

RETRO ROOM POWER

VOLUME 286
U.S. \$3.50 Canada \$4.50

ANALOG

PROGRAM YOUR WAY
THROUGH A NEW
ADVENTURE!



► Features

Game Boy—Big2Small
NES Classic—Airball
GBA—Nebulus



THE SOURCE FOR NEWS AND STRATEGIES STRAIGHT FROM THE PROS

ANALOG



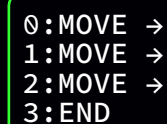
Meanwhile, games like *SpaceChem* (2011) and *Shenzhen I/O* (2016) from Zachtronics LLC birthed the genre of “Zach-Like” puzzle games, which provide open-ended systems for building and programming custom machines to solve each puzzle. Some higher-profile games have included similar elements, such as redstone in *Minecraft* and the Zonai devices in *Zelda: Tears of the Kingdom*, but Zach-Like games distinguish themselves by making solving puzzles via open-ended programming central to the game.

DID YOU KNOW?

PSST! KEEP THIS A SECRET!

DOWN LEFT UP RIGHT LEFT RIGHT

```
0:MOVE ↑
1:END
```



```
0: MOVE ←
1: ACT
2: END
```

THE WORLD OF ANNALOG



DID YOU KNOW?

Bartik Town, the starting town in *Annalog*, was named after Jean Jennings Bartik, one of the original six programmers of the ENIAC. Completed in 1945, ENIAC was the world's first general-purpose programmable electronic digital computer. It required the floor space of a medium-sized house and the power consumption of a small town, and still it was vastly less capable than the NES, which in turn is vastly less capable than even a low-end smartwatch or fitness tracker today. And yet, virtually all software today, including *Annalog*, still relies on many of the same fundamental programming building blocks (such as subroutines and indirect addressing) that Bartik and her colleagues pioneered on the ENIAC over 80 years ago.

Map Key:

- Upgrade
- Boss
- 🌸 Flower
- 📖 Journal Entry
- 📖 Field Manual

Areas:

- 🟢 Bartik Town
- 🟤 Prison Caves
- 🟪 Power Core
- 🟫 Ancient City
- 🟩 Lost Temple
- 🟨 Vine Garden
- 🟠 Rust Factory
- 🟦 Old Waterway
- 🟡 Hidden Crypt
- 🟢 Mermaid Vale
- 🟩 Salt Mines
- 🟨 Shadow Labs
- 🟠 Volcanic Pit



POWER UP YOUR PROGRAMS

At first you can't do much with the machines you find—just make them move back and forth—but new commands are littered throughout the game world. Find these upgrades to unlock new capabilities, and soon you'll have those machines dancing to your tune!



1 2 3 4
RAM

Expands the total number of instructions you can put into each machine's program. There are four RAM upgrades to find.



5
COPY

Directly sets the value of certain machine registers; this can rotate valves or flip levers.



6
ADD/SUB

Sets a register to the sum or to the difference of two other values. Try setting a register to 1 plus itself as part of a program loop.



7
MUL

Sets a register to the product of two other values. Can you find a clever use for this?



8
IF

Executes the next instruction if the condition is met, otherwise skips it. Use this to make your program react to nearby levers that you can control!



9
TIL

Repeats the previous instruction unTIL its condition is met. Writing MOVE → TIL X=8 is much shorter than eight MOVE instructions!



10
GOTO

Jumps to another instruction. For example, IF L≠1 GOTO 6 would skip over a bunch of instructions unless the Lever is set to 1.



11
SKIP

Skips over the specified number of instructions. This is similar to GOTO, except that the number of instructions to skip can also be a register whose value can change.



12
SYNC

Pauses the machine until all other machines in the room are at a SYNC instruction. This can help machines work together by waiting for each other to line up before continuing.



13
REST

Pauses the machine for a short time. This is very handy when programming moving platforms, to give yourself time to jump on or off.



14
BEEP

Plays a "beep!" sound. You can even change the pitch to make your machines play music.



15
B-Remote

A remote control that lets you control every machine's B register using the B button on your NES controller. The orcs are after it, so you'd better find it first!



CHAPTER 3: THROUGH THE GARDENS

FROM THE
PRISON
CAVES

After falling down here from the Prison Caves, head to the right to pick up your first upgrade: the IF opcode.



This grub will block your path through here. Program the machine to crush it when you pull the lever. Notice how not using an END opcode allows the program to keep looping forever, checking the IF condition over and over until it triggers.



Once you meet the mermaid Corra, she will give you directions to reach the mermaid village below.

You'll have to use the cannon to break the wall blocking your way into the tower. This cannon and its levers can serve as a practice area for the boss inside; you can use the same program in both places.

```
0:IF L>Y 4:IF R=1
1:MOVE ↑ 5:ACT
2:IF L<Y
3:MOVE ↓
```

```
0:IF L=1
1:MOVE ↓
2:IF Y=0
3:MOVE ↑
```

Using the program here, jump onto the bridge when it lowers, then use the lever to raise it so you can reach the upper platform.

```
0:IF L>Y
1:MOVE ↑
2:IF L<Y
3:MOVE ↓
```

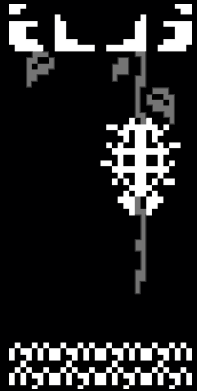
```
0:IF L=1
1:MOVE ↓
```

This machine will probably error after you lower the bridge. That's OK. You can always reset the machine by using its console.



This passage will be blocked off until you've visited the mermaid village and received the quest to clear the garden tower. Once you have, you can climb up the shaft behind here to reach the top of the tower.

TO THE MERMAID VILLAGE

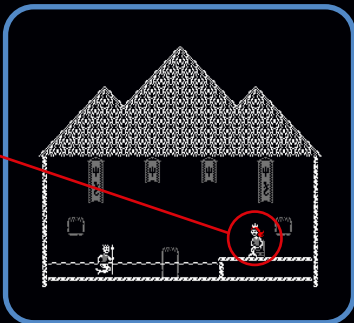


```
0:IF Y=0
1:MOVE ↑
2:IF L=1
3:ACT
```

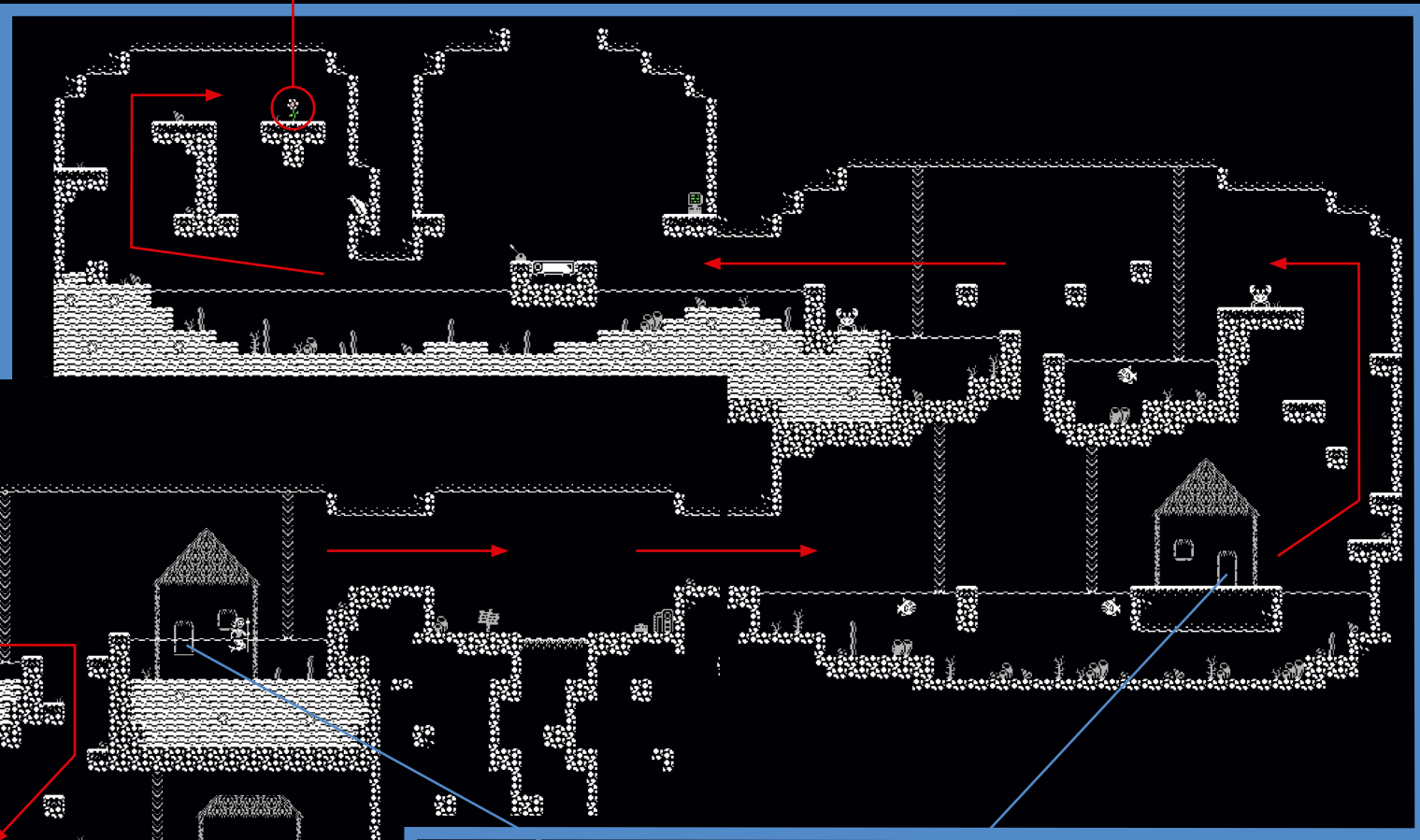
You'll have to shoot this bug with the cannon to pass through. It will try to dodge your shots, so you'll have to time it with the lever, and it's much easier to hit it with the cannon barrel raised. This example program will get the job done.

CHAPTER 4: MEETING THE MERMAIDS

Upon reaching the mermaid village, your first stop should be the queen's hut at the top. She'll give you a quest to help the farmers in the village. Be sure to talk with her again once you've completed that quest, as well as any others in the future.

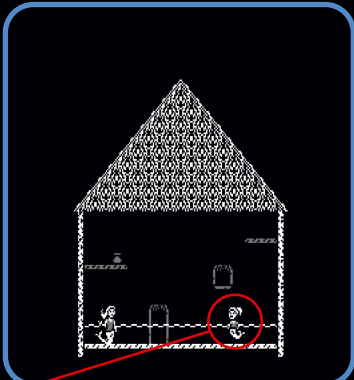


Don't jump straight down after picking up this flower! The bird enemy will crash into you and break it. Instead, jump down the left side of the room, then carry it back to Selene at the bottom of the mermaid village without getting hurt. If you do get hit and break the flower, you'll have to come back here to pick it up again.

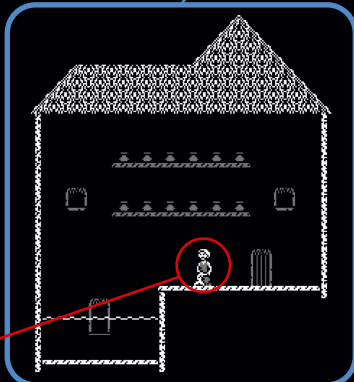
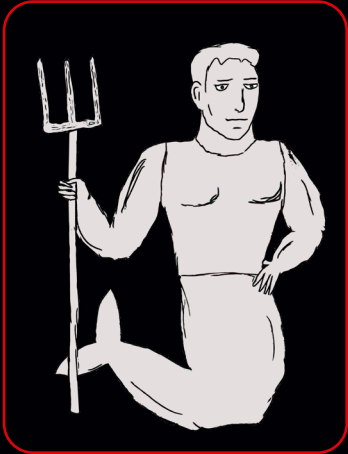


FROM THE VINE GARDEN

A little mermaid girl, Phoebe, lives in this hut, and she wishes she could share in your adventure. As you defeat more bosses beyond the vine garden, be sure to come back and tell her all about it.



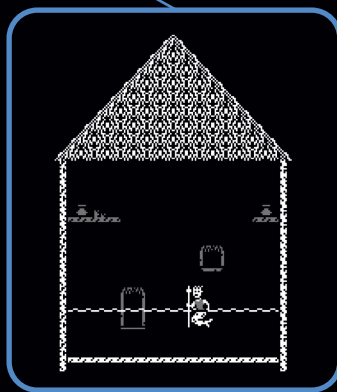
Once you've spoken with the queen, talk to Dion the farmer, and he will open up the way to the top of the tower back in the gardens.



Be sure to meet Selene before leaving the village. She'll ask you to collect flowers for her. You don't have to do this to beat the game, but she'll reward you if you deliver them all.



This hut is empty at first, but once you rescue the other children that were captured by the orcs, you'll be able to find them here.



The guards that protect the village are stationed at this hut. As you prepare to venture out from the safety of the village, they may have advice for you.



This hut on the outskirts of the village is full of musical machines, but you won't be able to use them until you start restoring power to the various circuits guarded by each boss.

COME BACK AND VISIT!
Once you've explored the entire mermaid village, be sure to return there often throughout your adventure. Characters there may have new things to say as you complete more quests.

BOSS MONSTERS GALORE...

...AND SO MUCH MORE!

You've barely scratched the surface of this game! Once you've defeated your first boss and delivered your first flower, here are some tips to help with some tricky spots later on in your adventure.

POLYCLOPS

This carnivorous plant has taken over the garden tower. Program the levers to aim the cannon at its two large eyes, and fire when they open. Four hits in each eye will finish it off.

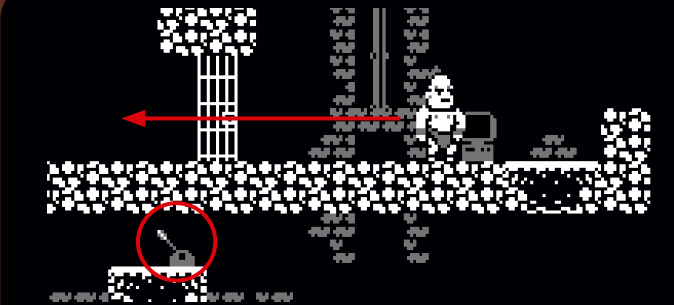
OUTBREAK

This mutant hangs from the top of the temple spire. Reflect its attacks back with the platform to stun it, then fire the minigun into its open eye to drive it upwards into the spikes.

DOOMGAZE

What is this monstrosity at the bottom of the crypt? Program the winch to lift up the spiky ball and drop it onto this fiend's big eye; six hits will kill it. It flees to safety whenever you reprogram the machine, so you'll have to use the levers.

REFACTORING IS OK: Don't be afraid to change your programs! Once you've used this minigun to destroy the cracked column in the Lost Temple, you'll probably want to reprogram it to carry you up there *without* shooting at you.



PRISON BREAK: When you return to the Prison Caves to rescue your friends, this orc will be guarding one of the computer consoles. Trick him into running into the cell on the left, then close the gate to trap him inside!

PYROFUGE

This giant arachnid in the lava pits is much tougher than the earlier bosses. Use the steam jets to jump over its attacks, then use the blaster to shoot it six times from behind. When it hatches small spiders, use the steam jets to blow them away.

SALTWYRM

This giant worm burrows in the walls of the salt mines, and sticks its head out to attack. Use the crane to pick up boulders and drop them on its head; six hits will do the job. The boulders can also squish the grubs that it hatches.

BOMBSHELL

Found in the basement of the city, this giant clam can only be harmed when it opens its shell to attack. Keep the rocket launcher machine loaded, and be ready to fire when the shell opens! It'll take eight rocket hits to defeat this beast.

LOOK OUT BELOW: After collecting the GOTO opcode in the Hidden Crypt, return to this room and program the winch to repeatedly drop its weight onto this wooden floor from high up, using the ACT opcode. After three solid hits, it will break through, allowing you to reach the tomb below.

STEAM PIPES: The solid line in the middle of a valve acts as a barrier, controlling which pipes the steam can flow through; COPY different numbers to the V register to rotate that line to different angles. Puffs of steam can send Anna or enemies flying!

ALDA EGO

Whatever they are, these twin phantoms pack a punch. Align the beams to create forcefields on top of these ghostly images to damage them. You can also use forcefields to block their attacks, or to jump to safety when the lava starts rising. Twelve hits will earn you victory.

CHIEF GRONTA

The final showdown! Chief Gronta will stop at nothing to take the B-Remote from you, so it's kill or be killed. She'll go down after eight hits, but she'll destroy any machine once it has hit her twice, so you'll have to make full use of all four machines in the room.

HOW WILL THIS END?

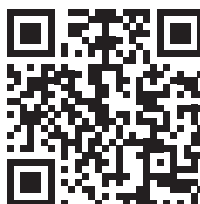
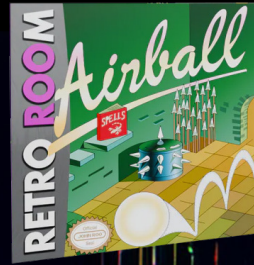
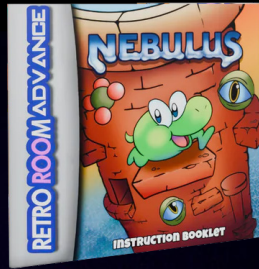
You have three different choices when facing Chief Gronta, and which one you choose will determine how the story ends:

- Give up the B-Remote without a fight, and the orcs will take over.
- Defeat Gronta and activate the complex, and humans will regain the lost technology.
- Defeat Gronta and destroy the complex instead of activating it, and the technology will be gone. Or will it?

CONFOUNDING CONVEYORS: Confused by the conveyor belts in the Salt Mines? The G register controls the gearing. Look at the numpad when COPYing to it: numbers on the left side make it move left, and numbers on the right side make it move right. Bigger numbers make it move faster.

ROCKET GIRL: In the Ancient City you'll find reloadable rocket launchers. The ammo rack machines will error if you try to refill them with ACT before they're empty again, so SYNC with the other machines to refill only after every three shots.

Looking for more games? We've got you covered.



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