

[®]**Panasonic**

Operation Guide
Microwave Oven

INVERTER



Model Number: **NN-S454**

We are glad you have chosen to purchase a PANASONIC microwave oven. Before operating this oven, please read these instructions carefully and completely, and keep them for further reference.

If you have only used a microwave oven for reheating and defrosting, with Panasonic's Inverter Technology you can be reassured of excellent results when cooking a variety of foods, as the 'soft' penetration of microwave energy to the centre of food helps prevent over cooking on edges and surfaces. Foods can now be gently simmered without the concern of boil over.

After reading the introductory chapter, I am sure you will be able to master the basic techniques and thereby develop a firm understanding of your new oven. This book includes recipes from starters to desserts. After trying our recipes be sure to adapt your favourite recipes to microwave methods.

Start experimenting now, and enjoy the first class results you will achieve by using your new microwave oven.

Consultant Home Economists
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Turn over for Cookbook

The serial number of this product may be found on the back side of the oven. You should note the model number and serial number of this oven in the space provided and retain this book as a permanent record of your purchase for future reference.

MODEL NUMBER _____

SERIAL NUMBER _____

DATE OF PURCHASE _____

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Safety Instructions

Precautions to be taken when using Microwave Ovens for Heating foodstuffs

INSPECTION FOR DAMAGE. A microwave oven should only be used if an inspection confirms all of the following conditions:

1. The door fits squarely and securely and opens and closes smoothly.
2. The door hinges are in good condition.
3. The metal plates of a metal seal on the door are neither buckled nor deformed.
4. The door seals are neither covered with food nor have large burn marks.

PRECAUTIONS. Microwave radiation from microwave ovens can cause harmful effects if the following precautions are not taken:

1. Never tamper with or deactivate the interlocking devices on the door.
2. Never poke an object, particularly a metal object, through a grille or between the door and the oven while the oven is operating.
3. Never place saucepans, unopened cans or other heavy metal objects in the oven.
4. Do not let other metallic articles, e.g., fast food foil containers, touch the side of the oven.
5. Clean the oven cavity, the door and the seals with water and a mild detergent at regular intervals. Never use any form of abrasive cleaner that may scratch or scour surfaces around the door.
6. Always use the oven with trays or cookware recommended by the manufacturer.
7. Never operate the oven without a load (i.e., an absorbing material such as food or water) in the oven cavity unless specifically allowed in the manufacturer's literature.
8. For horizontally hinged doors, never rest heavy objects such as food containers on the door while it is open.
9. Do not place sealed containers in microwave ovens. Baby bottles fitted with a screw cap or a teat are considered to be sealed containers.
10. The appliance is not intended for use by young children or infirm persons without supervision.
11. Young children should be supervised to ensure that they do not play with the appliance.

Important Instructions

WARNING—To reduce the risk of burns, electric shock, fire, injury to persons or excessive microwave energy:

1. Read all instructions before using the microwave oven.
2. Some products such as whole eggs and sealed containers - (for example, closed glass jars **and sealed baby bottles with teat**) - may explode and should not be heated in the microwave oven.
3. Use this microwave oven only for its intended use as described in this manual.
4. As with any appliance, close supervision is necessary when used by children.
5. Do not operate this microwave oven if it is not working properly or if it has been damaged or dropped.
6. To reduce the risk of fire in the oven cavity:

- (a) Do not overcook food. Carefully attend microwave oven if paper, plastic, or other combustible materials are placed inside the oven to facilitate cooking.
- (b) Remove wire twist-ties from bags before placing bag in oven.
- (c) If materials inside the oven should ignite, keep oven door closed, turn oven off at the wall switch, or shut off power at the fuse or circuit breaker panel.

Earthing Instructions

This microwave oven must be earthed. In the event of an electrical short circuit, earthing reduces the risk of electric shock by providing an escape wire for the electric current. This microwave oven is equipped with a cord having an earthing wire with an earthing plug. The plug must be plugged into an outlet that is properly installed and earthed.

WARNING—Improper use of the earthing plug can result in a risk of electric shock.

WE CERTIFY THAT THIS MICROWAVE OVEN HAS BEEN INSPECTED AND COMPLIES WITH THE REQUIREMENTS OF REGULATION 3, SUBCLAUSE(2), OF THE MICROWAVE OVENS REGULATIONS 1982.
MATSUSHITA ELECTRIC INDUSTRIAL CO.,LTD.

(This statement applicable only to New Zealand.)

We certify that this microwave oven has been inspected and complies with the safety requirements of government notice 466 of March 1981, and complies with the Radio Regulation of government notice 587 of March 1986.

(This statement applicable only to South Africa)

WARNING

- a) The door seals and door seal areas should be cleaned with a damp cloth. The appliance should be inspected for damage to the door seals and door seal areas and if these areas are damaged the appliance should not be operated until it has been repaired by a qualified service technician trained by the manufacturer.
- b) It is dangerous for anyone other than a qualified service technician trained by the manufacturer to perform repair services.
- c) If the supply cord of this appliance is damaged, it must be replaced by a qualified service technician with the special cord available only from the manufacturer.
- d) Before use, the user should check that utensils are suitable for use in microwave ovens.
- e) Liquids or other foods must not be heated in sealed containers since they are liable to explode.
- f) Only allow children to use the oven without supervision when adequate instructions have been given so that the child is able to use the oven in a safe way and understands the hazards of improper use.

Installation and General Instructions

General Use

1. In order to maintain high quality, do not operate the oven when empty. The microwave energy will reflect continuously throughout the oven if no food or water is present to absorb energy.
2. If smoke is observed, press the **STOP/RESET** Pad and leave door closed in order to stifle any flames. Disconnect the power cord, and/or shut off power at the fuse or circuit breaker panel.
3. Do not dry clothes, newspapers or other materials in oven. They may catch on fire.
4. Do not use recycled paper products, unless the paper product is labelled as safe for microwave oven use. Recycled paper products may contain impurities which may cause sparks and/or fires when used.
5. Do not use newspapers or paper bags for cooking.
6. Do not hit or strike the Control Panel. Damage to controls may occur.
7. POT HOLDERS may be needed as heat from food is transferred to the cooking container and from the container to the Glass Tray. The GlassTray can be very hot after removing the cooking container from the oven.
8. Do not store flammable materials next to, on top of, or in the oven. It could be a fire hazard.
9. Do not cook food directly on Glass Tray unless indicated in recipes. (Food should be placed in a suitable cooking utensil.)
10. **DO NOT** use this oven to heat chemicals or other non-food products. **DO NOT** clean this oven with any product that is labelled as containing corrosive chemicals. **The heating of corrosive chemicals in this oven may cause microwave radiation leaks.**
11. Look at the oven from time to time when food is heated or cooked in disposal containers of plastic, paper or other combustible materials, as these types of containers ignite if overheated.

Placement of Oven

1. The oven must be placed on a flat, stable surface. For correct operation, the oven must have sufficient air flow. **Allow 15 cm of space on the top of the oven, 10 cm at the back, and 5 cm on both sides. If one side of the oven is placed flush to wall, the other side or top must not be blocked. Do not remove feet.**
 - a. Do not block air vents. If they are blocked during operation, the oven may be overheated and damaged. When using any cloth over the oven, the air intake and exhaust should not be blocked. Also allow sufficient space on back and both sides of the oven.
 - b. Do not place oven near a hot or damp surface such as a gas stove, electric range or sink etc.
 - c. Do not operate oven when room humidity is too high.
2. This oven was manufactured for household use only.
3. This microwave oven is designed and approved for counter top use only. Failure due to built-in installation may void the warranty.

Circuits

Your microwave oven should be operated on a separate 10 A circuit from other appliances. Failure to do this may cause the power board fuse to blow, and/or food to cook slower. Do not insert higher value fuse in the power board.

Food

1. Do not use your oven for home canning or the heating of any closed jar. Pressure will build up and the jar may explode. In addition, the microwave oven cannot maintain the food at the correct canning temperature. Improperly canned food may spoil and be dangerous to consume.
2. Do not attempt to deep fat fry in your microwave oven.
3. Do not boil eggs in their shell and whole hard-boiled eggs (unless otherwise stated in Cooking Guide section). Pressure will build up and the eggs will explode.
4. Potatoes, apples, egg yolks, whole squash and sausages are examples of foods with nonporous skins. This type of food must be pierced before cooking, to prevent bursting.
5. When heating liquids, e.g. soup, sauces and beverages, in your microwave oven, overheating the liquid beyond boiling point can occur without evidence of bubbling. This could result in a sudden boil over of hot liquid. To prevent this possibility the following steps should be taken:
 - a) Avoid using straight-sided containers with narrow necks.
 - b) Do not overheat.
 - c) **Stir** the liquid before placing the container in the oven and halfway through cooking time.
 - d) After heating, allow to stand in the oven for a short time, stirring again before carefully removing the container.
6. **DO NOT USE A CONVENTIONAL MEAT THERMOMETER IN THE MICROWAVE OVEN. To check the degree of cooking of roasts and poultry use a MICROWAVE THERMOMETER.** Alternatively, a conventional meat thermometer may be used after the food is removed from the oven. If undercooked, return meat or poultry to the oven and cook for a few more minutes at the recommended power level. It is important to ensure that meat and poultry are thoroughly cooked.
7. **COOKING TIMES given in the Cooking Guide section are APPROXIMATE.** Factors that may affect cooking time are preferred degree of moisture content, starting temperature, altitude, volume, size, shape of food and utensils used. As you become familiar with the oven, you will be able to adjust for these factors.
8. **It is better to UNDERCOOK RATHER THAN OVERCOOK foods.** If food is undercooked, it can always be returned to the oven for further cooking. If food is overcooked, nothing can be done. Always start with minimum cooking times recommended.
9. Extreme care should be taken when cooking popcorn in a microwave oven. Cook for minimum time as recommended by manufacturer. Use the directions suitable for the wattage of your microwave oven. **NEVER** leave oven unattended when popping popcorn.
10. When heating food in plastic or paper containers, check the oven frequently due to the possibility of ignition.
11. The contents of feeding bottles and baby food jars are to be stirred or shaken and the temperature is to be checked before consumption, in order to avoid burns.

Microwaves and How They Work

Microwaves are a form of high frequency radio waves similar to those used by a radio, including AM, FM and CB. They are similar to a television where the radio waves are converted to a picture on the screen. However, microwaves are much shorter than radio waves; approximately twelve centimetres wave length. Electricity is converted into microwave energy by the magnetron tube (which is the heart of the microwave oven).

From the magnetron tube, microwave energy is transmitted to the oven cavity through a small plastic covered piece. The microwaves are converted to heat in the food. The microwaves enter from the outside of the food and travel through the food losing half of their power every two to three centimetres. Continued cooking to the centre occurs by conduction.

Although pacemakers used to be affected by microwaves (as well as by other radio waves), they are now shielded and are not bothered by these interferences. This allows people with pacemakers to sit calmly by their radio or television and cook with microwave ovens.

When microwaves come in contact with a substance, any one or combination of three things may occur.

They can be:

1. REFLECTED
2. TRANSMITTED
3. ABSORBED

Reflection:

Metal substances REFLECT microwave energy and because there is no absorption, there is no heating. This is why the oven interior is either stainless steel or epoxy-coated steel. This ensures that the microwaves are kept inside the cavity and evenly distributed throughout the food with the help of the turntable.

Transmission:

Such substances as paper, glass and plastic TRANSMIT microwave energy and do not become hot except from food. Because these substances do not reflect or absorb microwave energy, they are ideal materials for microwave cooking containers.

Absorption:

Food contains moisture and will ABSORB microwave energy, which causes the moisture molecules within the food to vibrate at an incredible rate (2,450,000,000 times per second). Friction, created by the vibration, produces heat energy which is conducted throughout the food.

Cookware and Utensil Guide

It is important to use the correct container when cooking in a microwave oven. The following will help you make the right selection.

How to Test a Container for Safe Microwave Oven Use

TO TEST A CONTAINER FOR SAFE MICROWAVE OVEN USE: Fill a 1-cup glass measure with cool water and place it in the microwave oven alongside the empty container to be tested; **heat one (1) minute at HIGH**. If the container is microwave oven-safe (transparent to microwave energy), the container should remain comfortably cool, the water in glass measure should be hot. If the container is hot, it has absorbed some microwave energy and should NOT be used. This test cannot be used for plastic containers.

Paper Products and Freezer Wrap

Waxed paper, paper plates, cups and napkins should not be used for heating or cooking food. Freezer wrap should not be used as it is not heat resistant and may melt. Paper towel, greaseproof paper and bake paper may be safely used for short periods of time for covering or lining.

Glass, Ceramic and China

Heat-Resistant glass cookware is invaluable in microwave cooking. Many of these items are readily available in most homes: glass jugs, mixing bowls, loaf dishes, covered casseroles, oblong baking dishes, pie plates and round or square cake dishes. Examples of this type of cookware are Pyrex® and Corningware®.

Dinnerware can be used for microwave heating. Many brands of dinnerware are microwave safe. Check the care information for reference to microwave use for dinnerware and serving pieces. If dinnerware is marked ovenproof, it frequently is safe to use in the microwave oven. However, to be sure, check by conducting microwave dish test previously mentioned.

Several types of glassware and dinnerware are not recommended for use in the microwave oven. Do not use dishes with metallic trim or containers with metal parts. Do not use cups or mugs with glued on handles, as they may fall off with continued heating. Do not use delicate glassware. Although the glassware may be transparent to microwave energy the heat from the food may cause the glassware to crack.

Cookware and Utensil Guide *(continued)*

Plastics

Plastic dishes, cups and some freezer containers should be used with care in a microwave oven.

Choose plastic containers carefully, as some plastic containers may become soft, melt and may scorch. The majority of plastic dishes, even those designed for use in the microwave oven, are not suitable for cooking foods with high fat or sugar content, or for lengthy cooking times. Most microwave plastic dishes should not be used for longer than 3 to 5 minutes on **HIGH** power. These dishes, although not suitable for extended cooking, may be used successfully for defrosting or for use on lower power levels.

Cooking Bags designed to withstand boiling, freezing, or conventional heating are microwave safe. Prepare bags according to manufacturer's directions. When cooking by microwave, **DO NOT** use wire twist-ties to close bag. They can act as an antenna and cause arcing (sparks).

DO NOT COOK IN PLASTIC FOOD STORAGE BAGS.

Plastic Wrap such as GLAD WRAP® can be used to cover dishes in most recipes. Over an extended heating time, some disfiguration of the wrap may occur. When removing plastic wrap "covers", as well as any glass lid, be careful to remove it away from you to avoid steam burns.

Loosen plastic but let dish stand, covered.

Jars and Bottles

Jars and bottles can be used to warm food to serving temperature, if the lid is removed first. Cooking should not be done in these containers since most are not heat resistant and during extended heating times, heat from food would cause cracking or breaking.

Metal

Metal cookware or utensils, or those with metallic trim, should **NOT** be used in the microwave. Since microwave energy is reflected by metal, foods in metal containers will not cook evenly. There is also a possibility of "arcing."

Although metal utensils should be avoided in microwave cooking, some metal can be helpful when used correctly.

Aluminum foil can be used safely, if certain guidelines are followed, to prevent overcooking. Small pieces of foil are used to shield areas such as chicken wings, tips of roasts, or other thin parts that cook before the rest of the recipe is finished. Make sure foil is attached securely and doesn't touch sides of oven, otherwise arcing may occur. Foil lined containers, either cardboard or plastic, should **NOT** be used in the microwave oven as arcing could occur.

Metal twist-ties, either paper or plastic coated, should **NOT** be used in the microwave oven. Frozen dinner trays can be used in the microwave, if the container is no deeper than 2 cm and is filled with food. Metal skewers can not be used in microwave ovens as arcing may occur. Wooden skewers are readily available and give the same result.

Shells: Scalloped baking shells are best used during reheating and for short periods of cooking time only.

Thermometers are available for use in microwave ovens. **DO NOT USE CONVENTIONAL MERCURY TYPE CANDY OR MEAT THERMOMETERS** in food while cooking in the microwave oven.

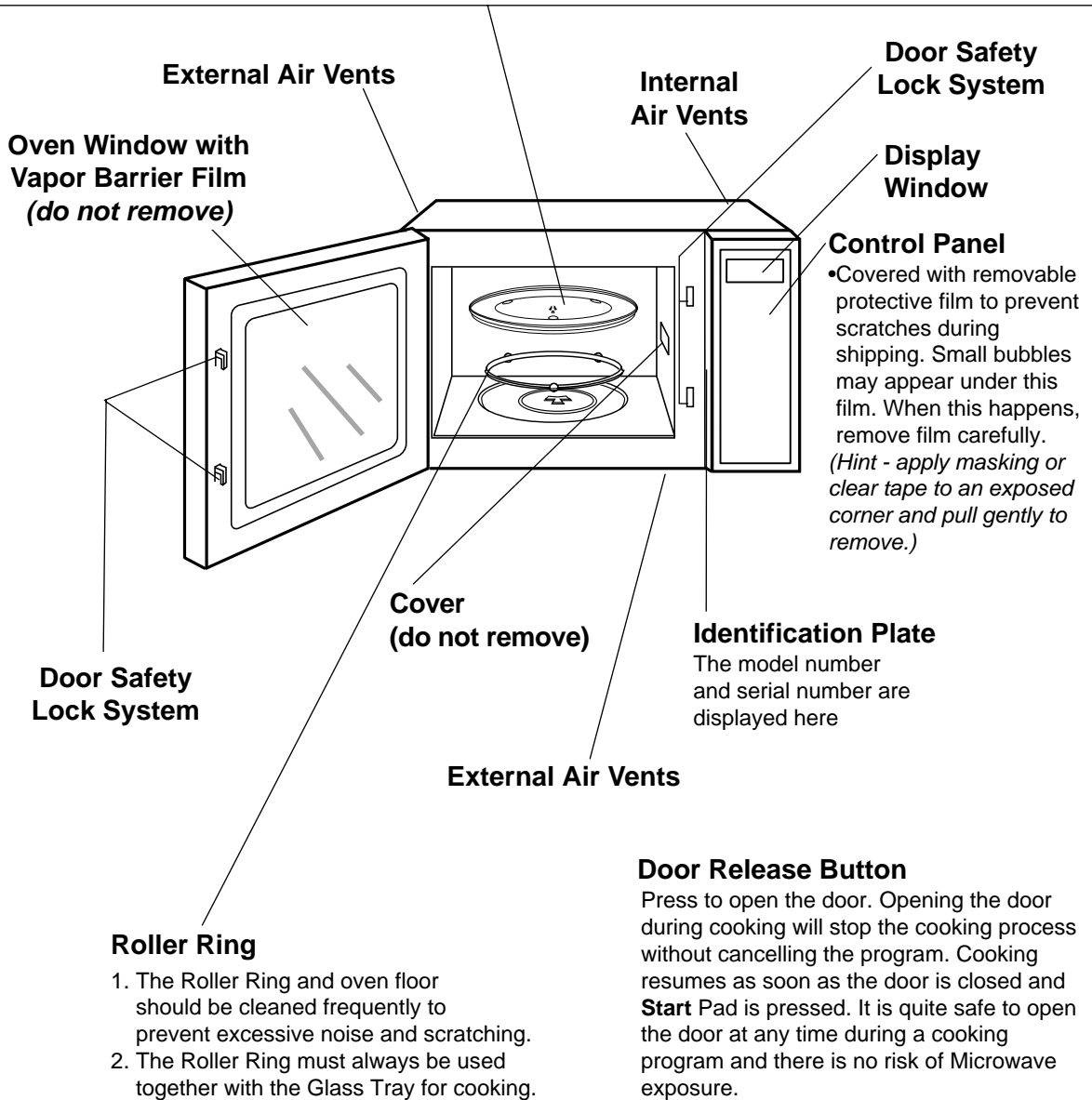
Straw, Wicker and Wood

Straw and wicker baskets may be used in the microwave oven for short periods of time to warm rolls or bread. Large wooden utensils, such as bowls or cutting boards should **NOT** be used for prolonged heating as the microwave energy may cause the wood to become dry and brittle.

Feature Diagram

Glass Tray

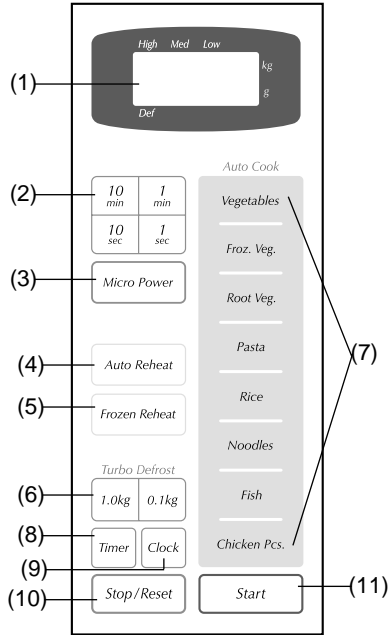
1. Do not operate the oven without the Roller Ring and Glass Tray in place.
2. Only use the Glass Tray specifically designed for this oven. Do not substitute another Glass Tray.
3. If Glass Tray is hot, allow to cool before cleaning or placing in water.
4. **Do not** cook directly on Glass Tray. Always place food on a microwave-safe dish, or on a rack set in a microwave-safe dish.
5. If food or utensil on Glass Tray touches oven walls, causing the tray to stop moving, the tray will automatically rotate in opposite direction. This is normal.
6. Glass Tray can rotate in either direction.



Oven Light

Oven Light turns on only while cooking and will still turn on when oven door is opened.

Control Panels



CONTROL PANELS

- (1) **Display Window**
- (2) **Time Pads**
- (3) **Micro Power Pad (pg. 8)**
- (4) **Auto Reheat Pad (pg. 11)**
- (5) **Frozen Reheat Pad (pg. 11)**
- (6) **Turbo Defrost Pad (pg. 9)**
- (7) **Auto Cook Pads (pg. 12)**
- (8) **Timer Pad (pg. 13)**
- (9) **Clock Pad (pg. 7)**
- (10) **Stop/Reset Pad**

Before cooking: One tap clears your instructions.

During cooking: One tap temporarily stops the cooking process. Another tap cancels all your instructions and time of day appears in the Display Window.

- (11) **Start Pad**

One tap allows oven to begin functioning. If door is opened or **Stop/Reset** Pad is pressed once during oven operation, **Start** Pad must again be pressed to restart oven.

Beep Sound

When a pad is pressed correctly, a beep sound will be heard. If a pad is pressed and no beep is heard, the unit did not or could not accept the instruction. The oven will beep twice between programmed stages. At the end of any completed program, the oven will beep 5 times.

Let's Start To Use Your Oven!

1 Plug in

Plug into a properly earthed electrical outlet. "88:88" will appear in the Display Window. (This will immediately cease when any pad is pressed.)

2 Open Door

Open the door and place container with food on Glass Tray in the oven. Then close the door.

3 Select Power Level

e.g. Med-High

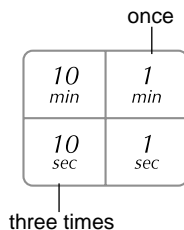
Press **Micro Power** Pad three times.
(see page 8 for Micro Power chart)

Micro Power

4 Set Time

e.g. 1 minute 30 seconds

Press numbered Time Pads



Verify your selection(s) in the Display Window.

1:30

5 Press

Start

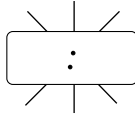
To Set Clock

You can use the oven without setting the clock.

1 Press

Clock

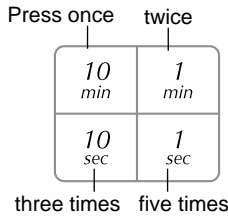
Colon will blink in Display Window.



2 Enter Time of Day

Enter time of day using Time Pads e.g. 12:35

Clock is a 12 hour display. There isn't a.m. or p.m. setting.



3 Press

Clock

Colon stops blinking; time of day is entered and locked into Display Window.

12:35

NOTES: 1. Oven will not operate while colon is still blinking

2. To reset time of day, repeat step 1 through 3.

3. The clock will keep the time of day as long as oven is plugged in and electricity is supplied.

4. Maximum time available is 12:59. Clock is 12 hour only. One o'clock will be displayed as 1:00 not 13:00.

To Use Child Safety Lock

This feature allows you to prevent operation of the oven by a young child; however, the door will open. You can set Child Safety Lock when colon or time of day is displayed.

To set:



To cancel:



To Cook / Reheat / Defrost by **Micro Power and Time**

1 Select Power Level

Press **Micro Power** Pad until the power level appears in the Display Window. (see chart below)

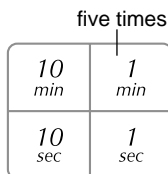


Note: When selecting High on the first stage, you can start from step 2.

2 Set Cooking Time

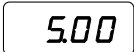
(High power: maximum up to 30 minutes or 29 minutes 99 seconds, other power levels: up to 99 minutes and 99 seconds for a single stage)

e.g. 5 minutes



3 Press

Cooking will start.
The time in the Display Window will count down.



For more than one stage cooking,

Repeat steps 1 & 2 above then press **Start**. The maximum number of stages for cooking is 3. The oven will beep twice between stages.

e.g. : Casserole

Stage 1

Stage 2

High for 10 minutes
to bring to a boil

Med-High for 80 minutes
to finish cooking by simmering

Micro Power:

The **Micro Power** Pad gives you a selection of different power levels representing decreasing amounts of microwave energy, used for cooking foods at different speeds.

e.g. The lower the micro power setting, the more evenly the food cooks, although it will take a little longer.

To select the correct power level for cooking different foods, refer to the chart below.

Press	POWER LEVEL	WATTAGE	EXAMPLE OF USE
1x	HIGH	1100 W	Boil water. Reheat. Cook vegetables, rice, pasta and noodles.
2x	DEFROST	330 W	Thaw foods.
3x	MED-HIGH	770 W	Cook poultry, meat, cakes, desserts. Heat milk.
4x	MEDIUM	600 W	Cook beef, lamb, eggs, fish and seafood. Melt butter.
5x	MED-LOW	330 W	Simmer soups, stews and casseroles (less tender cuts).
6x	LOW	110 W	Keep cooked foods warm, simmer slowly.

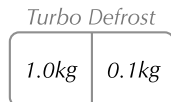
To Defrost

Turbo Defrost

This feature allows you to defrost meat, poultry and seafood automatically by just setting the weight of the food.

1 Set Weight

The shape and size of the food will determine the maximum weight the oven can accommodate. The recommended maximum weight of food depends on the oven cavity size. Weight must be programmed in kilograms and tenths of a kilogram (max 3.0 kg).



Enter weight.



2 Press

Defrost time appears in the Display Window and begins to count down.

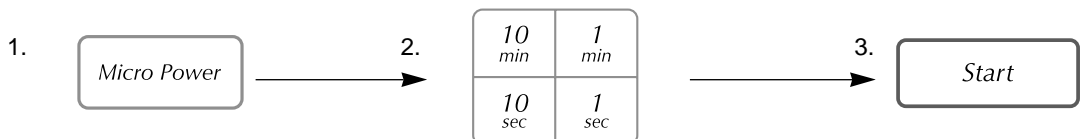
When cooking time is longer than 60 minutes, the time will appear in hours and minutes.

NOTES:

For further information, refer to next page.

Defrost by Micro Power and Time Setting

Defrosting is done on DEFROST Power



- Press twice for Defrost.
- Set time according to chart on page 10.
- Press.

Defrosting Tips and Techniques

Preparation for Freezing:

1. Heavy-duty plastic wraps, bags and freezer wrap are suitable.
2. Freeze meats, poultry and fish in packages with only 1 or 2 layers of food. To aid in separating layers, place two pieces of wax paper between them.
3. REMOVE ALL AIR and seal securely.
4. LABEL package with type and cut of meat, date and weight.
5. Defrosting times given in the charts are for thoroughly frozen foods (i.e. at least 24 hours in freezer maintained at -18°C or lower).

Defrosting Technique:

1. Remove from wrapper and set on a defrosting rack in a dish on Glass Tray.
2. On Turbo Defrost, the oven will beep during the defrosting time. At "beep", turn over all meat, poultry, fish and shellfish. Break apart stewing meat, chicken pieces and minced meat. Separate chops and hamburger patties. Shield thin ends of roasts, poultry legs and wings, fat or bones with foil.
3. Throughout the defrosting time, remove any defrosted portions of mince or cubed meat, etc.
4. After defrosting, large roasts may still be icy in the centre. Let stand, 15 to 30 minutes, in refrigerator to complete defrosting.

Defrosting Chart (by setting Micro Power at Defrost):

FOOD	APPROX. TIME (minutes per 500 g)	INSTRUCTION
MEAT		
Beef		
Minced Beef	8 - 11	Halfway through the defrost cycle, break apart minced beef, separate chops and remove meat that is defrosted.
Roast: Topside	12 - 15	
Beef Tenderloin	12 - 15	
Chuck or Rump	10 - 13	Turn meat over two to three times during defrosting.
Sirloin, rolled	11 - 14	
Steak	8 - 10	Shield edges and unevenly shaped ends of roasts halfway through the defrost cycle.
Miscellaneous	8 - 12	
Pork/Lamb		
Roast	9 - 12	Large roasts may still be icy in centre. Let stand.
Chops	8 - 11	
Ribs	8 - 12	
POULTRY		
Chicken		
whole	9 - 12	Turn poultry over two to four times during defrosting. Halfway through the defrost cycle, shield end of drumsticks, wings, breast bones and ends of poultry with foil.
pieces	8 - 11	
fillets	8 - 10	Break apart chicken pieces and remove small pieces such as wings, which may be defrosted before larger pieces.
Duck	10 - 12	
Turkey	10 - 13	Rinse poultry under cold water to remove ice crystals. Let stand 5 to 10 minutes, before cooking.
FISH & SHELLFISH		
Fish Fillets	9 - 11	Halfway through the defrost cycle, turn whole fish or blocks of fillets over. Also, break apart prawns or scallops.
Whole Fish	9 - 12	
Crabmeat	8 - 10	Remove any pieces that are defrosted.
Lobster Tails	8 - 10	
Sea Scallops	8 - 10	Let stand, 5 to 10 minutes, before cooking.
Green Prawns	10 - 12	

To Reheat Food Using *Auto Reheat / Frozen Reheat Pads*

1 Press

Auto Reheat

or

Frozen Reheat

until the desired weight appears in the Display Window.

2 Press

Start

Reheating time appears in the Display Window and begins to count down.

For best results on Auto Reheat, follow these recommendations:

Auto Reheat (250 g - 850 g)

- All foods must be pre-cooked. Suitable for casseroles, plated dinners, soups, stews, pasta dishes (except lasagne), and canned foods.
- Foods should be reheated from room temperature or refrigerator temperature. Do not reheat frozen foods on this setting.
- Foods should be covered loosely but completely with plastic wrap or a casserole lid which does not snap seal.
- Foods weighting less than 200 g and more than 900 g should be reheated by Micro Power and Time only.
- All foods should have a covered stand time of 3 to 5 minutes at the end of reheating.
- **Do not** reheat bread or pastry products; raw; uncooked or frozen foods; or beverages.
- Halfway through the cooking time, the oven will 'beep' to prompt you to stir or rearrange the foods. At the end of the cooking time, stir and let stand for 3 to 5 minutes.

Frozen Reheat (250 g - 850 g)

- Suitable for reheating pre-cooked soups, stews, casseroles, roast dinners, pasta dishes (except lasagne) and rice dishes from frozen temperature.
- This setting is not suitable for reheating frozen bread or pastry products, raw or uncooked foods or beverages.
- Remove convenience foods from foil or plastic packaging and place in an appropriate size dish.
- Cover dish with plastic wrap or a lid.
- Halfway through the cooking time, the oven will 'beep' to prompt you to stir or rearrange the foods. At the end of the cooking time, stir and let stand for 3 to 5 minutes.

INGREDIENT CONVERSION CHART

¼ cup	60 ml	¼ teaspoon	1 ml
⅓ cup	85 ml	½ teaspoon	2 ml
½ cup	125 ml	1 teaspoon	5 ml
⅔ cup	165 ml	2 teaspoons	10 ml
¾ cup	190 ml	3 teaspoons	15 ml
1 cup	250 ml	1 tablespoon	20 ml
1¼ cups	310 ml	1½ tbs	30 ml
1½ cups	375 ml	2 tbs	40 ml
2 cups	500 ml	3 tbs	60 ml
3 cups	750 ml	4 tablespoons	80 ml
3½ cups	875 ml		
4 cups	1 litre		
6 cups	1.5 litre		
8 cups	2 litre		

All recipes are tested using the standard measurements that appear in the above chart.

To Cook Food Using *Auto Cook Pads*

1 Press Desired Food Category Pad until the required food weight/serving size appears in the Display Window (see chart below)

e.g. Vegetables
 press once - 120 g is displayed
 press twice - 180 g

Vegetables

2 Press

Start

Cooking time appears in the Display Window and begins to count down.

To Reheat using

Auto Reheat

Frozen Reheat

Pad	Weight			
	1 tap	2 taps	3 taps	4 taps
<i>Auto Reheat</i>	250 g	450 g	650 g	850 g
<i>Frozen Reheat</i>	250 g	450 g	650 g	850 g

To Cook using *Auto Cook Pads*

Pad	Weight			
	1 tap	2 taps	3 taps	4 taps
<i>Vegetables</i>	120 g	180 g	250 g	370 g
<i>Frozen Vegetables</i>	120 g	250 g	500 g	750 g
<i>Root Vegetables</i>	250 g	370 g	500 g	900 g
<i>Pasta</i>	150 g	250 g	375 g	500 g
<i>Rice</i>	1.0 cup (0.2 kg)	1.5 cups (0.3 kg)	2.0 cups (0.4 kg)	2.5 cups (0.5 kg)
<i>Noodles</i>	200 g	350 g	500 g	800 g
<i>Fish</i>	120 g	250 g	370 g	500 g
<i>Chicken Pieces</i>	0.4 kg	0.6 kg	0.8 kg	1.0 kg

To Use Timer Pad

To Use as a Kitchen Timer

Press.

Timer

Set desired amount of time.
(up to 99 minutes and 99 seconds)

10 min	1 min
10 sec	1 sec

Press Start.
Time will count down
without oven operating.

Start

To Set Standing Time

Press.

Set the desired
cooking programme.
(see Page 8)

Timer

Set desired amount of standing time.
(up to 99 minutes and 99 seconds)

10 min	1 min
10 sec	1 sec

Press Start.
Cooking will start.
After cooking, standing
time will count down
without oven operating.

Start

To Set Delay Start

Press.

Timer

Set desired amount of delay time.
(up to 99 minutes and 99 seconds)

10 min	1 min
10 sec	1 sec

Press Start.
Delayed time will count
down. Then cooking
will start.

Set the desired
cooking programme.
(see Page 8)

Start

NOTES:

1. If oven door is opened during the Standing Time or Kitchen Timer, the time in the Display Window will continue to count down.
2. Delay Start/Standing Time cannot be programmed before/after any Auto Control function. This is to prevent the standing temperature of the food from rising before defrosting or cooking begins. A change in the starting temperature could cause inaccurate results and / or food may deteriorate.

Before Requesting Service

THESE THINGS ARE NORMAL

The oven causes interference with my TV.

Some radio and TV interference might occur when you cook with the microwave oven. This interference is similar to the interference caused by small appliances such as mixers, vacuums, hair dryers, etc. It does not indicate a problem with your oven.

Steam accumulates on the oven door and warm air comes from the oven vents.

During cooking, steam and warm air are given off from the food. Most of the steam and warm air are removed from the oven by the air which circulates in the oven cavity. However, some steam will condense on cooler surfaces such as the oven door. This is normal.

I accidentally ran my microwave oven without any food in it.

Running the oven empty for a short time will not damage the oven. However, we do not recommend this. indicate a problem with your oven.

PROBLEM

POSSIBLE CAUSE

REMEDY

Oven will not turn on.



The oven is not plugged in securely.

Remove plug from outlet, wait 10 seconds and re-insert.

Circuit breaker or fuse is tripped or blown.

Reset external circuit breaker or replace external fuse.

There is a problem with the outlet.

Plug another appliance into the outlet to check if the outlet is working.

Oven will not start cooking.



The door is not closed completely.

Close the oven door securely.

Start was not pressed after programming.

Press **Start** Pad.

Another programme has already been entered into the oven.

Press **Stop/Reset** Pad to cancel the previous programme and programme again.

The programme has not been entered correctly.

Programme again according to the Operating Instructions.

Stop/Reset has been pressed accidentally.

Programme over again.

The words "DEMO MODE"* appear on the screen



Clock Pad has been pressed three times.

Deactivate mode by pressing **Clock** Pad three times.

The "Child" appears in the display window.



The Child Lock was activated by pressing **Start** pad 3 times.

Deactivated Lock by pressing **Stop/Reset** pad 3 times.

When the oven is turning on, there is noise coming from the Glass Tray.



The Roller Ring and oven bottom are dirty.

Clean these parts according to "Care of Your Microwave Oven" (see next page).

If it seems there is a problem with the oven, contact an authorised Service Centre.

Care of Your Oven

BEFORE CLEANING:

Remove plug from outlet. If impossible, leave oven door open to prevent oven from accidentally turning on.

AFTER CLEANING:

Be sure to replace the Roller Ring and Glass Tray in the proper position and press **Stop/Reset** Pad to clear the Display Window.

Inside of the oven:

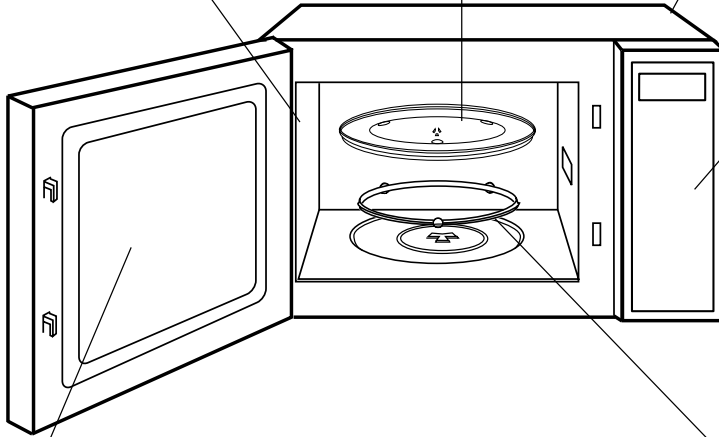
Wipe with a damp cloth. Mild detergent may be used if the oven gets very dirty. The use of harsh detergent or abrasives is not recommended.

Glass Tray:

Remove and wash in warm soapy water or in a dishwasher. If grease accumulates, clean with a non-abrasive nylon mesh scouring pad and a non-abrasive cleanser.

Outside oven surfaces and back vents.

Clean with a damp cloth. To prevent damage to the operating parts inside the oven, water should not be allowed to seep into ventilation openings.



Control Panel:

•If it becomes wet, clean with a soft, dry cloth. Do not use harsh detergents or abrasives on the Control Panel.

Oven Door:

Wipe with a soft cloth when steam accumulates inside or around the outside of the oven door. This may occur when the microwave oven is operated under high humidity conditions and in no way indicates a malfunction of the unit or of microwave leakage.

Roller Ring and oven cavity floor:

Wipe the bottom surface of the oven with mild detergent water or window cleaner and dry. Roller Ring may be washed in mild soapy water or dishwasher. These areas should be kept clean to avoid excessive noise and scratching.

Technical Specifications

	NN-S454
Power Supply:	230 - 240 V 50 Hz
Power Consumption*:	1,000 W 4.5 A
Power Requirement (Maximum):	1,650 W 7.4 A
Output*:	1,100 W
Outside Dimensions (H x W x D):	304 x 510 x 380 mm
Oven Cavity Dimensions (H x W x D):	194.5 x 362x 356.5 mm
Operating Frequency:	2,450 MHz
Uncrated Weight:	Approx. 11.5 kg

* IEC Test Procedure

Specifications subject to change without notice.

Panasonic Technics

WARRANTY

1. The product is warranted for 12 months from the date of purchase. Subject to the conditions of this warranty Panasonic or its Authorised Service Centre will perform necessary service on the product without charge for parts or labour if, in the opinion of Panasonic, the product is found to be faulty within the warranty period.
2. This warranty only applies to products sold by Panasonic Australia or its Authorised Distributors or Dealers and only where the products are used and serviced within Australia or its territories. Warranty cover only applies to service carried out by a Panasonic Authorised Service Centre and only if valid proof of purchase is presented when warranty service is requested.
3. This warranty only applies if the product has been installed and used in accordance with the manufacturer's recommendations (as noted in the operating instructions) under normal use and reasonable care (in the opinion of Panasonic). The warranty covers normal domestic use only and does not cover damage, malfunction or failure resulting from use of incorrect voltages, incorrect installation, accident, misuse, neglect, build-up of dirt or dust, abuse, misadjustment of customer controls, mains supply problems, thunderstorm activity, infestation by insects or vermin, tampering or repair by unauthorised persons (including unauthorised alterations), exposure to abnormally corrosive conditions or any foreign object or matter having entered the product.
4. This warranty does not cover the following items unless the fault or defect being complained of existed at the time of purchase.
 - (a) Video or AudioTapes.
 - (b) Video or Audio Heads and Stylis resulting from wear and tear in normal use.
 - (c) Shaver Heads or Cutters.
 - (d) Cabinet parts.
 - (e) User replaceable Batteries.
 - (f) Thermal Paper, Toner/Ink Cartridges, Drums, Developer, Film (Ink/Ribbon), Film Cartridge, Printer Heads
 - (g) Microwave Oven cook plates.
5. If warranty service is required you should:
 - Telephone Panasonic's Customer Care Centre on 132600 for the name/address of the nearest Authorised Service Centre.
 - Provide a copy of your purchase receipt as proof of date of purchase.
 - Send or bring the product to a Panasonic Authorised Service Centre. Please note that freight to and / or from your nearest Authorised Service Centre must be arranged by you.
 - Note that home service is available for the following products in the major metropolitan areas of Australia or the normal operating areas of the nearest Authorised Service Centres:

Television Receivers (screen size greater than 39 cm)	Microwave Ovens (convection only)
Electronic Organs or Pianos	Whiteboard (except portable type)
6. The warranties hereby conferred do not extend to any costs associated with the delivery, handling, freighting or transportation of the product or any part thereof or replacement of and do not extend to any damage or loss occurring during, or associated with, transit.

Panasonic Authorised Service Centres are located in major metropolitan areas and most regional centres of Australia, however, coverage will vary dependant on product. For advice on exact Authorised Service Centre locations for your product, please telephone our Customer Care Centre on 132600.

Unless otherwise specified to the consumer the benefits conferred by this express warranty are additional to all other conditions, warranties, guarantees, rights and remedies expressed or implied by the Trade Practices Act 1974 and similar consumer protection provisions contained in legislation of the States and Territories and all other obligations and liabilities on the part of the manufacturer or supplier and nothing contained herein shall restrict or modify such rights, remedies, obligations or liabilities.

**THIS WARRANTY CARD AND THE PURCHASE DOCKET (OR SIMILAR PROOF OF PURCHASE)
SHOULD BE RETAINED BY THE CUSTOMER AT ALL TIMES**

**If you require assistance regarding warranty conditions or any other enquiries,
please contact the Panasonic Customer Care Centre**

By phone **132600** or via the website **www.panasonic.com.au**

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Quick Guide to Operation

Feature	How to Operate				
To Set Clock (☞ page 7)					
To Set / Cancel Child Safety Lock (☞ page 7)	<p>To Set: Start (3 times) → Display [Child]</p> <p>To Cancel: Stop/Reset (3 times) → Display 12:35</p>				
To Cook / Reheat / Defrost by Micro Power and Time Setting (☞ page 8)	<p>Micro Power → Select power. → <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>10 min</td><td>1 min</td></tr><tr><td>10 sec</td><td>1 sec</td></tr></table> → Set the cooking time. → Start</p>	10 min	1 min	10 sec	1 sec
10 min	1 min				
10 sec	1 sec				
To Cook using "Auto Cook" Pads [A] (☞ page 12)	<p>Press until desired food category pad appears. (e.g.) → Start</p>				
To use Turbo Defrost Pad (☞ page 9)	<p><i>Turbo Defrost</i> <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>1.0kg</td><td>0.1kg</td></tr></table> → Set weight. → Start</p>	1.0kg	0.1kg		
1.0kg	0.1kg				
To Reheat using "Auto Reheat" Pads (☞ page 11)	<p>Auto Reheat or Frozen Reheat → Press for desired category → Start</p>				
To Use as a Kitchen Timer (☞ page 13)	<p>Timer → <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>10 min</td><td>1 min</td></tr><tr><td>10 sec</td><td>1 sec</td></tr></table> → Start</p>	10 min	1 min	10 sec	1 sec
10 min	1 min				
10 sec	1 sec				
To Set Standing Time (☞ page 13)	<p>Set the desired cooking programme. (See Page 8) → Timer → <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>10 min</td><td>1 min</td></tr><tr><td>10 sec</td><td>1 sec</td></tr></table> → Start</p>	10 min	1 min	10 sec	1 sec
10 min	1 min				
10 sec	1 sec				
To Set Delay Start (☞ page 13)	<p>Timer → <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>10 min</td><td>1 min</td></tr><tr><td>10 sec</td><td>1 sec</td></tr></table> → Set the desired cooking programme. (See Page 8) → Start</p>	10 min	1 min	10 sec	1 sec
10 min	1 min				
10 sec	1 sec				