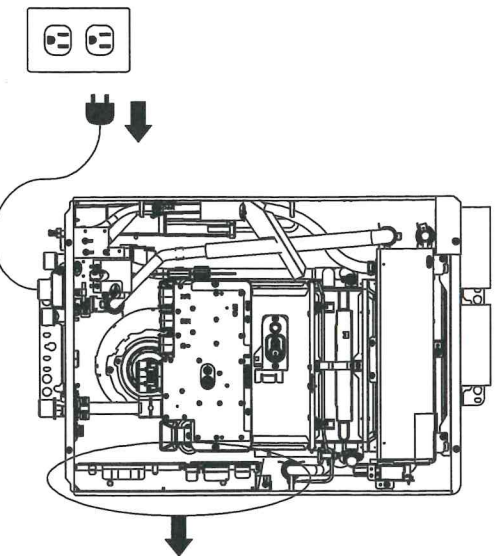


Circuit Board Replacement Procedure

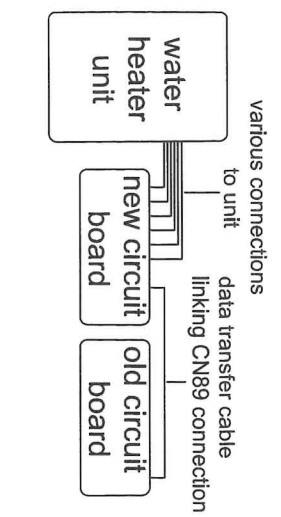
When swapping in a new circuit board, the new circuit board needs to be programmed. Failure to successfully program the circuit board will result in a 73 error code. Typically this programming can be done with a data transfer from the old circuit board to the new circuit board. Even a damaged circuit board can usually transfer data properly. Always attempt the data transfer first, and if unsuccessful, retry the data transfer procedure. Only if the data transfer is unsuccessful, then you should follow the procedure for manual programming on the reverse side of this page.

1. Data Transfer Procedure

1. Make sure the remote controller is off (completely blank). If it is ON, turn it OFF and wait for 10 seconds.
2. ...then disconnect electrical power.
3. Remove old circuit board out of the unit and transfer all electrical connections to the new circuit board. ...except connector CN89 which should be left unplugged.



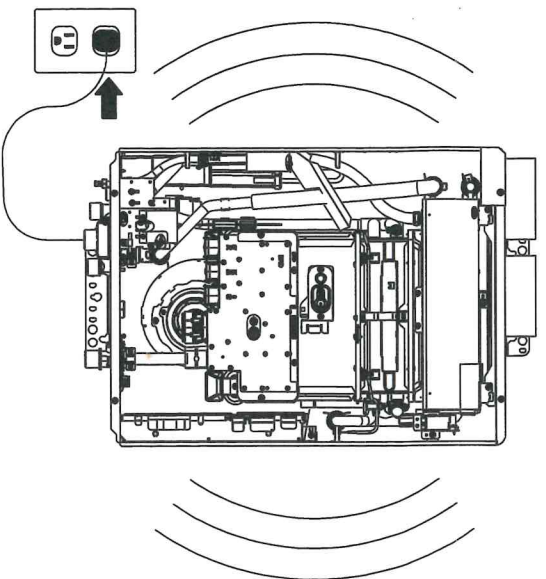
(for illustration only)



4. Use the blue and white data transfer cable supplied with the new circuit board to connect the CN89 connection from the old circuit board to the new one.
5. Connect power and wait about 30 seconds to a minute. The unit will signal a successful data transfer by spinning the fan and opening and closing the gas valve for about 3 minutes.

If you get a successful data transfer: disconnect electrical power to the unit, disconnect the data transfer cable and reconnect the original CN89 connector.
The circuit board can now be mounted back into the unit.
Note: (If you disconnected any wires to pull out the circuit board, make sure to reconnect all wires.)
Manifold pressures should be checked with a digital manometer and adjusted if necessary.
Refer to the "Setting list for MW settings and Gas manifold pressures" at reverse side.

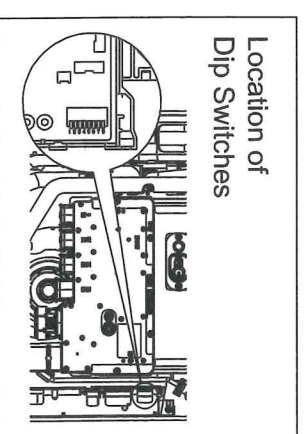
If you fail to get a successful data transfer, refer to the reverse side for Manual Programming.



2. DIP Switch Settings

*Disconnect the electrical power to the unit before adjusting the DIP Switches. DIP Switch Settings are set to the same as the old circuit board.

- The following settings can be adjusted using the DIP Switches.
1. By setting DIP Switches 1 and 2, the unit can be programmed to different default temperatures if the remote controller is removed.
 2. (Direct Vent model ; DV model) By setting DIP Switch 3, the intake air supply type can be set to direct vent(DV) or non-direct vent(SV).
 3. By setting DIP Switches 5 and 6, adjustments can be made for high elevation installations.
 4. By setting DIP Switches 7 and 8, adjustments can be made for extended vent lengths installations. Refer to the "Setting list for DIP Switches" table for details.



[DIP Switches]

Setting list for DIP Switches

(● : ON ○ : OFF)

SW1	SW2	SW3	SW5	SW6	SW7	SW8		
Default temperature setting		Intake air supply Type*1 (Indoor model only)	Elevations above 2000ft				Vent Length Adjustment	
1	2		5	6	7	8	Direct Vent model*2 (DV model)	Concentric exhaust model*3 (DVC model)
○	○	Outdoor	○	○	○	○	3"Short	Minimum length
○	○	Indoor	●	○	○	○	3"Long	Short length
○	○		○	●	○	○	4"Short	Long length
○	○		●	○	○	○	4"Long	Maximum length

*1 : Indoor model only when using an "SV conversion Kit".

*2 : NRC98DV(GG-C2857WS-FF US), NRC98DV(GG-C2857WS-FF ET US)

DIP Switches 7 and 8 need to be adjusted for extended exhaust vent lengths when using "SV conversion Kit".

*3 : NR83DV(GG-2457WS-FFA US)

Note) The unit is fixed with minimum combustion, if you change SW4 to ON. It is possible to cause the trouble, please do not change it.

Manual Programming

(only do this if the data transfer on the reverse side is unsuccessful)

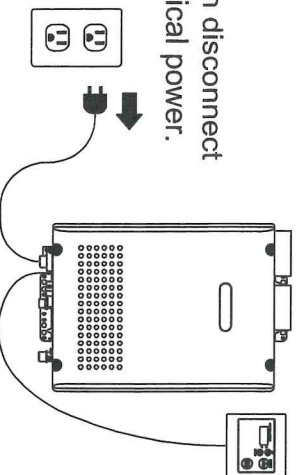
This procedure will require the remote controller.

Make sure the circuit board is completely connected including connector CN89.

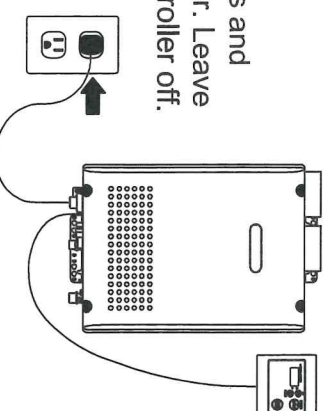
If connected, in a multi unit configurations undo System Controller connections or Quick Connect Cord. After Manual Programming, make sure all connections are made before making the initial circuit board settings.

1. Make sure the remote controller is off (completely blank), if it is ON, turn it OFF and wait for 10 seconds.

2. ...then disconnect electrical power.



3. Wait 10 seconds and reconnect power. Leave the remote controller off.



4. With the remote controller blank, hold the up button until the display blinks "99".

You are now in the maintenance writer (MW) mode and can scroll through the MWs using the UP and DOWN buttons.

For each MW the PRIORITY light will either be on, indicating that the MW is ON, or off, indicating the MW is OFF.

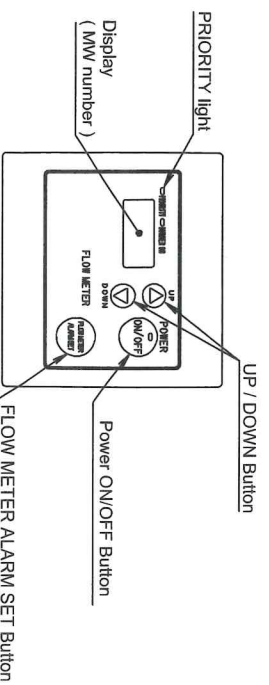
You can toggle each MW to be ON or OFF using the FLOW METER ALARM SET button

a) Turn MW "34" ON.

b) Turn MWs "FC" and "FE" ON and press the UP or DOWN button.

(Display blinks with "A0".)

Configure the remaining MWs according to the chart below based on your unit's model and gas type.



Setting list for MW settings and Gas manifold pressures (Check the rating plate for model and gas type)

Model	Gas type	Circuit board MW setting (● :ON ○ :OFF)							Manifold Pressure (inch H ₂ O) Cover off						
		A1	A5	A6	A7	A8	AD	AE	B0	B1	C7	Max value	Min value		
NRC980D (GQ-C2857WS US)	Natural	●	○	○	○	○	○	○	○	○	○	○	○	2.65	0.80
NRC98DV / NERC98DV (GQ-C2857WS-FF (ET) US)	LPG	○	○	○	○	○	○	○	○	○	○	○	○	3.70	1.00
NR830D (GQ-2457WS US)	Natural	○	○	○	○	○	○	○	○	○	○	○	○	3.05	0.90
NR830D (GQ-2457WS US)	LPG	○	○	○	○	○	○	○	○	○	○	○	○	3.85	1.00
NR83DVC (GQ-2457WS-FFA US)	Natural	○	○	○	○	○	○	○	○	○	○	○	○	2.85	1.00
NR83DVC (GQ-2457WS-FFA US)	LPG	○	○	○	○	○	○	○	○	○	○	○	○	4.25	1.40

Setting list for Gas manifold pressures (NR83DVC)

Manifold Pressure (inch H ₂ O) Cover off	DIP7=OFF		DIP8=OFF		DIP7=ON		DIP8=ON		DIP7=ON		DIP8=ON	
	Minimum length	Min value	Short length	Min value	Long length	Min value	Maximum length	Max value	Minimum length	Min value	Maximum length	Max value
Vent length adjustment												
Gas type	Max value	Min value	Max value	Min value	Max value	Min value	Max value	Min value	Max value	Min value	Max value	Min value
Natural	2.75	0.90	2.70	0.85	2.70	0.85	2.70	0.85	2.65	0.80	2.65	0.80
LPG	3.85	1.25	3.80	1.25	3.75	1.20	3.70	1.20	3.70	1.20	3.70	1.20

5. Once complete, hold the UP and DOWN buttons together for five seconds until the remote controller starts beeping rapidly.

This is the signal that the changes to the MWs have been saved and the unit is ready for

6. Check manifold pressures with a digital manometer and adjust if necessary.

