



**Taito America Corporation**  
**660 S. Wheeling Rd.**  
**Wheeling, IL 60090**  
**(312) 520-9280**

IMPORTANT F.C.C. WARNING

**WARNING**

THIS EQUIPMENT GENERATES, AND CAN RADIATE RADIO FREQUENCY ENERGY AND IF NOT INSTALLED AND USED PROPERLY MAY CAUSE INTERFERENCE TO RADIO COMMUNICATION. THIS KIT IS SOLD FOR USE ONLY WITH COIN-OPERATED VIDEO GAMES WHICH HAVE BEEN VERIFIED FOR COMPLIANCE AS CLASS A COMPUTING DEVICES PURSUANT TO SUBPART J OF PART 15 OF FCC RULES, WHICH ARE DESIGNED TO PROVIDE REASONABLE PROTECTION AGAINST SUCH INTERFERENCE. OPERATION OF THIS EQUIPMENT IN A RESIDENTIAL AREA, OR USE OF THIS KIT WITH A GAME NOT VERIFIED FOR COMPLIANCE, OR ANY IMPROPER CONNECTION, MAY CAUSE UNACCEPTABLE INTERFERENCE WITH RADIO OR T.V. RECEPTION, WHICH COULD RESULT IN CORRECTIVE ACTION OR PENALTY BY THE FCC. THE BOARD CAGE IN THIS KIT MUST BE PROPERLY INSTALLED AND TERMINATED TO GROUND.

POWER SUPPLY

WARNING WARNING WARNING WARNING WARNING WARNING WARNING

THE POWER SUPPLY REQUIREMENTS FOR THIS CONVERSION FROM YOUR OLD GAME MUST BE CAPABLE OF +5 VDC REGULATED AT 6A; +12 VDC REGULATED AT 1A AND -5 VDC AT 1/2A. THESE OPERATING VOLTAGES ARE NECESSARY FOR YOUR KIT.

GAMES SUCH AS "PACMAN" AND "GALAGA" USE A POWER SUPPLY DIRECTLY ON THEIR PC BOARD ASSEMBLY:

THEREFORE THE VOLTAGE GOING DIRECTLY INTO THE PC BOARD ASSEMBLY IS 110 VOLTS!

!!!!!!UNDER NO CIRCUMSTANCES DIRECTLY CONNECT ANY HARNESS OF THIS TYPE INTO THE NEW BOARD SET WITHOUT MAKING NECESSARY CHANGES TO OVERCOME ANY BOARD FAILURES!!!!!!

## GAME INSTRUCTIONS

Taito America Corporation's "ALCON"<sup>TM</sup> game is an all out action game with many levels of weaponry to make an exciting game not seen in quite some time.

The year is 2059. Aliens have overrun the planet. The Allied League of Cosmic Nations, commonly called ALCON, have convened to combat this menace to the world. ALCON has determined that a sole, experienced pilot, flying the experimental SW475 aircraft, must defend the world against certain destruction.

You are the pilot that must fly the SW475 aircraft and defeat the aliens.

## MANEUVERS

Use joystick to fly SW475 over terrain.

Use "Fire" button to shoot at enemies.

Use "Weapon Select" button to choose your weapons.

The "Weapon's Gauge" on bottom of screen shows which weapons can be used (the wording on the weapons turn yellow).

Pick up stars to advance "Weapon's Gauge."

## WEAPONS AVAILABLE ON THE SW475

**SPEED** - This will increase your flying speed  
**SHOT** - Normal forward fire  
**SIDE** - Right and Left fire  
**WING** - Double, Triple and Quadruple fire power  
**BOMB** - Wide range fire  
**LASER** - Long range fire  
**H. MIS** - Homing missiles  
**SHIELD** - Indestructible against three hits

This manual will guide you in the conversion of your color monitor upright video game into an "ALCON"<sup>TM</sup> game. We urge you to read through the instructions before beginning the conversion.

## WARNINGS AND NOTICES

For safety and reliability, Taito America Corporation does not recommend nor authorize any substitute parts or modifications of Taito America Corporation equipment.

Use of non-Taito America parts and modifications of game circuitry may adversely affect game performance and safety.

Substitute parts or equipment modifications may void FCC acceptance.

Since "ALCON"<sup>TM</sup> is protected by Federal copyright, trademark and patent laws, unauthorized versions of this game are illegal under Federal Law. This also applies to unauthorized facsimiles of Taito America equipment, logos, designs, publications, assemblies and games (or features not deemed to be in the public domain) whether manufactured with Taito America components or not.

## NOTICE

Parts salvaged from your old game are required to complete your kit. These salvaged parts **MUST** operate perfectly, or the converted game can not perform properly or safely. Always repair circuit board malfunctions and cabinet damage before conversion is attempted.

Check the parts supplied in this kit against the parts list included in this manual.

### **CAUTION**

For safe operation it is recommended the game be grounded. This game should be equipped with a three conductor power cable. The third conductor is the ground conductor and when the cable is plugged into an appropriate receptacle, the game is grounded. The offset pin on the power cable's three-prong connector is the ground connection. Do not use an adapter plug to defeat the ground pin on the power cord.

### **NOTICE**

This kit is not intended for use with X-Y monitors. Suitable monitors are the horizontal or vertical raster-scan with inputs for red, green and blue video as well as negative sync. (These should be compatible with TTL logic levels.)

Note: "ALCON"<sup>TM</sup> uses a vertical monitor.

### **NOTICE**

Be sure the power supply from your old game is capable of +5 vdc regulated at 6A; +12 vdc regulated at 1A and -5 vdc regulated at 1/2A. These operating voltages are necessary for your kit. Please note the enclosed warning with the PC Board Assembly.

**TAITO AMERICA CORPORATION KIT PARTS PROVIDED**

- 1- "ALCON"™ PC BOARD ASSEMBLY
- 1-8 WAY JOYSTICK ASSEMBLY
- 1- "ALCON"™ CONTROL PANEL OVERLAY
- 1- "ALCON"™ MONITOR COVER PLEXIGLASS
- 1- "ALCON"™ MARQUEE
- 1-WIRING HARNESS
- 1-INSTRUCTION SHEET WITH REMOVABLE CONTROL STICKERS
- 4-BUTTONS
- 1-FCC CAGE
- 2-PCB MOUNTING BLOCKS

**TOOLS AND SUPPLIES REQUIRED**

- SCREWDRIVER
- WIRE CUTTERS
- ELECTRIC DRILL WITH BITS
- SOLDERING IRON AND SOLDER
- PLIERS
- PHILLIPS SCREWDRIVER
- HEX DRIVER
- 180-GRIT SANDPAPER
- GREASE PENCIL OR MARKER
- X-ACTO KNIFE
- HACKSAW, JIGSAW OR TABLESAW W/CARBIDE-TIPPED BLADE
- ELECTRICAL TAPE OR HEAT-SHRINK TUBING

All games require a certain amount of maintenance to keep in good condition. A periodic check of mechanical controls would be beneficial to guarantee your game will be profitable.

### **GAME PREPARATION**

#### **CLEANING**

The exterior of the game, all metal parts and all plastic parts can be cleaned with non-abrasive cleaner. Caution should be used when cleaning the plastic. A dry cloth can cause scratches and result in a foggy worn appearance. Plexiglass cleaner on a soft cloth is suggested to maintain and keep your monitor crt cover looking new.

#### **CABINET**

Inspect your cabinet for any gouges or items stuck on the cabinet like chewing gum. Remove all foreign objects and fill in the gouges with any type of quick hardening wood putty. Sand to ensure the surface is smooth. Wipe the outside of the old cabinet clean. Remember the reason you are converting your old game is to have the earnings of a new game. Making your game look like a new game will increase your earnings and spark player-interest.

#### **NOTICE**

Please make sure you clean the coin mechanisms. It is important that you service them in order for this game to achieve the maximum possible earnings.



## CONVERSION INSTRUCTIONS

Remove the new "ALCON"<sup>TM</sup> marquee from the kit. This new marquee provided with your kit is specifically designed for ease of handling. Place and center the old marquee on top of the new marquee. Place masking tape on the area where you intend to cut the new marquee. Using an x-acto knife score the new marquee and simply break at this score. If your old marquee is made of glass, remove the paint of the old marquee and attach the new marquee behind this glass. If your old marquee is made of plexiglass, it is recommended that new clear plexiglass be used to best provide the brilliance of your new marquee.

Remove the new "ALCON"<sup>TM</sup> monitor plexiglass from the kit. Place the center of the old monitor glass on top of the new monitor plexiglass. Place masking tape on the area where you intend to cut the new plexiglass. With your grease pencil draw a straight line to use as a cutting guide. Using the hacksaw or jigsaw cut the plexiglass down to size.

## **CONTROL PANEL**

Remove the old control panel lexan decal, buttons and joysticks.

Place the template provided in this manual on the control panel to design the best possible positioning for your buttons, joystick and control panel instructions. A representation of joystick and button placement is provided as a guide.

Leave your 1 and 2 player start buttons where they are on the old control panel. (Use the enclosed 1 and 2 player stickers if needed.) Drill holes as needed for installation of the joystick and other buttons. Clean any burrs from around holes. Any hole that is no longer needed we suggest plugging with wood, putty or epoxy.

Cut the new "ALCON"<sup>TM</sup> lexan to the appropriate size needed to cover the panel. Leave enough lexan to wrap a small lip around the top and bottom of the panel.

Remove the backing from the "ALCON"<sup>TM</sup> lexan and apply it over the old control panel being careful to avoid air pockets.

After the lexan is securely on, with an x-acto knife or razor blade cut the holes on the control panel. Install the new joystick, buttons and any hardware that might have been removed on the control panel and tighten them down.

Attach the additional stickers marked "Fire" and "Weapon Select" to the control panel.

## **ADDITIONAL GAME PLAY INSTRUCTIONS**

Your new monitor plexiglass has instructions on it. If when installing the new monitor plexiglass it becomes necessary to cut through the instructions, place the additional set of instructions on the monitor plexiglass.

### **WIRING PROCEDURES**

#### **INSTALLING INTERBOARD WIRING**

This game comes with a color-coded 3 connector cable for easy installation. Refer to the wiring diagram included in this manual for quick connections.

Disconnect the old wiring harness from the old CPU board.

Carefully remove old circuit boards and FCC cages from the game.

Using the schematic drawings from your old game, carefully note the function of each wire.

Leaving several inches of wire from the old wiring harness at each connector, cut the wires near the game's coin door, monitor, control panel, power supply and speaker wires. Install the new wiring harness to those points following your wiring diagram. Use electrical tape or heat-shrink tubing to insulate all splices.

Install your FCC cage where the old board set was.

Mount the "ALCON"<sup>TM</sup> PCB assembly with the mounting blocks provided in the center of the FCC cage. Plug the wiring harness onto the PCB and close the cage securely. The board cage in this kit must be properly installed and terminated to ground.

Check and clean the input jack on the power supply board. Replace any burned or damaged pins.

## GAME PLAY AND DIP SWITCH SETTINGS

"ALCON"<sup>TM</sup> has been designed with dip switches for operator-adjustable features for maximum earnings in your location. The dip switch chart provided in this manual will allow you to customize the game for your location.

If your old game was FCC verified, remove the FCC compliance label from the instruction sheet provided with the kit and affix to the back of the game cabinet.

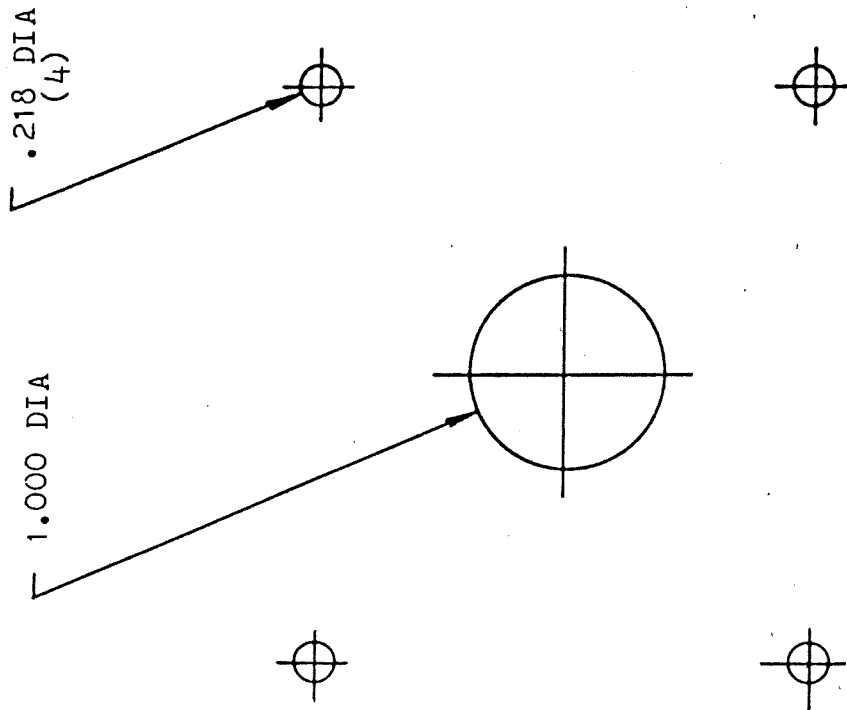
If done properly your game should look new. The conversion is complete.

**WE APPRECIATE YOUR PURCHASE OF TAITO AMERICA'S "ALCON"<sup>TM</sup> KIT  
AND SINCERELY HOPE THAT THE GAME PROVIDES  
MANY HOURS OF CONTINUED EARNINGS AND ENJOYMENT FOR YOU  
AND YOUR PLAYERS.**

**PLEASE LOOK TO TAITO AMERICA CORPORATION TO ALWAYS  
PROVIDE THE VERY BEST IN VIDEO ENTERTAINMENT FOR YOU!**

# JOYSTICK TEMPLATE

FIGURE 3



WIRING DIAGRAM FOR "ALCON"™ KIT

FUNCTION	COLOR			COLOR	FUNCTION
GROUND *	BLK *	1	A	BLK *	GROUND *
		2	B		
+5 VOLTS *	RED *	3	C	RED *	+5 VOLTS *
		4	D		
-5 VOLTS *	BRN *	5	E	BRN *	-5 VOLTS *
+12 VOLTS *	YEL *	6	F	YEL *	+12 VOLTS *
		7	H		
		8	J		
		9	K		
SPEAKER (+)	ORG	10	L	BLK/WHT	SPEAKER (-)
		11	M		
VIDEO RED	RED/BLK	12	N	GRN/BLK	VIDEO GREEN
VIDEO BLUE	BLU/BLK	13	P	WHT/BLK	VIDEO SYNC
VIDEO GROUND	BLK	14	R	XXXXXXXXXXXXX	SERVICE
		15	S		
COIN 1	BRN/BLK	16	T	XXXXXXXXXXXXX	(COIN 2)
1P START	GRY/WHT	17	U	BLU/WHT	2P START
1P UP	ORG/WHT	18	V	XXXXXXXXXXXXX	2P UP
1P DOWN	RED/WHT	19	W	XXXXXXXXXXXXX	2P DOWN
1P LEFT	BRN/WHT	20	X	XXXXXXXXXXXXX	2P LEFT
1P RIGHT	YEL/WHT	21	Y	XXXXXXXXXXXXX	2P RIGHT
1P SELECT	VIO/WHT	22	Z	XXXXXXXXXXXXX	2P SELECT
1P SHOOT	GRN/WHT	23	a	XXXXXXXXXXXXX	2P SHOOT
		24	b		
		25	c		
		26	d		
		27	e		
GROUND *	BLK *	28	f	BLK *	GROUND *
PARTS SIDE		PIN NO.		SOLDER SIDE	

BLK-BLACK WHT-WHITE BLU-BLUE BRN-BROWN ORG-ORANGE

YEL-YELLOW GRN-GREEN VIO-VIOLET GRY-GRAY RED-RED

xxx/WHT DENOTES SOLID COLOR WIRE WITH WHITE STRIPE.

xxx/BLK DENOTES SOLID COLOR WIRE WITH BLACK STRIPE.

\*\*\* DENOTES 18 GAUGE WIRE, ALL OTHERS WILL BE 22 GAUGE WIRE.

XXXXXXXXXXXXX DENOTES NO WIRE INSERTED INTO CONNECTOR.

THIS GAME DOES NOT USE COIN METERS

SUGGESTED CONTROL PANEL LAYOUT

