WARRANTY/DISCLAIMER

OMEGA ENGINEERING, INC. warrants this unit to be free of defects in materials and workmanship for a period of **13 months** from date of purchase. OMEGA Warranty adds an additional one (1) month grace period to the normal **one (1) year product warranty** to cover handling and shipping time. This ensures that OMEGA's customers receive maximum coverage on each product.

If the unit should malfunction, it must be returned to the factory for evaluation. OMEGA's Customer Service Department will issue an Authorized Return (AR) number immediately upon phone or written request. Upon examination by OMEGA, if the unit is found to be defective it will be repaired or replaced at no charge. OMEGA'S WARRANTY does not apply to defects resulting from any action of the purchaser, including but not limited to mishandling, improper interfacing, operation outside of design limits, improper repair, or unauthorized modification. This WARRANTY is VOID if the unit shows evidence of having been tampered with or shows evidence of being damaged as a result of excessive corrosion; or current, heat, moisture or vibration; improper specification; misapplication; misuse or other operating conditions outside of OMEGA's control. Components which wear are not warranted, including but not limited to contact points, fuses, and triacs.

OMEGA is pleased to offer suggestions on the use of its various products. However, OMEGA neither assumes responsibility for any omissions or errors nor assumes liability for any damages that result from the use if its products in accordance with information provided by OMEGA, either verbal or written. OMEGA warrants only that the parts manufactured by it will be as specified and free of defects. OMEGA MAKES NO OTHER WARRANTIES OR REPRESENTATIONS OF ANY KIND WHATSOEVER, EXPRESSED OR IMPLIED, EXCEPT THAT OF TITLE, AND ALL IMPLIED WARRANTIES INCLUDING ANY WARRANTY OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE HEREBY DISCLAIMED. LIMITATION OF LIABILITY: The remedies of purchaser set forth herein are exclusive and the total liability of OMEGA with respect to this order, whether based on contract, warranty, negligence, indemnification, strict liability or otherwise, shall not exceed the purchase price of the component upon which liability is based. In no event shall OMEGA be liable for consequential, incidental or special damages.

CONDITIONS: Equipment sold by OMEGA is not intended to be used, nor shall it be used: (1) as a "Basic Component" under 10 CFR 21 (NRC), used in or with any nuclear installation or activity; or (2) in medical applications or used on humans. Should any Product(s) be used in or with any nuclear installation or activity, medical application, used on humans, or misused in any way, OMEGA assumes no responsibility as set forth in our basic WARRANTY / DISCLAIMER language, and additionally, purchaser will indemnify OMEGA and hold OMEGA harmless from any liability or damage whatsoever arising out of the use of the Product(s) in such a manner.

RETURN REQUESTS / INQUIRIES

Direct all warranty and repair requests/inquiries to the OMEGA Customer Service Department. BEFORE RETURNING ANY PRODUCT(S) TO OMEGA, PURCHASER MUST OBTAIN AN AUTHORIZED RETURN (AR) NUMBER FROM OMEGA'S CUSTOMER SERVICE DEPARTMENT (IN ORDER TO AVOID PROCESSING DELAYS). The assigned AR number should then be marked on the outside of the return package and on any correspondence.

FOR **WARRANTY** RETURNS, please have the following information available BEFORE contacting OMEGA:

1. P.O. number under which the product was PURCHASED,
2. Model and serial number of the product under warranty, and
3. Repair instructions and/or specific problems relative to the product.

FOR **NON-WARRANTY** REPAIRS, consult OMEGA for current repair charges. Have the following information available BEFORE contacting OMEGA:

1. P.O. number to cover the COST of the repair/calibration,
2. Model and serial number of product, and
3. Repair instructions and/or specific problems relative to the product.

OMEGA's policy is to make running changes, not model changes, whenever an improvement is possible. This affords our customers the latest in technology and engineering.

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PATENT NOTICE: Covered by U.S. and International Patents.

MQS2309-0405

5

Connecting ac Power

1. Plug in the connector on the ac adaptor to the ac power jack on the side of the recorder as shown in Figure 8.

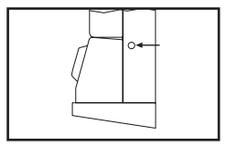

Figure 8. ac Power Jack Location Detail

2. Connect the ac adaptor to a 110Vac or 220Vac outlet as appropriate. The ac adaptor has a 6 foot (2 meter) cable.

Recorder Placement

As shipped, the recorder is set up for wall mounting (there is a decorative cover at the bottom of the recorder which remains in place for wall mounting - it comes off for bench top use).

Mount the Recorder on the Wall

1. Use the template provided in the wall mounting kit to locate the mounting holes.
2. Drill the holes.
3. Place anchors and screws in the holes.
4. Hang the recorder using the keyhole slot mounting holes provided on the back side of the recorder. Refer to Figure 9.

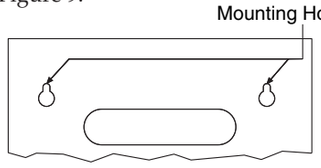

Figure 9. Mounting Holes on the Rear of the Recorder

Setting the Recorder on a Bench Top

Remove the decorative foot cover (refer to Figure 10), and swing out the stabilizing arm to further steady the recorder (refer to Figure 11).

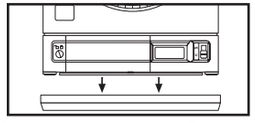

Figure 10. Foot Cover Removal

6

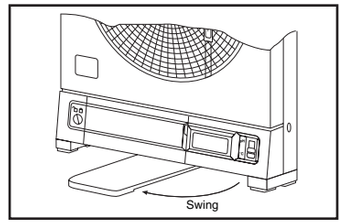

Figure 11. Stabilizing Arm Use

Powering Up the Unit

1. Remove the sensor from the clip (but leave the sensor connected to the recorder). Examine the code on the handle (you will compare this code with that displayed on the recorder LCD display).
2. Turn the power switch (marked "PWR" – behind the Control Panel Door) to the ON ("|") position. The recorder beeps once and then the LCD displays:

Figure 12. First LCD Display

Figure 13. Temperature Code on Display

This two-character code, made up of numbers and/or letters 0, 1, ... 9, a, b, and c (your code will be AC).

Figure 14. pH Code on Display

This single-character code, a number or a letter 0, 1, ... 9, a, b, or c (your code will be 6). If either of these codes do not match, consult the manual for more information. If you want to see the codes again, turn the recorder OFF and then ON again.

After the codes appear, the LCD displays the current temperature in °C and pH depending on the position of the pH/°C switch. At the same time the pens, one at a time, move to the right a short distance and then move to the left to the zero position. Then both pens one at a time move to the correct positions. The recorder is now fully operational.

It is the policy of OMEGA to comply with all worldwide safety and EMC/EMI regulations that apply. OMEGA is constantly pursuing certification of its products to the European New Approach Directives. OMEGA will add the CE mark to every appropriate device upon certification.
The information contained in this document is believed to be correct but OMEGA Engineering, Inc. accepts no liability for any errors it contains, and reserves the right to alter specifications without notice.
WARNING: These products are not designed for use in, and should not be used for, patient connected applications.

⚠ This device is marked with the international hazard symbol. It is important to read the Setup Guide before installing or commissioning this device as it contains important information relating to safety and EMC.

QUICK START

CTpH-110V-G-AL
CTpH-220V-G-AL
High Performance Microprocessor-Based pH and Temperature Recorder

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START HERE

Using this Quick Start Manual

Use this Quick Start Manual with your CTpH Recorder to set it up and perform basic operations. These tasks are:

- Installing the batteries, chart paper, pens, and sensor
- Mounting the recorder
- Applying power

For detailed information, refer to the Operator's Manual (Manual Number M2309).

Parts of the CTpH

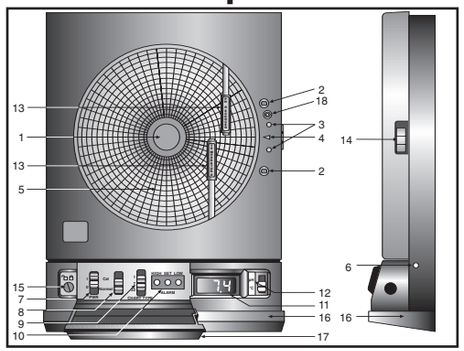

Figure 1. CTpH

Item	Description
1	Chart Paper Knob (magnetic)
2	Light Bulbs
3	Pen Cap Posts
4	Time Set Arrow
5	Chart Paper (double sided)
6	ac Power Jack
7	Power Switch
8	Cal/Normal Mode Switch
9	1/7/32 Day Mode Switch
10	Alarm Display Buttons
11	LCD Display
12	Display Selection Switch
13	Pen Arm and Holder (2 each)
14	Latch Button
15	Control Panel Door Lock
16	Decorative Foot Cover
17	Control Panel Door
18	Light Bulb Push Button

2

Installing the Batteries

1. Place the recorder on a soft surface front face down.
2. Insert the 4 "D" size batteries in the battery compartment as shown in Figure 2.

   Batteries provide power if the ac adaptor is not used. Otherwise, they provide power backup in case of ac power failure. (NOTE: the chart light bulbs function only when the ac adaptor is used).

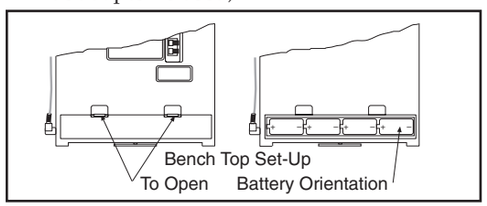

Figure 2. Battery Placement

Installing the Chart Paper

There are 20 charts of 3 different styles - 1 day/°C, 7 day/°C, and 32 day/°C. Choose the appropriate chart paper and switch setting (1, 7 or 32 depending on paper used) for your application. Turn the recorder over (so that it is front face up) and open the main door. Install the paper as shown in Figure 3. Remove the chart paper knob (item #2), line up the current time line on the chart paper with the arrow on the chart base and then replace the knob to hold the chart paper in place.

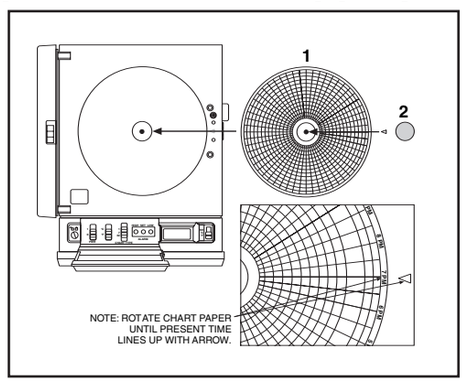

Figure 3. Chart Paper Installation

3

Installing the Pens

1. Turn the recorder over (so it is front face up) and open the main door.
2. Remove the pen caps and place on the posts near the light bulbs. Install the pens as shown in Figure 4. The green pen goes in the pH pen arm and the red pen goes in the temperature pen arm.

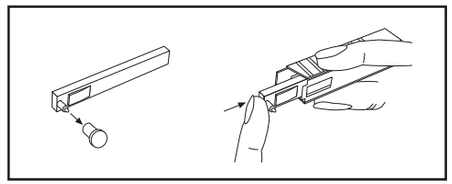

Figure 4. How to Install the Pens

Installing the Sensor

1. Place the handle part of the sensor into the sensor clip on the side of the recorder.
2. Install the connector into the sensor socket. Make sure the sensor cable is untwisted. Refer to Figure 5.
3. To use the sensor in a remote location, connect the 6 ft. remote sensor cable as shown in Figure 5

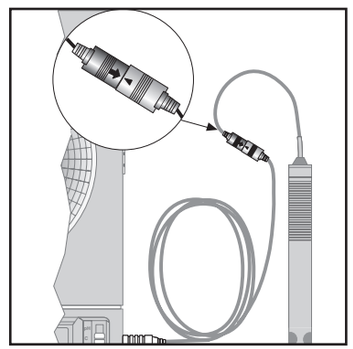

Figure 5

4

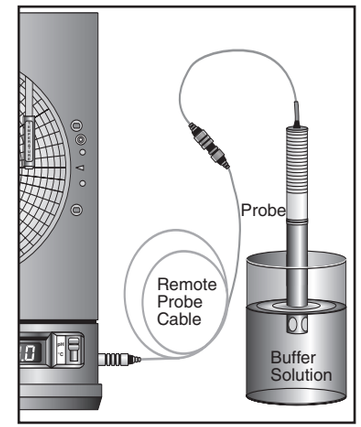

Figure 6. Using the 6 ft Remote Probe Cable

Calibrating pH Readings

1. Turn unit on and place probe in 7.00 buffer solution.
2. Turn Cal. switch on Cal, Open door and adjust Cal pot till display reads 7.00 on pH.
3. Place probe in 4.00 buffer and display should read 4.00, if not adjust Slope pot.
4. Then close door and put Cal. switch on Normal.

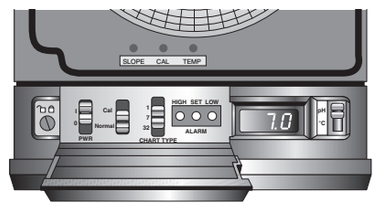

Figure 7. Calibration Adjustment Location