TIMENET

NTP master reference clock for CCTV & DVR applications

Features and Benefits

- Accurate universal atomic clock reference
- Supports all NTP compatible devices
- Ideal for CCTV and DVR applications
- Far lower cost than competing products
- Ideal for closed or secure networks
- Direct network interface for remote siting
- Simple setup – one IP address
- Automatic GPS lock and time sync
- Extremely compact design
- Indoor location (antenna on a window)
- Wall mounting
- Integral watchdog for long-term reliable operation
- Robust, self contained unit
- Wide operating temperature range
- Very low power use

CCTV and digital video recorder (DVR) installations require accurate reference time signals for synchronisation of system clocks to ensure that They are always set at the precisely correct time. It is crucial that all recordings are accurately time-stamped, especially for evidential purposes. Many DVR products, especially those which are PC-based, have inaccurate internal clocks which drift by many seconds per week. Considering that DVR systems may be left unattended for months on end, it is easy to see that the time settings can end up being in error by many minutes.

The traditional solution to providing an accurate reference time has been to use an atomic clock radio receivers or GPS sensors linked to an expensive rack-mounted master clock server, typically with serial-only output. Network output versions tend to be even more expensive. For this reason, master reference clocks are normally only used in very high-end installations such as city centres, airports and prisons.

TIMENET integrates the GPS receiver and master NTP clock server into a single device which can be directly connected to the network. TIMENET is extremely compact, can be wall-mounted, uses very little power and is less than half the cost of competing solutions.

TIMENET installation and setup
The time server unit is very simple to install and set up. The GPS antenna (pictured below) is included with the TIMENET product. The antenna itself is provided with a self-adhesive surface which can be affixed to any window which has a view of some sky (to pick up the GPS satellite transmissions). The TIMENET unit can be positioned anywhere within the 3m reach of the antenna lead, and may be conveniently wall-mounted with the integral brackets supplied.

TIMENET is then connected to the network through its RJ45 connector directly to the CCTV/DVR network using a standard CAT5 cable (up to 100m long). The TIMENET setup program is run on any Windows PC, and the only parameter to set is the desired IP address of the TIMENET device. This completes the time server installation.

Any DVR or other NTP-compatible network devices can now be programmed to get their NTP time signals from the IP address of the TIMENET server.

About GPS
GPS is a global satellite system used primarily for position location, using very accurate atomic clock references. GPS signals are far less prone to interference than traditional national radio clock signals. Thus TIMENET is a universal solution which can be used anywhere in the world.

About Time Zones
UTC is effectively a GMT reference time and TIMENET provides this via NTP as a universal reference. It is the task of the network client (i.e. DVR or other client device) to look after the local time zone setting for the country or zone location, including any local or national variations to daylight savings time or equivalent

About UTC Time
Universal co-ordinated time is an official world-wide atomic clock standard for time, agreed by national standards around the world. UTC time copes with variations in the earth's rotation by the introduction of leap-seconds at pre-defined intervals. GPS time references incorporate this automatically. Therefore TIMENET will continuously provide an accurate UTC clock reference automatically.

About NTP
NTP stands for Network Time Protocol and is a universal standard for time synchronisation of computers or other devices on a network. TIMENET is NTP-compatible and acts as a time server for any NTP-enabled client.

Technical Specifications

Time Source: GPS Satellite
Protocol: NTP Stratum 1 Time Server
Accuracy: Ethernet NTP ± 50ms overall
GPS source ±0.1µs

Antenna: GPS sensor on 3m cable (supplied)
Connectivity: 10/100BaseT Ethernet, RJ45
Status indicators: Green LED - long pulse : OK;
short pulse : no lock
Amber LED – network activity

Power: 12V DC External Power Supply (included)
Power Consumption: 0.7W
Dimensions: W : 67mm x D : 92mm x H : 33mm
(W : 86mm with wall mounting brackets)
Operating Temperature: -15C to 75C (5F to 125F)
Relative Humidity: 95% non-condensing
Approvals: CE, FCC, RoHS

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