Deep Freeze
Operating Instructions

Version 1.05

Brought to you by,
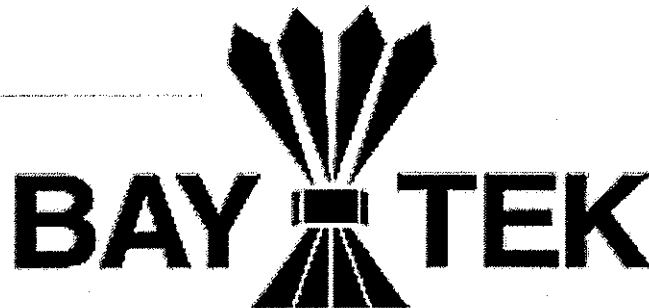
BAY TEK

E-Mail: service@bay-tek.com
www.bay-tek.com

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INSTALLATION INSTRUCTIONS

- Inspect all cargo for damage to the outside of the carton before removing. If there is any sign of damage, indicate on the Bill of Lading prior to the driver departing. If damage is found after the driver leaves, contact BayTek Inc. immediately.

- Remove the game from the crate and/or pallet and strapping.

- Remove the keys taped to the top of the glass.

- Unlock the back door and unroll the power cord and feed it through the hole near the bottom of the game. Attach the extension cord if necessary.

- Place the game in the desired location.

- Use glass cleaner to clean the glass and acrylic inside and outside of the game. If you clean the playfield, you must apply a good quality automotive wax.

- The game is set to the standard factory settings. Variations and user changeable features are listed in this manual.

- Plug the game in and turn the power strip on.

Check the game to make sure everything is working. If something is not working or if anything goes wrong during the life of the game, contact the service department at: service@bay-tek.com, or (920)-822-3951.

SPECIAL FEATURES

- Complete Operator Programmability
Ticket patterns, bonus slot values, attract sounds and playfield drop settings are all features controlled by the operator. These features are changeable using the switches on the main board.

- Easily Accessible Main Board
No more wrestling games away from the wall to get to the main board. Deep Freeze is equipped with the main board mounted just inside the front door for easy access and less wasted time.

- Stereo Volume Controls
With the debut of the Deep Freeze game, BayTek also uses its new Stereo Sound. The potentiometer(s) next to the main board controls both the right and the left speakers. This separation of sound provides a higher quality audio experience.

SPECIAL FEATURES (cont.)

- Uniquely Keyed Cash Box Lock

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The lock for the cash box is keyed differently than the rest of the keys for the game. This allows operators to hand out keys to technicians for service without compromising the security of the coins.

- Double Locks on Control Panel

This feature adds to the overall security of the coin mech by making it twice as hard to compromise.

OBJECT OF GAME

To win tickets, players aim their coins or tokens with the coin mech. at one of the targets or bonus icicles. Landing a coin in one of the three bonus icicles, located at the far end of the playfield, will trigger the playfield to drop down, revealing more chances to win super bonus tickets. Any coins remaining on the playfield will score if they land in a scoring area. The complete playfield cycle is 12 seconds.

The ticket amount display on *Deep Freeze* adds tickets as they are won and subtracts them as they are dispensed. Should tickets run out, the display will show the tickets owed, and add more if won. When the ticket supply is refilled, the dispenser will automatically continue paying tickets until the tickets owed reaches zero.

If you wish to clear the playfield of coins, turn the power off and back on again. Repeat this step if necessary.

CHANGING TICKET SLOT VALUES

You will need the "Deep Freeze Scoring Pack" which is available from BayTek Inc. to change the numbers on the slots. All of the payout tables and dipswitch settings needed to change the values are located on page 6.

Replace the bonus numbers and regular scoring numbers with one of the payouts listed on page 6. Set the dipswitches to reflect the same values. After changing payouts, monitor the game closely to insure proper results.

PROGRAMMING

Deep Freeze can be reset using the one of the three push buttons located on the ticket tray. (See diagram 1.)

CLEARING THE TICKETS OWED

The ticket clear button, when pushed, will trigger the table to drop, the table to "thump" to clear the table of any loose coins, and a payout percentage will show on the "Tickets Owed" display board for twelve seconds (the time it takes for the table drop cycle.) When the table goes back to the home position, the "Tickets Owed" display board will clear and go to zero.
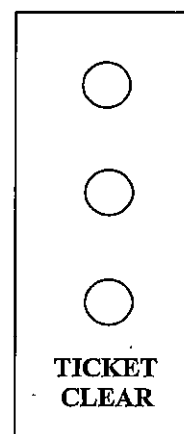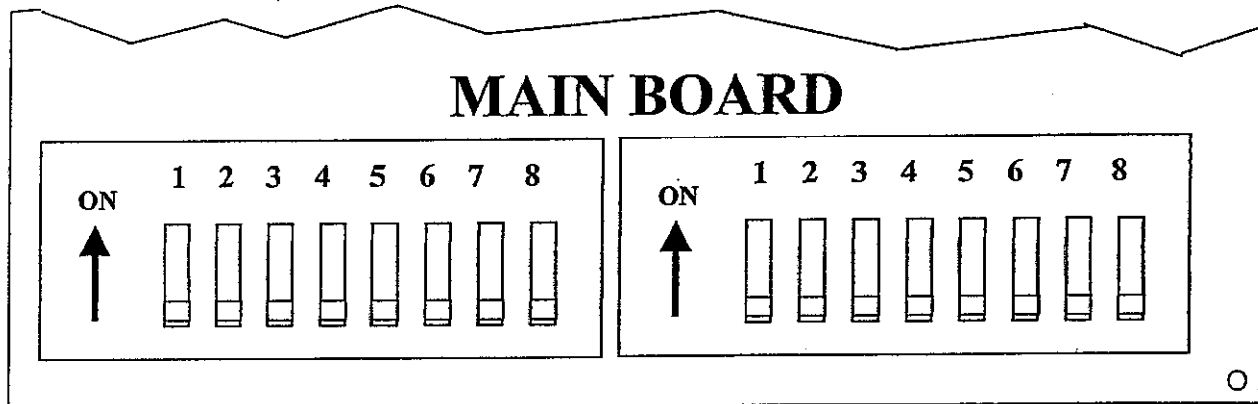
TICKET CLEAR

DIAGRAM 1

DIPSWITCH SETTINGS

Deep Freeze has two banks of dipswitches labeled S1 and S2 that are used to program the game. Each bank of switches has 8 positions (Pos. #1- #8). The switches are located on *Deep Freezes* main controller board.

X = on or closed position   O = off or open position   • = default setting

MAIN BOARD

```
ON →    1  2  3  4  5  6  7  8        ON →    1  2  3  4  5  6  7  8

                                                                        O
```

S1

S1	Pos. #1	Pos. #2	Pos. #3	Ticket Patterns
	O	O	O	025,100,003,010,015,100,002,010,015,025,100,003
	O	O	X	015,050,005,010,015,050,003,010,015,015,050,005
	O	X	O	005,010,003,015,020,025,002,015,020,005,010,003
	O	X	X	010,050,003,005,010,025,002,005,010,010,050,003
	X	O	O	025,100,005,010,015,050,003,010,015,025,100,005
	X	O	X	005,020,001,002,003,010,001,002,003,005,020,001
	X	X	O	010,040,002,004,006,020,002,004,006,010,040,002
	X	X	X	000,000,000,000,000,000,000,000,000,000,000,000

Handwritten notes in left margin:
A5DC 8028
A5DC 8025
A5DC 8024
A5DC 8026
A5DC 8027

S1	Pos. #4	Pos. #5	Pos. #6	Center Bonus Slot Value
	O	O	O	25
	O	O	X	50
	O	X	O	75
	O	X	X	100
	X	O	O	150
	X	O	X	250
•	X	X	O	500
	X	X	X	1000

S1	Pos. #7	Attract Mode
	O	Off
•	X	Play Attract Sounds Every 3 Minutes

S1	Pos. #8	Drop Playfield Settings
	O	Drop Playfield When Middle Icicle Scores
•	X	Drop Playfield When Left, Middle or Right Icicles Score

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S2	Pos. #1	Pos. #2	Automatic table drop
	O	O	Drop after 10 games
	O	O	Drop after 25 games
•	O	X	Drop after 50 games
	O	X	Drop after 100 games

S2	Pos. #3	Pos. #4	Pos. #5	Mercy tickets
•	O	O	O	0
	O	O	X	1
	O	X	O	2
	O	X	X	3
	X	O	O	4
	X	O	X	5
	X	X	O	6
	X	X	X	7

S2	Pos. #6 - #8	Not Used At This Time
•	O	All Switches Should Be In the Off Position

TICKET DISPENSER

Deep Freeze is equipped with a Deltronic Labs DL-1275 ticket dispenser. *Deep Freeze's* main board turns on the dispenser, which continues to dispense until the correct number of signals are received from the optical detector, which then causes the main board to shut off power to the ticket motor.

Should the dispenser run out of tickets, the ticket motor will shut down immediately. Running out of tickets will not inhibit further operation of the game. The "Ticket Amount" display will continue to accumulate tickets until the ticket tray has been reloaded. When the ticket supply is replenished, dispensing will continue until the "Ticket Amount" display returns to zero. The "Ticket Amount" display will show the exact amount (plus one) of tickets owed to the customer. The plus one is the last ticket that was dispensed to the customer. The game board did not read that ticket since there wasn't a notch to detect.

PREVENTIVE MAINTENANCE

Monthly maintenance procedures will help promote error free operation of your game. The paper used to manufacture tickets puts out a good deal of paper dust, which can affect the ticket dispenser operation. The dispenser should be blown free of ticket dust once a month. To enhance the operation and life of the playfield motor and the coin mech pivots, add a few drops of light duty oil (**do not use WD-40**) to the playfield motor and the pivot points once a month. Waxing the playfield and the ramps with only a good quality automotive wax will ensure proper operation and longevity of the playfield area. Do not wax the icicles.

Do not use acetone or any other harsh chemical on any of the graphics or acrylic. A damp cloth or light duty cleaner, like Windex or Pledge, is all you need.

TROUBLESHOOTING

Following is a list of malfunctions that may occur with your game. If you should experience a malfunction, follow the solutions in the order they are listed. If you cannot solve the problem, replace the main board with a main board from a working game if available. This will enable you to isolate the problem to the main board. If you have a malfunctioning main board, please have the serial number ready and cotact the service department at Bay-Tek Inc. for prompt shipment of an advanced replacement main board. **REMEMBER TO TURN THE GAME OFF BEFORE SERVICING.**

Should your game have a malfunction not listed here, call BayTek Inc. at (920)-822-3951 for further assistance.

Game Has No Function
- Check the ON/OFF switch on the power strip inside the game.
- Insure proper connection to power outlet.
- Check for voltage at the outlet.
- Check for voltage at the power strip.

No Audio
- Turn the volume knobs back and forth a few times.
- Check the connection of the audio cable at the main board.
- Check connections at the speaker terminals.
- Replace the main board with the main board from a working Deep Freeze to isolate the problem to the main boad. If one is not available, contact the service department at Bay-Tek Inc.

Tickets Do Not Dispense
- Check connections between the ticket dispenser and the main cable harness.
- Check the connection of the main cable at the main board.
- Replace the main board with the main board from a working Deep Freeze to isolate the problem to the main board. If one is not available, contact the service department at Bay-Tek Inc.

Game Dispenses Wrong Amount of Tickets
- Clean opto-electronic beam breaker sensor located on the ticket dispenser circuit board. To clean, simply blow on sensor to get most of the debris out and finish with Isopropyl Alcohol and a cotton swab.
- Check for the correct dipswitch settings on the main board.
- Replace the ticket dispenser with a ticket dispenser from a working game to isolate the problem to the ticket dispenser.
- Replace the main board with the main board from a working Deep Freeze to isolate the problem to the main board. If one is not available, contact the service department at Bay-Tek Inc.

TROUBLESHOOTING (cont.)

Displays An Error Code

•If your Deep Freeze display shows the letter "E" followed by a number, you have a coin sensor blocked or malfunctioning. The number indicates which sensor is in question. The following chart illustrates the sensor numbering system. Clean the sensor and check it for proper operation. If the sensor is failing, call your Bay-Tek service representative for a replacement.
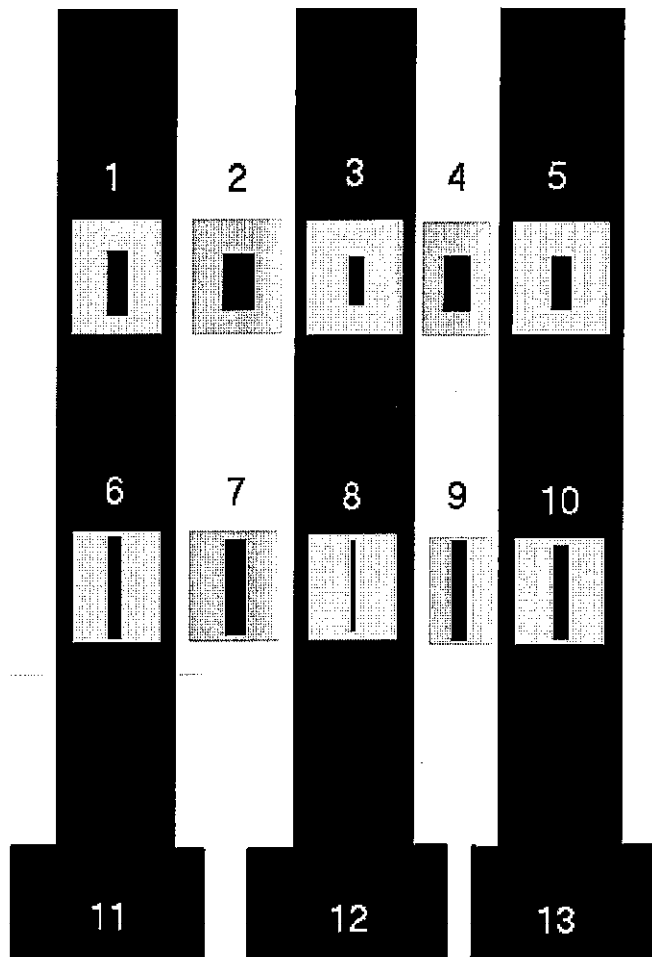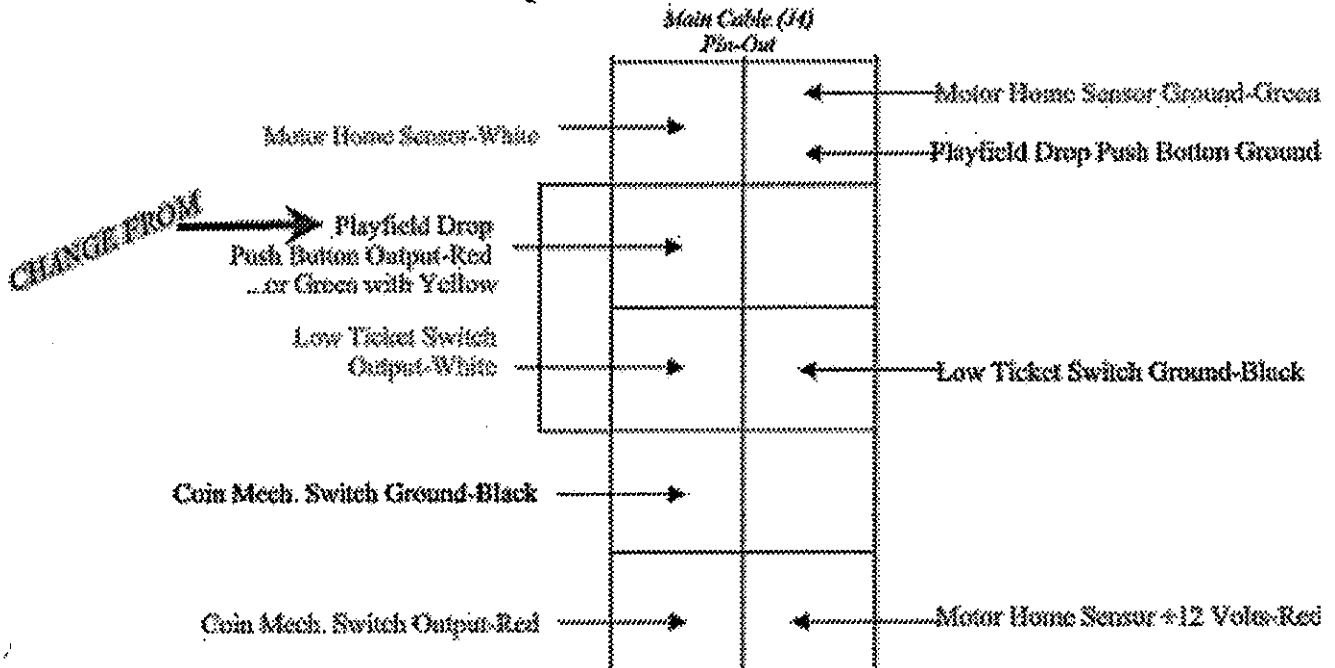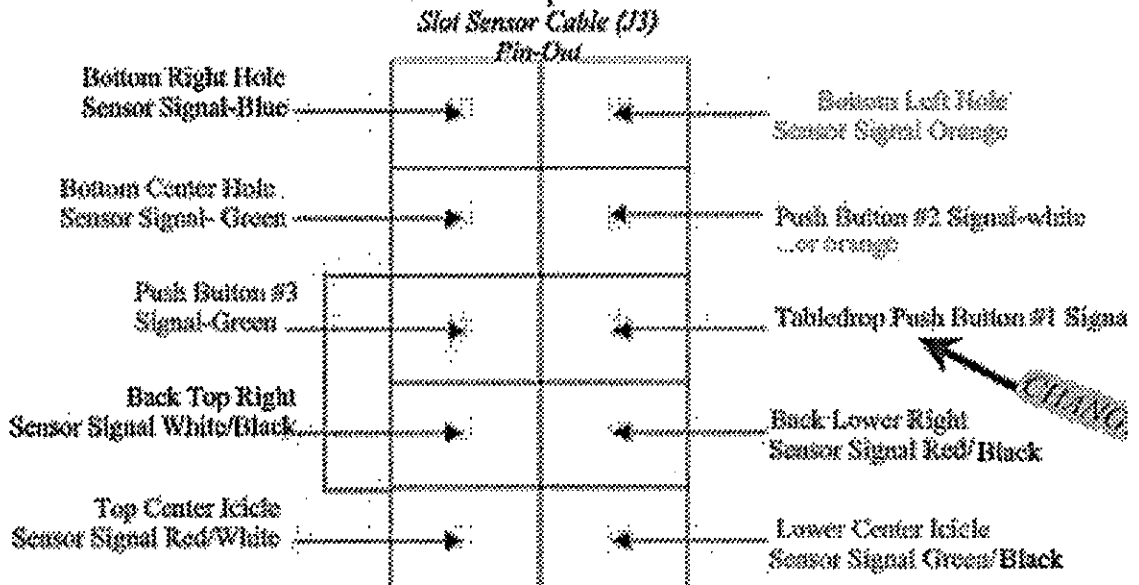
DEEP FREEZE PARTS LIST

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If your game is DF version 1.00-1.03, then a small modificati is required to make the playfield dump work properly.

1. Locate the main board in the bottom front of the cabinet.
2. Using the chart below, move the wire indicated from the J4 connector to the J3 connector.
3. Now the dump button will dump the playfield and clear the tickets owed displ:

Deep Freeze Old Version 1.03 or Under
Main Cable (J4)
Pin-Out

Motor Home Sensor-White

CHANGE FROM → Playfield Drop Push Button Output-Red ...or Green with Yellow

Low Ticket Switch Output-White

Coin Mech. Switch Ground-Black

Coin Mech. Switch Output-Red

Motor Home Sensor Ground-Green

Playfield Drop Push Button Ground

Low Ticket Switch Ground-Black

Motor Home Sensor +12 Volts-Red

New Version Deep Freeze 1.05
Slot Sensor Cable (J3)
Pin-Out

Bottom Right Hole Sensor Signal-Blue

Bottom Center Hole Sensor Signal- Green

Push Button #3 Signal-Green

Back Top Right Sensor Signal White/Black

Top Center Icicle Sensor Signal Red/White

Bottom Left Hole Sensor Signal-Orange

Push Button #2 Signal-white ...or orange

Tabledrop Push Button #1 Signa ← CHANGE

Back Lower Right Sensor Signal Red/Black

Lower Center Icicle Sensor Signal Green/Black

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Description	Part Number	Price
Power Supply	A5PS1001	$ 90.00
Extension Cord 6'	A5CORD1	$ 11.50
Ticket Dispenser	A5TD1	$ 210.00
Speaker	A5SP1050	$ 15.00
Coin Mech. Assembly	AACS8020	$ 95.00
Low Ticket Switch	AASW200	$ 10.00

Metal and Brackets

Playfield Motor Cam	A5CA8020	$ 15.00
Playfield Motor Mounting Bracket	A5MA8021	$ 15.00
Control Panel (coin mech cover)	A5CP8020	$ 50.00

PC Boards and Electronics

Deep Freeze Mainboard	AAMB5A	$ 600.00
Deep Freeze Sound Chip	AAEP-DF	$ 35.00
Deep Freeze Software Chip	AAMC-DF	$ 55.00
Short Sensor Board	AABD1200	$ 25.00
Tall Sensor Board	AABD1201	$ 25.00
Ticket Display Board	AABD2603	$ 150.00
Square Sensor Board	AABD1203	$ 25.00

Plastics

Top Formed Plastic w/ Icicles	A5VF8020	$ 195.00
Front Panel, Bottom Door	A5FP8021	$ 75.00
Long Ice Ramp Support	A5FP8029	$ 10.00
Short Ice Ramp Support	A5FP8027	$ 10.00
Long Ice Ramp (red)	A5FP8028	$ 15.00
Long Ice Ramp (yellow)	A5FP8030	$ 15.00
Short Ice Ramp	A5FP8026	$ 15.00

Graphics

Front Door, Left/Right Graphics	A5DC8020	$ 50.00
Decal,Top Panel, Right	A5DC8021	$ 20.00
Decal,Top Panel, Left	A5DC8022	$ 20.00
Playfield Decals, 24 Labels	A5DC8024	$ 30.00

Motors

Playfield incline motor Assy.	AAMO8020	$ 150.00
Playfield incline motor only	A5MO8020	$ 95.00

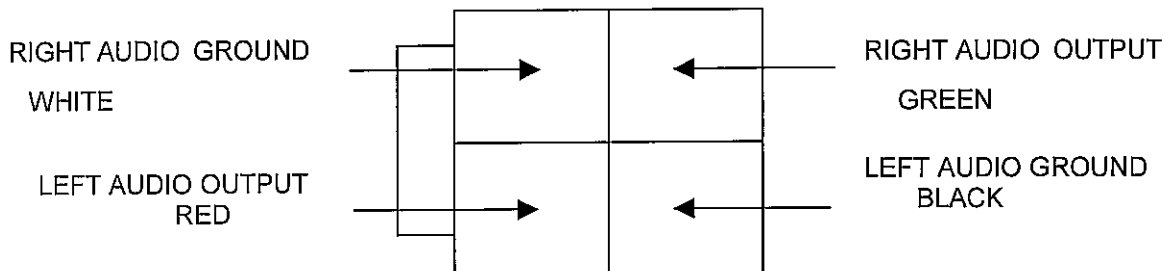Note: All part prices subject to change without notice.

MAINBOARD PIN-OUTS

12 VOLT JUMPER CABLE (J1)
PIN - OUT
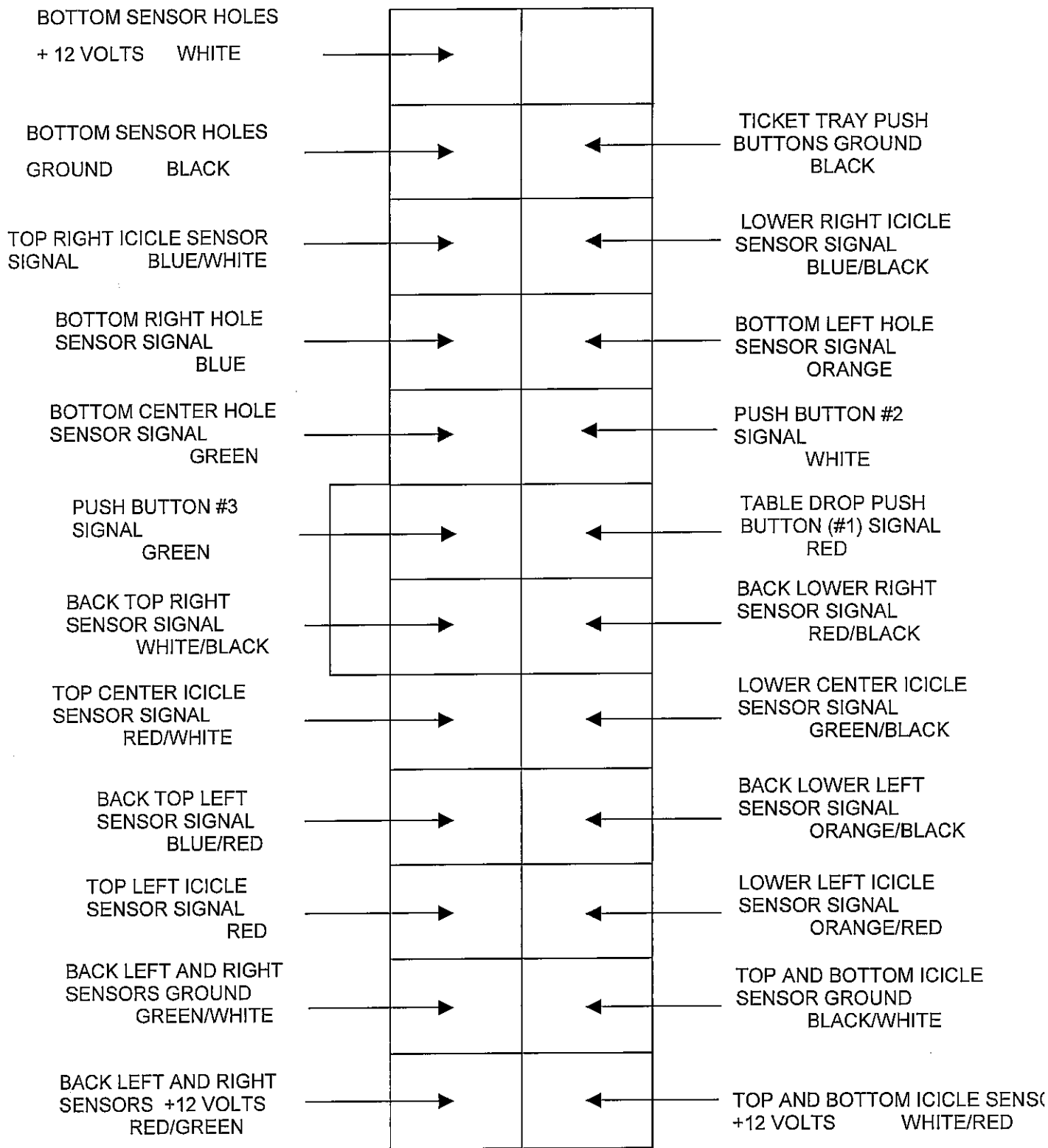
MAINBOARD PIN-OUTS

12 VOLT JUMPER CABLE (J1)
PIN - OUT

IN FROM
POWER
SUPPLY, TO
MAIN BOARD

12 VOLT INPUT
WHITE

12 VOLT GROUND
GREEN

12 VOLT INPUT
WHITE

12 VOLT GROUND
GREEN

VOLUME CABLE (J2)
PIN - OUT

RIGHT AUDIO GROUND

WHITE

LEFT AUDIO OUTPUT
RED

RIGHT AUDIO OUTPUT

GREEN

LEFT AUDIO GROUND
BLACK

Bay-Tek, Inc
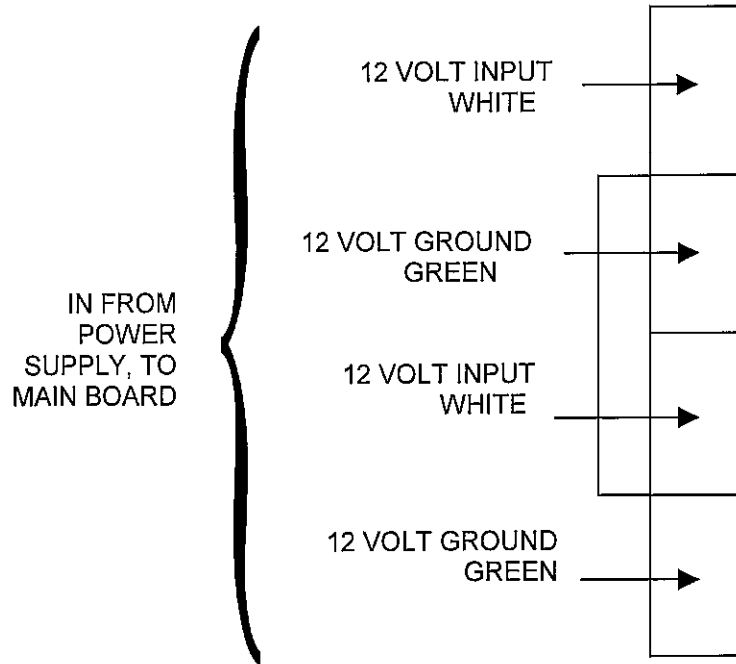
MAINBOARD PIN-OUTS (cont.)

SLOT SENSOR CABLE (J3)
PIN - OUT

Left			Right
BOTTOM SENSOR HOLES + 12 VOLTS WHITE	→		
BOTTOM SENSOR HOLES GROUND BLACK	→	←	TICKET TRAY PUSH BUTTONS GROUND BLACK
TOP RIGHT ICICLE SENSOR SIGNAL BLUE/WHITE	→	←	LOWER RIGHT ICICLE SENSOR SIGNAL BLUE/BLACK
BOTTOM RIGHT HOLE SENSOR SIGNAL BLUE	→	←	BOTTOM LEFT HOLE SENSOR SIGNAL ORANGE
BOTTOM CENTER HOLE SENSOR SIGNAL GREEN	→	←	PUSH BUTTON #2 SIGNAL WHITE
PUSH BUTTON #3 SIGNAL GREEN	→	←	TABLE DROP PUSH BUTTON (#1) SIGNAL RED
BACK TOP RIGHT SENSOR SIGNAL WHITE/BLACK	→	←	BACK LOWER RIGHT SENSOR SIGNAL RED/BLACK
TOP CENTER ICICLE SENSOR SIGNAL RED/WHITE	→	←	LOWER CENTER ICICLE SENSOR SIGNAL GREEN/BLACK
BACK TOP LEFT SENSOR SIGNAL BLUE/RED	→	←	BACK LOWER LEFT SENSOR SIGNAL ORANGE/BLACK
TOP LEFT ICICLE SENSOR SIGNAL RED	→	←	LOWER LEFT ICICLE SENSOR SIGNAL ORANGE/RED
BACK LEFT AND RIGHT SENSORS GROUND GREEN/WHITE	→	←	TOP AND BOTTOM ICICLE SENSOR GROUND BLACK/WHITE
BACK LEFT AND RIGHT SENSORS +12 VOLTS RED/GREEN	→	←	TOP AND BOTTOM ICICLE SENS(+12 VOLTS WHITE/RED

Deep Freeze Operating Instructions

MAINBOARD PIN-OUTS (cont.)

MAIN CABLE (J4)

Left		Right
GAME COUNTER OUTPUT YELLOW	→ ←	PLAYFIELD DROP RELAY SIGNAL BLACK
COUNTERS +12 VOLTS PINK	→ ←	PLAYFIELD DROP RELAY +12 VOLTS BLUE
TICKET COUNTER OUPUT PURPLE	→ ←	PLAYFIELD SOLENOID RELAY SIGNAL ORANGE
MOTOR HOME SENSOR SIGNAL WHITE	→ ←	MOTOR HOME SENSOR GROUND GREEN
LOW TICKET SWITCH OUTPUT ORANGE	→ ←	LOW TICKET SWITCH GROUND GREEN
COIN MECH. SWITCH GROUND BLACK	→	
COIN MECH. SWITCH OUTPUT RED	→ ←	MOTOR HOME SENSOR +12 VOLTS RED
TICKET DISPENSER GROUND BLACK	→ ←	TICKET DISPENSER TICKET NOTCH BLUE
TICKET DISPENSER ENABLE WHITE	→ ←	TICKET DISPENSER +12 VOLTS RED

Gen 5 Main Board Schematics

Communications – Serial EEprom

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Input Section A – Configuration Switches

DEEP FREEZE TROUBLESHOOTING & DIAGNOSTICS SECTION

Troubleshooting Chart			
Problem		**Probable Cause**	**Remedy**
No power to the game.		a. Unplugged. b. Blown Fuse. c. Circuit breaker tripped. d. Bad power supply.	a. Check wall outlet. b. Check transformer fuse (220v applications only - 7 amp fast burn). c. Reset power strip breaker switch or building circuit breaker. Attempt to determine cause. d. See power supply diagnostic. Replace if faulty. (A5PS1001)
No Audio		a. Volume too low. b. Loose wire at control or speaker. c. Defective Potentimeter. d. Main circuit board malfunction.	a. Increase the volume at the volume control at the inside of the front door panel. b. Check audio cable connections to speaker, volume control and main circuit board. Check continuity. c. Replace pot. (A5PO1K) d. Replace main board with board from another Gen 5 game if possible to isolate the problem to the main circuit board.
Fluorescent lighting not functioning.		a. Fixture unplugged. b. Lamp out. c. Fixture Faulty	a. Plug power cable into power strip. b. Replace fluorescent tube. c. Replace entire fixture.
Halogen lighting not functioning.		a. Bulb(s) out. b. Fixture/cable problem. c. Bad power supply	a. Replace only with 12 Volt, 20 watt, MR16 halogen bulbs. (A5LA9050) b. Check for 12 Volts to fixtures. c. See power supply diagnostic. Replace if faulty. (A5PS1001)
Playfield does not vibrate in lowered position. **An LED on AC Driver Board will come on when solenoid engages, if that LED pulses, the board is getting a signal.**	AC Driver is getting signal.	a. Fuse Blown. b. AC driver board is bad. c. Faulty Kicker Solenoid.	a. Replace fuse (A5FUSE3) in fuse block on AC driver board. b. Replace AC driver board. (AABD5029) c. Replace Solenoid. (AASO1001)
	AC Driver Board is not getting signal.	a. Faulty wire from main board. b. Faulty main board.	a. Check continuity from board to board on these wires. b. Replace main board.

Troubleshooting Chart		
Problem	**Probable Cause**	**Remedy**
Playfield not raising or lowering. **An LED on AC Driver Board will come on when motor engages, if that LED pulses, the board is getting a signal.**	AC Driver is getting signal.	a. Blown Fuse. b. Mechanical Link disconnected, bent or jammed. c. AC driver board is bad. d. Motor bad or unplugged.	a. Replace fuse in fuse(A5FUSE3) block on AC driver board. b. Reconnect or replace mechanical arms between motor and table. c. Replace AC driver board. d. Reconnect motor wiring or replace drive motor.
	AC Driver Board is not getting signal.	a. Faulty wire from main board. b. Faulty main board.	a. Check for loose or broken wiring at connectors for motor and main circuit board. Check continuity from board to board on these wires. b. Replace main board.
	Old game with new eprom	a. Old games updated with a DF1.05 eprom will have to move the drop table button signal wire on a main board connector.	a. If eprom version is DF1.05, make sure the red signal wire connects to J3 connector, pin 6.
Err 0 shows on display.		a. At coin up, the playfield should lower then rise. b. Sensor reflecting from arm connected to playfield. c. White cam too far from sensor.	a. If doesn't move – Refer to Playfield not raising or lowering section. b. Paint arm a dull black to avoid reflecting to sensor. c. Reposition cam (A5CA8020) so 5 Volt signal drops to zero when cam covers sensor(AABD5010).
Game doesn't score or error code E 1 – E 13 is displayed on Ticket Display board.		a. Loose or broken wiring to the coin sensor in target. b. Faulty circuit board, diodes or sensors. c. Coin not tripping switch in coin mechanism.	a. Check for loose or broken wiring at connectors. Check continuity. b. Error code indicates faulty target sensor circuit board. See chart below for identification of faulty target. c. Check operation of the coin mechanism and switch. Replace if necessary.
Tickets do not dispense or Wrong amount dispensed. **Check for the correct amount of tickets adding up on Tickets Owed Display**	Tickets Owed Display is adding up correct	a. Disconnected, loose or broken wires. b. Opto Sensor on ticket dispenser dirty. c. Faulty ticket dispenser. d. Notch on tickets cut too shallow.	a. Check connectors. Check for continuity. b. Blow dust from sensor and clean with isopropyl alcohol. c. Replace with working dispenser to isolate the problem. d. Flip tickets and load upside-down to have large cut notch toward opto sensor.
	Tickets Owed Display is not adding correctly	a. Incorrect dipswitch settings. b. Game is scoring too soon – before coin reaches sensor board.	a. Check settings on main Gen 5 board. b. Sensor board is bad – Align/clean sensors, replace board.(AABD1200, AABD1201, AABD1203)

<u>Deep Freeze Coin Sensor Error Codes</u>

Error codes E1 through E13 indicate a faulty target sensor. The following figure illustrates the position of the faulty board.
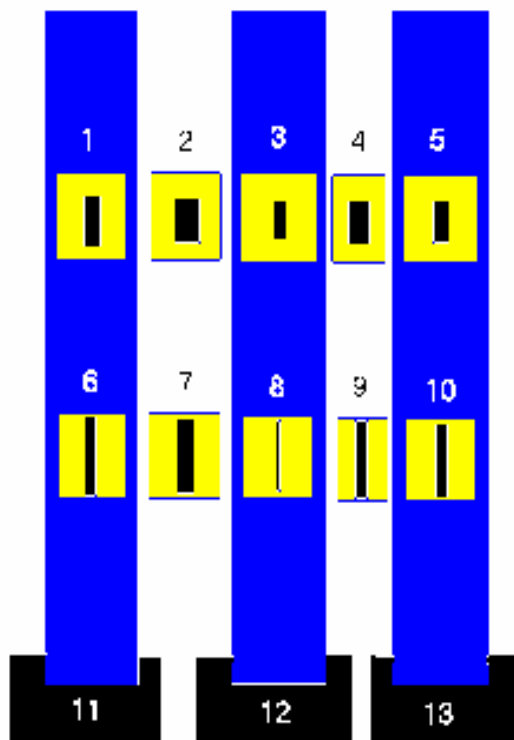
<u>Sensor Board Part #'s:</u>

Slots 1, 2, 3, 4, 5, and 8 are short sensors- **AABD1200**

Slots 6,7,9,10 are tall sensors
AABD1201

Slots 11, 12, 13 are square sensors
AABD1203

1.) Clear the tickets owed:
   Push the "table drop" button in the front of the game, it will drop the table and clear the tickets owed.

2.) Play the game, the tickets owed display will jump up by a certain amount - that amount should correspond with the bad sensor value, unplug that sensor and it should stop adding up on the display.

For instance: If the game is adding up 10 tickets really fast, unplug all the 10 sensors. Make sure the game does not add up by itself anymore. Then plug in one sensor at a time.
 **** Make sure the game is turned off as you plug and un-plug sensors.
  You should be able to isolate the problem to 1 sensor this way.

<u>ERR 0</u>

The Err 0 means that the playfield drop sensor is not reading the white cam on the motor.
Refer to Troubleshooting Guide under Playfield not raising or lowering, and Err 0.

Deep Freeze Diagnose Power Supply

Use the following procedure to check the power supply for Gen 5 games.

Check the small green LED light on the power supply circuit board. If the light is out there is a short somewhere. If the light dims, there is an overload in one of the circuits such as a bad motor.
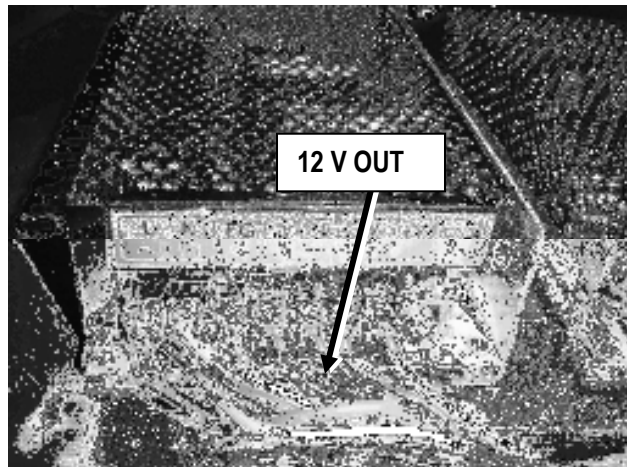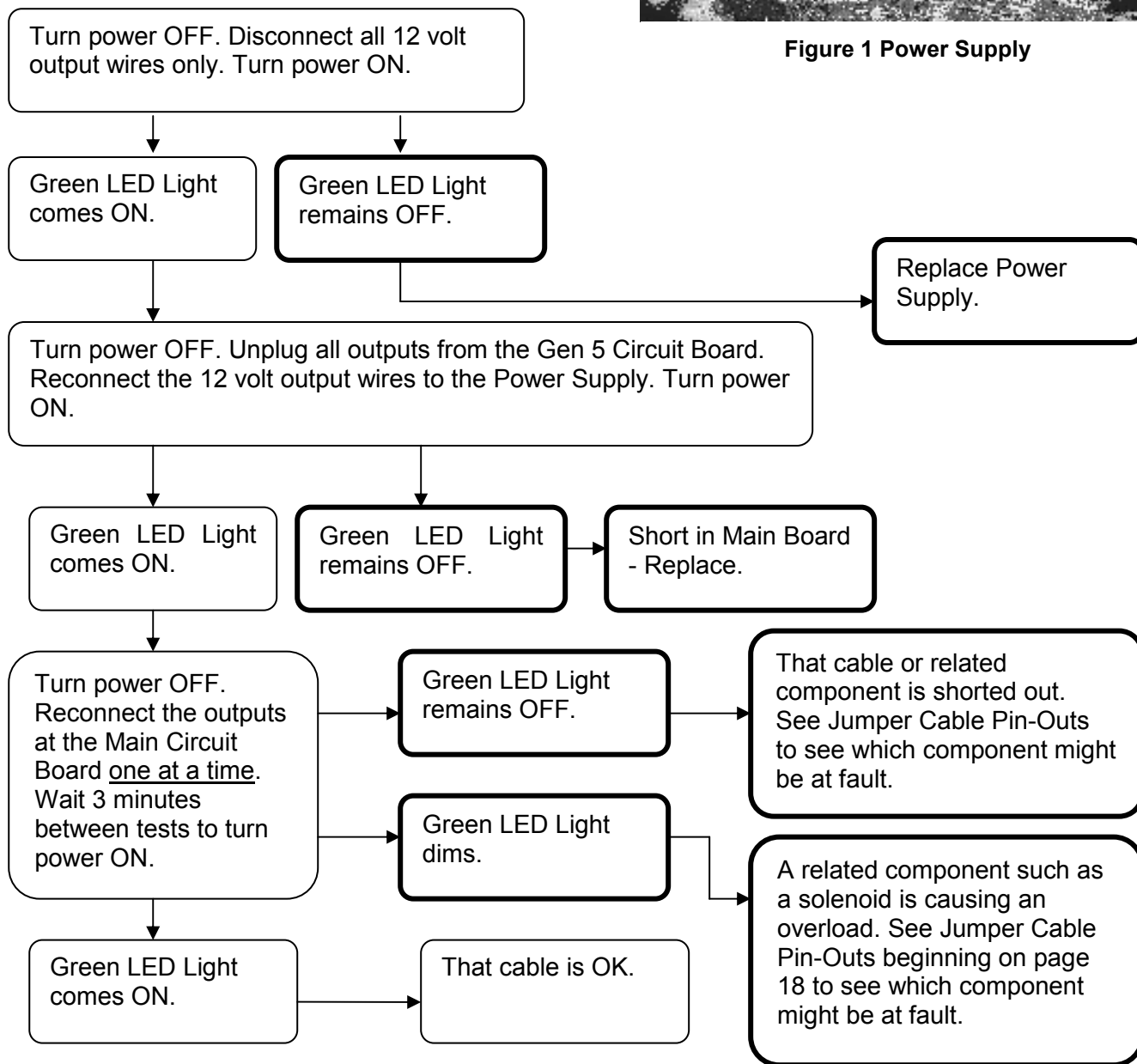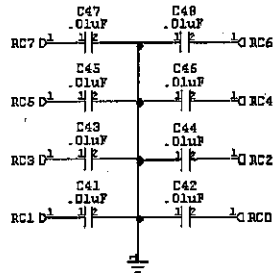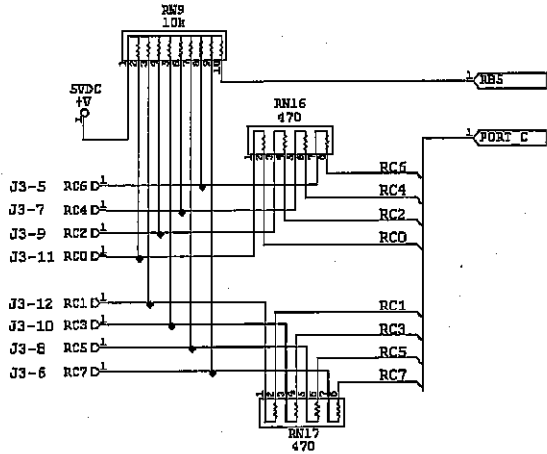

12 V OUT

Figure 1 Power Supply

Turn power OFF. Disconnect all 12 volt output wires only. Turn power ON.

Green LED Light comes ON.

Green LED Light remains OFF.

Replace Power Supply.

Turn power OFF. Unplug all outputs from the Gen 5 Circuit Board. Reconnect the 12 volt output wires to the Power Supply. Turn power ON.

Green LED Light comes ON.

Green LED Light remains OFF.

Short in Main Board - Replace.

Turn power OFF. Reconnect the outputs at the Main Circuit Board one at a time. Wait 3 minutes between tests to turn power ON.

Green LED Light remains OFF.

That cable or related component is shorted out. See Jumper Cable Pin-Outs to see which component might be at fault.

Green LED Light dims.

A related component such as a solenoid is causing an overload. See Jumper Cable Pin-Outs beginning on page 18 to see which component might be at fault.

Green LED Light comes ON.

That cable is OK.

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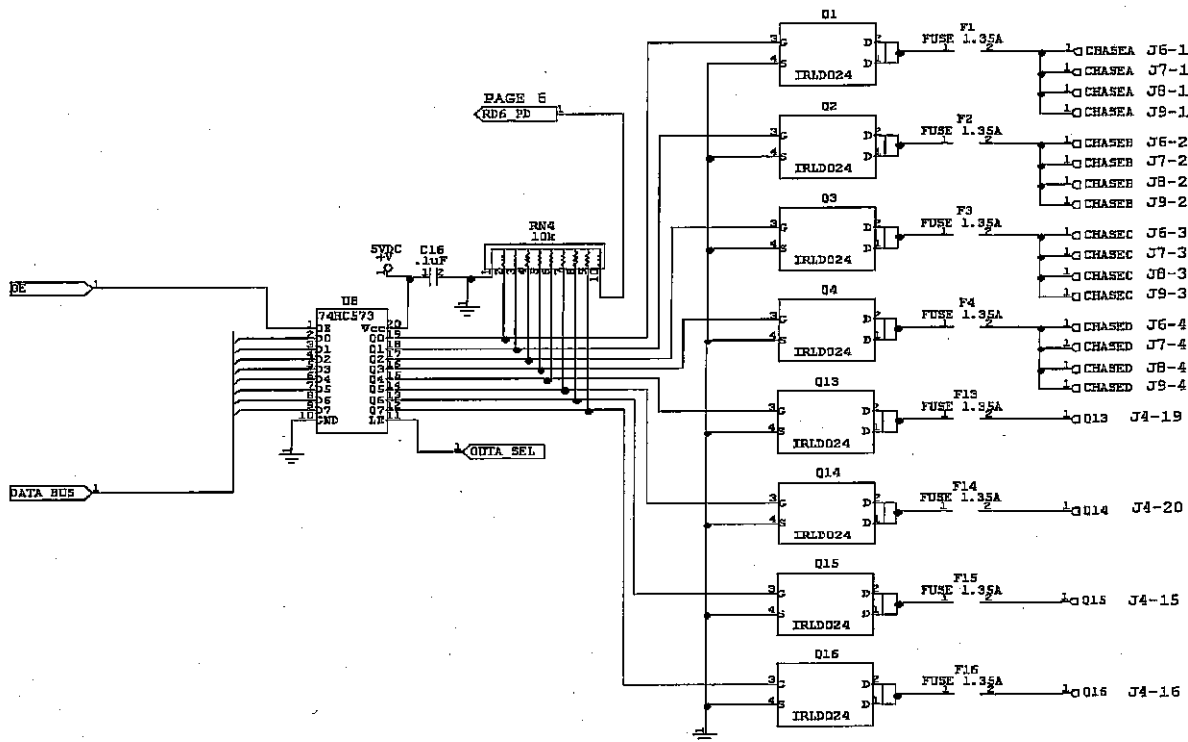
Input Section B – Inputs RE, RC

BAY TEK
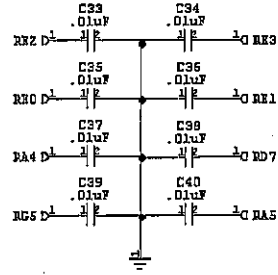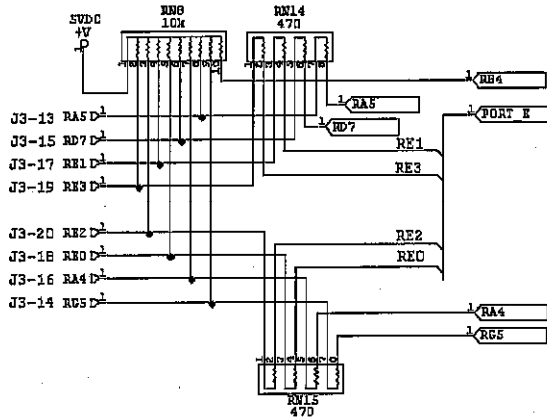
Output Section A – Chase Lights, Q13 - Q16

Output Section B – Q17 – Q24

BAY TEK
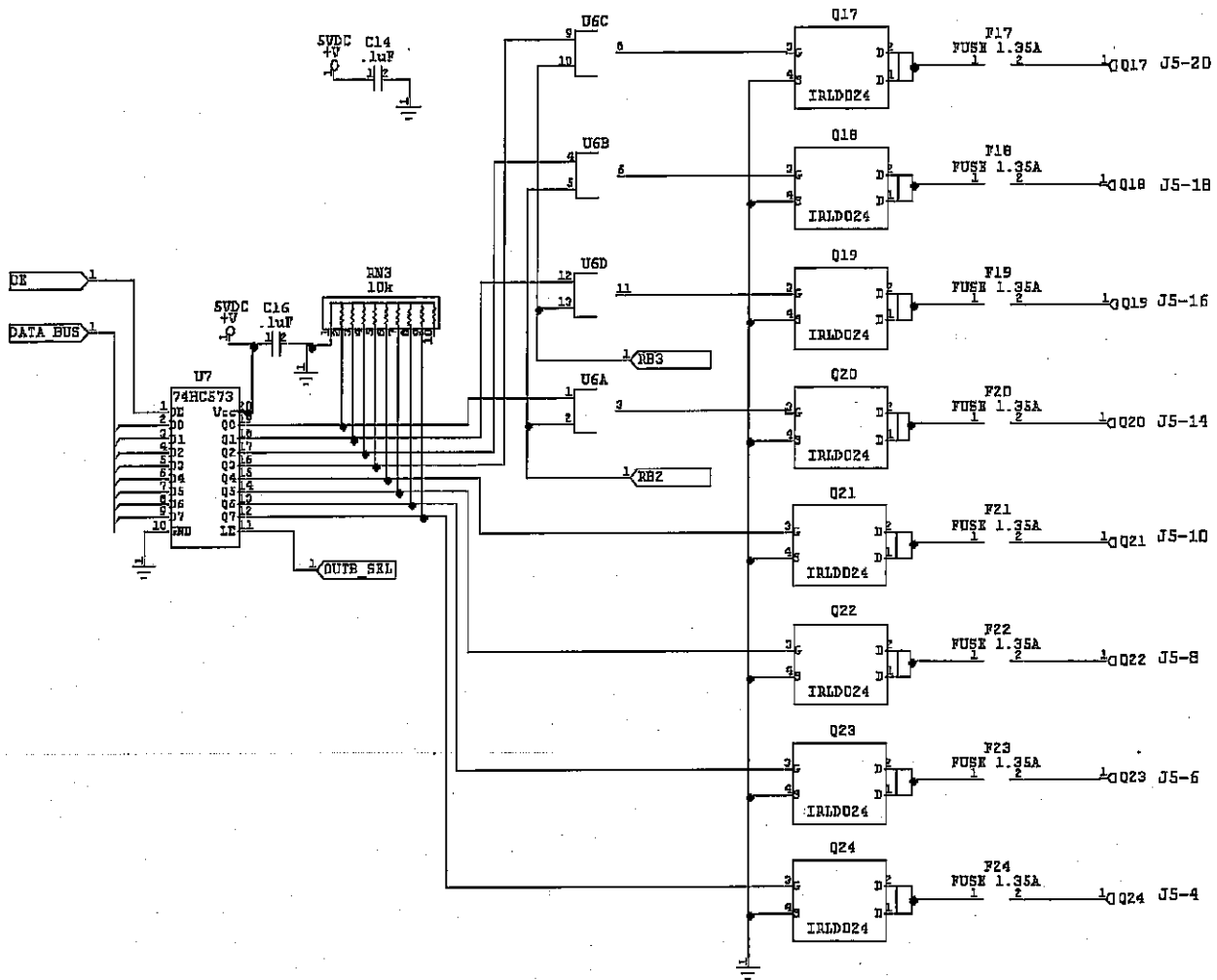
Output Section C – Q5 – Q12

BAY TEK

Power Section

BAY TEK
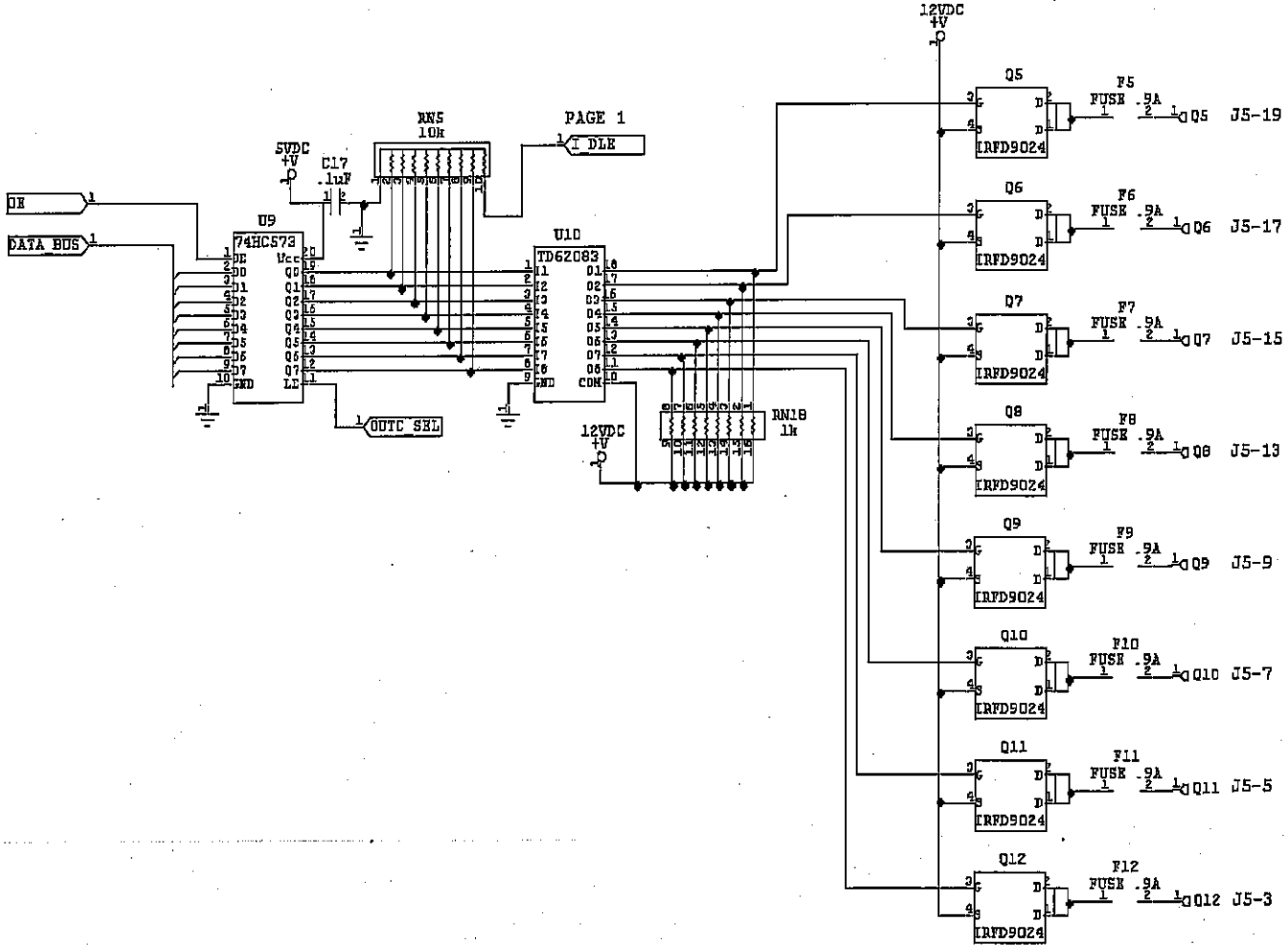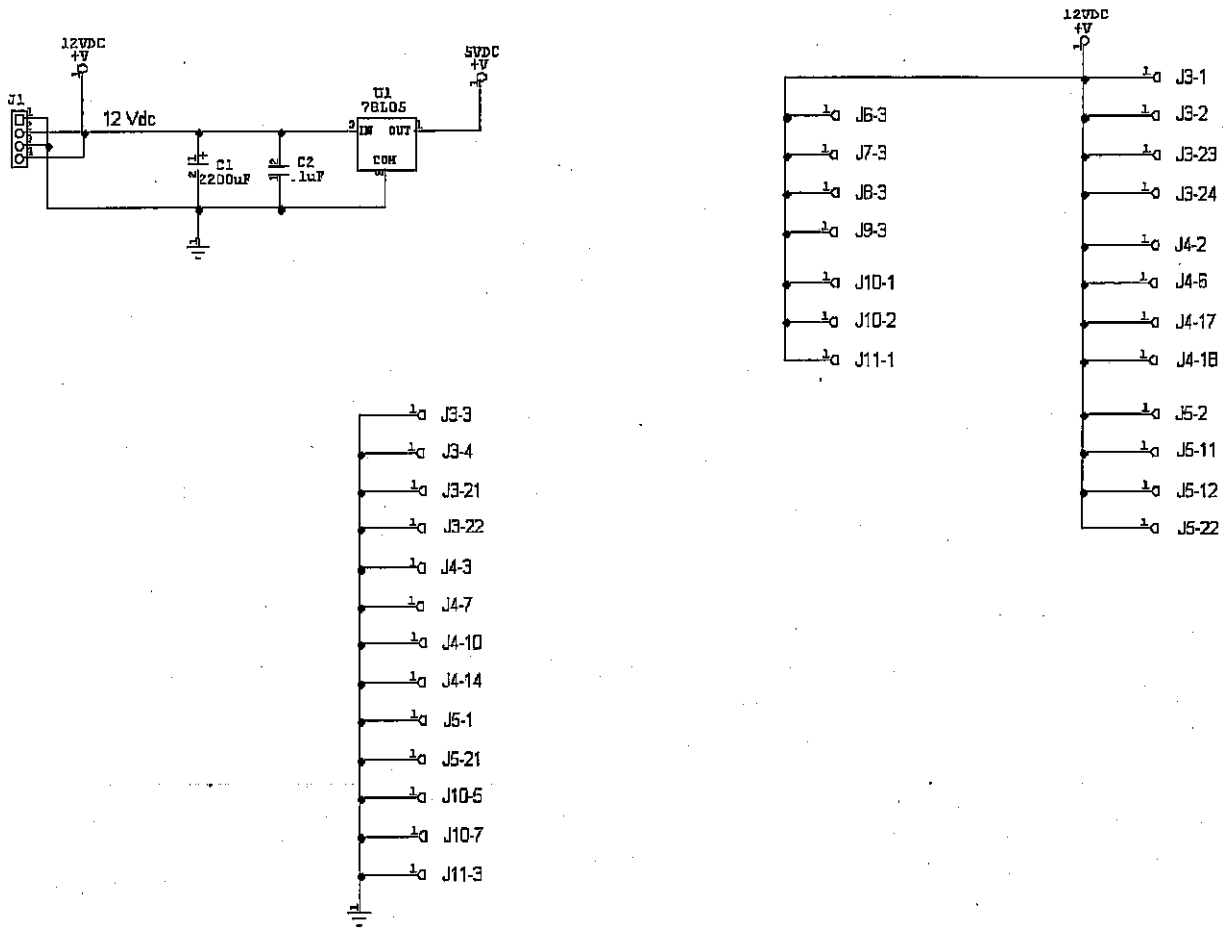
Processor Section – Input RD