

Pyramid
Time Keeping Made Simple

915MHz Wireless RF Transmitter

USER GUIDE



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OVERVIEW

This Product is part of a centrally controlled messaging system.

A typical system consists of one or more servers that transmit time and other information in wired or wireless format. The servers can synchronize to various time standards. The servers can get their time from other Pyramid servers, NTP via the Internet, your Intranet, and GPS.

The servers transmit data wired or wirelessly to various devices including, but not limited to:

DEVICE	RECEIVES DATA WIRED OR WIRELESSLY
Analog Clocks	Time
Digital Clocks	Time, Date, FirE, Code Blue
Message Boards	Time, Date, Informational and Emergency Messages
Time Recorders	Time, Date, Setup Information
Bell Systems	Bell Signaling

(NOTE: In some installations, receivers with a transmitter option may be enabled to become low power repeaters.)

INSTALLATION

1. Choose a location for the transmitter.
 - For buildings less than 100,000 sq. ft., locate the transmitter centrally.
 - For multi-story buildings, locate the transmitter on a middle floor.
 - For buildings greater than 100,000 sq. ft., please consult with your dealer or sales representative.
 - The transmitter should always be indoors, in a dry location.
 - The location should be away from people.
 - Under no circumstances should the transmitter be placed where people can regularly come within 20cm of it.
2. Attach the supplied antenna by rotating in a clockwise direction.
3. Place or mount the transmitter so the antenna is standing vertically. This is required for proper operation.
4. Connect the Ethernet port to a computer or a network. The transmitter will be configurable from anywhere on the local network.
5. If a GPS receiver is to be used as a time standard, install and connect as described in the GPS documentation.
6. Connect the power supply to the transmitter and to any standard wall outlet.

(NOTE: Using anything other than the included Power Supply or included Antenna in a vertical orientation may be unsafe, cause improper operation, and violates FCC regulations.)

SETUP

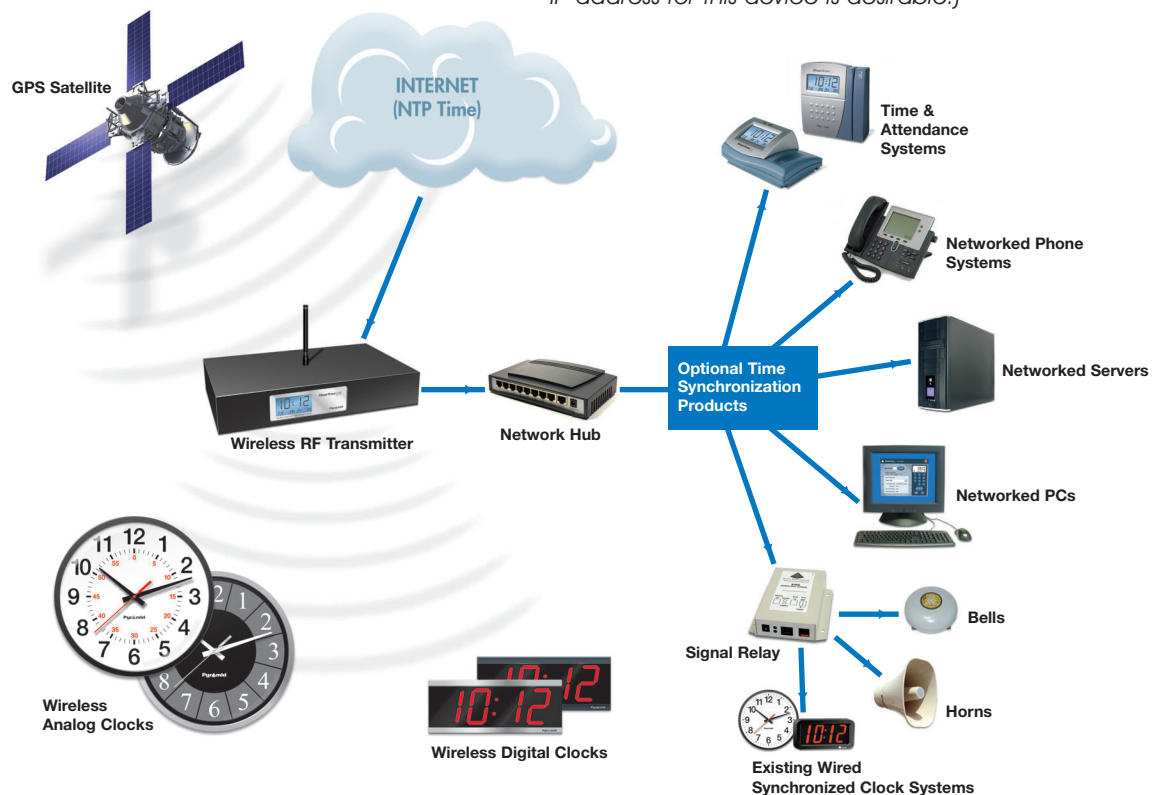
1. Insert the included Pyramid TimeTrax Sync CD into a computer on the network or the one attached to the transmitter.
2. After installation, run the software. It will automatically detect the transmitter on the network.
3. The transmitter may already have an IP Address, Subnet Mask and Gateway that have been assigned by your DHCP server.
4. Follow the online software guide to configure Time Zone and Daylight Savings Time configuration. The default is the setting on your computer. Many options exist to get and serve time over Ethernet. Pyramid devices automatically recognize each other and share time and setup information. Each device knows the quality of its time. The device with the most accurate time is recognized as the standard.

Pyramid Ethernet devices automatically recognize and use the following time sources from best to worst as follows:

- GPS Hardware if installed
- Pyramid encrypted time from another Pyramid device with GPS or NTP time
- Internet NTP Primary Servers - a list of servers is included and updated by Pyramid
- Internet NTP Secondary Servers - a list of servers is included and updated by Pyramid
- Intranet NTP Time Servers - may be added to the server list or provided by DHCP
- Time from a PC with recently acquired NTP time
- Time from the installation PC

(NOTE: Any type of time sources above can be disabled if desired.)

(NOTE: Any Pyramid Ethernet device can also be used as an NTP Time Server. Assigning a static IP address for this device is desirable.)



SPECIFICATIONS

ETHERNET PORT: (STANDARD RJ45 FEMALE CONNECTOR)

Auto Speed 10/100TX	Any 10 or 100MHz Hub, Switch or PC
Auto MDI/MDIX	No crossover cable is ever needed

ETHERNET SIGNALING:

Pyramid Auto Discovery	No IP address or DHCP server is required to discover or setup the Transmitter	
DHCP	IP Address, Subnet Mask, Gateway, DNS, NTP	
NTP Client	List From DHCP or Pyramid Software	Get time from Internet or Intranet
NTP Server	RFC2030 compliant Time Server	Serve time to Internet or Intranet
PTP Client	Encrypted Pyramid Time Protocol Client	Gets secure time from Pyramid Ethernet Devices
PTP Server	Encrypted Pyramid Time Protocol Server	Serves Secure time to Pyramid Ethernet Devices
SMTP Mail Client	To send Trouble Report	

(NOTE: Any IP settings above can be set or overridden by Pyramid Software)

OPTIONAL AUXILIARY PORT: (RJ45 COMPATIBLE FEMALE CONNECTOR)

BCD out	Sends BCD signals to Pyramid and Simplex compatible wired clock systems
Extended BCD out	Sends Extended format BCD signals to Pyramid Bell systems
BCD in	Can use legacy system as the time master
FirE in	Signal input from FirE System to trigger sending of FirE messages to clocks, message boards and other devices
Alarm Armed in	Input from alarm system to aid in the control of Lighting and HVAC

OPTIONAL GPS PORT: (RJ45 COMPATIBLE FEMALE CONNECTOR)

IEC RS232 Compatible	4800 Baud I/O to receive NMEA time and 1 Sec edge sync signals
Use GPS Signal Receiver	Pyramid Part #42328

TRANSMITTER:

Power	1W Maximum
Frequency Range	902MHz to 928MHz
Channels	128 channel Pseudorandom Frequency hopping
Channel Spacing	~200KHz
Modulation	Raised Cosine 2FSK Modulation, 10KHz Maximum Deviation
Data	Encrypted 2400BPS
Frequency Stability	10ppm

DATA TRANSMITTED:

Time/Date

Standard & Emergency Messaging

Message Boards, FirE

Clock Dimming

Lighting Control On/Off/Dimming

HVAC Control

Sound Control School Bells, Shift/Break Bells, FirE, Alarm

OPTIONAL DISPLAY:

Backlit LCD Display showing: Time/Date, Time Quality, Trouble Messages

ANTENNA:

Vertical Dipole with Reverse SMA Connector

Use only included Pyramid Part #42147, substitution violates FCC regulations.

POWER:

12VDC +/- 5% at 1.5A, Standard 2.5 X 5.5 mm power Jack , center positive

Use only included Pyramid Part #42362, substitution may violate FCC regulations and UL certifications.

BASE MOUNT PHYSICAL: 14"W x 8.25"D x 2.5"H + 5"H Antenna

SIGNAL REPEATER/EXTENDER PHYSICAL: 6.5W x 1.5"D x 5"H + 5"H Antenna

ENVIRONMENTAL: INDOOR USE ONLY

Operating temp range: 0°C to 70°C, -32°F to 158°F

Storage temp range: -40°C to 100°C, -40°F to 212°F

95% RH non-condensing

SAFETY:

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- Do not place transmitter in close proximity to life support systems or critical safety systems.
 - To limit RF exposure, this transmitter must be installed to provide a separation distance of at least 20cm from all persons.
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- Do not touch the antenna connector on the top of the enclosure when the transmitter is in operation.
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- Use only the provided power supply and antenna.
 - Install transmitter indoors in a dry area.
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EQUIPMENT PRECAUTIONS:

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- Antenna should be connected and oriented vertically before power is applied.
 - Using other than the provided antenna is prohibited by FCC regulations.
 - There are no serviceable or adjustable parts inside the case of this transmitter.
 - Opening the transmitter case voids all warranties.
 - Any modifications to the transmitter, antenna, or stated operating conditions violates FCC regulations and may be detrimental to health or safety.
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REGULATORY**FCC (FEDERAL COMMUNICATION COMMISSION) INTERFERENCE STATEMENT:**

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

1. Reorient or relocate the receiving antenna. Increase the separation between the equipment and receiver.
2. Connect the equipment into an outlet on a different circuit from which the receiver is connected.
3. Consult the dealer or an experienced radio/TV technician for help.

FCC CAUTION:

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.
3. This device and its antenna(s) must not be co-located or operated in conjunction with any other antenna or transmitter.

RF EXPOSURE INFORMATION:

The radio module has been evaluated under FCC Bulletin OET 65C (01-01) and found to be compliant to the requirements as set forth in CFR 47 Sections, 2.1093, and 15.247 (b) (4) addressing RF Exposure from radio frequency devices. This model meets the applicable government requirements for exposure to radio frequency waves. To limit RF exposure, this transmitter must be installed to provide a separation distance of at least 20cm from all persons.

ACCESSORIES

Pyramid's components are designed to work directly with our equipment and grow as your needs grow. We offer a wide range of wall or ceiling brackets, security mounts, batteries, surge protectors, and more.

Here is a list of available items to complete your 915MHz Wireless Synchronized Clock System:



PART #	DESCRIPTION
42328	GPS Signal Receiver
41269	50' GPS Signal Receiver Extension Cable
41314	100' GPS Signal Receiver Extension Cable
41313	GPS Signal Receiver In-line Cable Coupler
42313	200' Plenum Rated Cable Extension
42337	915MHz 1-Watt RF Signal Repeater and Extender
42314	13" Analog Clock Wire Guard Kit
42315	17" Analog Clock Wire Guard Kit
42316	Digital Wire Guard Kit
42317	915MHz RF Transmitter Wall Rack (Black)
42318	13" Analog Dual Clock Wall Bracket Kit (Black)*
42319	13" Analog Dual Clock Ceiling Bracket Kit (Black)*
42320	Digital Dual Clock Wall Bracket Kit (Black) (4" 6-digit only)*
42321	Digital Dual Clock Wall Bracket Kit (Black)(3" 4-digit, 2.5" 6-digit, 4" 4-digit only)*
42322	Digital Dual Clock Ceiling Bracket Kit (Black)*
42026	Analog Clock Theft-proof Security Mount
42247	Digital Clock Theft-proof Security Mount
42281	Theft-proof Security Mount Replacement Key
42323	Simplex System Clock Mounting Bracket
42324	"C" size Lithium Clock Battery
42325	Power Surge Protector
<i>*Purchase 2 Clocks to make a double-sided dual mount kit</i>	



TECHNICAL SUPPORT: CONTACT US

Should you need to speak live to one of our representatives, please call Toll-free (US/Canada): 800.336.3592 during regular business hours: 8:00AM-6:00PM EST, Monday–Friday.

WARRANTY/RETURN INFORMATION

PYRAMID'S 5-YEAR WARRANTY

In a time when most manufacturers offer just a standard 1 to 2 year warranty, Pyramid warrants its Wireless Clock Systems to the original user against defective material or workmanship for a period of **5 YEARS** from the date of purchase.

The manufacturer's responsibility under this Warranty is limited to the repair or replacement of the defective part or parts. Pyramid reserves the right to determine whether the parts failed because of defective material, workmanship, or other causes. Failure caused by accident, alteration, misuse or improper packaging of returned unit is not covered by this Warranty. Any repair to the equipment other than by Pyramid voids the Warranty. Users in countries other than the USA should contact the Dealer from whom the unit was purchased. The rights under this Warranty are limited to the original user and may not be transferred to subsequent users.

If Customer Support cannot troubleshoot your problem over the phone, we will replace your unit free of charge. Extended service/support and warranties are available. Please contact Customer Support at 800.336.3592 for details.

RETURN WITHIN 30 DAYS FOR FULL REFUND

Returns on non-defective equipment can be made within 30-days of purchase for a full refund after inspection. Returns on non-defective equipment made after 30-days, but within 60 days of shipping will be accepted after inspection and are subject to a 15% restocking fee. Returns after 60 days will not be accepted.

Visit Pyramid online at: www.pyramidwireless.com



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