Primex XR 72MHz Synchronized Time Solution

XR Analog Clock - Manual Setting Model Troubleshooting Guide

Legal Notice

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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Manual Setting Analog Clock Troubleshooting

Learn more about common troubleshooting procedures for an XR Analog Clock - Manual Setting model (first generation).

Primex has two types of battery-operated analog clocks, an Automatic Setting Analog Clock (current generation) and Manual Setting Analog Clock (first generation). Both clocks receive their signal from the Primex Transmitter in the same way, but the set up and operation of each clock type is different. The type of model can be determined by viewing the back of the clock.

A manual setting model has both a button and a grey set wheel on the back of the clock.

> NOTE
>
> Manual set clocks only sync to Channels 1 -16. If there are XR Transmitters on site using a channel higher than Channel 16, Manual Setting Clocks will not be able to receive a signal to sync their time. For further assistance, contact Primex Technical Support at 1-262-729-4860.
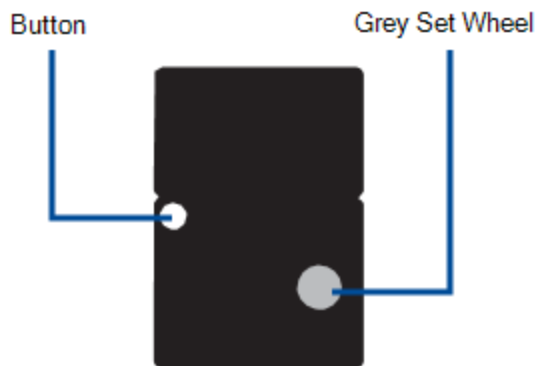
Clock time is not correct

Symptoms

All or some of the symptoms may be present.

- Clock does not set to the correct time.

Problem

May be due to the clock hands being out of alignment or Transmitter is in an error state.

Analyze

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

   Single clock

   Perform a Hand Alignment Check: press and hold the button on the back of the clock for 3 seconds until it beeps. The hands begin to move at an accelerated speed until all three hands align at the 12 o'clock position. The hands stop in this position to confirm the hands are all properly aligned.

   If hands do not rotate clockwise and stop at 12:00 position, the hands are out of alignment and the clock may need to be replaced. For further assistance, contact Primex Technical Support at 1-262-729-4860.

   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.

   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.

2. If a clock(s) continues not to set its time, check the channel number on the Transmitter(s). If broadcasting on a channel greater than 16, there is a potential the clock(s) may not be able to receive a signal from the Transmitter. For further assistance, contact Primex Technical Support at 1-262-729-4860.

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. Single clock - perform Hand Alignment Check.

2. More than one clock - verify Transmitter status and resolve error state.

3. Check Channel Number on Transmitter.

4. Verify area does not have interference - possible defective ballast in install area.

Clock second hand is continuously advancing and pausing (stepping)

Symptoms

All or some of the symptoms may be present.

- Clock second hand is stepping - advancing in 2 second increments and pausing, advancing 2 seconds and pausing.

Problem

Clock has not received a signal from a Transmitter for three consecutive days or clock has low battery power.

> NOTE
>
> Analog Clock signal search frequency: six pre-scheduled times a day at 10:01, 2:01 and 6:01 a.m. and p.m. lock time (not the actual time of the day), a clock's receiver turns on to search for a Transmitter signal to receive a time update, starting with the previously stored channel number.

If a clock's second hand is stepping (continuously advancing and pausing), its receiver only turns on at 2:01 AM & PM. The stepping indicates the clock has not received a time signal from the Transmitter for three consecutive days.

If the Transmitter is broadcasting, a manual search can be initiated locally at the clock. Press and immediately release the button on the back of the clock or remove it's batteries for 10 seconds, stretch the battery tabs in the battery holder out slightly to apply more pressure to the battery contacts, and re-insert the batteries.

Analyze

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

   Single clock:

   a. Check the expiration date of the batteries - normal battery life is four to five years.

   b. Remove its batteries and wait 10 seconds. If batteries are expired, replace with new batteries.

   c. Stretch the battery tabs in the battery holder out slightly to apply more pressure to the battery contacts, then insert two alkaline batteries into the battery holder. If replacing batteries, they must be new, superior-quality alkaline batteries with an expiration date that exceeds five years past the current year.

   d. The clock will update its time at its next scheduled update. If the Transmitter is broadcasting and you need to verify its signal to update its time, perform a Manual Signal Search - press and immediately release the button on the back of the clock.

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.

Solution

- Single clock - check battery expiration date and replace batteries.
- More than one clock - verify Transmitter status and resolve error state.

Manual Setting Analog Clock Set Up and Operation

A Manual Setting Analog Clock that is battery powered requires an initial set up initiation to receive its time from the system Transmitter. An electric-powered clock does not require a set up procedure to receive its time from the system Transmitter.

A manual setting model has both a button and a grey set wheel on the back of the clock.
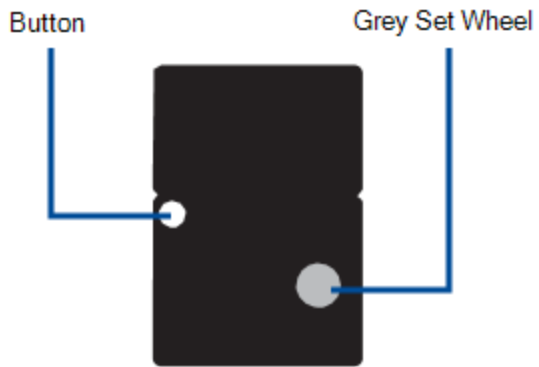
Set Up Manual Setting Analog Clock (Battery-operated)

Before setting up a Manual Setting Analog Clock (Battery-operated), verily the Transmitter is broadcasting.

> **NOTE**
>
> For use with a Transmitter with an External Antenna, power down the Transmitter down for 30 seconds and power it back up. This sets the Transmitter to broadcast its signal continuously for 8 hours. Verify the Transmitter is displaying the correct time day and date with channel number in the lower right corner of its front LCD display.

How to set up (initialize) a Manual Setting Analog Clock.

1. Using the gray set wheel on the back of the clock, move the clock hands to display the approximate time to within 20 minutes prior to correct time at its install location.

   When setting the approximate time, move the hands in the forward (clockwise) direction and end with the minute hand located at the appropriate location in relation to the second hand, which does not move during the setting procedure. For example, if the second hand is pointing to the 6, then the minute hand should be halfway between minute marks. If the second hand is at the '12', then the minute hand should be placed on the minute mark.

2. Stretch the battery tabs in the battery holder out slightly to apply more pressure to the battery contacts, then insert two alkaline batteries into the battery holder. If replacing batteries, they must be new, superior-quality alkaline batteries with an expiration date that exceeds five years past the current year.

   It's important to insert the batteries with the battery '+' end to '+' end of the battery holder to achieve proper battery orientation.

   Once the batteries are properly inserted, the second hand begins moving one step every second.

2. When the second hand gets exactly to the "12" position, press and release the button located on the back of the clock. The clock emits two beeps.

3. Wait until the second hand crosses the minute hand and is precisely at the minute mark that the minute hand is moving to, then again press and release the button.

The clock emits two beeps and the second hand will start to double-step (taking two steps every other second).

- The clock continues to double-step every other second until the clock receives and decodes a valid time signal from the Transmitter. The clock searches through all channels one at a time, beginning with channel #1, for a time signal.
- The clock should receive the signal between 1 second and 45 seconds after the above procedure is complete. Once a valid time signal has been received, the clock either advances at 8 times normal speed or slows down to half normal speed until the hands display the accurate time.
- Once the clock receives the precise time, it beeps and continues to beep with every valid received signal for the next minute. If the clock is in a good signal area, it beeps every second. If the clock is in a marginal signal area, it beeps every few seconds.

The clock setup is now complete.

Verify clock signal at install location

If you completed the initial set up procedure at a location different from the clock's final installation location, you must verify the clock is receiving a signal from the Transmitter at its installation location.

1. Press and release the button twice and hang the clock in place.

   If the clock beeps every second, then the signal from the Transmitter is strong.

   If the clock beeps every few seconds, the signal from the Transmitter is marginal.

   Clocks work in a marginal signal area, but may have a battery life shorter than five years. Estimated battery life in a marginal area is four years.

To reset the initial setup, simply remove the batteries then repeat the set up procedure.

Automatic Daily Transmitter Signal Check

At six pre-scheduled times a day, at 2 am/pm, 10am/pm, and 6 am/pm clock time (not actual time), a clock's receiver automatically turns on and begins searching for the Transmitter signal, starting with the previously stored channel number. If a signal is not received from the first channel, the clock scan all channels to search for a signal.

Reset clock time - to reset the time after the initial set up procedure, simply remove the batteries. The clock is then ready to go through the initial set up procedure.

Loss of time signal - if the clock has not received a time signal for three days, the second hand enters a double step mode. Low batteries can cause this non-signal reception - should this occur, replace the batteries.

Replace Batteries

How you replace the batteries for a Manual Setting Analog Clock is dependent on its current battery power. A manual setting clock has both a button and a grey set wheel on its backside.

- If the clock currently has battery power, perform the steps below in section How to replace batteries for a clock that is operating.
- If the clock does not have battery power, perform the steps below in the section How to replace batteries for a Manual Setting Clock that is not operating (no battery power).

How to replace batteries for a clock that is operating

A manual setting model has both a button and a grey set wheel on the back of the clock.

1. Remove the clock from its location to access the back of the clock.

2. Press the button located on the back of the clock. The system clock beeps three times, records the hand position in memory, and stops its hand movement.

3. Remove the old batteries.

4. Insert two new alkaline batteries. It's important that fresh, superior-quality batteries with an expiration date that exceeds five years past the current year. Be sure to insert the batteries with the battery "+" end to the "+" end of the battery holder.

5. When both batteries are in place, the clock beeps three times and set its hands to the correct time. For the next minute the clock continues to beep with every valid decoded signal.

- If the batteries are replaced quickly the clock may not triple beep or start when the batteries are inserted. If this happens, press the button and you should hear the triple beep and the clock will start.
- If the clock is in a good signal area it beeps every second. If the clock is in a marginal signal area, it beeps every few seconds.
- If the batteries have been removed for over 1 hour and 15 minutes, the clock double-steps until the next scheduled time update and will then set the hands to the correct time.

How to replace batteries for a Manual Setting Clock that is not operating (no battery power)

If a Manual Setting Analog Clock is not operating, these specific battery replacement steps are required to be completed.

1. Remove the clock from its location to access the back of the clock. Do NOT press the button before removing batteries.

2. Remove the batteries.

> NOTE
>
> The clock should not beep when the batteries are removed.

3. Using the gray set wheel on the back of the clock, move the clock hands to display the approximate time to within 20 minutes of the correct time for your location.

   When setting the approximate time, move the hands in the forward (clockwise) direction and end with the minute hand located at the appropriate location in relation to the second hand (which does not move during the setting procedure). For example, if the second hand is pointing to the "6", then the minute hand should be halfway between minute marks. If the second hand is at the "12", then the minute hand should be placed on the minute mark.

4. Insert two alkaline batteries into the battery holder. It's essential that fresh, superior-quality batteries, with an expiration date that exceeds five years past the current year. Be sure to insert the batteries with the battery "+" end to the "+" end of the battery holder.

   Once the batteries are properly inserted, the second hand begins moving one step every second.

5. When the second hand gets exactly to the "12" position, press and release the button on the back of the clock. The system clock will beep twice.

6. Wait until the second hand crosses the minute hand and is precisely at the minute mark that the minute hand is moving to, then again press and release the button.

- The clock beeps twice and then the second hand starts to double step every other second. The clock continues to double-step every other second until the clock receives and decodes a valid time signal from the Transmitter.
- The clock should receive the signal between 1 second and 45 seconds after the above procedure is complete.
- Once a valid time signal has been decoded, the system clock either advances at eight times normal speed or it slows down to half normal speed until the hands display the accurate time.
- Once the clock has decoded a valid time signal from the Transmitter, the clock beeps and continue to beep with every valid decoded signal for the next minute.

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 inquires.

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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