



Wired Clock Systems and Accessories



24SC12R -SPL
Analog Clock



110-788
Dual-faced Clock/Speaker



110-1674 & 110-1675 Digital
Clocks with wall & ceiling mount housing

Overview

Edwards clocks and accessories are high-performance timekeeping devices that offer a wide range of options and features. Edwards offers reliable clocks, controllers, and accessories compatible with centrally-controlled and self-correcting systems. Several of these work in combination with Dukane StarCall and MCS350 communication systems to provide a total timekeeping and communications solution.

Accessories

- 110-3822 2-inch Digital Clock/Speaker Baffle
- 5A606 or 5A607 8-inch Speaker/Transformer
- 24SS Series Synchronous Secondary Analog Clock
- 24CC10 Clock Controller
- 110-3902 Dual 4-inch Digital Clock Housing
- 24D20A or 24ZB20 2-Inch Digital Secondary Clock
- 24D40A or 24ZB40 4-inch Digital Secondary Clock
- 24SC12R-SPL, 12SC15R-SPL Analog Secondary Clocks
- 9A1900 Elapsed Timer Start Button
- 110-3693 AC Clock Power Supply
- 110-3836A Digital Clock Sync Module
- 110-788 Dual Faced Clock/Spk (110-3822) Mount Enclosure.
- 110-1674 2-inch Digital Clock Dual Wall Mount Enclosure.
- 110-1675 2-inch Digital Clock Dual Ceiling Mount Enclosure.

Dual-faced Digital Clock and Speaker Housing

- 110-788 Dual Faced Clock/Speaker Housing
- 110-3822 2-inch Clock/Speaker Baffle
- 8-inch Speaker/Transformer



110-788

The Edwards Dual Faced 2-inch Digital Clock/Speaker Baffle Housing, model 110-788, allows mounting of two 110-3822 Clock/Speaker Baffles and one or two 5A606 8-inch Speakers and makes a great assembly for Ceiling mount. The unit is designed for corridors and large rooms and is ceiling mounted from the top of housing to a 2-gang back box. The enclosure is 14-1/4" high, 14-1/4" wide, 6-3/4" deep made with 18-gauge cold rolled steel with baked-on, platinum white enamel finish.

Engineering Specification

The Dual-Faced Digital Clock and Speaker Housing shall be Edwards Model 110-788 or an approved equal, as indicated on the plans. The unit shall provide mounting for two Edwards Model 110-3822 Digital Clock/Speaker Baffles and up to two 8-inch speakers with matching transformers. The housing shall be mounted from top to a 2-gang backbox with an overall dimension of 14-1/4" high, 14-1/4" wide, 6-3/4" deep on an 18-gauge steel housing with a baked-on, platinum white enamel finish.

The loudspeaker shall be an 8-inch (20.3 cm) PM seamless cone type, Edwards Model 5A606 (including transformer), with a frequency range of 90Hz to 15,000Hz, a nominal wattage of 8 watts, a program rating of 12 watts, and axial sensitivity of 91dB at 1 meter (3.3 feet) for 1 watt input. The speaker-matching transformer shall be dual voltage with 1/2, 1, and 2 watt taps for 25 volt operation and 1/2, 1, 2, and 4 watt taps for 70 volt operation. The speaker-matching transformer shall have pigtail leads.

The Digital Clock/Speaker Baffle shall be Edwards Model 110-3822 or an approved equal. The clock shall be capable of displaying time in 12- or 24-hour format. The display shall be a 2-inch high LED unit with high intensity digits, and shall require 24Vac at 125mA for Bright illumination or 67mA for Normal illumination. The removable plug shall have pigtail leads.

The Clock/Speaker Baffle assembly model 110-3822 shall have a black, perforated steel grille contained within a dark gray aluminum frame. The housing shall be 14-1/4 inches high, 14-1/4 inches wide, and 3 inches deep including the speaker. The unit shall weigh 6 pounds, and it shall be mounted to a Edward model 110-788 enclosure.

Double Faced Digital Secondary Clock Housing

- 110-1674 2-inch Digital Clock Dual Wall Mount Enclosure.
- 110-1675 2-inch Digital Clock Dual Ceiling Mount Enclosure.
- Mounts on 2-gang back box.



110-1674

The Edwards Model 110-1674 Dual Wall Mount or 110-1675 Dual Ceiling Mount with two model 24D20A or 24ZB20 2-inch Digital Clocks makes a single compact unit. Designed for corridors or large rooms, the clocks are equipped with 2-inch high digital

display. The clocks trimplates constructed of high impact, non-conductive, flame-retardant, charcoal colored material and a mounting frame finished in white, baked enamel.

Engineering Specification

The Double Faced Digital Secondary Clock assembly shall be Edwards Model (110-1674 Wall Mount or 110-1675 Ceiling Mount with 24D20A or 24ZB20 2-inch Clocks) or approved equal, and shall be furnished and installed as indicated on the plans. The unit shall provide two Edwards digital secondary clocks that are compatible with the Edwards Model 24A715/M Master Time-Program Clock. Each digital display shall be a 2-inch (5.1 cm) high unit with Arabic numerals, designed for visibility at 100 feet (30.5 m) under normal ambient light. The clock shall be capable of displaying time in either 12- (with P.M. LED) or 24-hour format, and of blanking the display numerals. The unit shall be 4-1/2 in (11.4 cm) high, 11-15/16 in (30.3 cm) wide, and 5-1/8 in (13 cm) deep, with clock trimplates constructed of high impact, non-conductive, flame-retardant, charcoal-colored material, and a mounting frame finished in white, baked enamel. Clock terminations shall be to a plug-in connector.

Digital Clock/Speaker Housing

- 110-3822 2-inch Digital Clock/Speaker Baffle
- 8-inch Speaker/Transformer
- 145-192 Back-Box



The Edwards Model 110-3822 2-inch Digital Clock/Speaker Baffle is an attractive unit when mounted with a Edwards Model 5A606 Speaker/Transformer. The Clock/Speaker baffle assembly is black, perforated metal grille within a dark gray aluminum frame with overall dimensions 14-1/4" high, 14-1/4" wide, 3" deep including speaker. It can be flush mounted using the Edwards Model 145-192 backbox.

Engineering Specification

The Digital Clock/Speaker shall be Edwards Model 110-3822 or an approved equal. The unit shall provide a two-Inch digital secondary clock compatible with the Edwards master clock and a Model 5A606 Speaker with an impedance-matching transformer. The clock shall be capable of displaying time in 12- or 24-hour format. The display shall be a 2-inch (5.1 cm) high LED unit with high intensity digits, and shall require 24Vac at 125mA for Bright illumination or 67mA for Normal illumination. The removable plug shall have pigtail leads.

The loudspeaker shall be an 8-inch (20.3 cm) PM seamless cone type with a frequency range of 90Hz to 15,000Hz, a nominal wattage of 8 watts, a program rating of 12 watts, and an axial sensitivity of 91dB at 3.3 feet (1 meter) for 1 watt input. The speaker-matching transformer shall be dual voltage with 1/2, 1, and 2 watt taps for 25-volt operation, and 1/2, 1, 2, and 4 watt taps for 70-volt operation. The transformer shall have pigtail leads.

The clock/baffle assembly shall have a black, perforated steel grille contained within a dark gray aluminum frame. The housing shall be 14-1/4 in (36.2 cm) high, 14-1/4 in (36.2 cm) wide, and 3 in (7.6 cm) deep including the speaker. The unit shall weigh 6 pounds (2.7 kg), and it shall be mounted to an Edwards backbox, part number 145-192.

24SS Series Secondary Analog Clock

- Attractively finished
- Multiple sizes
- Controlled by master
- Easy installation
- Underwriters' Laboratories listed



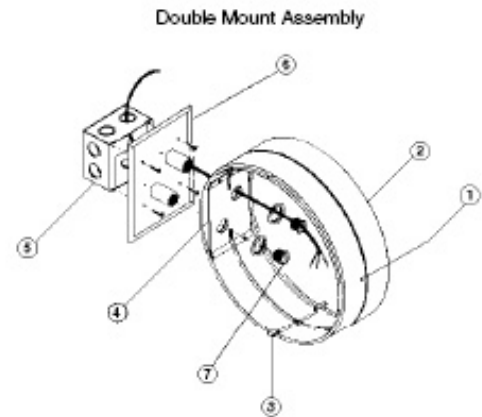
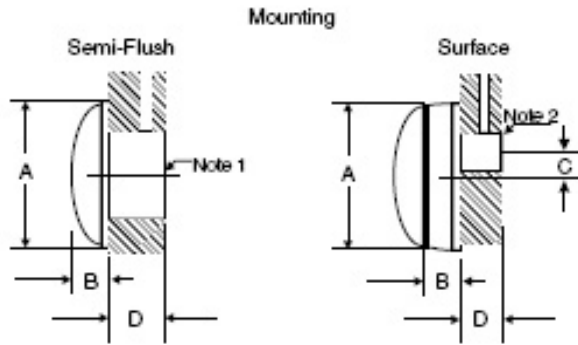
The Edwards Model 24SS Series Synchronous Secondary Analog Clocks are available in round 12-inch (30.5 cm) and 15-inch (38.1 cm) sizes. The dials and hands are protected by a convex glass lens. An optional shatterproof Lexan® lens is available for the 12-inch size only. The clocks are mounted semi-flush, surface, or double, with the double mounting from either wall or ceiling. The clock markings are in Arabic numerals displayed in Helvetica font. The synchronous-wired clocks are designed to work with the Edwards Model 24A715 or 24A715M master clocks, as well the Dukane StarCall and MCS350 communication systems. All clocks are mounted on a 22-gauge steel housing and finished in matte charcoal gray.

Specifications: 24SS Series Secondary Analog Clock

General Description	Round clock, 12 in (30.5 cm), or 15 in (38.1 cm) diameter Arabic (1-12 or 0-23 hour) clock face Matte charcoal-gray case
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Connections	Each clock is furnished with a cable assembly 18 in (45.7 cm) long with a polarized plug and mating socket.
Wiring	Red (correction coil) Black (run motor) White (common return) Green/Shield (safety ground)
Frequency and Power Requirements	
Correction	Minute hand corrects hourly Hour hand corrects every 12 hours
Coil Input Voltage	115Vac, 24Vac, or 24Vdc
Motor Input Voltage	115Vac or 24Vac
Coil Input Frequency	60Hz or DC
Motor Input Frequency	60Hz
Coil Input Power	4 Watts
Motor Input Power	4W (8W for double faced)
Mounting	
Surface	Mount to RACO 695 single-gang backbox or equal (order separately).
Semiflush	24SS mounts to a 8-SAM0576 custom backbox. (Order backboxes separately.) Dimensions: 8 in (20.3 cm) high, 6 in (15.2 cm) wide, 3 in (7.6 cm) deep.
Double Faced	Mount to a 4-inch (10.16 cm) by 4-inch (10.16 cm) dual gang backbox (order separately). Adapter plates are furnished with each assembly for wall or ceiling mount. Specify wall or ceiling mount when ordering.

24SS Series Secondary Analog Clock



Clock Type Face	Dimensions	Outside Dimensions (A)	Distance Protrude (B)	Backbox Above Clock Ctr (C)	Backbox Depth (D)	SC Series Ship Weight
12 RF RD-Semi Flush	12.12 in (30.79 cm)	13.12 in (33.32 cm)	1.62 in (4.11 cm)	Approximate Center	3 in (7.6 cm)	11.9 lb (5.36 kg)
15 RF RD-Semi Flush	15.75 in (40.0 cm)	16.75 in (42.55 cm)	1.75 in (4.45 cm)	Approximate Center	3 in (7.6 cm)	14.3 lb (6.44 kg)
12 RS RD Surface	12.12 in (30.79 cm)	14.5 in (36.83 cm)	3.87 in (9.83 cm)	4.62 in (11.73 cm)	3.5 in (8.89 cm)	9.5 lb (4.28 kg)
15 RS RD-Surface	15.75 in (40.0 cm)	18.25 in (46.36 cm)	4 in (10.16 cm)	6.5 in (16.51 cm)	3.5 in (8.89 cm)	11.6 lb (5.22 kg)

Notes:

1. Use Model 8-SAM0576 backbox for 24SS clocks (order separately).
2. Use RACO #695 single-gang box or equivalent (order separately).

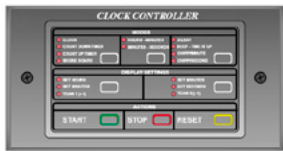
When mounting a double-faced clock, use the Edwards Model 23D Assembly Kit. Items with an * are included in the 23D.

- *1. Two 12 RD/E or 15 RD/E Clock Assemblies
D = Wall Mount E = Ceiling Mount
- *2. Outside Case Assembly
- *3. Retaining Clips
- *4. Case Adapter Plate
- *5. 4 in x 4 in Wall Box or Ceiling Box
- *6. Wall/Ceiling Adapter Plate
- *7. Miscellaneous Mounting Hardware

24CC10 Clock Controller

User-friendly front panel controls

- Controls Edwards two-inch or four-inch digital clocks
- Operating modes: 12 or 24-hour clock; count down timer; elapsed timer; score board; code blue elapsed timer
- Operates independently or as slave to master clock
- Timer display settings: hours/minutes; minutes/seconds
- Operates from 15Vdc or 24Vac
- Mounts in standard three-gang backbox



The Edwards Model 24CC10 Clock Controller is a compact, microprocessor-controlled unit that enables an Edwards 24D20A or 24ZB20 Two-Inch Digital Secondary Clock or 24D40A or 24ZB40 Four-Inch Digital Secondary Clock to be used for count up timing, count down timing, score keeping and code blue timing. The digital clock serves as the time indicator and display for the clock controller in the room. The digital clock is mounted for optimum visibility, while the clock controller is mounted in a convenient location that allows access to its controls.

The Model 24CC10 Clock Controller is designed for ease of use, with logical button groupings, intuitive labeling, and LED function guidance. When a particular operating mode is selected, related LEDs illuminate to indicate the commands available in that mode. A lock-out feature allows the front panel controls to be disabled, preventing unauthorized use. The 24CC10 and its associated digital clock can operate as a stand-alone clock/timer or as a secondary clock under the corrective control of an Edwards Model 24A715 or 24A715M Master Time/Program Clock. The 24CC10 can also operate under the corrective control of a Dukane StarCall or MCS350 communication system. The 24CC10 is powered by a separate 10 to 24Vac or 10 to 15Vdc power source. The 24CC10 has five operating modes:

Clock Mode displays the time on the Edwards digital clock in 12- or 24-hour format. In clock mode, the clock controller operates under the control of a master clock. In the absence of a master clock, the clock controller can operate in stand-alone mode, governing the time for its associated Edwards digital clock. Stand-alone mode does not provide battery backup for the clock display, therefore Edwards recommends that a master clock be used.

Count Down Timer Mode counts down to zero from a user-selected start time. The timer can count down by minutes and hours or by seconds and minutes. It can also be set to run silent, to beep when the timer runs down to zero, to chirp once per minute and beep at zero, or to chirp once per minute and once per second and beep at zero. During the count down sequence the timer can be stopped, restarted, and reset to its original target value.

Count Up Timer Mode measures the duration of an event. The timer can count up by hours and minutes or by minutes and seconds. It can also be set to run silent, to chirp once per minute, or to chirp once per minute and once per second. During the count up sequence the timer can be stopped, restarted, and reset to the initial timer value.

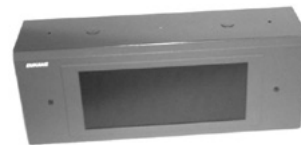
Score Board Mode uses the digital clock as a simple score board. The two left digits of the clock display the score of team 1 and the two right digits display the score of team 2.

Code Blue Timer Mode shows the elapsed time from when a code blue call is placed to when the STOP button is pressed on the clock controller. The code blue timer overrides anything currently displayed on the digital clock. This mode requires a contact closure from a separate device that initiates code blue calls.

Specifications: 24CC10 Clock Controller

Operating Voltage	24Vac nominal—recommended (10Vac min. to 30Vac max.) —or— 15Vdc nominal (10Vdc min. to 30Vdc max.)
Current Consumption	91mA @ 10Vac, 50mA @ 24Vac —or— 110mA @ 10Vdc, 75mA @ 15Vdc
Terminations	Two pigtail connectors with 8 leads each (provided) One pigtail connector with 2 leads (for code blue; provided)
Operating Temperature	32°–90° F (0°–32° C)
Dimensions	4-1/8 in (10.5 cm) high x 8 in (20.3 cm) wide x 1-1/2 in (3.8 cm) deep
Weight	Approximately 9 ounces (252 g)
Mounting	Flush mounts into RACO 3-gang backbox, 2.5 in (6.4 cm) deep
Finish	Bezel—textured gray ABS Panel—textured gray polycarbonate

110-3902 Dual Four-inch Digital Clock Housing



- Designed for Edwards four-inch digital secondary clocks
- Adaptable for wall or ceiling mounting

The Edwards Model 110-3902 Dual Four-Inch Digital Clock Housing is designed for corridors or large rooms requiring a front and rear digital clock display. The enclosure houses two Edwards Model 24D40A or 24ZB40 Four-Inch Secondary Digital Clocks (purchased separately), and uses the trimplates that come with the digital clocks.

The dual digital clock housing can be wall or ceiling-mounted. For mounting to a cement or cinder block wall, the housing mounts to a standard RACO two-gang masonry box. Optionally, the housing can be flush-mounted to a ceiling or suspended below the ceiling using conduit extensions. Although not recommended, the housing can also be mounted to a stud wall if additional structural support is provided, or mounted to the ceiling after creating a support frame out of 2x4s.

Specifications: 110-3902 Dual Four-inch Digital Clock Housing

Dimensions	7 in (17.8 cm) high, 19 in (48.3 cm) wide, 4-1/2 in (11.43 cm) deep
Weight	4.4 lbs (2 kg), less backbox and clocks
Mounting	Wall-mounted using two-gang masonry box Ceiling-mounted using conduit extensions
Finish	Charcoal gray

24D20A or 24ZB20 Two-Inch Digital Secondary Clock

- Highly visible two-inch LED
- 24 Vac operation
- Selectable LED display intensity
- 12- or 24-hour display
- High efficiency
- Can replace model 24F750A clocks for easy upgrades
- ESD-hardened
- Wireless Capable (24ZB20)



24D20A
Digital Secondary Clock

The Dukane Model 24D20A or 24ZB20 Two-Inch Digital Secondary Clock provides a highly visible, even-intensity, long-life display of time in selectable formats. It can be operated in either 12- or 24-hour format, and at either Bright or Normal intensity levels. The time display on the secondary clock updates to the master clock time at one-minute intervals. This ensures that all system clocks are in precise synchronization, and that every clock in the system is as accurate as the master clock. The high-efficiency 24 Vac design allows many clocks to be operated at great distances from low cost 24 Vac power supplies.

- **For new installations**, the 24D20A or 24ZB20 can be flush-mounted into a standard four-gang backbox, and can be operated from a 24 Vac power supply.
- **In retrofit installations**, the 24D20A or 24ZB20 can be surface-mounted using the 8A225 Surface Backbox, and can be operated from 24 Vac.
- **In repair situations**, the 24D20A or 24ZB20 can directly replace the 24F750A digital clock. The 24D20A or 24ZB20 fits into the 24F750A's existing six-gang backbox and operates from the existing 24F750A's 15Vdc power supply. The pigtail connector of the existing installation can be directly applied to the new 24D20A or 24ZB20 installation without rewiring. (Check power supply reserve capacity before upgrading.)

Compliance with FCC Part 15 Class A emissions rules has been verified. As a result, the Model 24D20A or 24ZB20 clock meets the requirements for installation in educational, institutional, and commercial sites. The installed clock is ESD-hardened to IEC 801-2 Standards.

Engineering Specification

The Two-Inch Digital Secondary Clock shall be Edwards Model 24D20A, 24ZB20 or an approved equal. The digital clock shall provide an even-intensity, long-life time display in selectable 12- or 24-hour format. Each minute, the secondary clock shall receive a time display update from the master clock.

The two-inch digital secondary clock shall fit into a standard four- or six-gang backbox and shall offer adequate backbox clearance to reduce the possibility of shorts. The clock shall operate from either a 24Vac or 15Vdc power supply. The clock shall offer two display modes, either Normal or Bright intensity. The Model 24D20A or

24ZB20 clock shall include pigtail plug-in lead connectors. The unit shall directly replace Dukane Model 24F750A digital clocks.

Model 24ZB20 Two-Inch Digital Clock shall be able to receive and transmit wireless signal by adding the 24ZBM2040 Zigbee module for Edwards 24ZBMC100 Wireless Master Clock system.

The clock shall comply with the FCC Part 15 Class A emissions rules, and shall meet requirements for installation in educational, institutional, and commercial sites. The installed clock shall also be ESD-hardened to the IEC 801-2 Standard.

Specifications: 24D20A or 24ZB20 Two-Inch Digital Secondary Clock

Mounting	New Installations (flush-mount): RACO #693, 4-gang masonry backbox, 2-1/2" (6.4 cm) deep, or RACO #698, 3-1/2" (8.9 cm) deep, or approved equal. Retrofit Installations (surface mount): Dukane 8A225, Two-Inch Surface-Mount Backbox, 1-3/4" (4.4 cm) deep, or approved equal. Repair Installations (to replace 24F750A clocks): RACO #960, 6-gang masonry backbox, 3-1/2" deep (8.9 cm), or approved equal.
Power Requirements	24Vac (+/- 5 Vac)—NOT TO EXCEED 30 Vac 122 mA in Bright display mode. (3W) @ 24Vac 67mA in Normal display mode (1.6W) @ 24Vac
For replacement of 24F750A clocks:	15Vdc (+ 0/-2Vdc) 125mA in Bright display mode @ 15Vdc 60mA in Normal display mode @ 15Vdc
Note: When replacing a 24F750A clock, the pigtail plug from the previous clock can be directly connected to the 24D20A without rewiring. The rated current consumption of the 24F750A is 300mA, allowing direct replacement at either Bright or Normal intensity settings.	
Viewing Distance	110' (33.5 m) in Bright intensity mode with normal lighting 100' (30.5 m) in Normal intensity mode with normal lighting
Display Size	2" (5.1 cm)
Electrostatic Discharge	Installed clock is ESD-hardened to IEC 801-2 requirements (+/- 8kV direct, +/- 15kV air discharge)
Terminations	Pigtail leads color-coded
Lens	Anti-glare clear acrylic
Dimensions	4-1/2" (11.4 cm) high by 11-15/16" (30.3 cm) wide by 1-3/4" (4.4 cm) deep
The Model 24D20A and 24ZB20 Two-Inch Digital Secondary Clock can be controlled by any of the following master clock products: Edwards Models 24A715 or 24A715M Master Time/Program Clock. Note: Correction by a Dukane MCS350 system, or CPC-E based StarCall system may require use of Model 110-3836 Digital Clock Sync Module.	
24A715	Edwards Master Clock
24A715M	MCS350 Dukane Intercom System with Master Clock
SCR	Dukane StarCall Platform Integrated Communications Systems

24D40A or 24ZB40 Four-inch Digital Secondary Clock



- Highly visible four-inch LED
- 24Vac operation
- Selectable LED display intensity
- 12- or 24-hour display
- High efficiency
- Can replace Edwards model 24D20 and 24F750A clocks for easy upgrades
- ESD-hardened
- Wireless capable (24ZB40)

The Edwards Model 24D40A or 24ZB40 Four-Inch Digital Secondary Clock provides a highly visible time display. It can be operated in either 12- or 24-hour format, and at either Bright or Normal intensity levels. Each minute the time display on the secondary clock updates to the master clock time. This ensures that all clocks in the system are in exact synchronization, and that every clock in the system is as accurate as the master clock. See the Associated Equipment list for the appropriate master clocks.

Installation of the Model 24D40A or 24ZB40 clock offers the following options:

- For new installations, the 24D40A or 24ZB40 can be mounted into either a standard 4-gang masonry backbox or an 8A425 Surface-Mount Backbox, and can be operated from a 24Vac power supply.
- For upgrade installations, the 24D40A or 24ZB40 can directly replace a Model 24D20A Two-Inch Digital Clock. Both units fit into a standard 4-gang backbox and share the same pigtail connector. (Check power supply reserve capacity before upgrading.)
- In existing installations, the 24D40A or 24ZB40 clock can directly replace the Edwards Model 24F750A Digital Clock. The 24D40A or 24ZB40 fits into the same six-gang backbox and operates from the existing 15Vdc power supply. The pigtail connector of the existing installation can be directly applied to the new 24D40A or 24ZB40 installation without rewiring. (Check power supply reserve capacity before upgrading.)

Compliance with FCC Part 15 Class A emissions rules has been verified. As a result, the Model 24D40A clock meets the requirements for installation in educational, institutional, and commercial sites. The installed clock is ESD-hardened to IEC 801-2 Standards.

Engineering Specification

The Four-Inch Digital Secondary Clock shall be Edwards Model 24D40A or 24ZB40 or an approved equal. The digital clock shall provide an even-intensity, long-life time display in selectable 12- or 24-hour format. Each minute, the secondary clock shall receive a time display update from the master clock.

The four-inch digital secondary clock shall fit into a standard four- or six-gang backbox and shall offer adequate backbox clearance to reduce the possibility of shorts. The clock shall operate from either a 24Vac or 15Vdc power supply. The clock shall offer two display modes, either Normal or Bright intensity. The Model 24D40A or 24ZB40 clock shall include pigtail plug-in lead connectors. The unit shall directly replace Edwards Model 24F750A and 24D20A digital clocks.

The clock shall comply with the FCC Part 15 Class A emissions rules, and shall meet requirements for installation in educational, institutional, and commercial sites. The installed clock shall also be ESD-hardened to the IEC 801-2 Standard.

Specifications: 24D40A or 24ZB40 Four-inch Digital Secondary Clock

Mounting	New Installations (flush mount): RACO #693, 4-gang masonry backbox, 2-1/2 in (6.4 cm) deep, or RACO #698, 3-1/2 in (8.9 cm) deep, or approved equal Retrofit Installations (surface mount): Edwards 8A425, Four-Inch Digital Clock Surface-Mount Backbox, 1-1/2 in (3.8 cm) deep, or approved equal Upgrade Installations (to replace 24F750A clocks): RACO #960, 6-gang masonry backbox, 3-1/2 in deep (8.9 cm), or approved equal
Power Requirements	24Vac (+/- 5Vac) NOT TO EXCEED 30Vac 350mA in Bright display mode @ 24Vac 250mA in Normal display mode @ 24Vac For replacement of 24F750A: (see Note below) 15Vdc (+ 0/-2Vdc) 350mA in Bright display mode @ 15Vdc 250mA in Normal display mode @ 15Vdc
Note: When replacing 24F750A clocks, the pigtail plug from the previous clock can be directly connected to the 24D40A without rewiring. The rated current consumption of the 24F750A is 300mA, allowing direct replacement at the Normal intensity setting. If the Bright setting of the 24D40A is to be used, the existing loading on the power supply must be measured to see if there is sufficient supply capacity.	
Viewing Distance	160 ft (48.8 m) in the Bright intensity mode with normal lighting 150 ft (45.7 m) in the Normal intensity mode with normal lighting
Display Size	4 in (10.2 cm) high by 10 in (25.4 cm) wide
Electrostatic Discharge	Installed clock is ESD-hardened to IEC 801-2 requirements (+/- 8kV direct, +/- 15kV air discharge)
Terminations	Pigtail leads color-coded
Lens	Anti-glare Acrylic
Dimensions	5.8 in (14.7 cm) high by 19.0 in (48.3 cm) wide by 2.5 in (6.4 cm) deep
Weight	2.5 lbs (1.1 kg) (without packaging)
Mounting	Wall-mounted using two-gang masonry box Ceiling-mounted using conduit extensions
Finish	Charcoal gray
Bezel	Charcoal gray ABS plastic, 5.8 in (14.7 cm) high by 19.0 in (48.3 cm) wide by 0.94 in (2.4 cm) deep
8A425	Surface Mount Clock Backbox, 19 in (48.3 cm) long by 7 in (17.8 cm) high by 1.5 in (3.8 cm) deep, charcoal gray enamel finish. Low profile box allows the 24D40A or 24ZB40 to be mounted on an existing wall surface.
110-3693	AC Clock Power Supply, 5 amps (rms), mounts in a 145-184-SC Power Supply Backbox with either a 110-2190-SC flush-mount door or a 110-2191-SC surface-mount door (order separately according to your application's requirements). Three power supplies maximum per backbox.
110-3902	Four-inch Digital Clock Dual Enclosure, Wall or Ceiling Mount
The Model 24D40A and 24ZB40 Four-Inch Digital Secondary Clock can be controlled by any of the following master clock products: Edwards Models 24A715 or 24A715M Master Time/Program Clock.	
Note: Correction by a Dukane MCS350 system, or CPC-E based StarCall system may require use of Model 110-3836 Digital Clock Sync Module.	
24A715, 24A715M	Edwards Master Clock (rack-mount)
MCS350	Dukane Intercom System with Master Clock
SCR	Dukane StarCall Platform Integrated Communications Systems

24SC12R-SPL and 24SC15R-SPL

Analog Secondary Clock

The Edwards Model 24SC12/15R-SPL Secondary Analog Clock combines the advantages of a long-life quartz movement with microprocessor technology to provide a round 12- or 15-inch analog clock with contemporary styling. The 24SC12/15R-SPL is a direct replacement for the Edwards 24SS Series synchronous secondary analog clock. It can also be directly connected to the wiring for Edwards Model 24D20A or 24D40A digital clocks. The 24SC12/15R-SPL allows the use of both analog and digital clocks on the same line and it can emulate the correction schemes of many popular analog secondary clocks from various manufacturers. The desired emulation mode is selected using a simple DIP switch setting. This allows the 24SC12/15R-SPL to be used as a replacement for failed clocks in many systems, regardless of their original manufacturer.

The 24SC12/15R-SPL is designed to be flush- or surface-mounted while requiring no special backboxes or mounting hardware. It can be mounted as a ceiling or wall double-face clock using third-party hardware. The Shatter Resistant 24SC12/15R-SPL is provided with a single piece black metal rim with a convex acrylic lens. Clock face time markings are Arabic numerals in a 12-hour format with black hour and minute hands and a red second hand. This clock works with the Edwards Model 24A715 or 24A715M master clocks, as well the Dukane StarCall and MCS350 communication systems. The 24SC12/15R-SPL complies with FCC Part 15 Class A and meets the requirements for installation in educational, institutional, and commercial sites. The installed analog clock is ESD-hardened to IEC 801-2 standards.

Specifications: 24SC12/15R-SPL Analog Secondary Clock

Diameter	12 in (30.5 cm) or 15 in (38.1 cm)
Shape	Round
Face	Black Arabic numerals (1-12) on a white background
Rim	Steel, single piece (no welds), matte black painted finish
Connections	Each clock is furnished with an analog and digital cable pigtail assembly, each 12 inches (30.5-cm) in length with a polarized plug Analog Wiring: Red (correction) Black (run motor) White (common, return) Green/shield (safety ground) Digital Wiring: Black (common) Brown (reset) Blue (24Vac) Blue/White (24Vac) Orange (clock)
Correction	Depends on DIP-switch selected master clock compatibility
Frequency And Power Requirements	Input Current: 50mA @ 24Vac Input Voltage: 24Vac/60 Hz 120Vac/60 Hz (requires Model 110-3950 120V Adapter Kit—sold separately)
Mounting	Flush: Mount to a RACO 696 two-gang masonry backbox or equal (sold separately) Surface: Clock provided with a wire mold knockout. Extend wire mold from a RACO two-gang masonry back box mounted above ceiling (wire mold and electrical box sold separately). Double Faced: Follow third-party manufacturers' mounting instructions.

Notes: New installations may require either a Model 110-3900 Mounting Plate or 110-3950 120Vac Adapter Kit. See Associated Equipment, below. For more detailed information, refer to the latest revision of document number 3100673, the Model 24SC12R Installation Manual.

9A1900 Elapsed Timer Start Button

- Single switch operation
- Stainless steel wallplate
- Precious metal contacts
- Works with model 24CC10 clock controller



The Edwards Model 9A1900 Elapsed Timer Start Button is used with the Edwards Model 24CC10 Clock Controller. When the PRESS TO START TIMER pushbutton is pressed, it provides a momentary contact closure that automatically starts the clock controller's "Count Up Timer" function, overriding all other active clock controller functions.

Specifications: 9A1900 Elapsed Timer Start Button

Switch Type	SPDT momentary pushbutton (spring-action return)
Designation	PRESS TO START TIMER
Dimensions	4-1/2 in (11.4 cm) high, 2-3/4 in (7 cm) wide, and 7/8 in (2.2 cm) deep
Terminations	Pigtail Leads
Net Weight	2 oz (56 grams)
Finish	Satin-finished stainless steel
Mounting	Standard flush-mounted single-gang backbox more than 2 in (5.1 cm) deep

110-3836A Digital Clock Sync Module



Digital Clock Sync Module

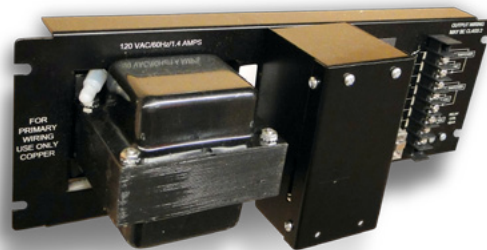
- Provides interface between master and digital secondary clocks
- Two high fan out outputs
- Supports up to 500 model 24D20A two-inch or model 24D40A four-inch digital secondary clocks

The Digital Clock Sync Module allows a master clock to increase its output drive capability in order to support multiple digital secondary clocks. The sync module supports up to 500 Edwards Model 24D20A two-inch or Model 24D40A four-inch digital secondary clocks. Both high fan out outputs are required to drive the two control signals common to each clock. The 110-3836A is only used for Dukane MCS350 systems and Dukane StarCall systems supplied with model 110-3521A CPC-E cards.

Digital Clock Sync Module

Power Requirements	+20 to +35Vdc 18mA, maximum
Capacity	500 Edwards Model 24D20A or 24D40A Digital Secondary Clocks
Input Electrical Specifications	Maximum open circuit voltage = +15.5 Vdc Maximum voltage to guarantee activation = +2 Vdc Minimum required sink capability of input contact = 1mA
Output Electrical Specifications	Open drain output Maximum allowable peak open circuit voltage = 24V Sink capability = 2A DC ($V_{out} \leq 0.3V$)
Input/output Response Conditions:	Minimum input pulse low = 7 msec @ $V_{in\ low} = 1.0V$ Minimum input pulse open circuit = 5 msec
Output:	Output load = 2A DC @ $V_{out} < 0.3V$ Minimum output pulse ON time (sink) = 2 msec Minimum output pulse OFF time (open circuit) = 2 msec
Termination	Five pin and three pin terminal strips accepting stranded or solid wire, 26 to 16 AWG
Dimensions	4.7 in (11.9 cm) long by 2.7 in (6.9 cm) wide by 1.0 in (2.5 cm) deep

110-3693 AC Clock Power Supply



- Continuous duty operation
- Easily accessible fuses
- Screw terminal outputs
- Includes correction coil relay
- Outputs permit class 2 wiring

The AC Clock Power Supply provides a convenient 24Vac source for operating synchronous clocks and bells. The low voltage and current output of this power supply allows Class 2 wiring to be used. An onboard relay allows clock correction coils to be easily interfaced with Edwards master clocks. This supply mounts with the standard Edwards power supply backbox and doors.

110-3693 AC Clock Power Supply System

Rated Outputs	24Vrms @ 5A unregulated total (two separate 2.5A outputs)
Rated Input	120Vac, 60 Hz, 1.4A
Relay Input/output	Coil rated 24Vdc @ 40mA Contacts rated 10A resistive with 240Vac or 30Vdc maximum
Net Weight	AC Clock Power Supply: 7 lb, 1 oz (3.4 kg) 110-2190 Flush Mt Door: 3 lb, 13 oz (1.7 kg) 110-2191 Surface Mount Door: 3 lb, 7 oz (1.6 kg) 145-184 Backbox: 8 lb, 7 oz (3.8 kg)

Ordering Information

Model	Description
Two-inch Digital Clock Housing and Associated Equipment	
24D20A	Two-inch Digital Clock
24ZB20	Two-inch Digital Clock
110-1674	Wall Mount Dual Enclosure for 2" Clock
110-1675	Ceiling Mount Dual Enclosure for 2" Clock
8A225	Surface Mount back box for 2" Clock
24ZBM2040	Wireless Module for 24ZB20
RACO 696	Two-gang masonry box
24SS Series Secondary Analog Clock*	
24SS12RDAGA	Clock, 12" Round, Double Wall, 115Vac/60Hz
24SS12RDAGA-SPD	Clock, 12" Round, Double Face Wall, 115Vac/60Hz, Shatterproof Lens
24SS12RDAGC	Clock, 12" Round, Double Face Wall, 24Vac/60Hz
24SS12RDAGC-SPD	Clock, 12" Round, Double Wall Face, 24Vac/60Hz Shatterproof Lens
24SS12RFAGA	Clock, 12" Round, Semi-Flush, 115Vac/60Hz
24SS12RFAGA-SPS	Clock, 12" Round, Semi-Flush, 115Vac/60Hz, Shatterproof Lens
24SS12RFAGC	Clock, 12" Round, Semi-Flush, 24Vac/60Hz
24SS12RFAGC-SPS	Clock, 12" Round, Semi-Flush, 24Vac/60Hz, Shatterproof Lens
24SS12RSAGA	Clock, 12" Round, Surface, 115Vac/60Hz
24SS12RSAGA-SPS	Clock, 12" Round, Surface, 115Vac/60Hz, Shatterproof Lens
24SS12RSAGC	Clock, 12" Round, Surface, 24Vac/60Hz
24SS12RSAGC-SPS	Clock, 12" Round, Surface, 24Vac/60Hz, Shatterproof Lens
24SS15RDAGA	Clock, 15" Round, Double Wall, 115Vac/60Hz
24SS15RDAGC	Clock, 15" Round, Double Wall, 24Vac/60Hz
24SS15REAGC	Clock, 15" Round, Double Ceiling, 24Vac/60Hz
24SS15RFAGA	Clock, 15" Round, Semi Flush, 115Vac/60Hz
24SS15RFAGC	Clock, 15" Round, Semi Flush, 24Vac/60Hz
24SS15RSAGA	Clock, 15" Round, Surface, 115Vac/60Hz
24SS15RSAGC	Clock, 15" Round, Surface, 24Vac/60Hz
Wireguard	
23 WG 12S	For 12 in Surface/Semiflush Clock
23 WG 15S	For 15 in Surface/Semiflush Clock
23D	Dual Conversion Ring for 12" Round Clock
23S	Conversion Ring, Convert 12"Round Semi-Flush to Surface Mount
Associated Equipment	
24A715, 24A715M	Master Clock/Program Clock (M=Modem optional)
8-SAM0576	Backbox for Semi-Flush Analog SS Clock
110-3693	Power Supply (Class II)
145-184-SC	Backbox, Surface or Flush Mounted, holds up to three Model 110-3693 Power Supplies
110-2190-SC	Flush Mount Door for Model 145-184-SC Backbox
110-2191-SC	Surface Mount Door for Model 145-184-SC Backbox
24CC10 Clock Controller and Associated Equipment	
24CC10	Clock Controller
24A715M	Master Time/Program Clock (M= Modem optional) StarCall or MCS350 System
24D20A	Two-Inch Digital Secondary Clock
24D40A	Four-Inch Digital Secondary Clock
9A1900	Digital Clock Controller Remote Start Button
110-3693	24Vac Clock Power Supply (for use with additional digital secondary clocks)
17A437	24Vdc Clock Power Supply (80mA, plug-in, low power supply for use with one 24CC10)

Model	Description
Four-inch Digital Clock Housing and Associated Equipment	
110-3902	Dual Four-inch Digital Clock Housing
24D40A	Four-inch Secondary Digital Clock
8A425	4 inch Surface Mount backbox
RACO Model 696	Two-gang masonry box, 3-3/4 in (9.5 cm) high, 3-25/32 in (9.6 cm) wide, 3-1/2 in (9 cm) deep
24ZB40	Two-inch Digital Secondary Clock
24ZBM2040	Wireless Module for 24ZB40
Digital Clock/Spaker and Associated Equipment	
110-3822	Digital Clock Speaker Housing This housing has the opening and capability for mounting a standard 8 in (20.3 cm) round speaker.
145-192	Backbox, flush mount. Overall dimensions: 13-3/4 in (35 cm) wide, 12-3/4 in (32.4 cm) high, 3-1/4 in (8.3 cm) deep. Rear of box dimensions: 12-1/2 in (31.8 cm) wide, 12-3/4 in (32.4 cm) high.
110-788	Surface or Double face Clock/Spk Enclosure
5A606	Speaker W/Transformer
Analog Secondary Clock and Associated Equipment	
24SC15R-SPL	15" Smart Analog Clock
24SC12R-SPL	12" Smart Analog Clock
24A715	Master Program Clock
24A715M	Master Time/Program Clock (M= Modem optional) StarCall or MCS350 System
	StarCall Master Program Clock
110-3900	Mounting Plate (required if 110-3950 is not used)
110-3950	120Vac Adapter Kit
110-3693	Power Supply (Class II), 24Vac
145-184-SC	Flush Mount Door for Model 145-184 Backbox
110-2191-SC	Surface Mount Door for Model 145-184 Backbox
145-184-SC	Backbox, surface or flush mount (holds three Model 110-3693 Power Supplies)
AC Clock Power Supply and Associated Equipment	
110-3693	AC Clock Power Supply (1, 2, or 3 employed)
145-184-SC	Backbox (Up to three power supplies can be mounted in a single backbox)
110-2190-SC	Door (Flush Mount)
110-2191-SC	Door (Surface Mount)
Digital Clock Sync Module and Associated Equipment	
110-3836A	Digital Clock Sync Module
24D20A	Two-Inch Digital Secondary Clock
24D40A	Four-Inch Digital Secondary Clock
110-3693	24Vac Clock Power Supply Assembly
110-3521A	CPC-E Central Processor Card (StarCall)
110-3542	Power Supply Module (StarCall)

* Can be used with Dukane StarCall System and Dukane MCS350 System



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