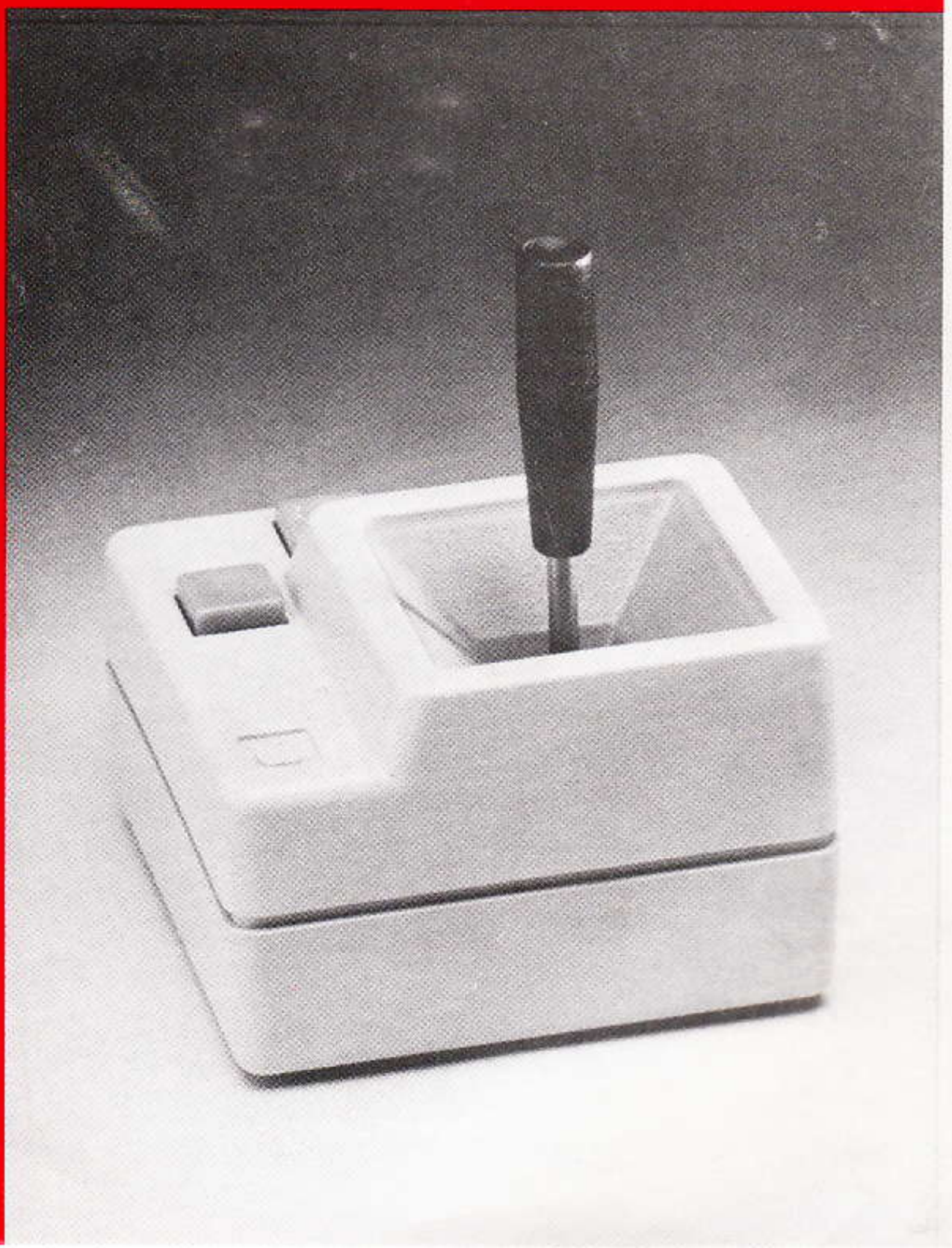
Apple Joystick IIe and IIc User's Instructions

The Apple IIc



Releasing the Stick Self-Centering Function

Your joystick, as it comes out of the box, is self-centering. This means that when you push the stick in any direction and let it go, it will return to the center position.

However, for some games and graphics applications, you will want to release the self-centering function so that you can leave the joystick in a selected position for awhile. For example, if you were drawing a star with a graphics program, you would want the cursor to remain at each point so that you could complete the outline instead of returning to the center of the star.

To release the centering, do the following:

1. Turn the joystick upside down. The key marks will look like those in Figure 4.

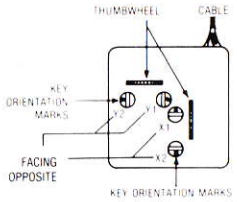


Figure 4. Key Marks Set for Stick Self-Centering

2. Pull the stick away from the cable end as shown in Figure 5. Hold the stick and rotate key mark **X1** in either direction one half turn **(180 degrees)** with a small screwdriver, or even with your thumbnail.

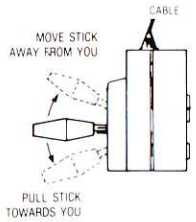


Figure 5. Positioning the Stick

3. Push the stick toward the cable end and rotate key mark X2 in either direction one half turn. Both X1 and X2 key marks should now be facing each other.

4. Pull the stick to the left and rotate Y1 in either direction one half turn.

5. Pull the stick to the right and rotate Y2 in

When you want to restore the stick's self-centering function, rotate the key marks so that they are in the same position as in Figure 4. There is no need to hold the stick.

Also, you may use any combination of stick settings. Your program may work best if you use the self-centering function for stick travel in two opposite directions, and you release the self-centering function for the other two directions. Your Apple Joystick is built to accommodate this.

About the Buttons

The buttons are simple off/on input devices which may be used to run a game, draw a line, or even fire a missile, depending upon the program you choose. Go ahead, experiment! The button nearest the Apple logo is switch Ø and the other is switch 1.

For the Programmer:

Information on programming your joystick for specific applications can be found in the *Applesoft BASIC Programmer's Reference Manual*.

Now you're ready for hours of fun. Enjoy your new Apple Joystick!

Radio and Television Interference

The equipment described in this manual generates and uses radio frequency energy. If it is not installed and used properly, that is, in strict accordance with these instructions, it may cause interference to radio and television.

This equipment has been tested and complies with the limits for a Class B computing device in accordance with the specifications in Subpart J, Part 15, of the FCC rules. These rules are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that the interference will not occur in a particular installation.

You can determine whether your computer is causing interference by turning it off. If the interference stops, it was probably caused by the computer. If your computer does cause interference to radio or television reception, you can try to correct the interference by using one or more of the following measures:

If necessary, you should consult yo
an experienced radio/television tec
additional suggestions. You may fin
booklet prepared by the Federal C
tions Commission helpful: **"How t
Resolve Radio-TV Interference P**
This booklet is available from the U
ment Printing Office, Washington, D
Stock Number 004-000-00345-4

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components that prove to be defective, provided the Apple produc
shipping prepaid, to an authorized Apple Service Center.

You may request information on how to obtain service by contactin
dealer from whom the product was purchased, or by contacting A
address printed above. Your sales receipt is your warranty validati
purchase (such as a bill of sale or cancelled check) must be provide
warranty work to be performed.

This warranty does not apply if, in the opinion of Apple, the produc
damaged by accident, misuse, misapplication, or as a result of ser
tion by other than an authorized Apple Service Center.

function so that you can leave the joystick in a selected position for awhile. For example, if you were drawing a star with a graphics program, you would want the cursor to remain at each point so that you could complete the outline instead of returning to the center of the star.

To release the centering, do the following:

1. Turn the joystick upside down. The key marks will look like those in Figure 4.

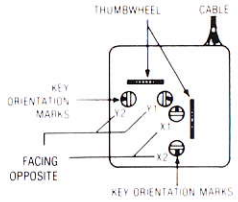

Figure 4. Key Marks Set for Stick Self-Centering

2. Pull the stick away from the cable end as shown in Figure 5. Hold the stick and rotate key mark **X1** in either direction one half turn (**18Ø degrees**) with a small screwdriver, or even with your thumbnail.

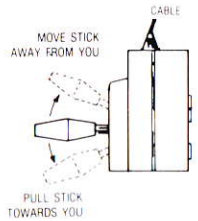

Figure 5. Positioning the Stick

3. Push the stick toward the cable end and rotate key mark X2 in either direction one half turn. Both X1 and X2 key marks should now be facing each other.

4. Pull the stick to the left and rotate Y1 in either direction one half turn.

5. Pull the stick to the right and rotate Y2 in either direction one half turn. All key marks should be facing each other as you see them in Figure 6.

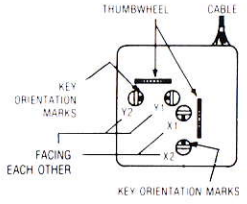

Figure 6. Key Marks Set to Release Stick Centering

the self-centering function for stick travel in two opposite directions, and you release the self-centering function for the other two directions. Your Apple Joystick is built to accommodate this.

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You can determine whether your computer is causing interference by turning it off. If the interference stops, it was probably caused by the computer. If your computer does cause interference to radio or television reception, you can try to correct the interference by using one or more of the following measures:

- Turn the TV or radio antenna until the interference stops.
- Move the computer to one side or the other of the TV or radio.
- Move the computer farther away from the TV or radio.
- Make certain the computer and the TV or radio are on circuits controlled by different circuit breakers or fuses.

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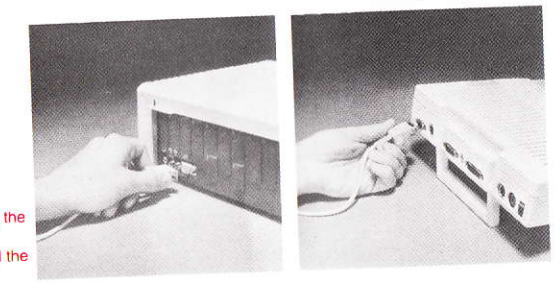

Figure 1. Plugging the Joystick Into the Apple *IIe* (Left) and the Apple *IIc* (Right)

Adjusting the Joystick

The joystick is a precision device which allows you to send continuous information to your Apple *IIe* or Apple *IIc* computer in the form of two scales of values ranging from 0 to 255. These numbers are read and used by the program you select. The joystick, in combination with the program, allows you to locate any point within this range.

Approximately Centering the Stick

Many games and graphics programs do not require that the center position of the joystick correspond to the center of the value range.

You may prefer to make a quick adjustment and approximately center the stick. To do this, simply rotate the thumbwheels until the largest notch in each wheel is in center position as you see in Figure 2.

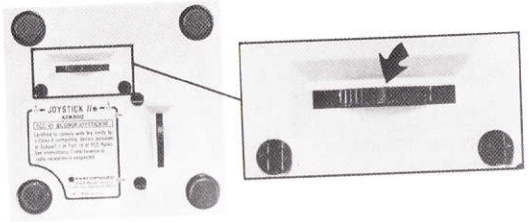

Figure 2. Rotating the Thumbwheels (Notch Centered)

Accurately Centering the Stick

Some games and graphics programs require exact adjustment of the joystick so that the stick, in center position, corresponds to the center of the 0–255 range. Follow these steps if you are using such a program.

1. Insert the DOS 3.3 or ProDOS™ System Master Disk into your disk drive and turn on your computer.

2. Make sure that the stick is in center position.

3. Type in this Applesoft BASIC program and run it.

```
10 HOME
20 VTAB 6: PRINT "PDL(0)    PDL(1)"
30 IF PEEK ( - 16287) > 127 THEN
   INVERSE
40 VTAB 8: PRINT PDL(0); : NORMAL :
   PRINT " "
50 IF PEEK ( - 16286) > 127 THEN
   INVERSE
60 VTAB 8: HTAB 10: PRINT PDL(1); :
   NORMAL : PRINT " "
70 GO TO 30
RUN
```

The screen will show two column PDL(0) and PDL(1) with numbers each. Figure 3 shows you an exa what the screen display should l numbers in each column will var

Figure 3. Screen Display

```
PDL(0)    PDL(1)
128       128
```

4. Hold the joystick so that the cable from you. Follow this sequence; it demonstrate the range of the joys the stick all the way toward the ca column PDL(1) will read 0. Move the way away from the cable end will read 255. Correspondingly, w move the stick all the way to the l PDL(0) will read 0, and when you the way to the right, this column

5. Return the stick to center position thumbwheels on the underside o until both numbers on the screen close to 128 (the mid-point of the range) as you can make them.