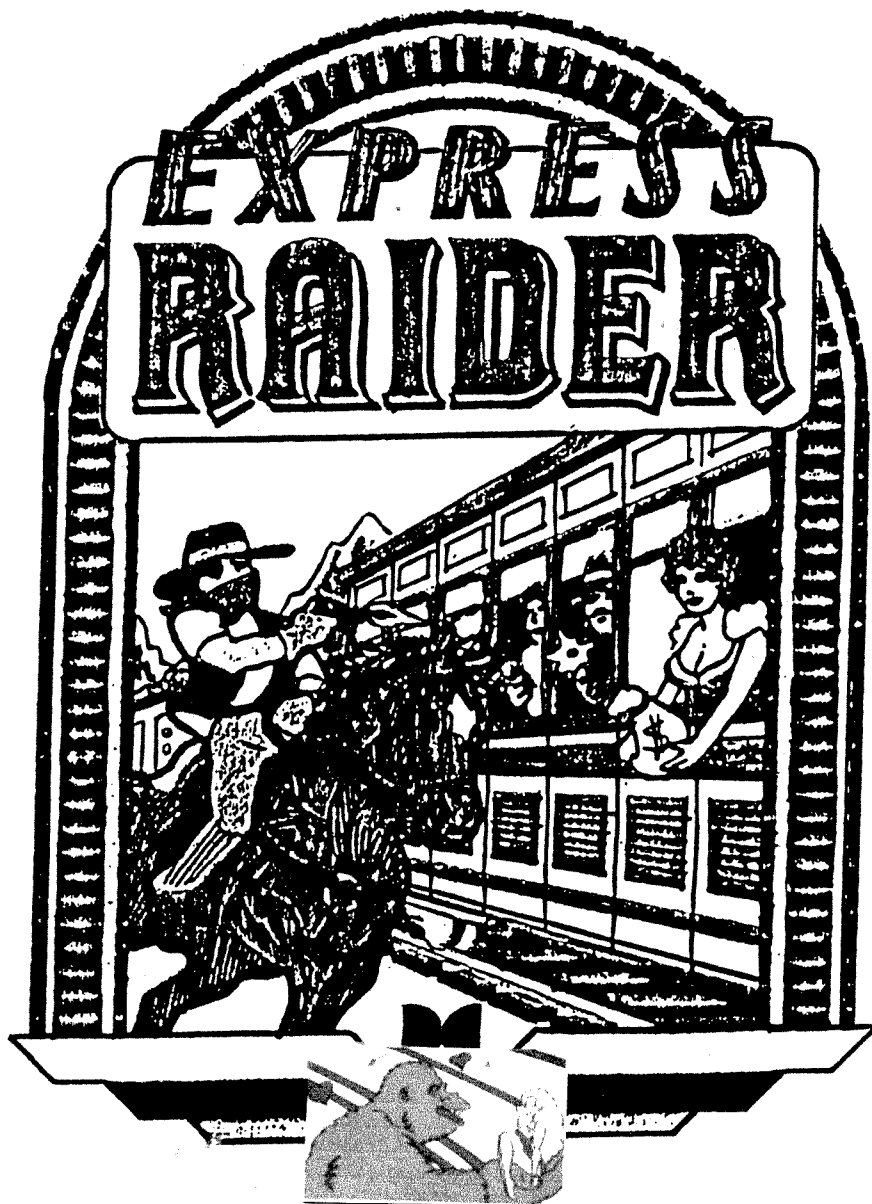


CONVERSION KIT

installation & service manual



DE DATA EAST USA, INC.
470 Needles Drive
San Jose, CA 95112

780-0030-00

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.

Thank you for purchasing this Data East Conversion Kit. Your kit includes the following:

1	510-0056-00	PCB ASSEMBLY, EXPRESS RAIDER
1	520-0016-00	PCB ASSEMBLY, EMI FILTER DE-0209
1	450-0003-00	JOYSTICK, 8 WAY, CC.
1	545-0003-00	FLAT PLATE ADAPTOR
6	185-0001-00	PUSHBUTTON HOLDER WITH SWITCH
6	240-0001-00	PAL NUT
2	350-0001-03	PUSHBUTTON, SHORT, ORANGE
2	350-0001-06	PUSHBUTTON, SHORT, BLUE
1	350-0003-03	PUSHBUTTON, WHITE, 1 PLAYER
1	350-0003-04	PUSHBUTTON, WHITE, 2 PLAYER
1	830-0018-00	MARQUEE PLEX, EXPRESS RAIDER
1	800-0018-00	CONTROL PANEL OVERLAY, EXPRESS RAIDER
2	820-0024-00	SIDE DECAL, EXPRESS RAIDER
1	810-0011-00	UNDERLAY CARD, MONITOR, GENERIC
1	406-0019-00	LABEL, INSTRUCTIONS, EXPRESS RAIDER
1	036-0013-00	HARNESS, MAIN GENERIC KIT
1	780-0030-00	INSTALLATION & SERVICE MANUAL
1	406-0003-00	LABEL, FCC

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1. ADJUSTMENTS & OPTIONS

A. VOLUME CONTROL. The audio volume is adjustable via a trimpot (VR1) on the CPU PCB.

B. OPERATOR SELECTABLE OPTIONS. The Operator Selectable Options can be altered by changing the settings of the Dip Switches found on the CPU PCB. Table 1 and Table 2 outline the available options.

TABLE 1		1	2	3	4	5	6	7	8
COIN VS CREDIT	1 COIN = 1 CREDIT	OFF	OFF						
	1 COIN = 2 CREDIT	ON	OFF						
	1 COIN = 3 CREDIT	OFF	ON						
	2 COIN = 1 CREDIT	ON	ON						
COIN VS CREDIT	1 COIN = 1 CREDIT			OFF	OFF				
	1 COIN = 2 CREDIT			ON	OFF				
	1 COIN = 3 CREDIT			OFF	ON				
	2 COIN = 1 CREDIT			ON	ON				
SWITCH 5 = ALWAYS OFF						OFF			
FLIP SCREEN	NORMAL						OFF		
	FLIP						ON		
CABINET TYPE	TABLE							OFF	
	UPRIGHT							ON	
SWITCH 8 = ALWAYS OFF								OFF	

TABLE 2		1	2	3	4	5	6	7	8
NUMBER OF LIVES	THREE	OFF	OFF						
	FIVE	ON	OFF						
	ONE	OFF	ON						
	INFINITE	ON	ON						
BONUS LIVES	EVERY 50000 PTS			OFF					
	50000/80000 PTS			ON					
LEVEL OF DIFFICULTY	EASY				OFF	OFF			
	NORMAL				ON	OFF			
	HARD				OFF	ON			
	MOST DIFFICULT				ON	ON			
ATTRACT MODE SOUND	YES						OFF		
	NO						ON		
SWITCHES 7 & 8 = ALWAYS OFF								OFF	OFF

2. CONVERSION SUMMARY

One of the most important considerations determining the success of your conversion will be the condition of the machine you are converting. Obviously, if the monitor is dull in the original game, it will be no better with the conversion installed. If you have a choice, select a machine that has an instruction manual and/or good primary wiring diagrams. Try to select a machine that has previously been certified as conforming to Part 15, Subpart J, of the FCC regulations. It is important that the primary wiring contain a good noise filter in order to prevent conducted radio frequency interference.

Since it is extremely important that all visible graphics, original manufacturer's name (other than the Serial Number tag), logo's, etc., are to be removed or covered by new graphics, a proper choice of cabinet in this phase of the conversion will save you much time.

Make sure that the integrity of the cabinet is such that the converted game will not be a vandals dream. Review the control panel to identify what changes will be required so that you will be prepared. It may be necessary to drill holes in the control panel for pushbuttons, etc. before applying the new overlay. See figure 1 for suggested control layout.

The EXPRESS RAIDER game is designed to operate with a COLOR RASTER MONITOR, mounted in a HORIZONTAL position. The EXPRESS RAIDER PCB generates NEGATIVE COMPOSITE SYNC. The POWER SUPPLY requirements are: +5 volts @ 7 Amperes, and +12 volts @ 1 Ampere.

It is strongly recommended that the cabinet be wired to conform with all National and Local Electrical Code requirements before the conversion is attempted. The system must have adequate noise filtering on the AC line to prevent unwanted conducted radio frequency radiation, which could be in violation of FCC regulations.

According to the FCC and various other agencies, every video game must be clearly and permanently LABELED with the name and address of the Original Manufacturer, Date of Manufacture (or serial number), Voltage rating, Current rating, Suitability for indoor or outdoor use, and unit model number. In addition, the FCC requires that, after conversion, the unit must be labeled with a suitable warning stating that radio frequency interference may result from use in a residential area. An acceptable warning sticker is enclosed in your kit.

IT IS THE RESPONSIBILITY OF THE INDIVIDUAL PERFORMING THE CONVERSION TO INSURE THAT ALL LABELING REQUIREMENTS ARE CONFORMED WITH!

3. COSMETICS

All components that contain the Original Manufacturer's name (other than the serial number plate), graphics, logos, or game play information must be removed or covered by some means. Do not destroy the Display Plex or the Control Panel as these items may have to be used or modified for your conversion.

A cardboard underlay has been provided to be placed under a clear Display Plex. This underlay contains the game instructions. If the existing Display Plex has silkscreened artwork on it, you will need to strip it clean (lacquer thinner is usually effective) or replace it with a clear plex. If necessary, trim the cardboard underlay, with a razor blade, down to the size of the Display Plex.

The control panel overlay supplied in this kit is designed to allow the player controls to be placed in a variety of positions. First, strip off the original controls and the overlay and then thoroughly clean and deburr the control panel. If necessary, drill out any required holes in the control panel. The new overlay has a strong adhesive on one side of it, so be sure you know how you want it positioned before peeling off the paper backing and applying it to the panel. When applying the overlay, smooth it out from the center to the edges, being sure remove all trapped air bubbles. Trim any excess material, and material from mounting holes, with a razor blade or sharp knife.

A new 8 way joystick is provided with the kit. The flat plate adaptor may be used as a template for any required holes for the joystick. Appropriate color pushbuttons, button holders, and pal nuts are supplied. The pushbuttons require a 1 1/8 inch diameter mounting hole.

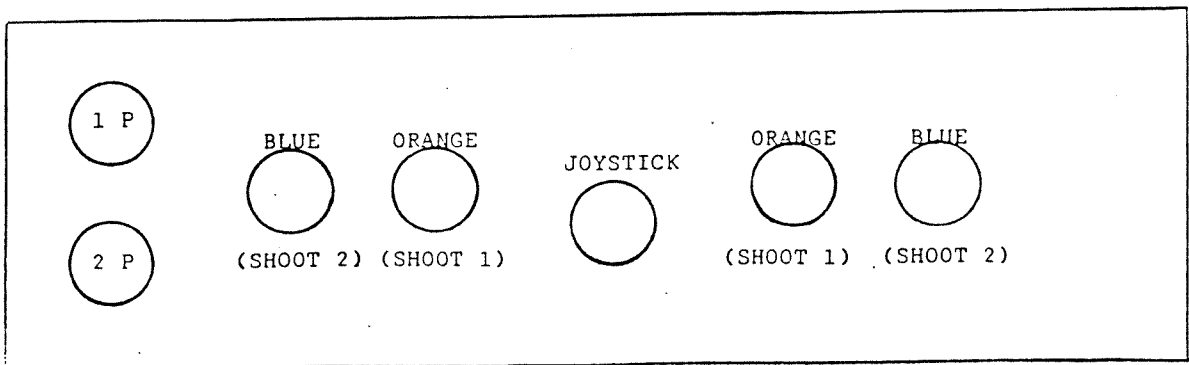


FIGURE 1

4. SPECIAL INSTRUCTIONS

Your conversion kit has been supplied with a main harness which connects the EMI Filter/Adaptor PCB to the various places in the game in which you are converting. Each wire has been labeled as to its function. If in doubt, refer to the generic main harness diagram in figure 3.

1. Follow all instructions in this manual relating to selecting a game to install this conversion into.
2. Mount the new Logic PCB set in a convenient location. An EMI cage is not necessary for this conversion, but the use of the EMI Filter/Adaptor PCB is MANDATORY!
3. Plug the EMI Filter/Adaptor PCB into the EXPRESS RAIDER as shown in figure 2.
4. Plug the Generic Main Harness onto the EMI Filter/Adaptor PCB.
5. Neatly route all of various main harnessing around the cabinet to the proper destination points and terminate as required.
6. When you are certain that you have made all the connections properly, turn on the main power and wait for the monitor to warm up. Watch for any signs of smoke or cracking noises indicating a problem. You may have to adjust your monitor to center the picture or enhance the colors. MEASURE AND ADJUST THE +5 VOLT POWER SUPPLY AT THIS TIME!

When you have finished converting your game, be sure to attach the FCC WARNING label to the rear of the cabinet. Failure to do so is a violation of the FCC regulations.

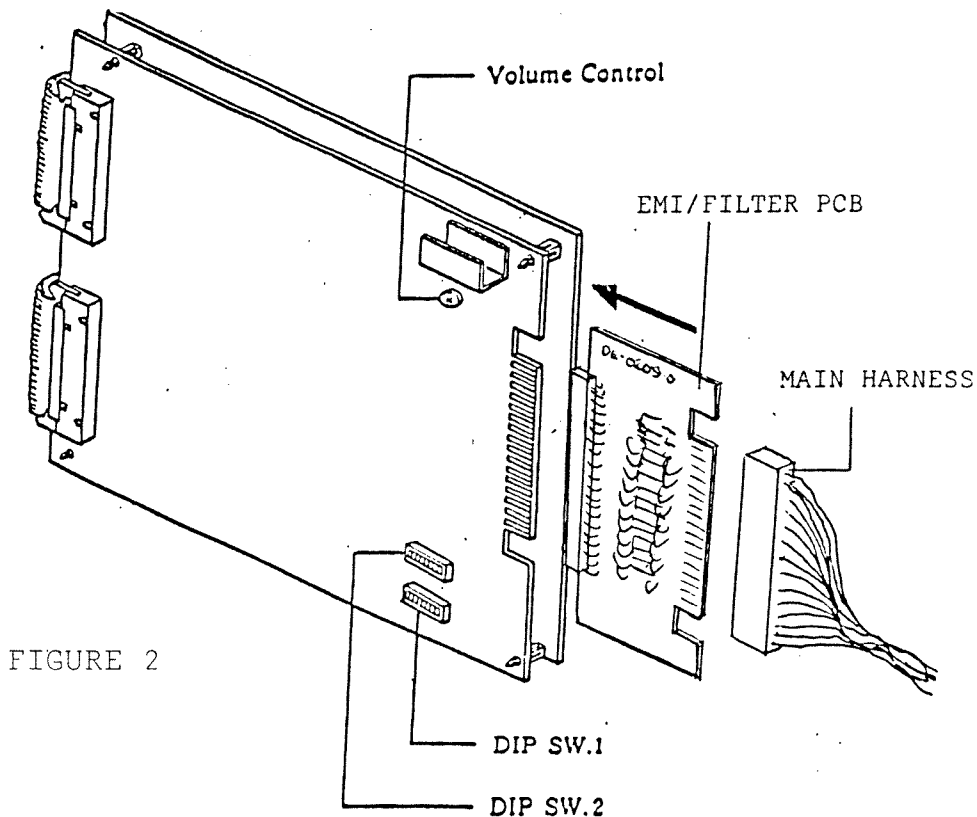
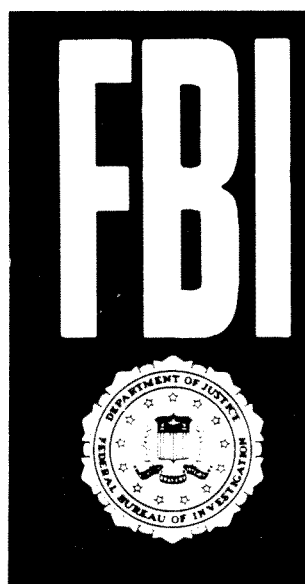


FIGURE 2



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.