

72MHz System Pre-Install Requirement Form

The following information specifies pre-installation requirements for a **Primex 72MHz ClassicSync system**. Prior to system installation Primex must receive acknowledgment that all requirements detailed in this form have been met. Failure to meet these requirements or not providing complete and accurate information may affect system coverage and may also result in installation delays and additional costs.

Form must be signed and submitted to Primex prior to scheduled install date. Submit form and correspondence to: siteevaluation@primexinc.com

General site requirements

- Site preparation is the responsibility of the Client prior to installation of the system. If these requirements are unable to be fulfilled or installation needs differ at the time of installation, additional installation materials and procedures may occur. Additional expenses incurred are the responsibility of the Client.
- Prior to the on-site arrival of a Primex technician all system equipment and components must be delivered to the room where the Transmitter installation is going to occur.
- Site specific requirements for Transmitter shelf mounting or mounting enforcement are the responsibility of the Client.

- Transmitter with External Antenna

Access to building roof is required. If local permits are required to access roof, these must be obtained by Client and approved by Primex prior to installation.

For non-penetrating masts, Client is responsible to supply cinder blocks.

Client must verify any non-penetrating mast local codes or levels are met (hurricane level 3 requires six cinder blocks, hurricane level 4 requires eight cinder blocks, hurricane level 5 requires nine cinder blocks).

Client is to provide access to ladder that meets requirements of site installation.

To be compliant with OET65, Client is responsible to place and maintain an antenna sign either on an exterior door or roof hatch leading to the antenna.

Adding additional cabling may impact the performance of the signal. Primex is not responsible to provide additional product to fill coverage gaps.

GPS Receiver cabling requirements

- Building penetration for cable routing may be required.
- Client is responsible to verify local codes for conduit requirements and provide details to Primex prior to install date.
- If conduit is required Client must provide and have installed prior to system installation. A minimum of 1.5 inch (4 cm) conduit size for GPS cabling only. A minimum of 1.75 inch (4.5 cm) conduit size for antenna cabling only.
- If cables are run together a minimum of 2 inch i.d. of conduit (5 cm) is required. A review of conduit installation is REQUIRED to be completed by Primex prior to site visit if running both cables together.

- If plenum rated cables are required Client is to notify Primex. Plenum cable is an additional charge if not previously purchased.

Transmitter with External Antenna onsite photo requirements

The following photos are required to be provided to Primex.

- Outdoor roof area that identifies external antenna planned install/mounting location.
- Other existing antennas on roof.
- Outdoor antenna grounding location.
- Outdoor existing penetrations that can be used for system cables.
- Indoor location of the Transmitter grounding location.

Location requirements

1 Watt Transmitter with Internal Antenna location requirements

Location and mounting must meet all of the following requirements.

- Multi-story building: locate 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. 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.
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
- Environment: located in an indoor controlled environment that is 32° to 122° F (0° to 50° C) and a non-condensing humidity environment.

1 Watt Transmitter with External Antenna location requirements

Location and mounting of a Transmitter with an external antenna must meet all of the following requirements.

- Multi-story building: locate 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. 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.
- 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
- Environment: located in an indoor controlled environment that is 32° to 122° F (0° to 50° C) and a non-condensing humidity environment.

5 and 30 Watt Transmitter location requirements

Location and mounting must meet all the following requirements.

- Multi-story building: locate 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: shelf with enforcement that is 24” x 24” and support a weight of a minimum of 60 lb. (27.2 kg). Not supplied.
- Transmitter enclosure clearance: located in an area that allows for required clearance.
Enclosure dimensions: 18" L x 22" W x 22" D (46 cm L x 56 cm W x 56 cm D). Required wall space is 24" L x 30" H x 30" D, allowing for a minimum clearance of 4" (10 cm) rear, 12" (30.4 cm) front, and 10" (25.4 cm) side.
- 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
- Environment: located in an indoor controlled environment that is 32° to 122° F (0° to 50° C) and a non-condensing humidity environment.

External Antenna location requirements

Location and mounting of an external antenna must meet all of the following requirements.

- Located within 100 ft. (30.48 m) from Transmitter. LMR 400 cable cannot exceed 100 ft. (30.48 m). The system is attenuated to the 100 feet (30.4 m) of cable; typically figure between 80 to 85 ft. of usable cable length.
- Located at a minimum of 15 ft. (4.5 m) clear from the radius of other antennas.
Supplied external antenna: radial dimension is 5.1 ft. Width x 5.3 ft. Height (1.5 m x 1.61). 9 ft. (2.7 m) and antenna mast with 1.24 in. (3.17 cm) galvanized conduit.
- Located at least 10 ft. (3 m) from normal traffic areas.
- Located within 10 ft. (3 m) from earth ground.
- Cannot be placed on or directly adjacent to walls or metal structures.
- Cannot be located near television receiving antennas.

- Cannot be mounted indoors or in enclosed areas.
- Cannot be mounted to pre-existing antenna towers. If this is desired, contact Primex prior to installation.
- 5 or 30 Watt Transmitter in healthcare facility: external antenna must be located a minimum of 30 ft. (9 m) away from any window or other glass openings. If hospital paging link receiver is located on roof, Primex is required to be supplied the frequency prior to installation.

GPS Receiver mounting requirements

GPS Receiver location

- Must be mounted where it has a "clear view of the sky" to receive a GPS signal 24 hours a day.
- Typical mounting locations include the inside of a window (not a Low-E glass window), to an exterior pole, or on a rooftop.
- Must be kept away from large metal objects.
- GPS Receiver and cable must be mounted above any potential standing water, snow depth, leaves or other obstructions and is protected from the weather.

GPS cable

- 10 ft. (3 m) GPS cable supplied. Extension cables available from Primex.
- Maximum total distance of the GPS cable to the Transmitter cannot exceed 200 ft. (60.96 m).
- GPS cable located outdoors: cable routing to inside of building requires 2 in. (5 cm) minimum conduit and weatherhead. Use of a GelWrap splice enclosure is strongly recommended.
- GPS and extension cables connections must be weatherproofed.

NTP time source requirements

- By default, Transmitter is factory configured to obtain a time from the National Institute of Standards and Technology (NIST). If a time source other than NIST is required, Client is to provide the IP address for the designated NTP Server. NTP Server Address (if applicable).
- Network Port 123 is required to be open to allow connection to an external NTP Server.

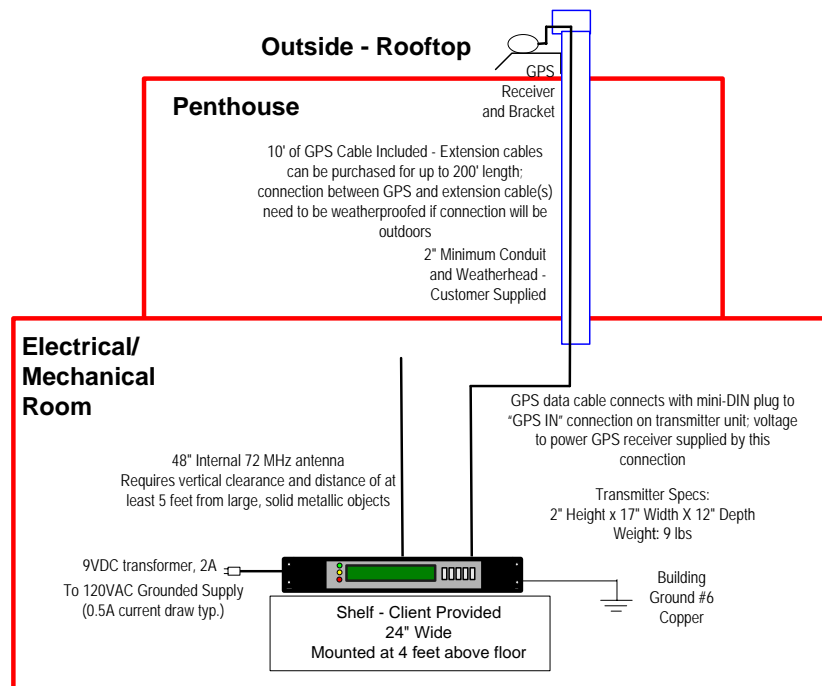
Acknowledgment

I acknowledge all requirements detailed in this form are met or will be met prior to system install date.

Date	
Client Site Location	
Client - Print Name	
Client - Signature	

Typical system setup illustration examples

Typical System Setup Primex XR01IM 1 Watt Transmitter with Internal Antenna GPS Time Source



Typical System Setup – not to scale

Summary of Operation

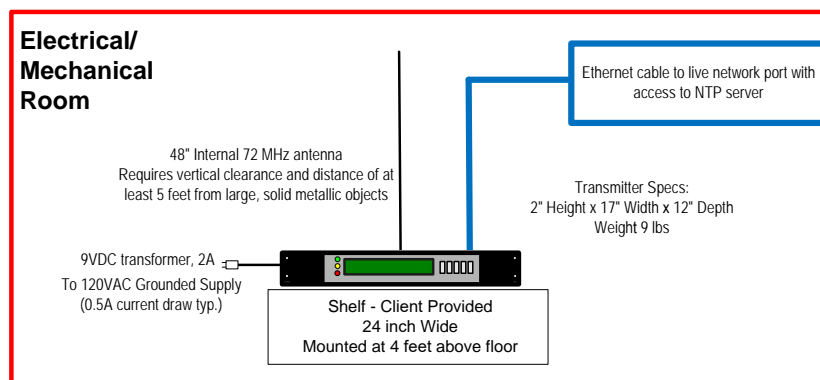
1. GPS receiver decodes time from Satellites
2. Time is input via mini-DIN connection into Transmitter
3. Transmitter Time is set
4. Transmitter broadcasts out 72MHz signal to set clocks
5. When batteries are put in a clock (or AC powered clocks are plugged in), clocks search for the 72MHz signal
6. Clocks set when 72MHz signal is decoded.

Notes

- GPS Receiver requires clear view of sky
- Customer to supply the following items
 - 2" Minimum Conduit and Weather head
 - GPS Extension Cable (If needed)
 - Transmitter shelf
 - One available 120VAC Outlet
 - Building Ground near transmitter
- DO NOT HANG OR SET CLOCKS UNTIL TRANSMITTER IS IN PLACE AND POWERED

Typical System Setup

Primex XR01IM 1 Watt Transmitter with Internal Antenna NTP Time Source



Typical System Setup – not to scale

Summary of Operation

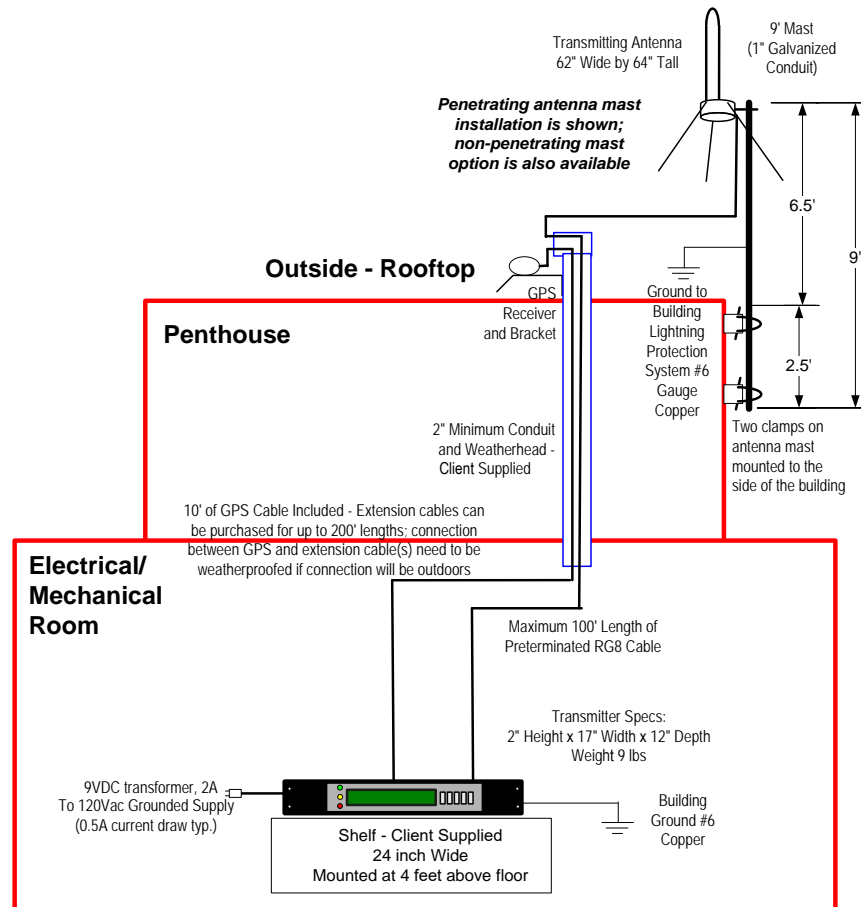
1. Transmitter connects to LAN
2. Transmitter connects to NTP server and downloads time
3. Transmitter Time is set
4. Transmitter broadcasts out 72MHz signal to set clocks
5. When batteries are put in a clock (or AC powered clocks are plugged in), clocks search for the 72MHz signal
6. Clocks set when 72MHz signal is decoded.

Notes

- LAN port 123 needs to be open for NTP server access
- Client to supply the following items
 - Ethernet cable and network drop
 - Transmitter shelf
 - One available 120VAC Outlet
 - Building Ground near transmitter
- DO NOT HANG OR SET CLOCKS UNTIL TRANSMITTER IS IN PLACE AND POWERED

Typical System Setup

Primex XR01EM 1 Watt Transmitter with External Antenna GPS Time Source



Typical System Setup – not to scale

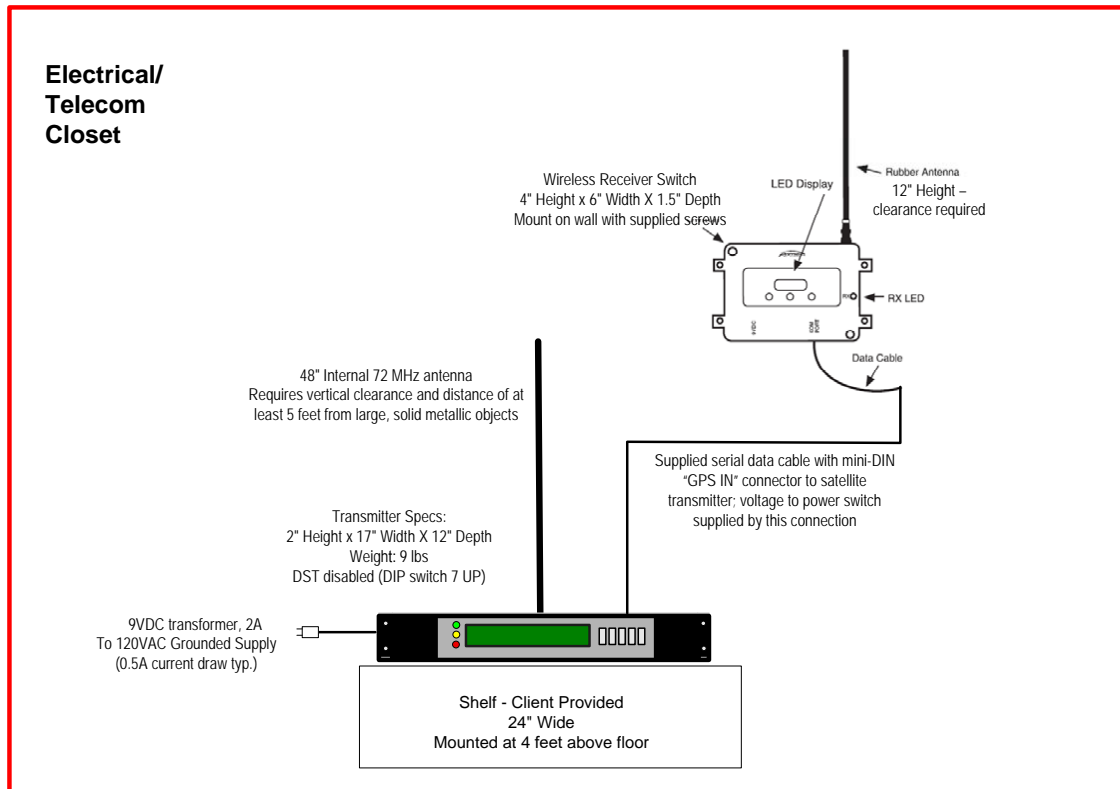
Notes

- GPS Receiver **requires clear** view of the sky
 - Optimal Transmitting Antenna location is a tall, central point on the structure
 - Transmitting antenna should be a minimum of 15' from other antennas
 - Client to supply the following items
 - 2" Minimum Conduit and Weatherhead
 - GPS Extension Cable (If needed)
 - Transmitter shelf
 - 120Vac Outlet
 - Building Ground near transmitter
 - Ground near transmitting antenna
 - **DO NOT HANG OR SET CLOCKS UNTIL TRANSMITTER IS IN PLACE AND POWERED**
- Transmitter will provide eight hours of continuous signal after power cycle

Summary of Operation

1. GPS receiver decodes time from Satellites
2. Time is input via mini-DIN Connection into Transmitter
3. Transmitter Time is set
4. Transmitter broadcasts out 72MHz signal to set clocks
5. When batteries are put in a clock (or AC powered clocks are plugged in), clocks search for the 72MHz signal
6. Clocks set when 72MHz signal is decoded.

Typical System Setup Primex XR01IR 1 Watt Repeater Transmitter



Typical System Setup – Not to Scale

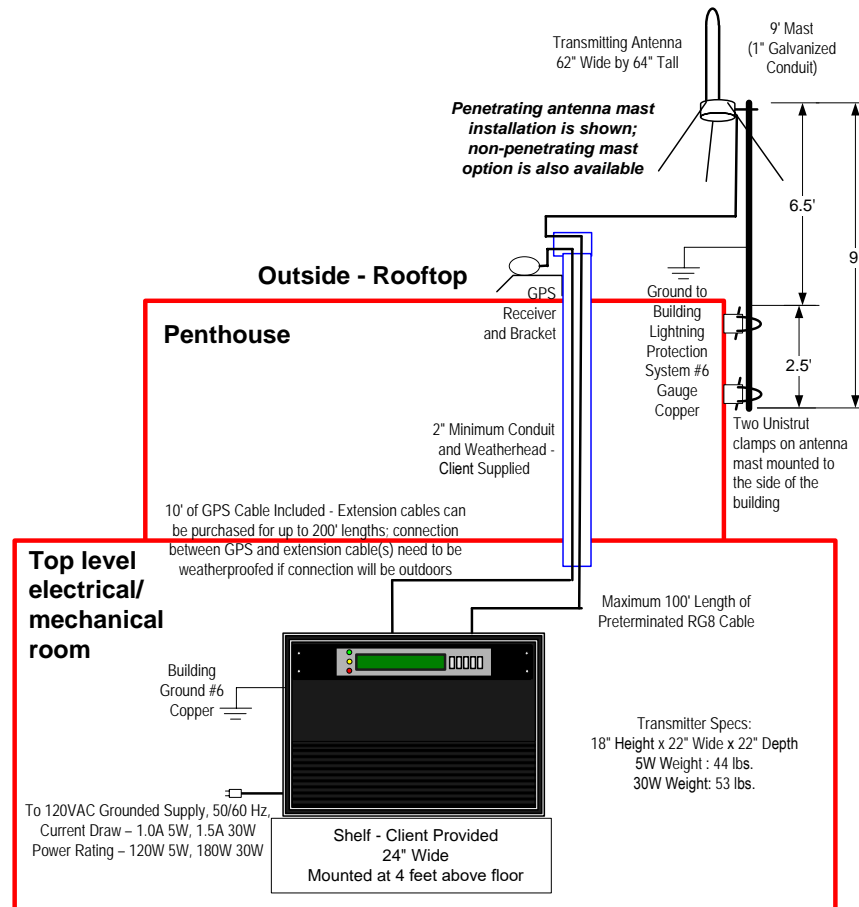
Summary of Operation

1. Repeater switch receives time broadcast from primary transmitter
2. Time is input via mini-DIN connection into satellite transmitter
3. Transmitter Time is set
4. Transmitter broadcasts out 72MHz signal to set clocks
5. When batteries are put in a clock (or AC powered clocks are plugged in), clocks search for the 72MHz signal
6. Clocks set when 72MHz signal is decoded.

Notes

- Repeater switch needs to be mounted to receive adequate signal from the primary transmitter, and set to match the broadcast channel of that transmitter
- Repeater switch antenna needs to be vertical for best possible reception
- Transmitter antenna needs to be mounted flush to the transmitter base
- A four channel or more spacing is recommended between adjacent Transmitters
- 120VAC Outlet within 5 feet from Transmitter
- DO NOT HANG OR SET CLOCKS UNTIL TRANSMITTER IS IN PLACE AND POWERED

Typical System Setup Primex XR 5 Watt or 30 Watt Transmitter GPS Time Source



Summary of Operation

1. GPS receiver decodes time from Satellites
2. Time is input via mini-DIN Connection into Transmitter
3. Transmitter Time is set
4. Transmitter broadcasts out 72MHz signal to set clocks
5. When batteries are put in a clock (or AC powered clocks are plugged in), clocks search for the 72MHz signal
6. Clocks set when 72MHz signal is decoded.

Notes

- GPS Receiver requires clear view of the sky
- Optimal Transmitting Antenna location is a tall, central point on the structure
- Transmitting antenna should be a minimum of 15' from other antennas
- Customer to supply the following items
 - 2" Minimum Conduit and Weatherhead
 - GPS Extension Cable (If needed)
 - Transmitter shelf
 - 120Vac Outlet
 - Building Ground near transmitter
 - Ground near transmitting antenna
- DO NOT HANG OR SET CLOCKS UNTIL TRANSMITTER IS IN PLACE AND POWERED
- Transmitter provides eight hours of continuous signal after power cycle