GPS Wireless Clock Systems

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Product Guide Specification

GPS Wireless Clock Systems Slave Manual

Version 1.03

Specifier Note: This section covers the Primex Wireless GPS Synchronized Clock System. Consult Primex Wireless for assistance in editing this section for the specific application.

GPS Wireless Clock Systems

Foreword

1.
The user is cautioned that changes or modifications not expressly approved by Chaney Instruments Co. could void the user's authority to operate the equipment.
15.105:
For a Class B digital device or peripheral, the instructions furnished the user shall include the following or similar statement, placed in a prominent location in the text of the manual:
Note: 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 or more of the following measures:
—Reorient or relocate the receiving antenna.
—Increase the separation between the equipment and receiver.
—Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
—Consult the dealer or an experienced radio/TV technician for help.
15.19 (labeling not on EUT due to size must be in manual:
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, and (2) this device must accept any interference received, including interference that may cause undesired operation.

2.
The antenna used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

Chapter I: Introduction

The “GPS Wireless Clock Systems” is a revolutionary, synchronized timekeeping system- it is so easy to use.

The GPS Receiver captures a time signal from the U.S. government's global positioning system (GPS) satellites, the time signal passing by the 902-928MHz Hoping Channels transceiver are sent to indoor Unit, then The 72MHz Transmitter （another systems ）then broadcasts the time to every Primex Wireless clock in your facility. So all of the clocks are synchronized to the exact second .

Chapter II: Features

1. 900MHz FHSS transceiver with 72MHz Sender

Operation Temperature	-40 to +60 centigrade
MCU	PIC16F630

Receiver CC1000 (900MHz IS Band, FHSS 50 Hopping Channels)

Baud rate 4800 (NEMA 0183)

Chapter III: RF Module Specification

Frequency 902MHz -928 MHz (ISM)

CHANNEL	FREQ. (MHz)	CHANNEL	FREQ. (MHz)	CHANNEL	FREQ. (MHz)
0	902.1	20	911.7	40	921.3
1	902.58	21	912.18	41	921.78
2	903.06	22	912.66	42	922.26
3	903.54	23	913.14	43	922.74
4	904.02	24	913.62	44	923.22
5	904.5	25	914.1	45	923.7
6	904.98	26	914.58	46	924.18
7	905.46	27	915.06	47	924.66
8	905.94	28	915.54	48	925.14
9	906.42	29	916.02	49	925.62
10	906.9	30	916.5		
11	907.38	31	916.98		
12	907.86	32	917.46		
13	908.34	33	917.94		
14	908.82	34	918.42		
15	909.3	35	918.9		
16	909.78	36	919.38		
17	910.26	37	919.86		
18	910.74	38	920.34		
19	911.22	39	920.82		

Transmitter Power 5dBm

Transmitter Time <400ms

Receiver Sensitivity -105dBm

Bandwidth of each channel： 64K

Data Rate 2.4K

Channel 50

A transmitter cycle : <400ms

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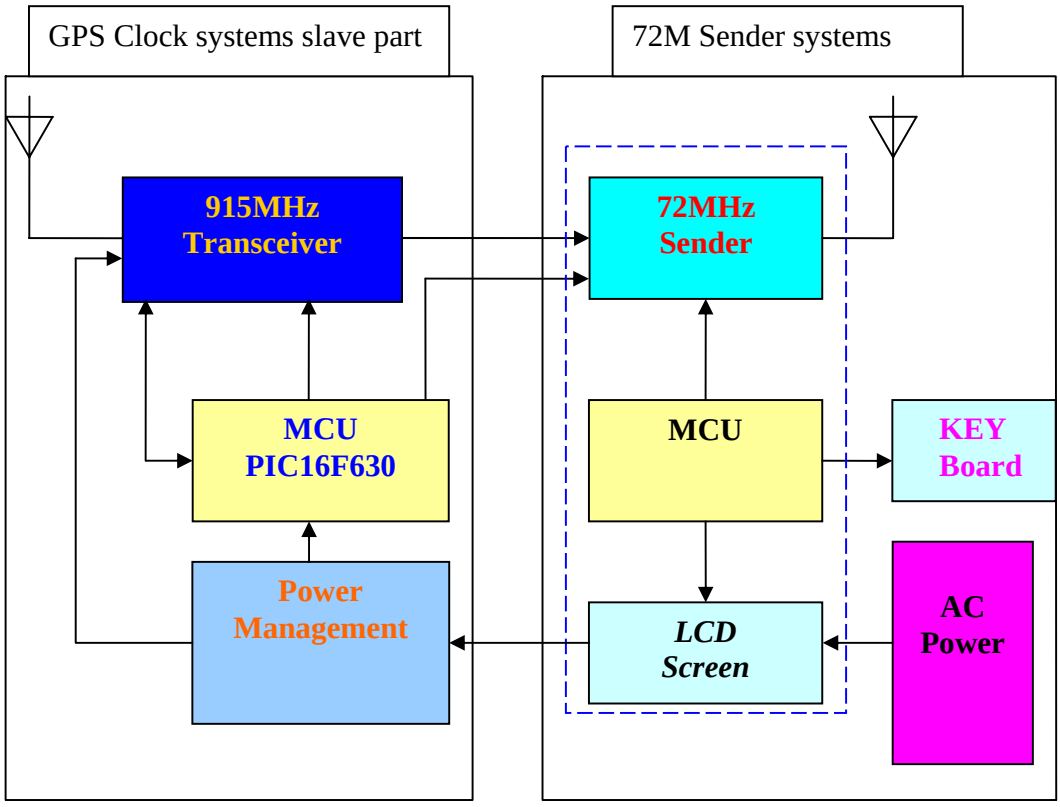
Antenna : Helix Antenna

Connector: SMA-K

Up to the standard for FCC 15.247

Chapter IV: Block Diagram



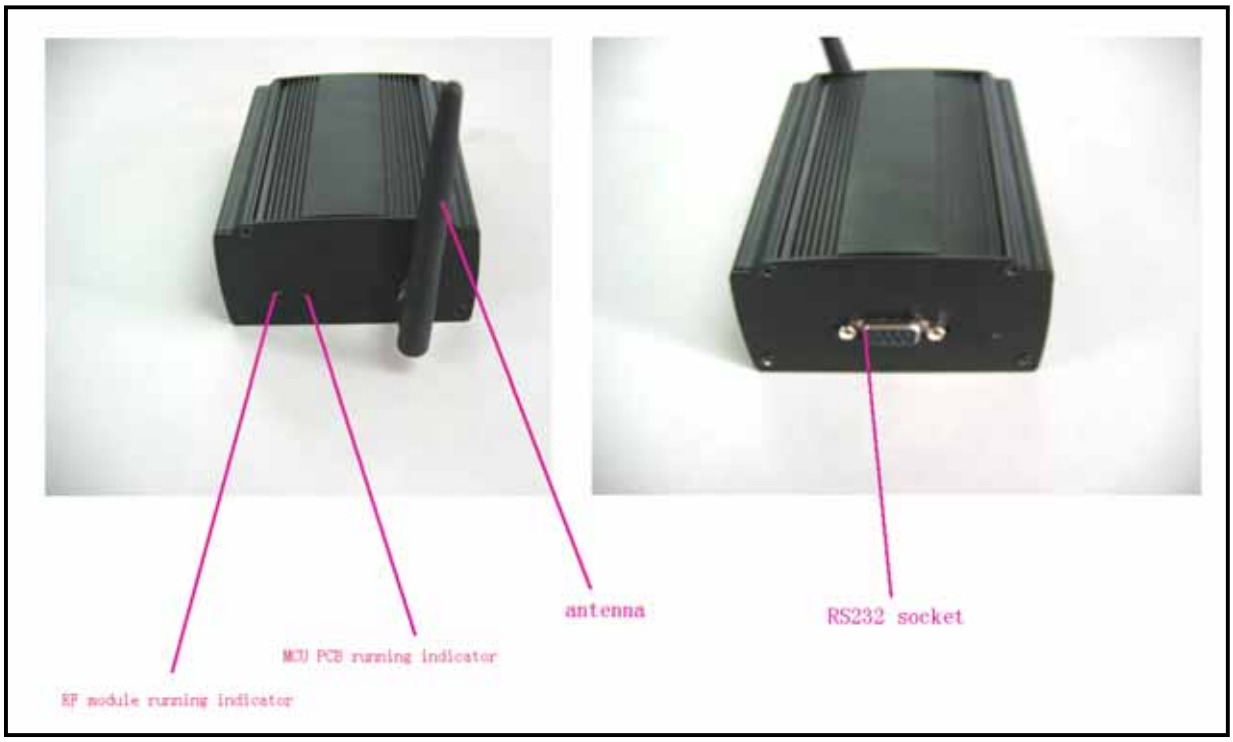
900MHz FHSS Slave with 72MHz Sender

*NOTE：

72MHz transmitting system and WGPS system are individual. WGPS HOST forward GPS time signal to WGPS SLAVE at WGPS system. Then WGPS SLAVE send time signal to 72 MHz transmitting system via RX-232 interface. 72MHz transmitting system had gotten FCC certification.

(FCC ID: PZ3-FM72). The communication mode and socket is RS-232 at this system. But it is not standard RS -232 interface, not directly connect with PC.

Chapter V: Interface



Rx Unit:

a. LED direction- Green Flash It means Rx Unit has received data from

900MHz transceiver Module and sent the data to 72 MHz sender (another systems)

Red Waiting for the data from 900MHz transceiver Module

b. When the receiver has received a valid packet, the green LED is flash for one time, and the green LED is off at other time. The red LED is flash when the receiver is transmitting data; others time the red LED is on.

Chapter VI: Operation