

LiftMaster®



access controls
spec sheets

LiftMaster®

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Access Control Systems:

1. Self-contained stand alone access control systems. (LiftMaster / Sentex PROkey, Sentex PROcard)
2. Stand-alone Self-contained Keypad Access Control System. (LiftMaster / Sentex MINIkey)
3. Wireless Access Control Keypad. (LiftMaster)
4. Wireless Single Push-Button Control. (Liftmaster)
5. Wireless Three-Button Control Station. (LiftMaster)
6. Passport Stand-Alone Proximity Card Reader. (Liftmaster PPLX)
7. Passport Handheld Proximity Radio Programmer for PPLX. (Liftmaster PPRP)
8. PC-based access control system. (LiftMaster / Sentex EM3000)
9. Remote control access systems. (LiftMaster / Sentex CLIKcard, Sentex AUTOkey)
10. Commercial universal receiver with antenna. (LiftMaster Star 450)
11. Universal receivers. (TriCode TCr1 Channels, TriCode TCr2 Channels, TriCode TCg1 Channels, TriCode TCg2 Channels)
12. Universal transmitters. (TriCode TC1 Channels, TriCode TC2 Channels, TriCode TC4 Channels)
13. Office building or residential community access entry system. (Q System)

B. Telephone Entry Control Systems:

1. Telephone entry systems for multi-family buildings and gated communities. (LiftMaster / Sentex Spectrum, Sentex Spectrum DI (Vista))
2. Commercial and gated community telephone entry systems. (LiftMaster / Sentex Horizon "H" Surface Mount, Sentex Horizon "H" Flush Mount, Sentex Horizon "M")
3. Single tenant telephone access systems. (LiftMaster TAC1, LiftMaster TAC2C, LiftMaster TAC2CK, LiftMaster TAC2D)
4. Office building or gated residential community telephone entry systems. (LiftMaster / Sentex Infinity "L", Sentex Infinity "M", Sentex Infinity "S", Sentex Infinity "DI", Sentex Infinity "B")
5. No phone bill interface (NPBI) telephone entry systems. (LiftMaster / Sentex Ovation "S", Sentex Ovation "S" Flush Mount, Sentex Ovation "V", Sentex Ovation "V" Flush Mount, Sentex Ovation "VP", Sentex Ovation "LP")
6. Residential and gated residential telephone entry systems. (LiftMaster / Sentex Crown Jewel)
7. Residential and light commercial telephone entry control system. (LiftMaster / Elite EL25)
8. Commercial and gated community telephone entry system. (LiftMaster / Elite EL2000)
9. Telephone entry/access and perimeter control systems. (LiftMaster / Elite Dial Code LC, Elite Dial Code VF)
10. Multi-tenant telephone entry/access control systems. (LiftMaster / Elite Icon26, Elite Icon26 HT)
11. Dial Code and Icon26 Accessories. (Liftmaster / Elite Wireless Communicator RS485)
12. Wireless Access Accessories. (Liftmaster Passport Receivers, Remote Controls)
13. Freestanding housing for telephone entry systems. (LiftMaster / EliteTower1, IconTower1,

EliteTower2, IconTower2)

C. Parking Control Systems:

1. High-performance, DC powered barrier gate operator and accessories. (MADCBB, MATDCBB)
2. High-speed, DC powered barrier gate operator and accessories. (MASDCBB, MASTDCBB)

1.2 RELATED SECTIONS

- A. Section 03300 - Cast-In-Place Concrete: Concrete mounting pads.
- B. Section 16050 - Basic Electrical Materials and Methods.
- C. Section 16720 - Telephone Entry Systems.
- D. Division 16 - Requirements for electrical connections.

1.3 REFERENCES

- A. Underwriters' Laboratory (UL):
 1. UL 325 - Standard for Safety for Door, Drapery, Gate, Louver, and Window Operators and Systems.
 2. UL 991 - Standard for Tests for Safety-Related Controls Employing Solid-State Devices.
- B. NFPA 70 - National Electrical Code.
- C. FCC Regulations.
- D. Canadian Department of Communications.

1.4 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Submittals:
 1. Manufacturer's Data: Submit copies of the following:
 - a. Product Data Sheets and system description.
 - b. Installation Instructions.
 - c. Authorized Dealer Certificate and Certified Training Certificates of installers who will be working on this project.
 - d. Block diagrams.
 - e. Equipment list.
 2. Shop Drawings: Submit the following:
 - a. Access system layout and locations, including size requirements.
 - b. Detailed wiring diagrams of access equipment.
 - c. Load calculations of all equipment for proper sizing of electrical provided by the

- customer and standby emergency generator circuits.
3. As-Built Drawings: Update Shop Drawings to create final As-Built Drawings. Submit 3 copies and digitally in AutoCAD 14 or later format on a CD (3 copies).
 4. Operation Data: Include three (3) copies of the software Administrator and Operator Manuals.
 5. Maintenance Data: Include maintenance and repair procedures.
- C. Submittals:
1. Product Data: Equipment list, system description, electrical wiring diagrams for installation, and manufacturer's data sheets on each product to be used, including:
 - a. Preparation instructions and recommendations.
 - b. Storage and handling requirements and recommendations.
 - c. Installation methods.
 2. Shop Drawings: Submit shop drawings showing layout, profiles, and product components, including anchorage, edge conditions, and accessories.
 - a. Operation, installation, and maintenance manuals including wiring diagrams.
 - b. Risers, layouts, and special wiring diagrams showing any changes to standard drawings.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging with labels intact until ready for installation.
- B. Schedule delivery of parking control equipment so that spaces are sufficiently complete that operators can be installed upon delivery.
- C. Owner will provide, on-site, a secure, dry, locked storage area for all equipment delivered under this scope of work.

1.6 QUALITY ASSURANCE

- A. Quality Assurance:
 1. Manufacturer: The access control system shall be from a single-source manufacturer that specializes in telephone entry control systems with a minimum of 5 years experience.
 2. Installer: Company specializing in access control systems with a minimum of three years experience on systems of similar size and scope. Technicians working on project must have been certified on the hardware and software used for this project.
- B. Assurance:
 1. Perform installation by factory authorized contractor specifically trained in gate operation systems of the type found within this section.
 2. Provide documentation of maintenance and repair service availability for emergency conditions.
 3. Provide quarterly maintenance for one year following Substantial Completion of the Project.

1.7 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

1.8 WARRANTY

- A. Manufacturer's Standard Warranty:
 - 1. Access Control System Warranty Period: 1 year.
 - 2. Telephone Entry System Warranty Period: 1 year.
 - 3. Telephone Entry/Access and Perimeter Control System: 3 years.
 - 4. Parking Control Warranty Period:
 - a. Electronics and Mechanism: 2 years.
 - b. Chassis and Cover: 10 years.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: LiftMaster / The Chamberlain Group, Inc.; 845 Larch Avenue, Elmhurst, IL 60126-1196. ASD. Tel: (800) 282-6225. Fax: (630) 993-6024. Email: specs@liftmaster.com. Web: www.liftmaster.com.
- B. Substitutions: Not permitted.
- C. Requests for substitutions will be considered in accordance with provisions of Section 01600.

2.2 ACCESS CONTROL SYSTEMS

- A. **Self-Contained Stand Alone Access Control System:**
 - 1. Acceptable Product: LiftMaster / Chamberlain Sentex PROkey keypad entry system for control of a single door/gate.
 - 2. Acceptable Product: LiftMaster / Chamberlain Sentex PROcard system for a maximum of two 26 or 30-bit card readers.
 - 3. Standard Features:
 - a. Capacity: 2,000.
 - b. Time Zones: Maximum of 8 time zones; supports automatic door/gate unlock, restricted personnel access. Seven zones have one stop and start interval each. Eighth time zone has full access.
 - c. Door Open Sensing Contacts: Contacts allow deactivation of control relays instantly when door is opened.
 - d. Alarm Shunt Relay: Notifies burglar alarm system that access was gained through proper means.
 - e. Programmable Relay Times: From 1 to 63 seconds.
 - f. Internal Clock: Integral date and time clock adjusts automatically for daylight

- g. savings and leap year.
- g. Activity Reports: Real-time transaction reports including each event, date and time; direct connection from unit to printer via RS422 connection.
- h. Password Protection: Database information protected with 6-digit password.
- i. Bulk Entry: Cardholders in same time zone can be downloaded as a group and edited as individuals.
- j. Facility Codes: Can match existing facility codes.
- k. Non-Volatile Memory: In event of power failure, database information is retained in memory allowing immediate start-up and operation when power is restored.
- l. Anti-Passback: Prevents more than one user from gaining entry via the same card.
 - 1) Timed Anti-Passback: Waits for pre-programmed period of time before code or card can be reused.
 - 2) True Anti-Passback: Requires use of exit reader.
- m. Strikes and Outs: Management specifies from 1 to 9 wrong entry codes entered consecutively before the system stops accepting codes for a 3-minute period.
- n. Lightning Protection: Installer shall provide external surge suppressors in addition to surge protection inherent in the entry system.
- o. Programming: Direct programming using built-in keypad and audio feedback.
- p. PROkey System Entry Code Length: 4 or 5 digits.
- 4. **PROcard Scheduled Lock/Unlock:** 30-bit system is programmable for automatic lock/unlock of doors/gates at separate times.
- 5. **PROcard Relay Control:** Supports two relays; one for main reader attached to unit; utilize second reader a maximum of 500 feet from main unit or to support alarm shunt.
- 6. **PROcard Reader Technology:** Provide the following reader with Wiegand output:
 - a. Proximity.
 - b. Wiegand.
 - c. Radio frequency.
 - d. Barium ferrite.
 - e. Biometrics.
 - f. Magnetic stripe.
 - g. Keypad.
- 7. **Dimensions:**
 - a. Surface Mount: 8 inches (203 mm) high by 6 inches (152 mm) wide by 3-1/2 inches (89 mm) deep.
 - b. Lighted Housing: 9 inches (229 mm) high by 7 inches (178 mm) wide by 4-3/4 inches (121 mm) deep.
- 8. **Power:**
 - a. 12 VAC.
 - b. 13.5 VDC.
- 9. **Enclosure:**
 - a. Surface Mount: Vandal resistant stainless steel faceplate and weather-resistant enclosure.
 - b. PROkey lighted housing.
 - c. PROcard Lighted Housing: Provide a barium ferrite reader.

B. Stand Alone Self Contained Keypad Access Control System:

1. **Acceptable Product:** LiftMaster / Chamberlain Sentex MINIkey; self-contained keypad

system for the control of a single door and gated entrances.

2. **Standard Features:**
 - a. Capacity: 500 names.
 - b. Relay Hold: Codes can be configured to latch relays open until they are unlatched by a second entry code to close.
 - c. Programmable Relay Times: Each relay independently programmable to activate from 2 to 255 seconds.
 - d. Time Clock: Access can be denied by preset times on dealer supplied time clock.
 - e. Variable Entry Code Length: 4 or 5 digits.
 - f. Password Protection: Database information protected with 6-digit password.
 - g. Non-Volatile Memory: In event of power failure, database information is retained in memory allowing immediate start-up and operation when power is restored.
 - h. Strikes and Outs: Management specifies from 1 to 9 wrong entry codes entered consecutively before the system stops accepting codes for a 3-minute period.
 - i. Lightning Protection: Installer shall provide external surge suppressors in addition to surge protection inherent in the entry system.
 - j. Programming: Direct programming using built-in keypad.
 - k. Lightning Protection: Installer shall provide external surge suppressors in addition to surge protection inherent in the entry system.
3. **Remote Keypad:** For applications that require an entry and exit keypad, or for control of a secondary entry point, provide remote keypad unit that connects directly to the main unit.
4. **Dimensions:**
 - a. Surface Mount: 4-1/2 inches (114 mm) high by 4-1/2 inches (114 mm) wide by 3-1/2 inches (89 mm) deep.
 - b. Flush Mount: 4-3/4 inches (121 mm) high by 4-3/4 inches (121 mm) wide by 3 inches (76 mm) deep.
5. **Power:**
 - a. 12 VAC.
 - b. 13.5 VDC.
6. **Enclosure:**
 - a. Vandal resistant housing with Stainless steel faceplate and side-lit metal keypad.
 - b. Wall mount.
 - c. Pedestal mount.

C. Wireless Keypad Controls:

1. **Acceptable Product:** LiftMaster / Chamberlain (WKP5LM3) Wireless Access Control Keypad.
2. **Acceptable Product:** LiftMaster / Chamberlain (WKP250LM3) Wireless Access Control Keypad.
3. **Standard Features:**
 - a. Up to 5, or 250 access codes.
 - b. Combines the simplicity of wireless installation with the robust feature sets of higher priced keypad controllers.
 - c. One-time code: Single use codes for visitors.
 - d. Wireless control of up to 4 gates.
 - e. Lockout mode: Locks system indefinitely for added security.

- f. Up to 500 ft. range.
- g. Keypad lighted when motion is detected.
- 4. **Dimensions:**
 - a. Surface Mount: 6 1/2 inches (165 mm) high by 4 5/16 inches (110mm) wide by 2 5/8 inches (67mm) deep.
- 5. **Power:**
 - a. 4 x AA 1.5 V dc batterys.
- 6. **Enclosure:**
 - a. Surface Mount: Vandal resistant plastic and weather-resistant enclosure.

D. Wireless Push-Button Controls:

- 1. **Acceptable Product: LiftMaster / Chamberlain (WPB1LM3) Wireless Single Push-Button Control.**
- 2. **Acceptable Product: LiftMaster / Chamberlain (WPB3LM3) Wireless Three-Button Control Station.**
- 3. **Standard Features:**
 - a. Wireless control of a single gate.
 - b. Up to 500 ft range.
 - c. Functions in the same manner as a single, or 3-button (333LM) remote control.
 - d. Use only with Chamberlain Logic 4 and Medium-Duty Logic commercial operators.
- 4. **Dimensions:**
 - a. Surface Mount: 6 1/2 inches (165 mm) high by 4 5/16 inches (110mm) wide by 2 5/8 inches (67mm) deep.
- 5. **Power:**
 - a. 4 x AA 1.5 V dc batterys.
- 6. **Enclosure:**
 - a. Surface Mount: Vandal resistant plastic and weather-resistant enclosure.

E. Stand Alone Proximity Access Control Device:

- 1. **Acceptable Product: LiftMaster PPLX / Chamberlain Passport Stand-Alone Proximity Card Reader.**
- 2. **Acceptable Product: LiftMaster PPRP / Chamberlain Passport Handheld Proximity Radio Programmer for PPLX.**
- 3. **Standard Features:**
 - a. 6 ft card reader range.
 - b. Capacity: 50,000 Users.
 - c. Inputs, single contact closure.
 - d. SPST Solid State Output Relay, 1A max. @ 60 Vac or dc.
 - e. Programmable Relay Times: From 1 to 65535 seconds, NO/NC.
 - f. Red/Green LED, and beep Indicators.
 - g. Multiple Wiegand Protocol Output: 34 bit Passport, 30 bit Sentex, 26 bit industry standard.
 - h. Programmable as Stand Alone, or Wiegand Pass-through.
 - i. 10 Facility Codes capacity: Can match existing facility codes.
 - j. Non-Volatile Memory: In event of power failure, database information is retained in memory allowing immediate start-up and operation when power is restored.

- k. Timed Anti-Passback: Prevents more than one user from gaining entry via the same card.
 - 1) Waits for pre-programmed period of time (01 to 99 minutes) before code or card can be reused.
 - l. Strikes and Outs:
 - 4. **Dimensions:**
 - a. Surface Mount: 4.5 inches (115 mm) high by 3.2 inches (82 mm) wide.
 - 5. **Power:**
 - a. 5 - 14 Vdc, 50mA idle, 150 mA Maximum.
 - 6. **Enclosure:**
 - a. Surface Mount: Vandal resistant plastic faceplate and single gang weatherproof outlet box.
- F. PC-Based Access Control System:**
- 1. **Acceptable Product: LiftMaster / Chamberlain Sentex EM3000; provides access control for employees, visitors and vehicles.**
 - 2. **Standard Features:**
 - a. Capacity: 3,000 cardholders.
 - b. Time Zones: Maximum of 32 standard time zones and 32 holiday time zones.
 - c. Maximum System Configuration: 255 access levels.
 - d. Multiple Access Levels: System allows each cardholder the support of 4 unique access level definitions; an access level consists of door designation and the time period when cardholder can gain access.
 - e. Doors/Readers: 64 maximum.
 - f. Reader Compatibility: 26 and 30-bit Wiegand; 5 or 12V DC, jumper selectable.
 - g. Area Counter: Built-in counter enables system to track cycles or events through door/gate. When specified number of cycles or events is reached, system will activate programmed output (such as "Lot Full" sign).
 - h. Long Access and Unlock: Allows individuals to have access codes configured for longer unlock time to gain access through door.
 - i. Automatic Start and End Card Dates: Program future activation and deactivation dates and times.
 - j. Internal Clock: Integral date and time clock adjusts automatically for daylight savings and leap year.
 - k. Anti-Passback: Prevents more than one user from gaining entry via the same card.
 - 1) Timed Anti-Passback: Waits for pre-programmed period of time before code or card can be reused.
 - 2) True Anti-Passback: Requires use of exit reader.
 - l. EMWin Software:
 - 1) Compatible with Windows 98, 2000 NT, Windows 7 or XP operating systems.
 - 2) Activity Reports: EMWin software supports database, system and transaction reports.
 - 3) History Transactions: 1,000 at controller (EMC); 50,000 at host computer (EMWin).
 - 4) Choice of four languages (English, Spanish, German, French).
 - m. EMC Intelligent Controller:

- 1) Each controller supports maximum of 2 card readers and doors. Controllers can be linked together.
 - 2) Remote upgrading from host computer.
 - 3) RS485 protocol communication between controller and host computer at maximum distance of 4,000 feet.
 - 4) Supports 5-state detection of door status contact inputs and request to exit inputs.
 - 5) Power Spike Protection: Electronic fuse protects all inputs and outputs.
 - 6) Battery Backup: Each controller supplied with 4Ah battery; charged from internal 12V DC trickle-charge output on power supply.
3. **Dimensions:** 11-5/8 inches (296 mm) high by 11-1/2 inches (292 mm) wide by 3-5/8 inches (91 mm) deep.
 4. **Accessory Power:** 12 VDC, 750 ma maximum (not for door locking hardware).
 5. **Input Voltage:** 110V AC.
 6. **Enclosure:** Painted steel cabinet.

G. Remote Control Access System:

1. **Acceptable Product:** LiftMaster / Chamberlain Sentex CLIKcard.
2. **Remote control provides access to gates, garage doors and secured entrances controlled by the following:**
 - a. Chamberlain LiftMaster Sentex Infinity Series telephone entry system.
 - b. Chamberlain LiftMaster Sentex access control system.
3. **Stand alone system provides one-touch entry to gated entrances without requiring telephone entry or access control system.**
4. **Standard Features:**
 - a. Capacity: 8,000 transmitters.
 - b. Transmitter: 1 Button Visor Style.
 - c. Transmitter: 2 Button Visor Style.
 - d. Transmitter: 1 Button Keychain Style.
 - e. Transmitter: 2 Button Keychain Style.
 - f. Transmitter Range: 200 feet (61 meters).
 - g. Transmitter Frequency: 295 MHz.
 - h. Transmitter Frequency: 303 MHz.
 - i. Bit Format: 26- or 30-bit Wiegand controls.
 - j. Time Zones: Maximum of 7 programmable time zones and 10 annual holiday time zones. Six time zones have 2 stop and start intervals each with the seventh time zone "0" as the system's default for full access.
 - 1) Automatic door and gate unlock.
 - 2) Restricted personnel access.
 - k. Automatic Lock/Unlock Schedule: Each unit programmable to lock and unlock at separate scheduled times.
 - l. Internal Clock: Integral date and time clock adjusts automatically for daylight savings and leap year.
 - m. Programmable Relay Times: Three relays supporting three schedules each, programmable from 2 to 250 seconds to allow visitor access.
 - n. Programming Display: 7-segment LED display with built-in keypad allows direct programming; no computer required.

- o. Activity Reports: Real-time transaction reports including each event, date and time; direct connection from unit to printer via RS422 connection.
 - p. Non-Volatile Memory: In event of power failure, database information is retained in memory allowing immediate start-up and operation when power is restored.
 - q. Password Protection: Database information n protected with 6-digit password.
 - r. Bulk Entry: Cardholders in same time zone can be downloaded as a group and edited as individuals.
 - s. Lightning Protection: Installer shall provide external surge suppressors in addition to surge protection inherent in the entry system.
5. **Dimensions:**
- a. Receiver: 9-3/8 inches (239 mm) high by 8-3/8 inches (213 mm) wide by 3 inches (76 mm) deep.
6. **Power:** 12 V AC or 13.5V DC.
7. **Enclosure:** Surface Mount; vandal resistant stainless steel faceplate and weather-resistant enclosure.
8. **Enclosure:** Pedestal Mount; vandal resistant stainless steel faceplate and weather-resistant enclosure.

H. Remote Control Access System:

1. **Acceptable Product:** LiftMaster / Chamberlain Sentex AUTOkey.
2. **Stand alone system provides one-touch entry to gated or garage entrances without requiring telephone entry or access control system.**
3. **Standard Features:**
 - a. Capacity: 8,000 transmitters.
 - b. Transmitter:
 - c. Transmitter: 1 Button Visor Style.
 - d. Transmitter: 2 Button Visor Style.
 - e. Transmitter: 1 Button Keychain Style.
 - f. Transmitter: 2 Button Keychain Style.
 - g. Transmitter Frequency: 295 MHz.
 - h. Transmitter Frequency: 303 MHz.
 - i. Bit Format: 24-bit Wiegand controls.
 - j. Time Zones: Maximum of 7 programmable time zones and 10 annual holiday time zones. Six time zones have 2 stop and start intervals each with the seventh time zone "0" as the system's default for full access.
 - 1) Automatic door and gate unlock.
 - 2) Restricted personnel access.
 - k. Automatic Lock/Unlock Schedule: Each unit programmable to lock and unlock at separate scheduled times.
 - l. Internal Clock: Integral date and time clock adjusts automatically for daylight savings and leap year.
 - m. Programmable Relay Times: Three relays supporting three schedules each, programmable from 2 to 250 seconds to allow visitor access.
 - n. Programming Display: 7-segment LED display with built-in keypad allows direct programming; no computer required.
 - o. Activity Reports: Real-time transaction reports including each event, date and time; direct connection from unit to printer via RS422 connection.

- p. Non-Volatile Memory: In event of power failure, database information is retained in memory allowing immediate start-up and operation when power is restored.
 - q. Password Protection: Database information n protected with 6-digit password.
 - r. Bulk Entry: Cardholders in same time zone can be downloaded as a group and edited as individuals.
 - s. Lightning Protection: Installer shall provide external surge suppressors in addition to surge protection inherent in the entry system.
4. **Dimensions:**
- a. Receiver: 9-3/8 inches (239 mm) high by 8-3/8 inches (213 mm) wide by 3 inches (76 mm) deep.
5. **Power:** 12 V AC or 13.5V DC.
6. **Enclosure:**
- a. Surface Mount: Vandal resistant stainless steel faceplate and weather-resistant enclosure.
 - b. Pedestal Mount: Vandal resistant stainless steel faceplate and weather-resistant enclosure.

I. Commercial Universal Receiver with Antenna:

1. **Acceptable Product: Chamberlain LiftMaster Star 450.**
2. **Receiver provides access to gates and garage doors equipped with the following:**
 - a. Chamberlain LiftMaster Security+ remote transmitter Model 895MAX.
 - b. Chamberlain LiftMaster Security+ remote keypad Model 877MAX.
 - c. Chamberlain LiftMaster Passport remote transmitter Model CPT13.
 - d. Chamberlain LiftMaster Passport remote transmitter Model CPTK13.
3. **Standard Features:**
 - a. Capacity: 450 transmitters.
 - b. Transmitter Frequency: 315 MHz.
 - c. Duplicate Memory Module: Removeable for programming or backup storage.
 - d. Digital Display: Displays user prompts, messages and transmitter location number.
 - e. Antenna: Direct antenna and extension kit.
 - f. Numeric Keypad: Allows programming and querying transmitter locations.
 - g. Programming: The following are standard functions.
 - 1) Rapid Learn Mode: Allows programming of multiple transmitters in seconds; can add, block or delete transmitters.
 - 2) Delete transmitter from memory.
 - 3) Enter transmitters into memory.
 - 4) Display number of occupied memory locations.
 - 5) Display last transmitter received.
 - 6) Display number of unused memory locations.
 - 7) Display number of blocked transmitter locations and first blocked transmitter location.
 - 8) Display software version number.
 - 9) Audible diagnostics.
 - 10) Block Key: Blocks receiver from granting access to the selected transmitter. Transmitter remains in memory and may be unblocked in the future.
4. **Provide Model 85LM: 24VAC transformer with barrel connector.**
5. **Provide Model 95LM: 24VAC transformer with screw terminals.**

6. Provide Model 86LM: Antenna extension kit.
7. Power: 12V to 24V, AC or DC.
8. Operating Current: 250ma maximum.
9. Relay Contact Rating: 1 amp at 24 volts AC or DC.
10. Operating Temperature Range: Minus 40 degrees F to 185 degrees F (minus 40 degrees C to 85 degrees C).
11. Enclosure:
12. Enclosure: Install receiver inside gate operator.
13. Enclosure: Install receiver in Plastic Watertight Box, Model 71 65WTBOX.

J. Universal Receivers:

1. **Function:** Compatible with Delta, Multi-Code, and Stanley code formats.
2. **Frequency:** Dual frequency remote control/receiver rated at 300MHz and 310MHz.
3. **Power Drain:** Standby current draw is 25mA in Linear mode, 45 mA in Stanley or 12V DC in Multi-Code mode.
4. **Operating Temperature Range:** Minus 40 degrees F to 185 degrees F (minus 40 degrees C to 85 degrees C).
5. **PCB:** Double sided PCB with through-hole components and SMD on alternate side.
 - a. Warranty: 3-years.
6. **Acceptable Product: LiftMaster / Chamberlain TriCode TCr1 Channels:**
 - a. Single-channel universal receiver.
 - b. Switches: 1 X 10 pole DIP, 3-position slide switch.
 - c. Enclosure: 2-piece ABS weather-resistant plastic with NEMA 1 rating.
 - d. Termination: 3-position direct connect tabs for commercial and residential garage door openers.
 - e. Output: 1 NO relay rated at 24V AC/DC at 10A.
7. **Acceptable Product: LiftMaster / Chamberlain TriCode TCr2 Channels:**
 - a. Two-channel universal receiver.
 - b. Switches: 2 X 10 pole DIP, 3-position slide switch.
 - c. Enclosure: 2-piece ABS weather-resistant plastic with NEMA 1 rating.
 - d. Termination: 6 wired leads (9 inches) (229 mm).
 - e. Output: 2 NO relay rated at 24V AC/DC at 10A.
8. **Acceptable Product: LiftMaster / Chamberlain TriCode TCg1 Channels:**
 - a. Single-channel commercial receiver.
 - b. Switches: 1 X 10 pole DIP, 3-position slide switch.
 - c. Enclosure: 2-piece ABS weather-resistant plastic.
 - d. Termination: 4 wired leads (3 ft.) (914 mm).
 - e. Output: 1 NO relay rated at 24V AC/DC at 10A.
9. **Acceptable Product: LiftMaster / Chamberlain TriCode TCg2 Channels:**
 - a. Two-channel commercial receiver.
 - b. Switches: 2 X 10 pole DIP, 3-position slide switch.
 - c. Enclosure: 2-piece ABS weather-resistant plastic.
 - d. Termination: 6 wired leads (3 ft.) (914 mm).
 - e. Output: 2 NO relay rated at 24V AC/DC at 10A.

K. Universal Transmitters:

1. **Function:** Compatible with Delta, Multi-Code, and Stanley code formats.

2. Frequency: Dual frequency transmitter rated at 300MHz and 310MHz.
3. Battery: 9 volt Carbon Zinc.
4. Operating Temperature Range: Minus 40 degrees F to 185 degrees F (minus 40 degrees C to 85 degrees C).
5. PCB: Single sided PCB with through-hole components and SMD on alternate side.
 - a. Warranty: 3-years.
6. Acceptable Product: LiftMaster / Chamberlain TriCode TC1 Channels:
 - a. Single-channel transmitter.
 - b. Switches: 1 X 10 pole DIP, 3-position slide switch, 1 SPST momentary.
 - c. Enclosure: 3-piece ABS plastic with push button.
7. Acceptable Product: LiftMaster / Chamberlain TriCode TC2 Channels:
 - a. Two-channel transmitter; separate code format available for each transmitter.
 - b. Switches: 2 X 10 pole DIP, 3-position slide switch, 2 SPST momentary.
 - c. Enclosure: 3-piece ABS plastic with 2 push buttons.
8. Acceptable Product: LiftMaster / Chamberlain TriCode TC4 Channels:
 - a. Four-channel transmitter with multiple combinations.
 - b. Switches: 2 X 10 pole DIP, 2 x 3-position slide switch, 4 SPST momentary.
 - c. Enclosure: 2-piece ABS plastic with 4 push buttons.

L. Office Building or Residential Community Access Entry System:

1. **Acceptable Product:** LiftMaster / Chamberlain "Q" Access Controller; card/code access-only system; enclosure shall be installed in a controlled area; no LCD display.
2. **Memory Capacity:** 10,000 names.
3. **Memory Capacity:** 20,000 credentials or numbered access devices.
4. **Standard Features:**
 - a. System shall offer RS485 device connectivity to maximize cabling efficiency (no substitution) offering connectivity for up to 127 Q RS485 device modules.
 - b. System shall also offer (2) 26 bit Wiegand input ports (expandable using Wiegand Expansion Modules).
 - c. System to include (2) tamper-alert inputs for externally connected Wiegand input devices.
 - d. System to include 8 supervised open collector inputs with user defined functionality.
 - e. Entry Codes: Each resident assigned an entry code of up to 10 digits.
 - f. Transaction Monitoring: Maximum of 40,000 transactions (date, time, unit ID and transaction) stored in unit are retrievable for record of on-site activities.
 - g. Automatic Gate/Door Unlock Schedule: Main or auxiliary access points can be programmed to open at pre-defined times.
 - h. Integral LAN/WAN port: Allows programming and control of the entry system through a personal computer from remote location using an internet or network connection.
 - i. System network properties to be TCP/IP compatible.
 - j. Integral USB and RS232 and RS422 ports: Allows programming and control of the entry system through a personal computer from remote location using a universal or standard serial connection.
 - k. Controllable System Relays: Controller has four output relays used to control doors, gates, auxiliary devices, or to shunt alarm. Relays can be managed through

- the control software on a daily schedule.
 - l. System to offer 255 access groups.
 - m. System to offer 255 security access levels.
 - n. System to offer 255 user customized time schedules.
 - o. Holiday Programming: Maximum of 16 holidays can be defined to override the pre-defined lock/unlock schedules.
 - p. Non-Volatile Memory: In event of power failure, database information is retained in memory allowing immediate start-up and operation when power is restored.
 - q. System to offer integral logical elevator controls for up to 64 cars and up to 1024 floors.
 - r. System to include SDK integration for external Digital Video Recorders.
 - s. System to include up to 700 user defined custom text messages (to be delivered on-screen at the door or gate (must have Q Keypad).
 - t. System shall include remote restore functionality.
 - u. System to offer real-time clock functionality.
 - v. System to include 24 Volts AC power pack for the input supply.
 - w. System to include 12 Volt DC sealed lead acid battery to supply system power in the event of line voltage failure.
 - x. System to supply 13.8 Volts DC at 2 Amp power output to supply power for external accessory devices.
 - y. Lightning Protection: Installer shall provide external surge suppressors in addition to surge protection inherent in the entry system.
5. **Dimensions:** Surface mount; 13 inches (330 mm) high by 11-1/4 inches (286 mm) wide by 3 inches (76 mm) deep.
6. **Power:**
- a. 24 Volts AC Input.
 - b. 12 Volts DC Battery backup.
 - c. 13.8 Volts DC Output (for accessory devices).
7. **Enclosure:** Lockable Steel Enclosure.
8. **Programming:** Q Management Software for Windows (QMS).
- a. Compatibility: Windows 98, ME, 2000, NT, XP and VISTA operating systems.
 - b. Programming and Directory Management: When utilizing a programmed manager line, programming and control can be achieved on site or remotely through:
 - 1) LAN Connection.
 - 2) Internet Connection.
 - 3) Direct Connect: Handheld programmer.
 - 4) Single Host Computer: QMS Windows based programming software.
 - c. Recordkeeping and Analysis: System logs each user/code transaction.
 - d. Time Schedules: Software manages up to 255 separate time schedules and 16 holidays to accommodate unique access requirements.
 - e. Database Integrity: In event of system failure, database can be uploaded or downloaded to maintain integrity.
 - f. Report Utility: Enables customer-defined reports, charts, graphs and data transfer for historical reporting.
 - g. Data Sorting: Access code data can be sorted by name, directory code or entry code in ascending or descending order.
 - h. Database Backup: System's database and historical transaction can be saved to

- various computer media.
- i. Data Exchange: Manages automatic upload and download of data between the PC and the unit. Allows for unattended data transfers based on time of day and frequency.
- j. System to adhere to .NET framework standards.
- k. System to employ a single Microsoft SQL (MSDE) database.
- l. System shall offer 255 user definable access levels.
- m. System shall offer 255 user definable access groups.
- n. System shall include fully integrated Digital Video Recorder support.
- o. System logic to support integrated solution for elevator controls for up to 64 individual cars, and 1024 floors.
- p. System to include scripting modules designed to allow user customizable “If/Then” logic constructs to control all logical functions based on any input.

M. Access Control Accessories:

1. **“Q” Keypad:**
 - a. 10,000,000 Operation mechanical life expectancy.
 - b. 4 Line LCD Display.
 - c. 4 Relay inputs/ 2 Relay outputs.
 - d. Integral Tamper sensor.
 - e. 12-24 Volts DC or 12-18 Volts AC Power.
 - f. 250mA Current consumption:
 - g. Provide Proximity Reader.
 - h. Provide Pinhole Color (NTSC) CCTV camera.
2. **Add-On RS485 Modules:**
 - a. Single Entry Control Module:
 - 1) 1 Wiegand input port.
 - 2) 1 Open collector output.
 - 3) 1 Relay output (form C).
 - b. **Wiegand Expansion Module:**
 - 1) 1 Wiegand input port.
 - 2) 2 Relay output (form C).
 - c. **Relay Expansion Module:**
 - 1) 8 Relay inputs (form C).
 - 2) 8 Relay outputs (form C).
3. **Add-On Power Supplies:**
 - a. Supplies downstream power for RS485 Module Devices.
 - b. Multiple configurations:
 - 1) 4 Amp Output Version (supplies power for up to 4 modules).
 - 2) 10 Amp Output Version (supplies power for up to 10 modules).
4. **Standard 10 Key Wiegand Keypad (26Bit).**
5. **Standard Wiegand Proximity Card Reader (26Bit).**
6. **Standard 10 Key Wiegand Keypad/ Proximity Card Reader Combination (26Bit).**
7. **“Passport” Wiegand Radio System:**
 - a. Passport Receiver.
 - b. Passport handheld receivers.
8. **Wireless System Extension Devices:**

- a. **Missing Link Wireless Wiegand Extension Devices:**
 - 1) Completely Wireless.
 - 2) Up to 2500 foot (line of sight) range.
 - 3) Battery (AA) or Line Powered (12~24 AC/DC).
 - 4) Current consumption of less than 650uA (no substitution).
 - 5) 256 Bit AES Encryption (no substitution).
 - 6) (2) On-board (NO/NC form-C) relays.
 - 7) Repeaters also available to create new line of sight and extend range.
- b. **Phantom Wireless Relay Extension Devices:**
 - 1) Completely Wireless.
 - 2) Up to 2500 foot (line of sight) range.
 - 3) Battery (AA) or Line Powered (12~24 AC/DC).
 - 4) Current consumption of less than 650uA (no substitution).
 - 5) 256 Bit AES Encryption (no substitution).
 - 6) Repeaters also available to create new line of sight and extend range.
 - 7) Multiple configurations:
 - (a) 1 Channel / 1 Direction.
 - (b) 2 Channel / 1 Direction.
 - (c) 2 Channel / 2 Direction.

2.3 TELEPHONE ENTRY CONTROL SYSTEMS

A. Multi-Family Buildings and Gated Communities:

- 1. **Acceptable Product:** LiftMaster / Chamberlain Sentex Spectrum.
- 2. **Acceptable Product:** LiftMaster / Chamberlain Sentex Spectrum DI (Vista).
- 3. **Memory Chip Capacity:** 250.
- 4. **Memory Chip Capacity:** 750.
- 5. **Standard Features:**
 - a. **Full Duplex Communications:** Clear audio with echo cancellation technology prevents cross-talk between speaker and microphone and allows for higher volume levels.
 - b. **Entry Codes:** Each resident assigned 1 to 4 digits entry code; ten additional access codes provided for vendors or management.
 - c. **Long Distance and PBX Dialing:** Entry system supports up to 11-digit dialing. Interfaces with PBX system where extensions are used. Extensions of up to 6 digits accepted to connect to assigned voice mailboxes.
 - d. **Programmable Talk Time:** Visitor/tenant talk time adjustable from 15 to 250 seconds.
 - e. **Shared Phone Line:** Two Spectrum units can be connected to single telephone line.
 - f. **Controllable System Relays:** Allows the main entrance plus a second auxiliary device (gate or door) or alarm shunt to be remotely controlled from a touch-tone phone; can be latched open or closed; programmed to activate for pre-determined time range of 1 to 63 seconds to allow visitor access.
 - g. **Tone/Pulse Dialing:** System can be site configured to DTMF or rotary output from the tenant's phone.
 - h. **Non-Volatile Memory:** In event of power failure, database information is retained in

- i. memory allowing immediate start-up and operation when power is restored.
- i. Postal Lock Ready: Postal Lock Kit integrates with US Postal Service Lock (acquired from US Postal Service) to allow postal carriers access to controlled area.
- j. Lightning Protection: Installer shall provide external surge suppressors in addition to surge protection inherent in the entry system.
- 6. **Handset unit: Provide handset, handset hanger and 29 inch (737 mm) cord.**
- 7. **Provide lighted directory enclosure for paper insert with 125 names.**
- 8. **Programming: SVWin software.**
 - a. Internal Modem: Allows programming and control of the entry system through a personal computer from remote location using standard phone line and modem.
 - b. Keypad: Allows direct programming.
- 9. **Dimensions: Spectrum Surface Mount:** 12 1/2 inches (318 mm) high by 8 1/2 inches (216 mm) wide by 4 1/4 inches (108 mm) deep
- 10. **Dimensions: Spectrum DI Surface Mount:** 12 1/2 inches (318 mm) high by 16 1/2 inches (419 mm) wide by 4 1/4 inches (108 mm) deep.
- 11. **Dimensions: Spectrum Flush Mount:** 14 inches (356 mm) high by 9 3/4 inches (248 mm) wide by 3 inches (76 mm) deep.
- 12. **Dimensions: Spectrum DI Flush Mount:** 14 inches (356 mm) high by 17 inches (454 mm) wide by 3 1/16 inches (78 mm) deep.
- 13. **Power:**
 - a. 12 VAC at 3.4 amps peak
 - b. 13.5 VDC at 1.0 amp.
- 14. **Enclosure:** Stainless steel faceplate.
- 15. **Enclosure:** Stainless steel housing.

B. Commercial and Gated Community Telephone Entry System:

- 1. **Acceptable Product:** LiftMaster / Chamberlain Sentex Horizon "H" Surface Mount.
- 2. **Acceptable Product:** LiftMaster / Chamberlain Sentex Horizon "H" Flush Mount.
- 3. **Acceptable Product:** LiftMaster / Chamberlain Sentex Horizon "M".
- 4. **Memory Chip Capacity:** 250 names.
- 5. **Memory Chip Capacity:** 1000 names.
- 6. **Standard Features:**
 - a. Full Duplex Communications: Clear audio with echo cancellation technology prevents cross-talk between speaker and microphone and allows for higher volume levels.
 - b. Entry Codes: Each resident assigned 1 to 4 digits entry code; ten additional access codes provided for vendors or management.
 - c. Long Distance and PBX Dialing: Entry system supports up to 11-digit dialing. Interfaces with PBX system where extensions are used. Extensions of up to 6 digits accepted to connect to assigned voice mailboxes.
 - d. Extra Name Capacity: Surplus name capacity over purchased capacity for roommates, multiple last names, and shared business suites.
 - 1) Surplus Capacity for 250 Names: 125 names.
 - 2) Surplus Capacity for 1000 Names: 250 names.
 - e. Selectable Scrolling Modes: Visitor can instruct entry system to begin directory listing top of alphabet or in middle of alphabet.

- f. Controllable System Relays: Allows the main entrance plus a second auxiliary device (gate or door) or alarm shunt to be remotely controlled from a touch-tone phone; can be latched open or closed; programmed to activate for pre-determined time range of 1 to 63 seconds to allow visitor access.
 - g. Tone/Pulse Dialing: System can be site configured to DTMF or rotary output from the tenant's phone.
 - h. Non-Volatile Memory: In event of power failure, database information is retained in memory allowing immediate start-up and operation when power is restored.
 - i. Shared Phone Line: Two Spectrum units can be connected to single telephone line.
 - j. Postal Lock Ready: Postal Lock Kit integrates with US Postal Service Lock (acquired from US Postal Service) to allow postal carriers access to controlled area.
 - k. Lightning Protection: Installer shall provide external surge suppressors in addition to surge protection inherent in the entry system.
7. **Handset Unit: Provide handset, handset hanger and 29 inch (737 mm) cord.**
8. **Handset Unit: Provide handset, handset hanger and 42 inch (1067 mm) cord.**
9. **Dimensions:**
- a. Horizon "H" Surface Mount: 9 inches (229 mm) high by 13-5/16 inches (379 mm) wide by 4 1/4 inches (108 mm) deep.
 - b. Horizon "H" Flush Mount: 9-1/4 inches (235 mm) high by 10-1/4 inches (260 mm) wide by 3 inches (76 mm) deep.
 - c. Horizon "M": 9-11/16 inches (246 mm) high by 13-1/2 inches (343 mm) wide by 2-5/16 inches (58 mm) deep.
10. **Power:**
- a. 12 VAC at 3.4 amps peak.
 - b. 13.5 VDC at 1.0 amp.
11. **Enclosure: Stainless steel faceplate.**
12. **Enclosure: Stainless steel housing.**
13. **Enclosure: Molded powder-painted black stainless steel faceplate.**
14. **Programming: Sentex Programming Software for Windows (SPSWin).**
- a. Compatibility: Windows 95, 98, ME, 2000, NT and XP operating systems.
 - b. Programming and Directory Management: When utilizing a programmed manager line, programming and control can be achieved on site or remotely through:
 - 1) Telephone Line: Standard touch tone phone.
 - 2) Direct Connect: Handheld programmer.
 - 3) Keypad: Entry system keypad.
 - 4) Single Host Computer: SPSWin Windows based programming software.
 - c. Recordkeeping and Analysis: System logs each user/code transaction.
 - d. Custom Defined Fields: Unit stores up to five custom fields for resident identification features such as vehicle type and license plate.
 - e. Time Zones: Software manages up to 8 separate time zones and 16 holidays to accommodate unique access requirements. Seven time zones have 3 start and stop intervals each.
 - f. Database Integrity: In event of system failure, database can be uploaded or downloaded to maintain integrity.
 - g. ERWAWin Utility: Enables customer-defined reports, charts, graphs and data

- transfer for historical reporting.
- h. Data Sorting: Access code data can be sorted by name, directory code or entry code in ascending or descending order.
- i. Automatic Call Retry: After initial contact with a unit has been established and a user interrupts the connection by attempting to gain access to the facility, SPSWin will attempt to regain contact with the unit to complete the downloading or uploading of information to ensure database integrity.
- j. Database Backup: System's database and historical transaction can be saved to various computer media.
- k. Data Exchange: Manages automatic upload and download of data between the PC and the unit. Allows for unattended data transfers based on time of day and frequency.
- l. Tenant Manager: Software tool that simplifies adding names, directory codes, entry codes and card codes. Supports multiple units sharing a single database. Updates can be sent to a single unit or group of units.

C. Single Tenant Entry Telephone Access Control Systems:

1. **Acceptable Product:** LiftMaster / Chamberlain TAC1; Access control for two entry points.
2. **Acceptable Product:** LiftMaster / Chamberlain TAC2C; Access control for two entry points. Dropin panel replacement for the Crown Jewel. Uses original CJ case.
3. **Acceptable Product:** LiftMaster / Chamberlain TAC2CK; Access control for two entry points. Access control for two entry points. Dropin installation replacement for the Crown Jewel. Includes a new case.
4. **Acceptable Product:** LiftMaster / Chamberlain TAC2D; Access control for two entry points. Replacement dropin panel for a Doorking 1812.
5. **Memory Chip Capacity:** 250 codes.
6. **Standard Features:**
 - a. Half Duplex Communications: Clear audio with echo suppression technology. Prevents cross-talk between speaker and microphone, by allowing the higher energy signal through.
 - b. Entry Codes: Each resident assigned 4 digit entry code. One temporary entry code that expires upon use, or 24hrs.
 - c. Backlit keypad, and Call button.
 - d. Call Forwarding Dialing: Entry system supports up to 14-digit dialing.
 - e. Caller ID message from Call button, or when tampered with.
 - f. Party Mode activates relay until cancelled.
 - g. Vacation Mode locks out all but the Master Pin Number.
 - h. Two independent relays, with NC/NO outputs.. One relay to control door, gate, or auxiliary device; remaining relay used to control auxiliary devices or to shunt alarm contacts, or to signal alarm condition on main relay. Activation time between 0.5 and 8000 seconds.
 - i. A 315Mhz Security+ rolling code transmitter is activated upon successful entry of a pin number in the TAC1 only.
 - j. Intercom Mode; Allows the unit to operate a Telephone, without the need for having a telephone line connected from a central office.
 - k. Autocall Input allows a simple external contact closure to act as a Call button.

- l. Non-Volatile Memory: In event of power failure, database information is retained in memory allowing immediate start-up and operation when power is restored.
 - m. Lightning Protection: Installer shall provide external surge suppressors in addition to surge protection inherent in the entry system.
7. **Dimensions:**
- a. Wall mount vandal resistant plastic housing: 6 1/4 inches (160 mm) high by 9 inches (230 mm) wide by 3 3/4 inches (96 mm) deep.
 - b. Pedestal mount Crown Jewel box: 6 1/4 inches (160 mm) high by 9 inches (230 mm) wide by 3 3/4 inches (96 mm) deep.
 - c. Door King box: 6 1/8 inches (156 mm) high by 10 inches (254 mm) wide by 5 1/4 inches (134 mm) deep.
8. **Power:**
- a. 12 VAC.
9. **Enclosure: Vandal resistant plastic housing.**
10. **Enclosure: Stainless steel faceplate and back-lit metal keypad.**

D. Office Building or Gated Residential Community Telephone Entry System:

- 1. **Acceptable Product: LiftMaster / Chamberlain Sentex Infinity “L”;** Liquid crystal display (LCD) displays 24 names at a time; displays instructions for visitors and on-site programming; access control for two entry points.
- 2. **Acceptable Product: LiftMaster / Chamberlain Sentex Infinity “M” ;** Liquid crystal display (LCD) displays one name at a time; 2 line by 20 character by 1/2 inch (12.7 mm) high display; fast forward and reverse scrolling; displays instructions for visitors and on-site programming; access control for two entry points.
- 3. **Acceptable Product: LiftMaster / Chamberlain Sentex Infinity “S” ;** Liquid crystal display (LCD) displays one name at a time; 2 line by 16 character by 3/8 inch (9.5 mm) high display; fast forward and reverse scrolling; displays instructions for visitors and on-site programming; access control for two entry points.
- 4. **Acceptable Product: LiftMaster / Chamberlain Sentex Infinity “DI”;** Paper directory; displays instructions for visitors and on-site programming; access control for two entry points.
- 5. **Acceptable Product: LiftMaster / Chamberlain Sentex Infinity “B”;** card/code access-only system; enclosure shall be installed in a controlled area; no LCD display.
- 6. **Memory Chip Capacity: 1000 telephone numbers and names.**
- 7. **Memory Chip Capacity: 2000 cards or codes with names.**
- 8. **Memory Chip Capacity: 8000 cards or codes without names.**
- 9. **Standard Features:**
 - a. Full Duplex Communications: Clear audio with echo cancellation technology prevents cross-talk between speaker and microphone and allows for higher volume levels.
 - b. Entry Codes: Each resident assigned 4 to 5 digit entry code.
 - c. Long Distance and PBX Dialing: Entry system supports up to 11-digit dialing. Interfaces with PBX system where extensions are used. Extensions of up to 6 digits accepted to connect to assigned voice mailboxes.
 - d. Transaction Monitoring: Maximum of 4,000 transactions (date, time, unit ID and transaction) stored in unit are retrievable for record of on-site activities.
 - e. Alarm Calling: System dials pre-defined telephone number to notify security

- f. personnel of the alarm condition if door/gate is forced open or held open too long.
 - f. Automatic Gate/Door Unlock Schedule: Main or auxiliary access points can be programmed to open at pre-defined times.
 - g. Internal Modem: Allows programming and control of the entry system through a personal computer from remote location using standard phone line and modem.
 - h. Controllable System Relays: System has four relays; two relays control door, gate or auxiliary device; remaining two relays used to control auxiliary devices or to shunt alarm contacts or to signal alarm condition on two main relays. Relays can be set 3 times per day per relay
 - i. Programmable Talk Time: Adjustable visitor/tenant talk time.
 - j. Holiday Programming: Maximum of 16 holidays can be defined to override the pre-defined lock/unlock schedules.
 - k. Tone/Pulse Dialing: System can be site configured to DTMF or rotary output from the tenant's phone.
 - l. Non-Volatile Memory: In event of power failure, database information is retained in memory allowing immediate start-up and operation when power is restored.
 - m. Shared Phone Line: Two Infinity units can be connected to single telephone line.
 - n. Postal Lock Ready: Postal Lock Kit integrates with US Postal Service Lock (acquired from US Postal Service) to allow postal carriers access to controlled area.
 - o. Lightning Protection: Installer shall provide external surge suppressors in addition to surge protection inherent in the entry system.
10. **Handset Unit: Provide handset, handset hanger and 29 inch (737 mm) cord.**
11. **Handset Unit: Provide handset, handset hanger and 42 inch (1067 mm) cord.**
- a. CCTV Camera: Integrate camera into system to provide live video directly to television or monitor screen.
 - 1) Color camera.
 - b. No Phone Bill Interface (NPBI) System: Operates independent of outside phone line. Generates its own line and ring voltage, allowing system use by tenants without phone service. No monthly or per-call charges.
12. **Dimensions:**
- a. Surface Mount: 21 inches (533 mm) high by 16-7/16 inches (418 mm) wide by 4 1/4 inches (108 mm) deep.
 - b. Flush Mount: 21.25 inches (540 mm) high by 16 3/4 inches (425 mm) wide by 3-3/16 inches (81 mm) deep.
 - c. Surface Mount: 16 inches (406 mm) high by 11 3/4 inches (299 mm) wide by 3 1/4 inches (83 mm) deep.
 - d. Flush Mount: 16-7/16 inches (418 mm) high by 12 1/4 inches (311 mm) wide by 2 3/4 inches (70 mm) deep.
 - e. Standard Box: 23 inches (584 mm) high by 14 inches (356 mm) wide by 2 3/4 inches (70 mm) deep.
 - f. Weatherproof Box: 16 inches (406 mm) high by 12 inches (305 mm) wide by 3 1/4 inches (83 mm) deep.
13. **Power:**
- a. 12 VAC.
 - b. 13.5 VDC (self charging battery).
14. **Enclosure: Stainless steel faceplate.**

15. **Enclosure:** Stainless steel housing.
16. **Enclosure:** Stainless steel housing and hood.
17. **Programming:** LiftMaster / Sentex Programming Software for Windows (SPSWin).
 - a. **Compatibility:** Windows 95, 98, ME, 2000, NT and XP operating systems.
 - b. **Programming and Directory Management:** When utilizing a programmed manager line, programming and control can be achieved on site or remotely through:
 - 1) Telephone Line: Standard touch tone phone.
 - 2) Direct Connect: Handheld programmer.
 - 3) Keypad: Entry system keypad.
 - 4) Single Host Computer: SPSWin Windows based programming software.
 - c. **Recordkeeping and Analysis:** System logs each user/code transaction.
 - d. **Custom Defined Fields:** Unit stores up to five custom fields for resident identification features such as vehicle type and license plate.
 - e. **Time Zones:** Software manages up to 8 separate time zones and 16 holidays to accommodate unique access requirements. Seven time zones have 3 start and stop intervals each.
 - f. **Database Integrity:** In event of system failure, database can be uploaded or downloaded to maintain integrity.
 - g. **ERWAWin Utility:** Enables customer-defined reports, charts, graphs and data transfer for historical reporting.
 - h. **Data Sorting:** Access code data can be sorted by name, directory code or entry code in ascending or descending order.
 - i. **Automatic Call Retry:** After initial contact with a unit has been established and a user interrupts the connection by attempting to gain access to the facility, SPSWin will attempt to regain contract with the unit to complete the downloading or uploading of information to ensure database integrity.
 - j. **Database Backup:** System's database and historical transaction can be saved to various computer media.
 - k. **Data Exchange:** Manages automatic upload and download of data between the PC and the unit. Allows for unattended data transfers based on time of day and frequency.
 - l. **Tenant Manager:** Software tool that simplifies adding names, directory codes, entry codes and card codes. Supports multiple units sharing a single database. Updates can be sent to a single unit or group of units.

E. No Phone Bill Interface (NPBI) System:

Operates independent of outside phone line. Generates its own line and ring voltage, allowing system use by tenants without phone service. No monthly or per-call charges

1. **Acceptable Product:** LiftMaster / Chamberlain Sentex Ovation "S".
2. **Acceptable Product:** LiftMaster / Chamberlain Sentex Ovation "S" Flush Mount.
3. **Acceptable Product:** LiftMaster / Chamberlain Sentex Ovation "V".
4. **Acceptable Product:** LiftMaster / Chamberlain Sentex Ovation "V" Flush Mount.
5. **Acceptable Product:** LiftMaster / Chamberlain Sentex Ovation "VP"
6. **Acceptable Product:** LiftMaster / Chamberlain Sentex Ovation "LP".
7. **No Phone Bill Interface (NPBI) Assembly:** Integrate with LiftMaster / Sentex Infinity system through NPBI assembly.
8. **No Phone Bill Interface (NPBI) Assembly:** Integrate with LiftMaster / Sentex Horizon

system through NPBI assembly.

9. **Memory Chip Capacity: 2,700 directory codes.**
10. **Memory Chip Capacity: 3,000 entry codes.**
11. **Standard Features:**
 - a. **Entry Codes:** Each resident or authorized person assigned 1 to 4 digits entry code
 - b. **Directory Codes:** Directory code length of 1 to 5 digits for each resident. System references tenants based on the line address (LIB number plus line number); directory codes can be customized to match apartment or suite numbers. Established code length becomes default.
 - c. **Multiple Call Locations:** Maximum of four units can be linked through a multiple unit interface (MUI) board. Only the entry point from which the call is placed is unlocked when resident grants access.
 - d. **Distinctive Ringing:** Unique double ring on resident's telephone to distinguish between a standard call and an access request call.
 - e. **Call Waiting:** Resident can answer an access call from a visitor while in the middle of another outside call. Resident can answer an outside call if on an access call.
 - f. **Programmable Talk Time:** Visitor/tenant talk time adjustable from 15 to 255 seconds.
 - g. **Programming Display:** 7-segment LED display is viewable from the outside of the enclosure to assist with programming of entry codes.
 - h. **Programmable Relay Times:** Allows the main entrance plus a second auxiliary device (gate or door) or alarm shunt.
 - i. **Manager Lines:** Allows programming of designated phone lines, up to 11 digits, that directly access door/gate control functions. Lines can be accessed during an alarm condition to place a notification call and utilized for remote programming and remote diagnostics.
 - j. **Tone/Pulse Dialing:** System can be site configured to DTMF or rotary output from the tenant's phone.
 - k. **Strikes and Out:** Management specifies from 1 to 9 wrong entry codes entered consecutively before the system stops accepting codes for a 3-minute period.
 - l. **Non-Volatile Memory:** In event of power failure, database information is retained in memory allowing immediate start-up and operation when power is restored.
 - m. **Postal Lock Ready:** Postal Lock Kit integrates with US Postal Service Lock (acquired from US Postal Service) to allow postal carriers access to controlled area.
 - n. **Keypad:** Allows direct programming.
 - o. **Lightning Protection:** Installer shall provide external surge suppressors in addition to surge protection inherent in the entry system.
12. **Dimensions:**
 - a. **Ovation "S":** 12 1/2 inches (318 mm) high by 8 1/2 inches (216 mm) wide by 3-13/16 inches (97 mm) deep.
 - b. **Ovation "S" Flush Mount:** 12 3/4 inches (324 mm) high by 8 3/4 inches (222 mm) wide by 2 1/2 inches (64 mm) deep.
 - c. **Ovation "V":** 12 1/2 inches (318 mm) high by 16 1/2 inches (419 mm) wide by 3-13/16 inches (97 mm) deep.
 - d. **Ovation "V" Flush Mount:** 12 1/2 inches (318 mm) high by 16 1/2 inches (419 mm) wide by 2 3/4 inches (70 mm) deep.

- e. Ovation "VP": 8 3/4 inches (222 mm) high by 6 inches (152 mm) wide by 3 inches (76 mm) deep.
 - f. Ovation "LP": 23 inches (584 mm) high by 14 inches (356 mm) wide by 2 3/4 inches (70 mm) deep.
13. **Power:**
- a. 12 VAC.
 - b. 13.5 VDC.
14. Enclosure: Stainless steel faceplate.
15. Enclosure: Stainless steel housing.
16. Enclosure: Lighted directory enclosure for paper insert with 125 names.
17. Enclosure: Vandal proof faceplate.
18. Handset Unit: Provide handset, handset hanger and 29 inch (737 mm) cord.
19. Handset Unit: Provide handset, handset hanger and 42 inch (1067 mm) cord.
20. Warranty: One year.

F. Residential and Gated Residential Telephone Entry System:

- 1. **Acceptable Product:** LiftMaster / Chamberlain Sentex Crown Jewel.
- 2. **Acceptable Product:** LiftMaster / Chamberlain Sentex Crown Jewel, camera ready.
- 3. **Acceptable Product:** LiftMaster / Chamberlain Sentex Crown Jewel, camera ready with Postal Lock Kit
- 4. **Standard Features:**
 - a. Call Forwarding: System will dial a pre-programmed telephone number when the occupant is not at the monitored location. Access can be granted or denied from remote location. Call forwarding can be programmed manually as needed or time-activated to occur at scheduled intervals.
 - b. Call Waiting: Resident can answer an access call from a visitor while in the middle of another outside call. Resident can answer an outside call if on an access call.
 - c. Distinctive Ringing: Unique double ring on resident's telephone to distinguish between a standard call and an access request call.
 - d. Entry Codes: Maximum of 75 unique 4-digit codes can be assigned to gain access without calling occupant. Codes can be time restricted. Codes can be used to latch the gate or door open.
 - e. Transaction Monitoring: Maximum of 225 transactions stored in unit are retrievable for record of on-site activities. Battery backed clock/calendar.
 - f. Automatic Gate/Door Unlock Schedule: Main or auxiliary access points can be programmed to open twice per day at pre-defined times.
 - g. Holiday Programming: Maximum of 10 holidays can be defined to override the pre-defined lock/unlock schedules.
 - h. Multiple Call Locations: Visitor can contact a maximum of three telephone numbers in addition to the unit's primary line.
 - i. Multiple Entrances: Maximum of three entrances can be linked through a single telephone line. Only the entry point from which the call is placed is unlocked when resident grants access.
 - j. Do Not Disturb: Primary telephone lines ignore calls for period of time when programmed manually through touch tone telephone or by a pre-programmed schedule.
 - k. Alarm Calling: System dials pre-defined telephone number to notify security

personnel of the alarm condition if door/gate is forced open or held open too long. Alarm can be initiated if visitor attempts too many incorrect access code attempts.

- l. Controllable System Relays: Four independent relays can be set to activate doors/gates; can function as strike, control, shunt, alarm or CCTV relays. Activation time between 1 and 300 seconds.
 - m. Tone/Pulse Dialing: System can be site configured to DTMF or rotary output from the tenant's phone.
 - n. Internal Modem: Allows programming and control of the entry system through a personal computer from remote location using standard phone line and modem.
 - o. Non-Volatile Memory: In event of power failure, database information is retained in memory allowing immediate start-up and operation when power is restored.
 - p. Lightning Protection: Installer shall provide external surge suppressors in addition to surge protection inherent in the entry system.
5. **Call Button:** Provide separate call button from keypad.
 6. **CCTV Camera:** Integrate camera into system to provide live video directly to television or monitor screen.
 - a. Black and white camera.
 - b. Color camera.
 7. **Remote Keypad:** Installed at extra door/gate in lieu of additional Crown Jewel unit.
 8. **Postal Lock Ready:** Postal Lock Kit integrates with US Postal Service Lock (acquired from US Postal Service) to allow postal carriers access to controlled area.
 9. **Dimensions:**
 - a. Surface Mount: 5.375 inches (137 mm) high by 8.75 inches (222 mm) wide by 4 inches (102 mm) deep.
 - b. Surface Mount with Camera Housing: 5.375 inches (137 mm) high by 10.5 inches (267 mm) wide by 4 inches (102 mm) deep.
 - c. Flush Mount: 4.375 inches (111 mm) high by 8.375 inches (213 mm) wide by 2.75 inches (70 mm) deep.
 10. **Power:**
 - a. 12 VAC at 1.8 amps peak.
 - b. 13.5 VDC at 500 milliamps.
 11. **Enclosure:**
 12. **Enclosure:** Polished brass faceplate with matching enclosure.
 13. **Enclosure:** Polished stainless steel faceplate with matching enclosure.
 14. **Enclosure:** Polished brass faceplate with black enclosure.
 15. **Enclosure:** Polished stainless steel faceplate with black enclosure.
- G. Residential and Light Commercial Telephone Entry Control System:**
1. **Acceptable Product:** LiftMaster / Chamberlain Elite EL25, base unit.
 2. **Acceptable Product:** LiftMaster / Chamberlain Elite EL25, base unit with the following E-Z Scan plug-in modules:
 - a. Wiegand Output Module: Allows addition of card readers and remote keypads.
 - b. RF Module: Allows access through gates/doors with Passport transmitters.
 3. **Memory Chip Capacity:** 2,000 codes; programmable as directory codes or access codes.
 4. **Standard Features:**
 - a. Remote Access Diagnostics: Unit will record the following alarms: forced door/

- gate, door/gate ajar, unit over/under voltage.
 - b. Voice Prompts: Push button provides ADA compliant voice prompts for end users.
 - c. Line Noise Tolerance: Enhanced telephone connection to unit via modem.
 - d. Legacy Database Conversion: Versa XS 2.0 Software allows transfer of information from existing Sentex system to new Sentex system.
 - e. Programming: Versa XS 2.0 Software allows control programming through modem, unit keypad or direct laptop connection.
 - f. Controllable System Relays: Four independent relays can be set to activate doors/gates; can function as strike, control, shunt, alarm or CCTV relays. Activation time between 1 and 300 seconds.
 - g. Call Forwarding: System will dial a pre-programmed telephone number when the tenant is not at the monitored location. Access can be granted or denied from remote location. Call forwarding can be programmed manually as needed or time-activated to occur at scheduled intervals.
 - h. Call Waiting: Resident can answer an access call from a visitor while in the middle of another outside call. Resident can answer an outside call if on an access call.
 - i. Illuminated key pad.
 - j. Non-Volatile Memory: In event of power failure, database information is retained in memory allowing immediate start-up and operation when power is restored.
 - k. Separate Call Button: Initiates phone call to resident.
 - l. Distinctive Ringing: Unique double ring on resident's telephone to distinguish between a standard call and an access request call.
 - m. Entry Codes: Codes can be time restricted or established as one-time-use-only.
 - n. Holiday Programming: Maximum of 16 holidays can be defined to override the pre-defined lock/unlock schedules.
 - o. Time Zones: Software manages up to 62 separate time zones with 3 segments each for access/no access schedules.
 - p. Anti-Passback: Waits for pre-programmed period of time before code or card can be reused.
 - q. Transaction Monitoring: Maximum of 4,000 transactions (date, time, unit ID and transaction) stored in unit are retrievable for record of on-site activities.
 - r. Battery backed clock/calendar including daylight savings and leap years.
 - s. Automatic Gate/Door Unlock Schedule: Main or auxiliary access points can be programmed to open at pre-defined times.
 - t. Security Lockout: Locks out all users for a programmable period of time if several invalid code attempts are made.
 - u. Alarm Calling: System dials pre-defined telephone number to notify security personnel of the alarm condition if door/gate is forced open or held open too long.
 - v. Remote Updates: Software updates accomplished through remote computer and modem connection.
 - w. Do Not Disturb: Assignable on tenant-by-tenant basis when programmed manually through touch tone telephone or by a pre-programmed schedule.
 - x. Lightning Protection: Installer shall provide external surge suppressors in addition to surge protection inherent in the entry system.
5. **Exit Reader:** Provide reader for true anti-passback operation.
6. **Camera:** Integrate camera into system to provide live video directly to television or monitor screen.

- a. Black and white CCTV camera.
- b. Color CCTV camera.
- c. Color low-lux camera compatible with DVRs.
7. **Passport Control:** Pushbutton remote control will operate LiftMaster garage door openers, gate operators and commercial door operators. Requires RF module.
8. **E-Z Scan:** Cards and Passport transmitters can be programmed into the unit through the card reader or radio receiver installed into one of the plug-in modules.
9. **Lighted directory enclosure for paper insert with 125 names.**
10. **Dimensions for EL 25 Surface Mount:** 6 inches (152 mm) high by 10 1/4 inches (260 mm) wide by 4 (102mm) inches deep.
11. **Power:** 12 VAC @ 0.75 Amp Max.
12. **Enclosure:** Vandal resistant.
 - a. Color: Nickel.
 - b. Color: Silver.
 - c. Color: Gray.
 - d. Mount: Vertically.
 - e. Mount: Horizontally.

H. **Commercial and Gated Community Telephone Entry System:**

1. **Acceptable Product:** LiftMaster / Chamberlain Elite EL2000.
2. **Acceptable Product:** LiftMaster / Chamberlain Elite EL2000, base unit with the following E-Z Scan plug-in modules:
 - a. Wiegand Output Module: Allows addition of card readers and remote keypads.
 - b. RF Module: Allows access through gates/doors with Passport transmitters.
3. **Memory Chip Capacity:** 2,000 codes; programmable as directory codes or access codes.
4. **Standard Features:**
 - a. Remote Access Diagnostics: Unit will record the following alarms: forced door/gate, door/gate ajar, unit over/under voltage.
 - b. Voice Prompts: Push button provides ADA compliant voice prompts for end users.
 - c. Line Noise Tolerance: Enhanced telephone connection to unit via modem.
 - d. Legacy Database Conversion: Versa XS 2.0 Software allows transfer of information from existing Sentex system to new Sentex system.
 - e. Do Not Disturb: Assignable on tenant-by-tenant basis when programmed manually through touch tone telephone or by a pre-programmed schedule.
 - f. Call Forwarding: System will dial a pre-programmed telephone number when the tenant is not at the monitored location. Access can be granted or denied from remote location. Call forwarding can be programmed manually as needed or time-activated to occur at scheduled intervals.
 - g. Call Waiting: Resident can answer an access call from a visitor while in the middle of another outside call. Resident can answer an outside call if on an access call.
 - h. Auto Sensor Input: Programmable to automatically dial the residence when a vehicle approaches the property.
 - i. Illuminated key pad.
 - j. Non-Volatile Memory: In event of power failure, database information is retained in memory allowing immediate start-up and operation when power is restored.
 - k. Separate Call Button: Initiates phone call to resident.

- l. Distinctive Ringing: Unique double ring on resident's telephone to distinguish between a standard call and an access request call.
 - m. Entry Codes: Codes can be time restricted or established as one-time-use-only.
 - n. Holiday Programming: Maximum of 16 holidays can be defined to override the pre-defined lock/unlock schedules.
 - o. Time Zones: Software manages up to 62 separate time zones with 3 segments each for access/no access schedules.
 - p. Anti-Passback: Waits for pre-programmed period of time before code or card can be reused.
 - q. Transaction Monitoring: Maximum of 4,000 transactions (date, time, unit ID and transaction) stored in unit are retrievable for record of on-site activities.
 - r. Battery backed clock/calendar including daylight savings and leap years.
 - s. Automatic Gate/Door Unlock Schedule: Main or auxiliary access points can be programmed to open at pre-defined times.
 - t. Security Lockout: Locks out all users for a programmable period of time if several invalid code attempts are made.
 - u. Remote Updates: Software updates accomplished through remote computer and modem connection.
 - v. Lightning Protection: Installer shall provide external surge suppressors in addition to surge protection inherent in the entry system.
- 5. **Exit Reader:** Provide reader for true anti-passback operation.
 - 6. **Camera:** Integrate camera into system to provide live video directly to television or monitor screen.
 - a. Black and white CCTV camera.
 - b. Color CCTV camera.
 - c. Color low-lux camera compatible with DVRs.
 - 7. **Passport Control:** Pushbutton remote control will operate LiftMaster garage door openers, gate operators and commercial door operators. Requires RF module.
 - 8. **E-Z Scan:** Cards and Passport transmitters can be programmed into the unit through the card reader or radio receiver installed into one of the plug-in modules.
 - 9. Provide lighted directory enclosure for paper insert with 125 names.
 - 10. **Dimensions:** 15 inches (381 mm) high by 12 inches (305 mm) wide by 3 inches (92 mm) deep.
 - 11. **Power:** 12 VAC @ 1.0 Amp Max.
 - 12. **Enclosure:** Vandal resistant cast aluminum alloy housing with 5 inch backlit LCD screen that displays up to 4 lines with 20 characters per line
 - a. Color: Nickel.
 - b. Color: Black
 - c. Color: Gray.
 - d. Mount: Horizontally.
- I. **Telephone Entry/Access and Perimeter Control System:**
 - 1. **Acceptable Product:** LiftMaster / Chamberlain Elite Dial Code LC
 - 2. **Acceptable Product:** LiftMaster / Chamberlain Elite Dial Code VF.
 - 3. **Controller:** For perimeter access not requiring a tenant call feature.
 - a. **Acceptable Product:** Dial Code Controller.
 - b. **Remote Access Device:** RS485 with 32 zone controls, 32 user groups and 32 time

- zones.
- c. Programming: Controller unit equipped with built-in modem, communicator card and software for direct and remote programming.
- 4. **Memory Chip Capacity:** Field upgradable capacity from 25 to 1,000 codes.
- 5. **Standard Features:**
 - a. Programming: Central processor is removed from enclosure for programming.
 - b. Readers: Two memory card slots and one Remote Communicator card slot.
 - c. Keycode Access: Maximum 6-digit residential access codes.
 - d. Resident Dialing: Maximum 3 digits codes to connect to residential units.
 - e. Speaker: System mutes speaker during dialing for security.
 - f. Microphone: System ignores touch tones through microphone for security.
 - g. Access: Resident controlled access by dialing "5" for door or "9" for gate.
 - h. Tone/Pulse Dialing: System can be site configured to DTMF or rotary output from the tenant's phone.
 - i. Programmable Talk Time: Visitor/tenant talk time adjustable for 20, 40, or 80 seconds.
 - j. Programmable Relay Times: Two independent 7-day timers per relay output for door and gate control.
 - k. Voice Guided Assistance: Provides user with voice assistance with system features including keycodes and dialing procedures.
 - l. Non-Volatile Memory: In event of power failure, database information is retained in memory allowing immediate start-up and operation when power is restored.
 - m. Utility Keycodes: 60 programmable utility keycodes per system; independent time zones and day of week restrictions per utility code; independent expiration date per code; one time use utility flash code.
 - n. Transaction Monitoring: Maximum of 8,000 transactions (date, time, unit ID and transaction) stored in unit are retrievable for record of on-site activities.
 - o. Battery backed clock/calendar including daylight savings and leap years.
 - p. Postal Lock Ready: Postal Lock Kit integrates with US Postal Service Lock (acquired from US Postal Service) to allow postal carriers access to controlled area.
 - q. Lightning Protection: Installer shall provide external surge suppressors in addition to surge protection inherent in the entry system.
- 6. **Non-Standard Features:** Provide the following:
 - a. **Programming:**
 - 1) Acceptable Product: ElitePro Software.
 - 2) Adjustable access levels for each user and each individual zone.
 - 3) Individual zones controlled via predetermined time schedule.
 - 4) Remote programming via modem.
 - 5) Control devices programmable for tenant or maintenance personnel only.
 - b. **Communicator Card:** Card allows addition of maximum of 31 remote access devices.
 - 1) Acceptable Product: RS485 Communicator Card.
 - 2) Memory Capacity: 4K.
 - 3) Memory Capacity: 8K.
 - 4) Memory Capacity: 16K.
 - c. **Remote Access Devices:** Provide the following remote access devices.

- 1) RS485 Remote Access Keypad.
 - 2) RS485 Remote Access Card Reader.
 - 3) RS485 Remote Access Radio Receiver with Remote Transmitter.
 - 4) RS485 Remote Access Translator Board for interface with 26-bit Wiegand controls.
 - d. Wireless Communicator: Provide the following remote access devices.
 - 1) Acceptable Product: EWC485 The Wireless Communicator.
 - 2) Compatibility: Compatible with Dial Code systems manufactured after January 3, 2005.
 7. **Dimensions:** 16-7/16 inches (418 mm) high by 11 1/4 inches (286 mm) wide by 3-3/16 inches (81 mm) deep.
 8. **Electrical Specifications:**
 - a. Power Output: 12 VAC, 1.6 amp UL Listed wall plug transformer.
 - b. Output Relays: Two output relays with independent strike times; both relays have all contacts accessible (NC, NO, C).
 - c. VCR Lapse Time: Relay output for 5-second VCR time lapse recording per authorized access.
 - d. Surge Protection:
 - 1) Powerline Surge Protection: 5000V.
 - 2) Phonenumber Surge Protection: 800V
 - e. Immunity: Immune to 25,000V electrostatic discharge.
 - f. Power Backup: System battery provides full functionality for up to five hours. System includes non-volatile memory and non-volatile clock.
 - g. Operating Environment:
 - 1) Temperature: Minus 4 to 165 degrees F.
 - 2) Relative Humidity: 5 to 95 percent (non-condensing).
 9. **Enclosure:** Rain-resistant, double box enclosure with built-in keyboard.
 - a. Front Panel: 16 gauge stainless steel.
 - b. Display: High resolution 2-line liquid crystal display; lighted keypad.
 - c. Display: Super-bright resolution 2-line vacuum fluorescent display; lighted keypad.
 - d. Mount: Surface mount.
 - e. Mount: Flush mount.
 - f. Freestanding Mount for Automobiles: EliteTower1.
 - g. Freestanding Mount for Pedestrians: EliteTower2.
- J. Multi-Tenant Telephone Entry/Access Control System:**
1. **Acceptable Product:** LiftMaster / Chamberlain Elite Icon26.
 2. **Acceptable Product:** LiftMaster / Chamberlain Elite Icon26 HT.
 3. **Memory Chip Capacity:** 250 names.
 4. **Memory Chip Capacity:** 500 names.
 5. **Memory Chip Capacity:** 1000 names.
 6. **Standard Features:**
 - a. **Programming:** Central processor is removed from enclosure for programming.
 - b. **Readers:** Two memory card slots and one card data backup slot.
 - c. **Readers:** Two memory card slots and one Remote Communicator Card slot.
 - d. **Keycode Access:** Maximum 6-digit residential access codes.
 - e. **Resident Dialing:** Maximum 3 digits codes to connect to residential units.

- f. Speaker: System mutes speaker during dialing for security.
 - g. Unlisted Resident: Programmable unlisted resident feature.
 - h. Access: Resident controlled access by dialing “5” for door or “9” for gate.
 - i. Tone/Pulse Dialing: System can be site configured to DTMF or rotary output from the tenant’s phone.
 - j. Programmable Talk Time: Visitor/tenant talk time extended 5 seconds when resident grants access.
 - k. Programmable Relay Times: Two independent 7-day timers per relay output for door and gate control.
 - l. Voice Guided Assistance: Provides user with voice assistance with system features including keycodes and dialing procedures.
 - m. Non-Volatile Memory: In event of power failure, database information is retained in memory allowing immediate start-up and operation when power is restored.
 - n. Utility Keycodes: 60 programmable 4-digit memory utility keycodes per system; independent time zones and day of week restrictions per utility code; independent expiration date per code; one time use utility flash code.
 - o. Transaction Monitoring: Maximum of 8,000 transactions (date, time, unit ID and transaction) stored in unit are retrievable for record of on-site activities.
 - p. Battery backed clock/calendar including daylight savings and leap years.
 - q. Postal Lock Ready: Postal Lock Kit integrates with US Postal Service Lock (acquired from US Postal Service) to allow postal carriers access to controlled area.
 - r. Lightning Protection: Installer shall provide external surge suppressors in addition to surge protection inherent in the entry system.
7. **Non-Standard Features:** Provide the following:
- a. Programming:
 - 1) Acceptable Product: ElitePro Software.
 - 2) Levels of Access: 31.
 - 3) Individual zones controlled via predetermined time schedule.
 - 4) Remote programming via modem.
 - 5) Control devices programmable for tenant or maintenance personnel only.
 - b. Communicator Card:
 - 1) Acceptable Product: RS485 Remote Communicator Card.
 - 2) Remote Access Devices: 32.
 - 3) Programmable Groups: 32.
 - 4) 7-Day Timer Templates: 32.
 - c. Remote Communicator Link:
 - 1) Acceptable Product: RS485 Communicator Link.
 - 2) Additional Devices: 31.
 - d. Remote Access Devices: Provide the following remote access devices.
 - 1) DT 418 transmitter; 418 Mhz; 16 million available codes; remote programming; single transmitter programming or block coding; remote deactivations and expiration dates/times.
 - 2) ERRB-485 Remote Elite Radio Receiver.
 - 3) ERRO-485 Icon 26 internal installation device.
 - 4) EKP-485 Elite Keypad with stainless steel keys.
 - 5) ECR-485W Remote Access Card Reader for posts or heavy door frames.

- 6) ECR-485T Remote Access Card Reader for standard door frames.
 - 7) RFID Electronic Key Cards with read range from 4 to 6 inches (102 to 152 mm).
 - 8) EA-485 Remote Access Translator Board for interface with 26-bit Wiegand controls.
 - 9) Camera: Integrate camera into system to provide live video directly to television or monitor screen.
 - 10) Color CCTV camera with 10 bit DSP; 330 line high resolution output; 5 lux minimal illumination.
8. **Dimensions:** 20 1/2 inches (521 mm) high by 16 inches (406 mm) wide by 4 3/8 inches (111 mm) deep.
 9. **Electrical Specifications:**
 - a. Power Output: 12 VAC, 40VA UL Listed wall plug transformer.
 - b. Output Relays: Two output relays with independent strike times.
 - c. VCR Lapse Time: Relay output for 5-second VCR time lapse recording per authorized access.
 - d. Surge Protection:
 - 1) Powerline Surge Protection: 5000V.
 - 2) Phonenumber Surge Protection: 800V.
 - 3) ESD: Up to 25,000V surge protection.
 - e. Power Backup: System battery provides full functionality for up to five hours. System includes non-volatile memory and non-volatile clock.
 - f. Operating Environment:
 - 1) Icon26: Minus 4 to 135 degrees F; RH 5 to 95 percent.
 - 2) Icon26 HT: Minus 4 to 165 degrees F; RH 5 to 95 percent.
 10. **Standard Enclosure:** Rain-resistant, double box enclosure with built-in keyboard.
 - a. Front Panel: 16 gauge stainless steel.
 - b. Display: High resolution 10 inch (254 mm) liquid crystal display; sunlight readable; backlit for low light applications; keypad lighting; 26 name viewing in scrollable directory.
 11. **1Enclosure:** IconTower1, freestanding mount for automobiles.
 12. **1Enclosure:** IconTower2, freestanding mount for pedestrians.
 13. **1Warranty:** One year.

K. Dial Code and Icon26 Accessories:

1. **Acceptable Product: LiftMaster / Elite Wireless Communicator RS485.**
 - a. Elite RS485 and Wiegand compatible.
 - b. Expandable to 31 remote access devices up to 6000ft. apart.
 - c. Point to point, and point to multipoint communication.
 - d. Built in lightning protection and surge suppression.
 - e. 900MHz spread spectrum technology.
 - f. Dimensions: 7 inches (178 mm) high by 4 1/4 inches (108 mm) wide by 3 inches (77 mm) deep.
 - g. Material: Powder coated steel.

L. Wireless Access Accessories:

1. **Acceptable Product: LiftMaster Passport Receiver.**

- a. Enables single transmitter solutions to Wiegand output.
 - b. Works with Liftmaster security+ rolling code, 315MHz narrow band transmitters.
 - c. Outputs 26-bit, or 30-bit Wiegand format.
 - d. Power: 12 Volts DC, 50mA.
 - e. Weather resistant NEMA 3 rating.
 - f. Operating Temperature: -40 to 185 degrees F.
 - g. Dimensions: 5 11/16 inches (145 mm) high by 4 1/8 inches (105 mm) wide by 1 7/16 inches (37 mm) deep.
2. **Acceptable Product: LiftMaster Passport Remote Controls.**
 - a. CPT13: Security+ rolling code, 315MHz, 1-Button Visor Remote Control.
 - b. CPT23: Security+ rolling code, 315MHz, 2-Button Visor Remote Control.
 - c. CPT33: Security+ rolling code, 315MHz, 3-Button Visor Remote Control.
 - d. CPT43: Security+ rolling code, 315MHz, 4-Button Visor Remote Control.
- M. Freestanding Housing for Telephone Entry System:**
1. **Acceptable Product: LiftMaster / EliteTower1.**
 - a. Application: Housing for Dial Code telephone entry systems; freestanding for automobile drive-up.
 - b. Dimensions: 48 inches (1219 mm) high by 16 inches (406 mm) wide by 8 inches (203 mm) deep.
 - c. Material: Powder coated stainless steel.
 2. **Acceptable Product: LiftMaster / IconTower1.**
 - a. Application: Housing for Icon26 telephone entry systems; freestanding for automobile drive-up.
 - b. Dimensions: 51 inches (1295 mm) high by 21 inches (533 mm) wide by 9 inches (229 mm) deep.
 - c. Material: Powder coated stainless steel.
 3. **Acceptable Product: LiftMaster / EliteTower2.**
 - a. Application: Pedestal for additional height when used with EliteTower1; for walk-up applications.
 - b. Dimensions: 15 inches (381 mm) high by 16 inches (406 mm) wide by 8 inches (203 mm) deep.
 - c. Material: Powder coated stainless steel.
 4. **Acceptable Product: LiftMaster / IconTower2.**
 - a. Application: Pedestal for additional height when used with IconTower1; for walk-up applications.
 - b. Dimensions: 15 inches (381 mm) high by 21 inches (533 mm) wide by 9 inches (229 mm) deep.
 - c. Material: Powder coated stainless steel.

2.4 PARKING CONTROL SYSTEMS

- A. High-Performance DC Barrier Gate Operator:**
1. High-performance, DC powered barrier gate operator and accessories. (MADCBB, MATDCBB)
 2. High-speed, DC powered barrier gate operator and accessories. (MASDCBB,

- MASTDCBB)**
3. **Chamberlain / LiftMaster Mega Arm MADCBB High-Performance DC powered Barrier Gate Operator:** Barrier gate with built-in battery backup for aluminum barrier gates up to 15 feet (4.5 m) or soft-padded barrier gates up to 14 feet (4.2 m) in length.
 4. **Chamberlain / LiftMaster Mega Arm Tower MATDCBB High-Performance DC powered Barrier Gate Operator:** Barrier gate with built-in battery backup for aluminum gates up to 15 feet (4.5 m) or soft-padded arm gates up to 14 feet (4.2 m) in length.
 5. **UL Classification: Conforms to Class I, when tested in accordance with UL325**
 6. **UL Classification: Conforms to Class II, when tested in accordance with UL325.**
 7. **UL Classification: Conforms to Class III, when tested in accordance with UL325.**
 8. **UL Classification: Conforms to Class IV, when tested in accordance with UL325.**
 9. **Chassis:** Manufactured from 1/4 inch (6 mm) rustproof T-6 aluminum alloy for superior heat and corrosion resistance; powder-coated.
 10. **Operator Enclosure MADCBB:** High density polyethylene plastic.
 11. **Operator Enclosure MATDCBB:** Aluminum.
 12. **Operator Motor:** 1/2 HP continuous duty 24VDC operator that provides for up to 6000 operating cycles per day; left- or right-hand operation.
 13. **Battery Backup:** Barrier gate housing shall contain an integral and internally-mounted battery backup system to automatically engage in the event of a power loss and auto-reset to normal operation when power is restored; battery backup shall provide complete operation of not only the gate operator, but all DC control devices and sensing devices to maintain normal operation of the barrier gate system in the event of a power loss; gate arm opens on power failure with a 15 second delay; battery charging shall be accomplished by an integral regulated battery management system that maintains proper battery levels to insure no disruption in service in the event of line power failure.
 - a. **Batteries:** Provide two 7-amp 12V DC batteries per gate operator for battery backup power.
 14. **Gear Reduction:** Heavy-duty 60:1 gear reducer in synthetic oil bath.
 15. **Control circuit:** Microprocessor (RISC) electronics and solid-state control board; low-voltage control inputs provide for connection of optional external devices including loop detectors, telephone entry systems, access control systems, and radio receivers.
 16. **Additional Required Controls:**
 - a. Internally-mounted RF receiver tuned at 315 MHz.
 - b. Inherent obstruction sensing providing separate force adjustments for both open and closed directions, allowing a closing gate to reverse to open and an opening gate to stop
 - c. Soft start/stop capabilities providing extended gate system life
 - d. Dynamic electronic braking to provide gate position control and ensure consistent gate closing without coasting
 - e. Magnetic sensing to control arm position and set the arm limits for the up and down positions
 - f. Dual gate operation capabilities to allow two separate gate operators to operate in unison at a single entrance
 - g. Timer-to-close providing adjustable timer settings between 1 and 33 seconds
 17. **Gate Arm:**
 - a. Arm: 12 foot (3.6 m) breakaway aluminum arm.
 - b. Arm: 12 foot (3.6 m) breakaway soft-padded aluminum arm.

- 1) Padding Color: Silver.
 - 2) Padding Color: Pink.
 - 3) Padding Color: Red.
 - 4) Padding Color: Blue.
 - 5) Padding Color: Purple.
 - 6) Padding Color: Aqua.
 - 7) Padding Color: Yellow.
 - c. Arm: 15 foot (4.5 m) breakaway aluminum arm.
 - d. Arm: 14 foot (4.2 m) breakaway soft-padded aluminum arm.
 - 1) Padding Color: Silver.
 - 2) Padding Color: Pink.
 - 3) Padding Color: Red.
 - 4) Padding Color: Blue.
 - 5) Padding Color: Purple.
 - 6) Padding Color: Aqua.
 - 7) Padding Color: Yellow.
 - e. Arm: 9 foot (2.7 m) PVC articulating arm.
 - f. Arm: 10 foot (3.1 m) aluminum articulating arm.
18. **Auxiliary Equipment:**
- a. Sequenced Access Management System providing ability to control a slide gate operator in tandem with a barrier gate operator.
 - b. Slip Clutch Mechanism: Gate arm self-aligns if entry gate is forced up.
 - c. Programmable output relay.
 - d. Radio receivers.
 - e. Heater Kit: 150 watt.
 - f. Heater Kit: 500 watt.

B. High-Speed DC Barrier Gate Operator:

1. **Chamberlain / LiftMaster Mega Arm Sprint MASDCBB High-Speed DC powered Barrier Gate Operator:** Barrier gate with built-in battery backup for soft-padded barrier gates up to 8 feet (2 m) in length.
2. **Chamberlain / LiftMaster Mega Arm Sprint Tower MASTDCBB High-Speed DC powered Barrier Gate Operator:** Barrier gate with built-in battery backup for soft-padded barrier gates up to 8 feet (2 m) in length.
3. **UL Classification:**
 - a. Conforms to Class I, when tested in accordance with UL325
 - b. Conforms to Class II, when tested in accordance with UL325.
 - c. Conforms to Class III, when tested in accordance with UL325.
 - d. Conforms to Class IV, when tested in accordance with UL325.
4. **Chassis:** Manufactured from 1/4 inch (6 mm) rustproof T-6 aluminum alloy for superior heat and corrosion resistance; powder-coated.
5. **Operator Enclosure MADCBB:** High density polyethylene plastic.
6. **Operator Enclosure MATDCBB:** Aluminum.
7. **Operator Motor:** 1/2 HP continuous duty 24VDC operator that provides for up to 10,000 operating cycles per day; left- or right-hand operation.
8. **Battery Backup:** Barrier gate housing shall contain an integral and internally-mounted battery backup system to automatically engage in the event of a power loss and auto-

reset to normal operation when power is restored; battery backup shall provide complete operation of not only the gate operator, but all DC control devices and sensing devices, including all sensing loops, to insure proper and expected operation of the barrier gate system in the event of a power loss; battery charging shall be accomplished by an integral regulated battery management system that maintains proper battery levels to insure no disruption in service in the event of line power failure.

9. **Batteries:** Provide two 7-amp 12V DC batteries per gate operator for battery backup power.
10. **Gear Reduction:** Heavy-duty 60:1 gear reducer in synthetic oil bath.
11. **Control circuit:** Microprocessor (RISC) electronics and solid-state control board; low-voltage control inputs provide for connection of optional external devices including loop detectors, telephone entry systems, access control systems, and radio receivers.
12. **Additional Required Controls:**
 - a. Internally-mounted RF receiver tuned at 315 MHz.
 - b. Inherent obstruction sensing providing separate force adjustments for both open and closed directions, allowing a closing gate to reverse to open and an opening gate to stop.
 - c. Soft start/stop capabilities providing extended gate system life.
 - d. Dynamic electronic braking to provide gate position control and ensure consistent gate closing without coasting.
 - e. Magnetic sensing to control arm position and set the arm limits for the up and down positions.
 - f. Dual gate operation capabilities to allow two separate gate operators to operate in unison at a single entrance.
 - g. Timer-to-close providing adjustable timer settings between 1 and 33 seconds.
13. **Gate Arm:**
 - a. Arm: 8 foot (2.4 m) breakaway soft-padded aluminum arm.
 - 1) Padding Color: Silver.
 - 2) Padding Color: Pink.
 - 3) Padding Color: Red.
 - 4) Padding Color: Blue.
 - 5) Padding Color: Purple.
 - 6) Padding Color: Aqua.
 - 7) Padding Color: Yellow.
 - b. Arm: 9 foot (2.7 m) PVC articulating arm.
 - c. Arm: 10 foot (3.1 m) aluminum articulating arm.
14. **Auxiliary Equipment:**
 - a. Sequenced Access Management System providing ability to control a slide gate operator in tandem with a barrier gate operator.
 - b. Slip Clutch Mechanism: Gate arm self-aligns if entry gate is forced up.
 - c. Programmable output relay.
 - d. Radio receivers.
 - e. Heater Kit: 150 watt.
 - f. Heater Kit: 500 watt.

PART 3 EXECUTION

3.1 PREPARATION

- A. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions. If preparation is the responsibility of another installer, notify Architect in writing of deviations from manufacturer's recommended installation tolerances and conditions.
- B. Do not proceed with installation until substrates have been properly prepared and deviations from manufacturer's recommended tolerances are corrected. Commencement of installation constitutes acceptance of conditions.
- C. Clean surfaces thoroughly prior to installation.
- D. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.2 INSTALLATION

- A. Install in accordance with manufacturer's instructions including but not limited to the following:
 - 1. Mount directly to concrete pad, firmly secured, plumb and level.
 - 2. Mount to mounting pedestal; provide base plate.
 - 3. Wire in accordance with National Electric Code.
 - 4. Enclose all splices in easily accessible junction boxes or on terminal boards.
 - 5. Tag and identify all cable runs in all junction boxes.
- B. Test system and adjust to assure components and accessories are properly connected and in working order.
- C. Wiring shall be in accordance with national electric codes and manufacturer's instructions. Make conduit and wiring connections to existing gate and door hardware devices as required.
- D. Install wiring for detection and signal circuit conductors in conduit. Use 22 AWG minimum size conductors.

3.3 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

3.4 MAINTENANCE

- A. Maintain at three-month intervals during specified maintenance period, checking external reversing devices once per month.

END OF SECTION

notes

notes

The Chamberlain Group, Inc.
845 Larch Avenue
Elmhurst, IL 60126

For more information, contact specs@liftmaster.com

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