

Design Standard Clock Systems

Purpose

The East Side Union High School District utilizes clock systems that provide synchronized timepieces throughout its campuses and the District Administration Building. The use of these systems realizes substantial savings for the District in terms of operation, maintenance and usage. This document defines design standards, necessary equipment and protocols to effectively utilize these systems.

Design Standard

1. Clock System

East Side Union High School District has standardized on Primex XR Traditional Series Wireless Analog Clock Systems. No other systems shall be considered equal, in order to make all systems compatible, which improves functionality while reducing maintenance and operating costs.

- Utilizing GPS and Network Time Protocol (NTP), Primex clocks synchronize to ensure accuracy of timepieces across the District.
- Primex Wireless clock systems synchronize clocks in the field using a GPS antenna that receives clock synchronization signals from an orbiting satellite multiple times daily. The transmitters relay correct time signal information to field clocks.
- The transmitter operates on a 9 VDC power source that is connected to 120VAC power.
- The field clocks can be 120V or battery-operated.
- Primex's proprietary 72MHz transmission frequency delivers the combination of distance and signal strength to easily penetrate common building materials, and transmits across longer distances with less potential for signal interference.
- The District maintains a FCC license to operate these clocks. Our current license runs until *Month Day, Year*.

2. System Components

Each installation has a unique set of coverage requirements. Designers may select from the following components to develop a system that meets the requirements of the project and the District. Projects may have unique requirements that need components not included in this design standard. Ascertain system requirements during the Programming Phase, and review proposed design no later than at the conclusion of Design Development with the District's Low Voltage Systems Coordinator.

- a. **Clocks:** round, black Arabic numerals, white face, black frame
 - 1) Primex 14306 12.5" 120VAC Black
 - Standard model for most installations
 - 2) Primex 14339 16" 120VAC Black
 - Standard model for installations in larger volume spaces
 - 3) Primex 14155 12.5" 2 D batteries Black
 - Alternate model, only allowed with special written approval by Facilities Director, for installations where power is not readily available
- b. **Accessories**
 - 1) Primex Dual Clock Kit
 - Bracket, mounting plate and hardware to install two 12.5" clocks back to back
 - Only allowed with special written approval by Facilities Director, for installations where a standard wall-mount clock would not provide adequate visibility, and where mounted high enough to avoid vandalism
 - 2) Wire Clock Guard
 - Protects clock against accidental damage or vandalism
 - Specify for Gymnasium and other areas where damage is a concern
 - 3) Surge Protector
 - Protects Primex equipment against power outages and other disruptions
 - 4) 1-Watt Transmitter Rack
 - Sturdy steel rack mounts to a wall to support a Primex 1-Watt Transmitter
- c. **Transmitters**
 - 1) Primex XR Series 30-watt Transmitter, which includes an external roof mounted antenna
 - For campus-wide deployments
 - 2) Primex XR Series 5-watt Transmitter, which includes an external roof mounted antenna
 - For campus-wide deployments
 - 3) Primex XR Series 1-watt Transmitter
 - For single building deployments

3. Layout Requirements

Each project is unique. Designers may gain guidance from the following information. Coordinate review of proposed clock locations no later than midway through Design Development with the District's Security Systems Coordinator and District Architect.

- a. Clocks must be in classrooms, laboratories, large public gathering spaces, conference rooms, gymnasias, and libraries.
- b. Classroom clocks should be located on the side wall, so that both teachers and students can see the time.
- c. Ensure clock locations will not conflict with Group 2 FF&E that the District may place into the space post-construction; coordinate at the end of the Design Development phase.
- d. Coordinate clock locations with electrical power design, and specify clock outlets so that backside of clocks are flush against the wall.

Approved Manufacturers

- Primex

Substitutes Allowed?

No substitutes allowed. Pursuant to Section 3400 of the Public Contract: Primex systems are now in use on the particular public improvement described as East Side Union High School District. At each instance in these standards that a designated material, product, thing or service is designated by the brand name “Primex” is designated to match the existing systems that are in place at each campus and the District Administration Building. The Contractor will furnish and apply only “Primex” systems as required, and no substitutions shall be deemed to be “or equal” or allowed.

Associated Construction Specifications

- Division 26 Electrical Design Standards

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