- RETROFIT KITS AVAILABLE FOR OPERATION BELOW 0° F

Section 3: Click2Enter-I.V4 Mounting Guidelines

The purpose of this guide is to provide installers some insight into how to best install the device for use by public safety agencies.

1. <u>Faceplate must be visible</u>. The Click2Enter-I.V4 (C2E) faceplate (blue-shield) shown here at the right of the page has two LED's that must be seen in order to operate it properly: **(A)** POWER LED **(B)** ACTIVATION LED. It is critical that these lamps be clearly visible to approaching emergency vehicles. Typical range of operation 100 Feet to 200 Feet. The blue reflective logo on the box also assists emergency responders in confirming that the gate is equipped with a Click2Enter system.

2. <u>Exit Activation Box & LED</u>. For those gates that DO NOT have a free exit loop a Click2Enter exit activation box and LED must be used. This supplemental device will allow for unit control from both front and back. PART NUMBER: EABL12VDC

3. <u>Secure installation</u>. Installation of the box must be done in such a way as to detour vandalism or theft. It is highly recommended that the C2E unit be mounted high enough that vandals cannot reach it.

A properly installed C2E box is clearly visible to approaching traffic.	This is an improper installation. The box does not face oncoming traffic. The indicator light cannot be seen by emergency personnel.

To review, it is highly recommended that the Click2Enter-I.V4 be mounted so that the operator can clearly see the operation LED and power LED. Both of these LED's provide important feedback to the operator. Also, Click2Enter-I.V4 has a reflective logo on its front panel to assist in immediate identification during night use. The C2E can be mounted on a post placing it out of reach in areas prone to vandalism. Another mounting location can be behind the gate thus keeping it out of reach (Note: The C2E still needs to be in sight of the operator.

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The C2E plastic enclosure has mounting brackets molded into it (the C2E comes complete as one box). We suggest that you use security head screws or bolts when mounting the unit, to prevent theft. For projects that require a more low profile approach the C2E can be mounted out of sight and a smaller external LED/Activation box (kit) can be used. The C2E activation LED circuit can operate the external LED in parallel up to a distance of 100 Feet from the control unit. Call your Wholesaler, Dealer, or Click2Enter, Inc. to ask about this additional kit (Part Number): **EABL12VDC** Exit Activation Box & LED (see below Section 8 for more details)

Section 4: Click2Enter-I Environmental Guidelines

A. Click2Enter-I.V4 has a minimum and maximum operating temperature specification:

- ***Maximum Range:*** 158°F For most high temperature applications, the maximum rated temperature of the unit is **158°F**. For best operation, mount the unit in a location where it is shaded from direct sunlight. Should it be necessary to mount the unit in the direct sun, you may purchase an after-market sun bonnet retrofit device from Click2Enter, Inc. You may also add your own shade device to adequately shade the C2E and expand its upper limit temperature range.
- ***Minimum Range:*** 15°F The low end operations of the C2E is **15°F**. For installations that may subject the C2E to a temperature range below this limit, you may purchase an after-market retrofit heater kit from Click2Enter, Inc. The heater retrofit kit will allow operations well below **0°F**.

Note: The Retrofit Heater Kit (Part Number): **RHK24VAC** *Kit includes*: Thermostat, plug-in power supply, glue-on heater pad (Permits operation in cold climates to [≈] -20 deg. F or lower).

Section 5: Click2Enter-I.V4 Power Requirements

Due to the highly sophisticated design of the C2E radio receiver, there is a significant problem with AC line noise that can be passed into the radio receiver of the device. In order to provide optimal operation of the system we ONLY recommend using a REGULATED 12V DC to 24V DC @ 500mA power source.

Section 6: Click2Enter-I.V4 Gate Operator Hookup Requirements & Settings

Operators Without Battery Backup

Install the Click2Enter-I.V4 where the top and bottom LED lights and the reflective sticker can be seen. Also, note that the logo is reflective for night identification so mount the Click2Enter-I.V4 in a visible location:

1. Install two wires from the appropriate transformer to the power terminals. Use the “Power In DC” block REGULATED 12-24 V DC @ 500 mA power. The Click2Enter-I.V4 uses ≈160 mA in resting state and ≈250 mA in the latch state with applied 12V DC.
2. Install the two wires from terminal block “Gate (A)” (gate operation) on the C2E to the keying relay terminal and the common terminal. The proper location on the operator terminal strip will be designated by the manufacturer’s instructions. This device needs to be set up as a keying and hold-open function. The C2E should be connected to a fire switch terminal. NEVER connect the C2E to safety or auxiliary terminals.

Note: Be sure to check with your manufacturer instructions to identify proper terminals for hold open activation.

3. Terminal block “Option (B)” on the C2E is used for an optional relay. You can then run wires to any low voltage load (up to 1 amp) that you wish to key. This relay does not have a timed function. If you need a timed relay for your auxiliary devices, you must install a timer circuit.

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4. CAUTION: Damage may occur to C2E relays from systems using relays that deliver a high counter EMF. Click2Enter-I.V4 can ONLY accommodate micro-volt systems. Call for an isolation relay kit to protect C2E in high counter EMF applications (see product specifications at the end of this manual).

Note: The Click2Enter-I will not activate when power to the operator has failed. This condition will be shown by no visible power LED.

Operators With Battery Backup

1. Hook up the power by connecting the Click2Enter-I.V4 terminal block "Power in DC" to a transformer rated at REGULATED 12V DC to 24V DC @ 500mA. Set the operator to open automatically during a power failure situation. Once power is restored the gate and C2E will return back to normal operation.

   Battery back up systems have two modes of operation:

   - Open and hold when there is a power failure. Install Click2Enter-I.V4 as recommended above.
   - Remains closed and opens when the radio control device has given the signal to open. It will stay open until the power comes back on. NOTE: This mode is NOT recommend by Click2Enter, Inc.

2. Exterior battery back up system. This is usually an inverter type system providing 110 VAC to the gate operator. With this type of system, you may connect the Click2Enter-I.V4 in the same manner as if there were no battery back up system.

***Note*:** Consult your gate operator manufacturer for proper installation for battery back up systems.

***Caution*:** The Click2Enter-I.V4 must be used only when the gate is visible and there are no obstructions or people present. Never bypass or disable any of the manufacturer gate safety systems or those required under the UL325 guidelines.

Section 7: Click2Enter-I Enclosure Specifications

The 6"x4"x3.5" enclosure is UL/C-UL-50 Listed and meets types 2, 3, 3R, 3S, 4, 4X, 5, 6/6P, 12 and Marine Use. It has very high impact resistance, over 900 in/lbs. It is light gray in color with a gloss finish, and provides a very high aesthetic. The thermoplastic polycarbonate material is very easy to machine or punch. Review Engineering Information and Chemical Resistance to check for your specific needs. The enclosure is rated as a NEMA 4X. When tightening the security screws, to secure the door, DO NOT over tighten. The best gauge to use, when tightening the security screws, is to tighten the screws so you can **slide a standard thickness business card** between the door/lid and enclosure base. Do not tighten so that the enclosure door and box base touch.

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Section 8: Click2Enter-I.V4 Exit/Activation LED Kit

The Click2Enter-I.V4 "Exit/Activation LED Kit" can be used in those installations that do not have a "free exit loop" type of exit control of a gate. This unit is installed on the EXIT direction so the public safety user/s can see the pulsing LED to activate the Click2Enter-I.V4 unit.

Another use for this kit is in the type of project that you might need to hide the main C2E unit from view due to esthetics. This remote kit can be mounted on the gate pedestal (100 Feet maximum from main C2E unit) to replace the main poly carbonate enclosure.

Section 9: Click2Enter-I.V4 Commercial Roll-Up Door Specifications

If you are going to specify a Click2Enter-I.V4 unit for a commercial roll-up door project please call Click2Enter, Inc. to discuss your project as each one can vary in it's application and needs. Typically, Click2Enter systems are widely used for county jail and police department sally-port control. Since there are so may different ways to install any such system we do recommend calling so we can assist you in designing the safest and most functional system possible. Some of the basic features that need to be considered are as follows:

- Since commercial roll-up doors are high voltage systems and the Click2Enter-I.V4 relays are designed for low voltage control you WILL need to use an isolation relay kit for each door the C2E will be controlling. The part number for the isolation relay is as follows: Step-up Power Relay Part Number **SPTD12VDC**; 12V DC 40 Amp power relay SPDT with wired socket.
- Since Sally-Ports are access ports into the jail we do recommend the use of an enabler in order to add a second layer of safety to the activation of the door. When using an enabler the vehicle or person must be parked or standing within the enabler control zone so as to allow an activation pulse from the radio transmitter. A feedback device can be used to inform the operator that they have parked or are standing in the enabler zone or a simple painted line on the pavement will do. We have had excellent operational experience recommending the following enabler devices; both carried by MS SEDCO, Inc. 8701 Castle Park Drive, Indianapolis, IN 46256 Phone (800) 842-2545:
    1. Automatic Door Sensors Part Number **DH100** Max installation height 9 feet.
    2. Automatic Door Sensors Part Number **DH17i** Max operational installation height between 10 and 20 feet.