Commercial Microwave Oven Error Codes

To allow for easier navigation throughout the tips and guidelines, the entire line of Panasonic commercial microwave ovens was divided into three categories. Listed below are these categories and their corresponding models.

OCS	NE-8021AR, NE-8051AR, NE-1021A, NE-1051A, NE-1056A, NE-1021T, NE-1051T, NE-1056T, NE-1024T, NE-1054T, NE-1064T
PRO-1	NE-1257A, NE-1258A, NE-1757A, NE-2157A, NE-1257R, NE-1258R, NE-1757R, NE-2157R
PRO-2	NE-1780, NE-2680, NE-1780J, NE-2680J, NE-1780R, NE-2680R, NE-2180, NE-3280

While troubleshooting an oven, identify the symptom as accurately as possible and refer to the following pages for tips and guidelines. Please note that causes and remedies were listed in logical order and probability of occurrence.

ERROR CODE (SYMPTOM)	POSSIBLE CAUSE AND REMEDY	GROUP
F01 + beep	Temperature in the exhaust duct raised above 260 F due to a) Fire in the cavity b) Clogged air filter (not applicable to OCS models) c) Obstruction of the exhaust duct d) Shorted temperature sensor	OCS PRO-1 PRO-2
F03 or F04	Mismatch between the incoming line voltage and the voltage setting of the oven. a) Make sure the line voltage corresponds with the setting of the oven. The voltage selector is located at the back and consists of two plugs. The white plug sets the oven for 208 V and black plug (or white plug with a black dot) sets the oven for 230 V. b) Make sure the line voltage is within +/- 10% tolerance. This is especially important during summer months, where line voltage has tendency to drop. c) If both steps above check OK, the error(s) may be caused by defective controller (DPU) board	PRO-1 PRO-2
F05	Internal memory failure has occurred. Replace the controller (DPU) board	PRO-1
F09	Oven that was designed for 50Hz electricity is attempted to operate in the 60Hz environment. If the model number of the oven in question is listed above, most likely the controller (DPU) board has failed.	PRO-1
F33 or F34	These codes may be triggered by either excessive heat within the oven or poor grounding of either the temp sensor or the controller (DPU) board. Check the following: a) Clogged air filter (not applicable to OCS models) b) Obstruction of the exhaust duct or insufficient ventilation c) Defective thermal sensor (should read 30 – 70 kohm in room temperature) d) Grounding of the thermal sensor (possible oxidation) e) Poor connection (oxidation) at CN4 connector (PRO-1 models only) f) Poor or no ground at the controller (DPU) board – ensure that all screws securing the board are in place g) Missing screw(s) that secure the escutcheon to the frame (OCS models only) h) If all steps above check OK, the error(s) may be caused by defective controller (DPU) board	OCS PRO-1 PRO-2
F44	This code will appear if there is malfunction of the keypad. Check: a) Ribbon connector of the keypad for conductive residue or oxidation b) Perform continuity test of the keypad (use matrix shown in the service manual - DPU circuit diagram) c) Replace the keypad, if both steps prove to be inconclusive	PRO-1 PRO-2

F81, F82, F83, F84	These codes indicate there is no voltage supplied to the primary winding of the high voltage transformer. The relationship between the codes and transformers is as follows: F81 (PRO-1) – Upper transformer F81 (NE1780J, NE1780R, NE2180) – Left transformer F81 (NE2680J, NE2680R, NE3280) – Lower left transformer F82 (PRO-1) – Lower transformer F82 (NE2680J, NE2680R, NE3280) – Lower right transformer F83 (NE2680J, NE2680R, NE3280) – Upper left transformer F84 (NE1780J, NE1780R, NE2180) – Right transformer F84 (NE2680J, NE2680R, NE3280) – Upper right transformer **NOTE: These codes are not caused by defective high voltage components (magnetrons, capacitor, diodes, and transformers. Replacing these components will not solve the problem.** After identifying the malfunctioning circuit, perform the troubleshooting in the following order: a) Check line fuses and replace if needed b) Check door for proper alignment, wear and tear, and excessive movement c) Check door hooks for wear and tear (it may affect the switching sequence) d) Check latch switch assembly and make sure that all switches operate properly. Make sure they turn on and off when the door is open and closed. Confirm there are free of grease and debris. NOTE: Replace all switches even though only one may appear malfunctioning. e) Troubleshoot relays (on the low voltage board) f) Check controller (DPU) board for voltages necessary to actuate relays g) Check controller (DPU) board for cracks, poor connections, or conductive residue on the component side. Clean, repair, or apply technical bulletin (NE1018-1757) h) Replace low voltage board (only if confirmed defective) i) Replace controller (DPU) board (only if confirmed defective)	PRO-1 PRO-2 PRO-1 PRO-2
F86, F87, F88, F89	These codes indicate malfunction one of the relays (shorted contacts). The relationship between the models and relays is as follows: F86 – RY3 (PRO-1, PRO-2) F87 – RY4 (PRO-1) F87 – RY5 (NE2680J, NE2680R, NE3280) F88 – RY7 (NE2680J, NE2680R, NE3280) F89 – RY9 (PRO-2) a) On PRO-1apply technical bulletin (NE1018-1757) if applicable. NOTE: Before replacing the relays, make sure that the controller (DPU) board is free of residue or conductive substances (component side). Clean if necessary.	PRO-1 PRO-2
No light in the cavity, no display, when the door is open	a) Line voltage (circuit breaker) b) Fuses c) Cavity thermal cutout d) Thermal cutouts on all magnetrons e) Voltages on controller (DPU) board – if missing, check the low voltage transformer	OCS PRO-1 PRO-2

Oven will not start when the START pad is pressed (light in the cavity and display present)	a) Check the “A” switch for proper operation b) Check the upper door hook to make sure it is actuating the switch c) Check the wiring from the “A” switch to the controller (DPU) board d) Check for 25 volts on both contacts of the “A” switch (with the door closed) If none of the above solves the problem – replace the controller (DPU) board	PRO-1
Oven will not start when MEMORY (number) pads are pressed.	Most likely, the oven’s memory (programming) has not been locked. Perform the PROGRAM LOCK procedure. Refer to programming instructions at the beginning of service manual.	PRO-1 PRO-2
Oven will not accept any programming instructions	Most likely, the oven is in the PROGRAM LOCK mode. Perform the unlocking procedure, as per service manual.	PRO-1 PRO-2
Fuse opens immediately after the START pad is pressed	Most likely, shorted high voltage capacitor is responsible for this symptom. Also check the interlock switch, high voltage diode (for shorts), protector diode (where installed), high voltage transformer (for shorts)	PRO-1 PRO-2
Oven produces insufficient heating power	a) Low line voltage b) Aged magnetron (over 2,000 hours of use) c) One of the magnetrons has open filament d) Intermittent or oxidized magnetron connectors e) One of the high voltage diodes open f) One of the high voltage transformers open g) Change in capacitance of the high voltage capacitor	OCS PRO-1 PRO-2
Loud humming sound when oven operates	a) Shorted high voltage diode b) Shorted high voltage transformer	OCS PRO-1 PRO-2
Arcing in the cavity (visible and/or audible)	a) Burnt or carbonized food under the bottom ceramic plate or anywhere else in the cavity b) Any pointy or sharp metal objects or areas within the cavity c) Loose rivets of the antenna (OCS models only)	OCS PRO-1 PRO-2