CC186U AND CC186U/2

USB SYSTEM CLOCK

ATS APPLIED TECHNICAL SYSTEMS

CC186U OR CC186U/2 USB SYSTEM CLOCK

DESCRIPTION

The CC186U is a single sided system clock with six, 1.8 inch high digits. The CC186U/2 is a double sided clock with six, 1.8 inch high digits per side. Each model is for displaying time or elapsed time in hours, minutes, and seconds (HH:MM:SS). The time can be set by a computer or controller using either a USB or RS232 serial port. This manual covers both the single sided and double sided versions, and will refer to either simply as a CC186U. The 1.8 inch high digits are visible up to 50 feet away.

SPECIFICATIONS

Operating voltage: 12 VAC or 12 VDC, 3 VA maximum. A power jack is provided on the side panel for connecting power. A 120/12 VAC power module (P/N: 0900-7015) with mating connector is included.

USB   USB Input: Receives a 10-byte message via a USB port from a host device. A USB connector is provided on the side panel for connecting the incoming USB signal. A signal cable (P/N: 9110-1201) with mating connectors is provided.

RS232 Input: Receives a 10-byte message via a Two-Wire, RS232 signal from the host device. A phone jack is provided on the side panel for connecting the incoming RS232 signal. A signal cable (P/N: 9110-1116) with mating plug and DB9 female connector is provided.

Enclosure: Black, anodized aluminum enclosure with removable rubber feet. Optional mounting brackets for bottom, top, and side mount applications are also available. Dimensions: 12"W x 3.5"H x 3.5"D.

Display: Six, 1.8 inch high, bright red LED, digits display hours, minutes and seconds. Discrete LED colons are provided. Visible up to 50 feet away.

INSTALLATION

<u>MOUNTING</u>: The CC186U has rubber feet so that it sets flat on a desk or tabletop. Optional mounting brackets may be provided for top, bottom, and side mounting applications.
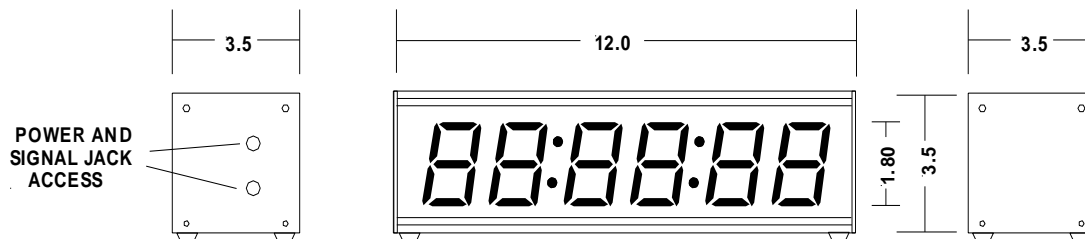
For optional bottom mount applications, remove the bottom screws one side at a time and add the optional angle brackets (P/N: 1210-0102) to the bottom of the display as shown.

For optional top mount applications, remove the top screws one side at a time and add the optional angle brackets (P/N: 1210-0102) to the top of the display as shown.
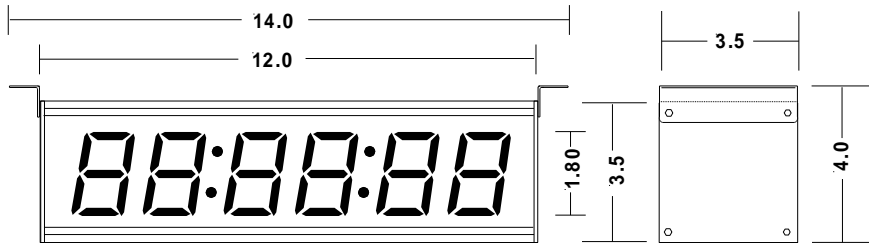
For optional side mount applications, carefully remove the screws from the connector side and add the optional side mounting plate (P/N: 1220-0303-2) to the side of the display as shown. Do not remove the side panel. A clearance hole will be required in the wall or mounting surface for the power and signal connectors.
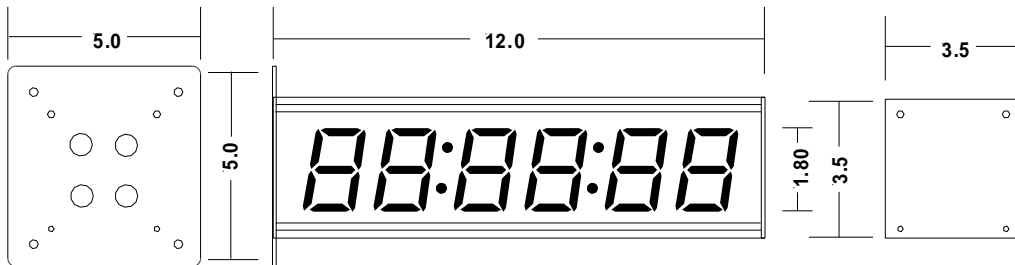
SIGNAL WIRING:

A USB cable is provided for the USB connection. The small end connects to the USB jack located on the side panel. The other end of the cable has a larger connector for connection to the host device.

An RS232 cable with a phone plug and DB9 female connector is provided for the RS232 connection. The phone plug end connects to the Signal jack located on the side panel. The other end of the cable has a DB9 female connector for connection to the host device.

POWER WIRING:

A power module is provided for powering the CC186U. Plug the power connector from the power module into the 12VAC Power jack on the side panel. The other end of the power module can be plugged into a standard 120 VAC power outlet.

**Power Module and
RS232 Cable**

**USB Cable and
ATS Serial Drivers CD
(Available on ats-usa.com)**

Power and Signal Jacks

*BE SURE ALL SYSTEM WIRING IS COMPLETE
BEFORE APPLYING POWER TO THE CC186U.*

OPERATION

Apply power to the CC186U by plugging the power module into the 120 VAC power outlet. The digits will then show "--:--:--". The display is now ready to receive USB or RS232 data (10-byte message) from the host device.

If you are using the USB interface, you will have to load the USB driver for the CC186U. Down load with instructions from our website ats-usa.com.

If you are using the RS232 port, its settings will usually be included with the operating program being used.

10-Byte Message Detail

Computer programs are available for sending time and control data to the CC186U. (Order ATS Software CD: P/N: 9800-1010). To create your own control programs follow the 10-byte message requirements listed as follows.

The first byte, byte 0, is the preamble. It establishes communications with the CC186U. The second byte, byte 1, is the address byte, address 0 or 15. Byte 2 is the mode byte. Up to 256 modes are possible providing complete control of all the 7 segment characters and functions of the CC186U. Bytes 3 through 8 are associated with the six, 7-segment displays of the CC186U. Byte 9 is the miscellaneous digit, which provides attributes such as colons, flash, etc.

BYTE 0:   START CHARACTER - An 11H is required to establish communications.

BYTE 1:   ADDRESS BYTE - Address 0 or 15 is required to communicate to the CC186.

BYTE 2:   MODE BYTE -   Range is from 0 to 255. This byte provides complete control of all AE Series devices with the RS232 option installed. The modes are:

MODE O - ASCII character mode. The AE device will display the AE ASCII characters sent in bytes 3 through 8. See the AE ASCII character set at the back of this manual.

MODE 3 - 12 Hour Time/timer mode. Bytes 3 through 8 are set as the time, and time keeping begins.

MODE 4 - 24 Hour Time/timer mode. Bytes 3 through 8 are set as the time, and time keeping begins.

MODE 6 - Displays the software version installed in the AE device.

MODES 1 and 7 are reserved

MODES 8 - 255 are for future use.

BYTES 3 - 8: SIX CHARACTER BYTES – CC186 displays have 6 digits. The six characters received are for displaying on these six digits. These characters will depend on the mode byte, byte 2, that precedes them. They provide the characters for messages, the digits for setting time, and 7-segment graphic characters.

BYTE 9:   MISCELLANEOUS DIGIT BYTE - This byte provides colons, AM/PM indicators, and other attributes such as display flashing.

BIT 1 - Turns on the colons. Colons are automatically turned on in the time/timer mode, i.e. byte 2 = 3.

BIT 7 – Turns on "flash display" feature.

Optional AE21 Desktop Controller

The AE21 Desktop Controller has built-in routines for controlling ATS Serial Displays.   Time of Day, Elapsed Time, and Data can be sent to the CC186 via the data cable provided with the AE21 Controller. See the AE21 User's Manual for more details.

TECHNICAL SUPPORT

For questions concerning installation and operation of this product, contact our factory at:

PHONE (800) 444-7161
or
FAX (318) 797-4864

SERVICE POLICY

It is recommended that all service for this product be done by the factory or by a factory authorized service representative. Applied Technical Systems will provide ongoing service support in and out of warranty. Return Autorization is required. Call for an RMA. Then send your repair to:

APPLIED TECHNICAL SYSTEMS
849 KING PLACE
SHREVEPORT, LA 71115

APPLIED TECHNICAL SYSTEMS
WARRANTY POLICY

ATS warrants its products to be free of defects in material and workmanship for a period of 24 months from the date of purchase. ATS will repair or replace any product returned to its authorized factory service center within the warranty period so long as there is no evidence that the product has been abused, misused, damaged by lightning, overloads of any kind or water, or altered in any way.

Products returned for warranty must be returned with freight prepaid. ATS will pay normal freight charges to return the product to the customer. Special premium freight requested by the customer will be charged to the customer.

ATS disclaims any warranties expressed or implied, including merchantability and/or fitness for a particular purpose. In no event shall ATS be held liable for incidental or consequential damages.