OneVue™ Sync Repeater Transmitter

Install Guide

OneVue Sync 72MHz
Product Models: TX4001NR
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Primex is the leading provider of solutions to automate and maintain facility compliance, increase efficiencies, enhance safety and reduce risk for enterprise organizations in the healthcare, education, manufacturing and government vertical markets. Primex delivers solutions that utilize a facility's existing network infrastructure to automate, monitor, document and report essential activities performed by facility staff. Our solutions include synchronized time, automated critical notifications and bell scheduling, and environmental and event monitoring.

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SYSTEM OVERVIEW 72MHZ SYNC

Learn how the OneVue Sync 72MHz system works and how the system devices provide synchronized time.

Architecture

The OneVue Sync 72MHz system provides synchronized time using a 72MHz radio frequency to transmit a wireless signal to all system devices. The frequency allows the wireless signal to broadcast through common building materials and across longer distances with less potential for signal interference.

The system consists of a single Transmitter with an internal or external antenna, a GPS Receiver (optional), Repeater Transmitter (optional), and the system time and event devices in a single building, to a campus wide deployment.

Time synchronization

- **Time source**

  Once a Transmitter has received its time from either a GPS Receiver or NTP time source or a main Transmitter, it sets its internal clock. It then wirelessly broadcasts its received time over a 72MHz radio frequency to the system clocks. As a result, time devices are precisely synchronized to each other and all time, schedules, and events are kept current.

- **Transmitter frequency and channel**

  Transmitters operate on channels with 20kHz bandwidths and 72MHz radio frequency and is preset to one of the channels licensed by the FCC U.S. / ISED Canada to minimize interference on these frequencies and channels.

- **Transmitter transmit (broadcast) schedule**

  1 Watt Transmitter with an internal antenna: Transmits (broadcasts) a time signal continuously, 24 hours a day.

  1, 5, or 30 Watt Transmitters with an external antenna: Transmits (broadcasts) a time signal 24 hours a day ONLY between the 39th to the 6th minute of each hour, and changes to a standby mode and does NOT transmit a time signal during the 7th to the 38th minute of each hour.

- **Analog Clocks and Digital Clocks/Timers signal search**

  Analog Clock signal search frequency: at six pre-scheduled times a day, at 2:01 AM/PM, 6:01 AM/PM, and 10:01 AM/PM clock 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 signal is not received from the first channel, the clock scans all channels to search for a signal.

  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.

  When a clock has not received a valid signal/time update for three consecutive days, it displays a visual signal loss indicator; an analog clock's second hand advances and pauses continuously (stepping) and a digital clock/timer's colons flash. A clock may display the correct time, but it's not synchronized and its time may drift.

Monitoring

Unique to 72MHz OneVue Sync Transmitters, they can be monitored and managed remotely from the OneVue cloud-based software. During installation, a Transmitter is required to be configured for use with OneVue or as a standalone device.

The primary difference between the two configurations is that Primex remote support services are provided with the OneVue Monitor configuration. This is due to the Transmitter reports its status and events to OneVue over the facility's network and its settings can be viewed and managed from OneVue. This allows Primex to investigate and provide remote support for service incidents.

- **OneVue Monitor Configuration**

  In addition to providing remote support services, this configuration allows access to all OneVue features. The features include device settings, alerts, reports, and over-the-air (OTA) firmware updates.
- **Standalone Configuration**

  Transmitter settings are viewed and updated onsite, locally at the Transmitter from the app and its status is monitored locally from its front panel LED status indicators.

  Examples of when Standalone Configuration would be acceptable include during construction and the facility's network is not active, its install location does not have access to an available network port, or remote support services are not required.

Transmitter power-failure operation

During a power failure, the Transmitter continues to track time with the last valid time signal that it received. Once the power had been restored, the Transmitter begins to broadcast (even without a valid time signal) to the down-stream components. Once the Transmitter has been powered on for a few hours, it's capable of keeping track of time off its internal backup power for up to eight hours.

- The system has a fail-safe design. If the failure of a system component or power loss to a component occurs, all down-stream components continue normal operations using their own internal time base.
- If after a specified period of time communication has not been restored, a visual indicator of a loss of communication appears and remains until communication is restored. Loss of communication visual indicators: Transmitter front panel LED indicator, flashing colon on LED digital clocks/timers; and stepping of second hand on analog clocks.

NOTE

Transmitter with an external antenna

- In the event of a facility wide power outage, a Transmitter broadcasts continuously for 8 hours upon the restoration of power, synchronizing all Primex devices throughout the facility.
- In the event power to a Transmitter is shut off and turned back on (power cycled), the Transmitter broadcasts continuously for 8 hours. Power-cycling the Transmitter can be used to set/reset system devices. It's not recommended to power-cycle a Transmitter when it is in an Error status.

Typical system setup illustration: 1 Watt Transmitter with Repeater Transmitters

A Repeater Transmitter is an optional unit to supplement and extend signal coverage.

For illustration purposes only. Drawings not to scale. Refer to installation guides for complete instructions.

Install overview

Main Transmitter must be operational before installing Repeater Transmitters and other Sync and Notify devices.

For each transmitter complete the below steps:

1. Verify install requirements and mount Transmitter.
2. Main Transmitter GPS time source only: install GPS Receiver. Refer to Transmitter with internal antenna setup examples. Repeater Transmitters receive time signal from main Transmitter.
3. Establish Transmitter connections:
    GPS, Ethernet, Internal Antenna, AC power
    Main Transmitter
    Notify Critical Notifications: wire Transmitter contact closure terminal block to event input source.
4. Configure Transmitter with ODC app.
5. Verify Transmitter operation.
6. When all Transmitters are operational, install additional system devices
    InfoBoards only: configure with ODC app prior to installation.

Transmitter install requirements

• **Transmitter location:** minimum of 4 ft. (1.2 m) above floor.
• **4 ft. (1.2 m) Internal Antenna:** requires vertical clearance and minimum of 5 ft. (1.5 m) away from large, solid metal objects.
• **AC power:** 120 VAC outlet located within 5 ft. (1.5 m) from Transmitter
• **Ethernet connection:** OneVue configuration and main Transmitter NTP time source.

Optional system components
• 1 Watt Tansmitter shelf

1 Watt Transmitter specifications
Dimensions: 17 in. L x 12 in. W x 1.7 in. D
(43.2 cm x 30.5 cm x 4.32 cm)
Weight: 9 lb. (4 kg)

AC power supply
Input: 120-240VAC, 50/60 Hz, 0.8 Amp
Max. Output: 9 VDC, 2.5 Amp
6 ft. (1.8 m) power cord

VERTICAL INSTALL ILLUSTRATION

Main Transmitter time source: GPS or NTP

EXAMPLE: ODC app configuration settings

Main Transmitter
RF Channel: 1
Repeater Transmit Channel: Off
Broadcasts time to Repeater Transmitters, and system devices within its range

Repeater Transmitters
To avoid interference, set Repeater Transmit Channel to a number that is less or greater than 2 channels from another Transmitter channel.

Repeater Transmitter (A)
Receive Channel (RF Channel): 1
Repeater Transmit Channel: 4

Repeater Transmitter (B)
Receive Channel (RF Channel): 1
Repeater Transmit Channel: 7

Critical Notification Input
1000 ft. (304.8 m) maximum distance

Ethernet connection
NTP time source
OneVue configuration

Ethernet connection
OneVue configuration

HORIZONTAL INSTALL ILLUSTRATION

Main Transmitter time source: GPS or NTP

Repeater Transmitter (A)
Receive Channel (RF Channel): 1
Repeater Transmit Channel: 4

Main Transmitter
RF Channel: 1
Repeater Transmit Channel: Off

Critical Notification Input
1000 ft. (304.8 m) max distance
from main Transmitter

Repeater Transmitter (B)
Receive Channel (RF Channel): 1
Repeater Transmit Channel: 7

SPECIFICATIONS: ONEVUE SYNC REPEATER TRANSMITTER

Parameter	Specification
Operating Frequency Range	72MHz
Channels	49 channels available (pre-programmed prior to shipping)
Channel Bandwidth	20KHz
Maximum Transmission	1 Watt (at Transmitter)
Radio Technology	Narrowband FM
Bluetooth Technology	Bluetooth® low energy (v5) wireless technology. To allow pairing with OneVue Device Configurator (ODC) app for configuration and setting management.
User-defined Settings	Locally at device with OneVue Device Configurator (ODC) app • Time Zone, Daylight Saving Time with bypass option, NTP Servers (up to three), Transmit Schedule (power-on), Normal Transmit Schedule, Firmware, Transmit Channel, Repeater Channel OneVue software • NTP Servers (up to three), Legacy Clock Time Zone, Alarm Delay, Firmware, Unresponsive Timeout, Check-in Interval
Dimensions	17 in. L x 12 in. W x 1.7 in. D (43.2 cm x 30.5 cm 4.32 cm)
Weight	9 lb. (4.08 kg)
Power Supply	Input: 120 VAC, 50/60 Hz, 0.6 Amp. Output: 9 VDC, 1.78 Amp. 6 ft. (1.83 m) cord
Front Panel	Four LED status indicators (Power, Transmit, Caution, Error) and Bluetooth labeled push-button to pair with the Primex OneVue Device Configurator (ODC) app.
Rear Panel	DC Input: connection to supplied AC power supply Network LAN port: RJ-45 Ethernet, 10/100 Mbps, 802.3 Ethernet Dry Contact Closure Terminal Block with removable connector: for use with OneVue Notify with Critical Notifications Pinhole button: initiate manual check-in to OneVue (press and release with jewelers screwdriver or other small object) Not applicable to model: GPS IN port (MiniDIN 7-Pin) and Baseboard Monitor port (MiniDIN 9-Pin)

Parameter	Specification
Top Panel	Internal Antenna connection.
Operating Range	32° to 122° F (0° to 50° C), non-condensing environment
Warranty	5 Year

Canadian Notice: The manufacturer rated output power of this equipment is for single carrier operation. For situations when multiple carrier signals are present, the rating would have to be reduced by 3.5 dB, especially where the output signal is re-radiated and can cause interference to adjacent band users. This power reduction is to be by means of input power or gain reduction and not by an attenuator at the output of the device.

All specifications are subject to change without notice.

INSTALL ONEVUE SYNC REPEATER TRANSMITTER

This topic provides the requirements and procedures to install a 1 Watt Repeater Transmitter with an internal antenna.

For a system with more than one Transmitter, first configure and install the main Transmitter and verify it received a valid time signal and then configure Repeater Transmitters. When all Transmitters are configured and installed, you can then configure and install the system clocks or InfoBoards.

Installation requirements

When planning the system installation of a Transmitter with an internal antenna, Primex recommends taking into consideration the below requirements. Location is extremely important to ensure the best operation of your system.

Transmitter with internal antenna location requirements

Location and mounting must meet all of the following requirements.

- Multi-story building: locate the main Transmitter on the top floor; significantly improves coverage to the lower floors due to the "umbrella" pattern of transmission.
- Transmitter mounting location: a minimum of 4 ft. (1.2 m) above the floor.
- Transmitter shelf mounting: 18 in. L x 3 in. W x 16.5 in. (45.72 cm x 7.63 cm x 41.91 cm) mounting shelf available from Primex.
- Transmitter enclosure clearance: located in an area that allows for required clearance.
  Enclosure dimension: 2 in. H x 17 in. W x 12 in. D (5.08 cm x 43.18 cm x 30.48 cm). Required wall area is 24 in. W x 18 in D (60.96 cm x 45.72 cm).
  Allow a minimum of 43 in. (1.09 m) vertical clearance; includes internal antenna 40.8 in. H (1.03 m) and Transmitter enclosure height of 2 in. (5.08 cm).
- Internal antenna clearance: requires vertical clearance and distance of a minimum 5 ft. (1.5 m) from large, solid objects, such as lockers or filing cabinets. Antenna should never make contact with metal objects, especially electrical conduit or wiring of any kind, and proximity to these should be avoided. Internal Antenna height: 40.8 in. (1.03 m).
- AC power: located within 5 ft. (1.5 m) from a 120 VAC electrical outlet. 10 AMP dedicated service recommended.
  AC power supply (supplied): Input 120 VAC, 50/60 Hz, 0.6 Amp. Output 9 VDC, 1.78 Amp. 6 ft. (1.83 m) cord.
- Ethernet connection (OneVue Monitor and NTP time source): located in close proximity to an Ethernet port.
- Environment: located in an indoor controlled environment that is 32° to 122° F (0° to 50° C) and a non-condensing humidity environment.

Required tools and equipment

The following tools and equipment are recommended and can be purchased from Primex.

- 1 Watt Transmitter Shelf. 18 GA metal, epoxy coated, 18 in. L x 3 in. H x 16.5 in. D
- Uninterrupted Power Supply (UPS)

Step 1: Mount Transmitter and establish connections
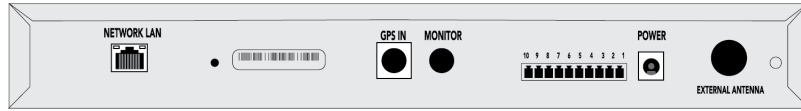
1. Attach the internal antenna. The supplied antenna is attached to the top case of the Transmitter.
    Carefully screw the supplied internal antenna onto the Transmitter. Turn the antenna clockwise, being careful to avoid cross-threading the antenna. The antenna must be snug and flat against the case.
2. Establish an Ethernet connection (NETWORK LAN). Required for NTP time source and OneVue Monitor configuration.
    Insert a network cable into the RJ-45 Ethernet port/Network LAN port. Plug the other end into a network Ethernet jack.
3. Connect AC power.
    Connect the supplied AC power supply into the Transmitter AC power input. Plug the two-prong plug into a 120 VAC wall outlet.

Last Step: Configure Transmitter with the ODC app

The last step is to configure the Transmitter with the OneVue Device Configurator (ODC) app. A Transmitter will not operate until it's configured.

OneVue Sync Transmitters can be configured for OneVue Monitor or for Standalone use. To receive remote support services from Primex, OneVue Monitor configuration is required. For Transmitters that are part of a OneVue Monitor subscription, they must be configured for OneVue Monitor use.

CONFIGURE TRANSMITTER WITH ODC APP

For a new system deployment or when adding or replacing a OneVue Sync Transmitter, the Transmitter is required to be configured onsite with the OneVue Device Configurator (ODC) app. A Transmitter will not operate until it is configured.

The ODC app is available for both iOS and Android mobile devices. Download the app from the App Store or Google Play™ store. Search for Primex OneVue Device Configurator.

Once you download the app, the app guides you through the entire process. The app configures a Transmitter over the Bluetooth pairing connection between your mobile device and the Transmitter.

> **❗ IMPORTANT**
>
> For a system with more than one Transmitter, first configure and install the main Transmitter and verify it received a valid time signal and then configure Repeater Transmitters. When all Transmitters are configured and installed, you can then configure and install the system clocks or InfoBoards.

How does it work?

The ODC app and a OneVue Sync Transmitter wirelessly communicate over a Bluetooth pairing connection. During this connection, the Transmitter settings are entered into the app and the settings are then wirelessly downloaded to the Transmitter.

- **Bluetooth pairing connection**

  OneVue Sync Transmitters are equipped with a wireless Bluetooth radio component that is activated from its front panel Bluetooth pairing button. When the pairing button is pressed and released, the Transmitter becomes discoverable and the ODC app searches for and then pairs with the Transmitter to establish a wireless Bluetooth connection.

- **Two configuration options available: OneVue Monitor or Standalone**

  OneVue Sync Transmitters can be configured for use with OneVue Monitor or as a Standalone device. To receive remote support services from Primex, OneVue Monitor configuration is required. There is no cost associated with OneVue Monitor and is the configuration method recommended by Primex.

What's the difference between OneVue Monitor and Standalone configuration?

The primary difference is that Primex remote support services are provided with OneVue Monitor configuration. This is due to the Transmitter reports its status and events to OneVue over the facility's network and its settings can be viewed and managed from OneVue. This allows Primex to investigate and provide remote support for service incidents.

- OneVue Monitor Configuration (Connect to OneVue) [13]

  In addition to providing remote support services, provides access to OneVue features. Features include managing device settings, alerts, reports, and over-the-air (OTA) firmware updates.

- Standalone Configuration [21]

  Transmitter settings are viewed and updated onsite, locally at the Transmitter from the app and its status is monitored locally from its front panel LED status indicators.

  Examples of when Standalone Configuration would be acceptable include during construction and the facility's network is not active, its install location does not have access to an available network port, or remote support services are not required.

  When configured as Standalone, at anytime the Transmitter can changed to OneVue Monitor from the app.

Configure Transmitter for OneVue Monitor use

Learn how to configure a OneVue Sync Transmitter, with the OneVue Device Configurator (ODC) app, that will be managed and monitored from OneVue. Be sure to complete the steps in the order as they appear below.

For a system with more than one Transmitter, first configure and install the main Transmitter and verify it received a valid time signal and then configure Repeater Transmitters. When all Transmitters are configured and installed, you can then configure and install the system clocks or InfoBoards.

Step 1: Verify configuration requirements are met

- **Transmitter:** all external components are installed (external antenna, GPS Receiver). All connections are established and Transmitter is powered on.
- **App log in access:** your OneVue user profile is assigned to the Account Admin or Network Admin role.
- **Network connection**: OneVue Network Requirements [29] are met (network port and firewall requirements).
- **OneVue Network Profile:** you have the option to assign the Transmitter to a OneVue wired network profile or create a new network profile. For a Non-DHCP network, an IPv4 address required.
- **NTP time source:** NTP Server IP address or URLs (up to three allowed).

  The main Transmitter requires connection to wired Ethernet network. If the Ethernet network is a Non-DCHP network, the IPv4 network settings are required during configuration.

  Port UDP 123 is required to be open for use with an external Network Time Protocol (NTP) Server. The use of an internal an NTP Server is also supported.

Step 2: Download ODC app or verify app is up to date

Get the Primex OneVue Device Configurator (ODC) app from the Apple App Store or Google Play store. If you already have the app, turn on automatic updates or check for updates.

Mobile device requirements

- Apple iPhone or iPad: iOS version 11 or later
- Android phone or tablet: running version 5.0 or later

❗ IMPORTANT

Before you configure a device, be sure your mobile device:

- Battery life is 25% or greater
- Bluetooth is enabled
- Connected to Wi-Fi or mobile connection

Step 3: Configure Transmitter with ODC app

1. From your mobile device, open the **OneVue Device Configurator (ODC) app** .

2. Select **Connect to OneVue**.
3. Enter your **OneVue username > select Next > enter your password** > select **Log In**.
4. Select the **OneVue account** the Transmitter is to be added to.

   If your user login is associated with more than one OneVue account, the account selection option is displayed.
5. Set the Transmitter into **Bluetooth discoverable mode**.

   From the Transmitter front panel, **press and release the Bluetooth pairing button**. The Transmitter is discoverable for the next two minutes (Power LED is illuminated and Transmit LED flashes).
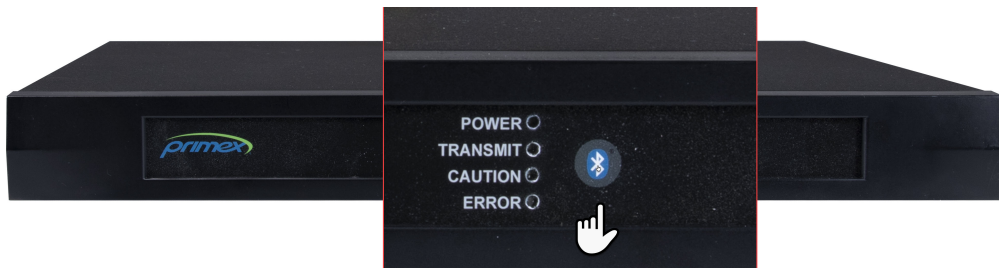
6. From available devices, select the **Transmitter**. If multiple devices are listed, verify the 12-character MAC address located on the Transmitter back panel.

   If the Transmitter is not listed, select the app **Refresh** icon.
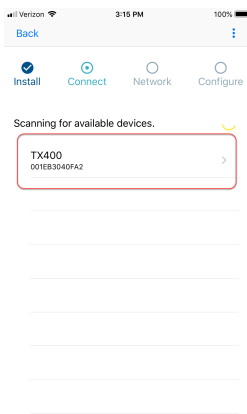
7. Configure its **Network**: select an existing network or enter a new network > select **Continue**.

   If a Non-DHCP network (static IP address), select DHCP off and enter the IPv4 settings.
8. Verify its **Device Details**.

   Serial No: unique 12-character MAC Address discoverable on the facility's network. The MAC address is printed on a label located on the Transmitter's back panel.

   Model: identifies the Primex device model. All OneVue Sync Transmitters are identified by Transmitter (TX400).

Tx Mode: identifies the Transmitter hardware configuration. Indicates if 1, 5, or 30 Watt and internal or external antenna.

9. Enter a **Name** for the Transmitter.

   Uniquely identifies the Transmitter and should identify its install location, which allows the device to be located when service is required.

10. Verify the **Call Sign** (preset by Primex).

    A Transmitter is registered and licensed to operate over the 72MHz radio frequency with the Federal Authority having jurisdiction (U.S.: FCC/ Canada: ISED). Primex files the license application with the authority having jurisdiction on behalf of the system owner. The FCC/ISED license includes the Call Sign and the effective and expiration date. Once issued the system owner is responsible for maintaining the license.

    • **If the license was issued and received at the time of shipment:** Primex configures the licensed Call Sign.

      Under penalty of FCC/ISED compliance laws: DO NOT edit a configured Call Sign without authorization from Primex or system owner.

    • **If the license was NOT available at the time of shipment:** Primex configures the Transmitter with a temporary Call Sign. A temporary Call Sign is identified by "WT & the owner's phone number".

      If configuration is completed with a temporary Call Sign, it's required to be updated to the licensed Call Sign. The Call Sign can be updated directly from the app. Optionally, contact Primex to request a Transmitter Call Sign update.

11. Configure its **Time Settings**.

    • **Main Transmitter only**

    Time Zone: set to the install location.

    Time source: app detects GPS or NTP (Ethernet connection) time source.

      • **When GPS connection is detected:** displays GPS Time Received.

      • **When GPS connection is not detected or a Repeater Transmitter:**

        OneVue monitor configuration: displays the OneVue account NTP Server settings. If NTP Servers are to be different, update the settings. When updated, the NTP settings are saved to the Transmitter profile and the OneVue account NTP settings are not updated.

        Standalone configuration: enter up to three NTP Server IP Addresses/URLs.

    • **Repeater Transmitter only (time settings do to not apply)**

    Time Zone: Repeater Transmitter receives a time from the main Transmitter.

    Time source: displays Repeater detected, using main Transmitter time.

12. Configure its **RF Settings**.

    A dynamic setting: displays RF Channel when configuring a main Transmitter and displays Receive Channel when configuring a Repeater Transmitter (advanced setting Repeater Transmit Channel).

- **Main Transmitter only**

RF Channel: is set to the channel number the Transmitter transmits its time signal and events on, which is then received by the system devices.

> ⚠ **WARNING**
>
> DO NOT change RF Channel without authorization from Primex or system owner.

- **Repeater Transmitter only**

When the Repeater Transmit Channel setting (advanced setting) is set to a number (not Off), the app automatically changes the RF Channel setting to Receive Channel.

A Repeater Transmitter searches for and receives time and event signals from this channel, and then re-transmits the signals that are then received by system devices within its wireless RF range.

1. Select **Advanced**.
2. From the **Repeater Transmit Channel**, change from Off to a Channel Number as described below.

   Set to a Channel Number the Repeater Transmitter is to transmit (broadcast) its time signal on. To avoid interference, set to a number that is less than or greater than 2 channels from another Transmitter.

CONFIGURATION EXAMPLE
System with Main Transmitter and two Repeater Transmitters.
Main Transmitter RF Channel: 1 Repeater Transmit Channel: Off
Repeater Transmitter (A) Receive Channel (RF Channel): 1 Repeater Transmit Channel: 4
Repeater Transmitter (B) Receive Channel (RF Channel): 1 Repeater Transmit Channel: 7

13. Optional settings, select **Advanced**.

    Critical Notification Defaults (Preset 1 through 5)

    This setting only applies to the OneVue Notify system (InfoBoards).

    - Sets the main Transmitter's contact closure terminal block inputs, which activates the five critical notification events (1 through 5).

      Default is Normally Open (NO) and when a checkbox is not selected the Preset (contact closure input) is set to Normally Closed (NC).

- Normally Open (NO) is required when integrated with the Notify Critical Notification Panel.
- Settings may be required to be changed when integrated with a third-party system that activates critical notification events.

> ⚠ **CAUTION**
>
> The settings below (Startup Continuous Transmit and Normal Transmit) should only be changed when requested or approved by an authorized Primex support technician.

Startup Continuous Transmit

The number of hours the Transmitter continuously transmits a time signal after a power-up (on). During a system install, this allows other system devices to receive a time signal at the time of installation.

Normal Transmit

The schedule the Transmitter transmits (broadcasts) a time signal from a start hour to end hour based on a 24 hour time period.

- **1 Watt Transmitter with an internal antenna and Repeater Transmitter**
  By default, set to transmit 24 hours a day (0 to 0).
- **Transmitter with an external antenna only (specific minute transmit schedule set by the factory)**
  1, 5, or 30 Watt Transmitters with an external antenna ONLY transmit a time signal between the 39th to the 6th minute for each hour set in its Normal Transmit schedule and changes to a standby mode and does NOT transmit a time signal during the 7th to the 38th minute of each hour. This setting is set by the factory and cannot be changed.

  For example, when its Normal Transmit schedule is set to 24 hours, each day at 12:39 AM it starts transmitting and at 1:06 AM it stops transmitting and from 1:07 AM to 1:38 AM it is in standby mode and does not transmit a time signal. Then for each hour it starts to transmit again at the 39th minute of the hour and ends at the 6th minute and from the 7th to the 39th minute of the hour is in standby mode. This sequence will repeat each hour.

> ⚠ **WARNING**
>
> The firmware setting is only to be configured or updated when instructed by Primex Technical Support.

14. Select **Save**.

    Settings are downloaded to the Transmitter and initiates its first-time check-in to OneVue.

15. Verify the **Transmitter checked-in to OneVue**. It may take up to two minutes to check-in.

    Log in to **OneVue** > go to **Devices** > **Transmitters** > verify its **Last Check-in**.

16. From the front of the Transmitter, verify it is not in a **Caution** or **Error** state.

The four LED indicators identify the Transmitter's current state and signify warnings and errors. When first powered on all LEDs turn on for two seconds. When in Bluetooth pairing mode, the Power LED is solid green and the Transmit LED flashes.

Status Indicator	LED light	What it means
Power	Green Illuminated Solid	Powered on.
Transmit (Main Transmitter & Repeater Transmitter)	Green Illuminated Solid	Actively transmitting.
Transmit (Main Transmitter only with external antenna)	Green Flashing	In standby mode and is not transmitting. Standby mode is activated by the hourly minute transmit schedule set by the factory. A Transmitter with an external antenna transmits a time signal from the 39th to the 6th minute of each hour and changes to a standby mode during the 7th to the 38th minute of each hour. Each hour it transmits is based on its Normal Transmit schedule.
Transmit	Off	In no-transmit mode and is not transmitting. No-transmit mode is activated during the hour(s) it is not set to transmit per its Normal Transmit schedule.
Transmit (Repeater Transmitter only)	Green Flashing	Receiving a signal from the main Transmitter. Repeaters alternate from transmitting to receiving every few seconds, LED rotates from Green Illuminated Solid to Green Flashing.

Status Indicator	LED light	What it means
Caution	Yellow Illuminated Solid	Transmitter is in the Caution state due to a condition below. • **Time Sync Failure:** Transmitter failed to receive a valid time signal from its time source (GPS or NTP). Verify the Transmitter time source connection. For NTP use, verify its Ethernet connection and NTP Server settings. An external NTP Server requires network port 123 to be open. • **Bad Output Power**: Transmitter is not transmitting at the appropriate power level. • **PLL Diagnostics:** Transmitter having trouble locking onto a channel and cannot broadcast time or events. • **VSWR Errors:** Transmitter antenna error from either the antenna position or cabling. • **No GPS in 48 Hours:** Transmitter has not received time from its time source for more than 48 hours. • **No PPS in 48 Hours:** Transmitter time has not been synchronized by 1PPS (1 pulse per second) for more than 48 hours. • **GPS Cable Break:** Transmitter has detected an error with the GPS connection; either due to a line break, water ingress, or the cable length is greater than 200 ft. (60.9 m).
Error	Red Illuminated Solid	Transmitter is in the Error state due the condition below. • **When in an Error state, the Transmitter has NEVER established a valid time signal and is using its internal Real Time Clock (RTC).** Transmitter does not transmit a time signal to the system devices when in this Error state. During first-time configuration, it can take up to 10 minutes for the Transmitter to connect to its time source and receive a valid time signal.

Configure Transmitter for Standalone use

This topic provide the steps to configure a Transmitter for standalone use. Standalone use indicates a Transmitter will be not monitored from OneVue. Be sure to complete the steps in the order as they appear below.

For a system with more than one Transmitter, first configure and install the main Transmitter and verify it received a valid time signal and then configure Repeater Transmitters. When all Transmitters are configured and installed, you can then configure and install the system clocks or InfoBoards.

Step 1: Verify configuration requirements are met

Before you begin, verify the requirements below are met.

- **Transmitter:** all external components are installed (external antenna, GPS Receiver). All connections are established and Transmitter is powered on.
- **NTP time source:** NTP Server IP address or URLs (up to three allowed).
  The main Transmitter requires connection to wired Ethernet network. If the Ethernet network is a Non-DCHP network, the IPv4 network settings are required during configuration.
  Port UDP 123 is required to be open for use with an external Network Time Protocol (NTP) Server. The use of an internal an NTP Server is also supported.

Step 2: Download ODC app or verify app is up to date

Get the Primex OneVue Device Configurator (ODC) app from the Apple App Store or Google Play store. If you already have the app, turn on automatic updates or check for updates.

Mobile device requirements

- Apple iPhone or iPad: iOS version 11 or later
- Android phone or tablet: running version 5.0 or later

---

❶ IMPORTANT

Before you configure a device, be sure your mobile device:

- Battery life is 25% or greater
- Bluetooth is enabled
- Connected to Wi-Fi or mobile connection

Step 3: Configure Transmitter

1. Open the **ODC** app.

2. Select **Standalone Configuration**.
3. Select **CONFIGURE DEVICE**.
4. Set the Transmitter into Bluetooth discoverable mode.

    From the Transmitter front panel, **press and release the Bluetooth pairing button**. The Transmitter is discoverable for the next two minutes (Power LED is illuminated and Transmit LED flashes).

5. From available devices, select the **Transmitter**. If multiple devices are listed, the device can be identified by its 12-character MAC address located on its back panel.

    If the Transmitter is not listed, select the app Refresh icon.
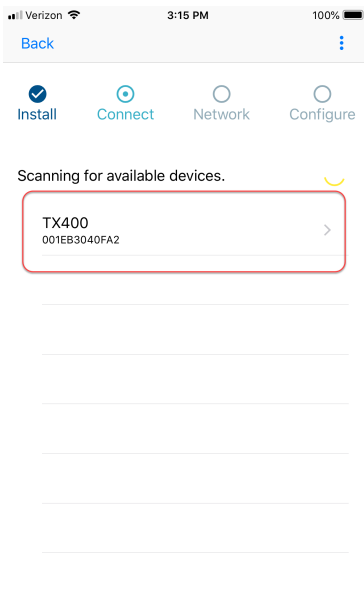
6. Confirm its network setting (DHCP ON by default) > select **Continue**.

    For a Non-DHCP network, deselect DHCP On and enter the network settings.

7. Verify its **Device Details**.

   Serial No: unique 12-character MAC Address discoverable on the facility's network. The MAC address is printed on a label located on the Transmitter's back panel.

   Model: identifies the Primex device model. All OneVue Sync Transmitters are identified by Transmitter (TX400).

   Tx Mode: identifies the Transmitter hardware configuration. Indicates if 1, 5, or 30 Watt and internal or external antenna.

8. Enter a **Name** for the Transmitter.

   Uniquely identifies the Transmitter and should identify its install location, which allows the device to be located when service is required.

9. Verify its **Call Sign** (preset by Primex).

   A Transmitter is registered and licensed to operate over the 72MHz radio frequency with the Federal Authority having jurisdiction (U.S.: FCC/ Canada: ISED). Primex files the license application with the authority having jurisdiction on behalf of the system owner. The FCC/ISED license includes the Call Sign and the effective and expiration date. Once issued the system owner is responsible for maintaining the license.

   - **If the license was issued and received at the time of shipment:** Primex configures the licensed Call Sign.
     Under penalty of FCC/ISED compliance laws: DO NOT edit a configured Call Sign without authorization from Primex or system owner.

   - **If the license was NOT available at the time of shipment:** Primex configures the Transmitter with a temporary Call Sign. A temporary Call Sign is identified by "WT & the owner's phone number".
     If configuration is completed with a temporary Call Sign, it's required to be updated to the licensed Call Sign. The Call Sign can be updated directly from the app. Optionally, contact Primex to request a Transmitter Call Sign update.

10. Configure its **Time Settings**.
    - **Main Transmitter only**

      Time Zone: set to the install location.

      Time source: app detects GPS or NTP (Ethernet connection) time source.
      - **When GPS connection is detected:** displays GPS Time Received.
      - **When GPS connection is not detected or a Repeater Transmitter:**

        OneVue monitor configuration: displays the OneVue account NTP Server settings. If NTP Servers are to be different, update the settings. When updated, the NTP settings are saved to the Transmitter profile and the OneVue account NTP settings are not updated.

        Standalone configuration: enter up to three NTP Server IP Addresses/URLs.
    - **Repeater Transmitter only (time settings do to not apply)**

      Time Zone: Repeater Transmitter receives a time from the main Transmitter.

      Time source: displays Repeater detected, using main Transmitter time.

11. Configure its **RF Settings**.

    A dynamic setting: displays RF Channel when configuring a main Transmitter and displays Receive Channel when configuring a Repeater Transmitter (advanced setting Repeater Transmit Channel).

- **Main Transmitter only**

  RF Channel: is set to the channel number the Transmitter transmits its time signal and events on, which is then received by the system devices.

  > ⚠ **WARNING**
  >
  > DO NOT change RF Channel without authorization from Primex or system owner.

- **Repeater Transmitter only**

  When the Repeater Transmit Channel setting (advanced setting) is set to a number (not Off), the app automatically changes the RF Channel setting to Receive Channel.

  A Repeater Transmitter searches for and receives time and event signals from this channel, and then re-transmits the signals that are then received by system devices within its wireless RF range.

  1. Select **Advanced**.
  2. From the **Repeater Transmit Channel**, change from Off to a Channel Number as described below.

     Set to a Channel Number the Repeater Transmitter is to transmit (broadcast) its time signal on. To avoid interference, set to a number that is less than or greater than 2 channels from another Transmitter.

CONFIGURATION EXAMPLE
System with Main Transmitter and two Repeater Transmitters.
Main Transmitter RF Channel: 1 Repeater Transmit Channel: Off
Repeater Transmitter (A) Receive Channel (RF Channel): 1 Repeater Transmit Channel: 4
Repeater Transmitter (B) Receive Channel (RF Channel): 1 Repeater Transmit Channel: 7

12. Optional settings, select **Advanced**.

    Critical Notification Defaults (Preset 1 through 5)

    This setting only applies to the OneVue Notify system (InfoBoards).

    - Sets the main Transmitter's contact closure terminal block inputs, which activates the five critical notification events (1 through 5).

      Default is Normally Open (NO) and when a checkbox is not selected the Preset (contact closure input) is set to Normally Closed (NC).

- Normally Open (NO) is required when integrated with the Notify Critical Notification Panel.
- Settings may be required to be changed when integrated with a third-party system that activates critical notification events.

> ⚠ **CAUTION**
>
> The settings below (Startup Continuous Transmit and Normal Transmit) should only be changed when requested or approved by an authorized Primex support technician.

Startup Continuous Transmit

The number of hours the Transmitter continuously transmits a time signal after a power-up (on). During a system install, this allows other system devices to receive a time signal at the time of installation.

Normal Transmit

The schedule the Transmitter transmits (broadcasts) a time signal from a start hour to end hour based on a 24 hour time period.

- **1 Watt Transmitter with an internal antenna and Repeater Transmitter**
  By default, set to transmit 24 hours a day (0 to 0).
- **Transmitter with an external antenna only (specific minute transmit schedule set by the factory)**
  1, 5, or 30 Watt Transmitters with an external antenna ONLY transmit a time signal between the 39th to the 6th minute for each hour set in its Normal Transmit schedule and changes to a standby mode and does NOT transmit a time signal during the 7th to the 38th minute of each hour. This setting is set by the factory and cannot be changed.
  For example, when its Normal Transmit schedule is set to 24 hours, each day at 12:39 AM it starts transmitting and at 1:06 AM it stops transmitting and from 1:07 AM to 1:38 AM it is in standby mode and does not transmit a time signal. Then for each hour it starts to transmit again at the 39th minute of the hour and ends at the 6th minute and from the 7th to the 39th minute of the hour is in standby mode. This sequence will repeat each hour.

> ⚠ **WARNING**
>
> The firmware setting is only to be configured or updated when instructed by Primex Technical Support.

13. Select **Save**.

    Settings are downloaded to the Transmitter.
14. From the front of the Transmitter, verify it is not in a **Caution** or **Error** state.

    If in a Caution state, to determine the cause refer to topic Troubleshoot: Transmitter Caution status with ODC app [28].

The four LED indicators identify the Transmitter's current state and signify warnings and errors. When first powered on all LEDs turn on for two seconds. When in Bluetooth pairing mode, the Power LED is solid green and the Transmit LED flashes.

Status Indicator	LED light	What it means
Power	Green Illuminated Solid	Powered on.
Transmit (Main Transmitter & Repeater Transmitter)	Green Illuminated Solid	Actively transmitting.
Transmit (Main Transmitter only with external antenna)	Green Flashing	In standby mode and is not transmitting. Standby mode is activated by the hourly minute transmit schedule set by the factory. A Transmitter with an external antenna transmits a time signal from the 39th to the 6th minute of each hour and changes to a standby mode during the 7th to the 38th minute of each hour. Each hour it transmits is based on its Normal Transmit schedule.
Transmit	Off	In no-transmit mode and is not transmitting. No-transmit mode is activated during the hour(s) it is not set to transmit per its Normal Transmit schedule.
Transmit (Repeater Transmitter only)	Green Flashing	Receiving a signal from the main Transmitter. Repeaters alternate from transmitting to receiving every few seconds, LED rotates from Green Illuminated Solid to Green Flashing.

Status Indicator	LED light	What it means
Caution	Yellow Illuminated Solid	Transmitter is in the Caution state due to a condition below. • **Time Sync Failure:** Transmitter failed to receive a valid time signal from its time source (GPS or NTP). Verify the Transmitter time source connection. For NTP use, verify its Ethernet connection and NTP Server settings. An external NTP Server requires network port 123 to be open. • **Bad Output Power**: Transmitter is not transmitting at the appropriate power level. • **PLL Diagnostics:** Transmitter having trouble locking onto a channel and cannot broadcast time or events. • **VSWR Errors:** Transmitter antenna error from either the antenna position or cabling. • **No GPS in 48 Hours:** Transmitter has not received time from its time source for more than 48 hours. • **No PPS in 48 Hours:** Transmitter time has not been synchronized by 1PPS (1 pulse per second) for more than 48 hours. • **GPS Cable Break:** Transmitter has detected an error with the GPS connection; either due to a line break, water ingress, or the cable length is greater than 200 ft. (60.9 m).
Error	Red Illuminated Solid	Transmitter is in the Error state due the condition below. • **When in an Error state, the Transmitter has NEVER established a valid time signal and is using its internal Real Time Clock (RTC).** Transmitter does not transmit a time signal to the system devices when in this Error state. During first-time configuration, it can take up to 10 minutes for the Transmitter to connect to its time source and receive a valid time signal.

## Troubleshoot: Transmitter Caution status with ODC app

When a Transmitter's yellow Caution LED is illuminated, it's not operating as expected. If your Transmitter is configured for standalone use (not monitored from OneVue), you will need to determine the cause of its caution status from the OneVue Device Configurator (ODC) app. The app performs a diagnostic test that provides the cause to help you resolve the issue. You must be at the Transmitter and be sure that your mobile device has the latest app update.

1. Open the **ODC** app.

2. Select **Standalone Configuration**.

3. Set the Transmitter into Bluetooth discoverable mode.

    From the Transmitter front panel, **press and release the Bluetooth pairing button**. The Transmitter is discoverable for the next two minutes (Power LED is illuminated and Transmit LED flashes).
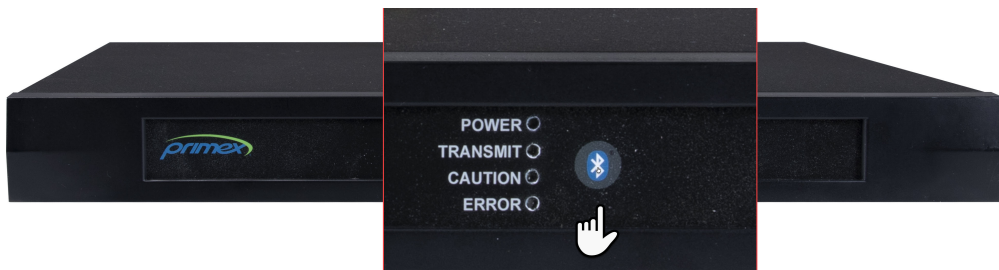
4. From available devices, select the **Transmitter**. If multiple devices are listed, the device can be identified by its 12-character MAC address located on its back panel.

5. Select **GET DEVICE STATUS**. The app performs a diagnostic status test.

    Once complete, the app displays the current status of the Transmitter. Its status identifies the cause of its caution status, which is due to one or more of the following conditions.

    - **Time Sync Failure:** Transmitter failed to receive a valid time signal from its time source (GPS or NTP). Verify the Transmitter time source connection. For NTP use, verify its Ethernet connection and NTP Server settings. An external NTP Server requires network port 123 to be open.

    - **Bad Output Power**: Transmitter is not transmitting at the appropriate power level.

    - **PLL Diagnostics:** Transmitter having trouble locking onto a channel and cannot broadcast time or events.

    - **VSWR Errors:** Transmitter antenna error from either the antenna position or cabling.

    - **No GPS in 48 Hours:** Transmitter has not received time from its time source for more than 48 hours.

    - **No PPS in 48 Hours:** Transmitter time has not been synchronized by 1PPS (1 pulse per second) for more than 48 hours.

    - **GPS Cable Break:** Transmitter has detected an error with the GPS connection; either due to a line break, water ingress, or the cable length is greater than 200 ft. (60.9 m).

ONEVUE NETWORK REQUIREMENTS

The information below provides the details required to allow Primex network-enabled devices to communicate over a facility's network to OneVue. Details include device Wi-Fi, PoE, and Ethernet network communication protocols, and network port and firewall requirements.

Network communication protocols

The OneVue platform is designed, developed, and managed in-house, allowing Primex to control the user experience and provide the highest level of reliability and security.

To support the myriad of network security and protocol standards in today's business environment, Primex network-enabled devices offer an array of options for secure network connectivity. This ensures our customers can use and leverage our full line of products without adding costly additional IT infrastructure.

Power over Ethernet (PoE) and Ethernet specifications

- Power over Ethernet (PoE): Compliant with IEEE 802.3af standard
- Ethernet:10/100 Mbps
- Network Communication Protocols: Hypertext Transfer Protocol Secure (HTTPS)/TLS
- IP Addressing: Dynamic Host Configuration Protocol (DHCP), static IP addressing
- Data Packet Size: typically less than 5 kilobytes (kB)

Network port requirements

Primex Ethernet, PoE, and Wi-Fi enabled devices communicate to OneVue over a facility's network using the Hypertext Transfer Protocol Secure (HTTPS) protocol. OneVue client and device data is encrypted in transit and all sensitive data is encrypted at rest. An outbound HTTPS connection is established by each device and once complete the IP address is released.

The following ports must be open to allow for outgoing OneVue device communication from the facility network.

- **Port TCP 443:** required to be open to allow Hypertext Transfer Protocol over TLS/SSL (HTTPS) communication with OneVue and Wi-Fi, Power over Ethernet (PoE)/Ethernet enabled devices.
- **Port UDP 123:** used by Wi-Fi, Power over Ethernet (PoE)/Ethernet devices to access an external NTP Server. Port is required to be open for use with external Network Time Protocol (NTP) Servers. Use of internal NTP Servers is also supported.

Network firewall requirements

The OneVue platform runs on the Amazon Web Services (AWS) cloud infrastructure. Organizations with network firewalls in place must proactively allow outbound network communication and file downloads through specific OneVue Domains and URLs. The files downloaded include the Sync device clock list, Notify device schedules, and device setting updates.

OneVue is a high-availability (HA) platform that may change IP addresses at anytime, therefore OneVue does not support the use of firewall IP address filtering.

If the firewall support wildcards:

Domain filters	*.primexonevue.com
	us-east-1-production.s3.amazonaws.com
URL filters	https://*.primexonevue.com
	https://us-east-1-production.s3.amazonaws.com

If the firewall does not support wildcards:

Domain filters	console.primexonevue.com
	deviceapi-alt.primexonevue.com
	deviceapi.primexonevue.com
	onevueapi.primexonevue.com
	us-east-1-production.s3.amazonaws.com
URL filters	https://console.primexonevue.com
	https://deviceapi-alt.primexonevue.com
	https://deviceapi.primexonevue.com
	https://onevueapi.primexonevue.com
	https://us-east-1-production.s3.amazonaws.com

Email, text (SMS), and voice communication

OneVue generates email, text (SMS), and voice notifications. Be sure to add **support@primexonevue.com** to your email program's safe senders list. Text and voice alert notifications are sent from phone number (608) 709-7043.

SAFETY, REGULATORY, AND WARRANTY INFORMATION

Primex OneVue Sync Transmitter models: TX400, TX4001NR, TX4005EM, TX40030EM

Safety Instructions and Warnings

Some of the following information may not apply to your particular product model; however, as with any electronic product, precautions should be observed during installation, operation, and maintenance.

- Never operate the Transmitter without the antenna being properly connected to the Transmitter. Operating the Transmitter without an antenna can lead to permanent damage of the Transmitter and poses a safety risk.
- Do not touch an internal or external antenna while broadcasting. Touching an external antenna could result in a skin burn or other injuries.
- Standard acceptance procedures must be followed prior to operating this equipment in the proximity of life support systems.
- Do not operate the Transmitter outdoors, in wet areas where there is standing water, or in areas where there is condensation or the risk of condensation. Use in any of these environments will damage the device and void the warranty.
- Do not open the Transmitter to alter the internal elements in any way. This will void the warranty and could lead to unsafe conditions, malfunction, and violations of FCC U.S. / ISED Canada regulations.
- Do not use a metal ladder during installation of the external antenna.
- During external antenna installation, be sure to wear shoes with rubber soles and heals and wear protective clothing with long sleeves and rubber gloves.
- Do not install an external antenna on a wet or windy day when lighting or thunder is in the area or near power lines. Power lines, telephone lines, and guy wires look the same. As a precaution please assume any wire can electrocute you.
- The installation, maintenance, or removal of an external antenna requires qualified, experienced personnel. The installation instructions are written for such installation personnel.
- External antenna systems should be inspected once a year by qualified personnel to verify proper installation, maintenance, and condition of equipment.

Primex disclaims any liability or responsibility for the results of improper or unsafe installation practices.

Federal Communications Commission (FCC) / ISED Canada (IC)

Primex OneVue Sync Transmitter models: TX400, TX4001NR, TX4005EM, TX40030EM

License Requirements

- Operation of the Transceiver requires a FCC U.S./ISED Canada operating license, which must be obtained prior to operation.
- FCC licenses must be renewed every 10 years and the ISED Canada licenses must be renewed annually.

- As a service, Primex will file the license application if the system owner desires it. A system owner that does not want Primex to file for the original site license will be required to complete a waiver form, file the required application, and receive a valid license from the FCC U.S./ISED Canada prior to use. If you have any questions or need any assistance, please contact Primex Technical Support.
- Primex requires a copy of the licenses in order to complete the factory presets.

Product Compliance

- This device complies with Part 90 and Part 15 of the FCC rules and RSS-119 of ISED Canada.
  5 and 30 Watt Transmitter: ISED Canada 4256A-FM72 (TX/RX/LED). The term "IC." before the certification/registration number signifies only that the ISED Canada technical specifications were met.
- Operation of this device is subject to the following two conditions:
  (1) This device may not cause harmful interference.
  (2) This device must accept any interference, including interference that may cause undesired operation.
- Changes or modifications to any part of the Primex system components not expressly approved by Primex could void the system owner's FCC U.S./ISED Canada authority to operate the equipment.

Radio Frequency (RF) Exposure

- 1 Watt Transmitter: To comply with FCC U.S./ISED Canada RF exposure requirements for mobile transmitting devices, the Transmitter is only to be used or installed in locations where there are at least 35 cm separation distance between the antenna of the Transmitter and all persons.
- 5 and 30 Watt Transmitter: To comply with FCC OET65 and ISED Canada RF exposure requirements, the antenna is only to be used or installed in locations where the following antenna separation guidelines exist when the Transceiver is in operation. Distance above roofline is for direct line of sight only. Distance Above Roofline: 8.95 ft. (2.72 m).

Radio Standards Specifications (RSS)

Primex OneVue Sync Transmitter models: TX400, TX4001NR, TX4005EM, TX40030EM

This device complies with ISED Canada licence-exempt RSSs.

Operation is subject to the following two conditions: (1) This device may not cause interference, and (2) This device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes: (1) l'appareil ne doit pas produire de brouillage,et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

The device meets the exemption from the routine evaluation limits in section 2.5 of RSS 102 and compliance with RSS-102 RF exposure, users can obtain Canadian information on RF exposure and compliance.

Le dispositif rencontre l'exemption des limites courantes d'évaluation de routine dans la section 2.5 de RSS 102 et la conformité à l'exposition de RSS-102 RF. Les utilisateurs peuvent obtenir l'information canadienne sur l'exposition à la RF et la conformité avec celle-ci.

This equipment should be installed and operated with a minimum distance of 35 centimeters between the radiator and your body.

Cet équipement devrait être installé et utilisé avec une distance minimum de 35 centimètres entre le radiateur et votre corps.

5 YEAR LIMITED WARRANTY

Warranty applies to: 72MHz OneVue Sync Transmitters, GPS Receiver, ClassicSync Transmitters (XR and 14000 Series), and 72MHz Analog Clocks, Digital Clocks and Timers.

Primex, Inc. warrants this product to be free from defects in materials and workmanship for a standard of five (5) years from the date of purchase. All product accessories, including external antennas and kit components, wireless tone generator, wireless data receiver, and UPS backup, are warranted for a period of one (1) year against material or manufacturing defects from the date of purchase. Primex, Inc. will at its sole option, repair or replace any components that fail in normal use. Such repairs or replacements will be made at no charge to the customer for replacement parts. The customer will be responsible for any transportation costs.

THIS WARRANTY DOES NOT COVER

(1) Physical damage to this product; (2) Product failure or damage caused by improper installation, lack of periodic maintenance, improper or abnormal use, misuse, neglect or accident (3) Damage caused by another device or software used with this product (including, but not limited to, damage resulting from use of non-Primex brand or approved parts, consumables or accessory items); (4) Problems arising from anything other than defects in materials or workmanship; and (5) Consumables or other items requiring periodic maintenance or replacement with ordinary wear and tear, including, but not limited to, product batteries and cables. This warranty is VOID if this product has been altered or modified in any way (including, but not limited to, attempted warranty repair other than by Primex or an authorized service partner).

LIMITATION OF LIABILITY

The warranties and remedies contained herein are exclusive and in lieu of all other warranties express or implied or statutory, including any liability arising under any warranty or merchantability or fitness for a particular purpose, implied, statutory or otherwise. In no event shall Primex, Inc. be liable for any incidental, special, indirect or consequential damages, whether resulting from the use, misuse or inability to use this product or from defects in the product. Some states do not allow this exclusion or limitation of incidental or consequential damages so the above limitations or exclusion may not apply to you.

TO OBTAIN WARRANTY SERVICE

If, after following the instructions in the product manual, you are certain the product is defective, contact Primex Technical Support to assist with troubleshooting the issue. If the issue cannot successfully be resolved and the product is under warranty, a RMA (Return Material Authorization) will be generated. The RMA form will be provided via email with detailed instructions for the return. All merchandise returned must be shipped to Primex, Inc. Attn: Returns Dept., N3211 County Road H, Lake Geneva, WI 53147. Primex, Inc. retains the exclusive right to repair or replace the unit at its sole discretion. Such shall be your sole exclusive remedy for any breach of warranty.

TECHNICAL SUPPORT

You may require technical support when you have questions about product features, installation and configuration, or troubleshooting. Support services are delivered in accordance with your organization's support agreement, end-user license 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 offers 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 Technical Support

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

Please have the following information available:

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

Primex Technical Support

Hours: 7:00 AM to 7:00 PM CT, Monday through Friday

Phone: 1-262-729-4860

Email: service@primexinc.com

Web: www.primexinc.com/support