



# HAMMARLUND

**Hammarlund Manufacturing Company**

*A Giannini Scientific Co.*

53 West 23rd Street, New York 10, N. Y.

Export Department: 13 East 40th Street, New York 16, N. Y.

## Instructions for Installation of Electric Clock Timer Kits

**PART #26380-G2 115V 60 CYCLE**  
**PART #26380-G3 115V/230V 50 CYCLE**  
**PART #26380-G4 115V/230V 60 CYCLE**

### NOTE:

Please notice that Part #26380-G3 and 26380-G4 are identical except for frequency. It is therefore necessary to use a 60 cycle clock when 60 cycle power (AC mains) is available. Where 50 cycle power is available a 50 cycle kit must be employed. All 115/230 volt kits employ a 115 volt clock plus a dropping resistor. Part #26380-G2 is identical to 26380-G4 except that it does not include the dropping resistor referenced above. This kit Part #26380-G2 is the most popular since it is normally used domestically.

**CAUTION:** The same clock movement may not be used on 50 and 60 cycle. A 50 cycle clock will run fast when used on 60 cycle and a 60 cycle clock will run slow on 50 cycles.

# Instructions for Installation of Electric Clock Timer Kits

**PART #26380-G2 115V 60 CYCLE**  
**PART #26380-G3 115V/230V 50 CYCLE**  
**PART #26380-G4 115V/230V 60 CYCLE**

**FOR HAMMARLUND COMMUNICATIONS RECEIVER  
 TYPES HQ-100, HQ-100A, HQ-110, HQ-110A,  
 HQ-170, HQ-170A, HQ-145X & HQ-180**

The above receivers have been designed so that the basic models which do not incorporate the clock-timer can be modified to include modification Kits as listed above and on the front cover of this booklet.

Use diagram numbers 1, 2, 3, and 4 for 115V 50 or 60 cycle installations, and diagram numbers 5, 6, 7, and 8 for 115V/230V 50 or 60 cycle installations.

This work can be done by relatively inexperienced personnel and requires only light repair tools and a small soldering iron. The modification in effect converts the receiver to a clock model identical to factory production.

Please read these step-by-step instructions carefully and follow them in detail. In making solder connections, use a light, clean soldering iron and radio-grade rosin core solder only. DO NOT use fluxes of any kind in making solder connections. Do not overheat connections to avoid deteriorating associated insulating materials.

## **- STEP 1 -**

Make certain that the power cord plug is removed from the power outlet. Disconnect all wires from the terminals at the rear of the chassis. Carefully turn the receiver up on its face on top of a clean towel placed over a smooth working surface. This will prevent marring of the front panel, knobs, etc. Employing a proper size socket wrench, remove the screws at the cabinet rear which fasten the cabinet to the chassis.

For Models HQ-180, HR-170, HQ-170A and HQ-145X loosen cabinet release screw at top of cabinet, if so equipped, using Phillips head screw driver.

Lift the cabinet off from the receiver assembly passing the power cord through the opening at the rear of the cabinet. Tip the receiver back on the chassis so that the front panel is vertical.

Using a small Phillips-type screw driver, remove the four screws and sheet metal fastening nuts which hold the plastic window and medallion plate to the front panel. Please note that there are three long screws and one short screw in receivers HQ-100, HQ-100A and HQ-110, HQ-110A only.

The short screw must be used in the lower right corner hole and the sheet metal nut must be placed between the two sheet metal plates of the clock as shown in the accompanying instruction diagrams 1, 2, 5, and 6 (See Detail A).

First place the plastic clock window in the panel opening, making certain that the deeper dimension of the window is at the bottom of the opening. Hold the upper left side of the main tuning dial with the fingers of the right hand and carefully spring the dial away from the panel sufficiently to permit the front panel control shaft of the clock to be passed through the appropriate panel hole below the window, and the clock front plate assembly to be positioned directly behind the front panel. Engage the short screw through the front panel and into the sheet metal nut in the lower right corner of the clock. Engage the remaining three fastening screws and place the sheet metal nuts behind the rear of the clock plates. Carefully tighten all four screws. This should adequately clamp the plastic clock window and secure the clock mechanism to the front panel. When making soldered connections, be careful to prevent the hot soldering iron from contacting the plastic dial scale.

## WIRING INFORMATION

**NOTE:** Cut length of wires to suit the particular model. Allow a small amount of slack in each wire.

### - STEP 2 -

#### HQ100, HQ-100A

Unsolder the black-white wire from the left bottom terminal of the operations switch (shown dotted in the diagram) and connect and solder this wire together with the black-white wire of the clock assembly to the clock switch terminal (marked 3 in diagram 1 and 5).

Connect and solder the red-black lead of the clock assembly to the operations switch terminal from which the black-white wire was removed. Pass the long yellow-black wire of the clock assembly down through the rubber chassis grommet to the underside of the chassis and around the end of the chassis with the other wires adjoining it, cut it and strip it to the proper length. Connect and solder this wire to the terminal of the A.C. power line terminal strip that has the red-black wire from the power transformer connected to it as shown in the diagram. The new yellow-black wire should be dressed and tied down with the other wires under the chassis to avoid contact with the square wire-wound resistor unit and to avoid interference with the antenna capacitor drive cable and its stop pin.

#### HQ110, HQ-110A

Unsolder the red-black plastic wire from the line terminal strip and pass it up through the grommet. Connect and solder this wire to the clock switch terminal "\*" shown on diagrams 2 and 6.

Connect and solder the yellow-black lead of the clock assembly to the terminal of the A.C. power line terminal strip that has the black wire from the power transformer connected to it as shown in the diagram. The wires should be dressed and tied down with the other wires under the chassis to avoid contact with the Square wire-wound resistor unit and to avoid interference with the antenna capacitor drive cable and its stop pin.

The black-white wire of the clock assembly should be connected to the opposite line terminal to which the yellow-black lead was connected.

#### HQ-180, HQ-170, HQ-170A & HQ-145X

Insert the three (3) wires on the clock assembly through the hole in the chassis and solder them to the appropriate terminals on the nearest terminal

strip as shown in diagrams 3 and 7 for HQ-170, HQ-170A and HQ-180, and diagrams 4 and 8 for HQ-145X. Make sure that the jumper wire shown dotted in the diagram is removed.

### - STEP 3 -

For HQ-100, HQ-100A and HQ-110, HQ-110A cut shaft extension enclosed with saw at first groove ( $5\frac{3}{8}$  from threaded end) before attaching as noted in next paragraph.

Screw the threaded end of the shaft extension provided onto the small threaded end of the rear shaft of the clock. This shaft extension must be securely tightened by clamping the small clock shaft with vise-grip or gas pipe pliers to prevent its turning loose with the shaft extension gripped in another pair of vise-grip or gas pipe pliers. Avoid bending the shaft during this tightening operation.

After completing all of the above operations and making certain that all connections are properly completed and that no foreign matter has been left in the receiver, carefully turn the receiver chassis up on its face per previous instructions. Pass the power cord through the opening at the rear of the cabinet and carefully set the cabinet down in place on top of the chassis, locating the clock shaft extension through the hole in the rear of the cabinet. Engage the front edges of the cabinet in the slot provided at the rear of the front panel and replace the rear screws which secure the receiver to the cabinet. With a small blade-type screwdriver secure the small knob on the rear adjustment shaft of the clock.

Push the small clock switch knob (supplied with the kit) into the clock switch control shaft which is located directly under the clock window.

## OPERATING INSTRUCTIONS

Every radio-frequency device is stable only at a predetermined operating temperature. Setting the clock timer to automatically turn the receiver on approximately one half hour before anticipated operation will avoid waiting for the receiver to reach operating temperature.

The front panel control under the clock is set to AUTO and the receivers operation switch set to REC, RF gain control turned on; when it is desired to use the automatic clock switch for pre-warming the receiver before operation, or for use as an alarm to turn the receiver on to a pre-tuned station. If the receiver function switch is in the SEND position the receiver will be turned on automatically but will be in the standby position.

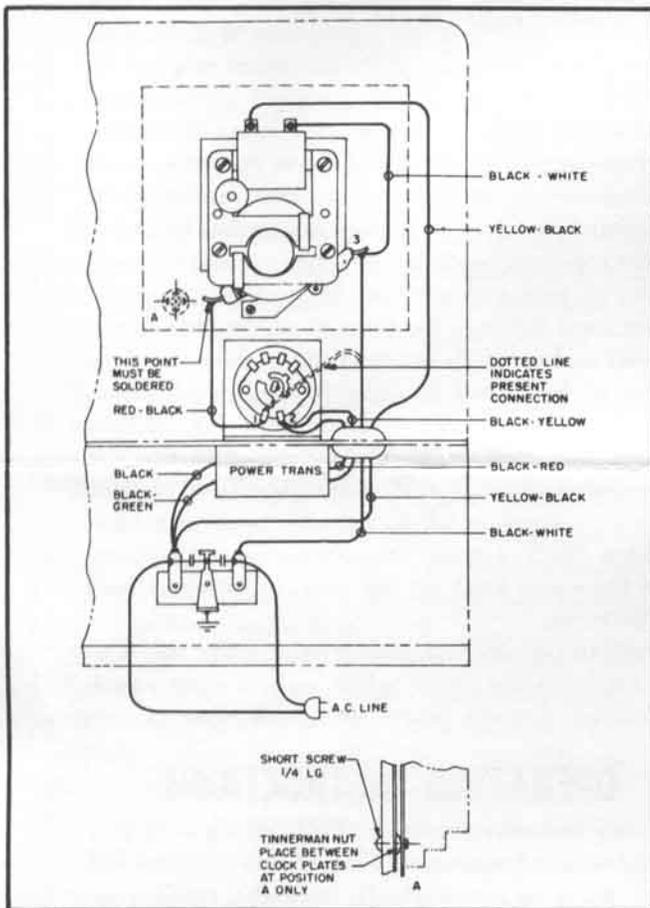
The clock hands are set by the rear control shaft.

“Push in” and turn to set the automatic switch timing hand, and “Pull out” and turn to set the clock hands. Because of the space limitation some difficulty may be encountered in setting the switch timing hand to the precise moment you may wish the receiver to turn on. The hour and half hour are marked, and it should be possible to interpolate to within 15 minute intervals. After you have determined by trial the exact time at which the automatic switch does turn “on”, minor corrections can be made.

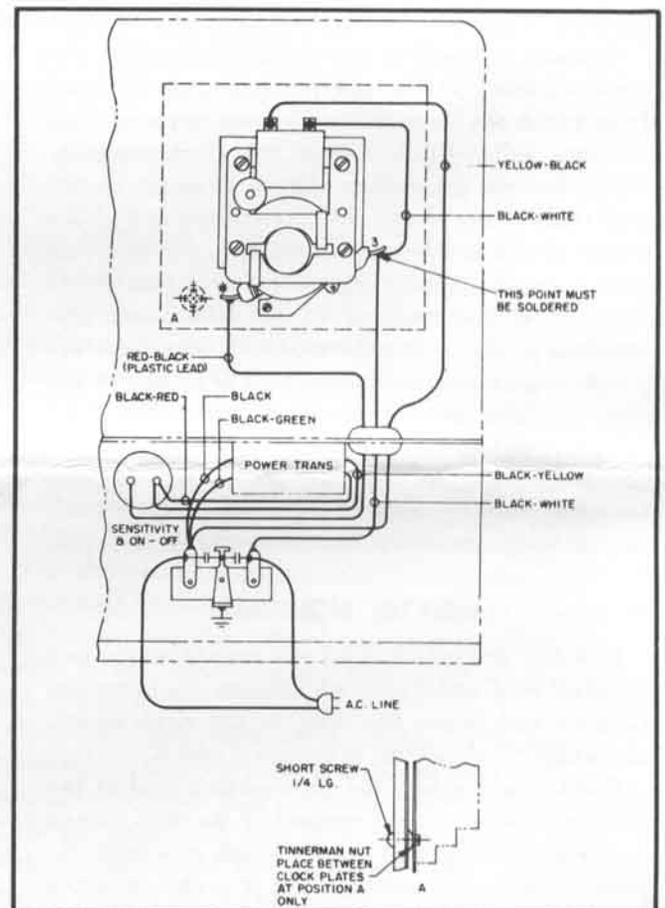
The receiver will continue to operate once the

automatic timer switch has been activated. To re-set the automatic timer in order to again turn the receiver on the following day it will be necessary to momentarily throw the clock control knob to the ON position and then return it to AUTO. For normal receiver operation the clock switch should be left in the ON position.

The clock will continue to run as long as the receiver line cord is connected to the power outlet. The 24 hour clock will be found extremely useful for checking sign-in periods and schedules, and keeping your log by the GMT standard.



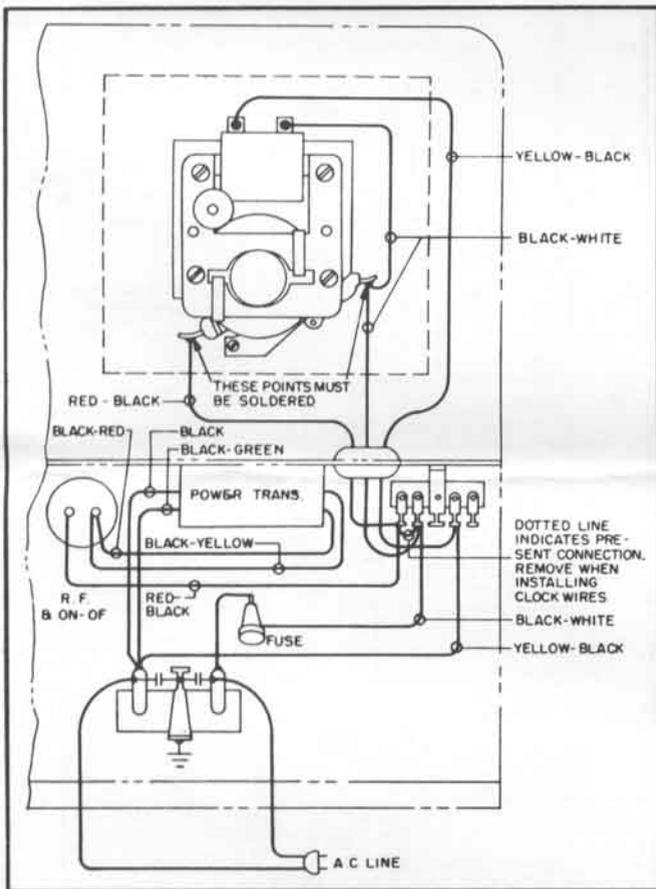
**HQ-100, HQ-100A**  
**Diagram 1**



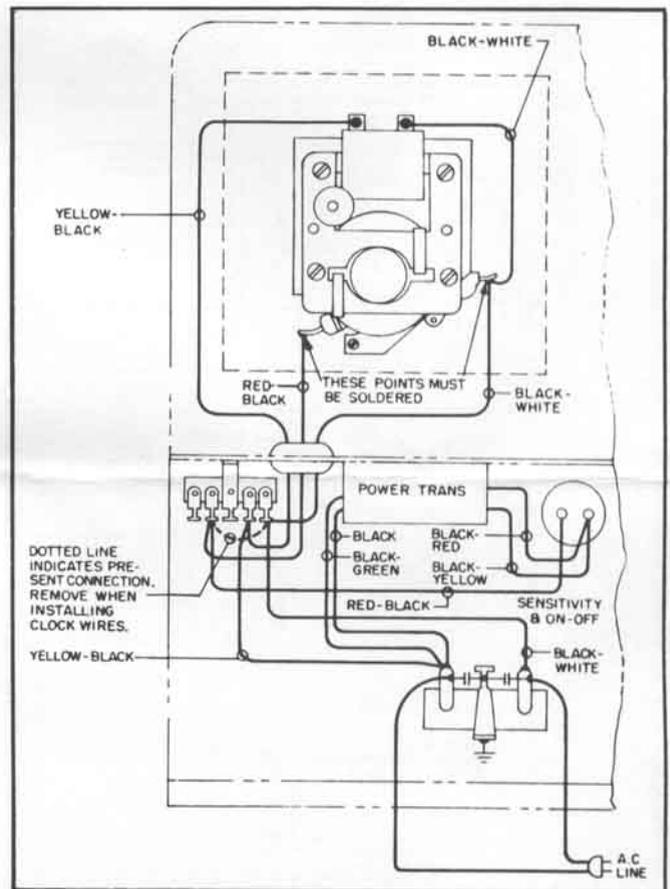
**HQ-110, HQ-110A**  
**Diagram 2**

**USE FOR 115V 50 OR 60 CYCLE INSTALLATIONS**

(REFER TO NOTE ON COVER FOR PROPER USE)



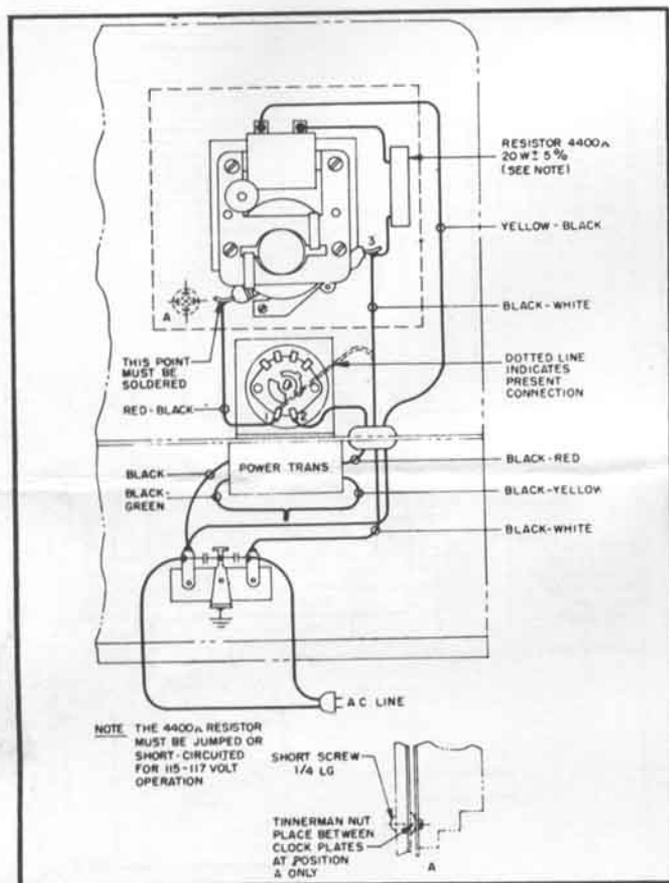
**HQ-170, HQ-170A & HQ-180**  
**Diagram 3**



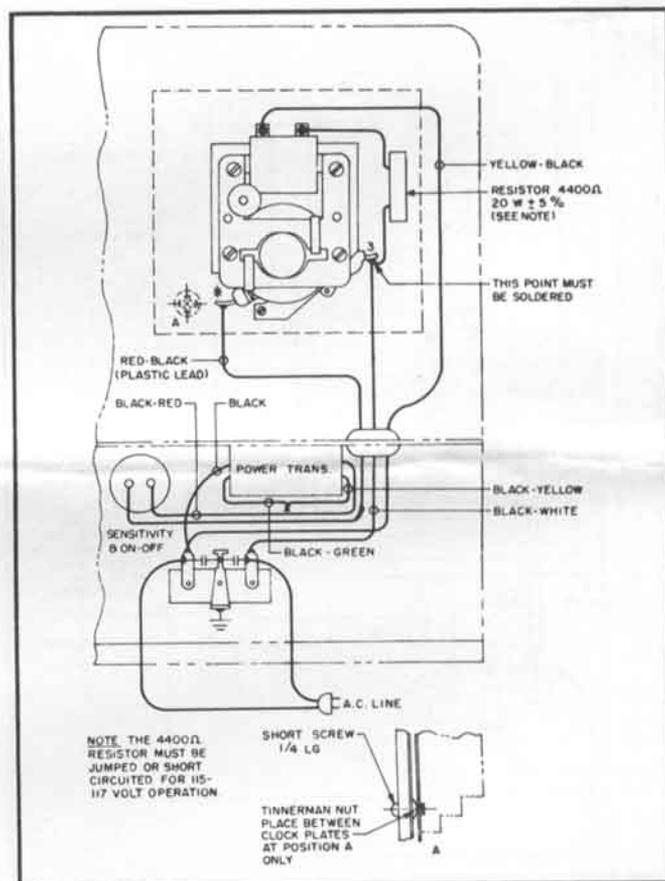
**HQ-145X**  
**Diagram 4**

**USE FOR 115V 50 OR 60 CYCLE INSTALLATIONS**

(REFER TO NOTE ON COVER FOR PROPER USE)



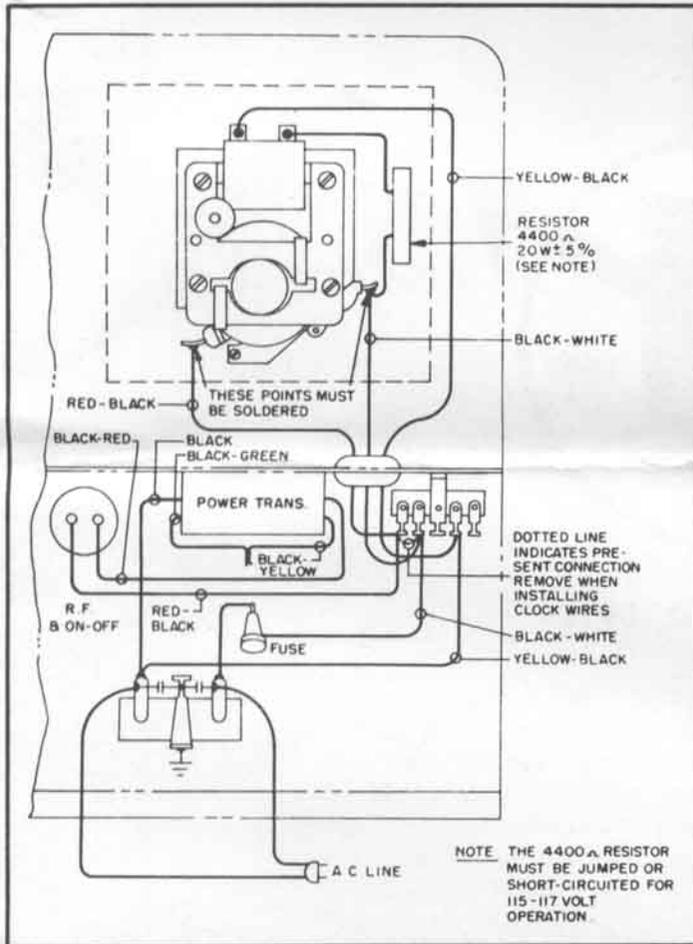
**HQ-100, HQ-100A**  
**Diagram 5**



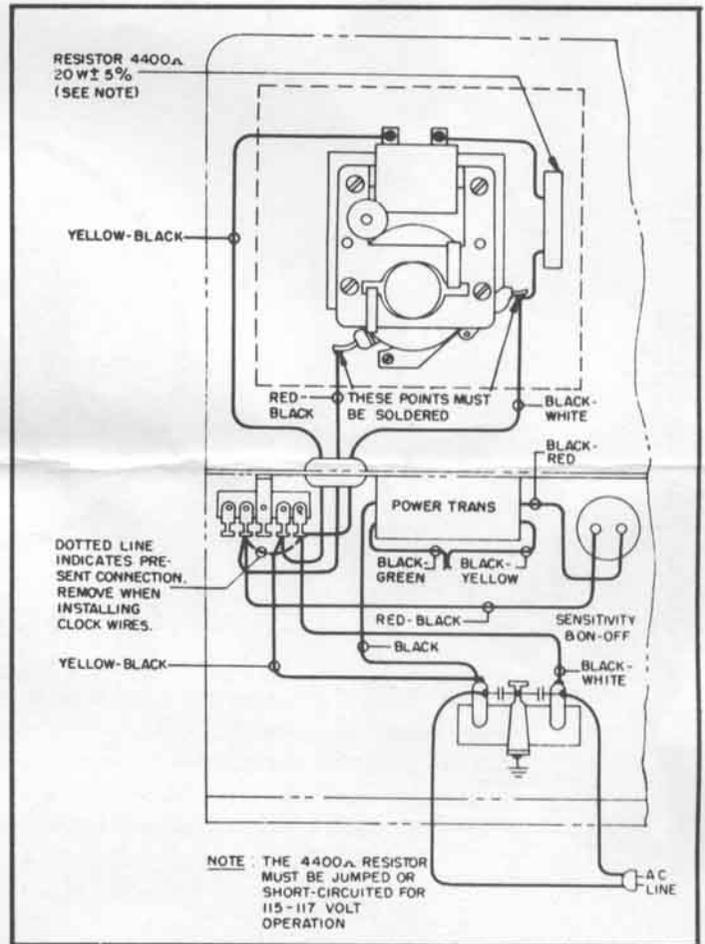
**HQ-110, HQ-110A**  
**Diagram 6**

**USE FOR 115V/230V 50 OR 60 CYCLE INSTALLATIONS**

(REFER TO NOTE ON COVER FOR PROPER USE)



**HQ-170, HQ-170A & HQ-180**  
**Diagram 7**



**HQ-145X**  
**Diagram 8**

**USE FOR 115V/230V 50 OR 60 CYCLE INSTALLATIONS**

(REFER TO NOTE ON COVER FOR PROPER USE)