Back at the CoCo

Put a disk in drive zero. Find your way around a Multi-Pak. See a familiar picture change when you switch monitors. Your old CoCo habits have a place on this Mac.



Cream Tandy FD-502 enclosure with two black floppy drives

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Book 2 · VCC Plus 3.7.1

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Which CoCo did you bring with you?

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Maybe your fingers remember exactly where BREAK was. Maybe you remember pressing Play on a cassette recorder, then waiting for a name to appear on the TV. Bring those memories to the keyboard. You can use them to find your way around this CoCo, even if the one you owned had a different number on its case.

Find your old hardware on the Mac

Choose **Display → Interactive System** in VCC Plus. The computer sits in the keyboard case beneath the monitor. Read the badge above the scene for its RAM and the badge on the right for its processor. The **Disk BASIC** starter setup pairs a 6809 with 512 KB of RAM. Follow the disk drive back to the cartridge beside the keyboard. That cartridge is the floppy controller. It gives BASIC a way to talk to the drive.

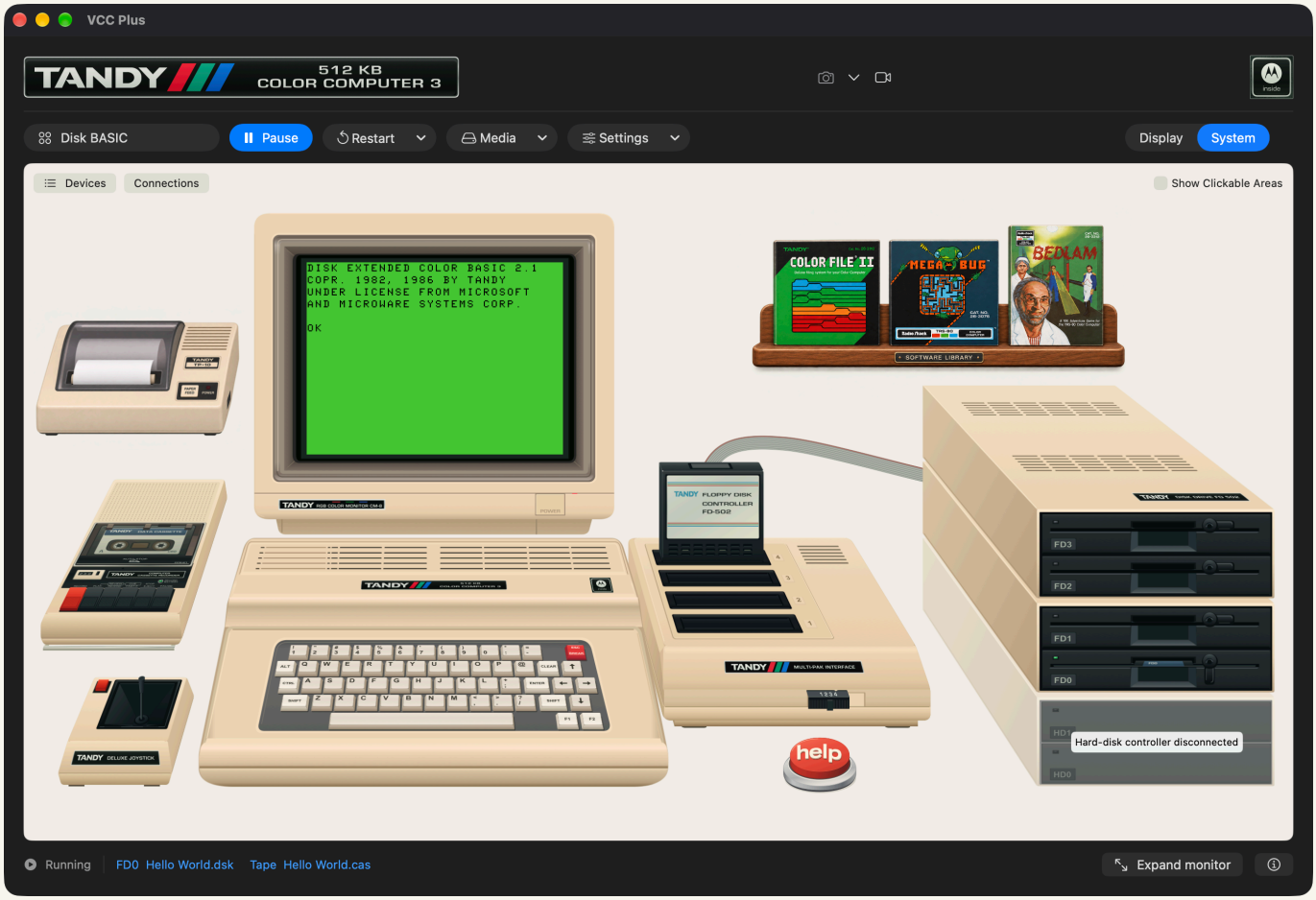


Figure 1: The System view places the monitor over the CoCo 3 keyboard, with the recorder on the left and the disk controller and drives on the right.

If you remember a CoCo 1 or 2, the green 32-column BASIC screen should feel familiar. Watch what happens in the next chapter when a program asks the CoCo 3 for 40 columns. If you came from a CoCo 3 with an RGB monitor, you can also try the same program on two video signals. For a closer look at the original keyboard case and its 1986 hardware, visit Find the keyboard and monitor.

What you used to do	Where to do it here	How you can tell
Insert a disk in drive 0	**Media** → **Floppy Disks...**, then **Insert...** or **Replace...** in FD0.	The Mac filename appears on the FD0 row.
Cue a tape	**Media** → **Cassette...**, then **Rewind** and **Play**.	The counter returns to the beginning. BASIC can start the motor.
Power up with a cartridge	**Cartridge** → **Cartridges...**. Choose the cartridge and its startup slot.	After the restart, a bootable cartridge displays its own opening screen.
Press BREAK	Focus the CoCo display and press **Esc**.	Running BASIC can report the line where it stopped.

Give BREAK its first job

Start in a **Disk BASIC** session with an empty program. If another program is in RAM, save it first. To load the starter setup, open **Machine** → **Configuration Profiles...**, select **Disk BASIC**, and choose **Load...**, then **Load Profile**. Press the Mac window's **Run** if the CoCo is paused.

Click the CoCo screen or press **Option-Command-K** (**Input** → **Focus CoCo Display**). At `OK`, type these two lines, pressing Return after each.

```
10 GOTO 10
RUN
```

The CoCo is busy doing exactly what you asked. Every trip to line 10 sends it back to line 10. Click **Pause** on the Mac toolbar. The whole machine freezes. Click **Run** alongside the toolbar controls and the CoCo picks up the loop again. Can you get BASIC's attention without restarting the machine?

Focus the CoCo screen and press **Esc** once. BASIC steps out of the loop and answers:

```
BREAK IN 10
OK
```

Type `LIST` and press Return. The loop is still there. BREAK gave you back the prompt. **Pause** let you take a breather in the middle of a running machine. That's also why the Mac's **Run** button and typing `RUN` at the BASIC prompt do different jobs.

To leave the display using only the keyboard, press **Option-Command-U** (**Input** → **Focus Mac Controls**). Tab and Shift-Tab move between controls. Space operates a focused button. If Tab skips buttons, turn on **Keyboard navigation** under **System Settings** → **Keyboard** on the Mac.

Choose your way back

- **I have a disk I want to run.** Begin with Bring up a disk you remember. Try our disk first, then make a safe visit to your own.
- **I want my old setup back.** Start with Tape, cartridges and the slot switch. Follow it with Which drive zero? to pick your system.
- **I used to write programs.** Try the same program from a disk and from the Mac editor. Then use your CoCo to compare composite and RGB.

Bring up a disk you remember

Chapter 2 of 6

On the label outside the disk it says **Port Zero**. In the CoCo's directory it says **PORT**. Which name do you type after LOAD? By the end of this trip you'll have greeted three different visitors with the same five-line program, and the disk will still be just as you found it.

Put the practice disk in FDo

Start in **Disk BASIC**. Save any program in RAM you want to keep, since loading PORT will replace it. Save a working copy of Port Zero.dsk in a folder you can find again in Finder. For a disk from your own collection, duplicate the image in Finder first and put the original aside.

1. Open **Media → Floppy Disks…**. Find **FD0**, the first drive. Choose **Replace…** if a disk is already there, or **Insert…** if the drive is empty. Choose your working copy in the Mac file picker. If a pending change needs attention, save it before replacing the disk.
2. Read the filename beside FD0. Open **Disk options** on that row and turn on **Write protected**. This lets the CoCo read the disk and makes the drive refuse writes. Leave the separate **Temporary changes** setting alone for this exercise.
3. If the footer reads **Paused**, click **Run** there. Return to the emulator and press **Option-Command-K** to type at the CoCo.

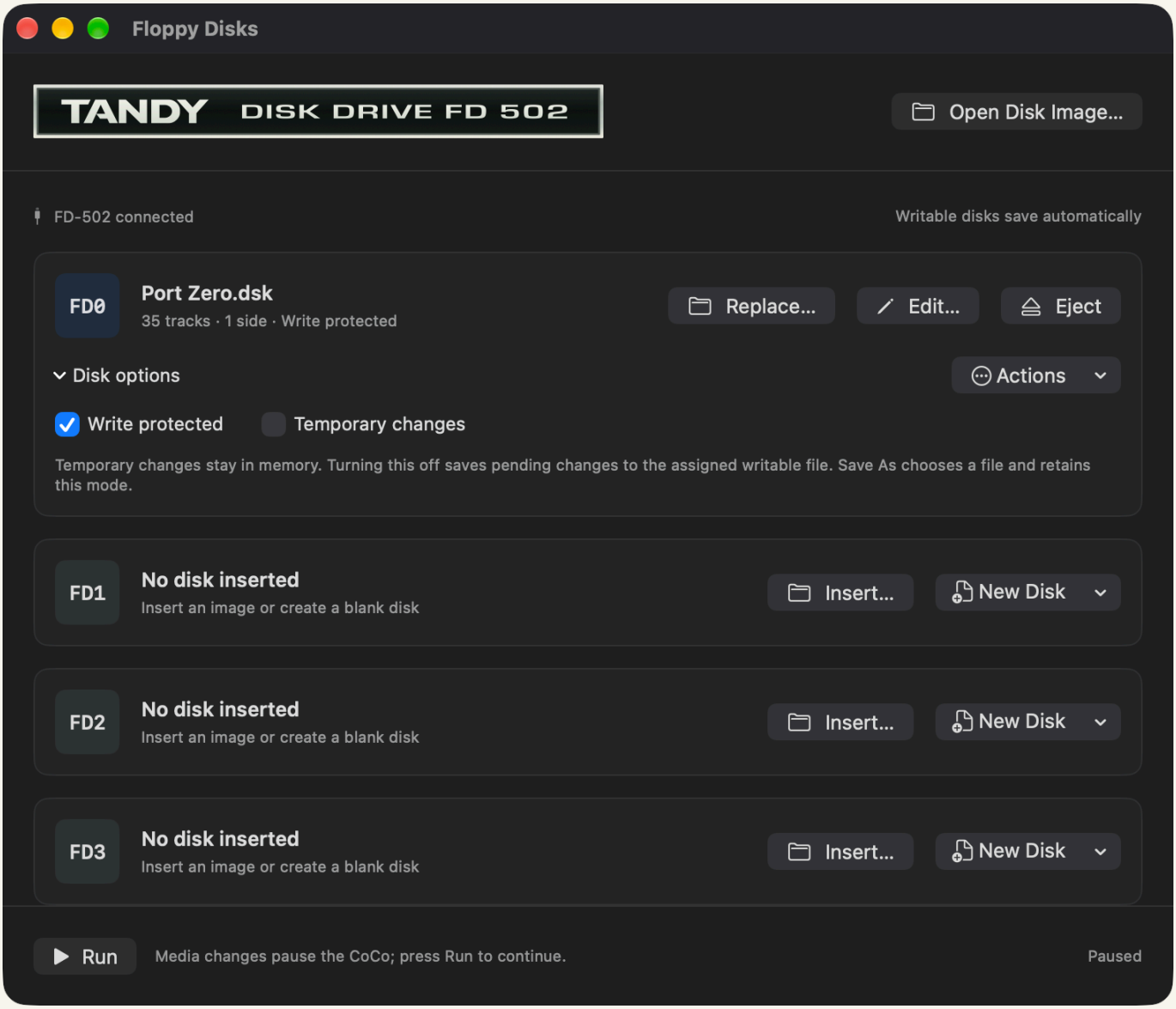


Figure 2: FD0 holds Port Zero.dsk. Its status says Write protected, the matching box is checked, and Run is available at the bottom because the CoCo is paused.

Type `DIR` at `OK` and press Return. Find **PORT** with **BAS** beside it. The drive holds a whole disk in one Mac file. BASIC just showed you a program *inside* that file.

Two ways to run PORT

First, use the floppy. Type `LOAD"PORT"` and press Return. When BASIC comes back with `OK`, type `RUN` and press Return. The display switches to 40 columns. Port Zero asks for your call sign. Type **ACE** and press Return. Look for this reply:

```
GOOD TO HAVE YOU ABOARD, ACE!
```

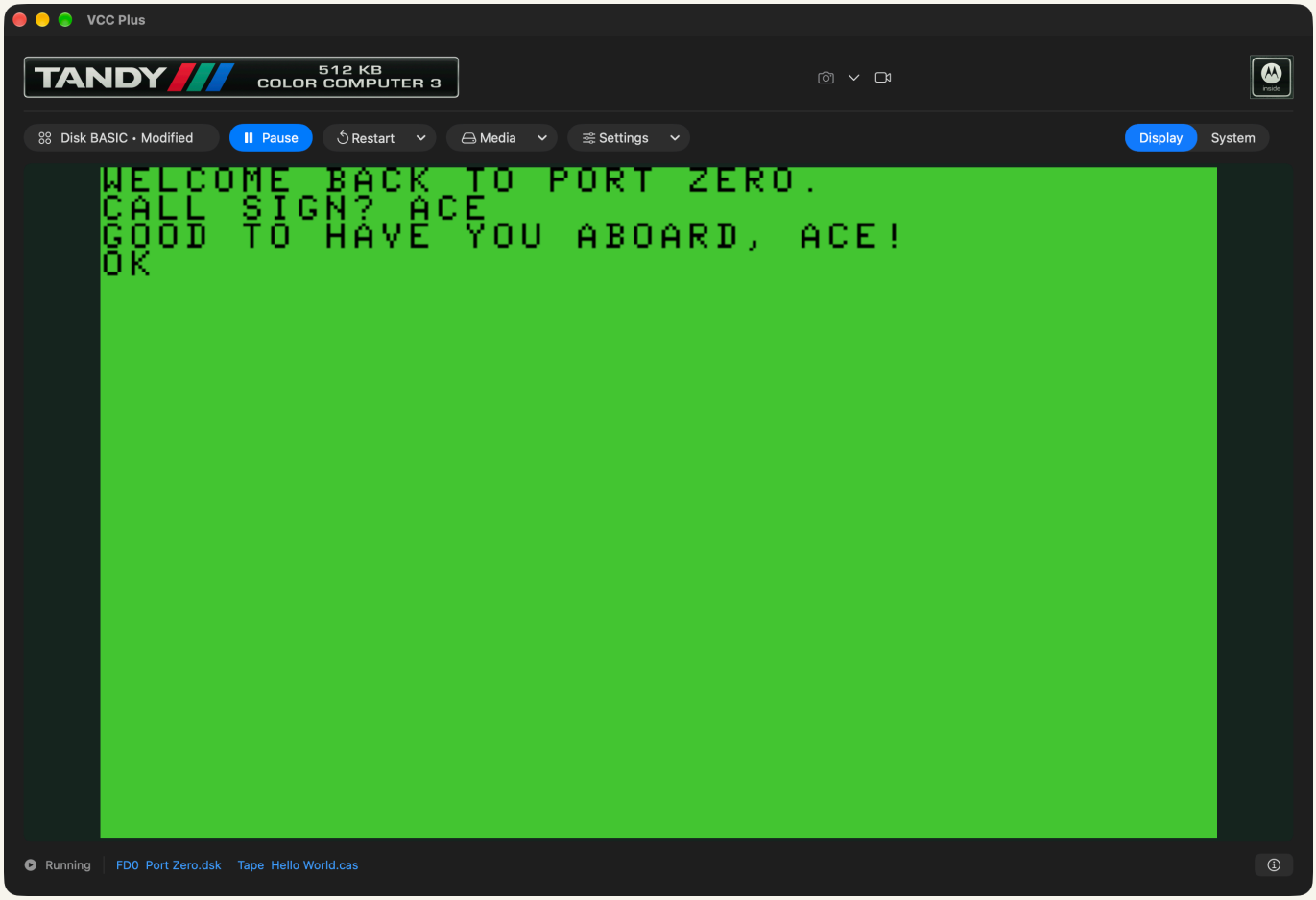


Figure 3: The live CoCo in Display view greets ACE and returns to OK. The status bar still names Port Zero.dsk in FD0.

Try a write on **this protected practice disk**. At `OK`, type `SAVE"LOG"`. The expected reply is `?WP ERROR`. That is the drive doing its job. The program you loaded is still in RAM. Type `RUN` again and use **SKY** for your call sign. The greeting changes to SKY. You have run the program twice and kept the original disk intact.

Now take the Mac route. Leave the practice disk protected. At `OK`, type `NEW` and press Return to clear the practice program from RAM. Open PORT.bas in **Develop → BASIC Development...**. If your browser shows the five lines as plain text, you already have the source. In the editor choose **Open...** and select **PORT.bas** in this book's **examples** folder, or use a copy you saved in Downloads. Here is its whole source:

```
10 WIDTH 40
20 PRINT "WELCOME BACK TO PORT ZERO."
30 INPUT "CALL SIGN";N$
40 PRINT "GOOD TO HAVE YOU ABOARD, ";N$;"!"
50 END
```

Line 10 asks for the wider screen. Line 30 waits for the call sign and keeps it in the string variable `N$`. Click **Run** in the **BASIC Development** window. In the CoCo display, type **NOVA** at the call-sign prompt and press Return. This time the editor put the program directly into CoCo RAM. You reached Port Zero without reading FD0.

Find the copy that matters

Where to look	What you have	When you'd use it
The FD0 row in Floppy Disks	**Port Zero.dsk**, a whole disk image on the Mac	To mount the disk or make a copy in Finder
`DIR` inside the CoCo	**PORT BAS**, one BASIC program on that disk	To bring it into RAM with `LOAD"PORT"`
BASIC Development on the Mac	**PORT.bas**, the five numbered lines as editable text	To change the source and send it to the CoCo with **Run**

That last greeting, NOVA, came from the program in RAM. Saving the editable Mac source and saving a program *on the guest disk* are two different operations. Keeping FD0 protected lets you experiment with the editor while preserving the floppy.

Want to catch the program at a particular line? Try Catch the computer in the act in the first book. You can also reach the C and Assembly workspaces from **Develop**. If your next stop is a disk of your own, go straight to Visit a disk and come home.

Color Computer Disk BASIC Quick Reference Guide. InterTAN Canada Ltd., 1987, pp. 3–9. Directory, load and save commands, and disk errors.

Trace the Mac source and the program in guest RAM.

Tape, cartridges and the slot switch

Chapter 3 of 6

Think of two old ways to start a program. With a tape, you could press Play and wait for BASIC to find a name. With a cartridge, the title could already be on the screen by the time your hands reached the keys. Both habits work here. Start with a cassette that comes with the Disk BASIC setup. You can do the slot-switch experiment at the end with just the floppy controller.

Cue up the cassette

Open **Media → Cassette...**. Look for **Hello World.cas**, the starter cassette in the **Disk BASIC** system profile. If you use a different tape in your own setup, save any recording you want to keep before changing media or loading the starter profile. The next steps replace the BASIC program in RAM, so save it first if you want it back.

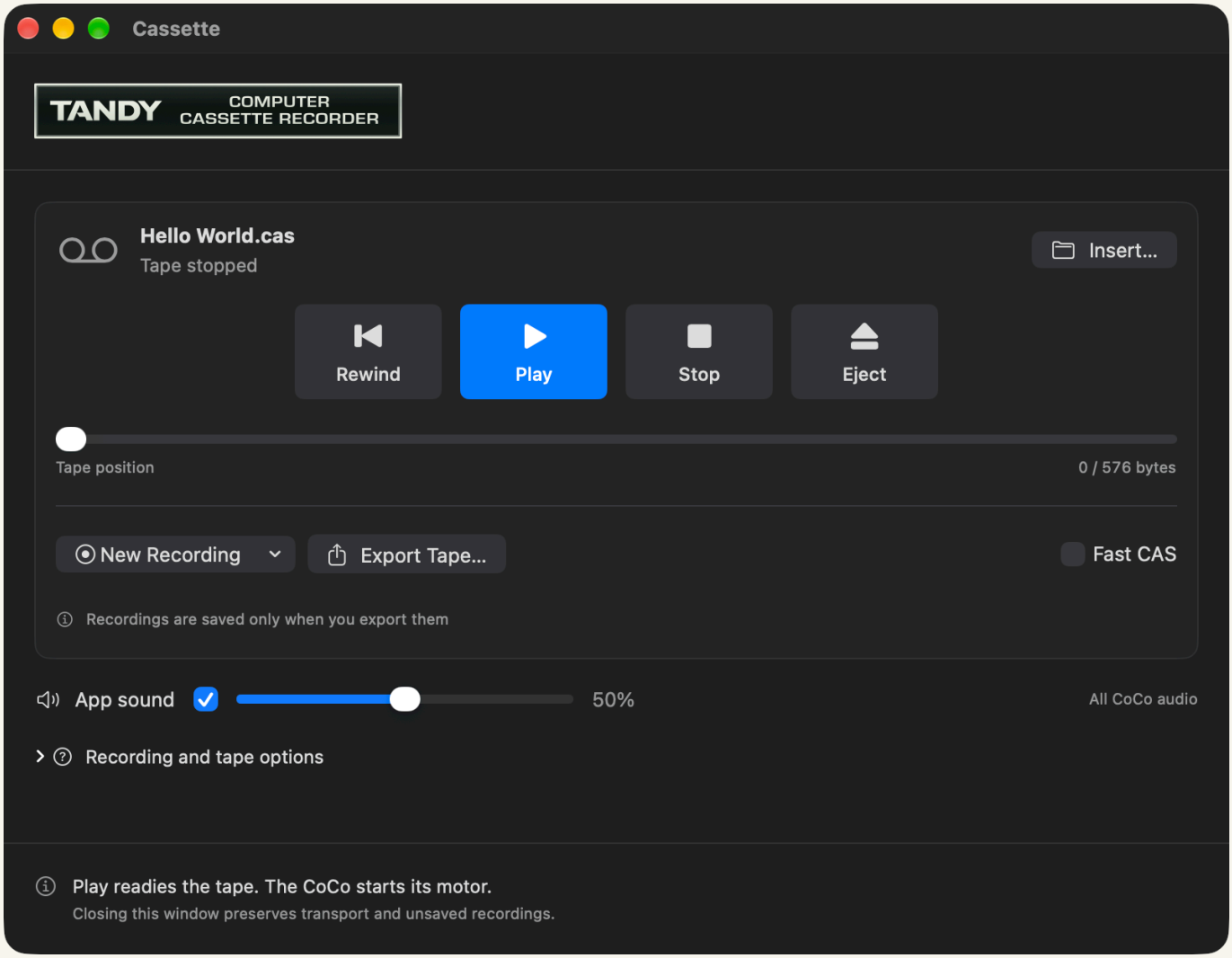


Figure 4: The current Cassette window shows Hello World.cas and its transport and app-sound controls. Use Rewind and then Play to prepare the tape for BASIC.

1. In the Cassette window, choose **Rewind** and then **Play**. Play gets the recorder ready. The CoCo controls the motor when it wants to read.

2. Return to the emulator. If it is paused, click **Run** on the toolbar. Focus the CoCo display, type `CLOAD` at `OK`, and press Return. Watch for `F HELLO`. The recorder found a BASIC program named HELLO on the tape. Wait until `OK` returns.
3. Type `RUN` and press Return. At **What planet do you live on?**, press **2**. One keystroke takes you to Mars. Look for **Hello Cold Red Dot World!** and the BASIC prompt.

If you reach the end of the tape before finding HELLO, check the filename in the Cassette window. Rewind before making another pass. You can close the window while the tape is in use. To stop the transport, use **Stop** in the Cassette window.

Power up with a cartridge

A program cartridge carries its own ROM. On a CoCo with a Multi-Pak, the switch selects the slot the machine starts from. In a Disk BASIC setup, the floppy controller already occupies slot 4. Replacing it with a program cartridge temporarily gives that startup slot a different job.

This optional walk-through uses **Color Scripsit II** for the CoCo. Use your own copy of the 1986 Tandy cartridge image if you have one. Otherwise, go straight to Watch the Multi-Pak change its mind below.

1. Save any guest program or media changes you want to keep. Open **Machine → Configuration Profiles...** and use **Save Current As...** to give your present disk setup a name. That name remembers your hardware settings and media locations. Save your BASIC program separately if you want to keep the contents of RAM.
2. In **Cartridge → Cartridges...**, find slot 4 of the Multi-Pak. Choose **Device → ROM Cartridge...** on its row and select the Color Scripsit II ROM file. Keep **Startup slot** at **Slot 4**. Confirm the restart if prompted. Press **Run** if paused.
3. Look for the **COLOR SCRIPSIT II** menu. Focus the CoCo screen. Press **E** to enter the editor, then **I** for insert mode. Type a few words. Press **Esc** to leave insert mode, then **Control-Esc** to return to the menu. Other cartridges have their own opening screens and keys.
4. In **Machine → Configuration Profiles...**, select the user profile you saved in step 1. Choose **Load...**, confirm **Load Profile**, and press **Run** if paused. The floppy controller is back in slot 4. A new BASIC prompt is ready for you.

The name on the slot matters. Disk BASIC was there because the selected controller supplied the disk ROM. Once you put Scripsit in that position, the same machine selected the word processor's ROM instead.

Watch the Multi-Pak change its mind

Look at the bottom of **Cartridge → Cartridges...** in the ordinary **Disk BASIC** setup. **Startup slot** is the selector that tells the machine where to begin. **Live routing** shows two choices the running software can make. **ROM** tells you which slot supplies cartridge program bytes. **I/O ports** tells you which slot answers device requests.

Try the two commands below only in the default Disk BASIC practice setup with the FD-502 in slot 4 and the other slots empty. Finish any disk operations first. At the start, the selector, ROM and I/O should all show slot 4. If they differ, load the Disk BASIC profile before trying this.

At the idle BASIC prompt, type the first command and press Return:

```
POKE &HFF7F,&H32
```

Look at **Live routing**. **ROM** still reads **Slot 4**. **I/O ports** now reads **Slot 3**. The startup selector stayed at 4. You just asked the running CoCo to send device requests to an empty slot while keeping the BASIC ROM in reach.

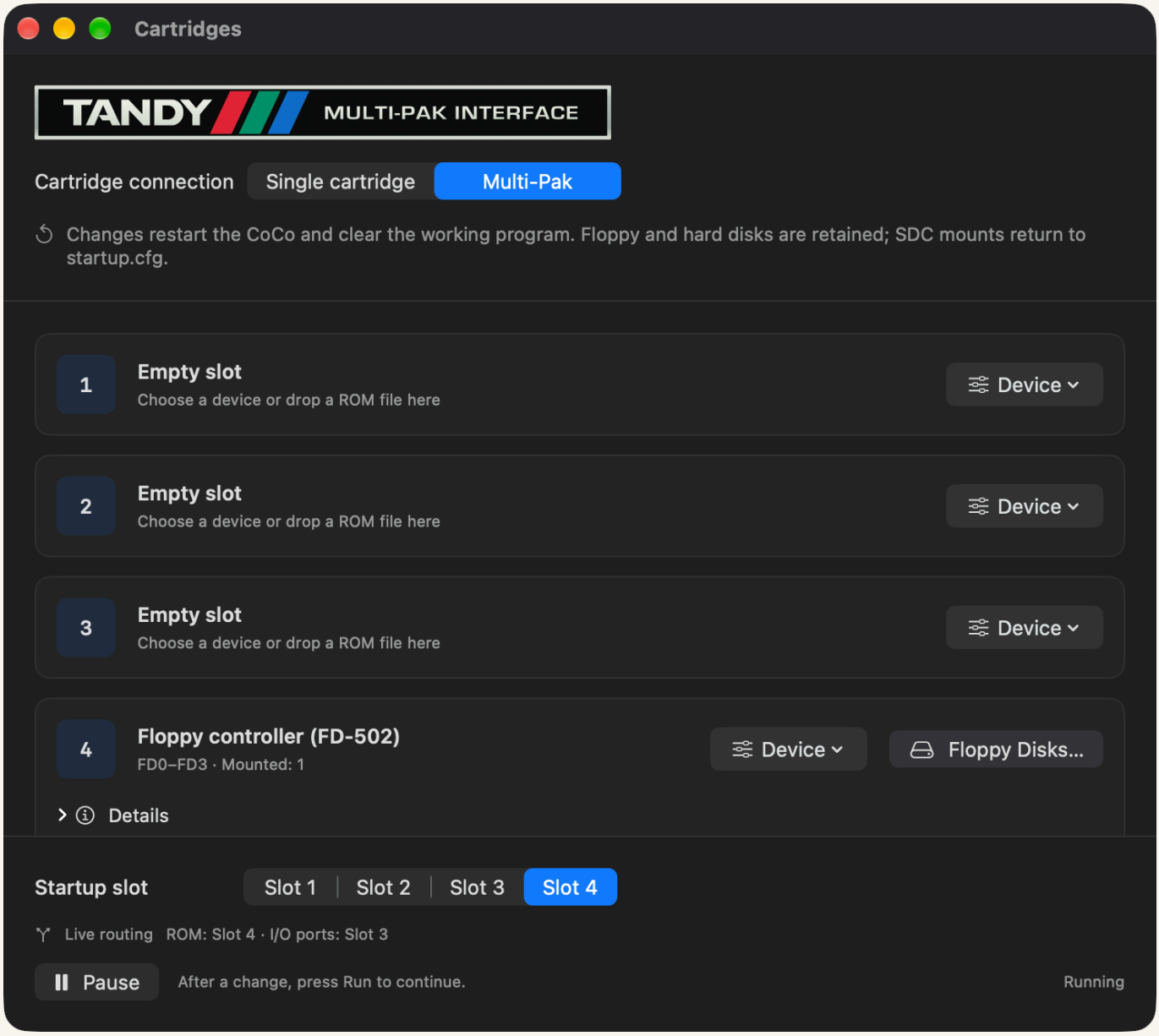


Figure 5: The startup selector highlights Slot 4. Live routing shows ROM on slot 4 and I/O ports on slot 3.

Before using any disk command, focus the CoCo again and put I/O back on the floppy controller:

```
POKE &HFF7F,&H33
```

Both live indicators should now say **Slot 4** again. The number after `POKE` changed what the Multi-Pak connected while the machine was running. You never moved its startup switch. For a closer look at the bits behind the live indicators, follow the write to a device register.

There is a second way a perfectly good drive can seem to go missing. On some setups, disk number zero belongs to a different device altogether. Which drive zero? lets you try the same directory request at three different BASIC desks.

Which drive zero?

Chapter 4 of 6

Ask Disk BASIC for a directory and the little light on FD0 flickers. Ask Hard Drive BASIC for the same directory and HD0 can answer instead. Both can show a program called HELLO. How would you tell which copy you were about to change?

Choose a setup for the software

What you remember using	Profile to open	Where to look for files
An ordinary BASIC floppy or a cassette	**Disk BASIC**	FD0 for the first floppy, or the cassette recorder for a tape
A hard disk that BASIC sees as a collection of numbered disks	**Hard Drive BASIC**	A numbered RGB-DOS volume on HD0
Disk images kept on an SD card	**CoCo SDC**	An image in the Mac folder serving as the SD card
A command shell with directories such as CMDS	**NitrOS-9 L2 V3.3.0**	The OS-9 system drive and its mounted filesystems

Pick the row that matches your disk, or try all four with starter media. Save any program you want from RAM before switching. In **Machine → Configuration Profiles…**, select the system profile, choose **Load…**, read the restart message, then choose **Load Profile**. If the machine shows **Paused**, click **Run**. A profile can bring back the same disk files, including your changes to them. Loading a profile clears the program in RAM.

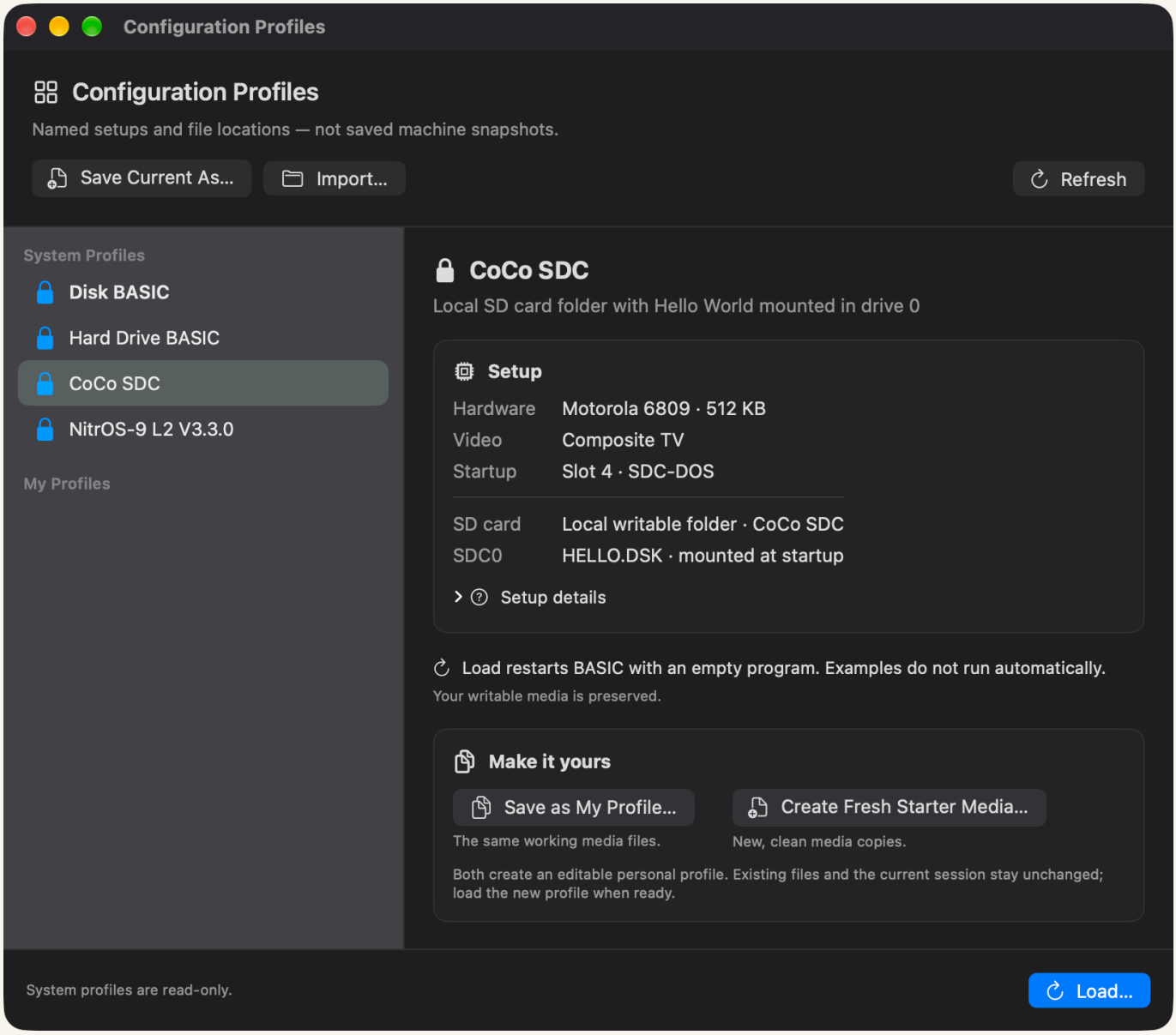


Figure 6: CoCo SDC selected among the four system profiles in Configuration Profiles. Read the description before choosing Load.

Find the floppy hiding behind the hard disk

In **Disk BASIC**, look at the Mac filename beside FD0 and then type `DIR` at the CoCo. The supplied **Hello World.dsk** contains HELLO. If you attached the chapter 2 practice disk, its directory contains PORT. A familiar filename in the CoCo listing can be reassuring, but it's the FD0 assignment that identifies the Mac file.

Now load **Hard Drive BASIC**. Keep the System view visible so you can see the drive lights. Type each command separately and watch *as you press Return*. The read can be over by the time you finish reading the directory.

Type	Watch for
`DIR 0`	HD0 answers. You have opened BASIC volume 0 on the hard disk.
`DRIVE OFF` then `DIR 0`	FD0 answers. BASIC can now see the floppy in drive 0.
`DRIVE ON` then `DIR 0`	HD0 answers again.

On fresh starter media, HELLO appears in **all three** listings. The experiment works because there are two copies of HELLO. If you keep your own files on those disks, your directory listings can look different. Before saving a program, check where you last pointed RGB-DOS.

Open an image on the SD card

Load **CoCo SDC**. Imagine a disk image lying inside an SD card's folder. Choosing that image for **SDC0** is the equivalent of putting a floppy in the first drive. The starter card's configuration already chooses **HELLO.DSK**.

1. At the BASIC prompt, enter `DIR 0`. Find HELLO.
2. Enter `LOAD "HELLO:0"`, then `RUN`. At the planet question, press **1**. You should see **Hello Nice Blue Dot World!** before BASIC returns to its prompt.
3. To select the starter image again, enter `DRIVE 0,"/HELLO.DSK"`. The slash starts the filename at the top of the SD-card folder. Type `DIR 0` to see the files inside the selected image.

Notice the two names in those commands. **HELLO.DSK** is a disk that SDC-DOS can mount. **HELLO** is the BASIC program that can run once that disk is mounted. When you add an image of your own, open the SD-card folder in Finder from the cartridge settings.

Visit the OS-9 side of the disk

Load **NitrOS-9 L2 V3.3.0** and let it boot. Wait for **Shell+** and the prompt ending in `/DD:`. You're talking to the OS-9 shell now. Try these two commands, pressing Return after each one.

```
dir /dd
dir /h1
```

The first directory includes **CMDS**, **DOCS** and **GAMES** on the system disk. The second command prints **Directory of /h1**. On a fresh setup the heading is followed by the next prompt, with room for files you might put there later.

The disk in HD1 here is the same working disk that Hard Drive BASIC uses as HD0. Its OS-9 files occupy a separate part of that disk. HELLO belongs to the BASIC side, so an empty OS-9 directory makes sense. To stay at this prompt and try something useful, find the disk behind each name, then make a personal practice setup and leave a captain's log. You can also leave this tour here. For another storage exercise, return to **Disk BASIC** through Configuration Profiles.



Figure 7: Shell+ lists folders on /dd. The next directory heading, /h1, is followed directly by the prompt on the fresh shared disk.

Same bytes, different monitor

Chapter 5 of 6

Did a game you remember in orange and blue once turn up on another screen in black and white? You can make that happen on purpose, with a program small enough to read in one glance.

Draw a picture that can fool a TV

Begin with **Disk BASIC** at `OK`. Save anything you want to keep from RAM. Open STRIPES.bas in **Develop → BASIC Development...** and choose the editor's **Run**. Confirm replacement of the current BASIC program if asked. Wait for two tall panels to finish drawing.

```
10 PMODE 4,1:PCLS 0:SCREEN 1,1
20 FOR X=24 TO 118 STEP 2
30 LINE (X,48)-(X,144),PSET
40 LINE (X+113,48)-(X+113,144),PSET
50 NEXT X
60 IF INKEY$="" THEN 60
70 SCREEN 0,0:END
```

Lines 30 and 40 both ask BASIC to draw bright vertical lines against the dark background. The loop skips a pixel between lines. There's one trick: the right panel starts **113 pixels** farther across the screen. That's an odd number. Where one pattern goes bright, dark, bright, the other starts on the opposite beat.

Line 60 waits for a key. Leave it waiting so you can change monitors with the drawing still on screen.

Try the three signals

In the main VCC Plus window, open **Settings → Video Signal** and choose **Composite TV**. The left panel looks orange and the right looks blue. On a composite connection the TV interprets picture detail and color from one signal. Fine alternating lines can produce a color that the program never asked BASIC to draw. That's *artifact color*. CoCo game artists could use it deliberately.

Choose **RGB Monitor**. The CoCo 3 can send the monitor separate red, green and blue signals. Look closely at the panels. Both show thin black and white lines. The program is still waiting at line 60.

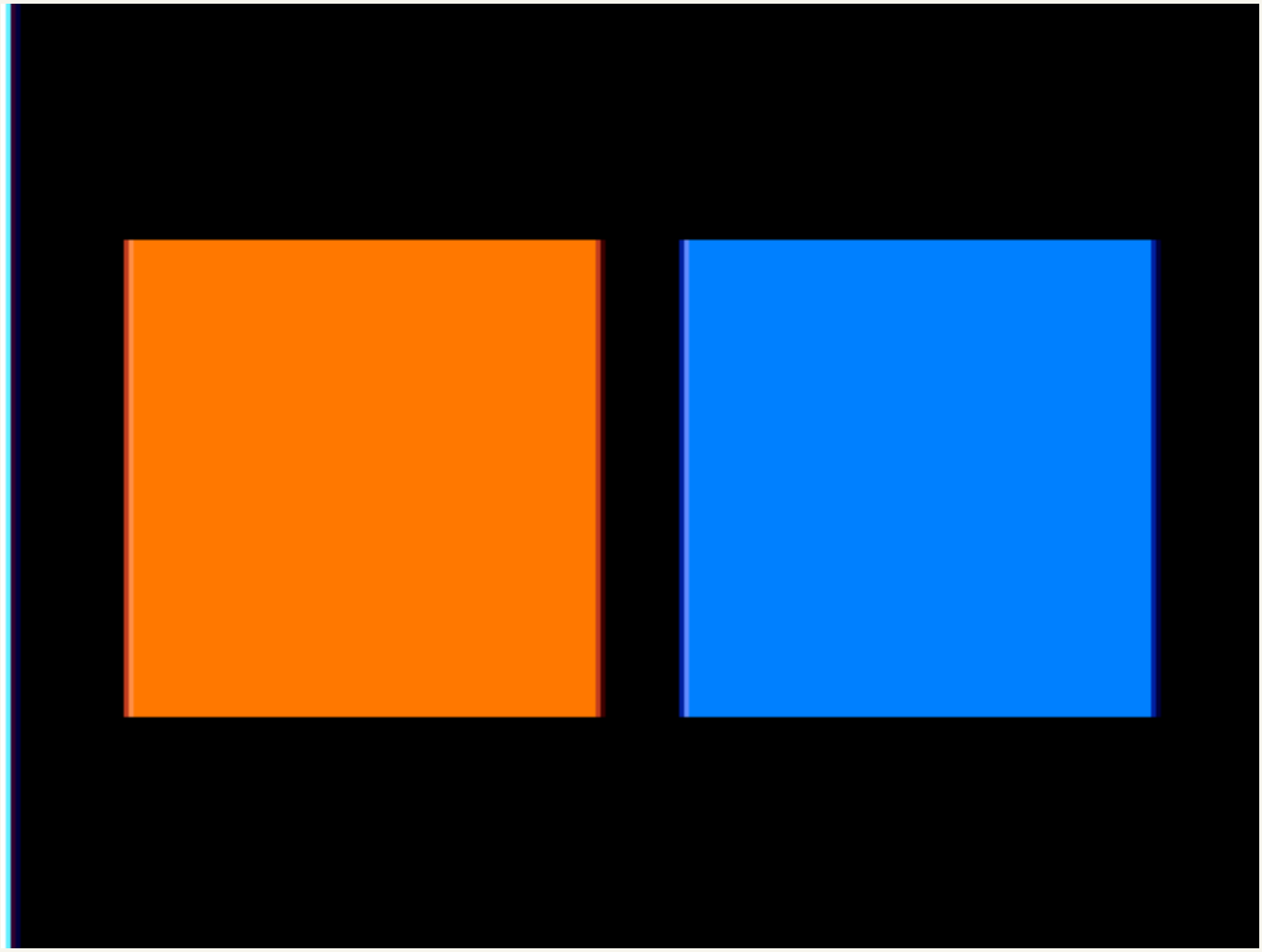


Figure 8: Composite TV. The left panel looks solid orange and the right panel looks solid blue.

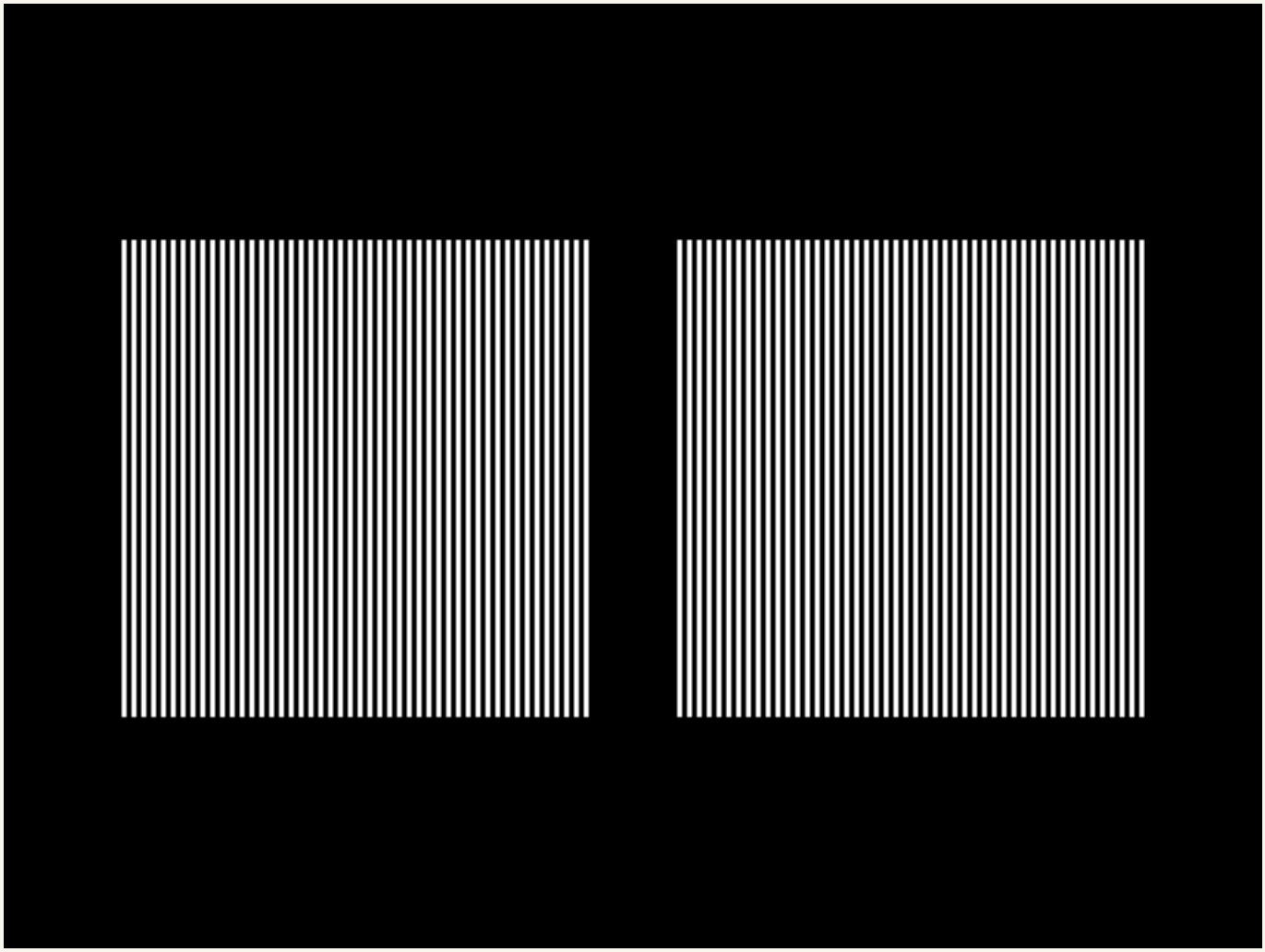


Figure 9: RGB Monitor. The same panels show alternating light and dark vertical lines from top to bottom.

Try **Composite TV – Alternate Colors**. The solid-looking panels are back, with blue on the left and orange on the right. If a favorite game's colors look reversed, this is a setting worth trying. For a CoCo 3 program designed for an RGB monitor, try **RGB Monitor** first.

Choose the signal you want to keep. Use **Input** → **Focus CoCo Display** and press **A**. The program switches back to text and returns to `OK`.

Find the joystick port a game reads

An old game can put its opening screen on the monitor and then wait for a joystick on one particular port. Here's a way to see what BASIC receives before you start the game.

1. Make sure your source is saved. Start with a fresh Disk BASIC program, or type `NEW` at `OK` to clear the practice program from RAM.
2. Enter these two numbered lines and the run command, pressing Return after each one.

```
10 PRINT@0,JOYSTK(0);JOYSTK(2)
20 GOTO 10
RUN
```

3. In **Input** → **Keyboard and Joysticks…**, find the **Right CoCo joystick** and **Left CoCo joystick** assignments. If you have a controller mapped, use that stick. To try keyboard control, note your previous

setting, choose **Keyboard** for one port, and select **Arrows + Z / X** in its options. Put focus back on the CoCo.

4. Move the stick from left to right, or hold and release the left and right arrow keys. Watch the two numbers at the upper left. The **first** follows the right CoCo port; the **second** follows the left one. With centered controls you should see about **31 31**. With only the right-hand port moving, try for **0 31** and **63 31**.

If the other number changes, you've just found the port your input actually reaches. Use the input window to match that port to the one your game expects. Press **Esc** to stop the loop. Restore any input assignment you changed for this experiment.

Visit a disk and come home

Chapter 6 of 6

Suppose a friend gives you an image of a BASIC disk. You want to try it, keep the disk safe, and get your usual floppy back afterward. Make the round trip once with Port Zero and you'll have a routine for your own collection.

Give your starting setup a name

Start in **Disk BASIC** with the ordinary starter floppy in FD0. Open **Media → Floppy Disks…** and read the filename in that first row. With the supplied starter it reads **Hello World.dsk**. Write down the name so you can recognize it on your return.

If you have a BASIC program in RAM that you want to keep, save it to your own disk or tape first. A configuration profile remembers things such as your machine settings, the cartridges in their slots, and which Mac files your drives use. Your program in RAM needs a save of its own.

Open **Machine → Configuration Profiles…**, choose **Save Current As…**, and call your profile **Home Port Setup**. Save the name. You have now recorded the setup with the starter floppy attached.

Take a protected copy for a spin

1. In Finder, duplicate your friend's image in a writable folder. For this trip you can use the Port Zero practice disk and make a duplicate just as you would for a treasured disk.
2. In **Media → Floppy Disks…**, choose **Replace…** beside FD0 and select the duplicate. Expand **Disk options** and turn on **Write protected**. Check for your duplicate's filename and the words **Write protected** on the *same drive row*. Compare it with the protected drive in chapter 2.
3. Click **Run** if the emulator shows **Paused**. Give the CoCo display keyboard focus. At `OK`, enter `DIR`. For Port Zero, look for PORT, then enter `LOAD"PORT"` and `RUN`. When asked for a call sign, type **ACE** and press Return. The CoCo welcomes you aboard.
4. On a personal disk, use its own instructions to start the program. If all you know about that disk so far is its directory, you've still learned something useful. You can come home with the original safe and the names of its files in hand.

Return to your starter floppy

Open **Machine → Configuration Profiles…**, select **Home Port Setup**, and choose **Load…**. Read the confirmation and choose **Load Profile**. If VCC Plus asks you to resolve changes to a temporary disk or an unsaved recording, keep the data you want before switching. Leave a discard action for data you're ready to lose.

Check **Media → Floppy Disks…** again. The filename you wrote down should be back, with **Saves automatically** under it. Loading the profile restored the drive assignment and its settings.

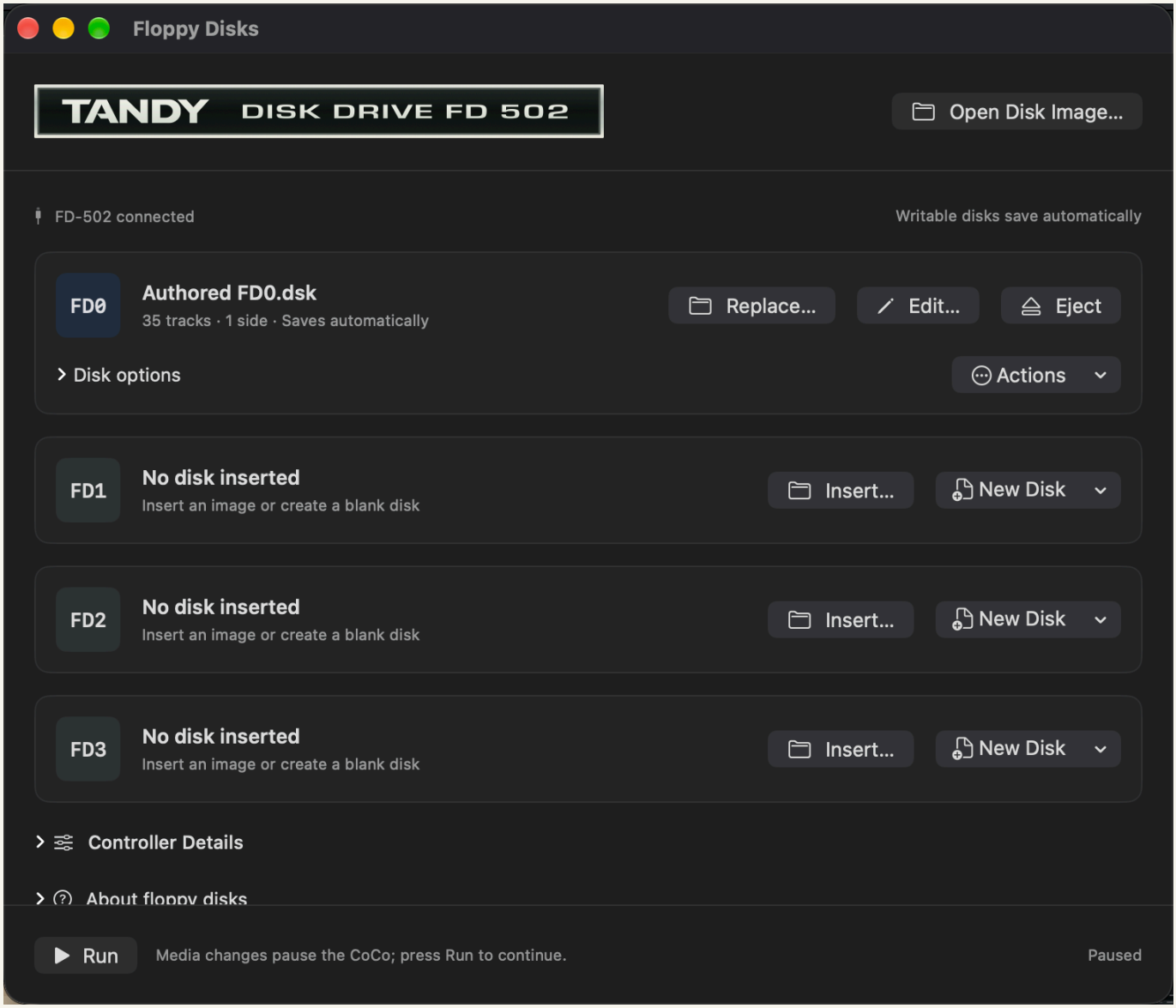


Figure 10: The current FD0 row shows a representative authored disk with Saves automatically. In your restored Home Port Setup, look for Hello World.dsk and open Disk options to confirm Write protected is off.

Click **Run** to resume the restored setup. Type `DIR` at the fresh BASIC prompt. On the starter floppy you'll find HELLO again. You brought your equipment and disks home. To bring back a BASIC program, load the copy you saved.

Come home after a Software Library visit

If the **Software Library** set up the machine for a title you launched, reopen **Media → Software Library...**. Look near the window title for the curved back arrow, **Return to Previous Setup...**. Read the confirmation and choose **Restore Setup** when you're ready to leave the title.

That arrow belongs to a Library visit. For a disk you inserted yourself, **Machine → Configuration Profiles...** holds the named setup you saved. Both routes restore equipment and file assignments. A game score or the place where a running program paused survives a restart only if the program saved it somewhere you can load again.

Beside the keyboard

Appendix A

Keep this page open next to the emulator if you're trying a personal disk for the first time. The practice files also work offline. Save a copy in a Finder folder you can return to.

Pick up the practice files

File	Open it here	What you can do
Port Zero.dsk	**Media → Floppy Disks...**, in FD0	A whole BASIC floppy with PORT already on it. Follow the protected-disk exercise.
PORT.bas	**Develop → BASIC Development... → Open...**	The same program, in five editable lines. It asks for your call sign on a 40-column screen.
STRIPES.bas	**Develop → BASIC Development... → Open...**	Run the program and leave it waiting while you change video signals.

In the app, select the disk link and choose where to save a working copy. Select either BASIC link to open an editable example in BASIC Development. Some browsers open a BASIC listing as plain text. To use the offline original, choose **Open...** in BASIC Development and select the named file in the **examples** folder beside this book. Make a copy before changing it. Port Zero needs the floppy controller and Disk BASIC. The two listings run from the editor at a BASIC prompt. Open the *disk image* when you want the drive to take part.

When an old habit gets a surprising result

What you see	What to check
Typing moves a Mac control.	Click the CoCo display or use **Input → Focus CoCo Display**. If the toolbar says **Run**, resume the machine first.
You clicked Run but BASIC is still at OK.	The Mac toolbar resumed the machine. To start a BASIC program already in RAM, type `RUN` at the prompt.
You can read PORT, but trying to save LOG gives `?WP ERROR`.	On the protected practice disk that's the expected result. Run PORT again from RAM. To keep a change, use your own writable copy.
You recognize the filename HELLO but suspect you're reading the wrong disk.	Check your profile. In Hard Drive BASIC, compare the hard disk and floppy. Both can have a HELLO at drive zero.
You came back to the right disk but your program is gone from the screen.	A profile reopens its media and starts a fresh machine. Load the copy you previously saved on that disk. See Come home.
You expected blue and orange but see two sets of stripes.	Keep STRIPES running and choose **Composite TV** under **Video Signal**. Compare the two actual pictures.

Before you put a treasured disk away

Look at the drive's Mac filename, the write mode beneath it, and any message about pending changes. **Write protected** prevents guest writes. **Saves automatically** writes changes to that Mac image. **Temporary changes** holds writes in memory. If you want to keep temporary edits, choose **Actions → Save As...** and give the copy its own name before ejecting or switching setups.

Try it on disposable media in Prove which copy changed.

For another turn at the desk, keep both pieces: the file containing your program and a note or profile telling you how you ran it. The book's final exercise walks through saving your setup and returning to it.

Behind the desk

Appendix B

When you change the Multi-Pak's routing in chapter 3, you can watch the two slot numbers change on the Mac. On the original hardware you could see the switch but had to work out where the signals went. These guides put the hardware side of the experiment within reach.

Historical reading

- Tandy Corporation. *Introducing Your Color Computer 3*. 1986. The opening hardware tour introduces the keyboard computer, its connections, and the displays an owner might use.
- Tandy Corporation. *TRS-80 Multi-Pak Interface Owner's Manual*. 1983. Read the equipment setup and slot-selector instructions alongside the slot experiment.
- Tandy Corporation. *Tandy Color Computer 3 BASIC Quick Reference Guide*. 1986. Commands, pp. 2–17, and functions, pp. 18–22. A pocket companion for reading the listings and identifying BASIC statements and functions.
- *Color Computer Disk BASIC Quick Reference Guide*. InterTAN Canada Ltd., 1987. Disk commands, pp. 3–8, and errors, p. 9. Useful beside Port Zero.
- Lindner, Tim, producer. *CoCo SDC*. Fourth version, February 2023. Hardware and software by Darren Atkinson. The hardware overview and command summary give the physical-card background for the profile chooser.
- CoCopedia contributors. "Color Computer 3." *CoCopedia*, revision 11134. A community history of the machine, its graphics and its place in the Color Computer family.

The Color Computer Archive preserves historical documentation that informed this book. The lessons and programs here were written for VCC Plus.

How we made the pictures

The FD-502 on the cover uses the original VCC Plus hardware illustration. The Mac windows were captured in VCC Plus. The two stripe panels came from one running program, after changing the video signal and leaving its drawing alone. Artwork credits.

Pick your next project

If you once saved a BASIC program but never stepped through one, Catch the computer in the act walks through stopping a program and watching a variable change. If someone at your desk has never used a CoCo, Meet Your Color Computer gives you a project to do together.

For a longer voyage, write a log that survives a restart. For a command while you work, open **Develop → BASIC Quick Reference**. For another disk of your own, keep the field guide beside the emulator.

Publication and artwork notices

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The CoCo 3 and CM-8 monitor presentation in VCC Plus's skeuomorphic System view was inspired by SockMaster's "pic of CoCo 3 and CM-8 monitor," published on CoCopedia. VCC Plus's artwork was designed and rendered independently. The remaining hardware illustrations were independently designed using historical photographs and renderings as references.

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