



File in ABS, 2SAM Manual(s).

**SERVICE BULLETIN**

Supersedes: Nothing

198

Form 155.17-M2 (SB5)

File with Form: 155.17-M2

Subject: Microcomputer Control Center (Paraflow Absorption) -  
Eprom Version A.01F.10

On/about December 1997 the Paraflow Absorption Units will be shipped with Eprom version A.01F.10 (P/N 031-01669-002). This Eprom has the following enhancements that revise Service Manual 155.17-M2 as follows:

**CHINESE LANGUAGE DISPLAY**

**GENERAL**

With this Eprom version, the Control Center can be equipped with an optional Chinese Language Display, either as a field retrofit or Factory supplied option on new units. It is mounted on the Control Center door, above the standard Display. Both Displays will be present, displaying messages in English and Chinese simultaneously. The Chinese language Display consists of a 240 x 64 graphics LCD display (p/n 031-01653-000) mounted on a printed circuit board (p/n 031-01616-000). Either Simplified or Traditional Chinese characters can be displayed. Refer to Figure 1 for interface wiring.

In operation, the Micro Board sends English Language data to the Chinese Display printed circuit board, where it is simultaneously routed to the English Display and translated into Chinese. The Chinese Display printed circuit board contains two eproms (in location U13 & U14) that translate the English data into either Simplified or Traditional Chinese, depending on the eproms installed. Eproms p/n 031-01768-001 (U13) and 031-01768-002 (U14) translate to Simplified characters; 031-01768-003 (U13) and 031-01768-004 (U14) translate to Traditional characters.

When the Control Center is equipped with the Chinese Language Display, it is also equipped with a Keypad that contains both English and Chinese (Simplified or Traditional) labeling. Keypad p/n 024-27808-000 labeling is in English and Simplified Chinese characters. Keypad p/n 024-27807-000 labeling is in English and Traditional Chinese characters.

Due to the additional power requirements, an additional Transformer (2T), p/n 025-27911-000, is required to power the Chinese language Display.

Chinese Display operation must be enabled by performing the special programming procedure below.

### **PROGRAM JUMPERS**

Program Jumpers, located on the Chinese Display printed circuit board must be configured as follows:

<u>JUMPER</u>	<u>POSITION</u>	<u>FUNCTION</u>
PT0		Not used
PT1		Not used
PT2		Not used
PT3		Not used
PT4	On	Normal operation
	Off	Display test mode (see below)
PT5		Not used
PT6		Not used
PT7		Not used
DS1	Pins 1 & 2	Contrast - VL Electronics LCD display
	Pins 2 & 3	Contrast - Optrex LCD display

### **CHINESE DISPLAY ENABLE**

Since this Eprom version is also used on units that are not equipped with the Chinese Language display, the Program must be configured accordingly. If the Chinese Language Display is present, "Chinese Display Selected" must be programmed below. Otherwise, "Chinese Display Not Selected" must be programmed.

**IMPORTANT!! - If the Chinese Display is not present and "Chinese Display Selected" is programmed, the English Language Display will not operate properly.**

- 1.) Enter PROGRAM mode using ACCESS CODE 1 3 8 0.
- 2.) Press hidden, unembossed and unlabeled keypad key located directly below the CLOCK Setpoint key. "Chinese Display Not Selected" or "Chinese Display Selected" is displayed.
- 3.) Use ADVANCE DAY/SCROLL key to select appropriate entry. Each time the key is pressed, the display alternates.
- 4.) Press ENTER key. "Program Mode Select Setpoint" is displayed.
- 5.) Press PROGRAM key to exit.

## TESTING

The following testing procedures can be used to verify operation of the Chinese Language Display:

### SIMPLIFIED CHINESE CHARACTERS

- 1.) Remove Program Jumper PT4 from Chinese Display printed circuit board.
- 2.) Press CHILLED LIQUID TEMPS key.
- 3.) Verify Entering and Leaving Chilled Water Temperatures are displayed on both the English and Chinese Displays and that English letters "SIMP" are displayed in the upper right corner of the Chinese Display.
- 4.) Replace Program jumper PT4, removed in step 1.

### TRADITIONAL CHINESE CHARACTERS

- 1.) Remove Program Jumper PT4 from Chinese Display printed circuit board.
- 2.) Press CHILLED LIQUID TEMPS key.
- 3.) Verify Entering and Leaving Chilled Water Temperatures are displayed on both the English and Chinese Displays and that English letters "TRAD" are displayed in the upper right corner of the Chinese Display.
- 4.) Replace Program Jumper PT4, removed in step 1.

### CHINESE LCD DISPLAY

- 1.) Remove Program Jumper PT4 from Chinese Display printed circuit board.
- 2.) Press HOLIDAY key. Verify all pixels of Chinese Display illuminate and the English Display shows normal Holiday display.
- 3.) Press DAILY SCHEDULE key. Verify YORK logo appears on the Chinese Display and normal Daily Schedule data appears on English Display.
- 4.) Replace Program Jumper PT4, removed in step 1.

## SERVICE REPLACEMENT

The LCD Display supplied under YORK part number 031-01653-000 could be from either of two manufacturers: "Optrex DMF5005NY-LY" or "VL Electronics MGLS-24064-TC-HV-G-LED4G". These Displays require different contrast bias voltages. The position of Program Jumper DS1 and adjustment of Potentiometer R7 on the Chinese display printed circuit board determines the bias voltage. If service replacement of the LCD Display is required, DS1 must be positioned and R7 must be adjusted to achieve the required bias voltage (read at TP-C) as follows:

<u>DISPLAY</u>	<u>DS1</u>	<u>TP-C</u>
VL Electronics	Pins 1 & 2	-9.5 vdc
Optrex	Pins 2 & 3	-7.8 vdc

## **INPUTS/OUTPUTS & TEST POINTS**

- J1 - English data input to Chinese Display printed circuit board.
- J2 - English data output to Vacuum Florescent (English) Display.
- J3 - Chinese data to Chinese Display.
- J4-1 - +8 vdc backlight power to Chinese Display.
- J4-2 - Gnd.
- J5-1 - 24 vac power supply input to Chinese Display printed circuit board.
- J5-2 - 24 vac return.
- J5-3 - Gnd.
- TP-A - +5 vdc.
- TP-B - Gnd.
- TP-C - Contrast voltage output to Chinese Display. -9 vdc with DS-1 on pins 1 & 2. -7.8 vdc with DS-1 on pins 2 & 3. Adjusted with Potentiometer R7.

## **RETROFIT KIT**

The Chinese Language Display can be retrofit to existing Paraflow Absorption Chillers equipped with the Microcomputer Control Center. Retrofit Kits p/n 371-02401-002 (Simplified Chinese) and 371-02401-003 (Traditional Chinese) can be ordered from the YORK Service Parts Distribution Center. Each Kit consists of a complete Microcomputer Control Center door with the following items mounted to the door:

- 1.) English/Simplified Chinese Keypad (024-27808-000) or English/Traditional Chinese Keypad (024-27807-000) according to kit ordered.
- 2.) Rocker switch
- 3.) Door lock
- 4.) All ribbon cables that interface to components on door.
- 5.) All door decals.
- 6.) Standard Vacuum Florescent Display (English language)
- 7.) Chinese language LCD Display (031-01653-000) mounted on a printed circuit board (031-01616-000) that is equipped with either Simplified Chinese translation eproms 031-01768-001 (U13) and 031-01768-002 (U14) or Traditional Chinese translation Eproms 031-01768-003 (U13) and 031-01768-004 (U14), according to Kit ordered.
- 8.) 115vac/24vac supply transformer (025-27911-000) for Chinese LCD Display.
- 9.) Installation instructions.

## **SYSTEM COMMISSIONING CHECKLIST**

Add the following to the "System Commissioning Checklist" section in Service Manual 155.17-M2:

- "Configure Control Center for either English language or Chinese language Display. Refer to Special Setpoints and Programming Procedures section."

### **REMOTE LOAD LIMIT**

In previous eprom versions, when LESLIE Steam Valve application was selected, the Steam Valve operation would become unstable when the valve position reached the Remote Load Limit value. When the Load Limit position was reached, the valve would then be driven closed by approximately 15% and then open until the Load Limit position was again reached. This oscillation would continue as long as the unit was running and the load was sufficient drive the valve to the Remote Load Limit value.

This oscillatory operation has been eliminated in this eprom version.



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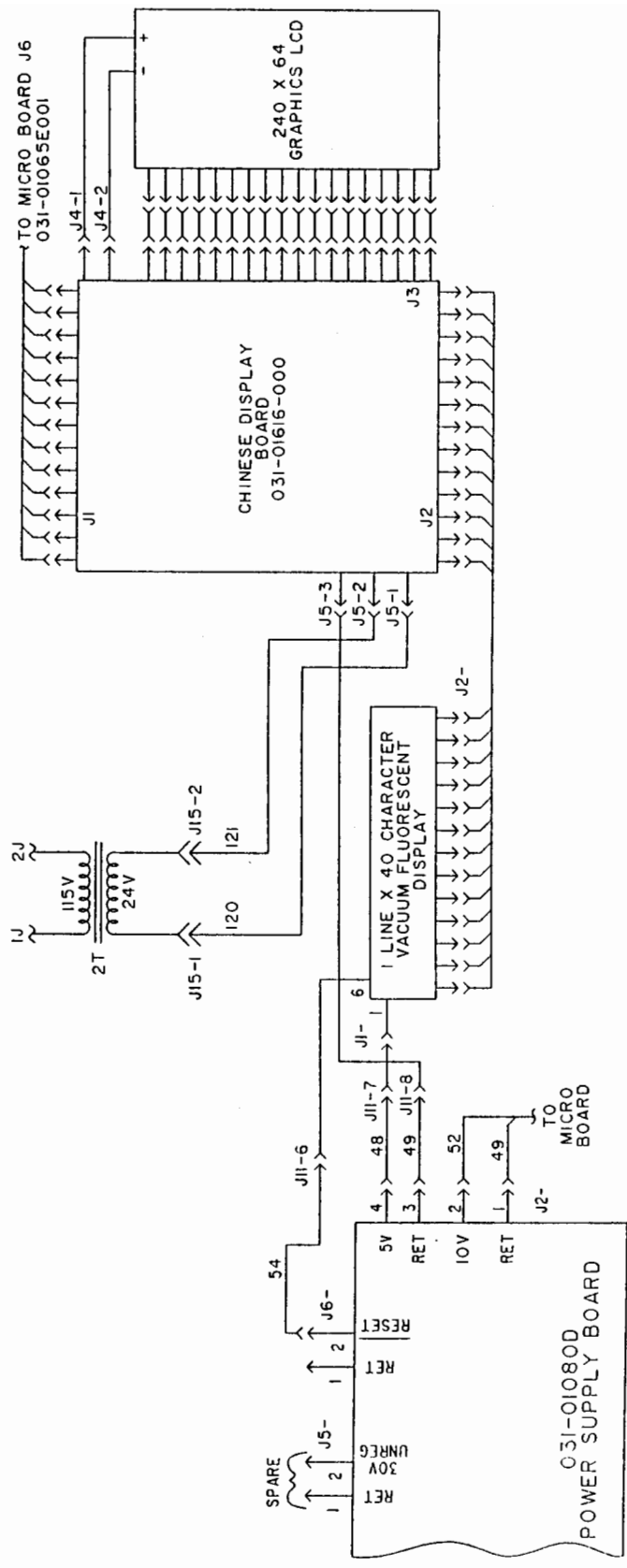


FIG. 1 - CHINESE LANGUAGE DISPLAY WIRING



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