

## PROGRAM DOCUMENTATION

We have provide some simple programs with the handle to help show its operations.

Animated Box - This simple short program shows how the joystick can be used with the Bally Basic graphic commands to produce effects not achievable with the normal Bally handle. Move the joystick around to see a box vary in size on the scree.

Get the Box - This program is to help you to adapt to using the joystick. You will be asked for a difficulty level; 1 is the hardest with larger numbers being easier (use values less than 15). Use the arcade keypad to enter values. The object will be to move the blinking dot (representing where the joystick is) to hit the solid box. The faster you can hit the boxes, the lower and better you score. You will see your score after you have hit 20 boxes. To start, press the left button and be ready to move the blinking box with the joystick. After you have seen your score, press any key on the Arcade keypad to start again.

Keypad Game - This is a simple program to show you how to use the port values to access the SPECTRE keypad. It compairs what key is pressed to what square is selectd. Press the left button to start and be ready to press the key that coresponds to the square with a box in it. The scoring is similar to Get the Box, the lower the score the better.

These are simple programs to help you understand how to use the handle for your own programs.

The SPECTRE Handle is a new, versatile control handle to be used with the Bally or Astro Arcade. It provides an X-Y analog joystick, an 11 key keypad, and two pinball style flipper buttons. All these functions are accessible from basic or machine language programs, as well as the cartridge programs.

The SPECTRE Handle uses two standard handle cords, which plug into two handle inputs on the arcade. The handle inputs you use depends on the program you are running, and should be specified in that program's documentation. For the enclosed examples, use input one for the right cord, and input two for the left cord (looking at the Handle from the back).

A maximum of two SPECTRE handles may be plugged into the arcade at one time.

In order to utilize the Handle in your basic programs, the following inputs are provided if the Handle is plugged in as above.

<u>SPECTRE Handle Values</u>	<u>Basic Value</u>	<u>Port access Value</u>																								
X Joystick Value	KN(1)= -128 to 127	&(28)= 0 to 255																								
Y Joystick Value	KN(2)= -128 to 127	&(29)= 0 to 255																								
Left Button Value	TR(1)= 1	All functions with a (1) [handle port #1] after them are mapped to port &(16)																								
Right Button Value	TR(2)= 1	<u>All functions with a (2) [handle port #2] after them are mapped to port &amp;(17)</u>																								
Keypad - 0	TR(2)= 1																									
Keypad - 1	JX(2)= -1																									
Keypad - 2	JY(1)= -1	BYTE <sup>1</sup> - <table border="1" style="display: inline-table; vertical-align: middle;"> <tr> <td>128</td><td>64</td><td>32</td><td>16</td><td>8</td><td>4</td><td>2</td><td>1</td> </tr> <tr> <td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td> </tr> <tr> <td></td><td></td><td></td><td>T</td><td>R</td><td>L</td><td>D</td><td>U</td> </tr> </table>	128	64	32	16	8	4	2	1												T	R	L	D	U
128	64	32	16	8	4	2	1																			
			T	R	L	D	U																			
Keypad - 3	JY(2)= -1																									
Keypad - 4	JX(1)= -1	The value for the port depends on which bits are set in the byte.																								
Keypad - 5	TR(1)= 1	The switch banks return a one byte value which can be stored directly in a variable. The bits set by the switches determine the value returned. When using port values to determine switch settings you must look at the bits that are set in the byte returned. EXAMPLE - [A = &(16)]; if &(16) equals 18 this would mean the trigger is pulled and the joystick is pulled back for handle port #1. ie.																								
Keypad - 6	JX(1)= 1																									
Keypad - 7	JY(2)= 1																									
Keypad - 8	JY(1)= 1																									
Keypad - 9	JX(2)= 1																									
Keypad - 5	Future Expansion	Trigger(T) = 16 and the joystick is pulled back (D) = 2 ; 16 + 2 = 18 and therefore the variable A will equal 18																								

EXAMPLE 2 - If you let variable B= &(17) and &(17) equals 10, then this would mean that handle port #2 would give this value if handle #2 had the Joystick pushed to the right(R) and pulled backward(D) at the same time, ie. 8+2=10.

Keys 8, 2, 4, 6, 5, are the up, down, left, right, and trigger functions of the Bally handle #1.

Keys 7, 3, 1, 9, 6, are the up, down, left, right, and trigger functions of the Bally handle #2.

1. [ T = Trigger, R = Joystick pushed right, L = Joystick pushed left, D = Joystick pulled backwards, U = Joystick pushed forward ]

## ANIMATED BOX

```
1 CLEAR
10 A=ABS(KN(1)/2);B=ABS(KN(2)/3)
20 BOX 0,0,C,D,2; BOX 0,0,A,E,1
30 C=A;D=B
40 GOTO 10
```

## GET THE BOX

```
10 CLEAR;INPUT "DIFFICULTY"D;CLEAR; S=0
15 IF TR(1)=0 GOTO 15
20 FOR I= 1 TO 20;CX=-80;CY=40;PRINT #0,I;X=RND(120)-60;
Y=RND(70)-35;BOX X,Y,0,0,1
30 A= -KN(1)/2;E= KN(2)/3
40 BOX P,Q,1,1,2;BOX A,E,1,1,1;S=S+1
50 P=A;Q=B
60 IF ABS(A-X)<D IF ABS(B-Y)<D BOX X,Y,0,0,2;NEXT I;GOTO 80
70 GOTO 30
80 CLEAR;PRINT "SCORE IS ",S;N=KP;GOTO 10
```

## KEYPAD GAME

```
10 CLEAR;BC=232;FC=188;S=0;BOX 0,0,50,50,1
20 FOR X= -15 TO 15 STEP 15;FOR Y=-15 TO 15 STEP 15;BOX X,Y,10,10,2;
NEXT Y;NEXT X
25 IF TR(1)=0 GOTO 25
30 FOR T= 1 TO 20;CY=40;PRINT #0,T;A=RND(9)
40 IF A=1 BOX -15,-15,8,8,1;GOTO 130
50 IF A=2 BOX 0,-15,8,8,1;GOTO 130
60 IF A=3 BOX 15,-15,8,8,1;GOTO 130
70 IF A=4 BOX -15,0,8,8,1;GOTO 130
80 IF A=5 BOX 0,0,8,8,1;GOTO 130
90 IF A=6 BOX 15,0,8,8,1;GOTO 130
100 IF A=7 BOX -15,15,8,8,1;GOTO 130
110 IF A=8 BOX 0,15,8,8,1;GOTO 130
120 IF A=9 BOX 15,15,8,8,1;GOTO 130
130 J=&(16);K=&(17)
140 IF A=1 IF K=4 BOX -15,-15,8,8,2;GOTO 240
150 IF A=2 IF J=2 BOX 0,-15,8,8,2;GOTO 240
160 IF A=3 IF K=2 BOX 15,-15,8,8,2;GOTO 240
170 IF A=4 IF J=4 BOX -15,0,8,8,2;GOTO 240
180 IF A=5 IF J=16 BOX 0,0,8,8,2;GOTO 240
190 IF A=6 IF J=8 BOX 15,0,8,8,2;GOTO 240
200 IF A=7 IF K=1 BOX -15,15,8,8,2;GOTO 240
210 IF A=8 IF J=1 BOX 0,15,8,8,2;GOTO 240
220 IF A=9 IF K=8 BOX 15,15,8,8,2;GOTO 240
230 S=S+1;GOTO 130
240 NEXT T;PRINT "SCORE IS ",S;K=KP;GOTO 10
```

## MAINTANENCE

Maintenance - The SPECTRE Handle was designed to require a minimum of user maintenance. It may be required that with time the pinball button contacts will need to be cleaned. When you need to clean the contacts, remove the four corner screws, and carefully lift the lid, (DO NOT PULL ON THE WIRES). On both sides you will see the pinball housings holding the leaf contact switches. Where the leaf switches make contact you will see small copper rivets. By using fine sandpaper or a fingernail emery board, gently clean the oxidation off these contacts. Be careful not to bend the leaf contacts. If you do bend a leaf contact, use a pair of needle nose pliers to carefully straighten it.

It may also be necessary to clean the joystick potentiometers. This may be done by spraying contact cleaner into the potentiometers. Make sure that the contact cleaner you use is safe for cleaning potentiometers, and that you follow the directions to prevent damage to the joystick.

The keypad should not require any maintenance.

If you have questions or problems please contact.

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Please write. If you must call, this is my home phone and I can't guarantee that you will reach me if you call.

Dear customer,

Some Bally users have reported that ICBM ATTACK will not work for them. We have found that in some of the older arcades the internal subroutines are different than in the newer Arcades. We are correcting this problem as quickly as we can and will send you the new version of ICBM ATTACK as soon as we possibly can.

We also apologize for the length of time it has taken us to deliver the SPECTRE Handle to you. We hope that you can understand the problems of a small company just getting started. Spectre Systems is a young partnership trying to provide quality products to Bally users. The delays we have encountered have occurred because we did not want to lower the quality of our products.

As we overcome the problems of a small new business, we hope we can improve our service to you.

Sincerely

*Brett Bilbrey*  
Brett Bilbrey  
Spectre Systems

## General Handle Description

The reason the SPECTRE Handle was created was to provide the Bally Arcade with a true joystick input device. Since this required the use of two handle ports, we also had available 5 switch contacts per port. So we used the 10 switches to add a keypad. As an extra, we added the pinball buttons, (which duplicate the #5 and #0 keys).

To get the joystick to correspond to a left to right movement from the KN(X) function in your programs you will need to use a negative sign. This was done so that the handle will work with the absolute machine addressing.

The accuracy of the joystick is +/- 2 pixels. This is because of the way the Bally decodes analog to digital signal and must be dealt with using software debouncing.

We have found that some cartridges can use the SPECTRE Handle. For example it was designed to work with Bally Pin by using the two pinball buttons for the flipper, and the #7 key of the keypad to launch the ball. You can just pass the handle to the next player when it is their turn.

By experimentation you can see if the SPECTRE Handle will work with the other cartridges you have.