# GPS ClockNet

## Central Clocknet with GPS Controlling Master Clock and Wireless Slave Clocks

Keeping tabs on manufacturing, lading processes, other events in

assembly shops

logistic centers

warehouses

sports halls

railway stations

Radio Controlled

office buildings and many more

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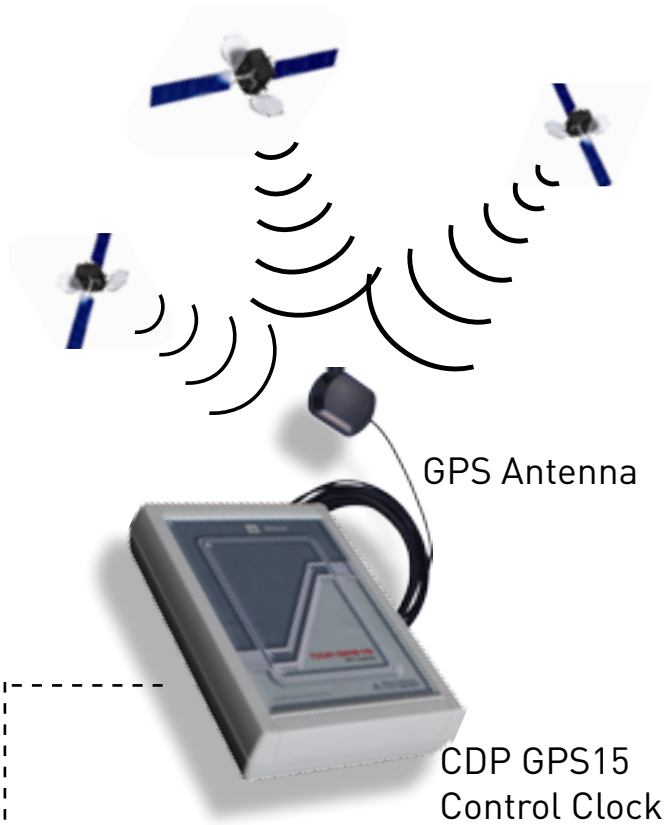


Wide spread and well known Central-European radio controlled clocks „listen" to the 77,6 kHz DCF long-wave-sender near Frankfurt, which transmits stable and accurate time information. Yet several countries lie just on the edge of DCF reception coverage, that provides in many buildings, assembly floors only an instable reception due falling out of sync, or there is no reception at all. Currently there is no known method for increasing DCF field strength.

**GPS Clocknet System is based on global positioning data transmitted by satellites. Core of the system is the GPS Control Clock, a Master Clock, that „sees" satellites by its fixed antenna and processes their nanosec accurate signals.**

ControlClock CDP GPS15 outputs time data in forms of date, hour, minute, second, tenth of a second and hundredth of a second. Time data are delivered by GPS ControlClock via Ethernet 10/100 MHZ or RS485 channel (or wireless radio). They are forwarded either through standard wired network or wireless RF network to slave clocks in GPS Clocknet. RF network can be created of 868MHz ISM band RSC-R4B devices connected to ControlClock.

The device's range is, depending on circumstances, 100-200m and it is able to provide an unlimited number of slave clocks.

Ethernet 10/100MB
or RS485 or radio

**Local sender(s) 868MHz RSC-R4B wireless RS485 converter**

868MHz

868MHz

**Unlimited number of receivers**

AnaClock 30-R
Analog RF Slave clock
300 mm (11.81")
radio interface

AnaClock 40-R
Analog RF Slave clock
400 mm (15.74")
radio interface


GigaClock 200-XB-R
Digital RF extra bright Slave clock
200 mm (7.8")
radio interface


MegaClock 100-R
Digital RF Slave clock
100 mm (3.93")
radio interface

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# GigaClock:
# extra size digital clocks

In 150-200 m distance visible. Display time data, temperature, humidity and other numerical information in storehouses, assembly shops, logistic centers, shopping centers, sports halls.

Slave clocks perform time synchronization due to communication with ControlClock. GPS GigaClock slave clocks need 230V50Hz power supply, and receive time data through wireless connection. While GPS Slave clocks (down) need a 1.5V long-life alkali battery that supplies the device for years. So they can be placed wirelessly wherever you want.
Any type of slave clock can be ordered on RS485 bus and you can eliminate the RSC-R4 RF device, though you need to establish wire connections. Model names of RS485 slave clocks are following:
GigaClock 4-200-4
MegaClock 6-100-4
AnaClock 40-4
AnaClock 30-4


MegaClock 100-RF


GigaClock 200-RF

## GigaClock: Digital Slave Clocks

### Features

- Dimensions:750 x 300 x 40 mm
- Number of digits: 4-6 pc
- Dimension of Digits: 200 mm
- Number of segments for each digit: 7 +1
- Display: time (hours, minutes), alternating temperature, humidity indicator (option) *
- THS-05 sensor connection: USB „B" connector (optional)
- Power connection via RJ45, POE 12-24V/1A
- Interface RS232, Ethernet IEE802, connection to local supply.
- Time setting with TimeSetter program
- Fixing holes formed on device' reverse side
- Power supply: 12V AC / DC
- Ambient temperature: -10 - +50 ° C
- Relative humidity: max. 80%
- PoE Power Supply: DC 15V 2.5A

* For temperature and relative humidity data display a THS-05 sensor is required

## AnaClock: Analog Slave Clocks

**Subsidiary clocks of GPS Clocknet with RF synchronizing**

### Structure

- Clock
- two step motors
- Controlling PCB, integrated microcontroller
- Infrared Sensor (opto sensor) mechanics
- Power source: 2pcs AA alkaline batteries

868MHz RF communicator
868MHz antenna
Dimensions [mm]: 300mm and 400mm
Power supply: 2 x 1.5V AA batteries
Longevity: Appr. 3 years (average consumption)

# GPS Clock RF
# Analog Subsidiary Clocks

Wireless connection for unlimited number of slave clocks with simple mounting

AnaClock 30-RF
analog RF slave clock

AnaClock 40-RF
Analog RF slave clock

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# RSC-R4-RFM Radio/485 Converter Module


## RSC-R4-RFM
## radio/485 Converter Module

### Converter Features

- Flexibly adjustable parameters
- Compact size
- Power supply: 12-24V DC adapter plug
- 1 RS485 port - RJ45
- Dimensions: 12.598 cm x 6.779 cm x 2.451 cm (4.960 „x 2.669" x 0.965 „)
- Power consumption: max. 500mA
- Standard device with built-in antenna (external antenna optional)
- BaudRate: 2400-38400
- Communication status LED
- Range 100-300m depending on terrain

**Radio Features**

- Optional SMA antenna connector in casing + on demand external antenna
- Short-wave (860MHz) radio mounted RS485 line extension
- RS-485 standard cable length may be increased
- long wiring can be avoided
- Serial data transfer wirelessly
- Portable equipment for measurement, control, data acquisition systems
- Impact-resistant ABS housing
- Protection IP40 Indoor version, SMA antenna
- Outdoor version IP 65, HELIX antenna
- 12V DC 0.5 A DC via power connector or via RS485.
- Line polarization and termination
- radio modules controlled by software

## CDP GPS-15 Control Clock

Reception of time synchronizing signals via GPS, when sensoring at least two-dimensional position.
The device operates a red flashing LED, as long as it does not find signals. Once synchronized with the GPS network, the LED changes green. From this point, the device sends exact time data signals through the network.
RJ 45 socket, RS-485 protocol 12V DC socket

# Master Clock
# RS485 GPS Control Clock

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