FOODSERVICE
FES
EQUIPMENT SPARES

TECHNICAL DIAGRAMS

ALTO-SHAAM®

HN48

01706 353 633

WWW.FOODSERVICESPARES.COM

ALTO SHAAM®

OPERATION and CARE MANUAL

HEATED DISPLAY CASE

MODELS: ***HN-48***
HNSYS-48
HN-48/P
HNSYS-48/P

24•7 Your Service Hotline 1-800-558-8744

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

W164 N9221 Water Street • P.O. Box 450 • Menomonee Falls, Wisconsin 53052-0450 U.S.A.
PHONE: 262.251.3800 800.558-8744 U.S.A./CANADA
FAX: 262.251.7067 • 800.329.8744 U.S.A. ONLY 262.251.1907 INTERNATIONAL
WEBSITE: www.alto-shaam.com

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#894 • 11/2001

ALTO-SHAAM® HEATED DISPLAY CASES

UNPACKING and SET-UP

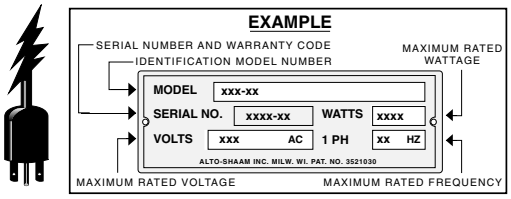
The Alto-Shaam Hot Display Case has been thoroughly tested, checked for calibration, and inspected to insure only the highest quality display case is provided. When you receive your cabinet, check for any possible shipping damage and report it at once to the delivering carrier. *See Transportation Damage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

ENSURE POWER SOURCE MATCHES VOLTAGE STAMPED ON NAMEPLATE OF UNIT

OPERATIONAL 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 UNIT***

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, 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 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 DELI 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 well to remove all residue and wipe dry.

NO SCRAPERS

NO STEEL PADS

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

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.

CAUTION

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, voiding the warranty.

CAUTION

Disconnect Unit from Power Source Before Cleaning or Servicing.

SAFETY ALERT

CAUTION

This units performance has been optimized using the factory provided bulbs. These bulbs 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

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.

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 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.

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)

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.

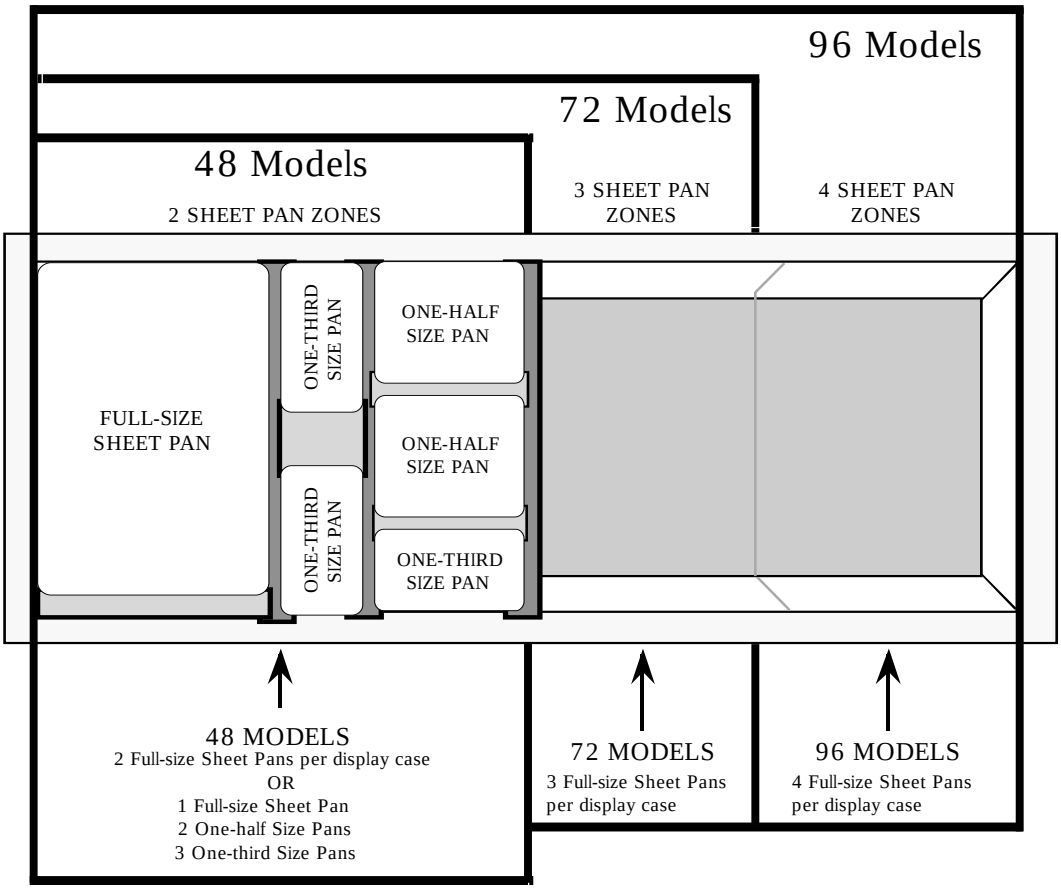
Most Halo Heat Holding Equipment is provided with a thermostat control between 60° and 200°F (16° to 93°C). If the unit is equipped with a thermostat indicating a range of between 1 and 10, use a metal-stemmed indicating thermometer to measure the internal temperature of the product(s) being held. Adjust the thermostat setting to achieve the best overall setting based on internal product temperature.

HOLDING TEMPERATURE RANGE

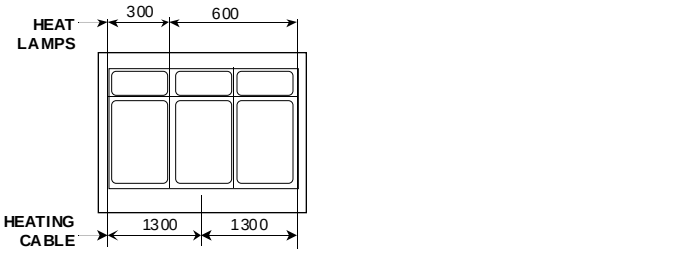
MEAT	FAHRENHEIT	CELSIUS
BEEF ROAST — Rare	140°F	60°C
BEEF ROAST — Med/Well Done	160°F	71°C
BEEF BRISKET	160° — 175°F	71° — 79°C
CORN BEEF	160° — 175°F	71° — 79°C
PASTRAMI	160° — 175°F	71° — 79°C
PRIME RIB — Rare	140°F	60°C
STEAKS — Broiled/Fried	140° — 160°F	60° — 71°C
RIBS — Beef or Pork	160°F	71°C
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 DISPLAY CASES



POWER CONFIGURATIONS



HNSYS-48 • HNSYS-48/P
TOTAL: 3540 Watts (maximum) 1: 40W DISPLAY LIGHT

HN-48/P

12/22/00

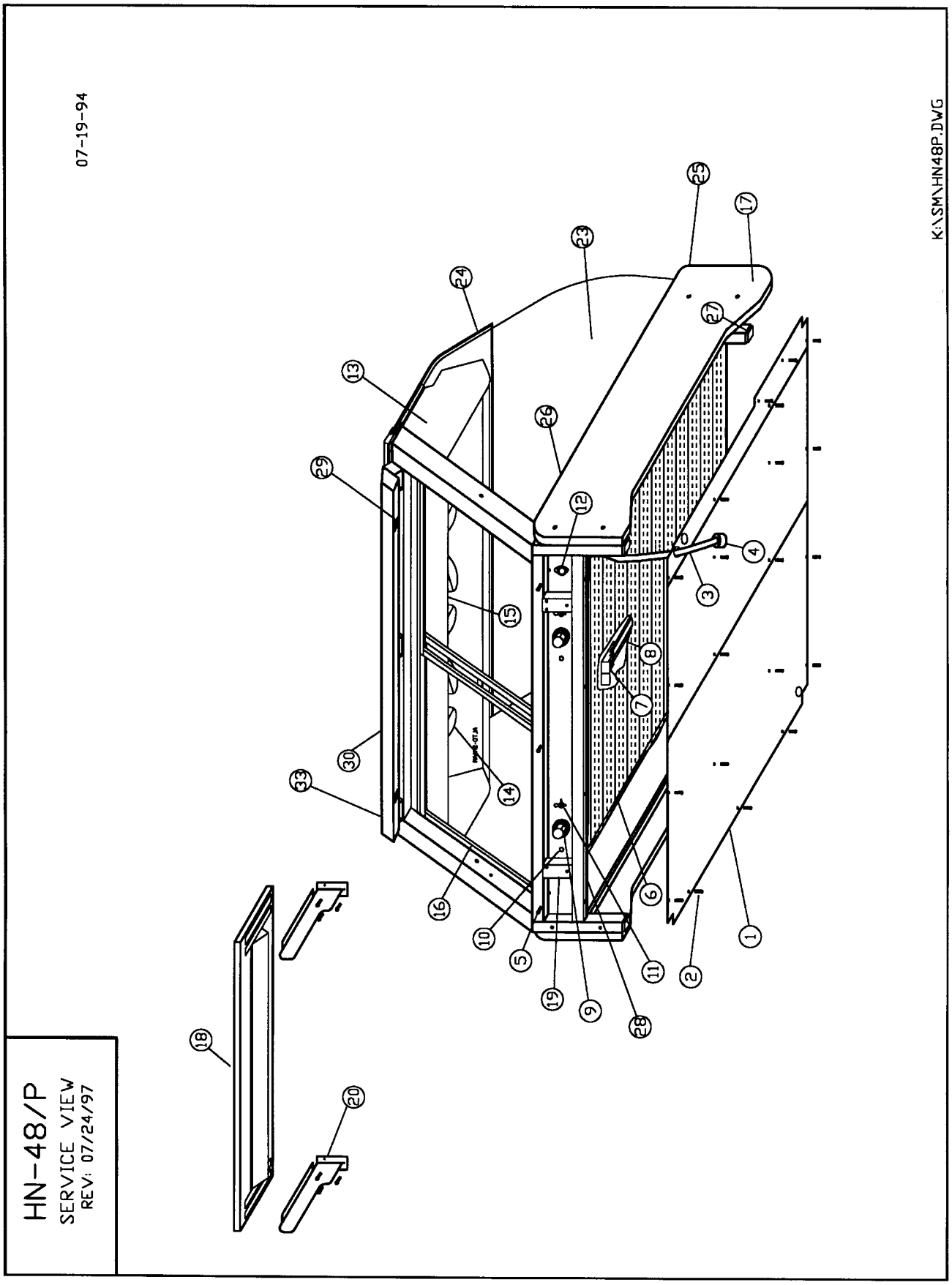
PART DESCRIPTION	QTY	ALTO-SHAAM PART NO.
1. BOTTOM END PANEL	1	13028
BOTTOM RIGHT-HAND PANEL, 4'	1	13029
BOTTOM LEFT-HAND PANEL	1	13030
SCREWS, 8-32X1/4"	4	SC-2459
SCREWS, 8-32X1/2"	17	SC-2425
3. CORD: 6' (1829mm)	1	CD-3291
4. PLUG	1	PG-3267
5. CONTROL PANEL MOUNTING SCREWS	3	SC-2459
6. INSULATION: 34" x 47" (864mm x 1194mm)	2	IN-22364
7. CABLE CONNECTION HARDWARE		
8. HEATING CABLE: 132' (40234mm)	1	CB-3045
9. THERMOSTAT	2	TT-3498
THERMOSTAT KNOB	2	KN-3473
10. INDICATOR LIGHT	2	LI-3025
11. LIGHT SWITCH	2	SW-3616
12. FUSEHOLDER (120V UNITS), INCLUDES	1	FU-33041
— FUSE, 15 AMP	1	FU-3775
— FUSEHOLDER MTG SCREWS	2	SC-2077
13. INNER TOP SPOT	1	4674
14. BULBS	6	LP-3333
15. BULB SOCKETS	6	RP-3952
16. DOOR ASSEMBLY, INCLUDES	1	DR-22480
— LEFT HAND GLASS DOOR	1	DR-22480A
— RIGHT HAND GLASS DOOR	1	DR-22480B
— TOP TRACK	1	TK-23748
— BOTTOM TRACK	1	TK-24265
— GUIDES #44049	8	DR-22480F
— DOOR BUMPER ASSEMBLY	1	DR-23480G
17. END PANEL	2	PE-22685
18. CUTTING BOARD ASSEMBLY	1	4016
19. CUTTING BOARD BRACKET (BASE)	2	12069
CUTTING BOARD BRACKET MTG. SCREWS	6	SC-24520
20. CUTTING BOARD BRACKET	2	BT-2342
23. END GLASS	2	GL-22597
END GLASS GASKET, 5' (1524mm)	1	GS-22547
24. FRONT GLASS	1	GL-22593
25. CUSTOMER GUARD: 4' (1219mm)	1	11096
SPACER	2	SP-24586
SCREWS	2	SC-2073
26. PANS (NOT SHOWN)		
SELF-SERVE PAN	2	11624
SELF-SERVE PAN GRID	1	PN-22048
27. ADJUSTABLE LEGS	4	LG-22686
28. TERMINAL BLOCKS, 4 POS	2	BK-3597
29. SNAP-IN RECEPTACLES (120V)	2	RP-3396
RECEPTACLE FUSE, 15 AMP (120V)	1	FU-33351
RECEPTACLE FUSEHOLDER, 15 AMP (120V)	1	FU-33352
30. OUTLET HOUSING COVER (120V)	1	4951
31. 4' (1219mm) PROBE PKG OPT (120V) (NOT SHOWN)	1	5295
32. IND. CIRCUIT CORDSET PKG OPTION (120V)*	1	14221
33. FRONT GLASS STRUT	1	SU-22431

NOT CSA APPROVED

HNSYS-48/P

12/22/00

PART DESCRIPTION	QTY	ALTO-SHAAM PART NO.
1. BOTTOM END PANEL	1	13028
BOTTOM RIGHT-HAND PANEL, 4'	1	13029
BOTTOM LEFT-HAND PANEL	1	13030
SCREWS, 8-32X1/4"	4	SC-2459
SCREWS, 8-32X1/2"	17	SC-2425
3. CONTROL PANEL MOUNTING SCREWS	3	SC-22459
4. CONDUIT TUBING: 6" (152mm)	2	TU-3874
5. INSULATION: 34" x 47" (864mm x 1194mm)	2	IN-22364
6. CABLE CONNECTION HARDWARE		
7. HEATING CABLE: 132' (40234mm)	1	CB-3045
8. THERMOSTAT	2	TT-3498
THERMOSTAT KNOB	2	KN-3473
9. INDICATOR LIGHT	2	LI-3025
10. LIGHT SWITCH	2	SW-3616
11. INNER TOP SPOT	1	4674
12. BULBS	6	LP-3333
13. BULB SOCKET	6	RP-3952
14. DISPLAY LIGHT BULB	1	LP-3376
4' DISPLAY LAMP SHIELD	1	LP-3967
DISPLAY LIGHT FIXTURE	1	LP-3966
1/4 - 20 X 1/2" SLOT RD SCREW	2	SC-2332
1/4 - 20 HEX NUT	2	NU-2437
1/4" SPLIT RING LOCKWASHER	2	WS-2294
3/8" 90 DEGREE CONNECTOR	1	CR-3292
CONDUIT TUBING: 4' (1219mm)	1	TU-3976
15. CIRCUIT BOX (120V) INCLUDES	1	CI-3906
— BREAKER, 20 AMP	2	CI-3907
— BREAKER, 15 AMP	2	CI-33071
— GROUND BAR KIT	1	CI-3878
CIRCUIT BOX (220V) INCLUDES	1	CI-3906
— BREAKER, 20 AMP	2	CI-3907
— BREAKER, 15 AMP	4	CI-33071
— GROUND BAR KIT	1	CI-3878
16. DOOR ASSEMBLY, INCLUDES	1	DR-22480
— LEFT HAND GLASS DOOR	1	DR-22480A
— RIGHT HAND GLASS DOOR	1	DR-22480B
— TOP TRACK	1	TK-23748
— BOTTOM TRACK	1	TK-24265
— GUIDES #44049	8	DR-22480F
— DOOR BUMPER ASSEMBLY	1	DR-22480G
17. END PANEL	2	PE-22639
18. CUTTING BOARD ASSEMBLY	1	4016
19. CUTTING BOARD BRACKET (BASE)	2	12069
CUTTING BOARD BRACKET MTG. SCREWS	6	SC-24520
20. CUTTING BOARD BRACKET	2	BT-2342
23. END GLASS	2	GL-22597
END GLASS GASKET, 5' (1524mm)	1	GS-22547
24. FRONT GLASS	1	GL-22593
25. CUSTOMER GUARD: 4' (1219mm)	1	11096
SPACER	2	SP-24586
SCREWS	2	SC-2073
26. BASE BOTTOM	1	12562
27. PANS (NOT SHOWN)		
SELF-SERVE PAN	2	11624
SELF-SERVE PAN GRID	2	PN-22048
28. OUTLET HOUSING COVER	1	4951
29. SNAP-IN RECEPTACLES (120V)	2	RP-3396
30. FUSE, 15 AMP, RECEPTACLE (120V)	1	FU-33351
FUSEHOLDER, 15 AMP (120V)	1	FU-33352
31. 4' (1219mm) PROBE PKG OPT (120V) (NOT SHOWN)	1	5295
32. LOAD CENTER PKG OPTION (120V) (NOT SHOWN)	1	14220
33. FRONT GLASS STRUT	1	SU-22431
34. SNAP-IN BUMPER (NOT SHOWN)	1	11751


HN-48/P
SERVICE VIEW
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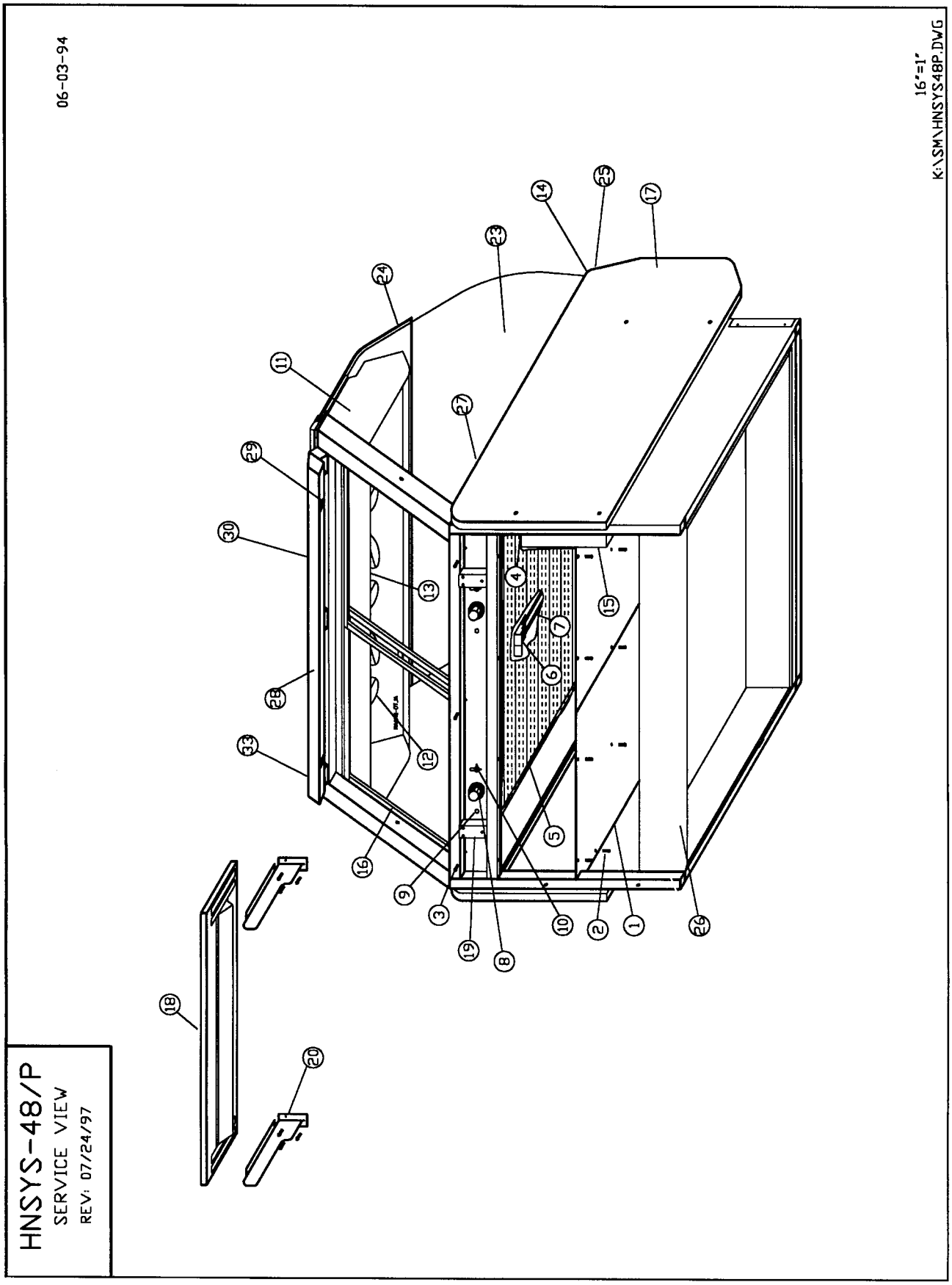
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SERVICE VIEW
REV: 07/24/97
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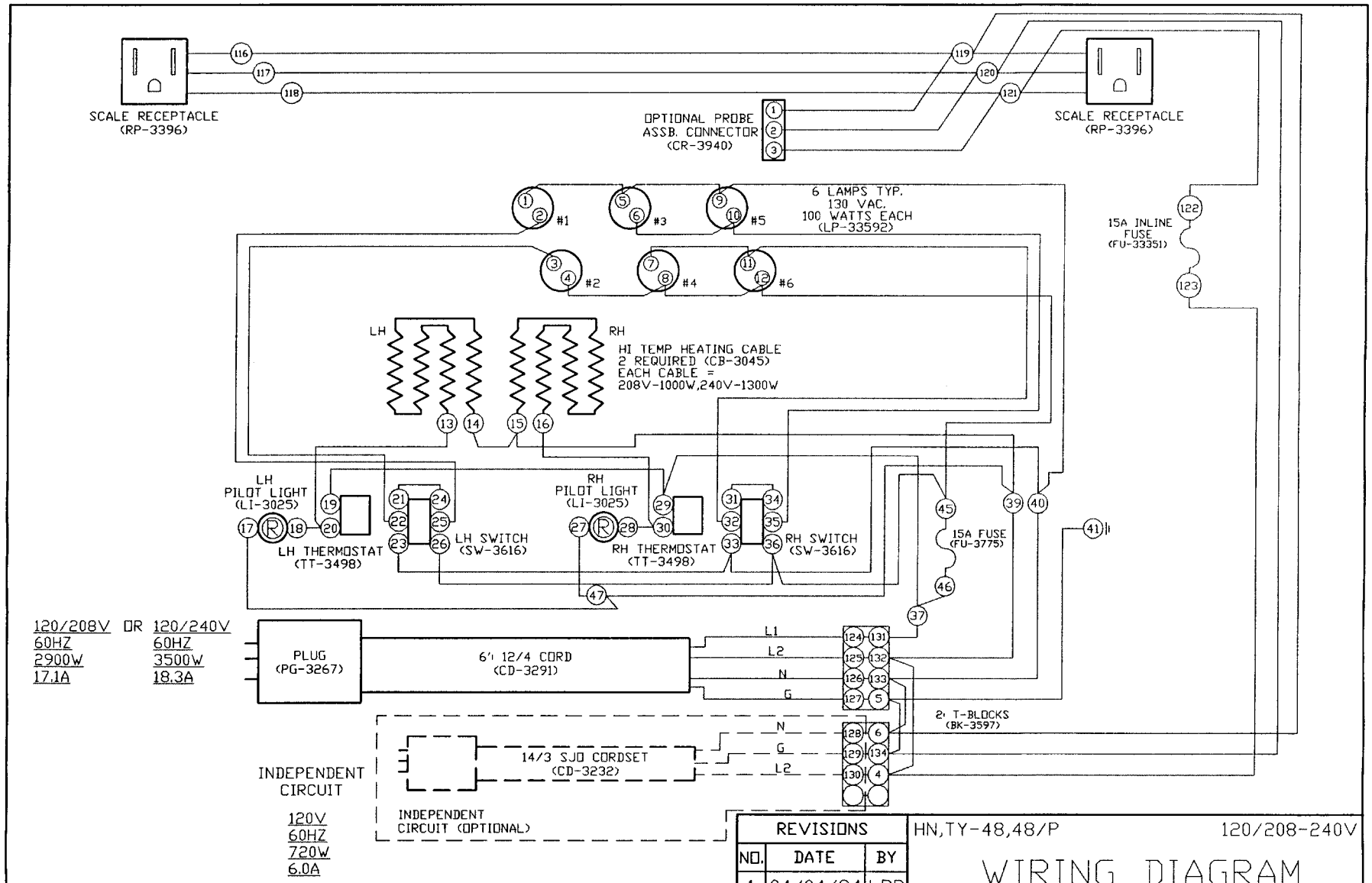
16"=1"
K:\SM\HNSYS48P.DWG



NOTE #1: ALL NUMBERS IN ( ) = ALTO-SHAAM PART NO'S
NOTE #2: SEE DRW. #B-8685 FOR HN WIRE ASSEMBLIES
NOTE #3: SEE DRW. #B-8902 FOR TY WIRE ASSEMBLIES

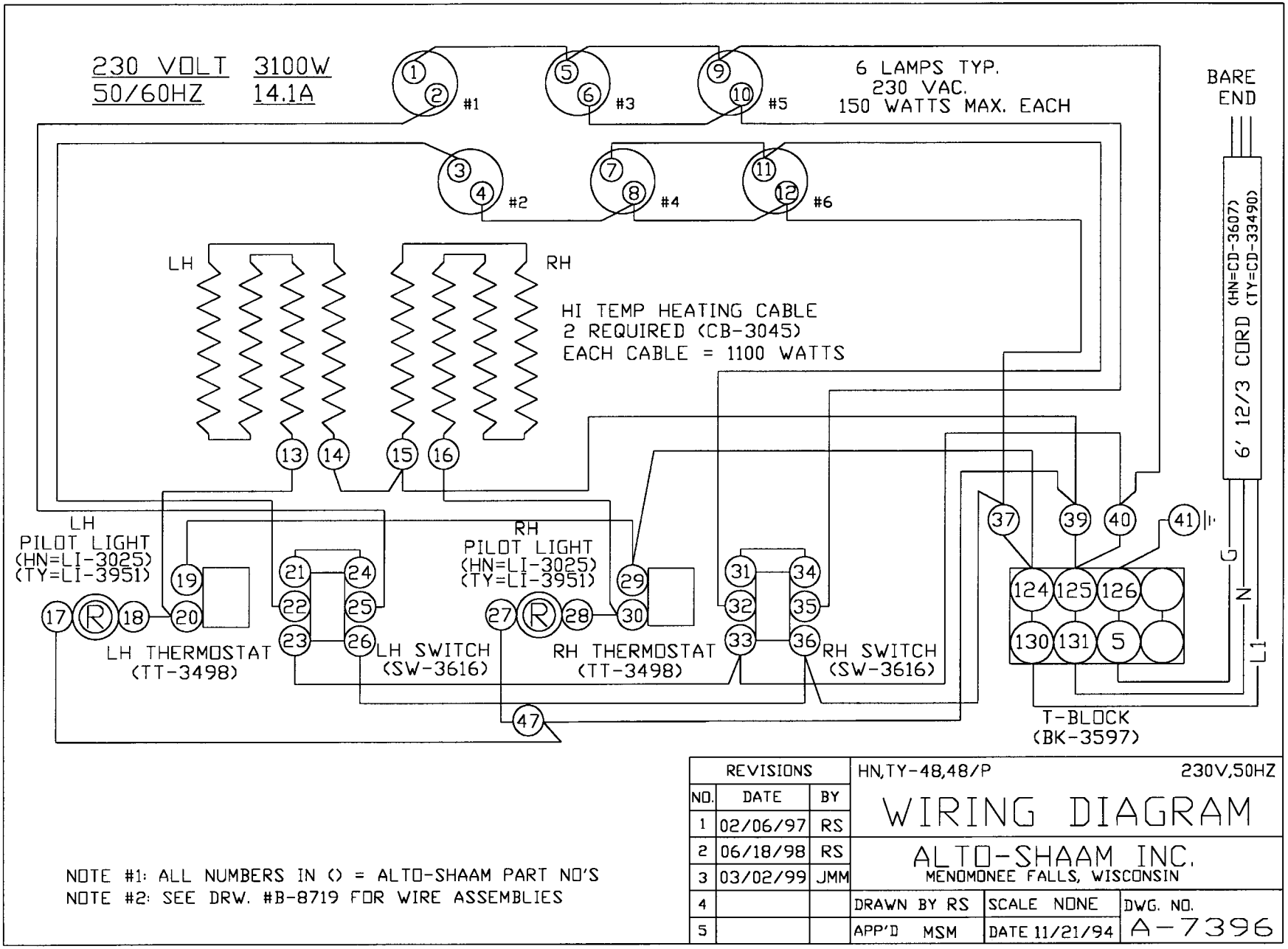
REVISIONS		
NO.	DATE	BY
1	04/04/94	LRP
2	07/19/94	RS
3	02/05/97	RS
4	01/15/01	NWW
5		

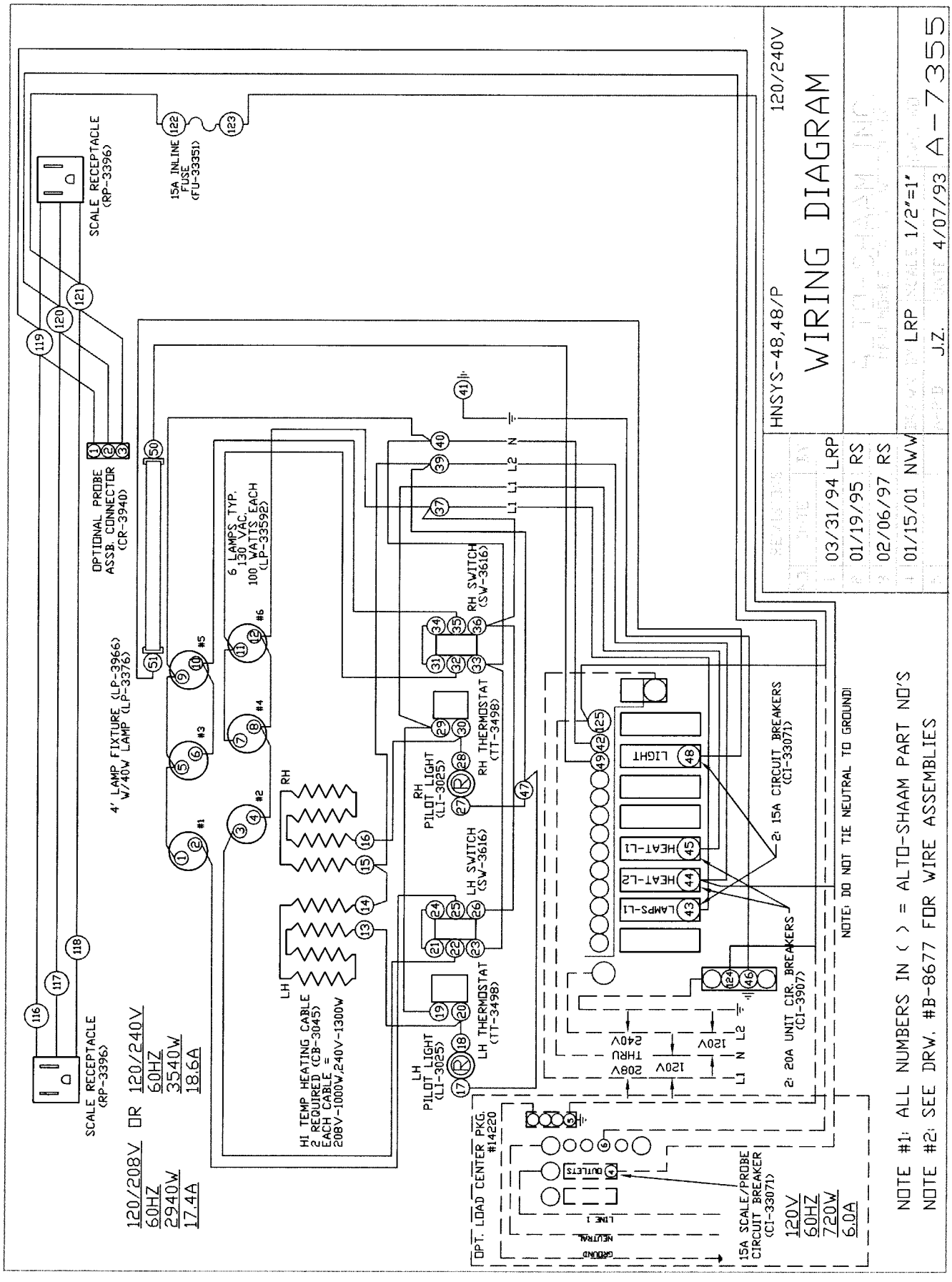
HN,TY-48,48/P 120/208-240V

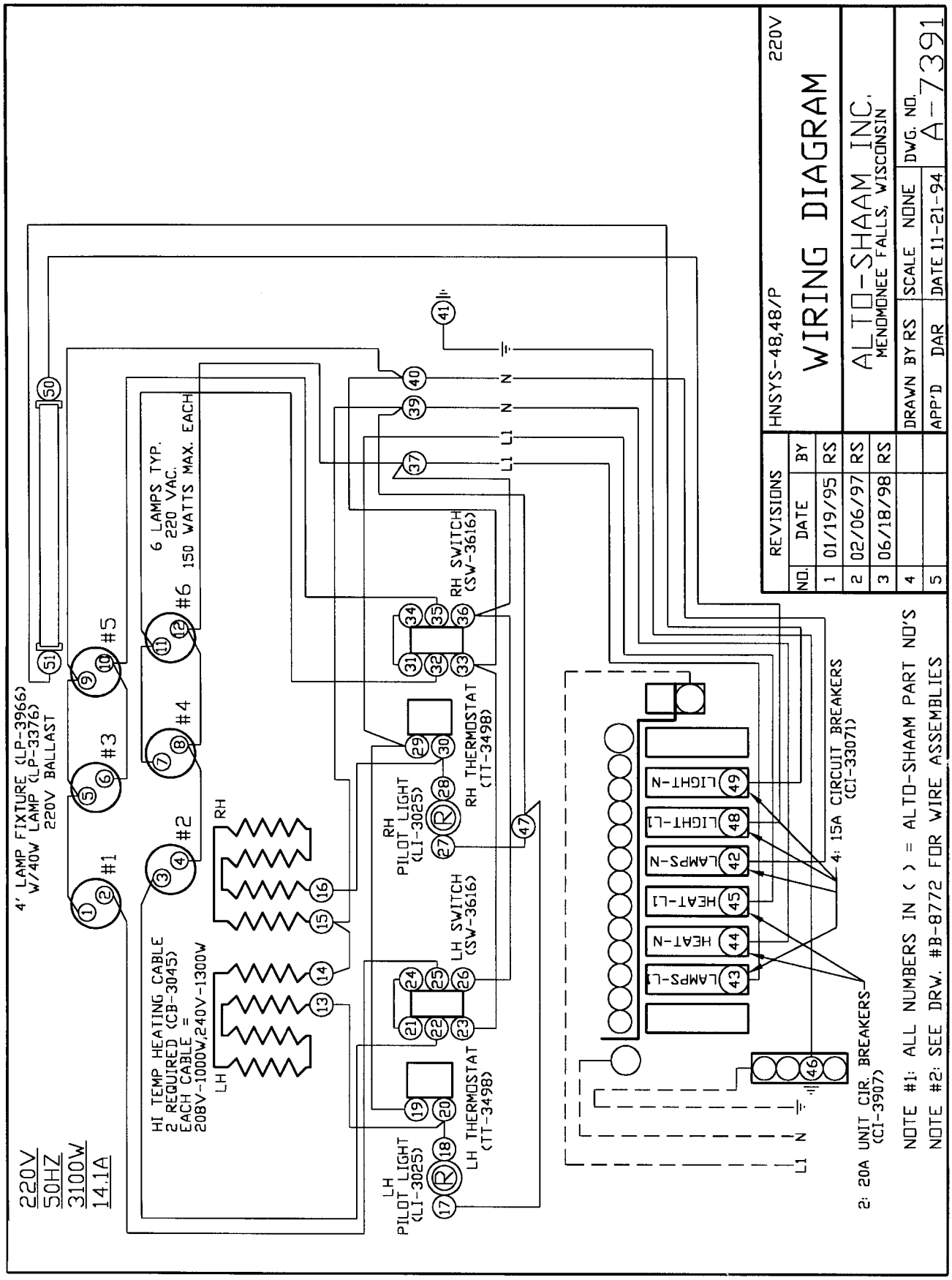
WIRING DIAGRAM

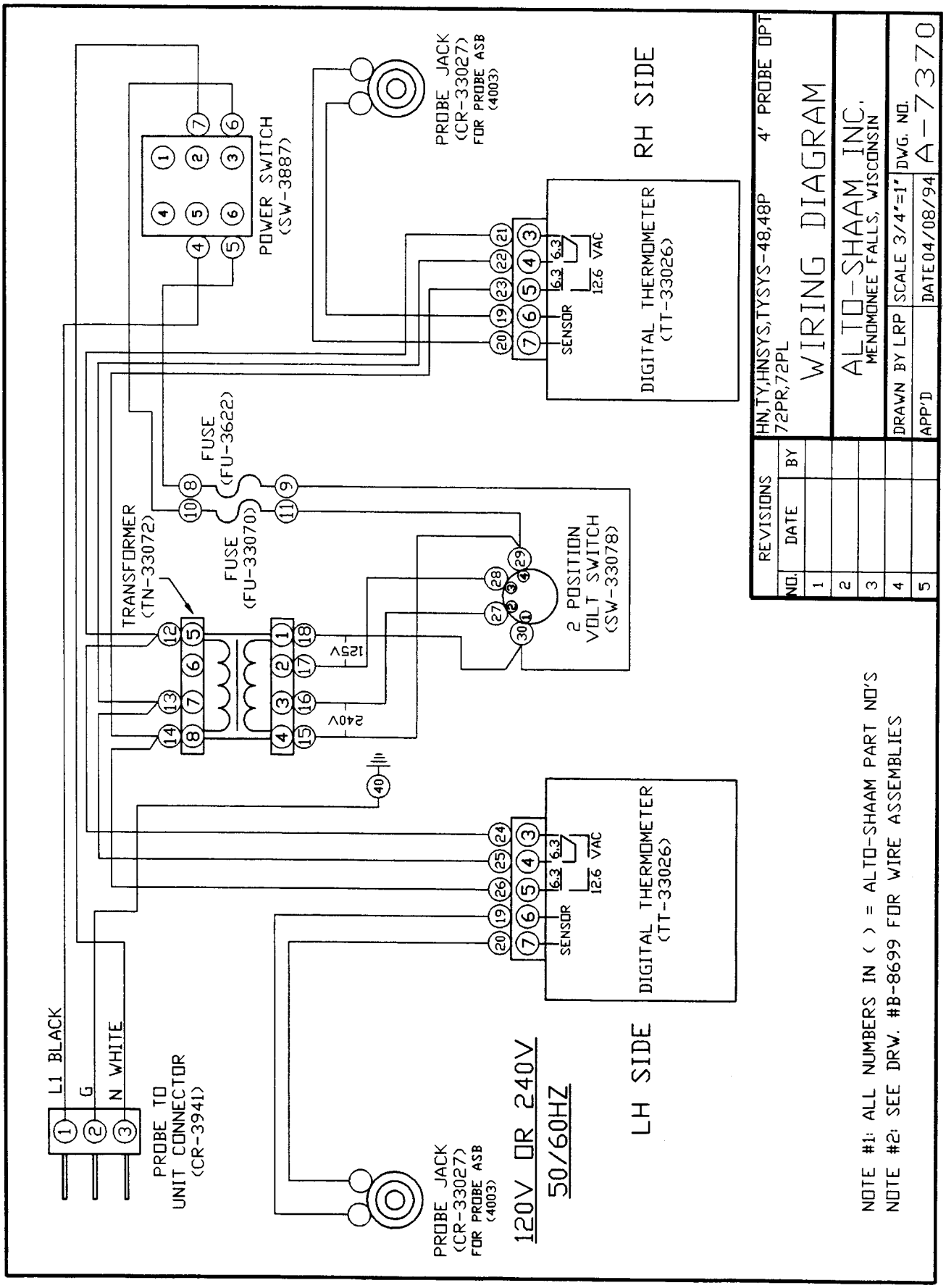
ALTO-SHAAM INC.
MENOMONEE FALLS, WISCONSIN

DRAWN BY RS	SCALE 1/2"=1"	DWG. NO.
APP'D DAR	DATE 9/15/93	A-7361


230 VOLT 3100W
50/60HZ 14.1A
6 LAMPS TYP.
230 VAC.
150 WATTS MAX. EACH
#1
#2
#3
#4
#5
#6
BARE END
6' 12/3 CORD (HN=CD-3607) (TY=CD-33490)
LH
RH
HI TEMP HEATING CABLE
2 REQUIRED (CB-3045)
EACH CABLE = 1100 WATTS
LH PILOT LIGHT (HN=LI-3025) (TY=LI-3951)
RH PILOT LIGHT (HN=LI-3025) (TY=LI-3951)
LH THERMOSTAT (TT-3498)
LH SWITCH (SW-3616)
RH THERMOSTAT (TT-3498)
RH SWITCH (SW-3616)
T-BLOCK (BK-3597)
G
N
L1
NOTE #1: ALL NUMBERS IN () = ALTO-SHAAM PART NO'S
NOTE #2: SEE DRW. #B-8719 FOR WIRE ASSEMBLIES
REVISIONS
NO. DATE BY
1 02/06/97 RS
2 06/18/98 RS
3 03/02/99 JMM
4
5
HN,TY-48,48/P
230V,50HZ
WIRING DIAGRAM
ALTO-SHAAM INC.
MENOMONEE FALLS, WISCONSIN
DRAWN BY RS
SCALE NONE
DWG. NO.
APP'D MSM
DATE 11/21/94
A-7396


WIRING DIAGRAM
HNSYS-48,48/P
120/240V
A-7355
SCALE RECEPTACLE (RP-3396)
120/208V OR 120/240V
60HZ
2940W
17.4A
3540W
18.6A
15A INLINE FUSE (FU-33351)
OPTIONAL PROBE ASSB. CONNECTOR (CR-3940)
4' LAMP FIXTURE (LP-3966) W/40W LAMP (LP-3376)
6 LAMPS TYP. 130 VAC, 100 WATTS EACH (LP-33592)
HI TEMP HEATING CABLE 2 REQUIRED EACH CABLE = 208V-1000W,240V-1300W (CB-3045)
RH PILOT LIGHT (LI-3025)
LH PILOT LIGHT (LI-3025)
RH THERMOSTAT (TT-3498)
LH THERMOSTAT (TT-3498)
RH SWITCH (SW-3616)
LH SWITCH (SW-3616)
2- 15A CIRCUIT BREAKERS (CI-33071)
2- 20A UNIT CIR. BREAKERS (CI-3907)
LIGHT
HEAT-L1
HEAT-L2
LAMPS-L1
NOTE: DO NOT TIE NEUTRAL TO GROUND!
OPT. LOAD CENTER PKG. #14220
GROUND
NEUTRAL
LINE 1
OUTLETS
15A SCALE/PROBE CIRCUIT BREAKER (CI-33071)
120V
60HZ
720W
6.0A
NOTE #1: ALL NUMBERS IN ( ) = ALTO-SHAAM PART NO'S
NOTE #2: SEE DRW. #B-8677 FOR WIRE ASSEMBLIES
03/31/94 LRP
01/19/95 RS
02/06/97 RS
01/15/01 NWW
LRP
1/2"=1"
J.Z.
4/07/93


220V
50HZ
3100W
14.1A
4' LAMP FIXTURE (LP-3966)
W/40w LAMP (LP-3376)
220V BALLAST
#1
#2
#3
#4
#5
#6
6 LAMPS TYP.
220 VAC.
150 WATTS MAX. EACH
HI TEMP HEATING CABLE
2 REQUIRED (CB-3045)
EACH CABLE =
208V-1000W,240V-1300W
RH
LH
RH PILOT LIGHT (LI-3025)
RH THERMOSTAT (TT-3498)
RH SWITCH (SW-3616)
LH SWITCH (SW-3616)
LH THERMOSTAT (TT-3498)
LH PILOT LIGHT (LI-3025)
LAMPS-L1
HEAT-N
HEAT-L1
LAMPS-N
LIGHT-L1
LIGHT-N
4: 15A CIRCUIT BREAKERS (CI-33071)
2: 20A UNIT CIR. BREAKERS (CI-3907)
L1
N
NOTE #1: ALL NUMBERS IN ( ) = ALTO-SHAAM PART NO'S
NOTE #2: SEE DRW. #B-8772 FOR WIRE ASSEMBLIES
REVISIONS
NO. DATE BY
1 01/19/95 RS
2 02/06/97 RS
3 06/18/98 RS
4
5
HNSYS-48,48/P
220V
WIRING DIAGRAM
ALTO-SHAAM INC.
MENOMONEE FALLS, WISCONSIN
DRAWN BY RS
SCALE NONE
DWG. NO.
APP'D DAR
DATE 11-21-94
A-7391


L1 BLACK
G
N WHITE
PROBE TO UNIT CONNECTOR (CR-3941)
120V OR 240V
50/60HZ
PROBE JACK (CR-33027) FOR PROBE ASB (4003)
LH SIDE
DIGITAL THERMOMETER (TT-33026)
SENSOR
6.3
12.6 VAC
TRANSFORMER (TN-33072)
FUSE (FU-3622)
FUSE (FU-33070)
125V
240V
2 POSITION VOLT SWITCH (SW-33078)
POWER SWITCH (SW-3887)
PROBE JACK (CR-33027) FOR PROBE ASB (4003)
RH SIDE
DIGITAL THERMOMETER (TT-33026)
SENSOR
6.3
12.6 VAC
NOTE #1: ALL NUMBERS IN ( ) = ALTO-SHAAM PART NO'S
NOTE #2: SEE DRW. #B-8699 FOR WIRE ASSEMBLIES
REVISIONS
NO. DATE BY
1
2
3
4
5
HN,TY,HNSYS,TYSYS-48,48P 4' PROBE OPT
72PR,72PL
WIRING DIAGRAM
ALTO-SHAAM INC.
MENOMONEE FALLS, WISCONSIN
DRAWN BY LRP
SCALE 3/4"=1"
DWG. NO.
APP'D
DATE 04/08/94
A-7370

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®

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