

Primex XR 72MHz Synchronized Time Solution

XR Classic Series Digital Clock & Timer Troubleshooting Guide



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Primex, Inc.

Primex is a leading provider of synchronized time and environmental monitoring solutions. Our solutions automate and maintain facility compliance, increase efficiencies, enhance safety and reduce risk for organizations in the healthcare, education, manufacturing and government vertical markets.

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Classic Digital Clock and Timer Troubleshooting

Learn more about common troubleshooting procedures for an XR Classic Series Digital Clocks & Timers (first generation).



Clock does not power on

Model: Levo & Classic Digital Clocks and Timers

Symptoms

All or some of the symptoms may be present.

- Clock display remains dark after being connected to power.
-

Problem

Clock power connection or electrical junction box voltage.

Analyze

1. Verify the clock power cord is securely connected to the power leads at the electrical junction box.
 2. Verify the clock voltage and the voltage being supplied at the electrical junction box are the same
 3. If there are large groups of for clocks that have lost power, request assistance from the facility maintenance staff to check the circuit breakers.
-

Solution

1. Verify power connections.
 2. Verify clock voltage.
 3. Check circuit breakers.
-

Only dashes displayed, time is not displayed

Model: Levo and Classic Series Digital Clocks and Timers

Symptoms

All or some of the symptoms may be present.

- Digital Clock/Timer only displays dashes and time is not displayed.
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Problem

Digital Clock/Timer is not receiving a signal from the Transmitter.

Analyze

1. Determine if cause is due to Transmitter broadcasting schedule and/or clock signal search frequency.

Digital Clock/Timer signal search frequency: every 10 minutes on the 5's (5, 15, 25, 35, 45, 55 minutes) of the hour, a clock's receiver turns on to search for a Transmitter signal to receive a time update.

Transmitter with External Antenna: were the clock(s) installed between the 7th and 38th minute of the hour? Clocks receive a time signal and update their time the 39th minute of the hour. If the Transmitter is not in an error mode, power the down the Transmitter, wait 30 seconds, and power back on. A power cycle forces the Transmitter to broadcast for eight consecutive hours.

Broadcast (Transmit) Schedule Transmitter with Internal Antenna: broadcasts its synchronized time continuously to the system clocks and devices.

Digital Clock/Timer signal search frequency: every 10 minutes on the 5's (5, 15, 25, 35, 45, 55 minutes) of the hour, a clock's receiver turns on to search for a Transmitter signal to receive a time update.

2. Identify scope of clocks experiencing issue - single clock or all clocks/clocks in specific area.

Single clock

- a. Reset the clock to initiate a manual signal search: press and immediately release the button located in its setting panel.

Classic Series - remove the small rectangular access panel located in the upper center of the face of the clock/timer. To aid in removal, there is a small recess in the top center of this panel. The panel can be removed with a small screwdriver by gently prying the center top edge of the access panel forward.

All clocks/clocks in specific area: verify the Transmitter(s) is not in an error state. If multiple Transmitters on site, start with the Master Transmitter and then proceed by verifying the other units.

a. Is the Transmitter's red LED flashing and/or is information displayed on its front display not correct? If yes, the Transmitter is an error state that may result in the clocks not receiving a broadcasting signal. Resolve the issue by completing the troubleshooting topics for the Transmitter model. Once the Transmitter is in a normal state and broadcasting, clocks correct at their next scheduled update.

3. If a clock(s) continue not to set its time, it may be due to the signal coverage at the install location or area.

Perform a signal check: take the clock with the issue to a known good signal area where clocks are set to the correct time with a solid colon. Apply power to the clock experiencing the issue. Press and release the clock's reset button in its setting panel. If the clock sets to the correct time, it's a signal issue at the original installation location .A reset causes the clock to scan for a broadcasting Transmitter frequency.

4. If a clock(s) in a specific area continues not set its time, it may be due to interference preventing a clock from receiving a broadcasting signal.

NOTE

When certain types of electronic light ballasts become defective they may radiate broadband noise, which can interfere with wireless devices. While interference issues are unlikely with the Primex system, high levels of noise present in the 72-76MHz range could potentially cause clocks which are located far from the Transmitter and also within the close proximity of these ballasts to not receive a signal. Very limited instances have occurred in the past, which has only been found to happen when ballasts become defective.

Solution

1. Determine if Transmitter broadcast schedule or clock signal search frequency is cause of clock not updating its time.
2. Single clock: reset clock to search for signal.
3. All clocks/clocks in specific area: check Transmitter status and resolve any issues.
4. Verify signal coverage at install location or area.
5. Verify no interference at install location or area - defective ballast.

If the issue cannot be resolved, additional troubleshooting is required. For further assistance, contact Primex Technical Support at 1-262-729-4860.

One or more LED segments are not illuminated (appear dark)

Model: Levo Series and Classic Series Digital Clocks and Timers

Symptoms

All or some of the symptoms may be present.

- One or more LED segments are not illuminated (dark).
 - All LED segments are not illuminated.
-

Problem

Segment may be burned out or power trouble on the circuit board.

NOTE

First digit is not illuminated from 0:01.01 to 9:59.59 in 12 or 24-Hour configuration.

Analyze

Initiate a reset.

1. Either power cycle the clock or initiate a manual reset.

To manually reset a Classic Series clock- remove the small rectangular access panel located in the upper center of the face of the clock/timer. To aid in removal, there is a small recess in the top center of this panel. The panel can be removed with a small screwdriver by gently prying the center top edge of the access panel forward.

A power cycle or manual reset causes the clock to scan for a broadcasting Transmitter. The clock initiates its power cycle/reset sequence as described below.

1. All LED segments display 8s with a red dot on the bottom right of each of the two hour digits and one at the second or last minute digit.
 2. All LED segments display dashes and then dashes with a colon between the hours and minutes.
 3. Once the clock/timer receives a signal from the Transmitter, the LED segments display the time received from the Transmitter and a flashing red dot appears at the bottom right of the second hour digit for three minutes.
-

Solution

1. Reset the clock to search for a signal.
 2. If a single or all segments fail to illuminate after a reset, the clock will be required to be replaced. For further assistance, contact Primex Technical Support at 1-262-729-4860.
-

Colon between the hour and minute is flashing

Symptoms

All or some of the symptoms may be present.

- The colon between the clock hour and minute is flashing.
 - The clock's time may not be accurate.
-

Problem

The clock has not received a signal from a Transmitter for more than 3 days.

Digital Clock/Timer signal search frequency: every 10 minutes on the 5's (5, 15, 25, 35, 45, 55 minutes) of the hour, a clock's receiver turns on to search for a Transmitter signal to receive a time update.

Analyze

1. Identify scope of clocks experiencing issue - single clock or all clocks/clocks in specific area.

Single clock

- a. Reset the clock to initiate a manual signal search: press and immediately release the button located in its setting panel.

Classic Series - remove the small rectangular access panel located in the upper center of the face of the clock/timer. To aid in removal, there is a small recess in the top center of this panel. The panel can be removed with a small screwdriver by gently prying the center top edge of the access panel forward.

All clocks/clocks in specific area: verify the Transmitter(s) is not in an error state. If multiple Transmitters on site, start with the Master Transmitter and then proceed by verifying the other units.

- i. Is the Transmitter's red LED flashing and/or is information displayed on its front display not correct? If yes, the Transmitter is in an error state that may result in the clocks not receiving a broadcasting signal. Resolve the issue by completing the troubleshooting topics for the Transmitter model. Once the Transmitter is in a normal state and broadcasting, clocks correct at their next scheduled update.

2. If a clock(s) continue not to set its time, it may be due to the signal coverage at the install location or area.

Perform a signal check. Take the clock with the issue to a known good signal area with clocks that are set to the correct time with a solid colon. Apply power to the clock experiencing the issue. Press and release the clock's reset button in its setting panel. A reset causes the clock to scan for a broadcasting Transmitter frequency. If the clock sets to the correct time, it's a signal issue at its original installation location.

3. If a clock(s) in a specific area continues not set its time, it may be due to interference preventing a clock from receiving a broadcasting signal.
-

NOTE

When certain types of electronic light ballasts become defective they may radiate broadband noise, which can interfere with wireless devices. While interference issues are unlikely with the Primex system, high levels of noise present in the 72-76MHz range could potentially cause clocks which are located far from the Transmitter and also within the close proximity of these ballasts to not receive a signal. Very limited instances have occurred in the past, which has only been found to happen when ballasts become defective.

Solution

1. Determine if Transmitter broadcast schedule or clock signal search frequency is cause of clock not updating its time.
2. Single clock: reset clock to search for signal.
3. All clocks/clocks in specific area: check Transmitter status and resolve any issues.
4. Verify signal coverage at install location or area.
5. Verify no interference at install location or area - defective ballast.

If the issue cannot be resolved, additional troubleshooting is required. For further assistance, contact Primex Technical Support at 1-262-729-4860.

Code Blue event fails to trigger

Symptom

- A Code Blue event fails to trigger.
-

Problem

A Code Blue Timer is a multifunction digital clock and timer that integrates with an existing Code Blue system to effectively time each event.

- When a Code Blue event is invoked, a relay/pulse is sent from the Code Blue system to the Code Blue Timer, which triggers it to begin counting up.
 - If a Code Blue event is in effect, it will take priority and the timer's previous task will run in the background until the Code Blue event ends or is stopped.
 - A switch control allows the user to operate the timer in multiple modes.
 - In the event of a power outage, the timer memory maintains the correct time for up to 8 hours.
-

Analyze

Assistance from the Code Blue System provider may be required to resolve this issue.

1. Inspect the Code Blue Timer wiring connections and verify they are connected securely and properly.
 2. Verify the voltage trigger. To code blue event for a Classic Digital Code Blue Timer requires a 5 to 120V trigger.
-

Solution

1. Inspect wiring connections.
2. Verify voltage trigger.

If the issue cannot be resolved, additional troubleshooting is required. For further assistance, contact Primex Technical Support at 1-262-729-4860.

Elapsed Timer count-up or count-down fails to trigger

Symptom

- Elapsed Timer count-up or count-down does not trigger when initiated from Timer Switch Control.
-

Problem

There may be an issue with a cable connection, wiring issue, or a defective Timer Switch Control.

Analyze

1. Inspect the Timer Switch Control for any damage or degradation.
 2. Check the cable from the Elapsed Timer to the Timer Switch Control for any damage or degradation. Cable may need to be replaced.
 - Classic Series Elapsed Timer: cable is a reversed wire (cross-pinned configuration) CAT5.
 3. Loosen the screws on the membrane Timer Switch Control. The screws may be over tightened, causing the issue.
 4. Swap the Timer Switch Control with a known good switch to isolate the issue to the switch itself or a potential wiring issue between the Timer Switch Control and the Elapsed Timer.
-

Solution

1. Inspect Timer Switch Control.
2. Verify cable connections.
3. Loosen screwed on membrane Timer Switch Control.
4. Swap Timer Switch Control.

If the issue cannot be resolved, additional troubleshooting is required. For further assistance, contact Primex Technical Support at 1-262-729-4860.

Programmable Timer is not counting down per its schedule

Symptom

- Programmable Timer is not counting down per its schedule.
-

Problem

The schedule may have not been downloaded to a Transmitter.

The Transmitter may be in an error state

The schedule is configured in the Primex Event Scheduler Pro Software to schedule ID 24 and downloaded from the software to the Transmitter, allowing the Transmitter to broadcast the schedule.

Perform an upload for schedule ID 24 to confirm the schedule was downloaded at all Transmitters. Confirm the clock is scanning or been set to a receive channel. Set accordingly either to scan or set each clock to the proper Transmitter channel providing the countdown events as scheduled.

Analyze

1. From the Primex Event Scheduler Pro software, verify the schedule ID is set to controller 24.
2. Perform an up load for schedule ID 24 to confirm the schedule was downloaded at all Transmitters. Confirm the timer is scanning or been set to a receive channel. Set accordingly
3. Verify the schedule has been downloaded to Transmitter(s) that are within range of a Programmable Timer.
4. Verify the Channel Number set on the Programmable Timer is the same as the Transmitter(s) channel.
5. Verify the Transmitter(s) is not in an error state. If multiple Transmitters on site, start with the Master Transmitter and then proceed by verifying the other units.

Is the Transmitter red LED flashing and/or is information displayed on its front display not correct? If yes, the Transmitter is an error state that may result in the timer not receiving a broadcasting signal. Resolve the issue by completing the troubleshooting topics for the Transmitter model. Once the Transmitter is in a normal state and broadcasting, the timer will correct at its next scheduled update.

If the issue cannot be resolved, additional troubleshooting is required. For further assistance, contact Primex Technical Support at 1-262-729-4860.

Configure Settings

Model: Classic Series Digital Clocks and Timers

Access setting panel

To change the factory default settings, remove the small rectangular access panel located in the upper center of the face of the clock/timer. To aid in removal, there is a small recess in the top center of this panel. The panel can be removed with a small screwdriver by gently prying the center top edge of the access panel forward. Setting changes can be made while the clock/timer is ON and changes take effect within a few seconds.

NOTE

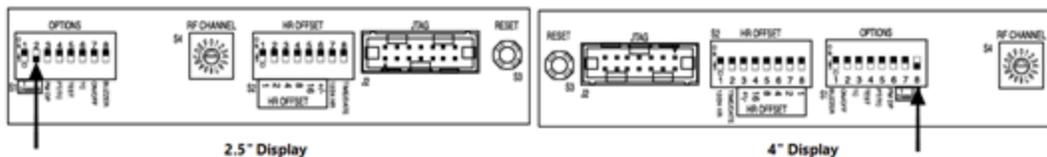
When power is first applied to the clock/timer or the reset button is pushed, a decimal point flashes for approximately three minutes while the clock/timer receiver is turned on to search for a Transmitter signal. If the clock/timer does not receive a valid signal from a Transmitter for three days its colons will flash.

Set LED Dimmer Display

The LED Display is set to 100% by factory default.

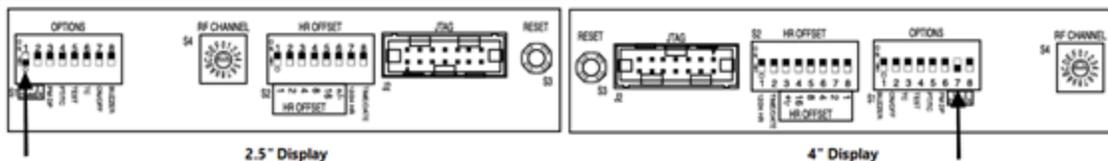
Set Dimmer to 25%

To dim the LEDs by 25% for a 2.5" display set Dimmer 2 in the UP position and for a 4" display set Dimmer 8 in the up position, as illustrated below.



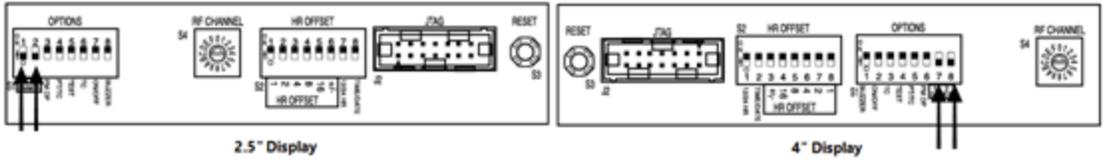
Set Dimmer to 50%

To dim the LEDs by 50% for a 2.5" display set Dimmer 1 in the up position and for a 4" display set Dimmer 7 in the up position, as illustrated below.



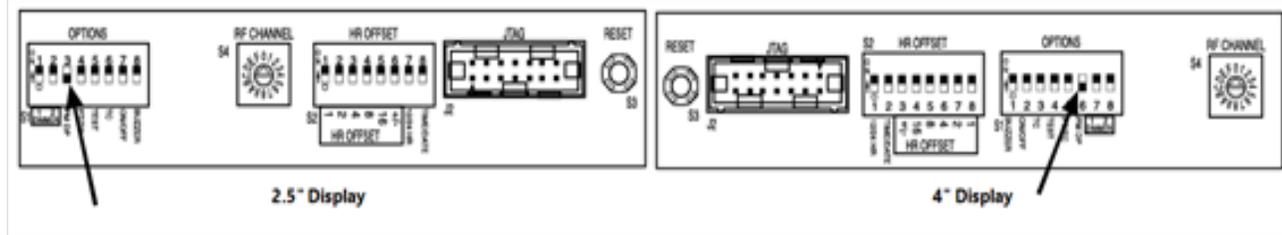
Set Dimmer to 75%

To dim the LEDs by 75% for a 2.5" display set Dimmer 1 and 2 in the up position and for a 4" display set Dimmer 7 and 8 in the up position, as illustrated below.



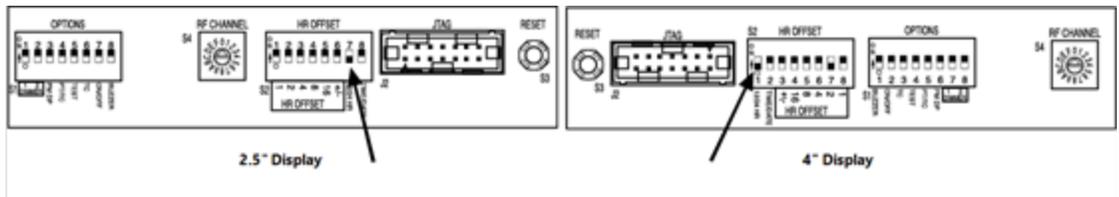
Set Alternating Time/Date

To set the display to alternate between Time and Date, place the HR OFFSET - Time/Date switch 8 to the up position, as illustrated below. Switch 8 for 2,5" and Switch 2 for 4".



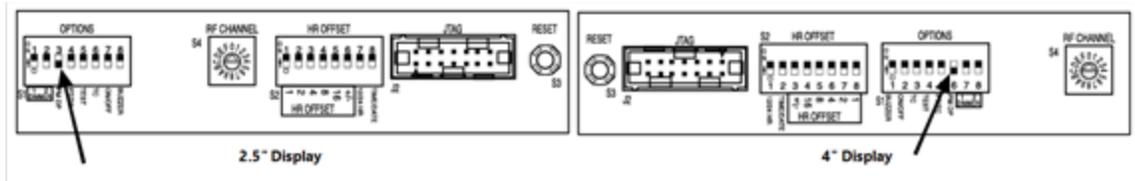
Set Display to 24-Hour Time

To set the display to 24-hour time: for a 2.5" display set the HR Offset, 12/24 HR switch (7) in the up position and for a 4" display set the HR Offset, 12/24 HR switch (1) in the up position, as illustrated below.



Set PM Indicator

To set the PM dot indicator for a 2.5" display set the PM switch (3) to the UP position and for a 4" display set the PM switch (6) to the UP position, as illustrated below.



Set Offset Hours

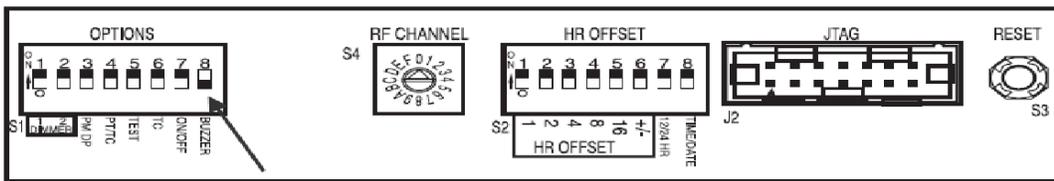
The Clock/Timer displays the time received from the Transmitter. The hour offset is for application use where the clock/timer is set to display the time for another Time Zone.

By moving the appropriate "HR OFFSET" dip switch(s) and the direction (+/-) dip switch, any full-hour time can be displayed. The "HR OFFSET" switch designates how many hours are offset from the current Transmitter Time Zone.

The clock reads the Hour Offset on start up, when the RESET button is pushed, and each time the clock receives data from the Transmitter for the offset hours to go into effect.

Set Audible Buzzer (Timer Models Only)

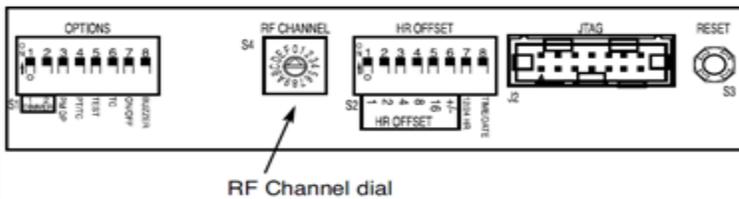
The audible buzzer is only on the count-up and count-down timer function. To enable the buzzer feature, place the OPTIONS - Buzzer switch (8) in the UP position, as illustrated below.



Set Receive Channel (Programmable Timer Only)

The Programmable Countdown Timer receives its time and schedule information from a Transmitter into which a schedule was downloaded.

To select a Transmitter, set the RF Channel Switch to the corresponding Transmitter channel number, per the specifications below. By factory default the PT/TC switch is set to the ON (up) position, which is required for programmable timer operation.



RF Channel dial

RF Channel Specifications

Transmitter Channel	RF Channel Dial	Transmitter Channel	RF Channel Dial
1	1	9	9
2	2	10	A
3	3	11	B

Transmitter Channel	RF Channel Dial	Transmitter Channel	RF Channel Dial
4	4	12	C
5	5	13	D
6	6	14	E
7	7	15	F
8	8	16	0

Support

To obtain additional technical documentation for Primex products, visit the Support area on our website at www.primexinc.com

You may require Technical Support when you have questions about product features, system configuration, or troubleshooting. Support services are delivered in accordance with your organization's support agreement, end user licenses agreements, and warranties, either with a Primex Certified Sales and Service Partner or directly with Primex.

Support through Primex Certified Sales and Service Partners

Ensuring our customers experience excellent service is of utmost importance to Primex. Our network of Certified Sales and Service Partners offer technical support services for Primex products.

If you have purchased Primex products or have a service agreement with a Primex Partner, they are your primary contact for all Technical Support inquiries.

When contacting Primex Technical Support

Make sure you have satisfied the system requirements listed in your product documentation. Also, you should be at the computer or device on which the problem occurred, in case it's necessary to replicate the problem.

When you contact Primex Technical Support, please have the following information available:

- Customer ID/Account Name
- Problem description/error messages
- Device hardware information
- Troubleshooting performed before contacting Primex

Primex Technical Support

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