

UNDERCOUNTER & COUNTERTOP REFRIGERATOR UCR101 / UCR101G

MODEL

INSTRUCTION MANUAL

- FIRST EDITION -

- Thank you for purchasing UCR101 / UCR101G Undercounter & Countertop Refrigerator of Yamato Scientific.
- To use this unit properly, read this "Instruction Manual" thoroughly before using this unit. Keep this instruction manual around this unit for referring at any time.

WARNING: Carefully read and thoroughly understand the important warning items described in this manual before using this unit.

Yamato Scientific America Inc. Santa Clara, CA

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READ THIS BOOK! Note to Customer:

This merchandise was carefully packed and thoroughly inspected before leaving our plant. Responsibility for its safe delivery was assumed by the carrier upon acceptance of the shipment. As directed on the side of your packing carton, claims for loss or damage sustained in transit must be made on the carrier as follows:

A.) Visible Loss, Damage, Shortage External Evidence of Loss or Damage: This type of damage must be noted on the freight bill and acknowledged by the carrier's agent (driver) at time of delivery. Make sure you get a signed copy. Send a written request for an inspection to the carrier.

B.) Concealed Damage: This type of damage may not be discovered until the unit is being unpacked. When concealed damage is discovered, stop unpacking immediately and contact the carrier immediately to report the claim and request an inspection. This should be done as soon as possible and, in any case, must be done within 15 days or receiving the merchandise. If at all possible, do not move the item and save all packaging material for carrier's inspection.

C.) FAILURE TO FOLLOW THESE INSTRUCTIONS MAY RESULT IN THE CARRIER REFUSING TO HONOR YOUR COMPANY'S CLAIM. UNDER NO CIRCUMSTANCES SHOULD THE MERCHANDISE BE RETURNED TO THE MANUFACTURER. NO RETURNS WILL BE ACCEPTED WITHOUT PRIOR AUTHORIZATION. Part number 20068, Rev 0

RECEIVING

Your unit was built, packaged, and inspected with extreme care. We shipped it to you using carriers we trust with a proven track record of careful handling, good customer service, and on time delivery. Unfortunately, regardless of all of these efforts sometimes accidents happen and occasionally those accidents result in shipping damage. When the carrier picked up the merchandise from us, they assumed responsibility for its condition en route to you. Thus, any claims for shipping damage must be filed with the carrier. Like anybody else, carriers don't like to pay out on insurance claims, so their claims procedures and requirements are very restrictive. You should consult the carrier's website for their specific claims procedures. You should also know that time is of the essence.

There are two general types of shipping damage. The first is <u>visible damage</u>. This type of damage includes visible loss, damage, shortage or any external evidence of loss or damage that is visible at time of delivery. This type of damage must be noted in detail on your delivery receipt. Make sure the driver signs and dates the delivery receipt, acknowledging the damage. This has to happen at the time of delivery or it won't happen at all. Keep a copy for your records and send another to the carrier's damage claims department along with a formal request for an inspection report. Follow up with a phone call. Their contact information can be found on the carrier's web site.

The second type of shipping damage is <u>concealed damage</u>. This type of damage will probably not be apparent at time of delivery and may not be discovered until unpacking and inspecting the unit. Remember, time is of the essence here. You should unpack and inspect the unit as soon as possible. Each day that passes reduces the likelihood that the carrier will pay the claim. **As soon as the concealed damage is discovered, stop unpacking and retain all packing materials. Contact the carrier by phone to report the claim.** Note the date and time and person you spoke with. Get a claim number. Follow up with a written letter referencing the claim number and including a formal request for an inspection. Again, consult the carrier's website for specific claim instructions and follow them precisely.

AS STATED ABOVE, THE CARRIER IS YOUR SOLE SOURCE FOR SATISFACTION OF A DAMAGE CLAIM. UNDER NO CIRCUMSTANCES SHOULD THE MERCHANDISE BE RETURNED TO THE MANUFACTURER. NO RETURNS WILL BE ACCEPTED WITHOUT PRIOR AUTHORIZATION.

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INSTALLATION INSTRUCTIONS

UNCRATING

Move your refrigerator as close to the final location as possible before unpacking. Remove the carton and the styrofoam strips. The location should be as close as possible to the power outlet so no extension cord is needed.



LEVELING

You can level your unit with the screw-

type adjustable leveling legs on the front corners of the unit. Turn counterclockwise to raise the corner; turn clockwise to lower it. Leveling legs are required in front only. Unit may have a slight tilt from front to back. This is acceptable and is recommended on this unit.

POWER SOURCE



<u>Never</u> plug in more than one unit per electrical outlet. The supply circuit to this cabinet must conform to all National and Local Electrical Codes. Consult the cabinet Serial-Data plate for voltage, cycle, phase, and amp requirements before making connection. VOLTAGE SHOULD NOT VARY MORE THAN 5% FROM SERIAL PLATE RATINGS. A

separate circuit is recommended to prevent possible loss of product due to over-loading or failure of other equipment on the same circuit. PROTECT THE CIRCUIT WITH A 20 AMP DELAY-TYPE FUSE OR CIRCUIT BREAKER. Do not use an extension cord. Be sure your unit is properly grounded. Use the 3-prong plug provided into a 3-prong grounded outlet. (Only this method complies with national electrical codes, local codes and ordinances.) Unless the above grounding method is followed, you are not protected against severe or lethal shock in the event of a short circuit of an electrical component or wiring of the unit.



STARTING

There are no compressor shipping bolts to loosen or valves to open. All that is necessary after the unit has been properly leveled is to plug the service cord into an electrical outlet When starting this new appliance, allow the cabinet to operate a minimum of four hours or until it has started cycling normally before placing product in the cabinet. The motor compressor may start and stop several times when the unit is first started or after defrosting, especially if the weather is very hot. This is normal. The motor compressor will cycle normally as soon as the excess heat has been removed.

TEMPERATURE CONTROL

NOTE: The control is preset at the factory to provide the desired air and product temperatures inside of the unit and requires no further adjustment. Please contact the manufacturer's Technical Service Department before making any adjustments to determine if adjustment is necessary and, if so, to make sure it is performed properly.

This unit has an electronic temperature controller located on the front panel above the door. This controller controls the compressor. Operation of this controller is described starting on page 7 of this manual.

REFRIGERATOR OPERATION

After the unit is properly installed and power is applied, it will take some time before the system is cooled down to temperature and cycling normally. You should wait 4 hours on the first startup before beginning to add product to the unit. This ensures that the unit is installed and operating properly before being put into service. After this wait time, the unit should be cycling in the desired temperature band. The units are calibrated before leaving the factory, so no adjustment should be necessary.

Loading the units will again cause temperature to rise as the warmer product is introduced into the compartment. If a large amount of product is to be introduced, it is a good idea to do it in stages, allowing several hours between stages to allow temperature to stabilize again before introducing additional warm product. This will minimize the temperature transient while loading. Other tips for successful loading include:

- Leave about 2-3 inches of free space along the back and sides of the unit to allow for proper air flow and, therefore, more even cooling of the product.
- When loading the top shelf, avoid blocking the evaporator fan(s) (if installed). There should be at least 4 inches of clearance around the fan to allow proper air flow.
- Do not overload the unit. Maximum suggested load is about 75% of the chamber volume. Additionally, the load should be distributed evenly from top to bottom and side to side for best results.
- Minimize the time the door is open. On top of letting the cold air out, you are also letting warm, moist air in which can result in more condensation and/or frost in the unit.

Remember that the units are calibrated to the desired temperature band before leaving the factory. We also do extensive testing to ensure that these temperatures will result in product temperatures in the desired band. There should be no need to adjust the temperature control on these units, but if it is necessary, they can be adjusted using the electronic temperature control on the front of the unit.

It is STRONGLY RECOMMENDED that you contact the manufacturer's Technical Support Department prior to performing any temperature adjustments to ensure the adjustment is necessary and, if so, it is performed correctly.

ELECTRONIC TEMPERATURE CONTROL

Description and Functions

The Electronic Temperature Control is a digital microprocessor based temperature control, indication, and alarm system. It continuously monitors the temperature of the refrigerator/freezer through its sensor assembly. When the temperature warms to the point where it reaches the upper temperature limit, the controller sends a signal to turn on the compressor, which cools the unit. The snowflake icon will illuminate on the display. The compressor is kept running until the temperature reaches the cold setting. When this lower temperature set point is reached the controller turns off the compressor and the snowflake icon extinguishes. The refrigerator/freezer warms over time and the process continues.

The Electronic Temperature Control also provides the following functions:

- Red LED for visual indication of an alarm condition
- Beeper for audible indication of an alarm condition
- A preprogrammed 5 minute delay from the time a set point is attained until an alarm condition is declared. This prevents spurious alarms for things like door openings.



Operating Mode

The Electronic Temperature Control normally displays the current interior temperature in degrees Celsius. To display the compressor off set point, press the SET button and release. The display will momentarily display the set point and then revert to the current temperature.

The control also records the warmest and the coldest temperatures seen by the controller since the memory was last reset. To access these temperatures, press the **up arrow** for the warmest temperature or press the **down arrow** for the coldest temperature. To clear out the memory, press the corresponding arrow button. Immediately press and hold the SET button until the "rSt" message is displayed. The corresponding temperature memory is now erased.

Programming Mode

Note: The programming mode gives access to several functions that are not intended for user adjustment. The procedures below provide direction to the functions that you can adjust. Please do not attempt to change any of the other functions in the programming area or your unit may be damaged or become unstable.

Locking and Unlocking the Control

The control keys can be locked out to prevent inadvertent operation.

To lock the control keys, simultaneously press and hold the up arrow and the down arrow. The display will show "POF". At this point you can only use keys to view the SET temp and the minimum and maximum stored temperatures.

To unlock the control keys, simultaneously press and hold the up arrow and the down arrow. The display will show "Pon". The control keys are now unlocked and you can perform the programming functions below.

Adjusting the temperature control set points:

NOTE: The temperature control set points are preset at the factory to provide the desired air and product temperatures inside of the unit and require no further adjustment. Please contact the manufacturer's Technical Service Department before making any adjustments to determine if adjustment is necessary and, if so, to make sure it is performed properly.



- To set the compressor off set point, press and hold the SET key for 2 seconds. The current value will be displayed and the C or F icon will flash. Use the up or down keys to change the value. Press SET again to lock in the value.
- To set the compressor on set point, you will need to adjust the differential, or Hysteresis setting. This is the number of degrees the controller will allow temperature to drift up until it restarts the compressor. For example, if the SET point is 3 degrees Celsius and the

Hysteresis is set at 3, then the compressor will cycle from 3 to 6 degrees Celsius. To change this value, press SET and DOWN keys for 3 seconds to enter programming mode. "Hy" will display meaning Hysteresis. Press Set again and the current value will be displayed. Use the UP and/or DOWN arrow keys to adjust the value and press SET again to lock it in. Press SET and UP to return to Operating Mode.

Adjusting other User Adjustable settings:

To change between Celsius and Fahrenheit scales, press SET and DOWN keys for 3 seconds to enter programming mode. "Hy" will display. Press the UP or DOWN keys several times to cycle through the parameters until "CF" is displayed. Press SET to display the current setting (either C for Celsius or F for Fahrenheit). Use the UP or DOWN key to choose the desired setting. Press SET again to lock it in. Press SET and UP to return to Operating Mode.
 To change the Hi or Low Alarm set points, press SET and DOWN keys for 3 seconds to enter programming mode. "Hy" will display. Press the UP or DOWN keys several times to cycle through the parameters until "ALU" for Alarm Upper (High Temperature Alarm) or ALL for Alarm Lower (Low Temperature Alarm) is displayed. Press SET to display the current value. Use the UP and/or DOWN key to choose the desired value. Press SET again to lock it in. Press SET and UP to return to Operating to lock it in.

QUICK TROUBLESHOOTING GUIDE

Check these items before calling for service

PROBLEM:	POSSIBLE CAUSE / SOULTIONS:			
Unit does not run	 Electrical circuit is not 110-120V 60Hz. The power cord is not plugged in. No power at electrical outlet. Check to make sure breaker is not tripped or fuse is not blown. Additionally, make sure unit is not plugged into a Ground Fault Circuit Interrupter (GFCI) type of outlet. 			
Unit does not maintain at the proper temperature	 Check the room temperature. We recommend the refrigerator or freezer should be placed in the air conditioned room between 65°F to 85°F. If the room temp is too warm, the refrigerator or freezer may not be able to maintain the interior temp at proper range. Door is not closed properly. Amount of stored product is overloaded. Product replacements are pushed against rear wall or interrupted the proper refrigerator air circulation. For the proper air circulation, place the products evenly on each shelf. Do not push against the refrigerator's rear or side walls. Evaporator is blocked by frost or ice. Remove the products, unplug the refrigerator or freezer power, and allow the unit to defrost. If the problem still exists, call for service. 			
Appliance runs too long	 Prolong door openings. Control set too cold. Room temperature is high which will make the unit work harder to keep cool. 			
Temperature of external wall surface is warm	• The exterior walls can be as much as 30 degrees warmer than room temperature due to the embedded condenser coils. This is normal when the unit is operating.			
Compressor noises	 Check the unit level. Also ensure none of the pipes in the compressor area are touching each other or against the side. Compressor may be overheated. Please check the room temp and ensure the range is within 65°F to 85°F. A buzzing noise may indicate improper voltage to the compressor. Check supply voltage. If the problem still exists, call for service. 			

PROBLEM:	POSSIBLE CAUSE / SOULTIONS:		
Moisture collects inside	 Door gasket is not sealing properly. Check for debris, cracks, and items passing through door at the gasket. The refrigerator or freezer is facing a doorway or is underneath of air conditioning vent. Relocate the unit or redirect air vent. Too many door openings. Minimize time door is open. Hot, humid weather increases condensation. Make sure there is a water trap (U-shaped loop) in the drain tube near the compressor. This will "trap" a small amount of water in the loop and prevent air from entering the chamber through the tube. 		
Moisture collects on outside surface	Hot, humid weather increases condensation.As humidity decreases, moisture will disappear.		
The display shows "SO" and the compressor does not run	• The temperature sensor is open. Call for service.		
The display shows "SC" and the compressor does not run	• The temperature sensor is shorted. Call for service.		
The display shows "HH" and the compressor does not run	• The ambient temperature is above 40C/104F. Stop using immediately.		
The display shows "LL" and the compressor does not run	• The ambient temperature is below -40C/-40F. Stop using immediately.		

MOISTURE DURING THE SUMMER SEASON

The amount of moisture, condensation, or high humidity related issues increase during the summer and, in most cases, will self-resolve when the weather cools down. Please note a refrigeration system does NOT generate moisture or water but simply condenses the moisture that is already in the chamber. Keeping the unit in an air conditioned, low humidity space will resolve many issues. Other things you should check

- 1. Location of the refrigerator (See Quick Troubleshooting Guide above)
- 2. Door sealing and frequency of door opening event (See Quick Troubleshooting Guide above)
- 3. Make sure there is a water trap (U-shaped loop) in the drain tube near the end. This will "trap" a small amount of water in the loop and prevent air from entering the chamber through the tube.

BEFORE CALLING THE MANUFACTURER'S TECHNICAL SUPPORT DEPARTMENT, please have the unit's model and serial number ready as well as the problem description. The model and serial number is located on the serial tag which can be found on the interior left upper wall of the unit.

MAINTENANCE AND CLEANING

These units require very little maintenance. They should be cleaned periodically to keep them running efficiently. Use the cleaning agents and suggestions below for best results.

CLEANING

PART	CLEANING AGENTS	TIPS AND PRECAUTIONS
Interior and Door Liners	Soap and water Baking soda and water	Use 2 tablespoons of baking soda in 1 quart of warm water Be sure to wring excess water out of sponge or cloth before cleaning around controls, light bulb or any electrical parts.
Glass Doors (if applicable)	Soap and water	Clean the glass with a mild detergent and water on a soft cloth or sponge. Rinse with water and wipe dry
Door Gaskets	Soap and water	Wipe gaskets and their seating surfaces with a clean soft cloth
Shelves	Soap and water	Do not wash removable shelves in dishwasher
Exterior and Handles	Soap and water Non Abrasive Glass Cleaner	Do not use commercial household cleaners, ammonia, or alcohol to clean handles Use a soft cloth to clean smooth handles Do not use a dry cloth to clean smooth handles

STAINLESS STEEL CARE AND CLEANING

<u>Use the proper tools-</u> When cleaning stainless steel surfaces; take care to use non-abrasive tools. Soft cloths and plastic scouring pads will not harm the steel's passive layer. Stainless steel pads may be used but be sure to always scrub in the direction of the polishing lines.

<u>Clean with the polish lines</u>- Some stainless steels come with visible polishing lines or "grain". When visible lines are present, you should always scrub in a motion that is parallel to them. When the grain cannot be seen, play it safe and use a soft cloth or plastic scouring pad.

<u>Use alkaline, alkaline chlorinated or non-chloride containing cleaners-</u>While many traditional cleaners are loaded with chlorides, there is now an ever increasing choice of non-chloride cleaners. If you are not sure of your cleaner chloride content, contact your cleaner supplier. If they tell you that your present cleaner contains chlorides, ask if they have an alternative. Avoid cleaners containing quaternary salts as they also can attach stainless steel and cause pitting and rusting.

<u>Treat your water-</u> Though this is not always practical, softening hard water can do much to reduce deposits. There are certain filters that can be installed to remove corrosive elements. If you are not sure of the proper water treatment, call a treatment specialist.

<u>Keep your equipment clean-</u>Use proper cleaners at recommended strength. Clean frequently to avoid build-up of hard stubborn stains.

<u>**Rinse thoroughly**</u> - If chlorinated cleaners are used, you must rinse and wipe dry immediately. The sooner you wipe off standing water, the better. After wiping the unit down, allow it to air dry. The oxygen helps maintain the stainless steels passivity film.

Never use hydrochloric acid (muriatic acid) on stainless steel.

Job	Cleaning Agent	Comments
Routine Cleaning	Soap, ammonia,	Apply with cloth or
	detergent medallion	sponge
Fingerprints & smears	Arcal 20, Lac-O-Nu	Provides barrier firm
	Ecoshine	
Stubborn stains &	Cameo, Talc, Zud, First	Rub in direction of polish
discoloration	Impression	lines
Grease & fatty acids, blood	Easy-off, DeGrease It	Excellent removal on all
	Over Aid	finishes
Grease & oil	Any good commercial	Apply with a sponge or
	detergent	cloth
Restoration – Passivation	Benefit, Super Sheen	

Passive Film Breakdown

- Corrosion on metals is everywhere. We recognize it quickly on iron and steel as unsightly yellow/ orange rust. Such metals are called "active" because they actively corrode in the natural environment.
- Contrary to popular belief, Stainless Steels are susceptible to rusting. The first signs are
 on the microscopic level. If you were to look at them under a microscope or through a
 magnifying glass, you would see small pits and cracks will grow and deepen while all the
 time exuding unsightly, red-orange rust. More severe and visible cracking can also take
 place.
- Stainless steels are protected by a thin layer of chromium oxide, and it important to keep that film of chromium oxide intact. If the passive film of your stainless steel has been broken, you are subject to corrosion and rust. The integrity of the chromium oxide can be compromised by:
 - **Mechanical abrasion** from steel pads, brushes, and scrapers.
 - **Hard Water** leaves mineral deposits behind that, if left to dry will break down the passive layer and rust your stainless steel.
 - **Chlorides** are in water, food, and table salt, but most prominently in cleaning agents.

Instructions to change Controller from Celsius to Fahrenheit For Refrigerator



Press and hold [**DOWN**] + [**SET**], until [**Hy**] appears on display, Now release the buttons



Press and hold [DOWN] + [SET] again, until [Pr2] appears

The [**Pr2**] will appear briefly and disappear when you let go of the buttons.

Release the buttons, and the display will return to [Hy]



Press [UP] or [DOWN] until [CF] is displayed, press [SET] Change [C] to [F], and press [SET]. This changes Celsius to Fahrenheit



Then press [**UP**] or [**DOWN**] until [**LS**] is displayed, press [**SET**] (Low set point limit)

Change the value to [30] for factory setting, and press [SET]



Then press [UP] or [DOWN] until [US] is displayed, press [SET] (Upper set point limit)

Change the value to [60] for factory setting, and press [SET]



Then press [UP] or {DOWN] until [ALU] is displayed, press [SET] (Upper alarm setting)

Change the value to [50] for factory setting, and press [SET]



Then press [UP] or [DOWN] until [ALL] is displayed, press [SET] (Lower alarm setting) Change the value to [32] for factory setting, and press [SET]



Then press [**UP**] or [**DOWN**] until [**Hy**] is displayed, press [**SET**] (Differential)

Change the value to [4) for factory setting, and press [SET]



Do not push any other buttons and let the display return back to normal operation

Press and hold [**SET**] until F blinks Change value to [**39**] for factory setting, this will set your set point Your unit will run between 39°Fand 43°F

Now your unit should be working correctly.

WARRANTY INFORMATION

WARRANTY POLICY

Yamato Scientific America warrants, from the date of shipment from warehouse in Cincinnati, Ohio, U.S.A., for a period of one (1) year. All products, parts and materials shall be free of defects in material and workmanship under normal use consistent with the product instructions. This product warranty does not apply to products purchased from unauthorized resellers/distributors.

Yamato reserves the right to inspect the product under claim before having an obligation to repair or replace the defective unit covered by this warranty. All costs of shipping to Yamato for inspection shall be borne solely by the purchaser. Products repaired or replaced under the terms of the warranty may be refurbished or new product will be provided at the discretion of Yamato.

Warranty Conditions

This warranty shall have force and effect only if all items are used with proper circuits, voltages, and frequencies and the operation thereof is in accordance with instructions furnished by the manufacturer.

This warranty shall not extend to such parts as refrigerants, finishes, belts, and dryers.

This warranty shall not extend to ordinary wear and tear, or ordinary refrigeration service and refrigeration adjustments, unless specifically included in the equipment purchase contract.

This warranty does not apply to equipment or parts which fail because of abuse, accident, alteration, misuse, erosion, improper installation, or improper replacement of a repaired item.

The buyer assumes all risks for results obtained from these products, whether used alone or in combination with other items. It is expressly understood that we are not responsible and will not be held liable for damage and/or injury caused using our products.

WARRANTY INFORMATION

WARRANTY POLICY CONTINUED

Product Return Policy

If you are not satisfied with your purchase and wish to make a return, contact our customer service to inquire about a Return of Merchandise Authorization Number (RMA). Merchandise returned without an RMA number will not be accepted and will be returned to the sender. Return requests must be made within 15 days of the customer's receipt of the merchandise.

All returns must be unused and in unopened original packaging and include all items and manuals originally shipped.

The purchaser is responsible for the shipping cost of return shipment. Insurance on the return shipment is required. Damage or loss of merchandise during shipping is the responsibility of the sender. Returned shipments that arrive damaged will be returned to the sender, and credit will not be rendered.

All returned products, parts and materials are subject to a 25% restocking fee. Shipping and handling cost are non-refundable. All retrofitted, customized and special order item sales are final and non-returnable.

In Case of Request for Repair

If the failure occurs, stop the operation, turn OFF the power switch, and unplug the power plug. Please contact the sales agency that this unit was purchased, or Yamato Scientific's sales office.

< Check following items before contact >

- Model Name of Product
- Serial Number
- Purchase Date
- Issue (as detailed as possible)

Responsibility

Please follow instructions in this document when using this unit. Yamato Scientific has no responsibility for accidents or breakdown of device due to failure to comply. Never conduct what this document forbids as unexpected accidents or breakdown may result.

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