

*OnTime*TM Digital Clock

Power over Ethernet



Engineering Reference

Additional Information, CAD files available at www.inovadisplays.com

Product Description

The Inova *OnTime™* Digital Clock uses Power over Ethernet (PoE) technology to power a real-time synchronized system of clocks. *OnTime™* requires no AC power connection, using standard 10/100 Ethernet connection of the customer's existing PoE-capable Local Area Network (LAN).

OnTime™ typically takes its time from the National Institute of Standards and Technology (NIST) time server. It can be configured to point to a different time server or to the time server on the LAN.

The *OnTime™* Clock's features include:

- No AC power switch – plug in to a standard Ethernet jack
- Time Zone management
- 24-Hour Time option
- Power over Ethernet – uses the same network components as IP Phones
- DHCP or Static IP addressing
- Telnet configuration
- Service Light status indicator
- Non-multiplexing; suitable for “on camera” use
- UL 1950/ETL listed/ CE Marked
- Fully compliant with IEEE 802.3af

Specifications

The *OnTime™* Digital Clock is available in these models:

Note: The 4 in the model name indicates a 4-digit time display (hh:mm); a 6 in the model name indicates a 6-digit time display (hh:mm:ss).

Model	Description
ONT4SS; ONT6SS	Brushed Stainless Steel cabinet, available for single-side or double-side mount.
ONT4BK; ONT6BK	Powder Coat Aluminum cabinet, available for single-side or double-side mount. Color: BLACK
ONT4PT; ONT6PT	Powder Coat Aluminum cabinet, available for single-side or double-side mount. Color: PUTTY
ONT4OW; ONT6OW	Powder Coat Aluminum cabinet, available for single-side or double-side mount. Color: OFF-WHITE
ONT4FI; ONT6FI	Flush Inset <i>OnTime™</i> Clock Backplate for mounting in customer-supplied cabinet.
ONTKIT	Mounting kit for Cantilever and Pendant mounting.

Note: Molded ABS plastic cabinet enclosures will be available 1Q2005.

Operating Temperature

The *OnTime™* Clock is designed to operate at 32 to 104 degrees Fahrenheit (0 to 40 degrees Celsius).

Dimensions

The 4-digit *OnTime™* Clock measures 12” long x 6” high by 2.2” deep (30 cm x 15 cm x 5.6 cm).

The 6-digit *OnTime™* Clock measures 17.5” long x 6” high by 2.2” deep (44.5 cm x 15 cm x 5.6 cm).

Viewing Distance

The 4" numerals are visible over 150' (> 50 m).

Mounting Options

Surface, Pendant, Cantilever, and Flush Inset (for customer-supplied cabinet) are available.

Communication, Ethernet Standard

IEEE 802.3af Power over Ethernet
10/100 BaseT operation, including Netboot
CAT 5 cabling – maximum 100 meter segment length

Software Control: Telnet

- Telnet control for:
 - IP configuration
 - SNTP server address
 - Time Zone offset from UTC, DST
 - 12-hour or 24-hour time format
 - Status reporting
- Uploadable firmware
- Telnet scripting

Time Synchronization: SNTP

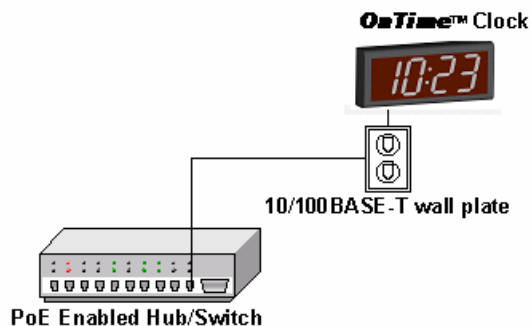
Accuracy: +/- approximately 200 millisecond

Wiring Configuration

The diagrams below illustrate three possible configuration options.

PoE-Enabled Hub/Switch

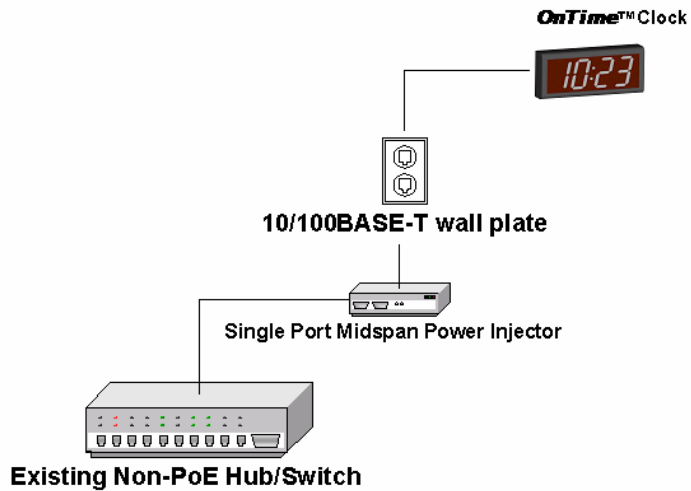
In the simplest example, the network is already PoE-enabled, common for installations supporting PoE devices such as IP phones. Simply mount the *OnTime™* Digital Clock and connect it to a PoE-capable wall jack.



Non-PoE Enabled Hub/Switch and Single *OnTime™* Clock

If the network is not currently PoE-enabled and is going to support a single *OnTime™* Digital Clock, a Single Port Midspan Power Injector may be added to the 10/100 BaseT Ethernet LAN.

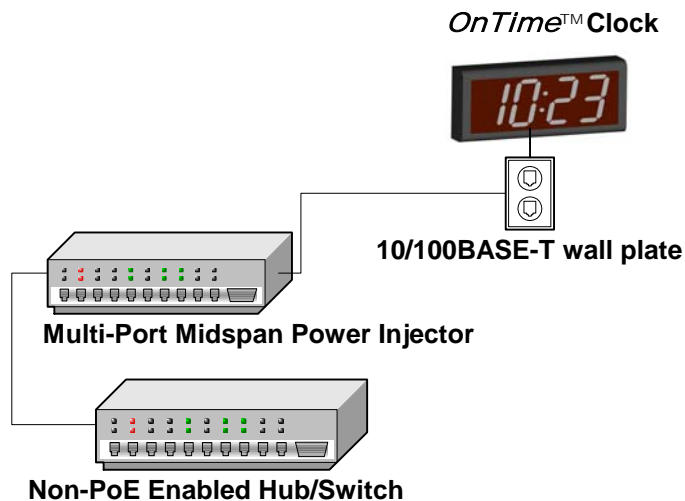
Note: The power injector must be fully compatible with IEEE 802.3af.



Non-PoE-Enabled Hub/Switch and Multiple *OnTime™* Clocks

For networks that are not PoE-enabled, a Multi-Port Midspan Power Injector is typically connected directly to the existing Hub or Switch.

Note: The power injector must be fully compatible with IEEE 802.3af.

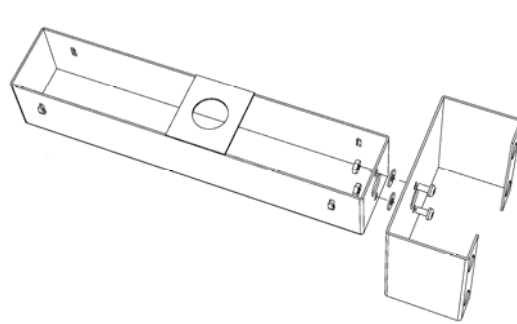


Installation Options

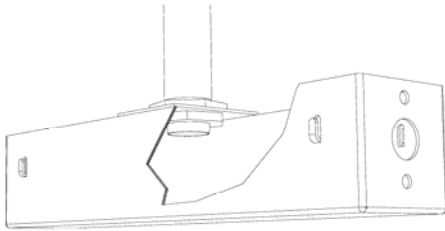
The *OnTime™* Clock is shipped fully assembled in a single package. It may be installed:

- Surface mounted, as against a wall.
- Cantilever mounted, projecting from a wall, single or double sided
- Pendant mounted from the ceiling

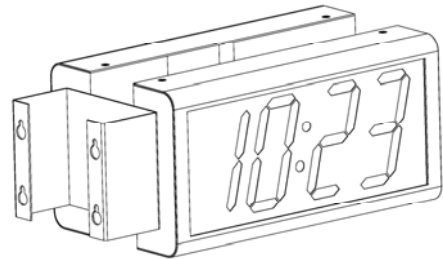
A separate mounting kit, **Model ONTKIT** is available for cantilever or pendant mounting.



Mounting Kit



Pendant Mount



Cantilever Mount

System Adds and Changes

Adding another Clock

Because each *OnTime™* unit is independent, new clocks may be added without limitation.

Maintenance

The *OnTime™* Digital Clock requires little or no maintenance.

With the exception of periodic inspection and cleaning of the clock faces with a soft clean cloth, no routine maintenance of the system is required. A service light illuminates on the upper left corner of the clock if it loses connection to the time synchronization server. The service light blinks to indicate a telnet session in progress.

Warranty

PRODUCT WARRANTY

Inova Corporation (DBA Inova Display Systems) warrants the *OnTime™* Digital Clock to be free from defects in material and workmanship during a one-year period. The Warranty begins on the date the unit is shipped from Inova.

Inova's liability under this Warranty is limited to repairing or replacing, at Inova's option, the defective equipment and providing upgrade version changes for firmware. In cases of repair, the product must be returned to an authorized Inova Service Center.

This Warranty does not apply if repairs are required due to acts of nature beyond Inova's control (such as, but not limited to, lightning strikes and power surges), misuse, damage, neglect, or if repairs/modifications have been made or attempted by anyone other than personnel authorized by Inova.

IN NO EVENT WILL INOVA CORPORATION BE LIABLE FOR ANY INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES FROM THE SALE OR USE OF THIS PRODUCT. THIS DISCLAIMER APPLIES BOTH DURING AND AFTER THE TERM OF THE WARRANTY. INOVA CORPORATION DISCLAIMS LIABILITY FOR ANY IMPLIED WARRANTIES, INCLUDING IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A SPECIFIC PURPOSE.

REPAIR AND RETURN

To obtain service under the Warranty, obtain a Return Material Authorization (RMA) number and shipping instructions from Inova Corporation. Clocks must be shipped to the repair center, transportation prepaid, for inspection and repair. Inova will not be responsible for dismounting and remounting of *OnTime™* Digital Clocks, for unauthorized returns or for returns that do not list the RMA number and quantity returned on a packing list attached in plain view on the outside of the shipping container. Typical equipment repair or replacement time is seven (7) business days, plus shipping times. One-way shipping is the Customer's responsibility. Inova will return ship the equipment by the same means it was received.

Certifications

The *OnTime™* Digital Clock meets all requirements for the following certifications:

- UL ANSI/UL 60950-1
- CAN/CSA C22.2 No. 60950-1
- CE Mark CB Scheme Report/Certificate per IEC 60950-1