

ALTO SHAAM®

OPERATION and CARE MANUAL



HEATED DISPLAY CASE

MODELS: *HN-96*
 HNSYS-96
 HN-96/PR
 HNSYS-96/PR
 HN-96/PL
 HNSYS-96/PL

HALO  **HEAT COOK/HOLD/SERVE SYSTEMS**



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ALTO-SHAAM® HEATED DISPLAY CASES

UNPACKING and SET-UP

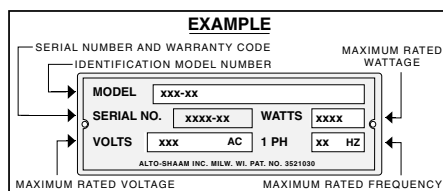
The Alto-Shaam Hot Display Case has been thoroughly tested, checked for calibration, and inspected to insure only the highest quality display case is provided. When you receive your cabinet, check for any possible shipping damage and report it at once to the delivering carrier. See *Transportation Damage and Claims* section located in this manual.

In order to maintain established National Sanitation Foundation standards, all stationary floor models must be sealed to the floor with a R.T.V. or silastic meeting N.S.F. requirements or have 6"(153mm) unobstructed clearance beneath the unit. Counter and table units must be mounted on legs of a sufficient 4"(102mm) height to provide minimum unobstructed space beneath the unit. These legs are supplied with the unit. Warranty will become null and void if these directions are not followed. Save all the information and instructions packed inside the deli case. Complete and return the warranty card to the factory as soon as possible to assure prompt service in the event of a warranty parts and labor claim.

NOTE: Any and all claims for warranty must include the full model number and serial number of the unit.

ELECTRICAL INSTALLATION

1. An identification tag is permanently mounted on case.



2. A proper receptacle or outlet configuration or permanent wiring for this unit must be installed by a licensed electrician in accordance with applicable, local electrical codes.
3. Plug the case into a properly grounded receptacle only, positioning the unit so that the power cord is easily accessible in case of an emergency. Arcing will occur when connecting or disconnecting the display case unless all controls are in the OFF



ENSURE POWER SOURCE MATCHES VOLTAGE STAMPED ON NAMEPLATE OF UNIT

PROCEDURES

1. **DO NOT ADD WATER TO THE CASE**
Halo Heat display cases maintain a constant but gentle temperature and eliminate much of the moisture loss associated with conventional display cases. Because of this gentle heat, it is not necessary to add water to the deli case. As a matter of fact, adding water is not recommended since water will accelerate the deterioration of the product, and may damage the case.
2. **PLACE DIVIDERS and SERVING PANS IN CASE**
Refer to the pan layout diagrams for different types of pan accommodations. A complete pan configuration layout is located in this manual. It is VERY important to

note, no matter what type of pan configuration you choose, pan separator bars or divider bars must be used to close all gaps between pans, and all gaps between the pans and the edges of the display case. If these gaps are not closed, a natural chimney will be created, and most of the heat will be pulled out of the bottom of the case, into the display area. As a consequence, heat distribution will be uneven and uniform temperature will be difficult to hold. If needed, additional pan divider bars are available.

3. **TURN DISPLAY LIGHTS "ON" AND SET THE THERMOSTAT(s) AT NUMBER "10" TO PREHEAT**

An indicator light will illuminate when the thermostat(s) is (are) turned "ON." The indicator(s) will remain lit as long as the unit is preheating or calling for heat. The unit should be preheated, at the number 10 setting, for a minimum of twenty minutes before loading the case with food. When preheating is completed, or whenever the unit reaches any temperature set by the operator between 1 and 10, the indicator light(s) will go "OUT".

4. **LOAD HOT FOODS INTO THE UNIT**

Be certain only hot food is transferred into the display case. Before loading food into the case, use a pocket-type meat thermometer to make certain all products have reached an internal temperature of 140° to 160° F. (60° to 71°C). If any food product is not at proper serving temperature, use a Halo Heat cooking and holding oven, set at 250° to 275°F (121° to 135°C), to bring the product within the correct temperature range.

5. **RESET THERMOSTAT AS NEEDED**

After all product is loaded into the unit and the doors are closed, reset the thermostat. For fully enclosed cases, reset the thermostat to number 8. For self-service units, maintain the thermostat at number 9 or 10. Cases with a self-service section should be set at number 9 or 10 for the self-service section only. *These settings will not necessarily be final.* Proper temperature range depends on the type of products and the quantities being held, so it is necessary to periodically use a pocket thermometer to check each item to make certain the correct temperatures are being maintained. Proper temperature range is between a minimum of 140-160°F (60°-71°C). Normally this will require a thermostat setting between 6 and 8 in fully enclosed cases. Self-service cases or sections will always require a higher thermostat setting.

6. **PLACEMENT OF FOOD PROBE (OPTIONAL)**

If the unit is equipped with the probe accessory, wipe each probe and probe tip with a disposable alcohol pad to clean and sanitize before using. If the probe is left in its bracket, the LED temperature display will indicate the ambient air temperature inside the case. To place a probe into food kept in the case, remove the probe from the bracket and push the probe tip halfway into the product, positioning the tip at the center of the food mass.



DISCONNECT UNIT FROM POWER SOURCE BEFORE CLEANING OR SERVICING

If placing into solid foods such as meat roast or poultry breasts, push the probe in from a straight downward position or in from the side to the center position. If placing into a semi-liquid or liquid product, the probe cable will probably need to be secured to keep the probe positioned properly. Do not let the probe tip touch the edges or side of the container. Tape the probe cable to the lip or edge of the container. Wipe each probe tip with a clean paper towel to remove food debris after each use. Follow by wiping probes with a disposable alcohol pad. Return each probe to the proper bracket position.

7. SERVE FRESH HOT FOOD

Keep hot deli foods looking fresh. Occasionally stir or rotate foods as needed. Serve products in the proper package or container. Keep display case doors closed after serving. Wipe spills immediately to assure maximum eye appeal and ease end of the day cleanup.

CARE and CLEANING

The cleanliness and appearance of this unit will contribute considerably to operating efficiency and savory, appetizing food. Good equipment that is kept clean works better and lasts longer.



1. CLEAN THE PROBES DAILY

Remove all food soil from probes. Wipe entire probe and cable assembly with warm detergent solution and a clean cloth. Remove detergent by wiping each probe and cable with clean rinse water and a cloth. Wipe probes with disposable alcohol pad or sanitizing solution recommended for food contact surfaces. Allow probe and cable to air dry in probe holding bracket.

2. THOROUGHLY CLEAN THE UNIT DAILY

- A. Turn lights and adjustable thermostat(s) to the "OFF" position, and disconnect unit from power source.
- B. Remove, cover or wrap, and store unused products under refrigeration.
- C. Clean the interior metal surfaces of the cabinet with a damp cloth and any good alkaline or alkaline chlorinated based commercial detergent or grease solvent at the recommended strength. Use a plastic scouring pad or oven cleaner for difficult areas. Avoid the use of abrasive cleaning compounds, chloride based cleaners, or cleaners containing quaternary salts. Rinse carefully to remove all residue and wipe dry.
- D. Clean the glass with a window cleaner.
- E. To help maintain the protective film coating on polished stainless steel, clean the exterior of the unit with a cleaner recommended for stainless steel surfaces. Spray the cleaning agent on a clean cloth and wipe with the grain of the stainless steel.



Always follow appropriate state or local health (hygiene) regulations regarding all applicable cleaning and sanitation requirements for equipment.



At no time should the inside or outside of the cabinet be washed down, flooded with water or liquid solution. Do not use water jet to clean. NEVER STEAM CLEAN. Severe damage or electrical hazard could result.



Disconnect unit from power source before cleaning or servicing.



Ensure Power Source Matches Voltage Stamped on Nameplate of Unit

CAUTION

Hood glass extended to the full upright position is stabilized through the use of gas struts designed for the full load bearing weight. These struts could weaken or fail due to wear, environmental conditions or aging. Operators should be aware of any decrease in effort to lift the hood and initiate an immediate gas strut safety check. **DO NOT LIFT THE HOOD IN THIS CONDITION.**

SAFETY ALERT

This units performance has been optimized using the factory provided bulbs. These lamps should be replaced with an exact replacement or with a factory recommended replacement. These bulbs have been treated to resist breakage and must be replaced with similarly treated bulbs in order to maintain compliance with NSF standards.

CAUTION

SANITATION GUIDELINES

Food flavor and aroma are usually so closely related that it is difficult, if not impossible, to separate them. There is also an important, inseparable relationship between cleanliness and food flavor. Cleanliness, top operating efficiency, and appearance of equipment contribute considerably to savory, appetizing foods. Good equipment that is kept clean, works better and lasts longer.

Most food imparts its own particular aroma and many foods also absorb existing odors. Unfortunately, during this absorption, there is no distinction between *GOOD* and *BAD* odors. The majority of objectionable flavors and odors troubling food service operations are caused by bacteria growth. Sourness, rancidity, mustiness, stale or other *OFF* flavors are usually the result of germ activity.

The easiest way to insure full, natural food flavor is through comprehensive cleanliness. This means good control of both visible soil (dirt) and invisible soil (germs). A thorough approach to sanitation will provide essential cleanliness. It will assure an attractive appearance of equipment, along with maximum efficiency and utility. More importantly, a good sanitation program provides one of the key elements in the prevention of food-borne illnesses.

A controlled holding environment for prepared foods is just one of the important factors involved in the prevention of food-borne illnesses. Temperature monitoring and control during receiving, storage, preparation, and the service of foods are of equal importance.

The most accurate method of measuring safe temperatures of

INTERNAL FOOD PRODUCT TEMPERATURES		
HOT FOODS		
DANGER ZONE	40° TO 140°F	(4° TO 60°C)
CRITICAL ZONE	70° TO 120°F	(21° TO 49°C)
SAFE ZONE	140° TO 165°F	(60° TO 74°C)
COLD FOODS		
DANGER ZONE	ABOVE 40°F	(ABOVE 4°C)
SAFE ZONE	36°F TO 40°F	(2°C TO 4°C)
FROZEN FOODS		
DANGER ZONE	ABOVE 32°F	(ABOVE 0°C)
CRITICAL ZONE	0° TO 32°F	(-18° TO 0°C)
SAFE ZONE	0°F OR BELOW	(-18°C OR BELOW)

both hot and cold foods is by internal product temperature. A quality thermometer is an effective tool for this purpose, and should be routinely used on all products that require

holding at a specific temperature.

A comprehensive sanitation program should focus on the training of staff in basic sanitation procedures. This includes personal hygiene, proper handling of raw foods, cooking to a safe internal product temperature, and the routine monitoring of internal temperatures from receiving through service.

Most food-borne illnesses can be prevented through proper temperature control and a comprehensive program of sanitation. Both these factors are important to build quality service as the foundation of customer satisfaction. Safe food handling practices to prevent food-borne illness is of critical importance to the health and safety of your customers. HACCP, an acronym for Hazard Analysis (at) Critical Control Points, is a quality control program of operating procedures to assure food integrity, quality, and safety. Taking steps necessary to augment food safety practices are both cost effective and relatively simple. While HACCP guidelines go far beyond the scope of this manual, additional information is available by contacting the USDA/FDA Food-borne Illness Education Information Center at (301)504-6803.

GENERAL HOLDING GUIDELINES

Chefs, cooks and other specialized food service personnel employ varied methods of cooking. Proper holding temperatures for a specific food product must be based on the moisture content of the product, product density, volume, and proper serving temperatures. Safe holding temperatures must also be correlated with palatability in determining the length of holding time for a specific product.

Halo Heat maintains the maximum amount of product moisture content without the addition of water, water vapor, or steam. Maintaining maximum natural product moisture preserves the natural flavor of the product and provides a more genuine taste. In addition to product moisture retention, the gentle properties of Halo Heat maintain a consistent temperature throughout the cabinet without the necessity of a heat distribution fan, thereby preventing further moisture loss due to evaporation.

In an enclosed holding environment, too much moisture content is a condition which can be relieved. A product achieving extremely high temperatures in preparation must be allowed to decrease in temperature before being placed in a controlled holding atmosphere. If the product is not allowed to decrease in temperature, excessive condensation will form increasing the moisture content on the outside of the product.

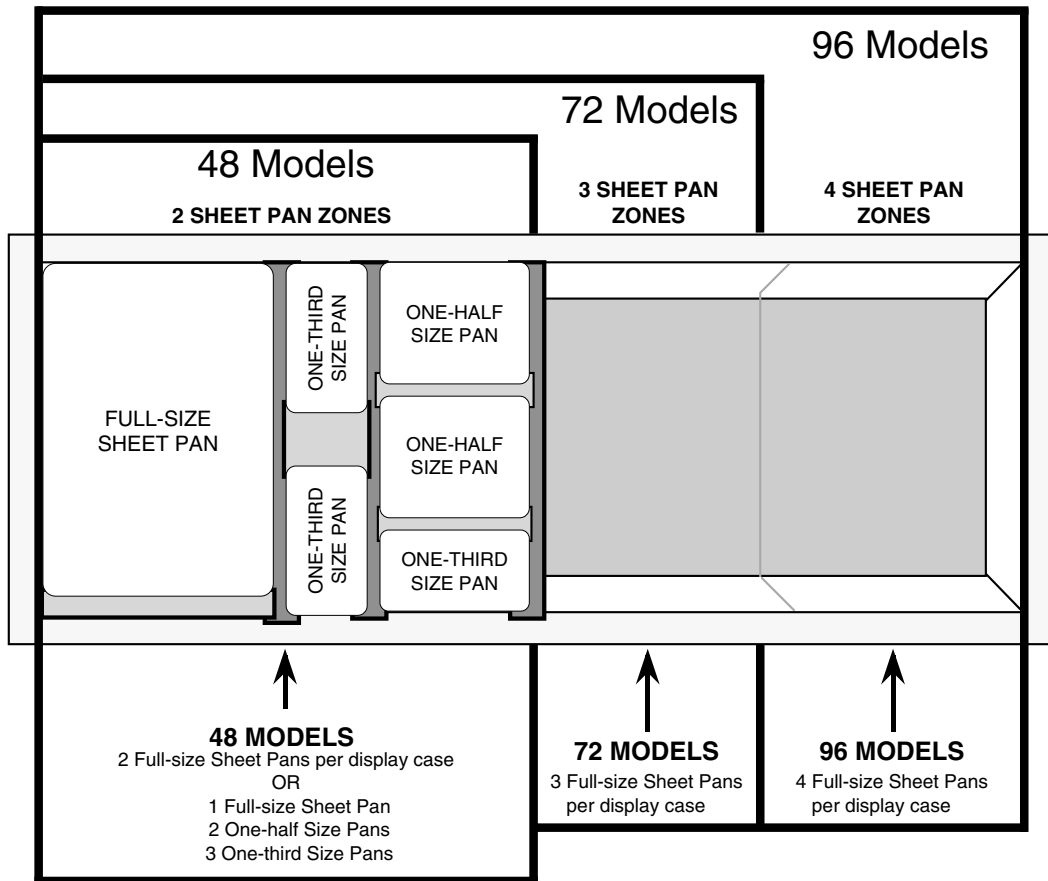
Most Halo Heat Holding Equipment is provided with a thermostat control between 60° and 200°F (16° to 93°C). If the unit is equipped with vents, close the vents for moist holding and open the vents for crisp holding.

If the unit is equipped with a thermostat indicating a range of between 1 and 10, use a metal-stemmed indicating thermometer to measure the internal temperature of the product(s) being held. Adjust the thermostat setting to achieve the best overall setting based on internal product temperature.

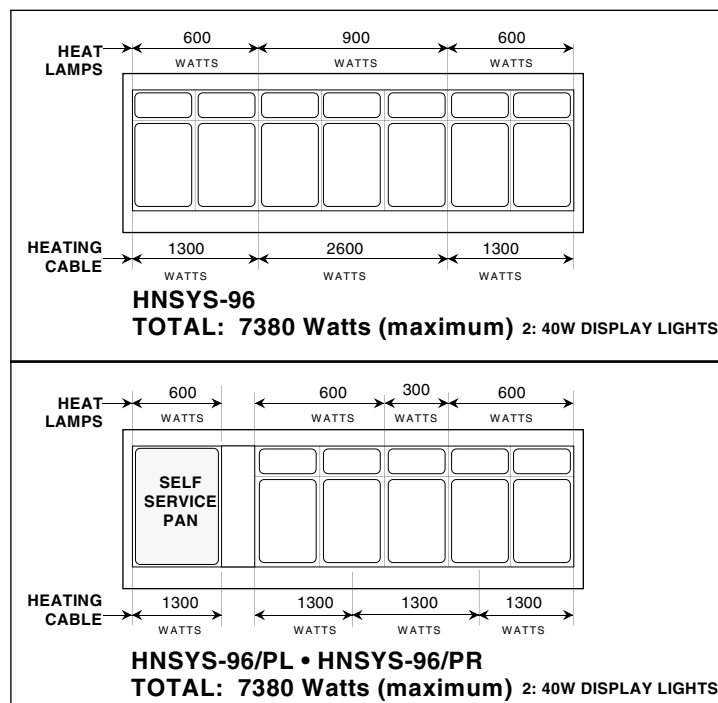
HOLDING TEMPERATURE RANGE		
MEAT	FAHRENHEIT	CELSIUS
BEEF ROAST — Rare	140°F	60°C
BEEF ROAST — Med/Well Done	160°F	71°C
BEEF BRISKET	160° — 175°F	71° — 79°C
CORN BEEF	160° — 175°F	71° — 79°C
PASTRAMI	160° — 175°F	71° — 79°C
PRIME RIB — Rare	140°F	60°C
STEAKS — Broiled/Fried	140° — 160°F	60° — 71°C
RIBS — Beef or Pork	160°F	71°C
VEAL	160° — 175°F	71° — 79°C
HAM	160° — 175°F	71° — 79°C
PORK	160° — 175°F	71° — 79°C
LAMB	160° — 175°F	71° — 79°C
POULTRY		
CHICKEN — Fried/Baked	160° — 175°F	71° — 79°C
DUCK	160° — 175°F	71° — 79°C
TURKEY	160° — 175°F	71° — 79°C
GENERAL	160° — 175°F	71° — 79°C
FISH/SEAFOOD		
FISH — Baked/Fried	160° — 175°F	71° — 79°C
LOBSTER	160° — 175°F	71° — 79°C
SHRIMP — Fried	160° — 175°F	71° — 79°C
BAKED GOODS		
BREADS/ROLLS	120° — 140°F	49° — 60°C
MISCELLANEOUS		
CASSEROLES	160° — 175°F	71° — 79°C
DOUGH — Proofing	80° — 100°F	27° — 38°C
EGGS — Fried	150° — 160°F	66° — 71°C
FROZEN ENTREES	160° — 175°F	71° — 79°C
HORS D'OEUVRES	160° — 180°F	71° — 82°C
PASTA	160° — 180°F	71° — 82°C
PIZZA	160° — 180°F	71° — 82°C
POTATOES	180°F	82°C
PLATED MEALS	180°F	82°C
SAUCES	140° — 200°F	60° — 93°C
SOUP	140° — 200°F	60° — 93°C
VEGETABLES	160° — 175°F	71° — 79°C

The holding temperatures listed are suggested guidelines only.

SHEET PAN CONFIGURATIONS • HOT DELI DISPLAY CASES

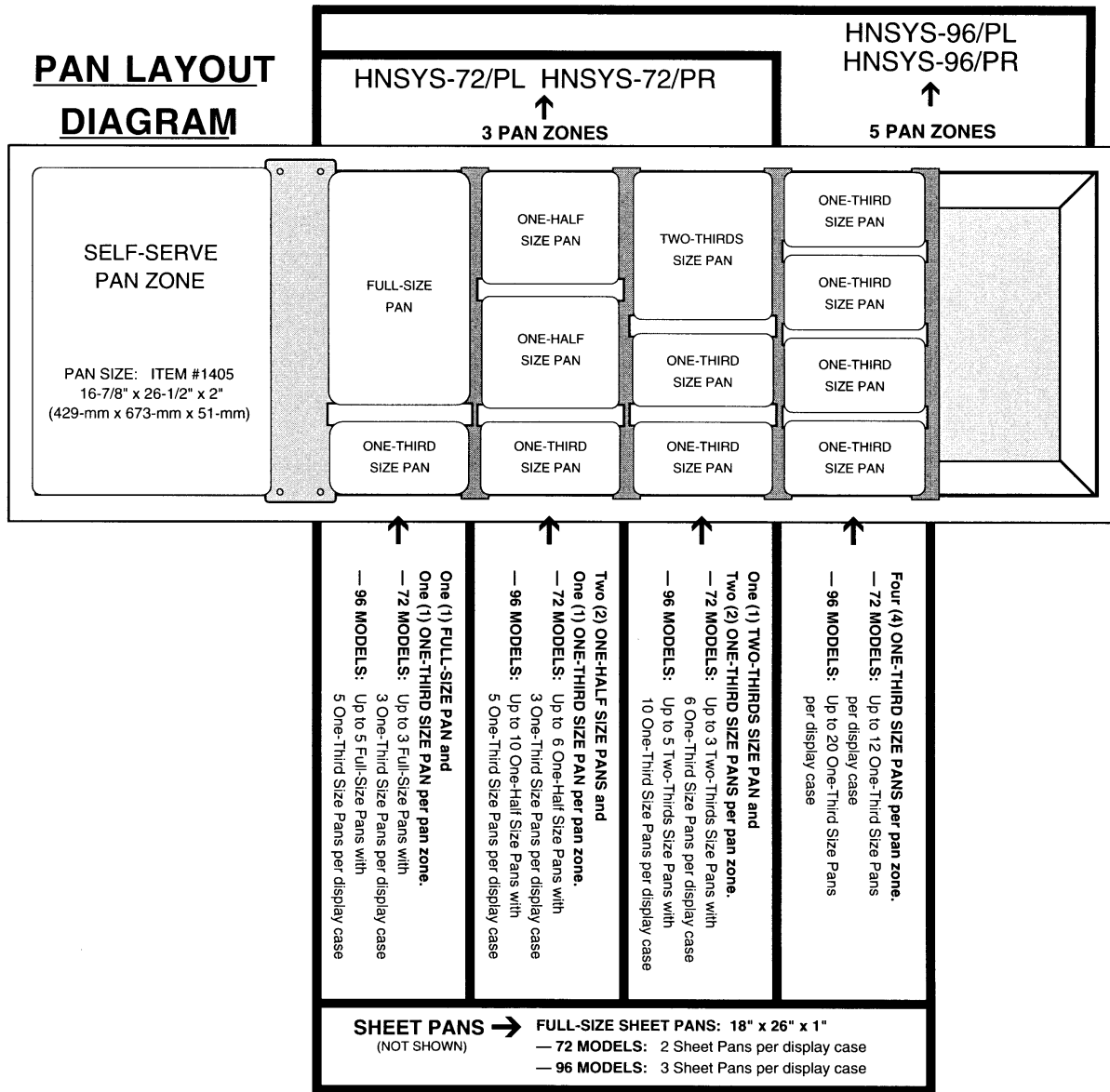


POWER CONFIGURATIONS



PAN CONFIGURATIONS • SELF-SERVE

PAN LAYOUT DIAGRAM



STANDARD PAN SIZES

FULL-SIZE PAN	
12" x 20" x 4"	325-mm x 530-mm x 100-mm GN 1/1
12" x 20" x 2-1/2"	325-mm x 530-mm x 65-mm GN 1/1
ONE-HALF SIZE PAN	
12" x 10" x 4"	325-mm x 265-mm x 100-mm GN 1/2
12" x 10" x 2-1/2"	325-mm x 265-mm x 65-mm GN 1/2
TWO-THIRDS SIZE PAN	
12" x 14" x 4"	325-mm x 352-mm x 100-mm GN 2/3
12" x 14" x 2-1/2"	325-mm x 352-mm x 65-mm GN 2/3
ONE-THIRD SIZE PAN	
12" x 6" x 4"	325-mm x 176-mm x 100-mm GN 1/3
12" x 6" x 2-1/2"	325-mm x 176-mm x 65-mm GN 1/3
FULL-SIZE SHEET PAN	
18" x 26" x 1"	N/A

STANDARD PAN DIVIDER & SEPARATOR BARS

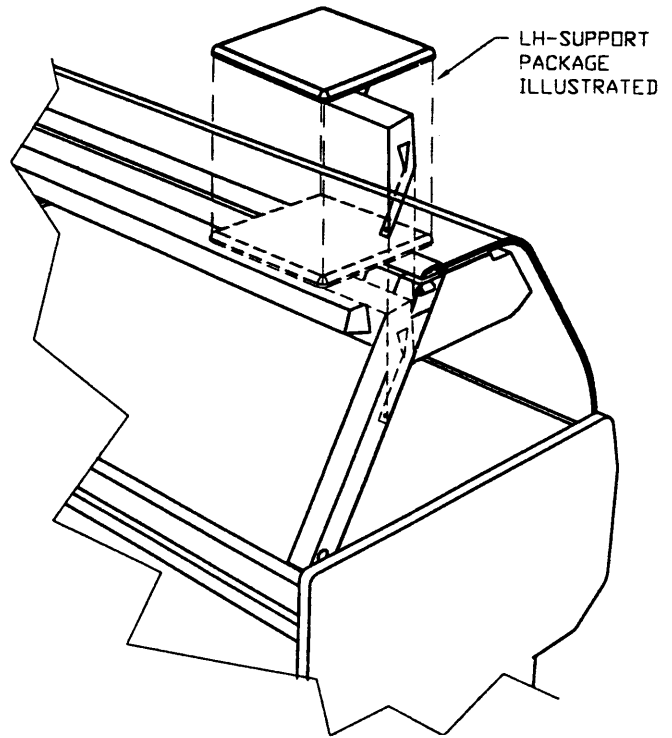
Item No.	DESCRIPTION	SIZE (W x L)	72 MODELS	96 MODELS
11046	SHEET PAN DIVIDER BAR	1-3/8" x 27-13/16" (35-mm x 706-mm)	—	—
11047	ONE-THIRD SIZE PAN	3-1/4" x 7" (83-mm x 178-mm)	—	—
11317	FULL, HALF & THIRD SIZE - LONG	1" x 27-7/8" (25-mm x 708-mm)	4	6
11318	FULL, HALF & THIRD SIZE - SHORT	1" x 12-3/4" (25-mm x 324-mm)	15	21
11319	SHEET PAN DIVIDER BAR	3-1/4" x 27-3/16" (83-mm x 706-mm)	—	—
11320	SHEET PAN DIVIDER BAR	1-3/4" x 17-3/4" (45-mm x 451-mm)	3	4
11357	SHEET PAN DIVIDER BAR	5-29/32" x 27-13/16" (150-mm x 706-mm)	2	3
11732	SHEET PAN DIVIDER BAR	3-3/4" x 27-13/16" (95-mm x 706-mm)	—	1
1865	GASTRONORM DIVIDER (220V)	7/8" x 27-7/8" (22-mm x 708-mm)	4	6

NOTE: ADDITIONAL PAN SEPARATOR BARS MAY BE REQUIRED TO ACCOMMODATE MAXIMUM CAPACITIES.

INSTALLATION INSTRUCTIONS – OPTIONAL SCALE PLATFORM

1. Disconnect the unit from the power source.
2. Lift hood glass up to access the outer top.
3. Position the platform mounting bracket in the desired location along the upper rear edge on the outer top, making sure that the bracket is tight against the bend in the top. Using the bracket as a template, mark and punch six mounting holes in the outer top. Drill these six holes with a No. 21 drill, and tap with a 10-32 UNF thread.
4. Attach the scale shelf assembly to the outer top using the six 10-32x1/2" slotted truss-head screws provided (Alto-Shaam part number SC-2661).
5. Remove the four nuts from the bottom of the platform. Mount support (bracket provided) to platform using screws as a guide. While pushing up on support, mark two mounting holes on the support.
6. Remove the support. Drill these mounting holes with a No. 21 drill and tap with a 10-32" UNF thread. Replace support and mount to unit with the two 10-32x1/2" screws provided (Alto-Shaam part number SC-2661). Replace nuts on platform bottom and tighten support to platform.
7. Apply a silicone bead to all perimeter meeting surfaces between the mounting bracket and the outer top.

NOTE: These platforms are intended for use in the CLOSED position ONLY. They slide away from the unit for cleaning. Using scales with platforms in the OUT position may result in incorrect data on scales.



The scale shelf platform can be removed from the mounting bracket assembly by removing the 10-32 screw/stop located on the bottom of the scale shelf. Removing the screw allows the shelf to be slid past, and lifted off the shelf guide pins. Failure to replace this screw prior to use could result in serious bodily injury, and/or damage to equipment.

HN-96/PR, HNSYS-96/PR HN-96/PL, HNSYS-96/PL

Cable Heating Service Kits -

#4881 #4878*

includes:

CB-3045	Cable Heating Element	210'	72'
CR-3226	Ring Connector	12	4
IN-3488	Insulation Corner	1'	1'
BU-3105	Shoulder Bushing	12	4
BU-3106	Cup Bushing	12	4
SL-3063	Insulating Sleeve	12	4
TA-3540	Electrical Tape	1	1
ST-2439	Stud, 10-32	12	4
NU-2215	Hex Nut	24	8

* for 2' self-service well

HN-96, HNSYS-96

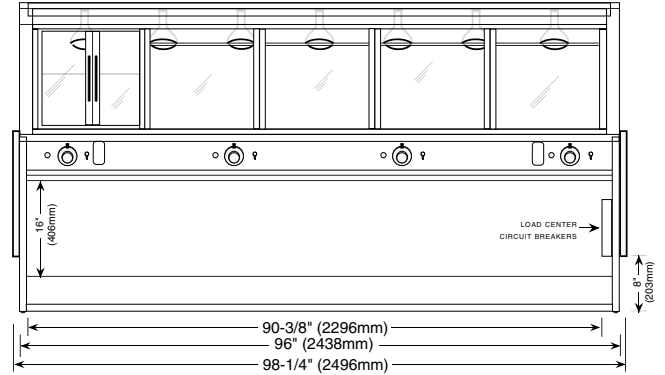
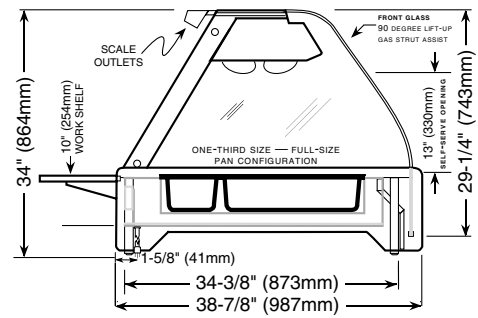
Cable Heating Service Kit #14228

includes:

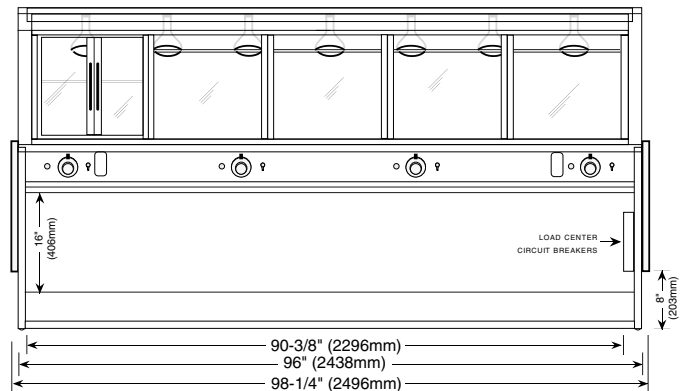
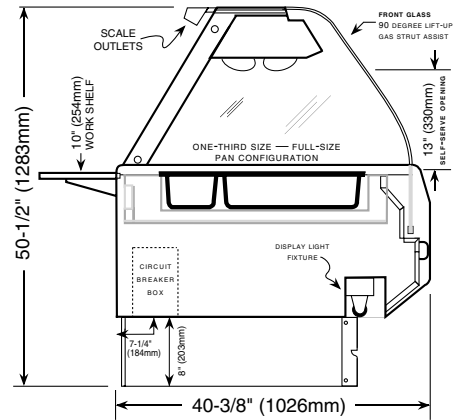
CB-3045	Cable Heating Element	265 feet
CR-3226	Ring Connector	8
IN-3488	Insulation Corner	8 feet
BU-3105	Shoulder Bushing	8
BU-3106	Cup Bushing	8
SL-3063	Insulating Sleeve	8
TA-3540	Electrical Tape	1 roll
ST-2439	Stud, 10/32	8
NU-2215	Hex Nut	16

HN-96 Series Options & Accessories

Bulb (100 Watt, 130 Volt)	LP-33253
Carving Station, Single Well	55299
Custom Panel, End Panel and Bumper Colors	FACTORY QUOTE
End Panel, Black Laminate (HNSYS ONLY)	PE-22709
End Panel, Kiosk Assembly Kit (HN ONLY)	14599
Gauge, Interior Ambient Temperature	GU-33384
Glass Cover, 2' Curved (HN-96/PL, HN-96/PR)	GL-23745
Glass, Tempered End Pane, Bronze Reflective	
↳ LEFT-HAND	GL-22601
↳ RIGHT-HAND	GL-22602
Independent Circuit Cordset Pkg*: HN (120/208-240 ONLY)	14221
Independent Load Center Pkg*: HNSYS (120/208-240 ONLY)	14220
*NOT CSA APPROVED	
Menu Board System (TWO REQUIRED)	MB-23092
Platform, Scale (120/208-240V ONLY), LEFT-HAND	14548
Platform, Scale (120/208-240V ONLY), RIGHT-HAND	14547
Pocket Thermometer, °F	TH-3300
Pocket Thermometer, °C	TH-3412
Product Temp. Probe Package, HN-96	5297
Product Temp. Probe Package, HN-96/PL & HN-96/PR	5296
Timer Bar (ELECTRONIC)	
↳ HN(SYS)-96/PL, 6 ft.	55202
↳ HN(SYS)-96/PR, 6 ft.	55204
↳ HN(SYS)-96/P, 8 ft.	55206
↳ HN(SYS)-96/PL, 8 ft.	55216
↳ HN(SYS)-96/PR, 8 ft.	55218
↳ Probe assembly, for 6 ft. Timer Bar	44085
↳ Probe assembly, for 8 ft. Timer Bar	44086
Trim Kit, Dual Case	4584
↳ Tempered Divider Glass	GL-22598
Work Surface, Stainless Steel	15605
Pan Divider Bars for HNSYS-96/PL or PR	
↳ FULL/HALF/THIRD SIZE (LONG BAR)	6 11317
↳ FULL/HALF/THIRD SIZE (SHORT BAR)	21 11318
↳ SHEET PAN	4 11320
↳ S-PAN DIVIDER (LONG)	3 11357
↳ PAN GRID	1 PN-2115
↳ SELF-SERVE PAN	1 1405
↳ SHELF	1 1407
↳ SHEET PAN FILLER BAR: 3-3/4" (95mm)	1 11732



EXTERIOR DIMENSIONS



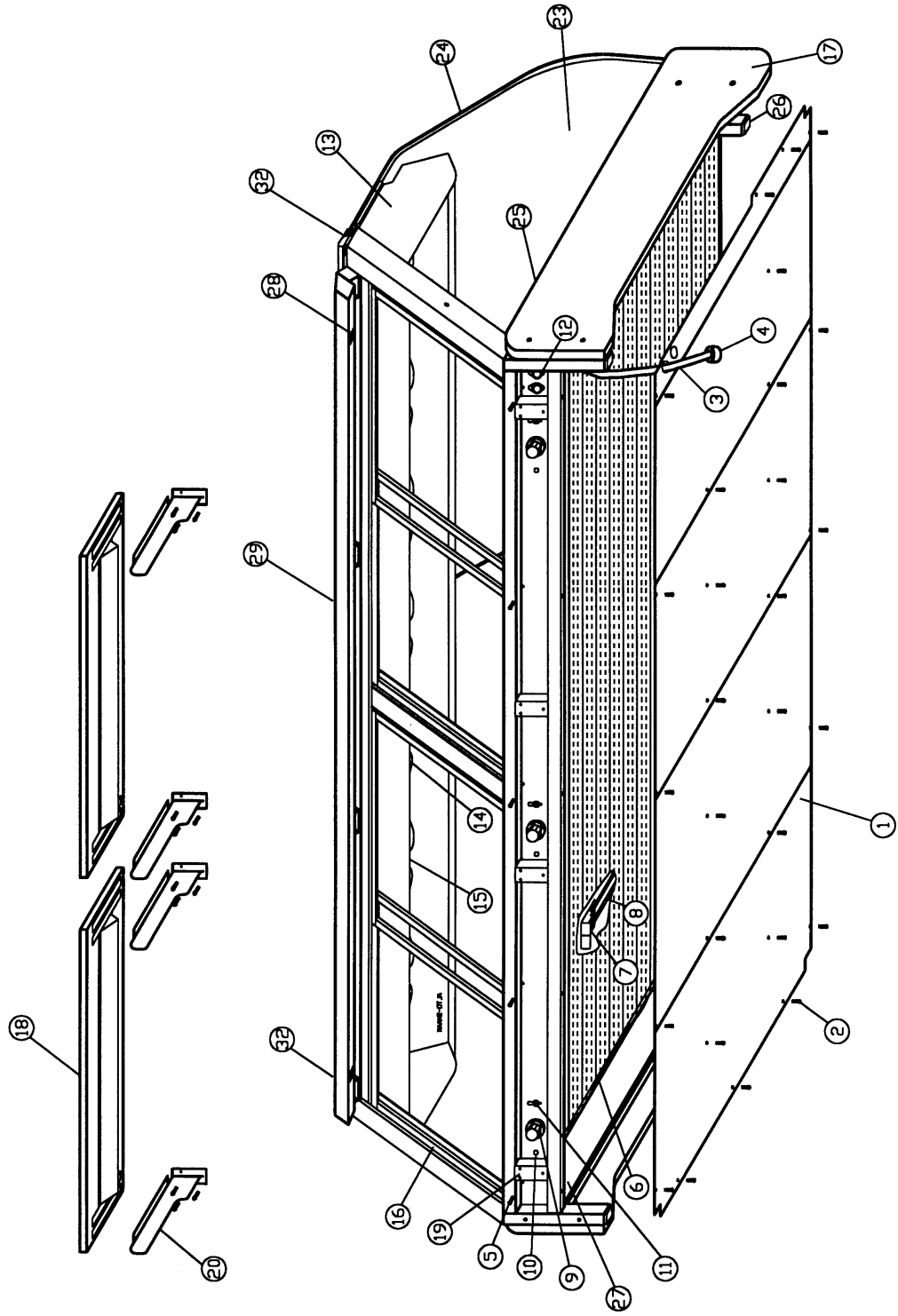
HN-96			HNSYS-96				
12/22/00	PART DESCRIPTION	QTY	ALTO-SHAAM PART NO.	12/22/00	PART DESCRIPTION	QTY	ALTO-SHAAM PART NO.
1.	BOTTOM END PANEL	1	13028	1.	BOTTOM END PANEL	1	13028
	BOTTOM RIGHT-HAND PANEL, 4'	1	13029		BOTTOM RIGHT-HAND PANEL, 4'	1	13029
	BOTTOM LEFT-HAND PANEL, 4'	1	13030		BOTTOM LEFT-HAND PANEL, 4'	1	13030
	BOTTOM PANEL, 6'	1	13031		BOTTOM PANEL, 6'	1	13031
	BOTTOM PANEL, 8'	1	13032		BOTTOM PANEL, 8'	1	13032
	SCREWS, 8-32X1/2"	29	SC-2425		SCREWS, 8-32X1/2"	29	SC-2425
	SCREWS, 8-32X1/4"	2	SC-2459		SCREWS, 8-32X1/4"	2	SC-2459
3.	CORD: 6' (1829mm)	1	CD-3987	3.	CONTROL PANEL MOUNTING SCREWS	7	SC-2459
4.	PLUG	1	PG-3988	4.	CONDUIT TUBING: 6" (152.4mm)	2	TU-3874
5.	CONTROL PANEL MOUNTING SCREWS	7	SC-2459	5.	INSULATION: 34" x 95" (864mm x 2413mm)	2	IN-22364
6.	INSULATION: 34" x 95" (864mm x 2413mm)	2	IN-22364	6.	CABLE CONNECTION HARDWARE		
7.	CABLE CONNECTION HARDWARE			7.	HEATING CABLE: 264' (80467mm)	1	CB-3045
8.	HEATING CABLE: 264' (80467mm)	1	CB-3045	8.	THERMOSTAT	3	TT-3498
9.	THERMOSTAT	3	TT-3498		THERMOSTAT KNOB	3	KN-3473
	THERMOSTAT KNOB	3	KN-3473	9.	INDICATOR LIGHT	3	LI-3025
10.	INDICATOR LIGHT	3	LI-3025	10.	BULB SWITCH	3	SW-3616
11.	BULB SWITCH	3	SW-3616	11.	INNER TOP SPOT	1	4713
12.	FUSEHOLDER (120V UNITS), INCLUDES	2	FU-33041	12.	BULBS	14	LP-33592
	— FUSE, 15 AMP	2	FU-3775	13.	BULB SOCKET	14	RP-3952
	— FUSEHOLDER MTG SCREWS	4	SC-2077	14.	DISPLAY LIGHT BULB	2	LP-3376
13.	INNER TOP SPOT	1	4713		DISPLAY LAMP SHIELD	2	LP-3967
14.	BULBS	14	LP-33592		DISPLAY LIGHT FIXTURE	2	LP-3966
15.	BULB SOCKETS	14	RP-3952		1/4 - 20 X 1/2" SLOT RD SCREW	4	SC-2332
16.	DOOR ASSEMBLY, INCLUDES	1	DR-22482		1/4 X 20 HEX NUT	4	NU-2437
	— LEFT-HAND GLASS DOOR - IN	2	DR-22482A		1/4" SPLIT RING LOCKWASHER	4	WS-2294
	— RIGHT-HAND GLASS DOOR - OUT	2	DR-22482B		3/8" 90 DEGREE CONNECTOR	2	CR-3292
	— TOP TRACK	2	TK-23750		CONDUIT TUBING: 8' (2438mm)	1	TU-3976
	— BOTTOM TRACK	2	TK-24267	15.	CIRCUIT BOX (120V), INCLUDES	1	CI-3906
	— GUIDES #44049	16	DR-22480F		— BREAKER, 20 AMP	2	CI-3908
	— DOOR BUMPER ASSEMBLY	2	DR-22480G		— BREAKER, 15 AMP	2	CI-33071
17.	END PANEL	2	PE-22685		GROUND BAR KIT	1	CI-3878
18.	CUTTING BOARD ASSEMBLY	2	4016	16.	DOOR ASSEMBLY, INCLUDES	1	DR-22482
19.	CUTTING BOARD BRACKET (BASE)	4	12069		— LEFT-HAND GLASS DOOR - IN	2	DR-22482A
	CUTTING BOARD BRACKET MTG. SCREWS	12	SC-24520		— RIGHT-HAND GLASS DOOR - OUT	2	DR-22482B
20.	CUTTING BOARD BRACKET	4	BT-2342		— TOP TRACK	2	TK-23750
23.	END GLASS	2	GL-22597		— BOTTOM TRACK	2	TK-24267
	END GLASS GASKET, 5' (1524mm)	1	GS-22547		— GUIDES #44049	16	DR-22480F
24.	FRONT GLASS	2	GL-22595		— DOOR BUMPER ASSEMBLY	2	DR-22480G
25.	PAN DIVIDER BARS (NOT SHOWN)			17.	END PANEL	2	PE-22639
	FULL/HALF/THIRD SIZE (LONG BAR)	6	11317	18.	CUTTING BOARD ASSEMBLY	2	4016
	FULL/HALF/THIRD SIZE (SHORT BAR)	21	11318	19.	CUTTING BOARD BRACKET (BASE)	4	12069
	SHEET PAN	4	11320		CUTTING BOARD BRACKET MTG. SCREWS	12	SC-24520
	S-PAN DIVIDER (LONG)	3	11357	20.	CUTTING BOARD BRACKET	4	BT-2342
	SHEET PAN FILLER BAR: 3-3/4" (95mm)	1	11732	23.	END GLASS	2	GL-22597
26.	ADJUSTABLE LEGS	4	LG-22686		END GLASS GASKET, 5' (1524mm)	1	GS-22547
27.	TERMINAL BLOCKS, 4 POS	2	BK-3597	24.	FRONT GLASS	2	GL-22595
28.	SNAP-IN RECEPTACLE (120V)	2	RP-3396	25.	BASE BOTTOM	1	12564
	RECEPTACLE FUSE, 15 AMP (120V)	1	FU-33351	26.	PAN DIVIDER BARS (NOT SHOWN)		
	RECEPTACLE FUSEHOLDER, 15 AMP (120V)	1	FU-33352		FULL/HALF/THIRD (LONG BAR)	6	11317
29.	OUTLET HOUSING COVER (120V)	1	4981		FULL/HALF/THIRD (SHORT BAR)	21	11318
30.	8' (2438mm) PROBE PKG OPT (120V) (NOT SHOWN)	1	5297		SHEET PAN	4	11320
31.	IND. CIRCUIT CORDSET OPTION (120V)*	1	14221		S-PAN DIVIDER (LONG)	3	11357
32.	FRONT GLASS STRUT	4	SU-22704		SHEET PAN FILLER BAR: 3-3/4" (95mm)	1	11732
				27.	OUTLET HOUSING COVER	1	4981
				28.	SNAP-IN RECEPTACLES (120V)	2	RP-3396
				29.	RECEPTACLE FUSE, 15 AMP (120V)	1	FU-33351
					RECEPTACLE FUSEHOLDER, 15 AMP (120V)	1	FU-33352
				30.	8' (2438mm) PROBE PKG OPTION (NOT SHOWN)	1	5297
				31.	LOAD CENTER PACKAGE OPT (120V) (NOT SHOWN)	1	14220
				32.	FRONT GLASS STRUT	4	SU-22704
				33.	SNAP-IN BUMPER (NOT SHOWN)	1	11751

*NOT CSA APPROVED

HNSYS-96/PR • Pass-thru Right				HNSYS-96/PL Pass-thru Left			
12/22/00		ALTO-SHAAM		12/22/00		ALTO-SHAAM	
PART DESCRIPTION		QTY	PART NO.	PART DESCRIPTION		QTY	PART NO.
1.	BOTTOM END PANEL	1	13028	1.	BOTTOM END PANEL	1	13028
	BOTTOM RIGHT-HAND PANEL, 4'	1	13029		BOTTOM RIGHT-HAND PANEL, 4'	1	13029
	BOTTOM LEFT-HAND PANEL, 4'	1	13030		BOTTOM LEFT-HAND PANEL, 4'	1	13030
	BOTTOM PANEL, 6'	1	13031		BOTTOM PANEL, 6'	1	13031
	BOTTOM PANEL, 8'	1	13032		BOTTOM PANEL, 8'	1	13032
	SCREWS, 8-32X1/2"	29	SC-2425		SCREWS, 8-32X1/2"	29	SC-2425
	SCREWS, 8-32X1/4"	2	SC-2459		SCREWS, 8-32X1/4"	2	SC-2459
3.	CONTROL PANEL MOUNTING SCREWS	7	SC-2459	3.	CONTROL PANEL MOUNTING SCREWS	7	SC-2459
4.	CONDUIT TUBING: 6" (152mm)	2	TU-3874	4.	CONDUIT TUBING: 6" (152mm)	2	TU-3874
5.	INSULATION: 34" x 95" (864mm x 2413mm)	2	IN-22364	5.	INSULATION: 34" x 95" (864mm x 2413mm)	2	IN-22364
6.	CABLE CONNECTION HARDWARE			6.	CABLE CONNECTION HARDWARE		
7.	HEATING CABLE: 66' (20117mm)	1	CB-3045	7.	HEATING CABLE: 66' (20117mm)	1	CB-3045
	HEATING CABLE: 205' (62484mm)	1	CB-3045		HEATING CABLE: 205' (62484mm)	1	CB-3045
8.	THERMOSTAT	4	TT-3498	8.	THERMOSTAT	4	TT-3498
	THERMOSTAT KNOB	4	KN-3473		THERMOSTAT KNOB	4	KN-3473
9.	INDICATOR LIGHT	4	LI-3025	9.	INDICATOR LIGHT	4	LI-3025
10.	BULB SWITCH	4	SW-3616	10.	BULB SWITCH	4	SW-3616
11.	2' INNER TOP SPOT	1	4687	11.	2' INNER TOP SPOT	1	4687
	6' INNER TOP SPOT	1	4681		6' INNER TOP SPOT	1	4681
12.	BULBS	14	LP-33592	12.	BULBS	14	LP-33592
13.	BULB SOCKET	14	RP-3952	13.	BULB SOCKET	14	RP-3952
14.	DISPLAY LIGHT BULB	2	LP-3376	14.	DISPLAY LIGHT BULB	2	LP-3376
	DISPLAY LAMP SHIELD	2	LP-3967		DISPLAY LAMP SHIELD	2	LP-3967
	DISPLAY LIGHT FIXTURE	2	LP-3966		DISPLAY LIGHT FIXTURE	2	LP-3966
	1/4 - 20 X 1/2" SLOT RD SCREW	4	SC-2332		1/4 - 20 X 1/2" SLOT RD SCREW	4	SC-2332
	1/4 X 20 HEX NUT	4	NU-2437		1/4 X 20 HEX NUT	4	NU-2437
	1/4" SPLIT RING LOCKWASHER	4	WS-2294		1/4" SPLIT RING LOCKWASHER	4	WS-2294
	3/8" 90 DEGREE CONNECTOR	2	CR-3292		3/8" 90 DEGREE CONNECTOR	2	CR-3292
	CONDUIT TUBING: 8' (2438mm)	1	TU-3976		CONDUIT TUBING: 8' (2438mm)	1	TU-3976
15.	CIRCUIT BOX (120V), INCLUDES	1	CI-3906	15.	CIRCUIT BOX (120V), INCLUDES	1	CI-3906
	— BREAKER, 20 AMP	3	CI-3907		— BREAKER, 20 AMP	3	CI-3907
	— BREAKER, 15 AMP	2	CI-33071		— BREAKER, 15 AMP	2	CI-33071
	— GROUND BAR KIT	1	CI-3878		— GROUND BAR KIT	1	CI-3878
16.	DOOR ASSEMBLY - INCLUDES	1	DR-22481	16.	DOOR ASSEMBLY - INCLUDES	1	DR-22481
	— LEFT-HAND GLASS DOOR - IN	1	DR-22481A		— LEFT-HAND GLASS DOOR - IN	1	DR-22481A
	— RIGHT-HAND GLASS DOOR - IN	1	DR-22481B		— RIGHT-HAND GLASS DOOR - IN	1	DR-22481B
	— TOP TRACK	1	TK-23749		— TOP TRACK	1	TK-23749
	— BOTTOM TRACK	1	TK-24267		— BOTTOM TRACK	1	TK-24267
	— CENTER GLASS - OUT	2	DR-22481E		— CENTER GLASS - OUT	2	DR-22481E
	— GUIDES #44049	16	DR-22480F		— GUIDES #44049	16	DR-22480F
	— DOOR BUMPER ASSEMBLY	2	DR-22480G		— DOOR BUMPER ASSEMBLY	2	DR-22480G
17.	SELF-SERVE DOOR, LEFT-HAND	1	4407	17.	SELF-SERVE DOOR, LEFT-HAND	1	4407
	HINGE, LEFT-HAND to unit	2	HG-22167		HINGE, LEFT-HAND to unit	2	HG-22167
18.	SELF-SERVE DOOR, RIGHT-HAND	1	4409	18.	SELF-SERVE DOOR, RIGHT-HAND	1	4409
	HINGE, RIGHT-HAND to unit	2	HG-22168		HINGE, RIGHT-HAND to unit	2	HG-22168
	HINGE BUSHING to unit	4	BU-2722		HINGE BUSHING to unit	4	BU-2722
	HINGE MOUNTING SCREWS to unit	8	SC-2352		HINGE MOUNTING SCREWS to unit	8	SC-2352
19.	END PANEL	2	PE-22639	19.	END PANEL	2	PE-22639
20.	CUTTING BOARD ASSEMBLY	1	4016	20.	CUTTING BOARD ASSEMBLY	1	4016
21.	CUTTING BOARD BRACKET (BASE)	2	12069	21.	CUTTING BOARD BRACKET (BASE)	2	12069
	CUTTING BOARD BRACKET MTG. SCREWS	6	SC-24520		CUTTING BOARD BRACKET MTG. SCREWS	6	SC-24520
22.	CUTTING BOARD BRACKET	2	BT-2342	22.	CUTTING BOARD BRACKET	2	BT-2342
25.	END GLASS	2	GL-22597	25.	END GLASS	2	GL-22597
	END GLASS GASKET, 4' (1219mm)	1	GS-22547		END GLASS GASKET, 4' (1219mm)	1	GS-22547
26.	INNER END GLASS	1	GL-22598	26.	INNER END GLASS	1	GL-22598
	DIVIDER GLASS GASKET, 3' (914mm)	1	GS-22548		DIVIDER GLASS GASKET, 3' (914mm)	1	GS-22548
27.	FRONT GLASS: 6' (1829mm)	1	GL-22596	27.	FRONT GLASS: 6' (1829mm)	1	GL-22596
28.	SELF-SERVE GLASS: 2' (610mm)	1	GL-22592	28.	SELF-SERVE GLASS: 2' (610mm)	1	GL-22592
29.	CUSTOMER GUARD: 2' (610mm)	1	11115	29.	CUSTOMER GUARD: 2' (610mm)	1	11115
30.	BASE BOTTOM	1	12564	30.	BASE BOTTOM	1	12564
31.	PAN DIVIDER BARS (NOT SHOWN)			31.	PAN DIVIDER BARS (NOT SHOWN)		
	PART NUMBERS ARE REFERENCED IN THIS MANUAL				PART NUMBERS ARE REFERENCED IN THIS MANUAL		
32.	SNAP-IN RECEPTACLES (120V)	2	RP-3396	32.	SNAP-IN RECEPTACLES (120V)	2	RP-3396
33.	OUTLET HOUSING COVER (120V)	1	4980	33.	OUTLET HOUSING COVER (120V)	1	4980
34.	RECEPTACLE FUSE, 15 AMP (120V)	1	FU-33351	34.	RECEPTACLE FUSE, 15 AMP (120V)	1	FU-33351
	RECEPTACLE FUSEHOLDER, 15 AMP (120V)	1	FU-33352		RECEPTACLE FUSEHOLDER, 15 AMP (120V)	1	FU-33352
35.	6' (1829mm) PROBE PKG OPT (120V) (NOT SHOWN)	1	5296	35.	6' (1829mm) PROBE PKG OPT (120V) (NOT SHOWN)	1	5296
36.	LOAD CENTER OPTION (120V) (NOT SHOWN)	1	14220	36.	LOAD CENTER OPTION (120V) (NOT SHOWN)	1	14220
37.	FRONT GLASS STRUT	2	SU-2870	37.	FRONT GLASS STRUT	2	SU-2870
38.	FRONT GLASS STRUT	1	SU-22704	38.	FRONT GLASS STRUT	1	SU-22704
39.	FRONT GLASS STRUT	1	SU-22431	39.	FRONT GLASS STRUT	1	SU-22431
33.	SNAP-IN BUMPER (NOT SHOWN)	1	11751	40.	SNAP-IN BUMPER (NOT SHOWN)	1	11751

07-19-94

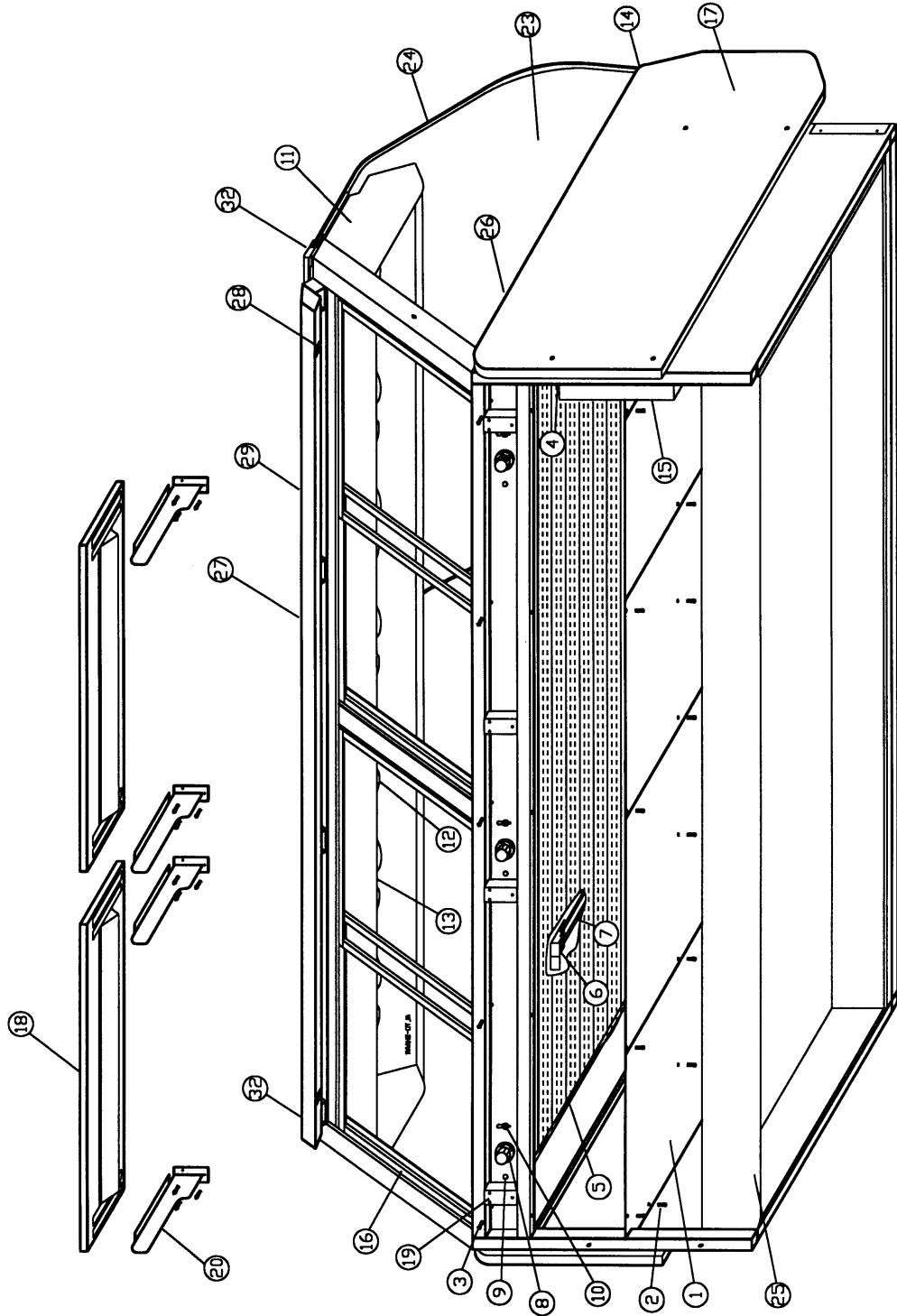
HN-96
SERVICE VIEW
REV. 7/24/97



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06-03-94

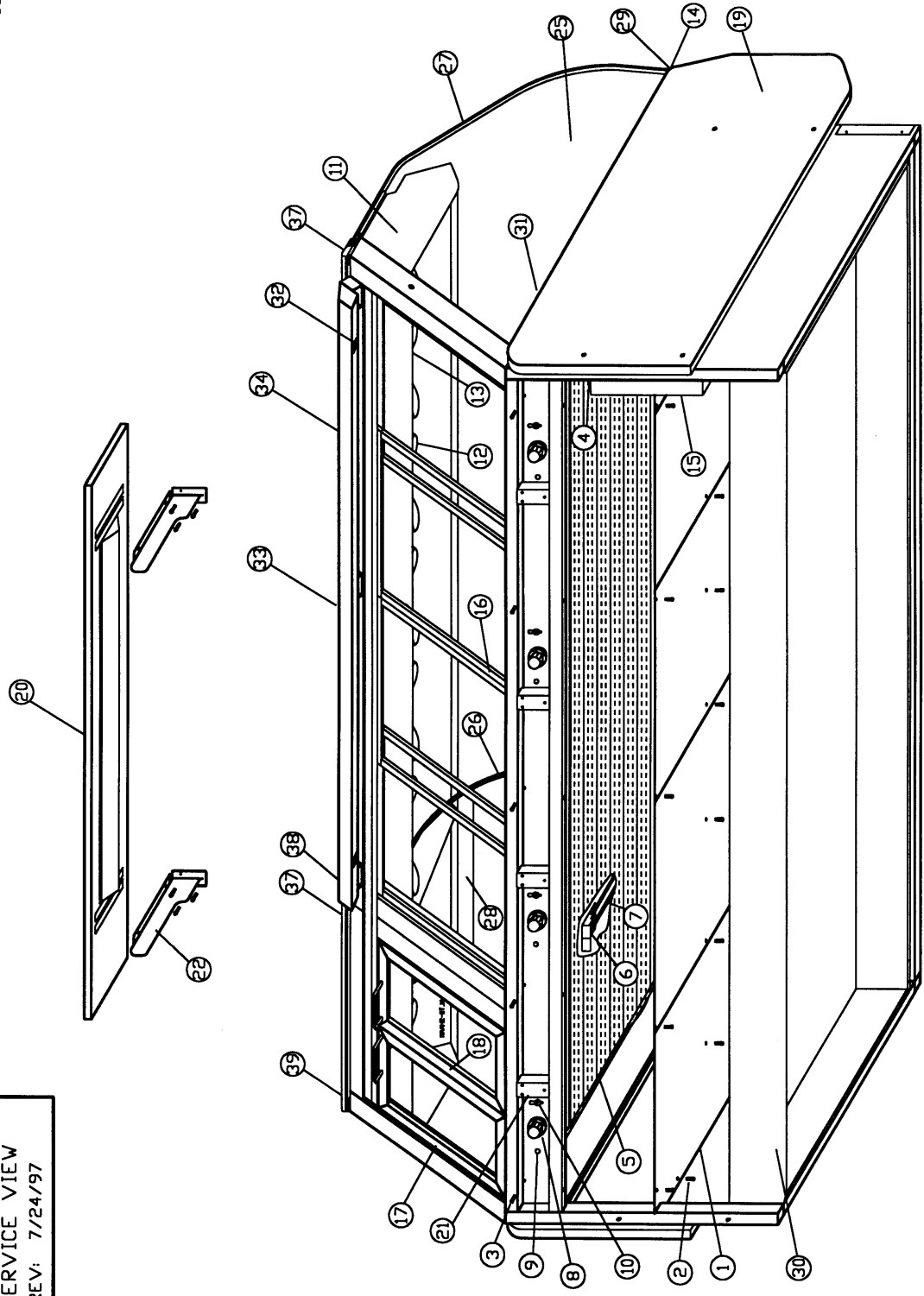
HNSYS-96
SERVICE VIEW
REV: 7/24/97



16"=1"
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06-03-94

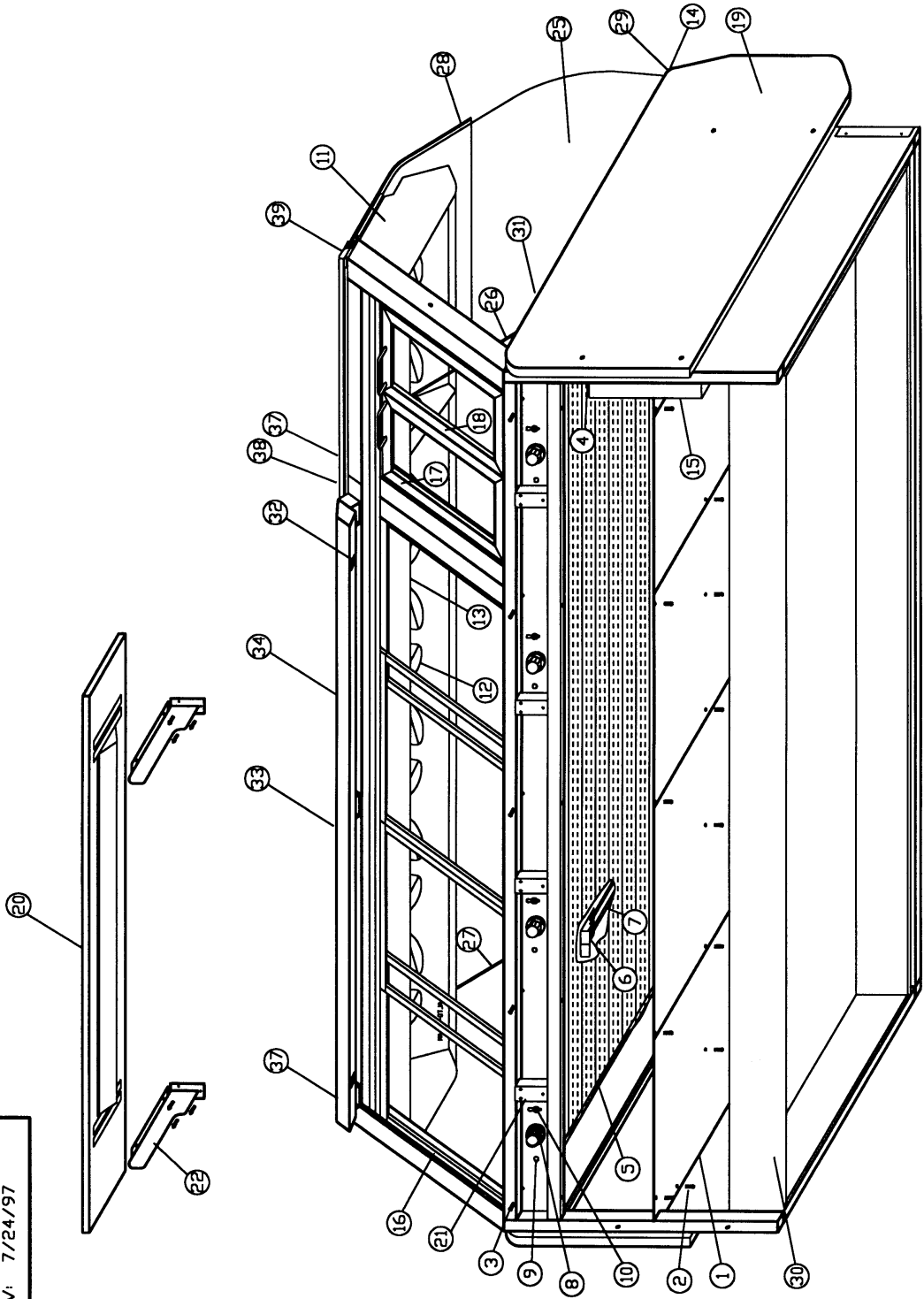
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SERVICE VIEW
REV: 7/24/97



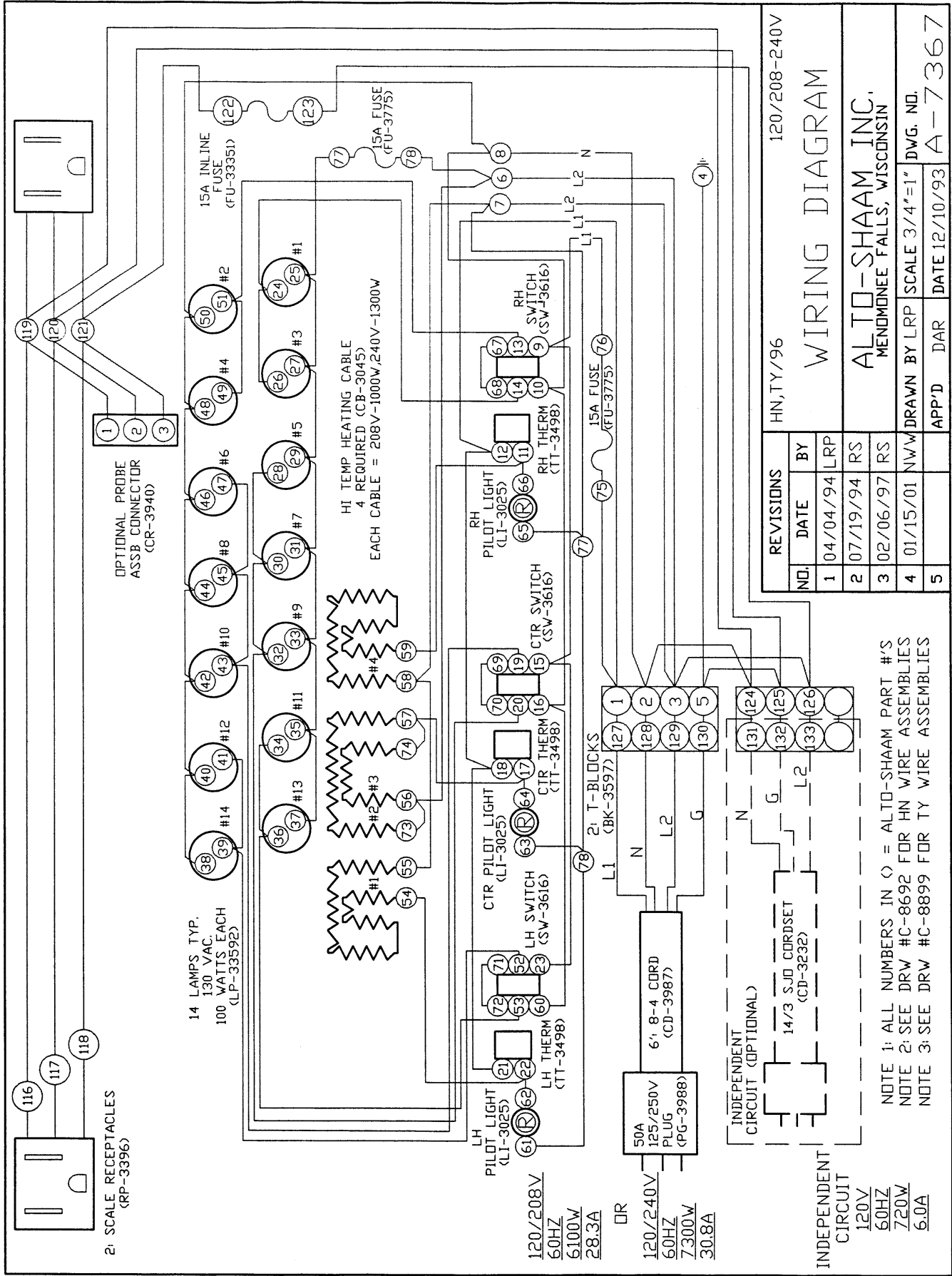
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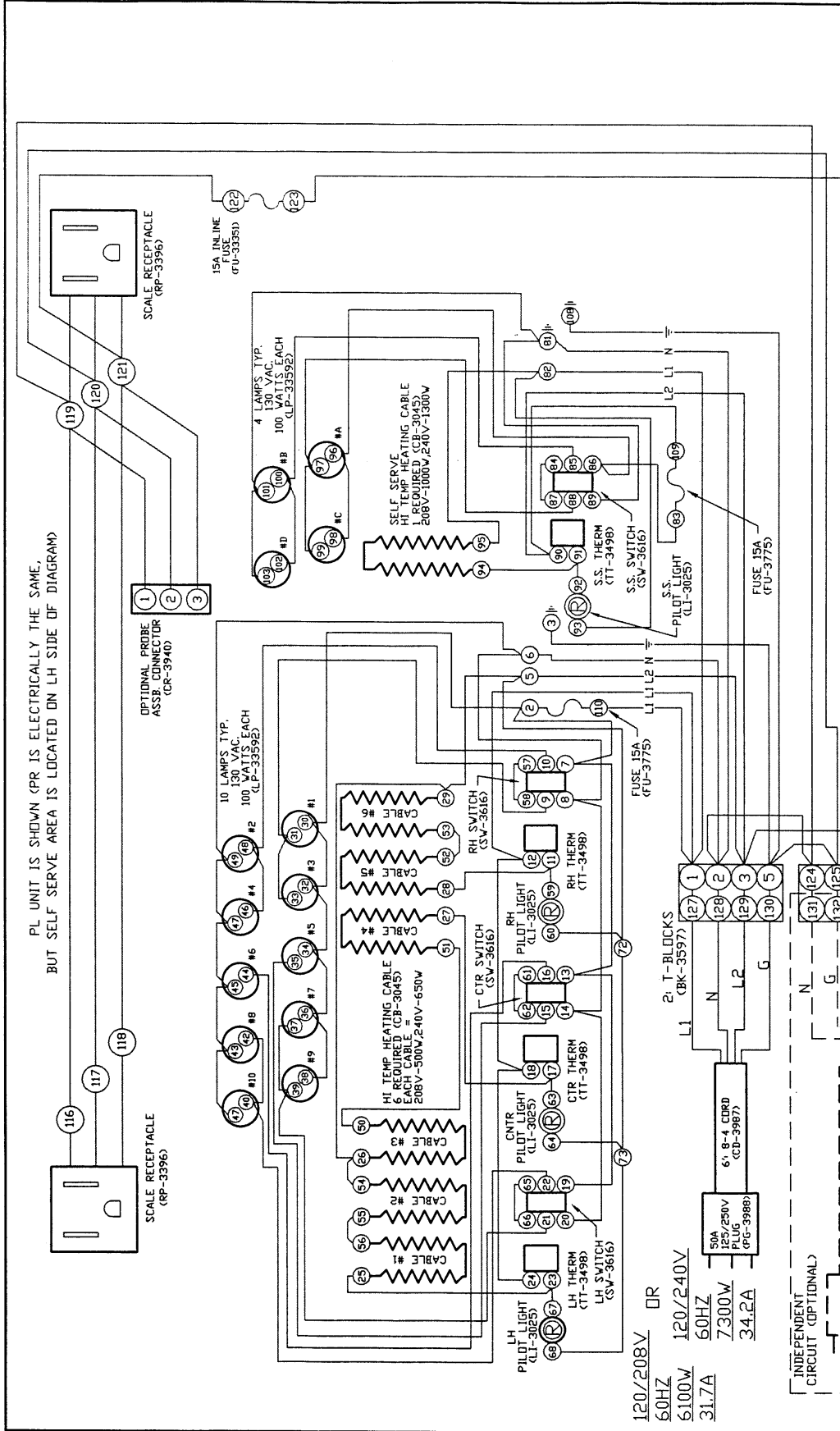
06-03-94

HNSYS-96/PL
SERVICE VIEW
REV. 7/24/97



16'-1"
K:\SM\HNS96PL.DWG





REVISIONS		HN, TY-96/PR, PL		120/240V	
NO.	DATE	BY			
1	02/15/95	RS			
2	02/06/97	RS			
3	01/15/01	NW			
4			DRAWN BY	RS	SCALE NONE
5			APP'D	DAR	DATE 11-28-94

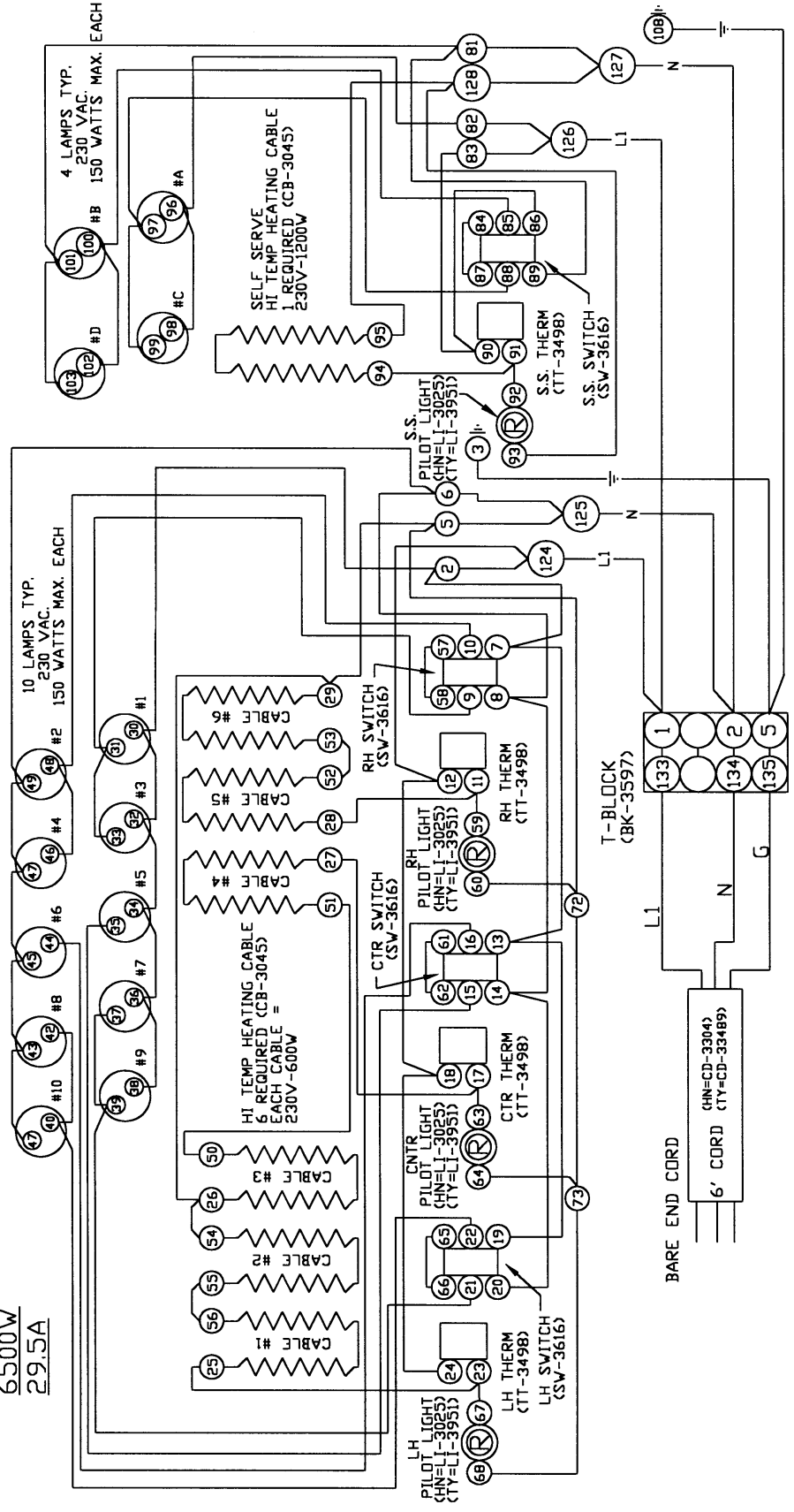
WIRING DIAGRAM

ALTO-SHAAM INC.
MENDOTA FALLS, WISCONSIN

NOTE #1: ALL NUMBERS IN () = ALTO-SHAAM PART NO'S
NOTE #2: SEE DRW. #C-8724 FOR WIRE ASSEMBLIES

DWG. NO. A-7401

230V
50HZ
6500W
29.5A



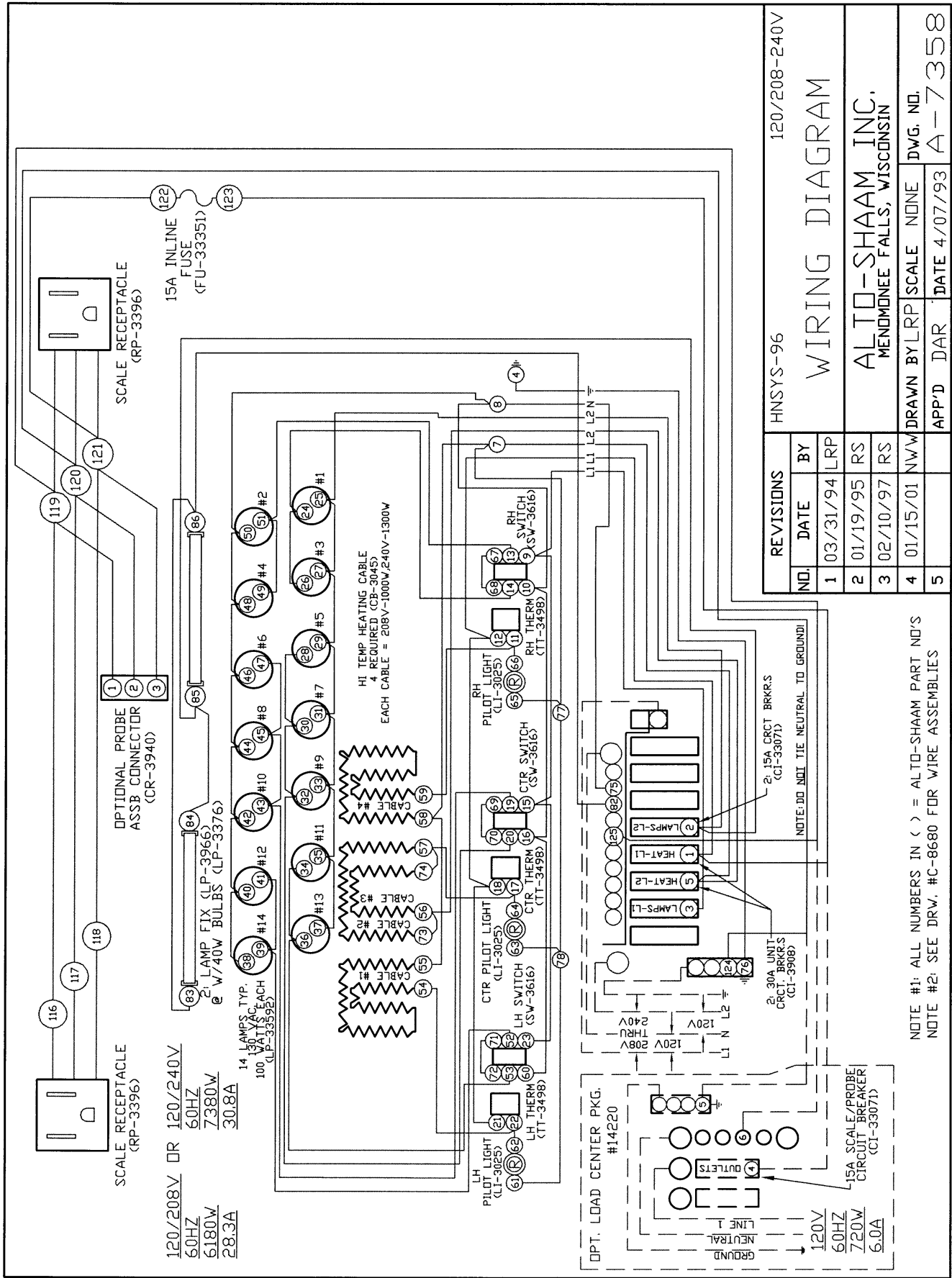
REVISIONS		HN, TY-96/PR, PL		230V
NO.	DATE	BY		
1	02/06/97	RS		
2	06/18/98	RS		
3	03/02/99	JMM		
4				
5				

WIRING DIAGRAM

ALTO-SHAAM INC.
MEMMONEE FALLS, WISCONSIN

DRAWN BY	RS	SCALE	NONE	DWG. NO.	A-7402
APP'D	MSM	DATE	11-22-94		

NOTE #1: ALL NUMBERS IN () = ALTO-SHAAM PART NO.'S
NOTE #2: SEE DRW. #C-8725 FOR WIRE ASSEMBLIES



REVISIONS		HNSYS-96		120/208-240V	
NO.	DATE	BY			
1	03/31/94	LRP			
2	01/19/95	RS			
3	02/10/97	RS			
4	01/15/01	NW	SCALE	NONE	DRAWN BY LRP
5					DATE 4/07/93

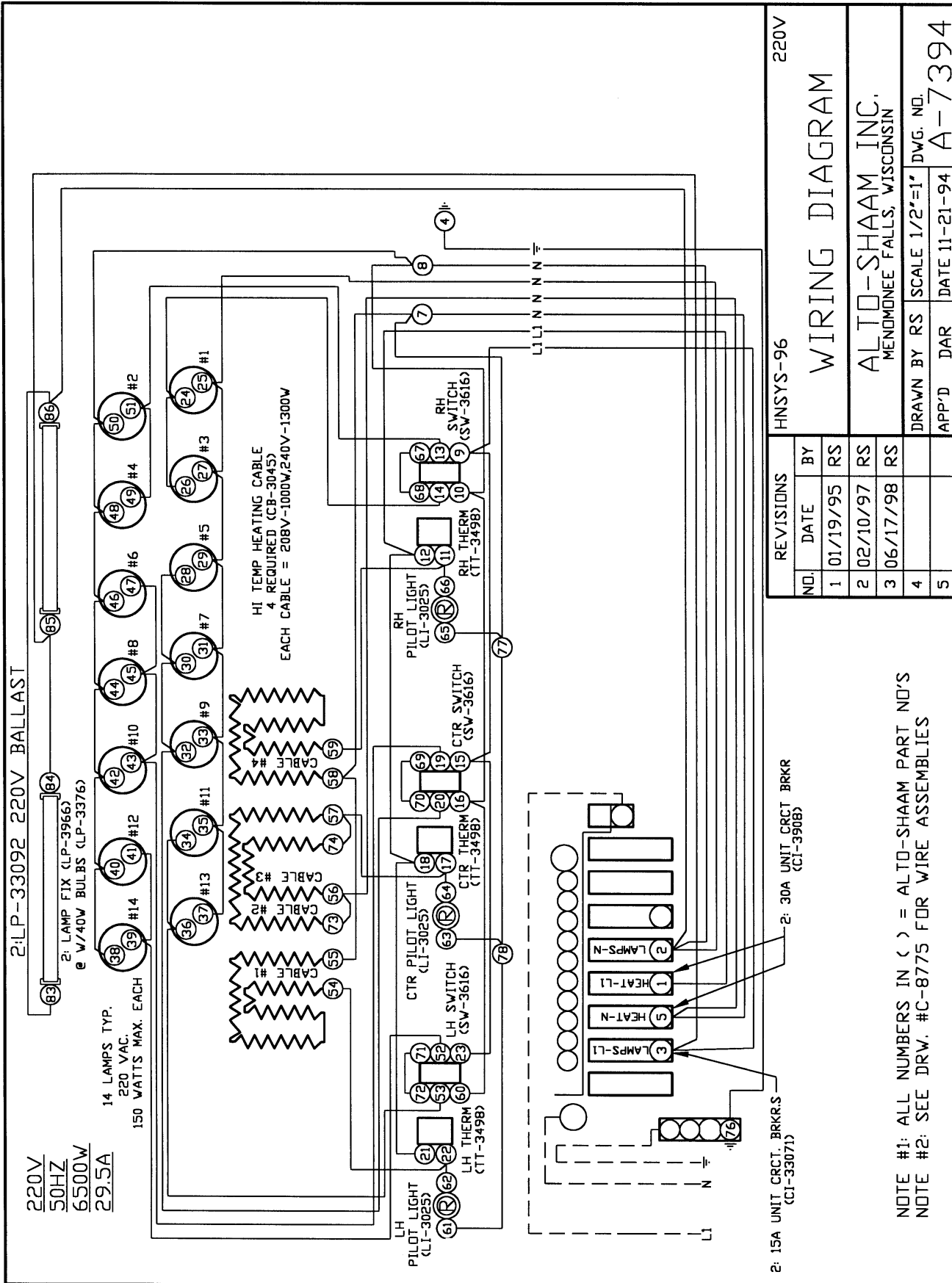
WIRING DIAGRAM

ALTO-SHAAM INC.
MENDONEE FALLS, WISCONSIN

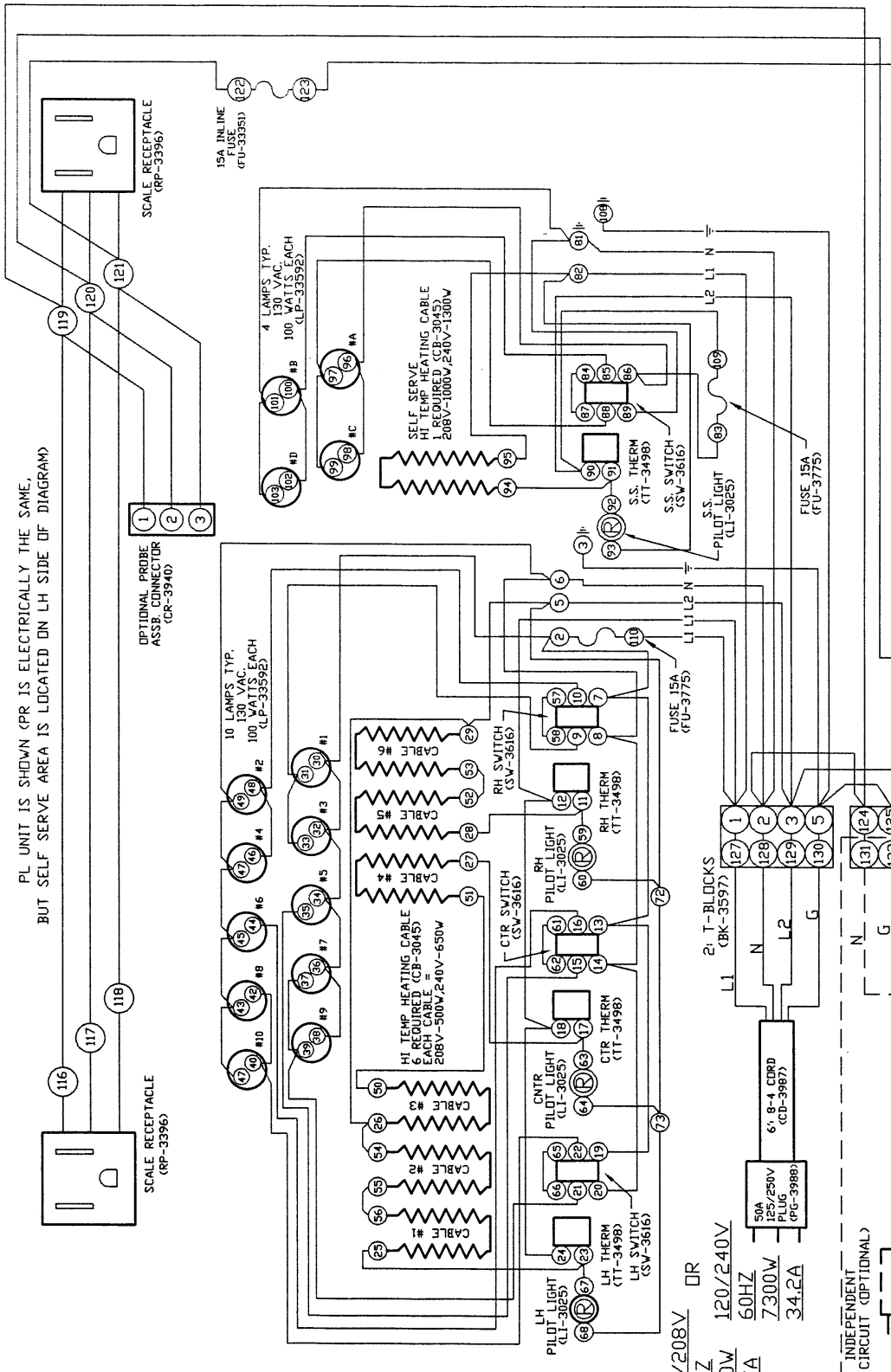
DWG. NO. A-7358

DATE 4/07/93

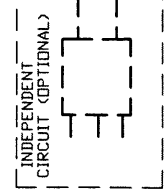
NOTE #1: ALL NUMBERS IN () = ALTO-SHAAM PART NO'S
NOTE #2: SEE DRW. #C-8680 FOR WIRE ASSEMBLIES



PL UNIT IS SHOWN (PR IS ELECTRICALLY THE SAME,
BUT SELF SERVE AREA IS LOCATED ON LH SIDE OF DIAGRAM)



120/208V OR
60HZ 120/240V
6100W
31.7A
50A 125/250V PLUG (PG-3988)
6' 8-4 CORD (CD-3987)
14/3 SJO CORDSET (CD-3232)



INDEPENDENT CIRCUIT (OPTIONAL)
120V
60HZ
720W
5.0A

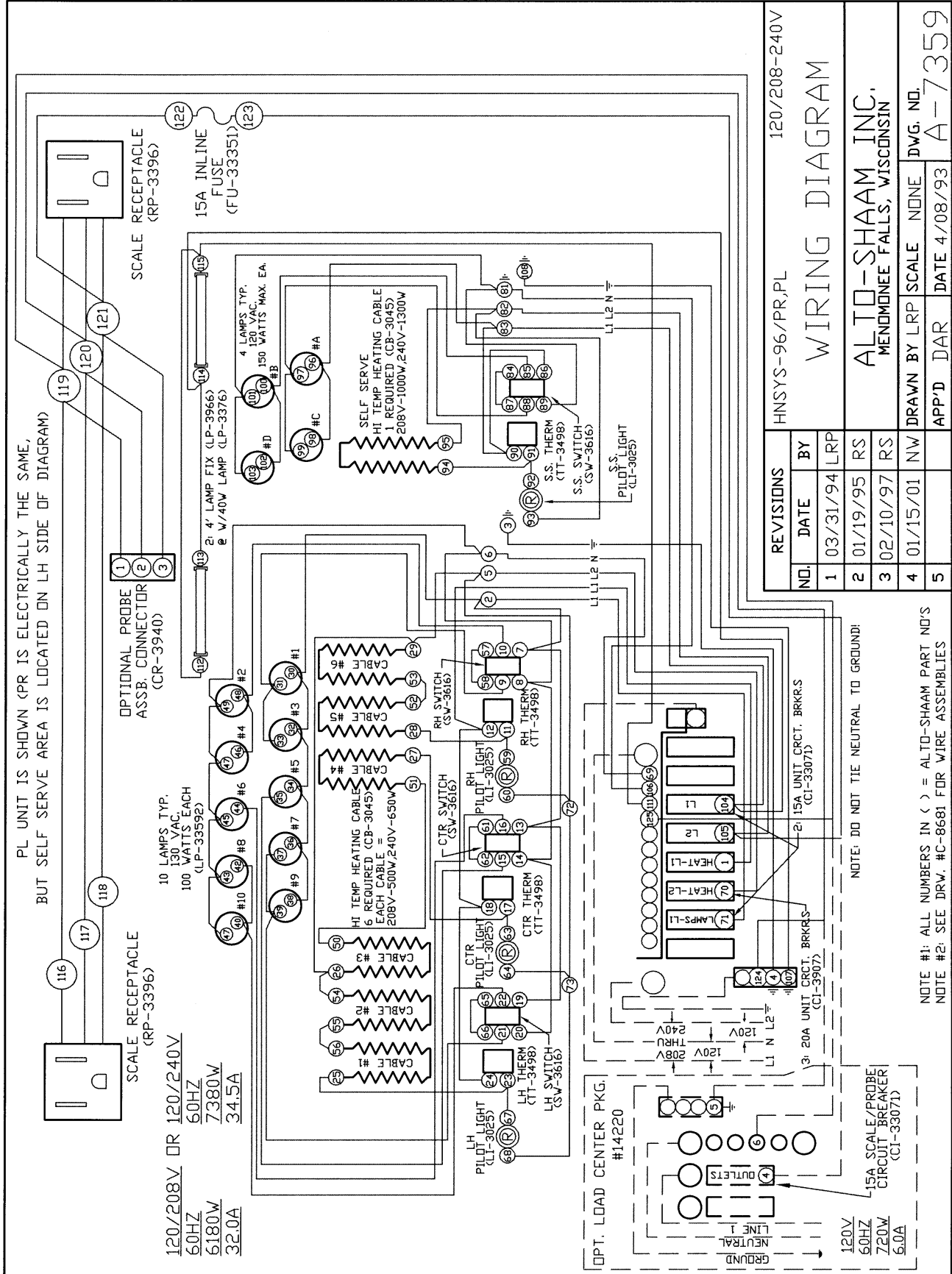
REVISIONS		HN, TY-96/PR, PL		120/240V	
NO.	DATE	BY			
1	02/15/95	RS			
2	02/06/97	RS			
3	01/15/01	NW			
4					
5					

WIRING DIAGRAM

ALTO-SHAAM INC.
MENDONEE FALLS, WISCONSIN

DRAWN BY	RS	SCALE	NONE	DWG. NO.	A-7401
APP'D	DAR	DATE	11-28-94		

NOTE #1: ALL NUMBERS IN () = ALTO-SHAAM PART NO'S
NOTE #2: SEE DRW. #C-8724 FOR WIRE ASSEMBLIES



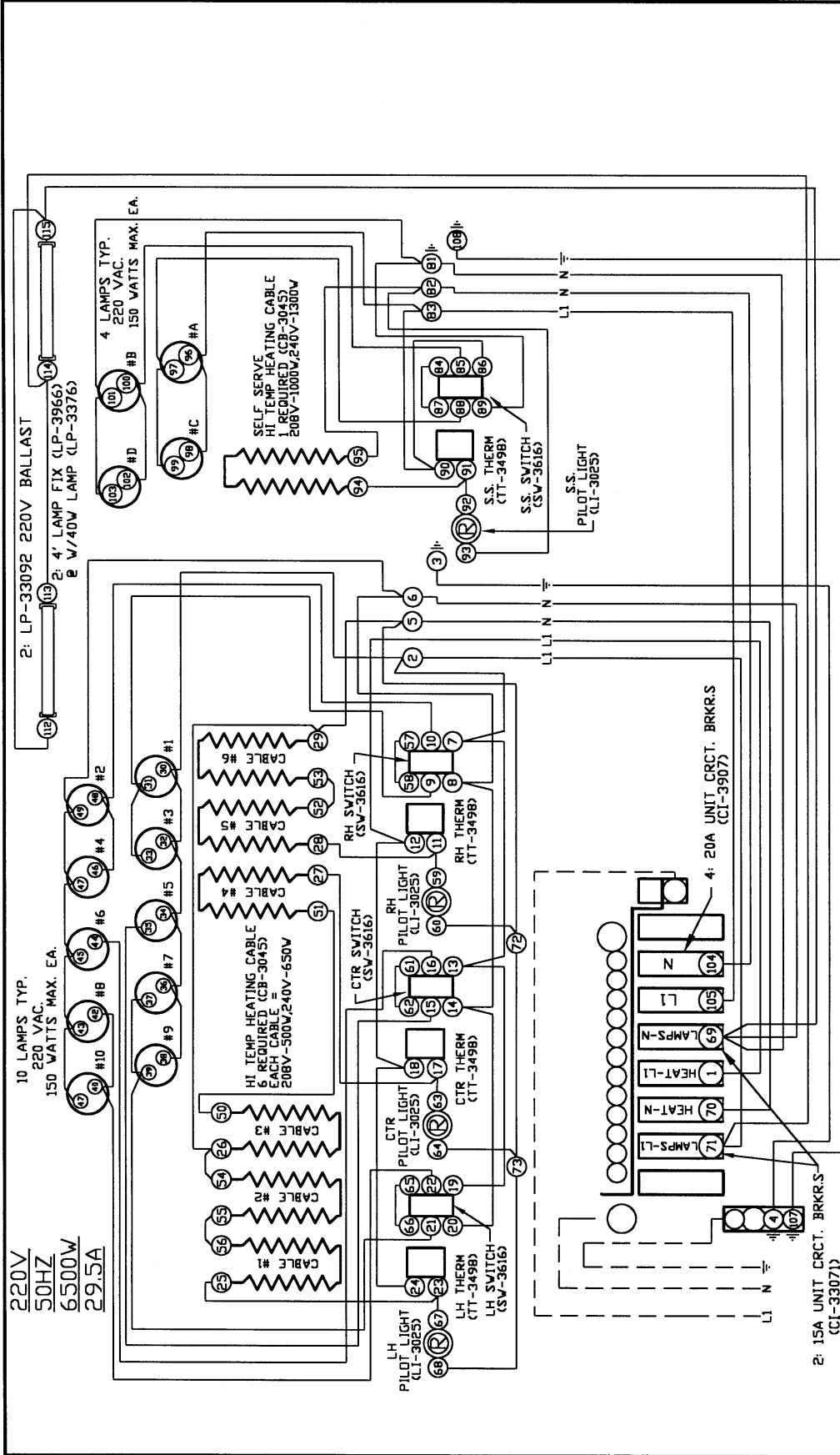
REVISIONS		HNSYS-96/PR,PL		120/208-240V	
NO.	DATE	BY			
1	03/31/94	LRP			
2	01/19/95	RS			
3	02/10/97	RS			
4	01/15/01	NW	DRAWN BY LRP	SCALE NONE	DWG. NO. A-7359
5			APP'D DAR	DATE 4/08/93	

WIRING DIAGRAM

ALTO-SHAAM INC.
MENDONEE FALLS, WISCONSIN

DRAWN BY LRP SCALE NONE DWG. NO. A-7359
APP'D DAR DATE 4/08/93

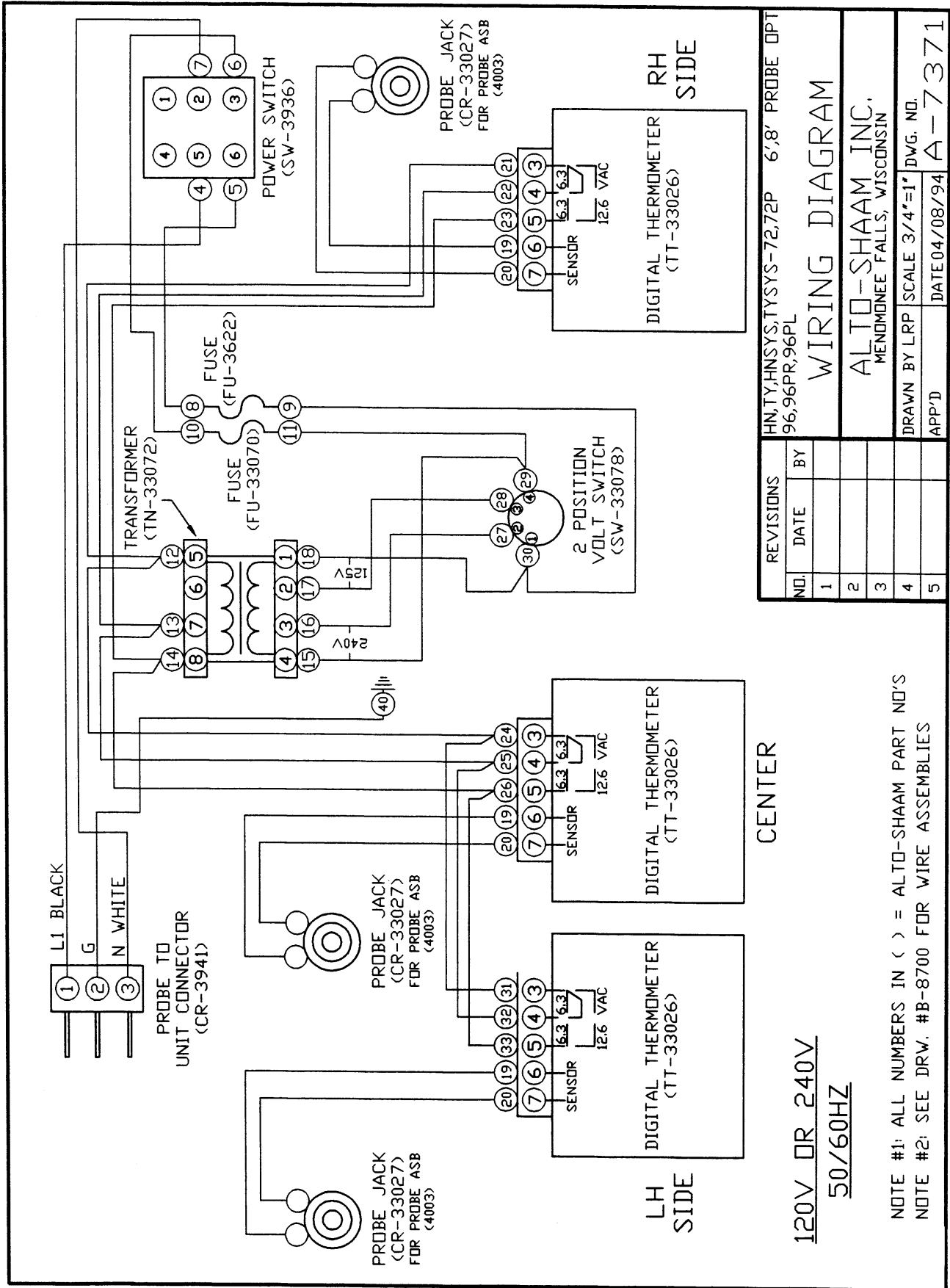
NOTE #1: ALL NUMBERS IN () = ALTO-SHAAM PART NO'S
NOTE #2: SEE DRW. #C-8681 FOR WIRE ASSEMBLIES



REVISIONS		HNSYS-96/PR,PL		220V	
NO.	DATE	BY	RS	WIRING DIAGRAM	
1	01/19/95	RS			
2	02/10/97	RS			
3	06/18/98	RS			
4					
5					

ALTO-SHAAM INC. MENDOTA FALLS, WISCONSIN		
DRAWN BY	RS	SCALE 1/2"=1"
APP'D	DAR	DATE 11-21-94
		DWG. NO. A-7395

NOTE #1: ALL NUMBERS IN () = ALTO-SHAAM PART NO'S
 NOTE #2: SEE DRW. #C-8776 FOR WIRE ASSEMBLIES



TRANSPORTATION DAMAGE and CLAIMS



All Alto-Shaam equipment is sold F.O.B. shipping point, and when accepted by the carrier, such shipments become the property of the consignee.

Should damage occur in shipment, it is a matter between the carrier and the consignee. In such cases, the carrier is assumed to be responsible for the safe delivery of the merchandise, unless negligence can be established on the part of the shipper.

1. Make an immediate inspection while the equipment is still in the truck or immediately after it is moved to the receiving area. Do not wait until after the material is moved to a storage area.
2. Do not sign a delivery receipt or a freight bill until you have made a proper count and inspection of all merchandise received.
3. Note all damage to packages directly on the carrier's delivery receipt.
4. Make certain the driver signs this receipt. If he refuses to sign, make a notation of this refusal on the receipt.
5. If the driver refuses to allow inspection, write the following on the delivery receipt:
Driver refuses to allow inspection of containers for visible damage.
6. Telephone the carrier's office immediately upon finding damage, and request an inspection. Mail a written confirmation of the time, date, and the person called.
7. Save any packages and packing material for further inspection by the carrier.
8. Promptly file a written claim with the carrier and attach *copies* of all supporting paperwork.

We will continue our policy of assisting our customers in collecting claims which have been properly filed and actively pursued. We cannot, however, file any damage claims for you, assume the responsibility of any claims, or accept deductions in payment for such claims.

ALTO-SHAAM® LIMITED WARRANTY

Alto-Shaam, Inc. warrants to the original purchaser that any original part that is found to be defective in material or workmanship will, at our option, subject to provisions hereinafter stated, be replaced with a new or rebuilt part.

The labor warranty remains in effect one (1) year from installation or fifteen (15) months from the shipping date, whichever occurs first.

The parts warranty remains in effect one (1) year from installation or fifteen (15) months from the shipping date, whichever occurs first.

Exceptions to the one year part warranty period are as listed:

- A. Halo Heat cook/hold ovens include a five (5) year parts warranty on the heating element. Labor will be covered under the terms of the standard warranty period of one (1) year or fifteen (15) months.
- B. Alto-Shaam Quickchillers include a five (5) year parts warranty on the refrigeration compressor. Labor will be covered under the terms of the standard warranty period of one (1) year or fifteen (15) months.

This warranty does not apply to:

1. Calibration
2. Replacement of light bulbs and/or the replacement of display case glass due to damage of any kind.
3. Equipment damage caused by accident, shipping, improper installation or alteration.
4. Equipment used under conditions of abuse, misuse, carelessness or abnormal conditions.
5. Any losses or damage resulting from malfunction, including loss of product or consequential or incidental damages of any kind.
6. Equipment modified in any manner from original model, substitution of parts other than factory authorized parts, removal of any parts including legs, or addition of any parts.

This warranty is exclusive and is in lieu of all other warranties, expressed or implied, including the implied warranties of merchantability and fitness for purpose. In no event shall the Company be liable for loss of use, loss of revenue, or loss of product or profit, or for indirect or consequential damages. This warranty is in lieu of all other warranties expressed or implied and Alto-Shaam, Inc. neither assumes or authorizes any persons to assume for it any other obligation or liability in connection with Alto-Shaam equipment.

ALTO-SHAAM, INC.

Warranty effective January 1, 2000

Record the model and serial numbers of the unit for easy reference. Always refer to both model and serial numbers in your correspondence regarding the unit.

Model: _____
Serial Number: _____
Purchased From: _____
Date Installed: _____ Voltage: _____

HALO HEAT COOK/HOLD/SERVE SYSTEMS BY ALTO-SHAAM®

W164 N9221 Water Street • P.O. Box 450 • Menomonee Falls, Wisconsin 53052-0450 • USA

PHONE: 262.251.3800

FAX: 262.251.7067 • 800.329.8744 U.S.A./CANADA

WEBSITE:

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262.251.1907 INTERNATIONAL

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