

Omninet Network Station Installation Guide

DEC Rainbow 100



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Omninet Network Station Installation Guide

DEC Rainbow 100

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Rainbow™ is a trademark of Digital Equipment Corp.

FCC WARNING

This equipment has been tested with a Class A computing device and has been found to comply with Part 15 of FCC Rules. Operation in a residential area may cause unacceptable interference to radio and TV reception requiring the operator to take whatever steps are necessary to correct the interference.

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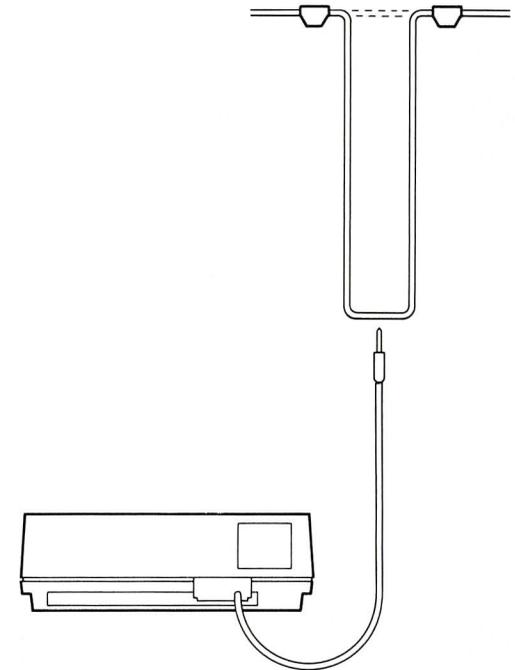
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9. Repeat the splicing procedure.

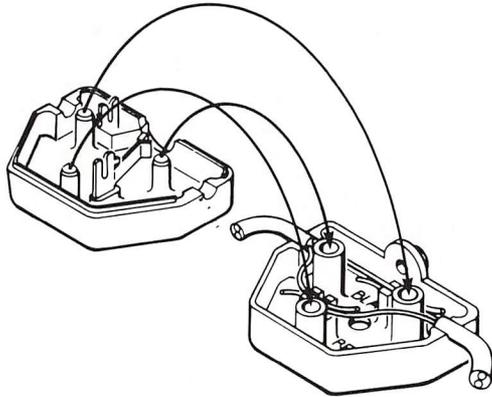
Use a second tap box and follow steps 5 through 8 for the remaining free ends of the OMNINET cable and cable piece. When you are done you will have created a large loop in the OMNINET cable.



A Loop in the OMNINET Cable

10. Go to step 2 of Chapter 1.

8. Close the tap box.



Closing the Tap Box

Getting Started

This guide tells you how to add your DEC Rainbow 100 computer to a Corvus OMNINET network. Before beginning this guide, you should complete the Disk Server Installation Guide which tells you how to set up your OMNINET network and attach your disk system and disk server to the network.

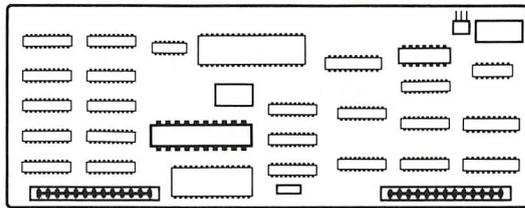
How This Guide is Organized

This guide is divided into two chapters. Chapter 1 tells you how to tap into your network and Chapter 2 tells you how to connect your Rainbow computer to this tap. Appendix A tells you what to do if you want to place your computer farther than 15 feet from your OMNINET cable.

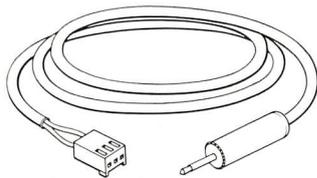
Hardware Required

You will need the following items to set up your Rainbow as an OMNINET network station:

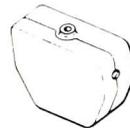
- Corvus transporter card for the Rainbow 100
- Tap cable
- Tap box



Rainbow 100 Transporter Card



Rainbow Tap Cable



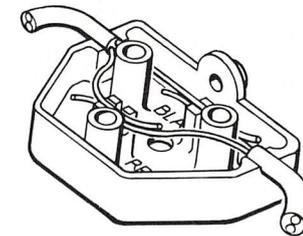
Rainbow Tap Box

If your computer is farther than 15 feet (4.5 m) from the OMNINET cable, you will also need:

- Two tap boxes
- New piece of OMNINET cable twice as long as the distance from the existing OMNINET cable to your computer

7. Connect a cut end of the OMNINET cable to the tap box.

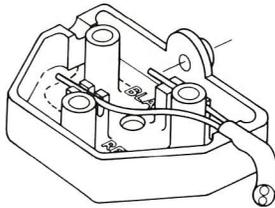
Push the black and red wires from one of the cut ends of the OMNINET cable into the BLACK and RED wire guides on top of the wires from the cable piece. Make sure that both red wires are together in the RED wire guide and both black wires are together in the BLACK wire guide.



Connecting the OMNINET Cable End to the Tap Box

6. Connect one end of the new piece of cable to the tap box.

In one half of the tap box are two wire guides. Push the black wire at one end of the piece of cable into the BLACK wire guide. Push the red wire into the RED wire guide.



Connecting New Cable to the Tap Box

Chapter 1: Installing a Network Tap

It is very easy to turn your Rainbow 100 computer into an OMNINET network station. The first step is to tap into the network. This chapter tells you how to make a tap.

1. Measure the distance from your computer to the OMNINET cable.

If your computer is farther than 15 feet (4.5 m) from the OMNINET cable, you must extend the OMNINET cable to your computer. Go to Appendix A, "Extending Your OMNINET Cable."

If your computer is within 15 feet of the OMNINET cable, go to step 2.

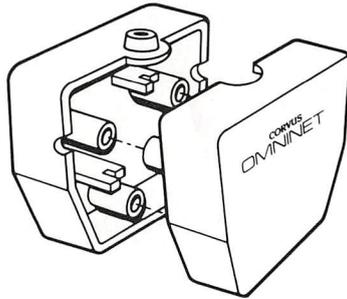
2. Remove insulation from the OMNINET cable.

Find the point on the OMNINET cable which is closest to your computer. Use a knife to cut through the outer insulation of the cable. Remove about 2 inches (5 cm) of this insulation, but do not cut the inner wires or remove their insulation.



OMNINET Cable without Insulation

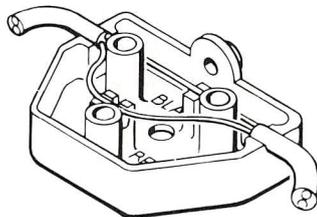
3. Open a tap box.



Open Tap Box

4. Insert the cable wires into the tap box.

In one half of the tap box are two wire guides. Push the black wire from the OMNINET cable into the BLACK wire guide and the red wire into the RED wire guide.



Wires Inserted in Tap Box

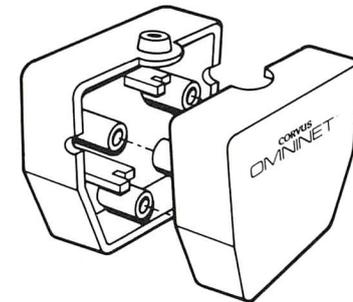
4. Remove the insulation from the cut ends of the OMNINET cable.

Cut off 1.5 inches (4 cm) of outer insulation from each cut end of the OMNINET cable. Don't take the insulation off the inner wires.



OMNINET Cable with Insulation Removed

5. Open a tap box.



Opening a Tap Box

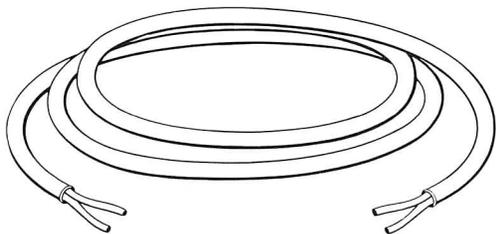
2. Measure and cut a piece of twisted-pair cable.

Measure the distance from your computer to the point where you just cut the OMNINET cable. Double this distance and cut a piece of cable of this length from a roll of cable like the OMNINET cable. This piece of cable will become an extension of the OMNINET cable.

The length of the piece of cable plus the length of the OMNINET cable must not be more than 1000 feet (305 m). If you need to make this length greater than 1000 feet, you will need an Active Junction Box, available from your Corvus dealer.

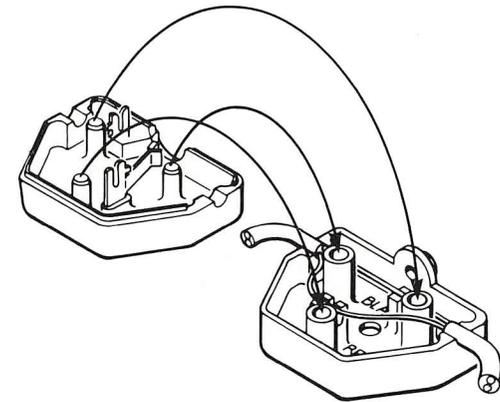
3. Remove insulation from both ends of the new piece of cable.

Cut off 1.5 inches (4 cm) of outer insulation from the ends of the piece of cable that you made in step 2. Don't take the insulation off the inner wires.



*Insulation Removed
from New Piece of Cable*

5. Close the tap box.



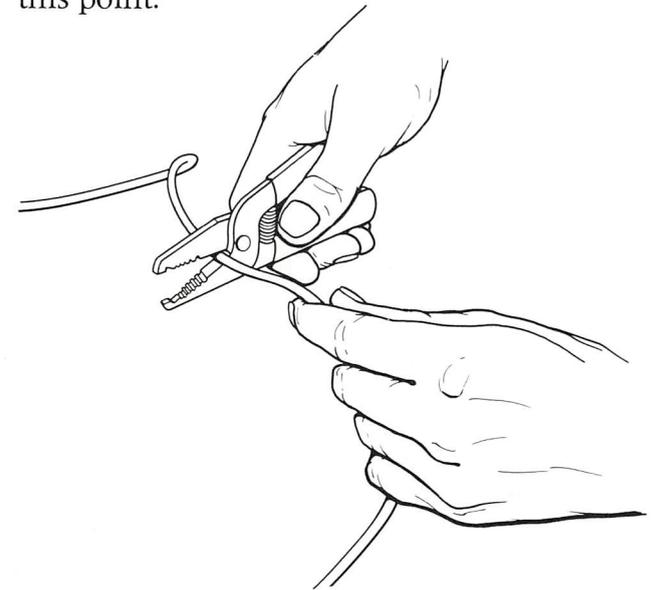
Closing the Tap Box

Appendix A: Extending Your OMNINET Cable

This appendix tells you how to extend your OMNINET cable. Follow these steps only if your computer is farther than 15 feet (4.5 m) from the cable.

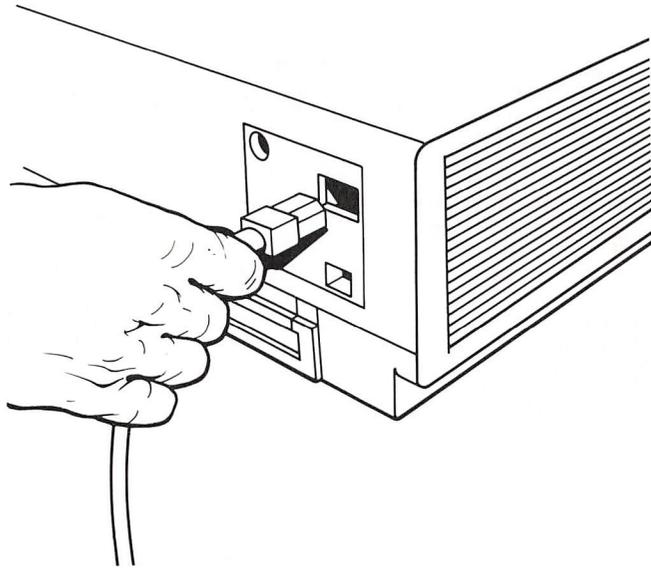
1. Cut the OMNINET cable.

Find the point on the OMNINET cable which is closest to your computer. Cut the cable at this point.



Cutting the OMNINET Cable

19. Plug the power cord back in.



Plugging in the Rainbow 100 Power Cord

You now have finished setting up your Rainbow computer as an OMNINET network station.

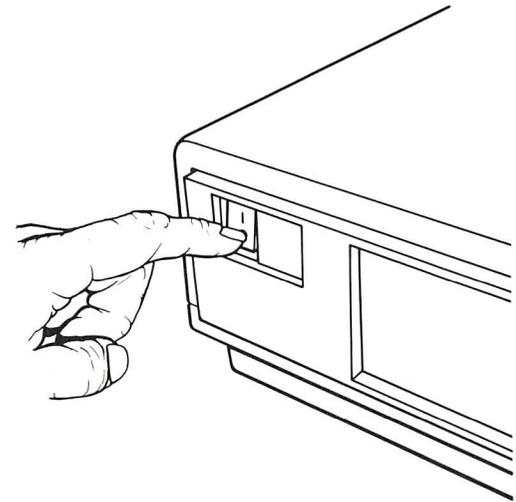
Where to go from here:

- If you have not yet initialized your Corvus disk system, go to the Disk Initialization Guide for the Rainbow 100.
- If you already have a working OMNINET network, go to the System Manager's Guide for the Rainbow 100.

Chapter 2: Connecting Your Computer to the Network

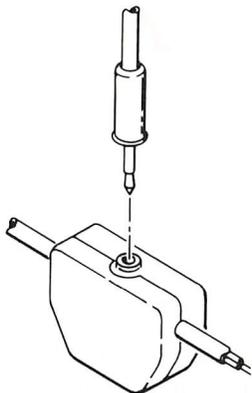
Once you have created a network tap for your computer, the next step is to install the Corvus transporter card into your computer and to connect a tap cable to the transporter card and tap box. When you have completed these steps, your computer will be set up as an OMNINET network station.

1. Turn off your computer.



Turning Off the Rainbow 100

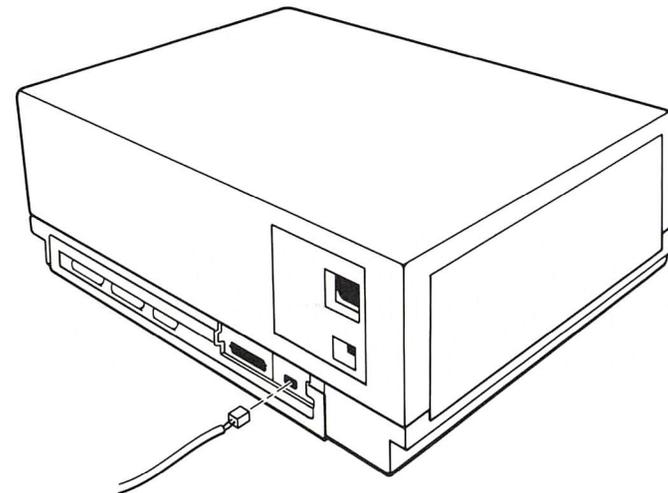
2. Plug a tap cable into the tap box for your computer.



Plugging a Tap Cable into the Tap Box

18. Connect the tap cable to the transporter card.

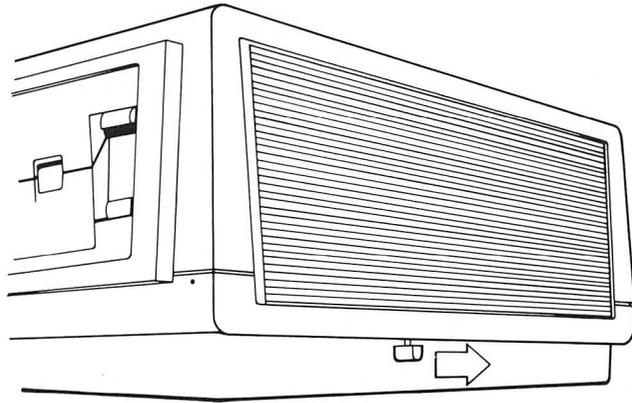
Plug the free end of the tap cable into the three-prong connector on the transporter card. You should see the connector through the small opening in the Rainbow where the plastic door was.



Connecting the Tap Cable to the Transporter Card

17. Latch down the cover.

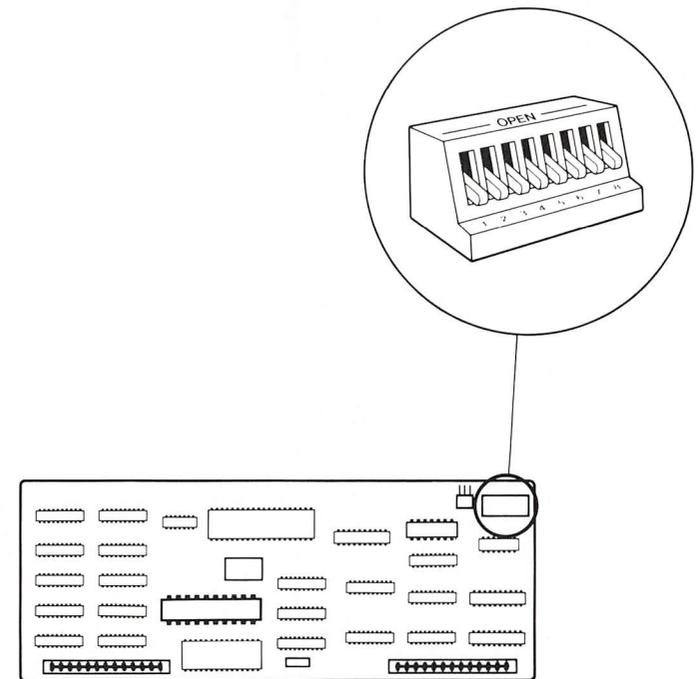
Release the latches on the sides of the computer. Push them back as far as they will go.



*Latching Down the Cover
of the Rainbow 100*

3. Set the device address for your computer.

Hold the Corvus transporter card with the metal "fingers" down. At the top left of the card is a switch unit.



*Rainbow 100 Transporter Card
and Switch Unit*

Choose an address from 0 to 63 for your computer. The address you choose must be different from the addresses of all other devices on your network. Set your address on the switches.

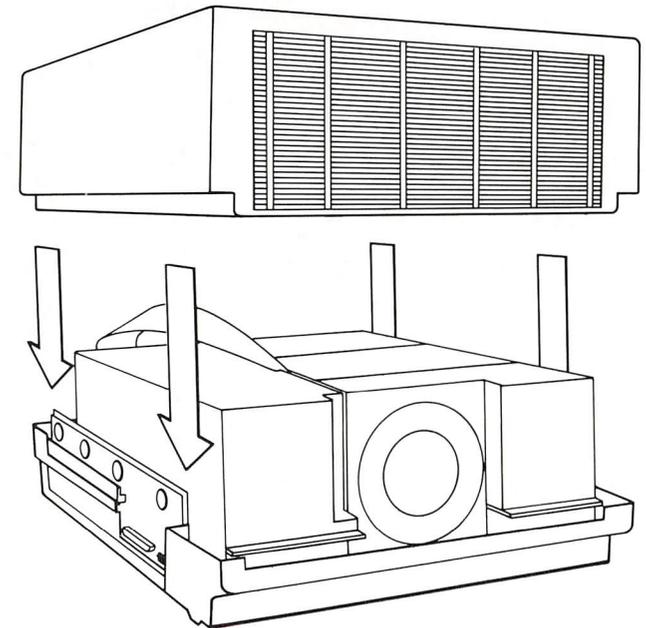
The table below shows you the switch settings for each address. Set switches 7 and 8 to the OFF position.

Address	Switch Setting						Address	Switch Setting					
	1	2	3	4	5	6		1	2	3	4	5	6
0	↑	↑	↑	↑	↑	↑	32	↑	↑	↑	↑	↑	—
1	—	↑	↑	↑	↑	↑	33	—	↑	↑	↑	↑	—
2	↑	—	↑	↑	↑	↑	34	↑	—	↑	↑	↑	—
3	—	—	↑	↑	↑	↑	35	—	—	↑	↑	↑	—
4	↑	↑	—	↑	↑	↑	36	↑	↑	—	↑	↑	—
5	—	↑	—	↑	↑	↑	37	—	↑	—	↑	↑	—
6	↑	—	—	↑	↑	↑	38	↑	—	—	↑	↑	—
7	—	—	—	↑	↑	↑	39	—	—	—	↑	↑	—
8	↑	↑	↑	—	↑	↑	40	↑	↑	↑	—	↑	—
9	—	↑	↑	—	↑	↑	41	—	↑	↑	—	↑	—
10	↑	—	↑	—	↑	↑	42	↑	—	↑	—	↑	—
11	—	—	↑	—	↑	↑	43	—	—	↑	—	↑	—
12	↑	↑	—	—	↑	↑	44	↑	↑	—	—	↑	—
13	—	↑	—	—	↑	↑	45	—	↑	—	—	↑	—
14	↑	—	—	—	↑	↑	46	↑	—	—	—	↑	—
15	—	—	—	—	↑	↑	47	—	—	—	—	↑	—
16	↑	↑	↑	↑	—	↑	48	↑	↑	↑	↑	—	—
17	—	↑	↑	↑	—	↑	49	—	↑	↑	↑	—	—
18	↑	—	↑	↑	—	↑	50	↑	—	↑	↑	—	—
19	—	—	↑	↑	—	↑	51	—	—	↑	↑	—	—
20	↑	↑	—	—	↑	↑	52	↑	↑	—	↑	—	—
21	—	↑	—	↑	—	↑	53	—	↑	—	↑	—	—
22	↑	—	—	↑	—	↑	54	↑	—	—	↑	—	—
23	—	—	—	↑	—	↑	55	—	—	—	↑	—	—
24	↑	↑	↑	—	—	↑	56	↑	↑	↑	—	—	—
25	—	↑	↑	—	—	↑	57	—	↑	↑	—	—	—
26	↑	—	↑	—	—	↑	58	↑	—	↑	—	—	—
27	—	—	↑	—	—	↑	59	—	—	↑	—	—	—
28	↑	↑	—	—	—	↑	60	↑	↑	—	—	—	—
29	—	↑	—	—	—	↑	61	—	↑	—	—	—	—
30	↑	—	—	—	—	↑	62	↑	—	—	—	—	—
31	—	—	—	—	—	↑	63	—	—	—	—	—	—
Address	1	2	3	4	5	6	Address	1	2	3	4	5	6
	Switch Setting							Switch Setting					

↑ = on
— = off

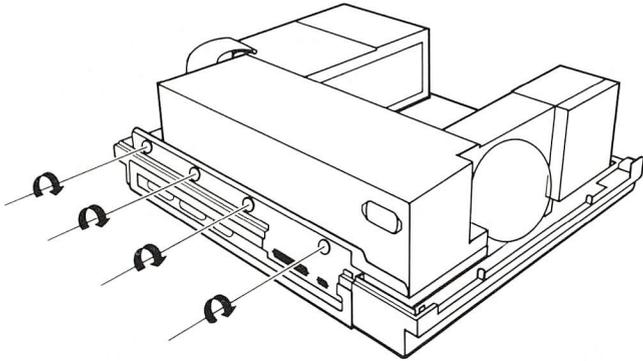
Network Device Addresses and Switch Settings

16. Put the cover back on the computer.



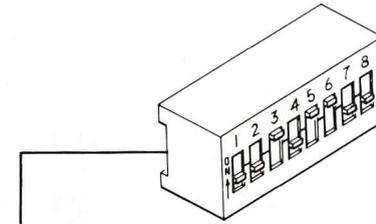
Replacing the Cover of the Rainbow 100

15. Tighten the four black plastic screws



Tightening the Screws on the Rainbow 100

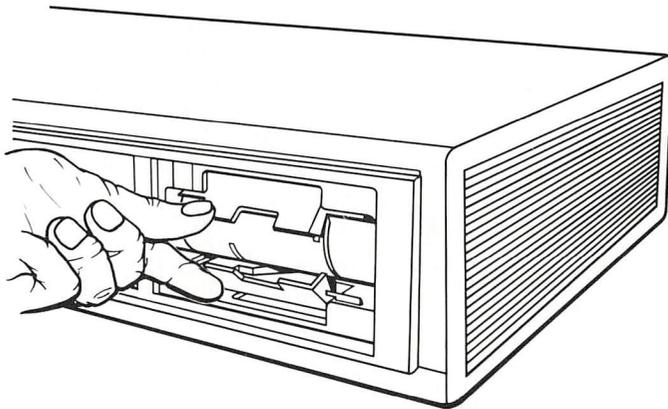
The sketch below shows a sample switch setting. This is just an example. You must choose your own address.



Address	Switch Setting						Address	Switch Setting					
	1	2	3	4	5	6		1	2	3	4	5	6
0	↑	↑	↑	↑	↑	↑	32	↑	↑	↑	↑	↑	—
1	—	↑	↑	↑	↑	↑	33	—	↑	↑	↑	↑	—
2	↑	—	↑	↑	↑	↑	34	↑	—	↑	↑	↑	—
3	—	—	↑	↑	↑	↑	35	—	—	↑	↑	↑	—
4	↑	↑	—	↑	↑	↑	36	↑	↑	—	↑	↑	—
5	—	↑	—	↑	↑	↑	37	—	↑	—	↑	↑	—
6	↑	—	—	↑	↑	↑	38	↑	—	—	↑	↑	—
7	—	—	—	↑	↑	↑	39	—	—	—	↑	↑	—
8	↑	↑	↑	—	↑	↑	40	↑	↑	↑	—	↑	—
9	—	↑	↑	—	↑	↑	41	—	↑	↑	—	↑	—
10	↑	—	↑	—	↑	↑	42	↑	—	↑	—	↑	—
11	—	—	↑	—	↑	↑	43	—	—	↑	—	↑	—
12	↑	↑	—	—	↑	↑	44	↑	↑	—	—	↑	—
13	—	↑	—	—	↑	↑							
14	↑	—	—	—	—	—							
15	—	—	—	—	—	—							
16													

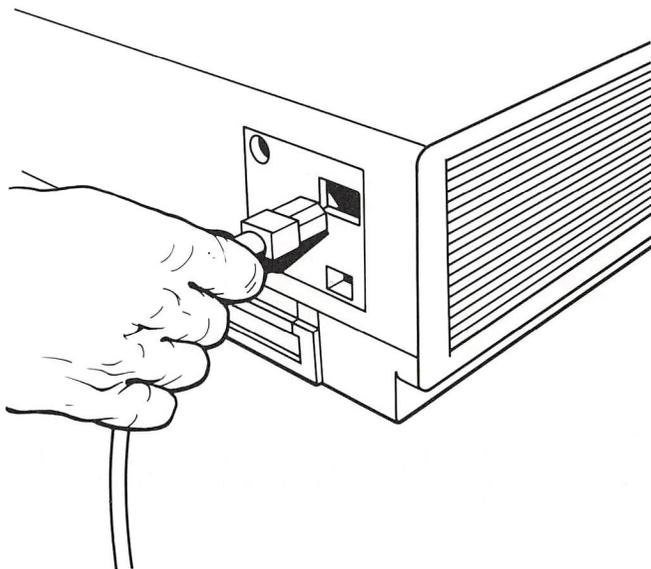
Sample Switch Setting

4. Close the Rainbow diskette drives.



*Closing the Diskette Drive Doors
on the Rainbow 100*

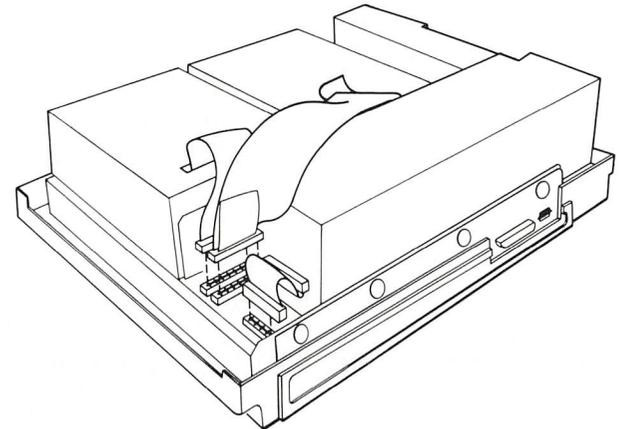
5. Unplug the power cord from the Rainbow.



Unplugging the Rainbow 100 Power Cord

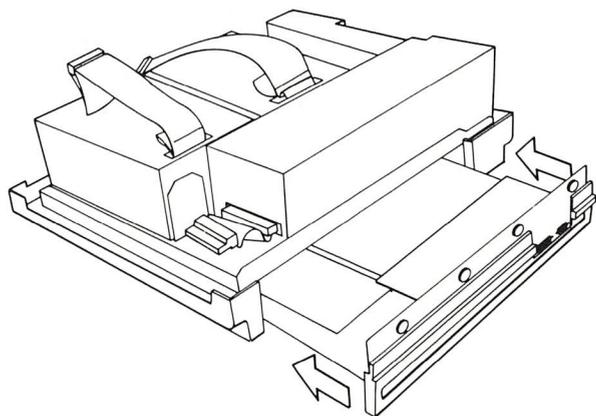
14. Reconnect the flat cables.

Plug the flat cables that you unplugged in step 9 into their sockets. Be careful to connect the right cable to the right socket.



Reconnecting the Flat Cables

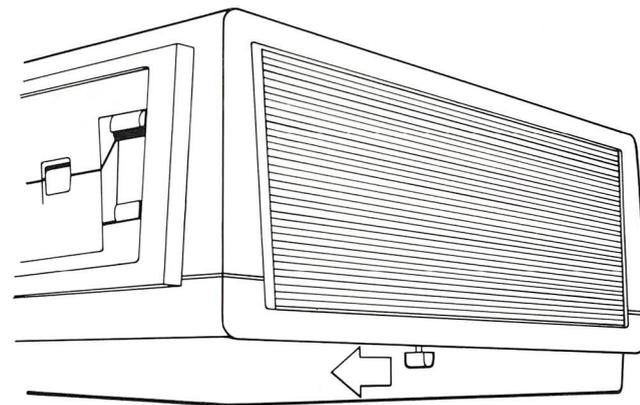
13. Slide the Rainbow drawer closed.



Closing the Rainbow 100 Drawer

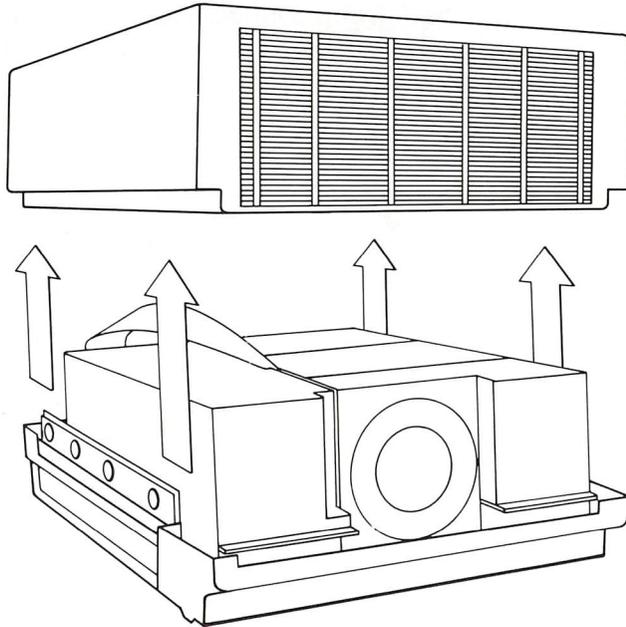
6. Unlatch the cover of the Rainbow.

Pull the latches on the sides of the Rainbow forward until they lock in place.



Unlatching the Cover of the Rainbow 100

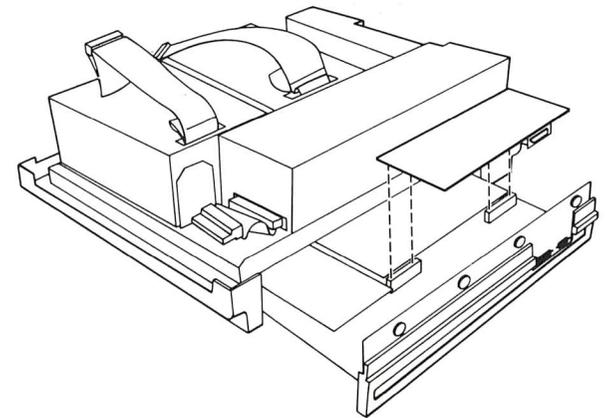
7. Lift the cover off the computer.



*Removing the Cover
from the Rainbow 100*

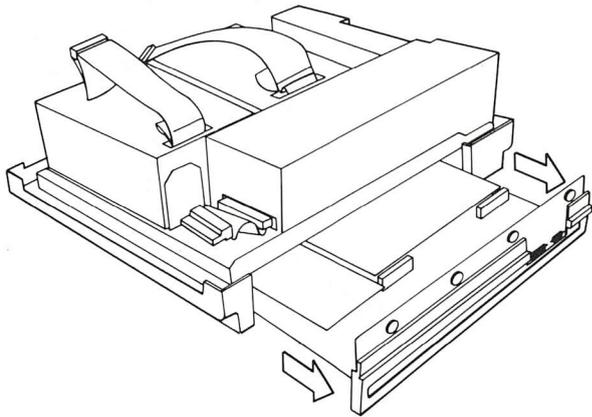
12. Put the transporter card into the Rainbow.

Line up the 40-pin connectors on the bottom of the transporter card with the sockets on the Rainbow main circuit board. Line up the stand-offs, small plastic supports, with the holes in the corners of the transporter card. Press the card into place.



*Putting in the Rainbow 100
Transporter Card*

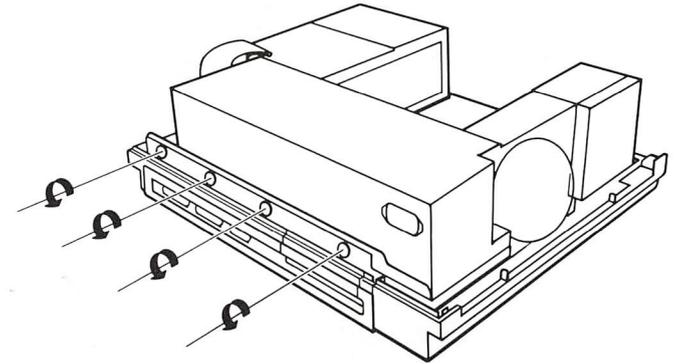
- 11.** Slide out
the Rainbow drawer.



Opening the Rainbow 100 Drawer

- 8.** Loosen the screws on the back
of the computer.

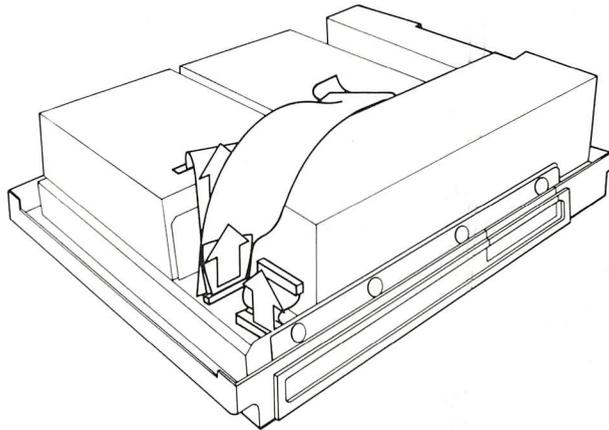
On the back of the Rainbow are four black plastic screws. Completely loosen all four screws.



*Loosening the Screws
on the Rainbow 100*

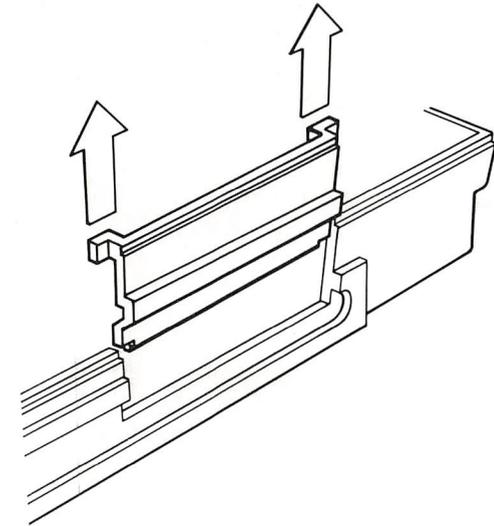
9. Unplug the flat cables from the circuit board.

Inside the Rainbow, on the left as you face the back of the computer, are several flat cables. Unplug these cables. Remember which cable goes where.



Unplugging the Flat Cables

10. Pull out the plastic door in the back of the Rainbow.



Pulling Out the Plastic Door