

# THE REAL GHOSTBUSTERS™

OPERATION & SERVICE MANUAL



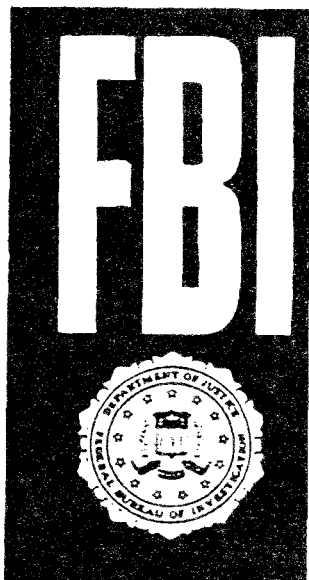
**DE** DATA EAST USA, INC.  
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SAN JOSE, CA 95112  
TELEPHONE: (408) 286-7074

780-0070-00

# WARNING

This equipment generates and uses radio frequency energy and if not installed and used properly, i.e., in strict accordance with the instructions manual, may cause harmful interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment.

Operation of this equipment in a residential area is likely to cause interference in which case the user at his own expense will be required to take whatever measures may be required to correct the interference.



## WARNING

Federal law provides severe civil and criminal penalties for the unauthorized reproduction, distribution, or exhibition of copyrighted audiovisual works and video games.

The Federal Bureau of Investigation investigates allegations of criminal copyright infringement.

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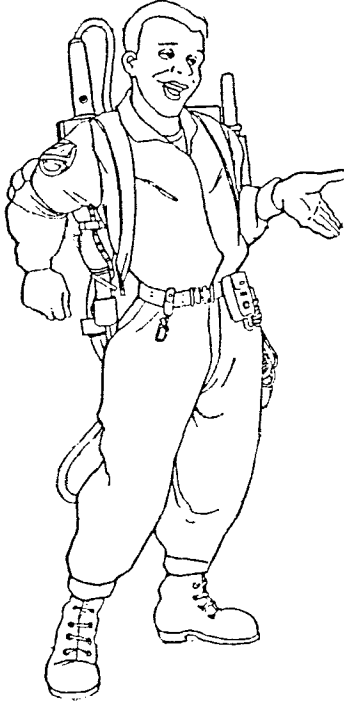
FIRST PRINTING  
OCTOBER 1987

PN: 780-0070-00



## 1. GENERAL INFORMATION

### A. Installation and Set-Up.



The Real Ghostbusters™ video game is shipped with the control panel removed and bolted to the back door of the cabinet to prevent damage in shipment. Follow the instructions below to install the control panel and prepare the game for operation.

Locate the keys in the package on the front of the cabinet, open the Coin Door, and remove the shipping screws to remove the Rear Access Door. Remove the Control Panel from the Rear Access Door. The 2 bolts used to hold the Control Panel to the rear access door are also used to mount the control panel to the cabinet. The two remaining bolts required can be found threaded into nuts in the control panel.

The control panel has two (2) retaining clamps that hold down the hinged section of the panel. Release the clamps at this time. Position the control panel on the front of the cabinet. Raise up the hinged section of the panel and reach inside the cabinet to start threading in the four mounting bolts. Thread in the bolts until they are finger tight. Using a ratchet with a 7/16" socket, tighten the mounting bolts. This may be easier to reach from the rear of the cabinet.

Plug the three (3) connectors from the control panel into the main harness, matching the labels on the connectors. Check the rest of the game wiring for loose or unplugged connectors, and for secure mounting of the monitor, power supply, and game pcb. Stabilize the cabinet using the leg levelers in the floor of the cabinet to prevent the game from rocking.

continued....

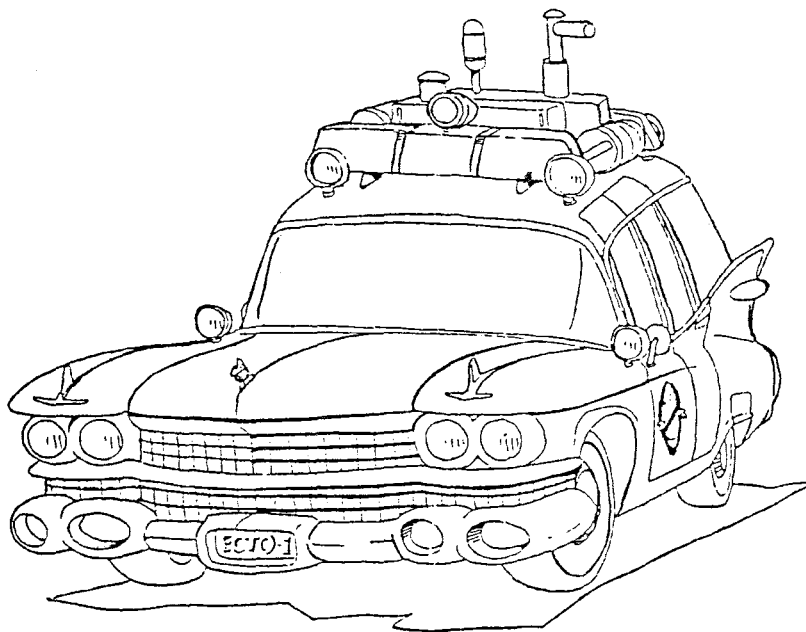
A. Installation and Set-Up (continued)

The selectable options have been pre-set at the factory for optimum player appeal, however, refer to Chapter 2, Section B: Dip Switch Options in this manual to set the game up for special requirements.

Remove the power cord from the inside of the cabinet and insert the strain relief plate into the slot at the bottom of the rear access door opening. Plug the AC cord into a grounded 117 VAC outlet and flip the power switch to the ON position. Allow 2 to 3 minutes for the monitor to warm up and check for proper demonstration mode video on the screen. Insert the proper coinage into a coin slot and start a game. Check for proper operation of all joystick controls and switches.



The game is now ready for operation! Please take a minute to fill out the reply form included with this manual. We welcome any comments or suggestions that you have regarding Data East's products and services.



2. GAME INFORMATION

A. How to Play.

The Real Ghostbusters™ is a three player interactive video game, meaning that one, two, or three players may coin up and join the game at any time, even while a game is currently being played. Each of the three coin inputs is dedicated to one of the three sets of player controls to allow seperate coin credits per player. Each set of controls has an 8 way joystick, a Shoot (fire) button, and a Beam button. The Shoot button also functions as the Player Start button.



To begin play, a player must insert the proper coinage into the coin slot and press the respective Shoot/Start button. The player image will appear on the screen and can be manipulated up, down, right, and left using the joystick.



Aim the player image's gun at an enemy target and press the Shoot button. When hit, the enemy image will turn into a transparent ghost image. Press the Beam button and aim at the transparent ghost to 'capture' it (pull it into your gun). Find and pick up the key to complete the scene and the player image will deposit all the 'captured' ghosts into the Ghost Storage chamber in a computer animated sequence before going on the next scene.

The player must avoid being hit or touched by the enemy. Picking up special items can reward the player with additional firepower, shields, and lives. Capture and deposit 100 ghost images for an extra life.

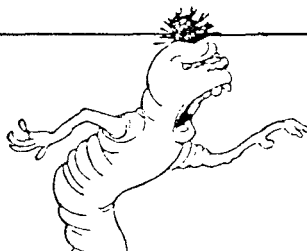
To aid in destroying large enemies, two or more players can cross their beams while aiming at the enemy to create very intense firepower and will vanquish the enemy much quicker.

**B. Game Options.**

The Real Ghostbusters™ game options can be fine tuned to suit the location via two sets of dip-switches on the DE-0273 pcb. Remove power to the game before changing the settings to avoid possible shock hazards. Unused switches indicated should be left in the OFF position as shown for proper operation. Factory settings are **boldface**.

**DIP SWITCH 1**

REMARKS	1	2	3	4	5	6	7	8
COIN <b>1 COIN = 1 PLAY</b>	<b>OFF</b>	<b>OFF</b>						
VS <b>1 COIN = 2 PLAY</b>	<b>ON</b>	<b>OFF</b>						
CREDIT <b>1 COIN = 3 PLAY</b>	<b>OFF</b>	<b>ON</b>						
<b>2 COIN = 1 PLAY</b>	<b>ON</b>	<b>ON</b>						
NOT USED <b>MUST BE OFF</b>			<b>OFF</b>	<b>OFF</b>	<b>OFF</b>			<b>OFF</b>
ATTRACT MODE <b>YES</b>						<b>OFF</b>		
SOUND <b>NO</b>						<b>ON</b>		
SCREEN <b>NORMAL</b>								<b>OFF</b>
FLIP <b>FLIP</b>								<b>ON</b>



**DIP SWITCH 2**

REMARKS	1	2	3	4	5	6	7	8
NUMBER OF <b>THREE</b>	<b>OFF</b>	<b>OFF</b>						
LIVES <b>FIVE</b>	<b>ON</b>	<b>OFF</b>						
<b>ONE</b>	<b>OFF</b>	<b>ON</b>						
<b>INFINITE</b>	<b>ON</b>	<b>ON</b>						
LEVEL OF <b>NORMAL</b>			<b>OFF</b>	<b>OFF</b>				
DIFFICULTY <b>EASY</b>			<b>ON</b>	<b>OFF</b>				
<b>HARD</b>			<b>OFF</b>	<b>ON</b>				
<b>HARDEST</b>			<b>ON</b>	<b>ON</b>				
SCENE <b>5:00</b>					<b>OFF</b>	<b>OFF</b>		
TIME (MAX) <b>6:00</b>					<b>ON</b>	<b>OFF</b>		
IN <b>4:30</b>					<b>OFF</b>	<b>ON</b>		
MINUTES <b>4:00</b>					<b>ON</b>	<b>ON</b>		
CONTINUE <b>NO</b>								<b>OFF</b>
MODE <b>YES</b>								<b>ON</b>
BEAM ENERGY <b>NORMAL</b>								<b>OFF</b>
PICK-UP <b>UP 1.5%</b>								<b>ON</b>



### C. System Adjustments.

The Volume Control, Coin Counter, and Service Switch are located on the Service Panel. The Service Panel is accessed by opening the Coin Door and locating it on the wall on the left side.

- \* The Coin Counter increments once for every coin dropped through any of the coin entry slots.
- \* The Volume Control is used to adjust the overall loudness of the game sounds. NOTE: The volume control potentiometer on the DE-0273 pcb is pre-set to mid-range at the factory and should not be adjusted.
- \* The Service Switch can be used to add credits to the game without incrementing the Coin Counter.



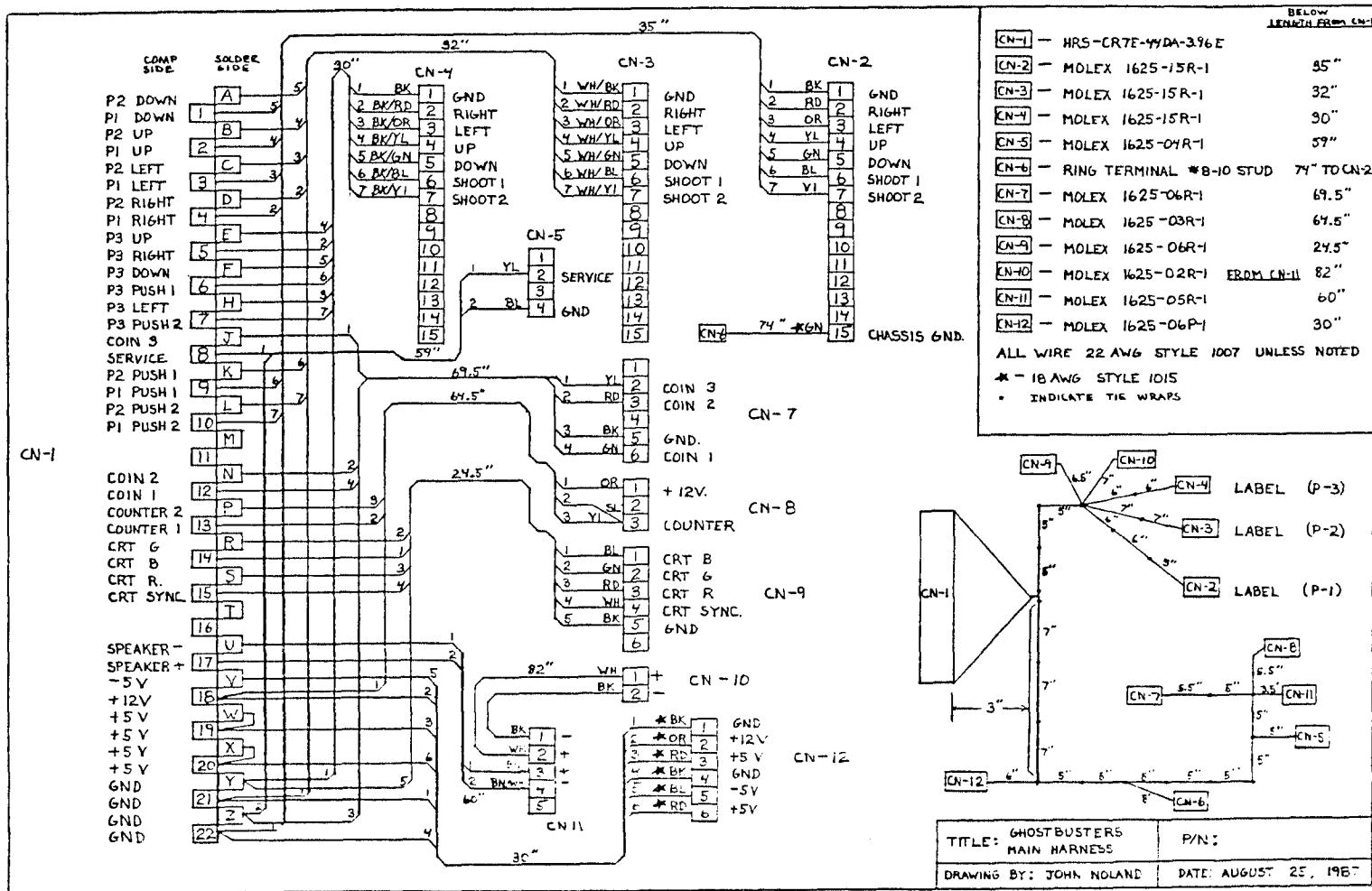
The fuses for the AC power line and the 12 volts for the Coin Door lamps are located on the Switch Bracket of the Power Supply assembly as is the ON/OFF switch. The fuse holders are labeled on the Switch Bracket as to the proper fuse ratings.

The +5 vdc adjustment level control is on the Power Supply's Switching Regulator is pre-set at the factory. In the event that an adjustment is ever required, measure the +5 volt level present at the game logic pcb with a Digital Multi-Meter while adjusting the output level of the Switching Regulator. The voltage must measure between +4.90 vdc to 5.10 vdc at the game logic pcb for proper operation.

WARNING: DANGEROUS VOLTAGE LEVELS ARE PRESENT IN AROUND THE MONITOR AND POWER SUPPLY ASSEMBLY. ADJUSTMENTS AND REPAIRS SHOULD BE ATTEMPTED ONLY BY QUALIFIED ELECTRONIC TECHNICIANS.



D. Wiring Diagram.



### 3. REPLACEMENT PARTS LIST

The following section lists the replacement parts available for The Real Ghostbusters™ upright video game. When ordering replacement parts from your distributor, include the Data East part number to help expedite your order accurately.

#### A. Final Assembly.

CABINET, EMPTY, 1U30, GREY	365-0012-00
CONTROL PANEL ASSY., GHOSTBUSTERS	510-0121-00
COIN DOOR ASSY., 3 SLOT	510-0119-00
MONITOR ASSY., UNIVERSAL H/V	510-0120-00
POWER SUPPLY ASSY., 11AMP	510-0002-01
PCB SET, GHOSTBUSTERS	510-0110-00
PCB, EMI FILTER, DE-0239	520-0083-00
RETAINER, PLEX, MONITOR	535-0073-00
PLEX, CLEAR, DISPLAY 23.75 X 23.75	660-0001-01
UNDERLAY CARD, GHOSTBUSTERS	810-0026-00
DECAL, LEFT SIDE, GHOSTBUSTERS	820-0041-01
DECAL, RIGHT SIDE, GHOSTBUSTERS	820-0041-02
DECAL, COIN ENTRY DOOR	820-0044-00
PLEX, MARQUEE, GHOSTBUSTERS	830-0033-00
RETAINER, PLEX, MARQUEE	535-0078-00
SPEAKER, 4" RND., 4 OHM	031-0004-00
SPEAKER, 6 X 9" OVAL (REPLACES ABOVE)	031-0006-00
HARNESS, MAIN, GHOSTBUSTERS	036-0152-00
HARNESS, SPEAKER	036-0033-01
HARNESS, RGB PIGTAIL	036-0027-00

#### B. Control Panel.

CONTROL PANEL, BARE	535-0074-00
OVERLAY, CTRL PNL, GHOSTBUSTERS	800-0028-00
PUSHBUTTON, SHORT, RED	350-0001-02
PUSHBUTTON, SHORT, YELLOW	350-0001-04
PUSHBUTTON, SHORT, BLUE	350-0001-06
PUSHBUTTON HOLDER W/SWITCH	185-0001-00
NUT, PAL, NYLON	240-0001-01
HARNESS, CTRL PNL, GHOSTBUSTERS	036-0153-00
JOYSTICK, 8 WAY, MICROSWITCH	450-0014-01

C. Power Supply.

REGULATOR, 5V @ 11 A & 12V @ 1 A	001-0012-00
ISOLATION TRANSFORMER	010-0001-00
NOISE FILTER	150-0004-00
SWITCH BRACKET W/FUSEHOLDERS	515-0004-00
HARNESS, DC OUT, 11A	036-0031-02

D. Misc. Parts.

CASHBOX WITH LID	535-0076-00
CASHBOX LOCKING BAR	535-0077-00
FIXTURE, LAMP, DUAL	170-0002-00
LAMP, 40 WATT, INCANDESCENT	165-0004-01
LAMP, 14 VDC .19 AMP WEDGE, #161	165-0009-00
SERVICE PANEL ASSY.	515-0029-00
COIN COUNTER, 12 VOLT	090-0002-00
POT, WW, 50 OHM, 12.5 W	123-0008-12
SWITCH, PUSHBUTTON, MOM.	180-0022-00
RESTRICTOR PLATE, 8 WAY W/SWITCHES	455-0038-01
RESTRICTOR PLATE, 8 WAY W/O SWITCHES	455-0037-01
MICROSWITCH, MOM	180-0017-00
KNOB W/SHAFT, BLK	455-0030-00

CUSTOMER REPLY CARD

To receive your copy of The Real Ghostbusters™ Technical Service manual (including schematic diagrams), return the form below to the Data East, please include the Serial Number of the game cabinet. No manuals will be sent without Serial Numbers. Indicate if you would like to be on our Direct Mail list for service information.

We welcome your feedback, so please include any comments you have regarding our products and services in the section below and mail this form to:

Data East USA, Inc.  
470 Needles Drive  
San Jose, CA. 95112

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THE REAL GHOSTBUSTERS™ TECHNICAL SUPPORT MANUAL REQUEST FORM

COMPANY NAME: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

CITY: \_\_\_\_\_ STATE: \_\_\_\_\_ ZIP: \_\_\_\_\_

TELEPHONE: \_\_\_\_\_

YOUR NAME: \_\_\_\_\_ TITLE: \_\_\_\_\_

GAME CABINET SERIAL NUMBER: \_\_\_\_\_

ADD YOUR COMPANY TO OUR DIRECT MAIL LIST? (circle one) YES NO

COMMENTS: \_\_\_\_\_

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Warranty Information

Data East USA, Inc., ("Seller"), warrants only to the initial purchaser ("Buyer") of its products that the items listed below are free from defects in material and workmanship under normal use and service for the period specified:

GAME LOGIC PRINTED CIRCUIT BOARD(S)	90 DAYS
SWITCHING REGULATOR(S)	30 DAYS
MONITOR PRINTED CIRCUIT BOARD(S)	30 DAYS

No other parts of Seller's products are warranted.

Warranty periods are effective from initial date of shipment from Seller to Buyer. Seller's sole liability shall be, at its option, to repair or replace products which are returned to Seller during the warranty periods specified, provided:

1. Seller is notified promptly upon discovery by Buyer that stated products are defective.
2. Such products are properly packaged and then returned freight pre-paid, to Seller's plant.

This warranty does not apply to any parts damaged during shipment and/or due to improper handling, or due to improper installation or usage, or alteration. In no event shall the Seller be liable for any anticipated profits, loss of profits, loss of use, accidental or consequential damages, or any other losses incurred by the customer in connection with the purchase of a Data East USA, Inc., product.

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