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6  
7

### Product Guide Specification

**Specifier Note: This product specification is written according to the Construction Specifications Institute (CSI), *MasterFormat*<sup>™</sup>, *SectionFormat*, and *PageFormat*, contained in the *CSI Manual of Practice*.**

**The section must be carefully reviewed and edited by the Architect/Engineer/Consultant to meet the requirements of the project and local building code. Coordinate this section with other specification sections and the drawings.**

**Delete all “Specifier Notes” when editing this section.**

## DIVISION 16731

### WIRELESS DIGITAL DISPLAY CLOCKS & TIMERS

**Specifier Note: This section covers Wireless Digital Display clocks and Timers. These must be specified as components of a Primex Wireless GPS Wireless Clock System. Contact Primex Wireless for assistance with editing this section**

#### Part 1 General Requirements and Scope

Furnish and install a complete new wireless digital clock and timer system using Primex Wireless Inc. GPS Wireless Clock system.

All bids shall be based on the equipment as specified herein. The specifying authority must approve any alternate system.

(Reference Division 16730 Clock Systems)

**Specifier Note: Edit the following list as required for the project.**

#### 1.1 Section Includes

- Wireless Digital Clocks
- Wireless Digital Elapsed Timers
- Wireless Digital Programmable Countdown Timers

**Specifier Note: Edit the following list as required for the project. List other sections with work directly related to this section.**

1  
2  
3 **1.2 Related Sections**

4 Division 16010 – Electrical (120 VAC or 24 VAC) required for Clocks/timers.  
5 Division 16730 – GPS Wireless Clock System or 1 watt external/ Commandpoint  
6 Division 16735 – Wireless Bell and Tone Synchronization System  
7

8 **Specifier Note: List standards referenced in this section, complete with**  
9 **designations and titles. This article does not require compliance with**  
10 **standards, but is merely a list of those used.**

11  
12 **1.3 References**

13  
14 This Technical Specification and Associated Drawings

15  
16 Primex Wireless Digital Clock Setup Instructions  
17 Primex Wireless Programmable Timer user Manual  
18 Primex Wireless Event Scheduler Pro Manual  
19 Primex Wireless Elapsed Timer User Manual.  
20 Primex Wireless Code Blue Digital Timer User Manual  
21

22 **1.4 Definitions**

23  
24 GPS: Global Positioning System, a worldwide system that employs 24 satellites in an  
25 integrated network to determine geographic location anywhere in the world, and which  
26 employs and transmits Universal Coordinated Time, the world's most accurate and  
27 reliable time.

28  
29 NTP: Network Time Protocol, used for synchronizing the clocks on computer  
30 networks and devices from either a public server or a separate server on a private local  
31 area network.

32  
33 PC: Personal Computer (owner furnished)

34  
35 UTC: Universal Coordinated Time  
36  
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38 **1.5 System Description**

39  
40 The system shall provide wireless time from a master time source. This time source  
41 will either be the atomic clock on the GPS system or the clock from a defined NTP  
42 server that the XR transmitter can access via the customer Ethernet. The master time  
43 will be synchronized to UTC. Each clock/timer and every other component in the  
44 system shall use both precise time and synchronized time.  
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46 Clock locations shall be as indicated

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The system must operate in accordance with a “Radio Station Authorization”, Form FCC 601 – LM, granted by the Federal Communications Commission (FCC). This license will be issued to and held by the end user.

**1.6 Regulatory Requirements**

Equipment and components furnished shall be of manufacturer’s latest model.

NEC Article 250  
Local building codes

The end user will hold a license, known as a “Radio Station Authorization” granted by the FCC.

This license grants the end user protected use for wireless transmission at the designated frequency.

This license will designate a unique “call sign” for each end user.

Transmitter and receiver shall comply with Part 90 of FCC rules as follows:

This device may not cause harmful interference, and

This device must accept interference received, including interference that may cause undesired operation.

Transmitter frequency shall be governed by FCC Part 90.35.

Transmitter output power shall be governed by FCC Part 90 257 (b)

System shall be installed in compliance with local and state authorities having jurisdiction.

**1.7 Submittals**

Product Data: Submit complete catalog data for each component, describing physical characteristics and method of installation. Submit brochure showing available styles and sizes of clocks.

Operating License: Submit evidence of application for FCC Radio Station Authorization prior to installing equipment. Furnish the license or a copy of the application for the license, to the Owner/End User prior to operating the equipment. The original license must be delivered to the Owner/End User.

Wireless Digital Display Clocks & Timers  
Division 16731

1 Samples: Submit one clock/ timer for approval. Approved sample shall be tagged and  
2 shall be installed in the work at location directed.

3 Manufacturer's Instructions: Submit complete installation, set-up and maintenance  
4 instructions.

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7 **1.8 Substitutions**

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9 Proposed substitutions, to be considered, shall be manufactured of equivalent materials  
10 that meet or exceed specified requirements of this Section.

11  
12 Proposed substitutions shall be identified not less than 10 days prior to bid date.

13  
14 Other systems requiring wiring and/or conduit between master and clocks will not be  
15 accepted.

16  
17 Other systems using wireless technology in an unlicensed frequency range will not be  
18 accepted.

19 Other systems using wireless technology where the license is held by any party other  
20 than the owner will not be accepted.

21  
22 **1.9 Quality Assurance**

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24 Permits: Obtain operating license for the transmitter from the FCC.

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26 Qualifications:

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28 Manufacturer: Company specializing in manufacturing commercial time  
29 System products with a minimum of 30 continuous years of documented  
30 experience including 4 years experience producing GPS wireless time systems.

31  
32 Installer: Company with documented experience in the installation of  
33 commercial time systems.

34  
35 Prior to installation, a site survey must be performed to determine proper transmitter  
36 placement.

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38 **1.10 Delivery Storage and Handling**

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40 Deliver all components to the site in the manufacturer's original packaging. Packaging  
41 shall contain manufacturer's name and address, product identification number, and  
42 other related information.

43  
44 Store equipment in finished building, unopened containers until ready for installation.  
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**1.11 Project Site Conditions**

For Programmable Countdown Timer verify that a PC having the specified minimum system requirements will be available for use in programming the programmable timer. See 2.3 below for system requirements

Clocks/ timers shall not be installed until painting and other finish work in each room is complete.

**1.12 System Startup**

At completion of installation and prior to final acceptance, turn on the equipment; ensure that all equipment is operating properly, and that all clocks/ timers are functioning.

**1.13 Warranty**

Manufacturer will provide a 1 year warranty on wireless digital clocks and timers

**Part 2 – Products**

**2.1 Manufacturer**

Wireless Digital clocks and timers shall be manufactured by Primex Wireless, Inc., 965 Wells Street, Lake Geneva WI 53147 (800) 537-0464 FAX (262) 248-0061 [www.primexwireless.com](http://www.primexwireless.com).

**2.2 Equipment**

**Specifier Note:**  
Select optional digit style, colors, and case styles from manufacturer’s brochure.

**Digital Clocks**

Wireless Digital Clocks: Primex **Wireless Model 14201**, 4 inch (101.6mm) - 6 digit, 7 segment LED display.

Wireless digital display clocks & timers must have time and date option.

Wireless digital display clocks& timers shall be capable of automatically adjusting for Daylight Saving Time

Wireless digital clocks &timers must be viewable from 150 feet (45.7m)

1 LED digits shall be red or green.  
2  
3

#### 4 **Digital Timers**

5  
6 Wireless Digital Elapsed Timer **Primex Wireless Model XRA1B202E** 4 inch (101.6mm)  
7 - 6 digit 7 segment LED display

8 Elapsed Timers must function as clocks or function as countdown /count up interval  
9 timers when programmed with a 3 button wall mount control switch.

10 Elapsed Timers shall include a 3 button wall mountable control switch. This control  
11 will be mounted in a single gang electrical box. Control cover plate shall be stainless  
12 steel. Control buttons must be washable with water and common disinfectants.

13 Switch control shall connect to timer with 9ft. (2.7 m) 3 pair UTP Telco cable.

14 Connection between control and cable shall be a 3 pair modular plug and jack with  
15

16 Primex Wireless Digital Programmable Timer **Primex Wireless Model 14203P** 4 inch  
17 (101.6mm) - 6 digit 7 segment LED display

18 Wireless Digital Programmable Timers must function as clocks and must

19 Display countdown time between programmed events.  
20

21 Wireless Digital Code Blue Timer **Primex Wireless Model XRA1B202C** 6 digit-4  
22 inch (110.6mm 6 digit -7 segment LED display.

23 Code Blue Timers must function as clocks and must integrate seamlessly to facility's  
24 existing code blue control  
25

26 Code Blue Timers shall include a 3 button wall mountable control switch. This  
27 control will be mounted in a single gang electrical box. Control cover plate shall be  
28 stainless steel. Control buttons must be washable with water and common  
29 disinfectants.  
30

31 Switch control shall connect to timer with 14ft. (4.26 m) 4 pair UTP network cable.  
32 Connection between control and cable shall be a 4 pair modular plug and jack with  
33 protective boot included.

34 Code blue Timers must include an optional audible tone to alert changes in interval  
35 cycles.

36 Code blue Timers must include adjustable brightness control.

37 Code blue Timers must have power outage memory backup and maintain correct time  
38 for 10 hours without power  
39

40 Power Supply: 120 VAC or 24VAC, 50-60 cycle.

41 120 VAC clocks and timers will include a 9 ft (2.7 m) power cord with a 3 prong plug.

42 24 VAC clocks and timers will include an 18 inch (457.2mm) power cord with pigtailed  
43 to be hard wired to building 24VAC power grid.  
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#### 46 **2.2 Additional Equipment**

1  
2 Programmable countdown timers require installation of Event Scheduler Pro software on  
3 Owner provided PC

4  
5 Scheduling software **Primex Wireless Model 14356**

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7 **Specifier Note: Where desired for protection of clocks, specify the following**  
8 **optional equipment**  
9

10  
11 Digital clock wire guard **Primex Wireless Model. 14388** for 2. 5 inch (63.5mm)

12 LED digital clocks

13 Digital clock wire guard **Primex Wireless Model 14389** for 4 inch (101.6mm)

14 LED digital clocks

15  
16 Elapsed Timer switch control extension cable 3 pr UTP 100 ft. (30.48 m) max.  
17

## 18 19 **2.3 Software**

20  
21 Provide scheduling software for installation and programming by owner, compatible  
22 with the following PC operating systems:

23  
24 Windows 95 with Internet Explorer 5.01 Service Pack 2.

25  
26 Windows 98

27  
28 Windows ME

29  
30 Windows NT with Service Pack 6a, Internet Explorer 5.01 Service Pack 2, and valid  
31 administrator rights.

32  
33  
34 Windows 2000 with valid administrator rights.

35  
36 Windows XP with valid administrator rights.

37  
38 Software shall be in form of a CD, suitable for operation in standard CD-ROM drives.  
39  
40

## 41 **Part 3 – Execution**

### 42 43 **3.1 Examination**

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45 Verify that construction is complete in spaces to receive equipment and that rooms  
46 are clean and dry.

1  
2           Verify single gang electrical box for switch control is mounted and within 15ft.  
3           (4.5m) of elapsed timer. Verify pathway for connecting cable is available and  
4           compliant to local building codes.

5  
6           Verify that electrical power outlet is near location of clock or timer and the outlet is  
7           operational and properly grounded.  
8  
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### 10 11 12 13 14 15 16 17 **3.2   Installation**

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19           Furnish all equipment necessary for a complete and operational system  
20           Attach mounting bracket to wall in the indicated location, plumb, level and  
21           tight against the wall. Attach using fasteners provided by manufacturer.  
22           Perform the following operation for each timer  
23           Apply power 120 VAC or 24 VAC  
24           Connect timer to switch control unit with manufacturer provided cable or approved  
25           extension cable.  
26           Cable routing must comply with ANSI EIA/TIA- 569-A and local building codes.  
27           Fasten timer to mounting bracket  
28           Set time zone, time date option, , and brightness level in accordance with  
29           manufacturer's instructions per owner's requirements.  
30           Observe timer until valid time signal is received and timer displays correct time.  
31           Wire guards: Secure to wall, using approved theft-resistant fasteners.  
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### 35 **3.3   Adjusting**

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37           Prior to final acceptance, inspect each clock, adjust as required, and replace parts  
38           which are found defective.  
39

### 40 41 **3.4   Cleaning**

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43           Prior to final acceptance, clean exposed surfaces of clocks, using cleaning methods  
44           recommended by clock manufacturer. Remove temporary labels from clock faces.  
45           Do not remove labels from backs of clocks.  
46

Wireless Digital Display Clocks & Timers  
Division 16731

1 **3.5 Demonstration**

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3 Provide training to Owner's representative on setting and adjusting clocks, replacing  
4 batteries and routine maintenance.

5

6 **3.6 Protection**

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8 Protect finished installation until final acceptance of the project.

9

10 **3.7 Testing**

11 All devices must be tested at their operational location under normal operational  
12 conditions to assure reception of signal.

13

14 **END OF SECTION**