



**400 / 400-2 / 600 / 600-2 / 700 /
700-2 / 700-3 SERIES, MODEL
648PRO, ICB648PRO and
UC SERIES
CONDENSED
ELECTRONIC CONTROL
INFORMATION BOOKLET**

NOTE: *If more detailed information on the electronic controls is needed, the appropriate Service Manual must be referenced.*

TABLE OF CONTENTS

PAGE

	PAGE
400 Series (Wine)	5
Basic Input Operations	5
<i>Power ON/OFF - Adjust Set-Points - Lighting ON/OFF - Temp Alarm ON/OFF</i>	
Unique Input Operations	5
<i>Temp Units Selection Mode - Sabbath Mode - Showroom Mode</i>	
Error Indicators	6
Troubleshooting Input Operations	7
<i>Diagnostic Mode - Valve Activation Mode - Temp. Log Recall Mode (Event Indicators)</i>	
400 Series (Model 427R Ref)	12
Basic Input Operations	12
<i>Power ON/OFF - Adjust Set-Points - Drawer Ajar Alarm ON/OFF</i>	
Unique Input Operations	12
<i>Temp Units Selection Mode - Sabbath Mode - Showroom Mode</i>	
Error Indicators	13
Troubleshooting Input Operations	14
<i>Diagnostic Mode</i>	
400-2 Series (Wine)	16
Basic Input Operations	16
<i>Power ON/OFF - Adjust Set-Points - Lighting ON/OFF - Temp Alarm ON/OFF</i>	
Unique Input Operations	16
<i>Temp Units Selection Mode - Sabbath Mode - Showroom Mode</i>	
Error Indicators	17
Troubleshooting Input Operations	18
<i>Diagnostic Mode (Error Code Table) - Valve Activation Mode - Temp. Log Recall Mode (Event Indicators)</i>	
400-2 Series (Model 427R-2 Ref)	25
Basic Input Operations	25
<i>Power ON/OFF - Adjust Set-Points - Drawer Ajar Alarm ON/OFF</i>	
Unique Input Operations	25
<i>Temp Units Selection Mode - Sabbath Mode - Showroom Mode</i>	
Error Indicators	26
Troubleshooting Input Operations	27
<i>Diagnostic Mode (Error Code Table) - Valve Activation Mode - Temp. Log Recall Mode (Event Indicators)</i>	
Service Input Operations	33
<i>Auto and Manual Entry Model Configuration Mode (Model Code Table)</i>	
600 Series (PTS #1810000)	36
Basic Input Operations	36
<i>Power ON/OFF - Adjust Set-Points - IM ON/OFF</i>	
Unique Input Operations	36
<i>Sabbath Mode - Showroom Mode - Manual Defrost</i>	
Error Indicators	37
Troubleshooting Input Operations	38
<i>Diagnostic Mode</i>	
600 Series (SWS #1810000)	41
Basic Input Operations	41
<i>Power ON/OFF - Adjust Set-Points - IM ON/OFF - Door Ajar Alarm ON/OFF</i>	
Unique Input Operations	42
<i>Temp Units Selection Mode - Sabbath Mode - Showroom Mode - Compartment Disable Mode - Manual Defrost</i>	
Error Indicators	43
Troubleshooting Input Operations	44
<i>Diagnostic Mode (Error Code Table) - Component Activation Mode - Compartment Temp. Log Recall Mode - Compartment/Evap. Temp. Log Recall (Event Indicators)</i>	

	PAGE
600-2 Series	52
Basic Input Operations	52
<i>Power ON/OFF - Adjust Set-Points - IM</i>	
<i>ON/OFF - Door Ajar Alarm ON/OFF</i>	
Unique Input Operations	53
<i>Temp Units Selection Mode - Sabbath</i>	
<i>Mode - Showroom Mode - Compartment</i>	
<i>Disable Mode - Manual Defrost</i>	
Error Indicators	54
Troubleshooting Input Operations	55
<i>Diagnostic Mode (Error Code Table) -</i>	
<i>Component Activation Mode -</i>	
<i>Compartment Temp. Log Recall Mode -</i>	
<i>Compartment/Evap. Temp. Log Recall</i>	
<i>(Event Indicators)</i>	
700 Series	63
Basic Input Operations	63
<i>Adjust Set-Points - Door Ajar Alarm</i>	
<i>ON/OFF</i>	
Error Indicators	64
700-2 Series (Tall)	66
Basic Input Operations	66
<i>Power ON/OFF - Adjust Set-Points - IM</i>	
<i>ON/OFF - Door Ajar Alarm ON/OFF</i>	
Unique Input Operations	67
<i>Temp Units Selection Mode - Sabbath</i>	
<i>Mode - Showroom Mode - Compartment</i>	
<i>Disable Mode - Manual Defrost</i>	
Error Indicators	68
Troubleshooting Input Operations	69
<i>Diagnostic Mode (Error Code Table) -</i>	
<i>Component Activation Mode -</i>	
<i>Compartment Temp. Log Recall Mode -</i>	
<i>Compartment/Evap. Temp. Log Recall</i>	
<i>(Event Indicators)</i>	

	PAGE
700-3 Series Tall Units	77
Basic Input Operations	77
<i>Power ON/OFF - Adjust Set-Points - IM</i>	
<i>ON/OFF - Door Ajar Alarm ON/OFF</i>	
Unique Input Operations	78
<i>Temp Units Selection Mode - Sabbath</i>	
<i>Mode - Showroom Mode - Compartment</i>	
<i>Disable Mode - Manual Defrost</i>	
Error Indicators	79
Troubleshooting Input Operations	80
<i>Diagnostic Mode (Error Code Table) -</i>	
<i>Component Activation Mode -</i>	
<i>Compartment Temp. Log Recall Mode -</i>	
<i>Compartment/Evap. Temp. Log Recall</i>	
<i>(Event Indicators)</i>	
700-2 Series (Base)	88
Basic Input Operations	88
<i>Power ON/OFF - Adjust Set-Points - IM</i>	
<i>ON/OFF - Door Ajar Alarm ON/OFF</i>	
Unique Input Operations	89
<i>Temp Units Selection Mode - Sabbath</i>	
<i>Mode - Showroom Mode - Manual Defrost</i>	
Error Indicators	90
Troubleshooting Input Operations	91
<i>Diagnostic Mode</i>	

	PAGE
700-3 Series Base Units	93
Basic Input Operations	93
<i>Power ON/OFF - Adjust Set-Points - IM</i>	
<i>ON/OFF - Door Ajar Alarm ON/OFF</i>	
Unique Input Operations	94
<i>Temp Units Selection Mode - Sabbath</i>	
<i>Mode - Showroom Mode - Compartment</i>	
<i>Disable Mode - Manual Defrost</i>	
Error Indicators	95
Troubleshooting Input Operations	96
<i>Diagnostic Mode (Error Code Table) -</i>	
<i>Component Activation Mode -</i>	
<i>Compartment Temp. Log Recall Mode -</i>	
<i>Compartment/Evap. Temp. Log Recall</i>	
<i>(Event Indicators)</i>	
Service Input Operations	103
<i>Auto and Manual Entry Model</i>	
<i>Configuration Mode (Model Code Table)</i>	
 Model 648PRO & ICB648PRO	 106
Basic Input Operations	106
<i>Power ON/OFF - Adjust Set-Points - IM</i>	
<i>ON/OFF - Door Ajar Alarm ON/OFF</i>	
Unique Input Operations	107
<i>Temp Units Selection Mode - Sabbath</i>	
<i>Mode - Showroom Mode - Compartment</i>	
<i>Disable Mode - Manual Defrost</i>	
Error Indicators	108
Service Mode (Error Codes)	109

	PAGE
Undercounter Series	113
Basic Input Operations	113
<i>Power ON/OFF - Adjust Set-Points</i>	
Unique Input Operations	114
<i>Temp Units Selection Mode - Sabbath</i>	
<i>Mode - Showroom Mode - Manual Defrost</i>	
Error Indicators	115
Troubleshooting Input Operations ...	116
<i>Diagnostic Mode (Error Code Table) -</i>	
<i>Component Activation Mode -</i>	
<i>Compartment Temp. Log Recall Mode -</i>	
<i>Compartment/Evap. Temp. Log Recall</i>	
<i>(Event Indicators)</i>	
Service Input Operations	123
<i>Auto and Manual Entry Model</i>	
<i>Configuration Mode (Model Code Table)</i>	

400 SERIES WINE STORAGE

Basic Input Operations

- » **Power ON/OFF**
 - Press UNIT ON/OFF key
- » **Adjusting Set-Point** (*Temperature Adjust*)
 - Press COLDER or WARMER keys of desired compartment

NOTE: *Actual compartment temp. is displayed 10 seconds after last keystroke.*
- » **Lighting System ON/OFF**
 - Press LIGHTS ON/OFF key
- » **Temperature Alarm ON/OFF**
 - Press Bell ON/OFF key

Unique Input Operations

- » **Temperature Units Selection Mode** (*°F or °C Display*)
 - Within first minute of power up, press Bell ON/OFF key & UNIT ON/OFF key simultaneously for 5 seconds
- » **Sabbath Mode** (*Disables lighting*)
 1. Switch unit OFF
 2. Press & hold UNIT ON/OFF key for 10 seconds

NOTE: *To exit Sabbath Mode, repeat steps above.*
- » **Showroom Mode** (*Disables all but lighting*)
 1. Switch unit OFF
 2. Press COLDER, WARMER & UNIT ON/OFF keys simultaneously

NOTE: *To exit Showroom Mode, repeat steps above.*

400 SERIES WINE STORAGE

Possible Error Indicators

NOTE: *Temperatures shown are for reference only, actual temperatures may vary.*

55 **SERVICE** (*Flashing*) **EE**
Upper compartment thermistor fault

BELL ON (*Flashing*)

55 **SERVICE** (*Flashing*) **EE**
Upper compartment thermistor fault with temperature alarm

EE **SERVICE** (*Flashing*) **55**
Lower compartment thermistor fault

BELL ON (*Flashing*)

EE **SERVICE** (*Flashing*) **55**
Lower compartment thermistor fault with temperature alarm

55 **SERVICE** (*Flashing*) **55**
Either evaporator thermistor fault

BELL ON (*Flashing*)

55 **SERVICE** (*Flashing*) **55**
Either evaporator thermistor fault with temperature alarm

NOTE: *Cooling functions are disabled when error indicators appear.*

400 SERIES WINE STORAGE

Troubleshooting Input Operations

» Diagnostic Mode

1. Unit must be ON
2. Press either COLDER key & the UNIT ON/OFF key simultaneously

NOTE: After performing the above key strokes, the following will appear on the display. Temperatures shown are for reference only, actual temperatures may vary.

50 **SERVICE** (Illuminated) **UE**
Temperature of UE (Upper Evaporator)

- Press COLDER key to toggle to next reading

47 **SERVICE** (Illuminated) **LE**
Temperature of LE (Lower Evaporator)

- Press COLDER key to toggle to next reading

55 **SERVICE** (Illuminated) **UP**
Temperature of UP (Upper Compartment)

- Press COLDER key to toggle to next reading

52 **SERVICE** (Illuminated) **LO**
Temperature of LO (Lower Compartment)

NOTE: Diagnostic Mode will end 10 seconds after last key stroke. To observe temperatures longer than 10 seconds, press and hold UNIT ON/OFF key while in Diagnostic Mode.

400 SERIES WINE STORAGE

» **Valve Activation Mode (opens valve for 5 min.)**

1. Unit must be ON
 2. Press and hold desired compartment COLDER key and the UNIT ON/OFF key for 30 seconds
- *If lower compartment COLDER key is chosen for above key strokes, the following will appear on the display. Temperatures shown are for reference only, actual temperatures may vary.*

51 **SERVICE** (Illuminated) **LE**
Temperature of LE (Lower Evaporator) displayed for 5 min.

- *If upper compartment COLDER key is chosen for above key strokes, the following will appear on the LED. Temperatures shown are for reference only, actual temperatures may vary.*

49 **SERVICE** (Illuminated) **UE**
Temperature of UE (Upper Evaporator) displayed for 5 min.

NOTE: Valve Activation Mode will end after 5 minutes. To exit before the full 5 minutes, press the UNIT ON/OFF key to switch the unit OFF, then again to switch it back ON.

400 SERIES WINE STORAGE

Possible Event Indicators During Temperature Log Recall

BELL ON (*Illuminated*)

66

2

BELL ON Illuminated indicates power failure/interruption.

68

SERVICE (*Illuminated*)

29

SERVICE illuminated indicates unit was switched off with UNIT ON/OFF key

--

--

Double Dashes (- -) displayed indicates electronic control board is bad. Control board must be replaced.

NOTE: *Temperature Log Recall Mode will end 10-15 seconds after last key stroke.*

400 SERIES, MODEL 427R REFRIGERATOR

Basic Input Operations

- » **Power ON/OFF**
 - Press UNIT ON/OFF key
- » **Adjusting Set-Point** (*Temperature Adjust*)
 - Press COLDER or WARMER key

NOTE: *Actual compartment temp. is displayed 10 seconds after last keystroke.*
- » **Drawer Ajar Alarm ON/OFF**
 - Press Alarm ON/OFF key

Unique Input Operations

- » **Temperature Units Selection Mode** (*°F or °C Display*)
 - Within first minute of power up, press Alarm ON/OFF key & UNIT ON/OFF key simultaneously
- » **Sabbath Mode** (*Disables lighting*)
 1. Switch unit OFF
 2. Press & hold UNIT ON/OFF key for 10 seconds

NOTE: *To exit Sabbath Mode, repeat steps above.*
- » **Showroom Mode** (*Disables all but lighting*)
 1. Switch unit OFF
 2. Press COLDER, WARMER & UNIT ON/OFF keys simultaneously

NOTE: *To exit Showroom Mode, repeat steps above.*

400 SERIES, MODEL 427R REFRIGERATOR

Possible Error Indicators

NOTE: *Temperature shown is for reference only, actual temperature may vary.*

TOP DRAWER (*Flashing*)

EE **LOWER DRAWER** (*Flashing*)
Refrigerator compartment thermistor fault

TOP DRAWER (*Flashing*)

40 **LOWER DRAWER** (*Flashing*)
Refrigerator evaporator thermistor fault.

ED

700BR & 700BF Communication Error between
Control Board & Control Panel

E3

700BR & 700BF Communication Error between
Control Board & Control Panel

400 SERIES, MODEL 427R REFRIGERATOR

Troubleshooting Input Operations

» Diagnostic Mode

1. Unit must be ON
2. Press COLDER & UNIT ON/OFF keys simultaneously, then release both keys

NOTE: After performing the above key strokes, the following will appear on the LCD. Temperatures shown are for reference only, actual temperatures may vary.

38

First reading is refrigerator compartment temperature.

r

Press UNIT ON/OFF key while in Diagnostic Mode to display location. (**r** = Refrigerator Compartment)

34

Press COLDER key. Second reading is evaporator Temp.

E

Press UNIT ON/OFF key while in Diagnostic Mode to display location. (**E** = Evaporator)

EE

If "EE" is displayed in place of temperature, thermistor is faulty.

NOTE: Diagnostic Mode ends 10 seconds after last key stroke.

400-2 SERIES WINE STORAGE

Basic Input Operations

- » **Power ON/OFF**
 - Press UNIT ON/OFF key
- » **Adjusting Set-Point** (*Temperature Adjust*)
 - Press COLDER or WARMER keys of desired compartment

NOTE: *Actual compartment temp. is displayed 10 seconds after last keystroke.*
- » **Lighting System ON/OFF**
 - Press LIGHTS ON/OFF key
- » **Temperature Alarm ON/OFF**
 - Press Bell ON/OFF key

Unique Input Operations

- » **Temperature Units Selection Mode** (*°F or °C Display*)
 - Within first minute of power up, press Bell ON/OFF key & UNIT ON/OFF key simultaneously for 5 seconds
- » **Sabbath Mode** (*Disables lighting*)
 1. Switch unit OFF
 2. Press & hold UNIT ON/OFF key for 10 seconds

NOTE: *To exit Sabbath Mode, press UNIT ON/OFF.*
- » **Showroom Mode** (*Disables all but lighting*)
 1. Switch unit OFF
 2. Press COLDER, WARMER & UNIT ON/OFF keys simultaneously

NOTE: *To exit Showroom Mode, repeat steps above.*

400-2 SERIES WINE STORAGE

Possible Error Indicators

NOTE: *Temperatures shown are for reference only, actual temperatures may vary.*

55	SERVICE (<i>Flashing</i>)	EE
	Upper compartment thermistor fault	
	BELL ON (<i>Flashing</i>)	
55	SERVICE (<i>Flashing</i>)	EE
	Upper compartment thermistor fault with temperature alarm	
EE	SERVICE (<i>Flashing</i>)	55
	Lower compartment thermistor fault	
	BELL ON (<i>Flashing</i>)	
EE	SERVICE (<i>Flashing</i>)	55
	Lower compartment thermistor fault with temperature alarm	
55	SERVICE (<i>Flashing</i>)	55
	Either evaporator thermistor fault	
	BELL ON (<i>Flashing</i>)	
55	SERVICE (<i>Flashing</i>)	55
	Either evaporator thermistor fault with temperature alarm	

NOTE: *Cooling functions are disabled when error indicators appear.*

400-2 SERIES WINE STORAGE

Troubleshooting Input Operations

» **Diagnostic Mode**

1. Unit must be ON
2. Press COLDER & UNIT ON/OFF keys simultaneously, then release both keys

NOTE: *After performing the above key strokes, the following will appear on the display. Temperatures shown are for reference only, actual temperatures may vary.*

50 **SERVICE (Illuminated)** **UE**
Temperature of Upper Evaporator

- Press COLDER key to toggle to next reading

47 **SERVICE (Illuminated)** **LE**
Temperature of Lower Evaporator

- Press COLDER key to toggle to next reading

55 **SERVICE (Illuminated)** **UP**
Temperature of Upper Compartment

- Press COLDER key to toggle to next reading

52 **SERVICE (Illuminated)** **LD**
Temperature of Lower Compartment

- Pressing the COLDER key at this time will take the display back to the first reading.

(CONTINUED)

400-2 SERIES WINE STORAGE

(CONTINUED)

NOTE: If “**EC**” (Error Code) is displayed, see Error Code Table on next page.

NOTE: If “**EE**” is displayed in place of temperature, thermistor in that location is faulty.

NOTE: *Diagnostic Mode will end 10 seconds after last key stroke.*

400-2 SERIES WINE STORAGE

ERROR CODE TABLE	
CODE	INDICATION
05	Upper Cabinet Thermistor read open / short for 10+ seconds, or repeatedly erratic temp's.
06	Upper Evap. Thermistor read open / short for 10+ seconds, or repeatedly erratic temp's.
07	Lower Cabinet Thermistor read open / short for 10+ seconds, or repeatedly erratic temp's.
08	Lower Evap. Thermistor read open / short for 10+ seconds, or repeatedly erratic temp's.
10	Upper Cabinet Warm Temperature alarm
11	Upper Cabinet Cold Temperature alarm
12	Lower Cabinet Warm Temperature alarm
13	Lower Cabinet Cold Temperature alarm
15	Sealed System Fault (evap temp. cannot drop 5° in 5 minutes, 3 consecutive valve activations)

NOTE: *To clear Error Codes, see next page.*

400-2 SERIES WINE STORAGE

» **Clearing Error Codes**

1. Unit must be ON and problem repaired
2. Press and hold Bell ON/OFF key for 15 seconds

» **Manual Valve Activation Mode**

(Energizes cooling system for 5 minutes)

1. Unit must be ON
2. Press desired COLDER & UNIT ON/OFF keys simultaneously for 10 seconds

NOTE: *After performing the above key strokes (depending on COLDER key chosen), the following will appear on the LCD. Temperatures shown are for reference only, actual temperatures may vary.*

5I **SERVICE (Illuminated)** **LE**
Temperature of Lower Evaporator

OR

5I **SERVICE (Illuminated)** **UE**
Temperature of Upper Evaporator

400-2 SERIES WINE STORAGE

Possible Event Indicators During Temperature Log Recall

BELL ON (*Illuminated*)

66

2

BELL ON Illuminated indicates power failure/interruption.

68

SERVICE (*Illuminated*)

29

SERVICE illuminated indicates unit was switched off with UNIT ON/OFF key

- -

- -

Double Dashes (- -) displayed indicates electronic control board is bad. Control board must be replaced.

NOTE: *Temperature Log Recall Mode will end 10-15 seconds after last key stroke.*

400-2 SERIES - 427R-2 REFRIGERATOR

Basic Input Operations

- » **Power ON/OFF**
 - Press UNIT ON/OFF key
- » **Adjusting Set-Point** (*Temperature Adjust*)
 - Press COLDER or WARMER key

NOTE: *Actual compartment temp. is displayed 10 seconds after last keystroke.*
- » **Drawer Ajar Alarm ON/OFF**
 - Press Alarm ON/OFF key

Unique Input Operations

- » **Temperature Units Selection Mode** (*°F or °C Display*)
 - Within first minute of power up, press Alarm ON/OFF key & UNIT ON/OFF key simultaneously
- » **Sabbath Mode** (*Disables lighting*)
 1. Switch unit OFF
 2. Press & hold UNIT ON/OFF key for 10 seconds

NOTE: *To exit Sabbath Mode, press UNIT ON/OFF key.*
- » **Showroom Mode** (*Disables all but lighting*)
 1. Switch unit OFF
 2. Press COLDER, WARMER & UNIT ON/OFF keys simultaneously

NOTE: *To exit Showroom Mode, repeat steps above.*

400-2 SERIES - 427R-2 REFRIGERATOR

Possible Error Indicators

NOTE: *Temperatures shown are for reference only, actual temperatures may vary.*

EE **SERVICE** (*Flashing*)
Refrigerator compartment thermistor fault

3B **SERVICE** (*Flashing*)
Several excessive compressor run periods OR
Refrigerator evaporator thermistor fault

3B **SERVICE** (*Steady, not Flashing*)
Error Codes logged and observed but not cleared.

- -

Several consecutive Double Dashes (- -) displayed indicates electronic control board is bad. Control board must be replaced.

NOTE: *To clear Error Indicators, repair problem then switch unit OFF and back ON. To clear Error Codes, press bell ON/OFF key for 15 seconds.*

400-2 SERIES - 427R-2 REFRIGERATOR

Troubleshooting Input Operations

» Diagnostic Mode

1. Unit must be ON
2. Press COLDER & UNIT ON/OFF keys simultaneously, then release both keys

NOTE: After performing the above key strokes, the following will appear on the LCD. Temperatures shown are for reference only, actual temperatures may vary.

40 **SERVICE** (Illuminated) **r**
Temperature of r (Refrigerator Compartment)

- Press COLDER key to toggle to next reading

32 **SERVICE** (Illuminated) **E**
Temperature of E (Evaporator)

- Pressing the COLDER key at this time will take display back to first reading.

(CONTINUED)

400-2 SERIES - 427R-2 REFRIGERATOR

(CONTINUED)

NOTE: If “**EC**” (Error Code) is displayed, see Error Code Table below.

NOTE: If “**EE**” is displayed in place of temperature, thermistor in that location is faulty.

NOTE: If “**5r**” is displayed in place of temperature, unit is in Showroom Mode.

NOTE: *Diagnostic Mode will end 20 seconds after last key stroke.*

ERROR CODE TABLE	
CODE	INDICATION
05	Upper Cabinet Thermistor read open / short for 10+ seconds, or repeatedly erratic temp's.
06	Upper Evap. Thermistor read open / short for 10+ seconds, or repeatedly erratic temp's.
50	Excessive Refrigerator compressor run

NOTE: *To clear Error Codes, see next page.*

400-2 SERIES - 427R-2 REFRIGERATOR

» **Clearing Error Codes**

1. Unit must be ON
2. Repair problem
3. Press and hold Bell ON/OFF key for 15 seconds

» **Manual Component Activation Mode**

(Energizes cooling system for 5 minutes)

1. Unit must be ON
2. Press COLDER & UNIT ON/OFF keys simultaneously for 10 seconds

NOTE: *After performing the above key strokes, the following will appear on the LCD. Temperatures shown are for reference only, actual temperatures may vary.*

29 **SERVICE** (Illuminated) **E**
Temperature of E (Refrigerator Evaporator)

400-2 SERIES - 427R-2 REFRIGERATOR

Possible Event Indicators During Temperature Log Recall

bl

107

“bl” indicates index is blank, no temperature recorded yet

36

SERVICE (Illuminated)

89

SERVICE illuminated indicates unit was switched off with UNIT ON/OFF key

Bell (Illuminated)

38

105

BELL Illuminated indicates power failure/interruption.

--

28

Several consecutive Double Dashes (- -) displayed indicates electronic control board is bad. Control board must be replaced.

NOTE: *Temperature Log Recall Mode will end 15 seconds after last key stroke.*

NOTE: *Temperatures continue to be logged when unit is switched off with UNIT ON/OFF key and when Showroom Mode or Manual Compartment Disable Mode is initiated.*

400-2 SERIES - 427R-2 REFRIGERATOR

Service Input Operations

» **Auto Model Configuration Mode**

If a new main control board is installed during a service call, double dashes (- -) will appear on the LCD indicating the board must be configured for the model it was installed into.

1. Open bottom drawer.
2. With unit on - Press COLDER or WARMER key to toggle through model codes, then stop when proper code is displayed (See Model Code Table on next page).
3. Press UNIT ON/OFF key to store configuration.

» **Manual Entry Model Configuration Mode**

If control board configuration needs to be verified or changed:

1. Open bottom drawer.
2. With unit on - Press COLDER and UNIT ON/OFF keys simultaneously, then release.
3. Press Bell ON/OFF and UNIT ON/OFF keys simultaneously, then release.
4. Press COLDER or WARMER key to toggle through model codes, then stop when proper code is displayed (See Model Code Table on next page).
3. Press UNIT ON/OFF key to store configuration.

400-2 SERIES - 427R-2 REFRIGERATOR

MODEL CODE TABLE	
CODE	MODEL
br	700BR
bC	700BC
27	427R
bF	700BFI
2r	UC-24R / UC-24RO
2C	UC-24C
2b	UC-24B

600 SERIES (Prior To Serial #1810000)

Basic Input Operations

- » **Power ON/OFF**
 - Press UNIT ON/OFF key
- » **Adjusting Set-Point** (*Temperature Adjust*)
 - Press COLDER or WARMER keys of desired compartment

NOTE: *Actual compartment temp. is displayed 10 seconds after last keystroke.*
- » **Icemaker ON/OFF**
 - Press ICE ON/OFF key (“ICE” appears on LCD)

Unique Input Operations

- » **Sabbath Mode** (*Disables lighting*)
 1. Switch unit OFF
 2. Press & hold UNIT ON/OFF key for 10 seconds

NOTE: *To exit Sabbath Mode, repeat steps above.*
- » **Showroom Mode** (*Disables all but lighting*)
 1. Switch unit OFF
 2. Press COLDER, WARMER & UNIT ON/OFF keys simultaneously

NOTE: *To exit Showroom Mode, repeat steps above.*
- » **Manual Defrost**
 - Press & hold ICE ON/OFF key for 5 seconds.

600 SERIES (Prior To Serial #1810000)

Possible Error Indicators

NOTE: Temperatures shown are for reference only, actual temperatures may vary.

EE **SERVICE (Flashing)** **38**
Freezer compartment thermistor Fault

00 **SERVICE (Flashing)** **EE**
Refrigerator compartment thermistor fault

00 **SERVICE (Flashing)** **38**
Refrigerator evaporator thermistor fault

SERVICE (Flashing)
00 **ICE (Flashing)** **38**
Water valve energized longer than 15 seconds. Icemaker system disabled.

NOTE: A 45 minute dwell follows each IM cycles (no power to Icemaker). To bypass 45 minute dwell, Switch unit OFF then back ON.

SERVICE (Flashing)
12 **VACUUM (Flashing)** **45**
 CONDENSER
Several excessive compressor run periods

NOTE: To clear Error Indicators, repair problem then switch unit OFF and back ON.

600 SERIES (Prior To Serial #1810000)

Troubleshooting Input Operations

» **Diagnostic Mode**

1. Unit must be ON
2. Press COLDER & UNIT ON/OFF keys simultaneously, then release both keys

NOTE: After performing the above key strokes, the following will appear on the LCD. Temperatures shown are for reference only, actual temperatures may vary.

0 SERVICE (Illuminated)

First reading is freezer compartment temperature.

F SERVICE (Illuminated)

- Press UNIT ON/OFF key to display location code.
(**F** = Freezer Compartment)

38 SERVICE (Illuminated)

- Press COLDER key. Second reading is refrigerator compartment temperature.

r SERVICE (Illuminated)

- Press UNIT ON/OFF key to display location code.
(**r** = Refrigerator Compartment)

15 SERVICE (Illuminated)

- Press COLDER key. Third reading is refrigerator evaporator temperature.

rE SERVICE (Illuminated)

- Press UNIT ON/OFF key to display location code.
(**rE** = Refrigerator Evaporator)

(CONTINUED)

600 SERIES (Prior To Serial #1810000)

(CONTINUED)

- **-10 SERVICE** (*Illuminated*)
- Press COLDER key. Fourth reading is freezer evaporator temperature.
- **FE SERVICE** (*Illuminated*)
- Press UNIT ON/OFF key to display location code.
(*F = Freezer Compartment*)
- **00 SERVICE** (*Illuminated*)
- Press COLDER key. Fifth reading is inactive line, no temperature.
- **IL SERVICE** (*Illuminated*)
- Press UNIT ON/OFF key to display location code.
(*IL = Inactive Line, Disregard*)
- Pressing the COLDER key at this time will take the display back to the first reading, the freezer compartment temperature.

NOTE: *It is possible to toggle through the temperature readings by pressing the COLDER key without the steps of pressing the UNIT ON/OFF key.*

NOTE: *If “EE” appears instead of a temperature, press UNIT ON/OFF key to determine which thermistor is faulty.*

NOTE: *Diagnostic Mode will end 10 seconds after last key stroke.*

600 SERIES (Starting With Serial #1810000)

Basic Input Operations

» **Power ON/OFF**

- Press UNIT ON/OFF key

» **Adjusting Set-Point** (*Temperature Adjust*)

- Press COLDER or WARMER keys of desired compartment

NOTE: *Actual compartment temp. is displayed 10 seconds after last keystroke.*

» **Icemaker ON/OFF**

- Press ICE ON/OFF key

» **Door Ajar Alarm ON/OFF**

- Press Bell ON/OFF key

600 SERIES (Starting With Serial #1810000)

Unique Input Operations

- » **Temperature Units Selection Mode** (*°F or °C Display*)
 - Within first minute of power up, press Bell ON/OFF key & UNIT ON/OFF key simultaneously for 5 seconds
- » **Sabbath Mode** (*Disables lighting*)
 1. Switch unit OFF
 2. Press & hold UNIT ON/OFF key for 10 seconds

NOTE: *To exit Sabbath Mode, repeat steps above.*
- » **Showroom Mode** (*Disables all but lighting*)
 1. Switch unit OFF
 2. Press COLDER, WARMER & UNIT ON/OFF keys simultaneously

NOTE: *To exit Showroom Mode, repeat steps above.*
- » **Compartment Disable Mode** (*Disables compartment cooling, “- -” appears on LCD*)
 1. Switch unit OFF
 2. Press desired WARMER & UNIT ON/OFF keys simultaneously

NOTE: *To return to normal operation, repeat steps above.*
- » **Manual Defrost**
 - Press & hold ICE ON/OFF key for 5 seconds.

600 SERIES (Starting With Serial #1810000)

Possible Error Indicators

NOTE: *Temperatures shown are for reference only, actual temperatures may vary.*

EE **SERVICE (Flashing)** **3B**
Freezer compartment thermistor fault

00 **SERVICE (Flashing)** **EE**
Refrigerator compartment thermistor fault

00 **SERVICE (Flashing)** **3B**
Several excessive compressor run periods OR
Refrigerator evaporator thermistor fault

SERVICE (Flashing)

00 **ICE (Flashing)** **3B**
Water valve energized longer than 15 seconds. Icemaker system disabled.

NOTE: *A 45 minute dwell follows each IM cycles (no power to Icemaker). To bypass 45 minute dwell, Switch unit OFF then back ON.*

NOTE: *To clear Error Indicators, repair problem then switch unit OFF and back ON.*

600 SERIES (Starting With Serial #1810000)

Troubleshooting Input Operations

» Diagnostic Mode

1. Unit must be ON
2. Press COLDER & UNIT ON/OFF keys simultaneously, then release both keys

NOTE: After performing the above key strokes, the following will appear on the LCD. Temperatures shown are for reference only, actual temperatures may vary.

-05 SERVICE (Illuminated) F
Temperature of F (Freezer Compartment)

- Press COLDER key to toggle to next reading

40 SERVICE (Illuminated) r
Temperature of r (Refrigerator Compartment)

- Press COLDER key to toggle to next reading

-12 SERVICE (Illuminated) FE
Temperature of FE (Freezer Evaporator)

- Press COLDER key to toggle to next reading

29 SERVICE (Illuminated) rE
Temperature of rE (Refrigerator Evaporator)

- Pressing the COLDER key at this time will take the display back to the first reading, the freezer compartment temperature.

(CONTINUED)

600 SERIES (Starting With Serial #1810000)

(CONTINUED)

NOTE: If “**EC**” (Error Code) is displayed, see Error Code Table on next page.

NOTE: If “**EE**” is displayed in place of temperature, thermistor in that location is faulty.

NOTE: If “**Sr**” is displayed in place of temperature, unit is in Showroom Mode.

NOTE: *Diagnostic Mode will end 10 seconds after last key stroke.*

600 SERIES (Starting With Serial #1810000)

Error Code Table	
CODE	INDICATION
05	<i>Refrig. Cabinet Thermistor read open or shorted for 10+ seconds, or repeatedly read erratic temp's</i>
06	<i>Refrig. Evaporator Thermistor read open or shorted for 10+ seconds, or repeatedly read erratic temp's</i>
07	<i>Freezer Cabinet Thermistor read open or shorted for 10+ seconds, or repeatedly read erratic temp's</i>
08	<i>Freezer Evaporator Thermistor read open or shorted for 10+ seconds, or repeatedly read erratic temp's</i>
20	<i>Defrost Underheat with No Voltage Feedback Through Gray/White Wire at Defrost Start</i>
21	<i>Defrost Overheat</i>
22	<i>No Voltage Feedback Through Gray/White Wire at Defrost Start</i>
23	<i>Defrost Overheat with No Voltage Feedback through Gray/White Wire at Defrost Start</i>
24	<i>Defrost Underheat</i>

NOTE: Currently, Error Codes are registered because of thermistor or defrost system errors only. The table above will be updated through addendums when subsequent software and electrical changes occur and more error codes are added.

To clear Error Codes, see next page.

600 SERIES (Starting With Serial #1810000)

» **Clearing Error Codes**

1. Unit must be ON
2. Repair problem
3. Press and hold Bell ON/OFF key for 15 seconds

» **Manual Component Activation Mode**

(Energizes cooling system for 5 minutes)

1. Unit must be ON
2. Press desired COLDER & UNIT ON/OFF keys simultaneously for 10 seconds

NOTE: After performing the above key strokes (depending on COLDER key chosen), the following will appear on the LCD. Temperatures shown are for reference only, actual temperatures may vary.

-18 **SERVICE (Illuminated)** **FE**
Temperature of F (Freezer Evaporator)

OR

29 **SERVICE (Illuminated)** **rE**
Temperature of rE (Refrigerator Evaporator)

600 SERIES (Starting With Serial #1810000)

Possible Event Indicators During Temperature Log Recall

bl

107

“bl” indicates index is blank, no temperature recorded yet

36

SERVICE (Illuminated)

89

SERVICE illuminated indicates unit was switched off with UNIT ON/OFF key

Bell (Illuminated)

38

105

BELL Illuminated indicates power failure/interruption.

- -

28

Several consecutive Double Dashes (- -) displayed indicates electronic control board is bad. Control board must be replaced.

NOTE: *Temperature Log Recall Mode will end 10 seconds after last key stroke.*

NOTE: *Temperatures continue to be logged when unit is switched off with UNIT ON/OFF key and when Showroom Mode or Manual Compartment Disable Mode is initiated.*

600-2 SERIES

Basic Input Operations

» **Power ON/OFF**

- Press UNIT ON/OFF key

» **Adjusting Set-Point** (*Temperature Adjust*)

- Press COLDER or WARMER keys of desired compartment

NOTE: *Actual compartment temp. is displayed 10 seconds after last keystroke.*

» **Icemaker ON/OFF**

- Press ICE ON/OFF key

» **Door Ajar Alarm ON/OFF**

- Press Bell ON/OFF key

600-2 SERIES

Unique Input Operations

- » **Temperature Units Selection Mode** (*°F or °C Display*)
 - Within first minute of power up, press Bell ON/OFF key & UNIT ON/OFF key simultaneously for 5 seconds
- » **Sabbath Mode** (*Disables lighting*)
 1. Switch unit OFF
 2. Press & hold UNIT ON/OFF key for 10 seconds

NOTE: *To exit Sabbath Mode, press UNIT ON/OFF Key.*
- » **Showroom Mode** (*Disables all but lighting*)
 1. Switch unit OFF
 2. Press COLDER, WARMER & UNIT ON/OFF keys simultaneously

NOTE: *To exit Showroom Mode, repeat steps above.*
- » **Compartment Disable Mode** (*Disables compartment cooling, “- -” appears on LCD*)
 1. Switch unit OFF
 2. Press desired WARMER & UNIT ON/OFF keys simultaneously

NOTE: *To return to normal operation, repeat steps above.*
- » **Manual Defrost**
 - Press & hold ICE ON/OFF key for 5 seconds.

600-2 SERIES

Possible Error Indicators

NOTE: *Temperatures shown are for reference only, actual temperatures may vary.*

EE **SERVICE** (*Flashing*) **3B**
Freezer compartment thermistor fault

00 **SERVICE** (*Flashing*) **EE**
Refrigerator compartment thermistor fault

00 **SERVICE** (*Flashing*) **3B**
Several excessive compressor run periods OR
Refrigerator evaporator thermistor fault

SERVICE (*Flashing*)

00 **ICE** (*Flashing*) **3B**
Water valve energized longer than 15 seconds, five consecutive times. Icemaker system disabled 24 hours each time.
NOTE: *A 45 minute dwell follows each IM cycles (no power to Icemaker). To bypass 45 minute dwell, Switch ice maker system OFF then back ON.*

00 **SERVICE** (*Steady, not Flashing*)**3B**
Error Codes logged and observed but not cleared.

NOTE: *To clear Error Codes, press bell ON/OFF key for 15 seconds.*

600-2 SERIES

Troubleshooting Input Operations

» Diagnostic Mode

1. Unit must be ON
2. Press COLDER & UNIT ON/OFF keys simultaneously, then release both keys

NOTE: After performing the above key strokes, the following will appear on the LCD. Temperatures shown are for reference only, actual temperatures may vary.

-05 SERVICE (Illuminated) F
Temperature of F (Freezer Compartment)

- Press COLDER key to toggle to next reading

40 SERVICE (Illuminated) r
Temperature of r (Refrigerator Compartment)

- Press COLDER key to toggle to next reading

-12 SERVICE (Illuminated) FE
Temperature of FE (Freezer Evaporator)

- Press COLDER key to toggle to next reading

29 SERVICE (Illuminated) rE
Temperature of rE (Refrigerator Evaporator)

- Pressing the COLDER key at this time will take the display back to the first reading, the freezer compartment temperature.

(CONTINUED)

600-2 SERIES

(CONTINUED)

NOTE: If “**EC**” (Error Code) is displayed, see Error Code Table below.

NOTE: If “**EE**” is displayed in place of temperature, thermostat in that location is faulty.

NOTE: If “**Sr**” is displayed in place of temperature, unit is in Showroom Mode.

NOTE: Diagnostic Mode will end 10 seconds after last key stroke.

NOTE: To clear Error Indicators, repair problem then switch unit OFF and back ON. To clear Error Codes, press bell ON/OFF key for 15 seconds.

600-2 SERIES

Error Code Table	
CODE	INDICATION
05	<i>Ref. cabinet therm. read open, short or erratic temp for 10+ sec's</i>
06	<i>Ref. evap. therm. read open, short or erratic temp for 10+ sec's</i>
07	<i>Fre. cabinet therm. read open, short or erratic temp for 10+ sec's</i>
08	<i>Fre. evap. therm. read open, short or erratic temp for 10+ sec's</i>
20	<i>Defrost underheat & no feedback thru Gr/Wh wire at defrost start</i>
21	<i>Defrost overheat</i>
22	<i>No feedback thru Gr/Wh wire at defrost start</i>
23	<i>Defrost overheat & no feedback thru Gr/Wh wire at defrost start</i>
24	<i>Defrost underheat</i>
30	<i>Excess IM Water Valve Solenoid Activation (> 15 Seconds)</i>
40	<i>Excessive Freezer Comp Run</i>
50	<i>Excessive Refrigerator Comp Run</i>

NOTE: *To clear Error Codes, see next page.*

600-2 SERIES

» **Clearing Error Codes**

1. Unit must be ON
2. Repair problem
3. Press and hold Bell ON/OFF key for 15 seconds

» **Manual Component Activation Mode**

(Energizes cooling system for 5 minutes)

1. Unit must be ON
2. Press desired COLDER & UNIT ON/OFF keys simultaneously for 10 seconds

NOTE: After performing the above key strokes (depending on COLDER key chosen), the following will appear on the LCD. Temperatures shown are for reference only, actual temperatures may vary.

-18 **SERVICE (Illuminated)** **rE**
Temperature of F (Freezer Evaporator)

OR

29 **SERVICE (Illuminated)** **rE**
Temperature of rE (Refrigerator Evaporator)

600-2 SERIES

Possible Event Indicators During Temperature Log Recall

b1

101

“b1” indicates index is blank, no temperature recorded yet

36

SERVICE (Illuminated)

89

SERVICE illuminated indicates unit was switched off with UNIT ON/OFF key

Bell (Illuminated)

38

105

BELL Illuminated indicates power failure/interruption.

- -

28

Several consecutive Double Dashes (- -) displayed indicates electronic control board is bad. Control board must be replaced.

NOTE: *Temperature Log Recall Mode will end 20 seconds after last key stroke.*

NOTE: *Temperatures continue to be logged when unit is switched off with UNIT ON/OFF key and when Showroom Mode or Manual Compartment Disable Mode is initiated.*

700 SERIES

Basic Input Operations

» **Adjusting Set-Point** (*Temperature Adjust*)

1. Initiate Temperature Set Mode by pressing Zone key in multiple keystrokes until desired zone/compartment is reached
2. Press COLDER or WARMER keys to set temperature

NOTE: *Temperature set mode will remain active for five seconds after the last keystroke.*

» **Door / Drawer Ajar ON/OFF**

- Press ALARM key to activate or deactivate alarm (Bell annunciator will appear on the LCD when activated.)

700 SERIES

Possible Error Indicators

--

"--" = Control is shut off. Press COLDER key to start unit.

- 20

"- 20" = Zone/Compartment thermistor fault. Repair wiring or replace thermistor.

55

"55" = Zone/Compartment thermistor shorted. Repair wiring or replace thermistor.

Su

"Su" = Blue wire of display cable unhooked or faulty. Repair wiring.

- 88

"- 88" = Red Wire of display cable unhooked or faulty, top lights are off and keys are inoperative. Repair wiring.

700-2 SERIES (Tall Units)

Basic Input Operations

» **Power ON/OFF**

- Press UNIT ON/OFF key

» **Adjusting Set-Point** (*Temperature Adjust*)

- Press COLDER or WARMER keys of desired compartment

NOTE: *Actual compartment temp. is displayed 10 seconds after last keystroke.*

» **Icemaker ON/OFF**

- Press ICE ON/OFF key

» **Door Ajar Alarm ON/OFF**

- Press Bell ON/OFF key

700-2 SERIES (Tall Units)

Unique Input Operations

- » **Temperature Units Selection Mode** (*°F or °C Display*)
 - Within first minute of power up, press Bell ON/OFF key & UNIT ON/OFF key simultaneously for 5 seconds
- » **Sabbath Mode** (*Disables lighting*)
 1. Switch unit OFF
 2. Press & hold UNIT ON/OFF key for 10 seconds

NOTE: *To exit Sabbath Mode, repeat steps above.*
- » **Showroom Mode** (*Disables all but lighting*)
 1. Switch unit OFF
 2. Press COLDER, WARMER & UNIT ON/OFF keys simultaneously

NOTE: *To exit Showroom Mode, repeat steps above.*
- » **Compartment Disable Mode** (*Disables compartment cooling, “- -” appears on LCD*)
 1. Switch unit OFF
 2. Press desired WARMER & UNIT ON/OFF keys simultaneously

NOTE: *To return to normal operation, repeat steps above.*
- » **Manual Defrost**
 - Press & hold ICE ON/OFF key for 5 seconds.

700-2 SERIES (Tall Units)

Possible Error Indicators

NOTE: *Temperatures shown are for reference only, actual temperatures may vary.*

EE **SERVICE (Flashing)** **3B**
Freezer compartment thermistor Fault

00 **SERVICE (Flashing)** **EE**
Refrigerator compartment thermistor fault

00 **SERVICE (Flashing)** **3B**
Several excessive compressor run periods OR
Refrigerator evaporator thermistor fault

SERVICE (Flashing)

00 **ICE (Flashing)** **3B**
Water valve energized longer than 15 seconds. Icemaker system disabled.

NOTE: *A 45 minute dwell follows each IM cycles (no power to Icemaker). To bypass 45 minute dwell, Switch unit OFF then back ON.*

NOTE: *To clear Error Indicators, repair problem then switch unit OFF and back ON.*

700-2 SERIES (Tall Units)

Troubleshooting Input Operations

» **Diagnostic Mode**

1. Unit must be ON
2. Press COLDER & UNIT ON/OFF keys simultaneously, then release both keys

NOTE: After performing the above key strokes, the following will appear on the LCD. Temperatures shown are for reference only, actual temperatures may vary.

-05 SERVICE (Illuminated) F
Temperature of F (Freezer Compartment)

- Press COLDER key to toggle to next reading

40 SERVICE (Illuminated) r
Temperature of r (Refrigerator Compartment)

- Press COLDER key to toggle to next reading

-12 SERVICE (Illuminated) FE
Temperature of FE (Freezer Evaporator)

- Press COLDER key to toggle to next reading

29 SERVICE (Illuminated) rE
Temperature of rE (Refrigerator Evaporator)

- Pressing the COLDER key at this time will take the display back to the first reading, the freezer compartment temperature.

(CONTINUED)

700-2 SERIES (Tall Units)

(CONTINUED)

NOTE: If “**EC**” (Error Code) is displayed (after serial #1759163), see Error Code Table on next page.

NOTE: If “**EE**” is displayed in place of temperature, thermistor in that location is faulty.

NOTE: If “**Sr**” is displayed in place of temperature, unit is in Showroom Mode.

NOTE: Diagnostic Mode will end 10 seconds after last key stroke.

700-2 SERIES (Tall Units) Starting W/ Serial #1759163

Error Code Table	
CODE	INDICATION
05	<i>Ref. cabinet therm. read open, short or erratic temp for 10+ sec's</i>
06	<i>Ref. evap. therm. read open, short or erratic temp for 10+ sec's</i>
07	<i>Fre. cabinet therm. read open, short or erratic temp for 10+ sec's</i>
08	<i>Fre. evap. therm. read open, short or erratic temp for 10+ sec's</i>
20	<i>Defrost underheat & no feedback thru Gr/Wh wire at defrost start</i>
21	<i>Defrost overheat</i>
22	<i>No feedback thru Gr/Wh wire at defrost start</i>
23	<i>Defrost overheat & no feedback thru Gr/Wh wire at defrost start</i>
24	<i>Defrost underheat</i>
80	<i>High VS compressor differential pressures or low voltage supplied to VS compressor</i>
81	<i>High Amperage Draw at VS compressor</i>
82	<i>VS comp. couldn't maintain min. speed at highest current draw</i>
83	<i>Locked VS compressor Rotor</i>
84	<i>Short circuit at VS compressor controller output circuit</i>
85	<i>VS compressor inverter overheated & shut down VS compressor</i>
86	<i>Serial communication failure between VS compressor controller and electronic control board</i>
87	<i>Speed information from electronic control board is out of spec.</i>
88	<i>Electronic control board not receiving status data in response to speed commands</i>

NOTE: VS Compressor = Variable Speed Compressor

700-2 SERIES (Tall Units) Starting W/ Serial #1759163

NOTE: The table on the preceding page will be updated through addendums when subsequent software and electrical changes occur and more error codes are added. Error Codes 80 - 88 apply to the 700TF/I-2V only, which started at serial ##1898164.

» **Clearing Error Codes**

1. Unit must be ON
2. Repair problem
3. Press and hold Bell ON/OFF key for 15 seconds

» **Manual Component Activation Mode**

(Energizes cooling system for 5 minutes)

1. Unit must be ON
2. Press desired COLDER & UNIT ON/OFF keys simultaneously for 10 seconds

NOTE: After performing the above key strokes (depending on COLDER key chosen), the following will appear on the LCD. Temperatures shown are for reference only, actual temperatures may vary.

-18 **SERVICE (Illuminated)** **FE**
Temperature of FE (Freezer Evaporator)

OR

29 **SERVICE (Illuminated)** **rE**
Temperature of rE (Refrigerator Evaporator)

700-2 SERIES (Tall Units)

Possible Event Indicators During Temperature Log Recall

b1

101

“b1” indicates index is blank, no temperature recorded yet

36

SERVICE (Illuminated)

89

SERVICE illuminated indicates unit was switched off with UNIT ON/OFF key

Bell (Illuminated)

38

105

BELL Illuminated indicates power failure/interruption.

- -

28

Several consecutive Double Dashes (- -) displayed indicates electronic control board is bad. Control board must be replaced.

NOTE: *Temperature Log Recall Mode will end 15 seconds after last key stroke.*

NOTE: *Temperatures continue to be logged when unit is switched off with UNIT ON/OFF key and when Showroom Mode or Manual Compartment Disable Mode is initiated.*

700-3 SERIES - TALL UNITS

Basic Input Operations

» **Power ON/OFF**

- Press UNIT ON/OFF key

» **Adjusting Set-Point** (*Temperature Adjust*)

- Press COLDER or WARMER keys of desired compartment

NOTE: *Actual compartment temp. is displayed 10 seconds after last keystroke.*

» **Icemaker ON/OFF**

- Press ICE ON/OFF key

» **Door Ajar Alarm ON/OFF**

- Press Bell ON/OFF key

700-3 SERIES - TALL UNITS

Unique Input Operations

- » **Temperature Units Selection Mode** (*°F or °C Display*)
 - Within first minute of power up, press Bell ON/OFF key & UNIT ON/OFF key simultaneously for 5 seconds
- » **Sabbath Mode** (*Disables lighting*)
 1. Switch unit OFF
 2. Press & hold UNIT ON/OFF key for 10 seconds

NOTE: *To exit Sabbath Mode, press UNIT ON/OFF Key.*
- » **Showroom Mode** (*Disables all but lighting*)
 1. Switch unit OFF
 2. Press COLDER, WARMER & UNIT ON/OFF keys simultaneously

NOTE: *To exit Showroom Mode, repeat steps above.*
- » **Compartment Disable Mode** (*Disables compartment cooling, “- -” appears on LCD*)
 1. Switch unit OFF
 2. Press desired WARMER & UNIT ON/OFF keys simultaneously

NOTE: *To return to normal operation, repeat steps above.*
- » **Manual Defrost**
 - Press & hold ICE ON/OFF key for 5 seconds.

700-3 SERIES - TALL UNITS

Possible Error Indicators

NOTE: *Temperatures shown are for reference only, actual temperatures may vary.*

EE **SERVICE** (*Flashing*) **3B**
Freezer compartment thermistor fault

00 **SERVICE** (*Flashing*) **EE**
Refrigerator compartment thermistor fault

00 **SERVICE** (*Flashing*) **3B**
Several excessive compressor run periods OR
Refrigerator evaporator thermistor fault

SERVICE (*Flashing*)

00 **ICE** (*Flashing*) **3B**
Water valve energized longer than 15 seconds, five consecutive times. Icemaker system disabled 24 hours each time.
NOTE: *A 45 minute dwell follows each IM cycles (no power to Icemaker). To bypass 45 minute dwell, Switch ice maker system OFF then back ON.*

00 **SERVICE** (*Steady, not Flashing*)**3B**
Error Codes logged and observed but not cleared.

NOTE: *To clear Error Codes, press bell ON/OFF key for 15 seconds.*

700-3 SERIES - TALL UNITS

Troubleshooting Input Operations

» Diagnostic Mode

1. Unit must be ON
2. Press COLDER & UNIT ON/OFF keys simultaneously, then release both keys

NOTE: After performing the above key strokes, the following will appear on the LCD. Temperatures shown are for reference only, actual temperatures may vary.

-05 SERVICE (Illuminated) F
Temperature of F (Freezer Compartment)

- Press COLDER key to toggle to next reading

40 SERVICE (Illuminated) r
Temperature of r (Refrigerator Compartment)

- Press COLDER key to toggle to next reading

-12 SERVICE (Illuminated) FE
Temperature of FE (Freezer Evaporator)

- Press COLDER key to toggle to next reading

29 SERVICE (Illuminated) rE
Temperature of rE (Refrigerator Evaporator)

- Pressing the COLDER key at this time will take the display back to the first reading, the freezer compartment temperature.

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700-3 SERIES - TALL UNITS

(CONTINUED)

NOTE: If “**Er**” (Error Code) is displayed, see Error Code Table on next page.

NOTE: If “**EE**” is displayed in place of temperature, thermostat in that location is faulty.

NOTE: If “**Sr**” is displayed in place of temperature, unit is in Showroom Mode.

NOTE: If “**SP**” is displayed, that is the speed the variable speed compressor is operating at.

NOTE: Diagnostic Mode will end 10 seconds after last key stroke.

NOTE: To clear Error Indicators, repair problem then switch unit OFF and back ON. To clear Error Codes, press bell ON/OFF key for 15 seconds.

700-3 SERIES - TALL UNITS

Error Code Table	
CODE	INDICATION
<i>05</i>	<i>Ref. cabinet therm. read open, short or erratic temp for 10+ sec's</i>
<i>06</i>	<i>Ref. evap. therm. read open, short or erratic temp for 10+ sec's</i>
<i>07</i>	<i>Fre. cabinet therm. read open, short or erratic temp for 10+ sec's</i>
<i>08</i>	<i>Fre. evap. therm. read open, short or erratic temp for 10+ sec's</i>
<i>20</i>	<i>Defrost underheat & no feedback thru Gr/Wh wire at defrost start</i>
<i>21</i>	<i>Defrost overheat</i>
<i>22</i>	<i>No feedback thru Gr/Wh wire at defrost start</i>
<i>23</i>	<i>Defrost overheat & no feedback thru Gr/Wh wire at defrost start</i>
<i>24</i>	<i>Defrost underheat</i>
<i>30</i>	<i>Excess IM Water Valve Solenoid Activation (> 15 Seconds)</i>
<i>40</i>	<i>Excessive Freezer Comp Run</i>
<i>50</i>	<i>Excessive Refrigerator Comp Run</i>

NOTE: *To clear Error Codes, see next page.*

700-3 SERIES - TALL UNITS

» **Clearing Error Codes**

1. Unit must be ON
2. Repair problem
3. Press and hold Bell ON/OFF key for 15 seconds

» **Manual Component Activation Mode**

(Energizes cooling system for 5 minutes)

1. Unit must be ON
2. Press desired COLDER & UNIT ON/OFF keys simultaneously for 10 seconds

NOTE: After performing the above key strokes (depending on COLDER key chosen), the following will appear on the LCD. Temperatures shown are for reference only, actual temperatures may vary.

-18 **SERVICE (Illuminated)** **F~~E~~**
Temperature of F (Freezer Evaporator)

OR

29 **SERVICE (Illuminated)** **r~~E~~**
Temperature of rE (Refrigerator Evaporator)

700-3 SERIES - TALL UNITS

Possible Event Indicators During Temperature Log Recall

b1

107

"b1" indicates index is blank, no temperature recorded yet

36

SERVICE (Illuminated)

89

SERVICE illuminated indicates unit was switched off with UNIT ON/OFF key

Bell (Illuminated)

38

105

BELL Illuminated indicates power failure/interruption.

- -

28

Several consecutive Double Dashes (- -) displayed indicates electronic control board is bad. Control board must be replaced.

NOTE: *Temperature Log Recall Mode will end 20 seconds after last key stroke.*

NOTE: *Temperatures continue to be logged when unit is switched off with UNIT ON/OFF key and when Showroom Mode or Manual Compartment Disable Mode is initiated.*

700-2 SERIES (Base Units)

Basic Input Operations

» **Power ON/OFF**

- Press UNIT ON/OFF key

» **Adjusting Set-Point** (*Temperature Adjust*)

- Press COLDER or WARMER keys of desired compartment

NOTE: *Actual compartment temp. is displayed 10 seconds after last keystroke.*

» **Icemaker ON/OFF**

- Press ICE ON/OFF key

» **Door Ajar Alarm ON/OFF**

- Press Bell ON/OFF key

700-2 SERIES (Base Units)

Unique Input Operations

- » **Temperature Units Selection Mode** (*°F or °C Display*)
 - Within first minute of power up, press Bell ON/OFF key & UNIT ON/OFF key simultaneously for 5 seconds

- » **Sabbath Mode** (*Disables lighting*)
 1. Switch unit OFF
 2. Press & hold UNIT ON/OFF key for 10 seconds

NOTE: *To exit Sabbath Mode, repeat steps above.*

- » **Showroom Mode** (*Disables all but lighting*)
 1. Switch unit OFF
 2. Press COLDER, WARMER & UNIT ON/OFF keys simultaneously

NOTE: *To exit Showroom Mode, repeat steps above.*

- » **Manual Defrost**
 - Press & hold ICE ON/OFF key for 5 seconds.

700-2 SERIES (Base Units)

Possible Error Indicators

NOTE: *Temperatures shown are for reference only, actual temperatures may vary.*

EE **SERVICE (Flashing)** **3B**
700BR lower compartment thermistor Fault

3B **SERVICE (Flashing)** **EE**
700BR upper compartment thermistor fault

45 **SERVICE (Flashing)** **45**
700BR evaporator thermistor fault

EO
700BR & 700BF communication error between
control board & control panel

EJ
700BR & 700BF communication error between
control board & control panel

EE **SERVICE (Flashing)**
700BF compartment thermistor Fault

NOTE: *To clear Error Indicators, repair problem.*

700-2 SERIES (Base Units)

Troubleshooting Input Operations

» **Diagnostic Mode**

1. Unit must be ON
2. Press COLDER & UNIT ON/OFF keys simultaneously, then release both keys

NOTE: After performing the above key strokes, the following will appear on the LCD. Temperatures shown are for reference only, actual temperatures may vary.

If Model 700BF:

00 **SERVICE (Illuminated)** **F**
Temperature of F (Freezer Compartment)

- Press COLDER key to toggle to next reading

-10 **SERVICE (Illuminated)** **E**
Temperature of E (Freezer Evaporator)

If Model 700BR:

36 **SERVICE (Illuminated)** **L**
Temperature of L (Lower Compartment)

36 **SERVICE (Illuminated)** **U**
Temperature of U (Upper Compartment)

29 **SERVICE (Illuminated)** **E**
Temperature of E (Refrigerator Evaporator)

700-3 SERIES - BASE UNITS

Basic Input Operations

» **Power ON/OFF**

- Press UNIT ON/OFF key

» **Adjusting Set-Point** (*Temperature Adjust*)

- Press COLDER or WARMER keys of desired compartment

NOTE: *Actual compartment temp. is displayed 10 seconds after last keystroke.*

» **Icemaker ON/OFF**

- Press ICE ON/OFF key

» **Door Ajar Alarm ON/OFF**

- Press Bell ON/OFF key

700-3 SERIES - BASE UNITS

Unique Input Operations

- » **Temperature Units Selection Mode** (*°F or °C Display*)
 - Within first minute of power up, press Bell ON/OFF key & UNIT ON/OFF key simultaneously for 5 seconds
- » **Sabbath Mode** (*Disables lighting*)
 1. Switch unit OFF
 2. Press & hold UNIT ON/OFF key for 10 seconds

NOTE: *To exit Sabbath Mode, press UNIT ON/OFF Key.*
- » **Showroom Mode** (*Disables all but lighting*)
 1. Switch unit OFF
 2. Press COLDER, WARMER & UNIT ON/OFF keys simultaneously

NOTE: *To exit Showroom Mode, repeat steps above.*
- » **Compartment Disable Mode** (*Disables compartment cooling, “- -” appears on LCD*)
 1. Switch unit OFF
 2. Press desired WARMER & UNIT ON/OFF keys simultaneously

NOTE: *To return to normal operation, repeat steps above.*
- » **Manual Defrost**
 - Press & hold ICE ON/OFF key for 5 seconds.

700-3 SERIES - BASE UNITS

Possible Error Indicators

NOTE: *Temperatures shown are for reference only, actual temperatures may vary.*

EE **SERVICE** (*Flashing*) **3B**
Freezer compartment thermistor fault

00 **SERVICE** (*Flashing*) **EE**
Refrigerator compartment thermistor fault

00 **SERVICE** (*Flashing*) **3B**
Several excessive compressor run periods OR
Refrigerator evaporator thermistor fault

SERVICE (*Flashing*)

00 **ICE** (*Flashing*) **3B**
Water valve energized longer than 15 seconds, five consecutive times. Icemaker system disabled 24 hours each time.
NOTE: *A 45 minute dwell follows each IM cycles (no power to Icemaker). To bypass 45 minute dwell, Switch ice maker system OFF then back ON.*

00 **SERVICE** (*Steady, not Flashing*)**3B**
Error Codes logged and observed but not cleared.

NOTE: *To clear Error Codes, press bell ON/OFF key for 15 seconds.*

700-3 SERIES - BASE UNITS

Troubleshooting Input Operations

» Diagnostic Mode

1. Unit must be ON
2. Press COLDER & UNIT ON/OFF keys simultaneously, then release both keys

NOTE: After performing the above key strokes, the following will appear on the LCD. Temperatures shown are for reference only, actual temperatures may vary.

-05 SERVICE (Illuminated) F
Temperature of F (Freezer Compartment)

- Press COLDER key to toggle to next reading

40 SERVICE (Illuminated) r
Temperature of r (Refrigerator Compartment)

- Press COLDER key to toggle to next reading

-12 SERVICE (Illuminated) E
Temperature of E (Evaporator)

- Pressing the COLDER key at this time will take the display back to the first reading, the freezer compartment temperature.

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700-3 SERIES - BASE UNITS

(CONTINUED)

NOTE: If “**Er**” (Error Code) is displayed, see Error Code Table on next page.

NOTE: If “**EE**” is displayed in place of temperature, thermostat in that location is faulty.

NOTE: If “**Sr**” is displayed in place of temperature, unit is in Showroom Mode.

NOTE: Diagnostic Mode will end 10 seconds after last key stroke.

NOTE: To clear Error Indicators, repair problem then switch unit OFF and back ON. To clear Error Codes, press bell ON/OFF key for 15 seconds.

700-3 SERIES - BASE UNITS

Error Code Table	
CODE	INDICATION
<i>05</i>	<i>Ref. cabinet therm. read open, short or erratic temp for 10+ sec's</i>
<i>06</i>	<i>Ref. evap. therm. read open, short or erratic temp for 10+ sec's</i>
<i>07</i>	<i>Fre. cabinet therm. read open, short or erratic temp for 10+ sec's</i>
<i>08</i>	<i>Fre. evap. therm. read open, short or erratic temp for 10+ sec's</i>
<i>20</i>	<i>Defrost underheat & no feedback thru Gr/Wh wire at defrost start</i>
<i>21</i>	<i>Defrost overheat</i>
<i>22</i>	<i>No feedback thru Gr/Wh wire at defrost start</i>
<i>23</i>	<i>Defrost overheat & no feedback thru Gr/Wh wire at defrost start</i>
<i>24</i>	<i>Defrost underheat</i>
<i>30</i>	<i>NA</i>
<i>40</i>	<i>Excessive Freezer Comp Run</i>
<i>50</i>	<i>Excessive Refrig. Comp Run (Excessive Ref Fan Run 700BC/I)</i>

NOTE: *To clear Error Codes, see next page.*

700-3 SERIES - BASE UNITS

» **Clearing Error Codes**

1. Unit must be ON
2. Repair problem
3. Press and hold Bell ON/OFF key for 15 seconds

» **Manual Component Activation Mode**

(Energizes cooling system for 5 minutes)

1. Unit must be ON
2. Press desired COLDER & UNIT ON/OFF keys simultaneously for 10 seconds

NOTE: After performing the above key strokes (depending on COLDER key chosen), the following will appear on the LCD. Temperatures shown are for reference only, actual temperatures may vary.

-05 **SERVICE** (Illuminated) **E**
Temperature of E (Evaporator)

OR

36 **SERVICE** (Illuminated) **r**
Temperature of r (Refrigerator Compartment)

700-3 SERIES - BASE UNITS

Possible Event Indicators During Temperature Log Recall

b1

107

"b1" indicates index is blank, no temperature recorded yet

36

SERVICE (Illuminated)

89

SERVICE illuminated indicates unit was switched off with UNIT ON/OFF key

Bell (Illuminated)

38

105

BELL Illuminated indicates power failure/interruption.

- -

28

Several consecutive Double Dashes (- -) displayed indicates electronic control board is bad. Control board must be replaced.

NOTE: *Temperature Log Recall Mode will end 20 seconds after last key stroke.*

NOTE: *Temperatures continue to be logged when unit is switched off with UNIT ON/OFF key and when Showroom Mode or Manual Compartment Disable Mode is initiated.*

700-3 SERIES - BASE UNITS

Service Input Operations

» **Auto Model Configuration Mode**

If a new main control board is installed during a service call, double dashes (- -) will appear on the LCD indicating the board must be configured for the model it was installed into.

1. Open bottom drawer.
2. With unit on - Press COLDER or WARMER key to toggle through model codes, then stop when proper code is displayed (See Model Code Table on next page).
3. Press UNIT ON/OFF key to store configuration.

» **Manual Entry Model Configuration Mode**

If control board configuration needs to be verified or changed:

1. Open bottom drawer.
2. With unit on - Press COLDER and UNIT ON/OFF keys simultaneously, then release.
3. Press Bell ON/OFF and UNIT ON/OFF keys simultaneously, then release.
4. Press COLDER or WARMER key to toggle through model codes, then stop when proper code is displayed (See Model Code Table on next page).
3. Press UNIT ON/OFF key to store configuration.

700-3 SERIES - BASE UNITS

MODEL CODE TABLE	
CODE	MODEL
br	700BR
bC	700BC
27	427R
bF	700BFI
2r	UC-24R / UC-24RO
2C	UC-24C
2b	UC-24B

MODEL 648PRO & ICB648PRO

Basic Input Operations

» **Power ON/OFF**

- Press POWER key

» **Adjusting Set-Point** (*Temperature Adjust*)

- Press COLDER or WARMER keys of desired compartment

NOTE: *Actual compartment temp. is displayed 10 seconds after last keystroke.*

» **Icemaker ON/OFF**

- Press ICE MAKER key

» **Door Ajar Alarm ON/OFF**

- Press ALARM key

» **Accent Lights ON/OFF**

- Press LIGHT key

MODEL 648PRO & ICB648PRO

Unique Input Operations

- » **Temperature Units Selection Mode** (*°F or °C Display*)
 - Within first minute of power up, press ALARM key & POWER key simultaneously for 5 seconds

- » **Sabbath Mode**
 1. Switch unit OFF
 2. Press & hold POWER key for 10 seconds

NOTE: *To exit Sabbath Mode, repeat steps above.*

- » **Showroom Mode** (*Disables all but lighting*)
 1. Switch unit OFF
 2. Press COLDER, WARMER & POWER keys simultaneously

NOTE: *To exit Showroom Mode, repeat steps above.*

- » **Zone Disable Mode** (*Disables compartment cooling, “- -” appears on LCD*)
 1. Switch unit OFF
 2. Press desired WARMER & POWER keys simultaneously

NOTE: *To return to normal operation, repeat steps above.*

- » **Manual Defrost**
 - Press & hold ICE MAKER key for 5 seconds.

MODEL 648PRO & ICB648PRO

Possible Error Indicators

NOTE: *Temperatures shown are for reference only, actual temperatures may vary.*

EE 38 SERVICE (Flashing) 38
Freezer zone thermistor fault

0 EE SERVICE (Flashing) 38
Upper Refrigerator zone thermistor fault

0 38 SERVICE (Flashing) EE
Lower Refrigerator zone thermistor fault

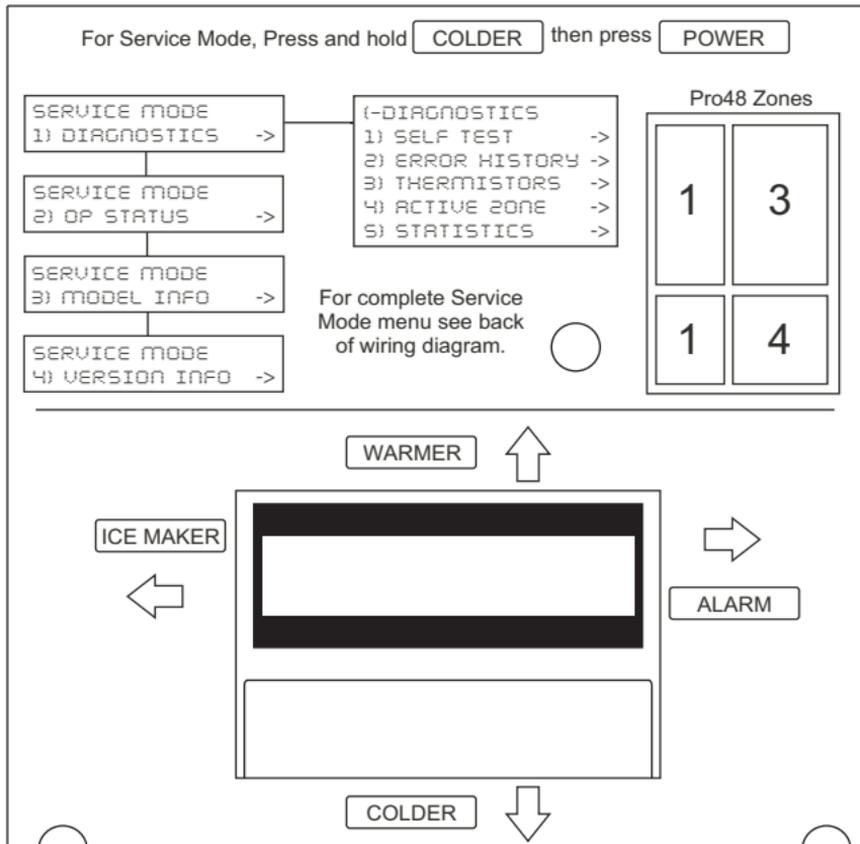
Icemaker Icon (Flashing)

0 38 SERVICE (Flashing) 38
Water valve energized longer than 15 seconds, five consecutive times. Icemaker system disabled 24 hours each time.
NOTE: *A 45 minute dwell follows each IM cycles (no power to Icemaker). To bypass 45 minute dwell, Switch ice maker system OFF then back ON.*

0 38 SERVICE (Flashing) 38
Multiple possibilities, see error code table

MODEL 648PRO & ICB648PRO

Initiating Service Mode:



648PRO & ICB648PRO Error Code Table

EC	ZONE	SERVICE INSTRUCTION
01	X	<i>Zone "X" Cabinet Thermistor Failure (Device or Wiring)</i>
02	X	<i>Zone "X" Evaporator Thermistor Failure (Device or Wiring)</i>
03	X	<i>Zone "X" Condenser Thermistor Failure (Device or Wiring)</i>
04	0	<i>Ambient Thermistor Failure (Device or Wiring)</i>
20	X	<i>Check Zone "X" Defrost Bi-metal for Proper Operation</i>
21	X	<i>Check Zone "X" Defrost Bi-metal for Proper Operation</i>
22	X	<i>Check Zone "X" Defrost Wiring</i>
23	X	<i>Check Zone "X" Defrost Wiring</i>
24	X	<i>Check Zone "X" Defrost Heater Ohms</i>
30	0	<i>Check for Stuck Ice maker or Water Valve Failure</i>
35	X	<i>Check Zone "X" Fan, Fan Speed Error</i>
40	X	<i>Zone "X" Excessive Run</i>
41	X	<i>Check Zone "X" Compressor and Wiring</i>
42	0	<i>Check Condenser Fan and/or Wiring</i>
43	X	<i>Check Left Refrigerant Valve and Wiring</i>
44	X	<i>Check Zone "X" Glass Door Heater and Wiring</i>
45	X	<i>Errors Detectable with Red Door Switches-Disabled Now. Check Overhead Lighting</i>
46	0	<i>Check Ice Accessory Wiring for Open Circuit</i>
47	3	<i>Check Accent Lighting Wiring for Short Circuit</i>
80	X	<i>Check Power to Compressor Controller for Zone "X", Troubleshoot with Manual Activation Mode</i>
83	X	<i>Replace Zone "X" VS Compressor and Filter-Drier</i>
84	X	<i>Check Zone "X" VS Compressor Wiring</i>
85	X	<i>Zone "X" VS Compressor Control Overheat</i>
86	X	<i>Check Communication Wiring, Replace Zone "X" VS Controller</i>
87	X	<i>Check for Broken Wiring or Open Defrost Heater</i>
89	X	<i>Check Ice maker Solenoid Valve and Wiring</i>
90	X	<i>Change Main Control Board</i>

648PRO & ICB648PRO Error Code Table

92	0	Check Keypad Wiring
93	0	Replace Keypad
94	1	Check Wiring / Replace User Display #1
94	3	Check Wiring / Replace User Display #2
96	0	Datalogger Malfunction
97	0	Check Communications Cables / Connectors
98	0	Brownout Check Input Power Supply

Explanation of zone error codes

If “X” = 0, Failure was with a common component.

If “X” = 1, Failure occurred in Zone 1 or left system.

If “X” = 2, Failure occurred in Zone 2.

If “X” = 3, Failure occurred in Zone 3 or right system.

If “X” = 4, Failure occurred in Zone 4.

Note: Zone 2 and zone 4 may or may not be present depending on model.

UC SERIES

Basic Input Operations

» **Power ON/OFF**

- Press POWER key

» **Adjusting Set-Point** (*Temperature Adjust*)

- Press COLDER or WARMER keys of desired compartment

NOTE: *Actual compartment temp. is displayed 10 seconds after last keystroke.*

UC SERIES

Unique Input Operations

- » **Temperature Units Selection Mode** (*°F or °C Display*)
(*Model UC-24C ONLY*) Within 1st minute of power up:
 1. Press Freezer WARMER & POWER keys simultaneously
 2. Press Freezer WARMER & COLDER keys simultaneously for 15 seconds(*Models UC-24B/R/RO ONLY*) Within 1st min. of power up:
 1. Press WARMER & POWER keys simultaneously
 2. Press WARMER & COLDER keys simultaneously for 15 seconds

- » **Sabbath Mode** (*Disables lighting*)
 1. Switch unit OFF
 2. Press & hold POWER key for 10 seconds**NOTE:** *To exit Sabbath Mode, press UNIT ON/OFF Key.*

- » **Showroom Mode** (*Disables all but lighting*)
 1. Switch unit OFF
 2. Press COLDER, WARMER & POWER keys simultaneously**NOTE:** *To exit Showroom Mode, repeat steps above.*

- » **Manual Defrost (UC-24C ONLY)**
 - Press & hold Freezer WARMER, COLDER & POWER keys simultaneously for 5 seconds

UC SERIES

Possible Error Indicators

NOTE: *Temperatures shown are for reference only, actual temperatures may vary.*

EE **SERVICE** (*Flashing*) **3B**
Freezer compartment thermistor fault

00 **SERVICE** (*Flashing*) **EE**
Refrigerator compartment thermistor fault

00 **SERVICE** (*Flashing*) **3B**
Several excessive compressor run periods OR
evaporator thermistor fault

00 **SERVICE** (*Steady, not Flashing*)**3B**
Error Codes logged and observed but not cleared.

NOTE: *To clear Error Codes:*

- » *Model UC-24C ONLY:
Press Freezer WARMER & COLDER keys simultaneously
for 15 seconds*
- » *Models UC-24B/R/RO ONLY:
Press WARMER & COLDER keys simultaneously for 15
seconds*

UC SERIES

Troubleshooting Input Operations

» Diagnostic Mode

1. Unit must be ON
2. Press COLDER & POWER keys simultaneously, then release both keys

NOTE: After performing the above key strokes, the following will appear on the LCD. Temperatures shown are for reference only, actual temperatures may vary.

-05 SERVICE (Illuminated) F
Temperature of F (Freezer Compartment)

- Press COLDER key to toggle to next reading

40 SERVICE (Illuminated) r
Temperature of r (Refrigerator Compartment)

- Press COLDER key to toggle to next reading

-12 SERVICE (Illuminated) E
Temperature of E (Evaporator)

- Pressing the COLDER key at this time will take the display back to the first reading, the freezer compartment temperature.

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UC SERIES

(CONTINUED)

NOTE: If “Er” (Error Code) is displayed, see Error Code Table on next page.

NOTE: If “E” is displayed in place of temperature, thermostat in that location is faulty.

NOTE: If “Sr” is displayed in place of temperature, unit is in Showroom Mode.

NOTE: Diagnostic Mode will end 10 seconds after last key stroke.

NOTE: To clear Error Indicators, repair problem then switch unit OFF and back ON. To clear Error Codes:

» **Model UC-24C ONLY:**

Press Freezer WARMER & COLDER keys simultaneously for 15 seconds

» **Models UC-24B/R/RO ONLY:**

Press WARMER & COLDER keys simultaneously for 15 seconds

UC SERIES

Error Code Table

CODE	INDICATION
<i>05</i>	<i>Ref. cabinet therm. read open, short or erratic temp for 10+ sec's</i>
<i>06</i>	<i>Ref. evap. therm. read open, short or erratic temp for 10+ sec's</i>
<i>07</i>	<i>Fre. cabinet therm. read open, short or erratic temp for 10+ sec's</i>
<i>08</i>	<i>Fre. evap. therm. read open, short or erratic temp for 10+ sec's</i>
<i>20</i>	<i>Defrost underheat & no feedback thru Gr/Wh wire at defrost start</i>
<i>21</i>	<i>Defrost overheat</i>
<i>22</i>	<i>No feedback thru Gr/Wh wire at defrost start</i>
<i>23</i>	<i>Defrost overheat & no feedback thru Gr/Wh wire at defrost start</i>
<i>24</i>	<i>Defrost underheat</i>
<i>30</i>	<i>NA</i>
<i>40</i>	<i>Excessive Freezer Comp Run</i>
<i>50</i>	<i>Excessive Refrigerator Comp Run</i>

NOTE: *To clear Error Codes, see next page.*

UC SERIES

» **Clearing Error Codes**

1. Unit must be ON
2. Repair problem
- 3a. Press Freezer WARMER & COLDER keys simultaneously for 15 seconds (*Model UC-24C ONLY*)
 - 3b. Press WARMER & COLDER keys simultaneously for 15 seconds (*Models UC-24B/R/RO ONLY*)

» **Manual Component Activation Mode**

(Energizes cooling system for 5 minutes)

1. Unit must be ON
2. Press desired COLDER & POWER keys simultaneously for 10 seconds

NOTE: *After performing the above key strokes (depending on COLDER key chosen), the following will appear on the LCD. Temperatures shown are for reference only, actual temperatures may vary.*

-02 **SERVICE** (Illuminated) **F**
Temperature of E (Evaporator)

OR

40 **SERVICE** (Illuminated) **r**
Temperature of r (Refrigerator Compartment)

UC SERIES

Possible Event Indicators During Temperature Log Recall

b1

107

“b1” indicates index is blank, no temperature recorded yet

36

SERVICE (*Illuminated*)

89

SERVICE illuminated indicates unit was switched off with POWER key

Bell (*Illuminated*)

38

105

BELL Illuminated indicates power failure/interruption.

- -

28

Several consecutive Double Dashes (- -) displayed indicates electronic control board is bad. Control board must be replaced.

NOTE: *Temperature Log Recall Mode will end 20 seconds after last key stroke.*

NOTE: *Temperatures continue to be logged when unit is switched off with UNIT ON/OFF key and when Showroom Mode or Manual Compartment Disable Mode is initiated.*

UC SERIES

Service Input Operations

» **Auto Model Configuration Mode**

If a new main control board is installed during a service call, double dashes (- -) will appear on the LCD indicating the board must be configured for the model it was installed into.

1. With unit on - Press COLDER or WARMER key to toggle through model codes, then stop when proper code is displayed (See Model Code Table on next page).
2. Press UNIT ON/OFF key to store configuration.

» **Manual Entry Model Configuration Mode**

If control board configuration needs to be verified or changed:

1. With unit on - Press & hold either COLDER Key and POWER key simultaneously.
2. Press POWER key for 15 seconds.
3. Press COLDER or WARMER key to toggle through model codes, then stop when proper code is displayed (See Model Code Table on next page).
4. Press POWER key to store configuration.

UC SERIES

MODEL CODE TABLE	
CODE	MODEL
br	700BR
bC	700BC
27	427R
bF	700BFI
2r	UC-24R / UC-24RO
2C	UC-24C
2b	UC-24B

