ELAMI Jr.™

INSTRUCTION BOOK

I'm your computerized robot friend! Program me on my 25 key talking keyboard and we will journey together to the land of "Edutainment" (fun & learning)

Elami Jr. (Model 3663)

"Hello, I am **Elami, Jr.**, your Electronic Friend! I am the first of a Family of Robots from **Robotland.** I was designed to guide you on your journey to "Edutainment" *(Fun & Learning)*.

Each of us has our date of creation and a secret code to wake us up. Once you input your code, I will say, *"Good Morning Master, Can I Help You?"* Then we will have hours of fun and learning together.

But remember, I am a little robot. Treat me with care. Please protect me from water and dirt. Cradle me by my base when lifting or carrying me about, and keep me in the safety of my box when we sleep.

Now let's begin our journey!"

Elami, Jr.

\#_____*

Serial Number
Security Code
Creation Date
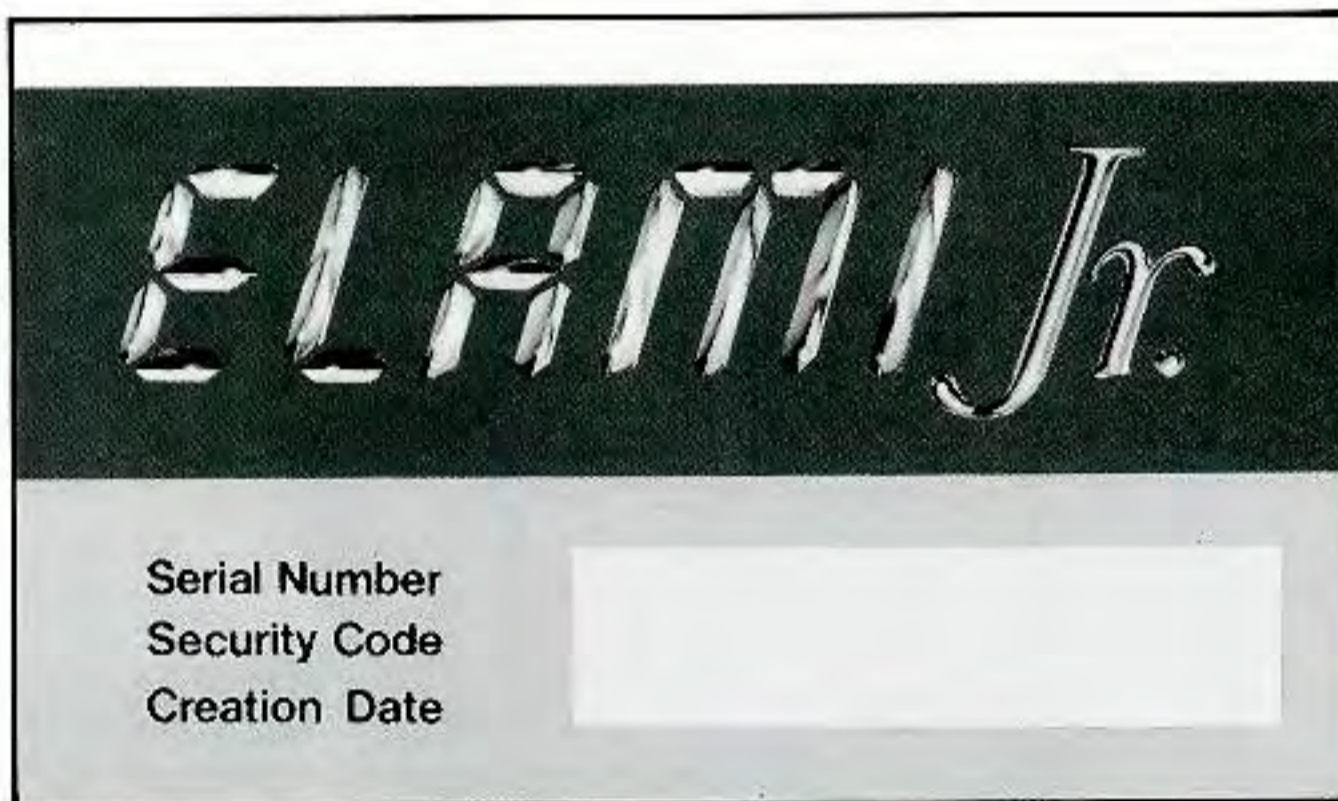
Attach robot security ID card here

* Please write your secret code number here and keep this manual in a safe place for reference.

I. Introduction & Features

A. Features

I'm smart and have a brain like you do!
☐ 8 bit microcomputer
☐ 4K bytes ROM for operations
☐ 16K bit speech processor & 2 x 128K ROM chips for my vocabulary

I have personality!
☐ Character voice, blinking LEDs on my head and front panel
☐ LCD face — four expressions
— happy, surprised, angry, & sleepy
☐ Two mechanical arms & grippers
— up, down, open, close

I can talk just like you do!
☐ Speech: up to 206 words/15 programmable words or phrases

I'm created especially for you!
☐ Individual security code/ID card/ Date of creation/ Serial No.

I "see" where I am going!
☐ Tactile bumper sensors
☐ Infrared sensor

You can program me!
☐ 25 key talking keyboard, 16 blinking LEDs

I can move about!
☐ Mobility, computer controlled movements
— forward, back, in two speeds
— right, left, left curve, right curve

I am battery powered!
☐ Battery charger included
☐ 4AA & 4C size 1.5V batteries not included
☐ Use only alkaline or rechargeable batteries

B. Unpacking Elami, Jr.

☐ Elami comes packed in a sturdy carton with attached handles for **Transport** and **Storage**
☐ Lift the styrene protective cover from the carton
☐ Gently lift Elami Jr. from the protective styrene cover
☐ Install the batteries (Important: See p4-5)
☐ Place Elami on a flat work surface

Elami Jr. . . . . Your electronic friend!

A. *Infrared sensor*
B. *16 LED Light display*
C. *Battery indicator ("C"-size) Motors/LEDs*
D. *Mechanical arm (manually poseable)*
E. *Mechanical gripper (manually poseable)*
F. *6 LED Light display*
G. *LCD Talking face/Backlighting*
H. *Battery indicator ("AA"-size) Voice/Face/Computer*
I. *Touch/Talking keyboard*
J. *Tactile bumper sensors*
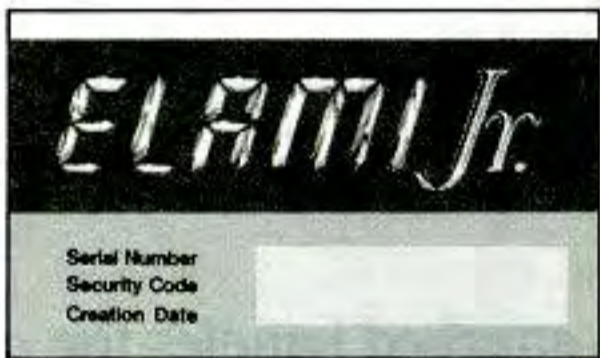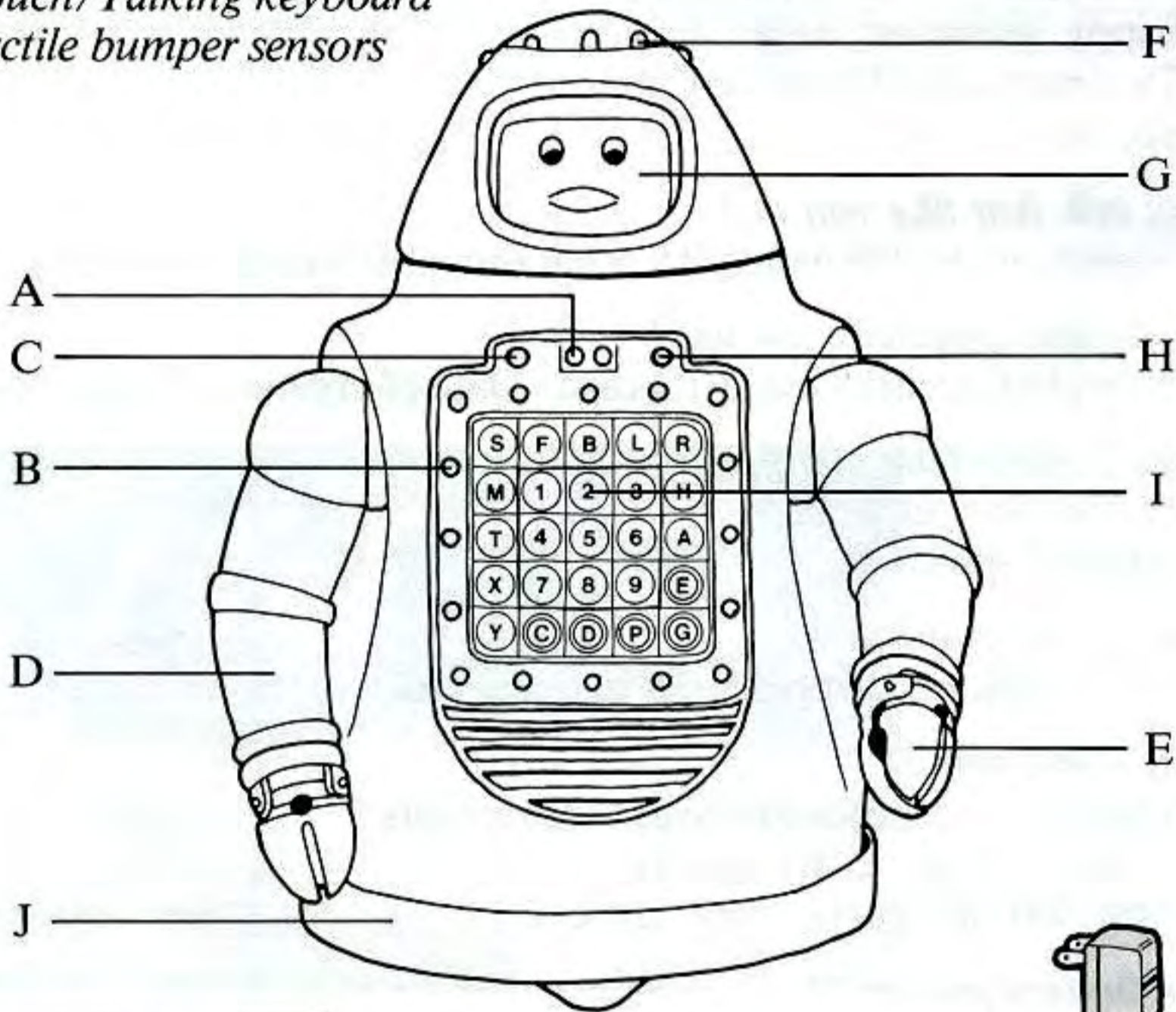
"Elami Jr." Robot security ID card
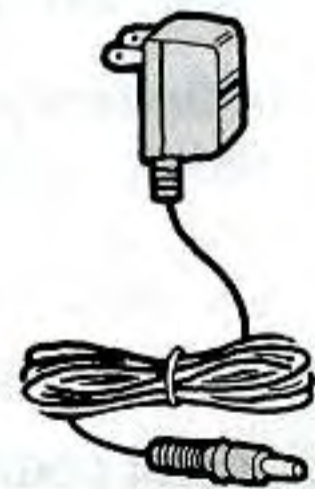
Power supply

Always handle Elami Jr. with care!

II. Use of Features

A. Keyboard

☐ 25 character pressure sensitive talking keyboard for programming robot

☐ Place finger directly over desired letter or number to be programmed

☐ Support the robot from back or shoulder press firmly

*Note: Remember to wait for the robot to "**speak**" each selection before entering another letter or number.*

B. Infrared Sensor

☐ Elami *"sees"* with the infrared sensor located above top center of the 16 red LED light display.

☐ The infrared sensor is used to detect objects. Each time the robot *"sees"* an object with the infrared, it sounds an alarm to alert you, moves backward, turns left and continues the program.

C. Tactile Bumper Sensors

☐ Elami *"feels"* low objects with its bumper sensors located around the bumper ring.

☐ The bumper sensors are used to detect low objects. Each time the robot *"feels"* an object with the bumper sensor it sounds an alarm to alert you, moves backward, turns left and continues the program.
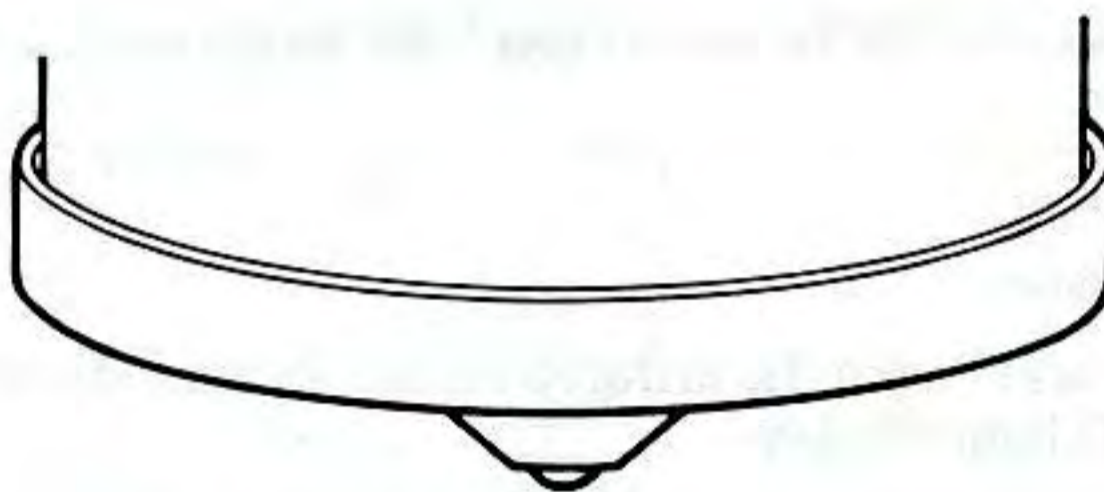
Bumper with tactile sensors

III. Getting Started

A. Power Supply

☐ Battery requirements: 4 "AA" and 4 "C" size 1.5 volt alkaline batteries or nicad rechargeable batteries; not included.

☐ "AA" batteries operate speech, face & the "brain".

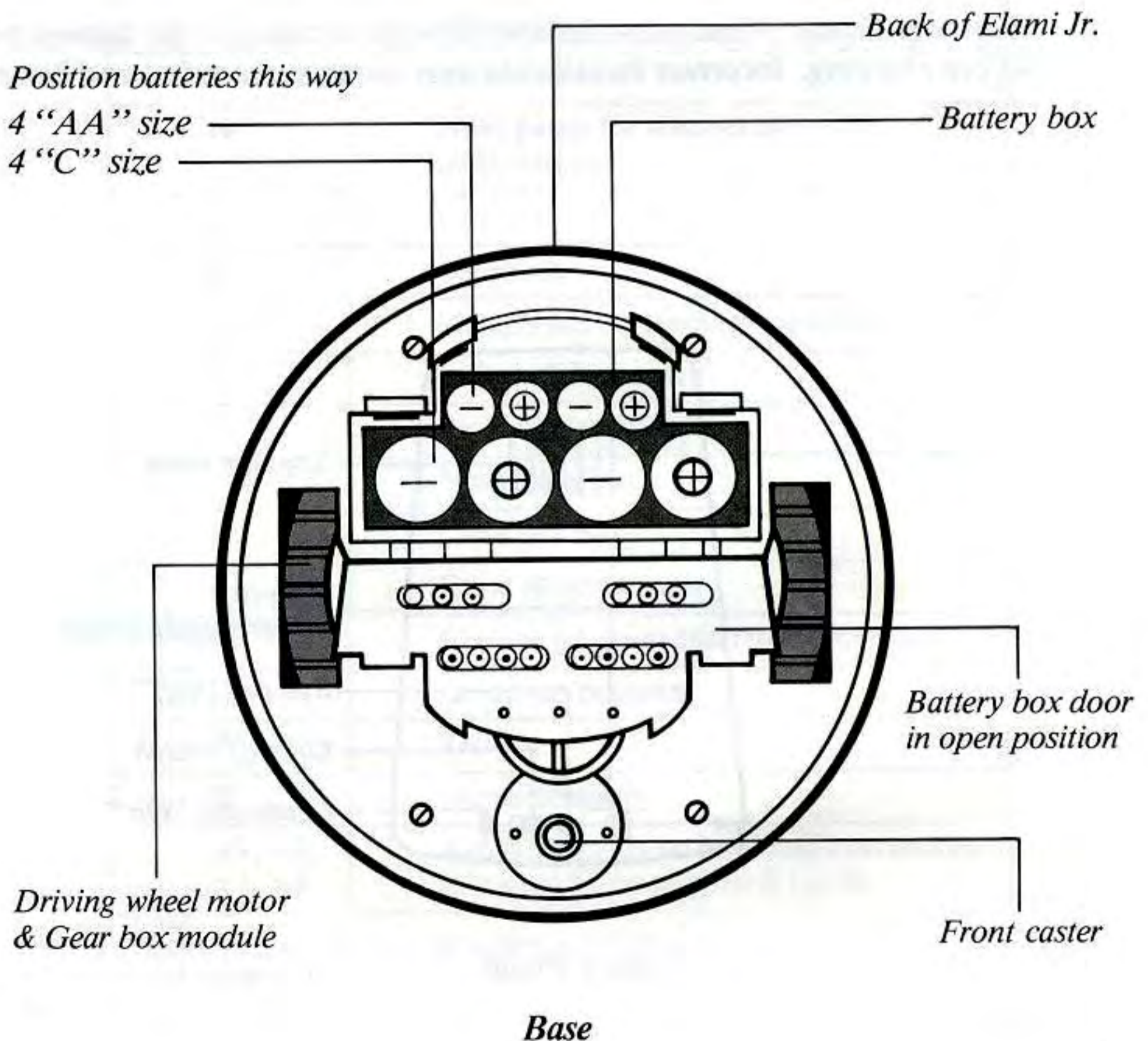☐ "C" batteries operate the motors & the LED display.

*Note: Have an adult install batteries.

B. Installing the Batteries

☐ Lay the robot gently on its side.

☐ With one hand supporting the robot, use the available hand to grasp the rear ball bearing support caster. Position the thumb over and the index finger under the caster then slide the battery compartment cover towards the front of the robot

☐ Pull open the cover and swing over, securing it with supporting hand
☐ Install the 4 "AA" batteries into the battery compartment first. Note the position of the batteries according to the diagram. Begin from left and install alternating negative first and then positive.
☐ Install the 4 "C" batteries into the battery compartment in the same way. Be sure each battery is seated properly in the compartment.
☐ Release the battery compartment cover from the support hand. Lower the cover with the available hand and reverse the open procedure. Slide cover towards front, push up towards head to springload, and then snap cover into place by sliding the cover toward rear of the robot.
☐ Restand the robot.

**Warning:** *Ensure batteries are correctly positioned in the battery box.*

Back of Elami Jr.

Position batteries this way
4 "AA" size
4 "C" size

Battery box

Battery box door in open position

Driving wheel motor & Gear box module

Front caster

Base

C. Plug-in Power Supply

☐ The charger has two separate 6 volt power supplies with two charging circuits for charging 'C' size & 'AA' size batteries respectively.

☐ Charger is connected to electrical wall outlet and into the small socket in the back of the robot.

☐ Motor drive batteries and LEDs are charged from one circuit; all other functions are charged from the other.

*Note: *Batteries will be fully charged in 10 to 12 hours. Overcharging will shorten battery life.*

Warning: *Never connect battery charger to robot while using* **alkaline** *batteries.*

Warning: *Ensure Nicad batteries are correctly installed in the battery box before charging. Incorrect installation may damage the robot and battery charger.*

Speaker vents

Plug-in power supply socket

Red dot "Off"

On/Off switch

Green dot "On"
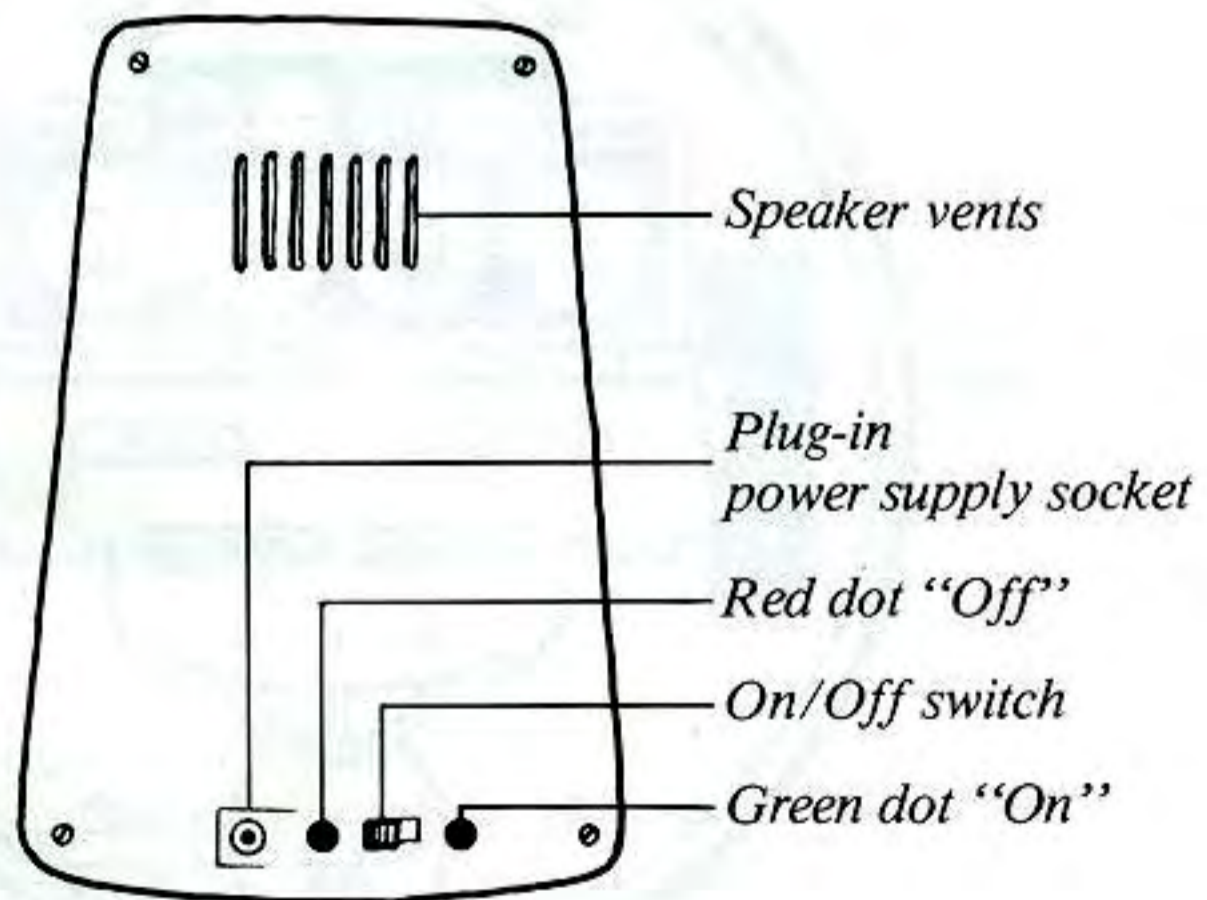
Back Panel

IV. Programming Elami

A. Programming Languages

☐ Elami, Jr. uses Simple Programming Languages called SBL and SLL.

☐ SBL is for simple basic language

☐ SLL is for simple logo language

B. Basic Commands

☐ Press the corresponding letter, number, or combinations to program using the talking keyboard commands:

Key	Command
S	Speed select (S1) = 1st gear (S2) = 2nd gear
F	Forward
B	Backward
H	Hold-pause for number of units selected
L	Left turn
R	Right turn
M	Multiply (repeat previous command)
X	Left circle* or curve
Y	Right circle* or curve
1-9	Number of steps
C	Clear last entry
E	Erase all commands
P	Execute program and return near start
G	Go or run program
T	Talking
D	Demonstration
A1, A2, A3, A4	Activates LEDs on head and instructions to manually move arms & hands

*Circle size *depends on speed selection and surface. A hard flat surfaces gives the most accurate movements and conserves power.*
Note: *Step refers to a unit of computer time.*

C. Programmable words and sentences

☐ Key the letter "T" for talk and the additional number or letter to make Elami say:

Key	Speak
T1	Count 1, 2, 3, 4, 5, 6, 7, 8, 9, 10
T2	I am happy
T3	Mommy
T4	Daddy
T5	Please
T6	Follow me
T7	Let's
T8	Play
T9	I love you
TA	Thankyou
TB	Hello, I am Elami
TC	Good-bye
TD	Good-night
TE	Have a nice day
TF	A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z

D. Program Strings

☐ String these words and sentences together perhaps also adding "H" for hold or pause for a specified number of units of computer time.

☐ Example: *Good-night Mommy. I love you!* (TD; T3; H1; T9)

☐ Calibrate your Elami so that you can predict its target position.

□ A combination of left and right turns usually gives more accurate positioning than does left curve or right curve.

□ "P" retracing previous steps may be better achieved by units of left or right turns rather than the approximate about turn.
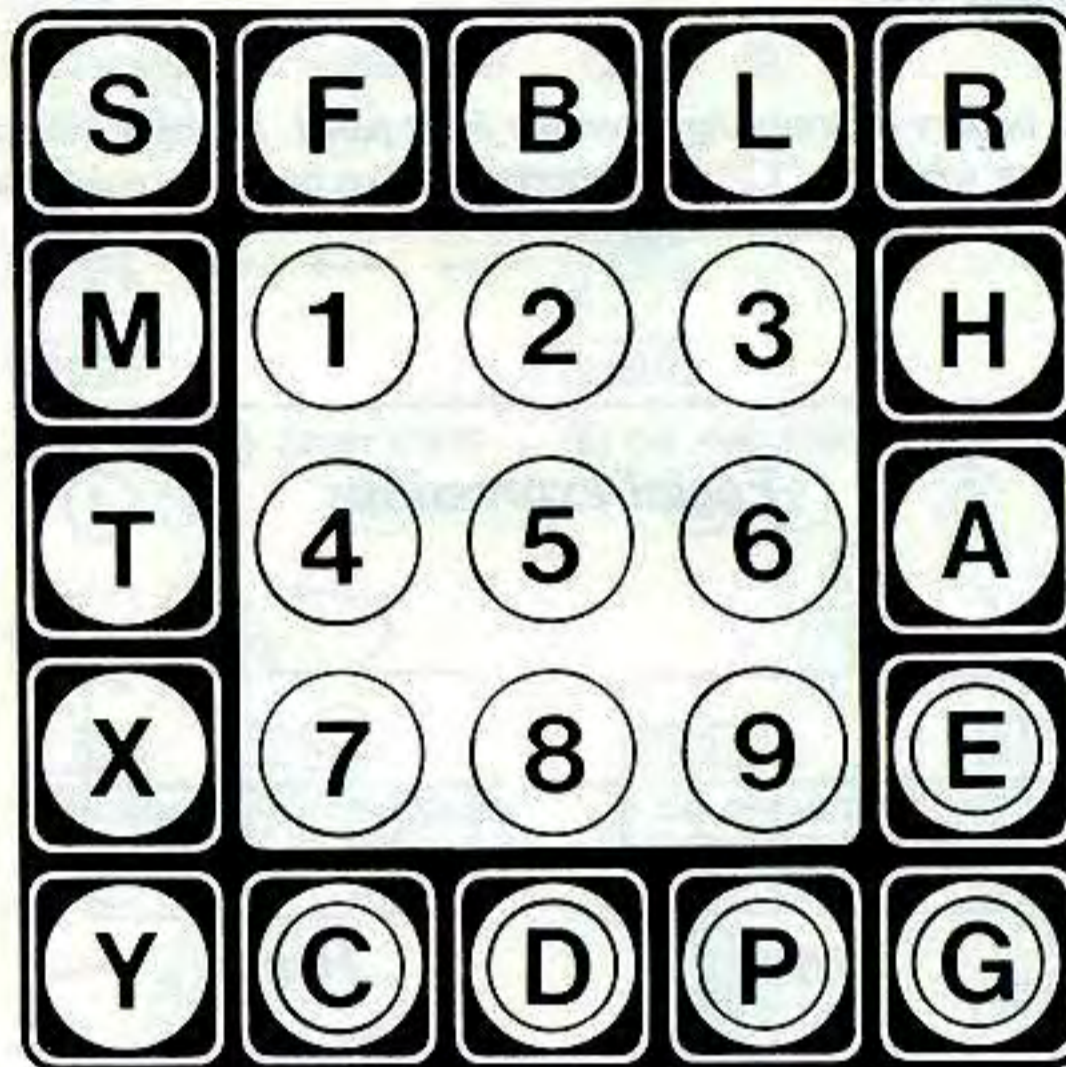
25 Key talking keyboard

E. Entering your programs

□ Switch the robot on in the back:

Red dot is off.

Green dot is on.

□ Elami will display a *"sleepy"* facial expression and say *"Hello, I am Elami, Please enter my code."*

□ Enter the last 4 digits of your secret **robot security code** from the **robot security ID card** which came with Elami.

Note: *Only the correct numbers will respond. If entered incorrectly, Elami says* **"Code error — Please enter my code again."**

□ The correct robot security code will have Elami respond with *"Good Morning Master, Can I Help You?"*

□ Now you can program Elami commands for fun & learning.

□ Simply press "G" to watch Elami run your program

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☐ As Elami moves the 16 LED lights display in a prearranged pattern
☐ Elami will retain your program in its brain until you do any of the following:
Press key "C" to clear last entry,
Press key "E" to clear all entries,
Switch the robot off.

*Note: *Elami Jr has battery indicator lights on the front panel. His right indicator light is used when the robot "moves" or when the "C" size batteries need recharge or replacement. His left indicator is the speech and "AA" size battery indicator.*

Facial expressions

Sleepy

Happy

Angry

Surprised

Dynamic talking

Static talking

Dynamic talking

SAMPLE COMMANDS

FORWARD (F) **SIX STEPS** (6) **GO** (G)

(F) (6) (G)

`0:00` `0:06`

BACKWARD (B) **THREE STEPS** (3) **GO** (G)

(B) (3) (G)

`0:03` `0:00`
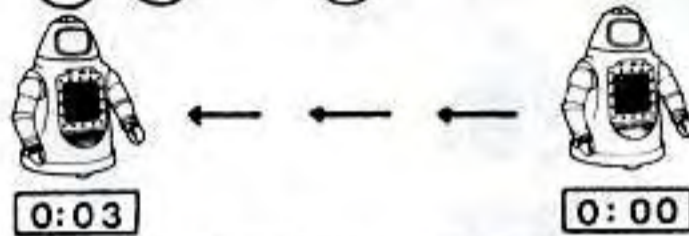
TURN LEFT (L) **EIGHT STEPS** (8) **OR** **TWO STEPS** (2) **GO** (G)

(L) (8) (G) (L) (2) (G)

`0:00` `0:08` `0:00` `0:02`
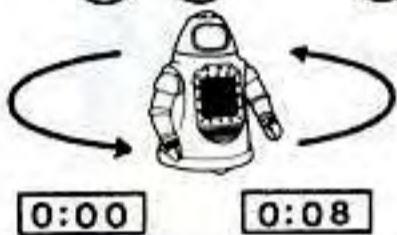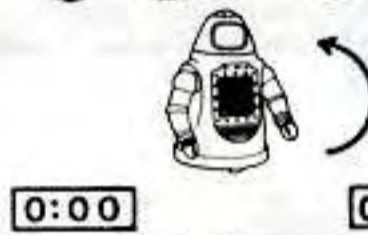
TURN RIGHT (R) **EIGHT STEPS** (8) **OR** **TWO STEPS** (2) **GO** (G)

(R) (8) (G) (R) (2) (G)
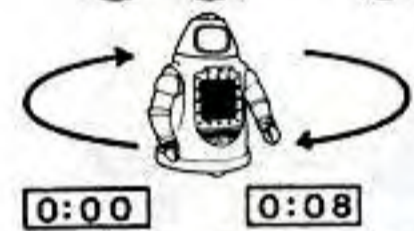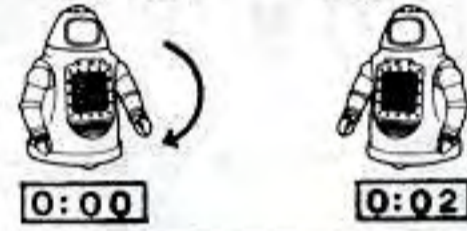
`0:00` `0:08` `0:00` `0:02`

CURVE RIGHT (Y) **EIGHT STEPS** (8) **OR** **ONE STEP** (1) **GO** (G)

(Y) (8) (G) (Y) (1) (G)

`0:00` `0:08` `0:00` `0:01`

CURVE LEFT (X) **EIGHT STEPS** (8) **OR** **ONE STEP** (1) **GO** (G)

(X) (8) (G) (X) (1) (G)

`0:00` `0:08` `0:00` `0:01`
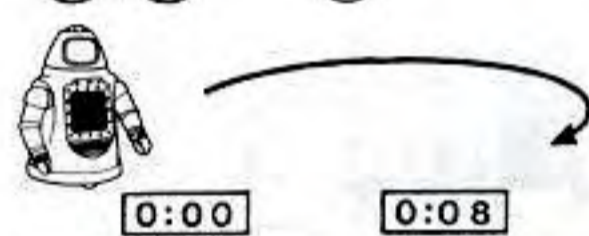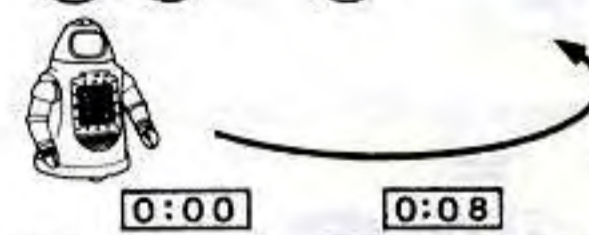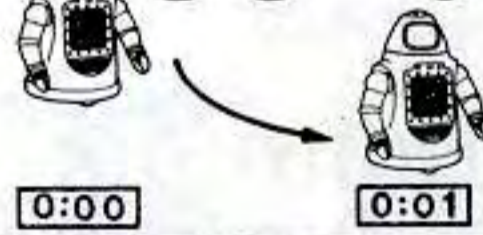
FIRST SPEED (1) **FORWARD** (F) **FOUR STEPS** (4) **GO** (G)

(S) (1) (F) (4) (G)

`0:00` `0:04`

SECOND SPEED (2) **FORWARD** (F) **FOUR STEPS** (4) **GO** (G)

(S) (2) (F) (4) (G)

`0:00` `0:04`

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HOLD (H)

(F) (3) (H) (5) (F) (2) (G)

0:00 0:03 (STOP) 0:08 0:10
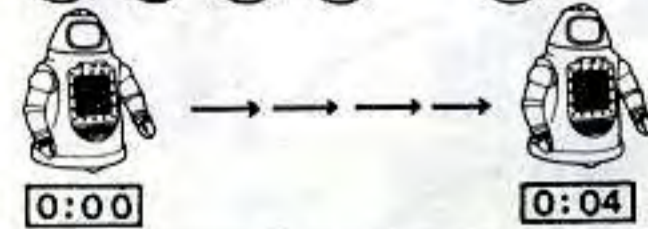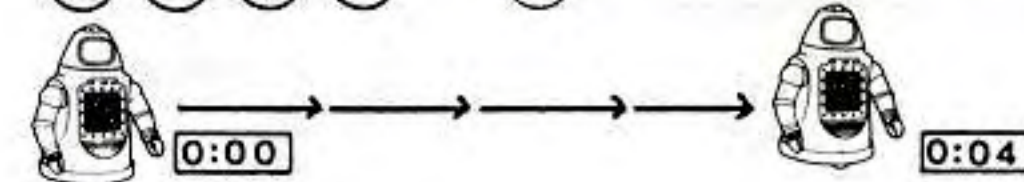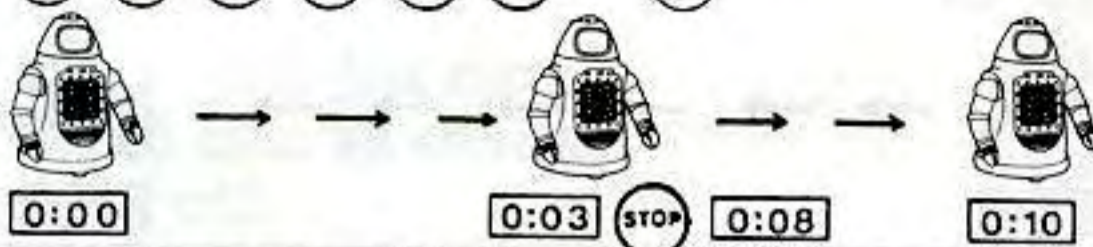
CLEAR LAST COMMAND (C)

(F) (3) (R) (6) (C) = (F) (3) (G)
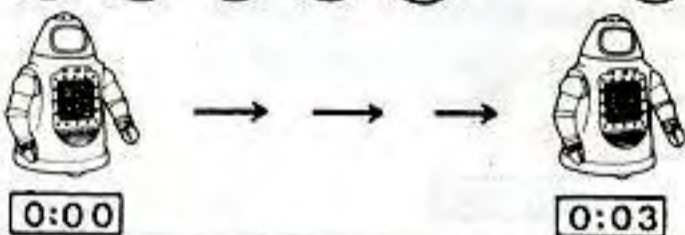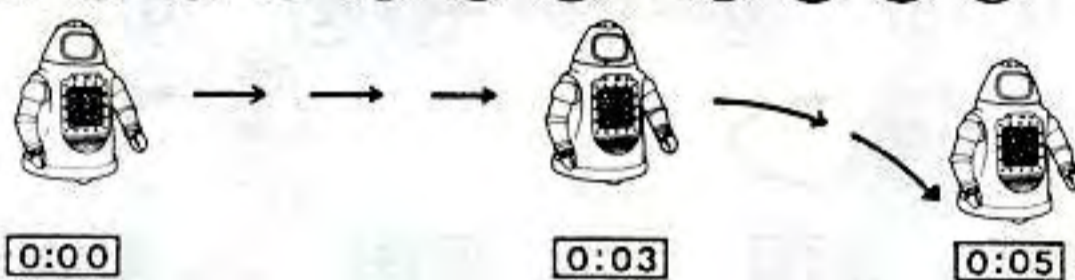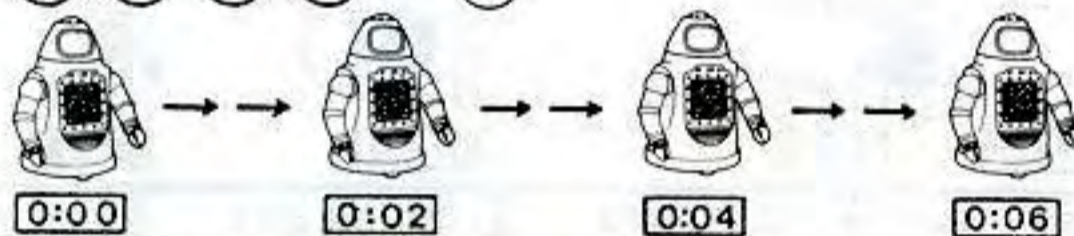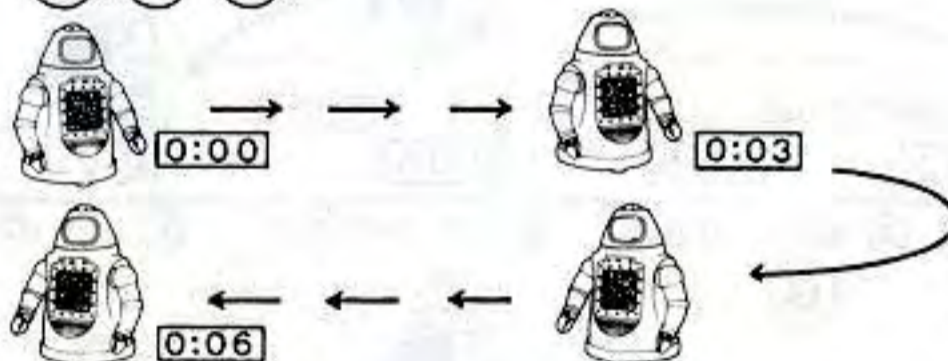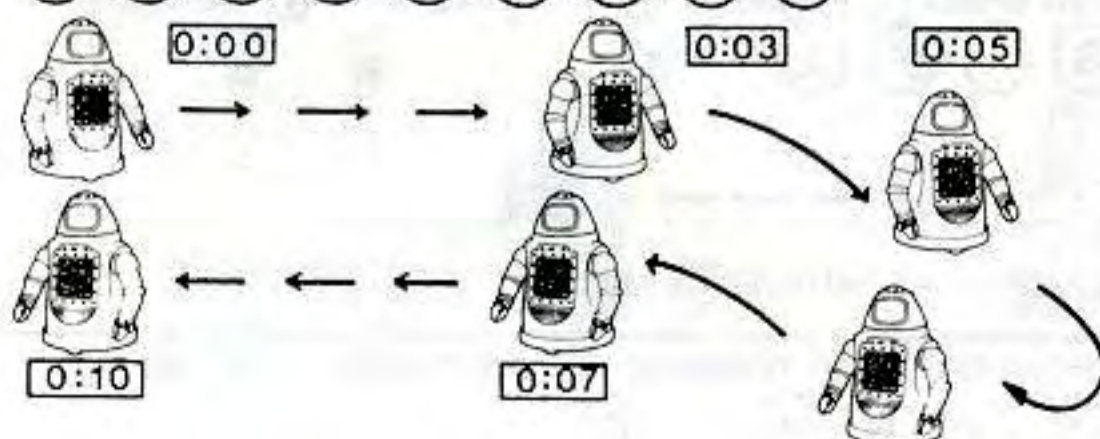
0:00 0:03

(F) (3) (Y) (2) (R) (6) (C) = (F) (3) (Y) (2) (G)

0:00 0:03 0:05

MULTIPLY (M)

(F) (2) (M) (3) (G)

0:00 0:02 0:04 0:06

RETRACE (P)

(F) (3) (P)

0:00 0:03

0:06

(F) (3) (Y) (2) (P) =
(F) (3) (Y) (2) (P) (X) (2) (F) (3)

0:00 0:03 0:05

0:10 0:07

CURVE RIGHT (Y) EIGHT STEPS (8) OR ONE STEP (1) GO (G)

(Y) (8)   (G)   (Y) (1)   (G)

0:00   0:08   0:00   0:01

CURVE LEFT (X) EIGHT STEPS (8) OR ONE STEP (1) GO (G)

(X) (8)   (G)   (X) (1)   (G)

0:00   0:08   0:00   0:01
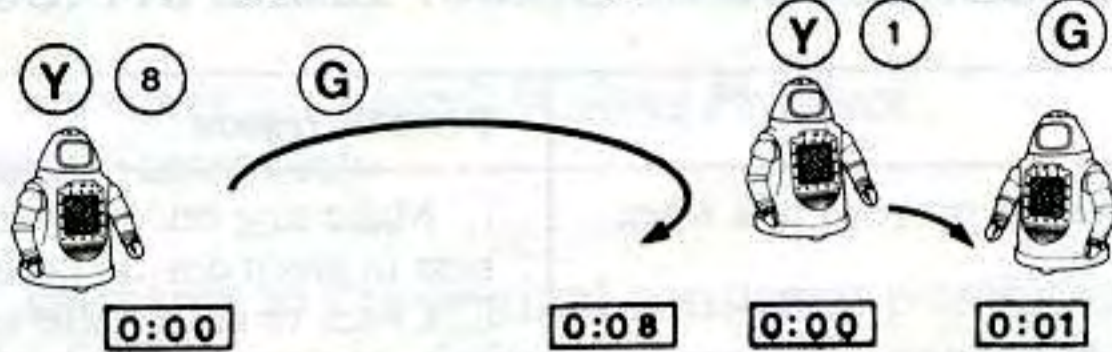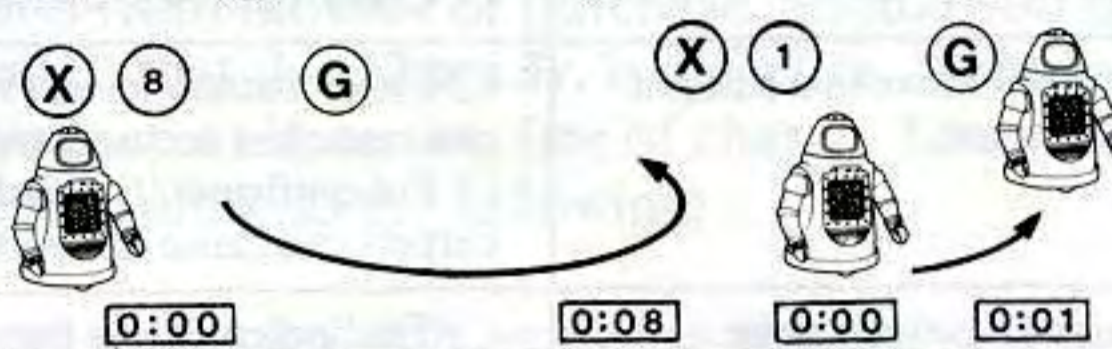
COMBINATION

EXAMPLES: (S) (2) (F) (2) (B) (2) (F) (1) (S)
(1) (Y) (2) (R) (9) (G)

0:00   0:02

0:04

0:05

0:07

0:16
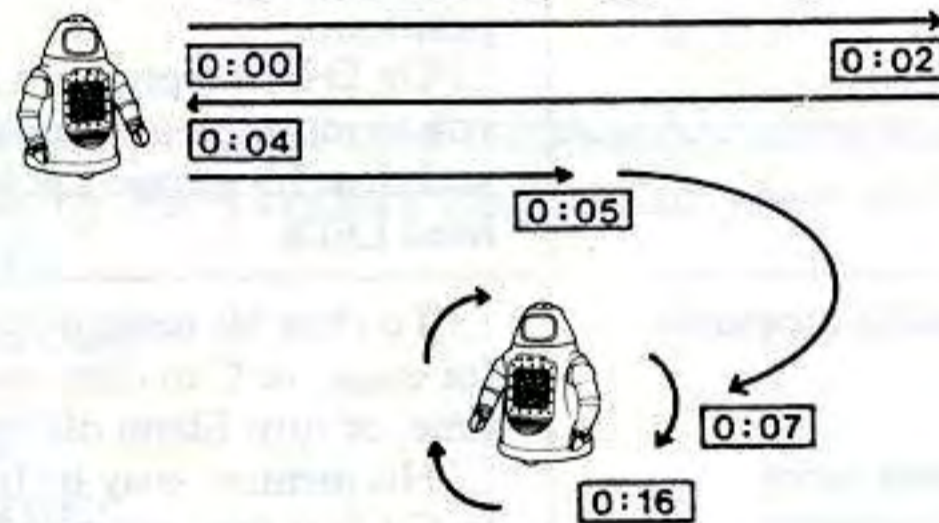
(X) (2) (Y) (2) (X) (2) (Y) (2)
(H) (3) (X) (2) (Y) (2) (G)

STOP

0:00   0:15
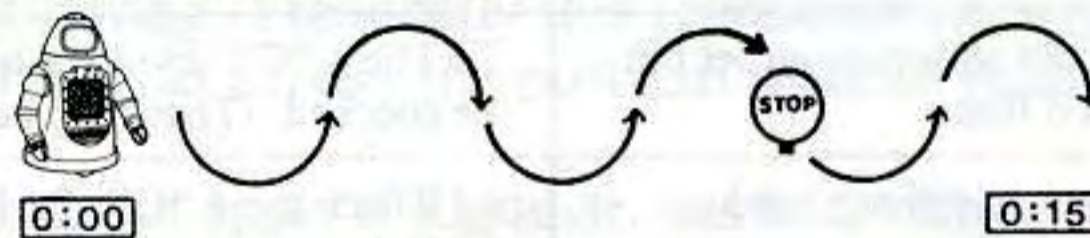
STEEPLE CHASE (a FUN way to learn PROGRAMMING)
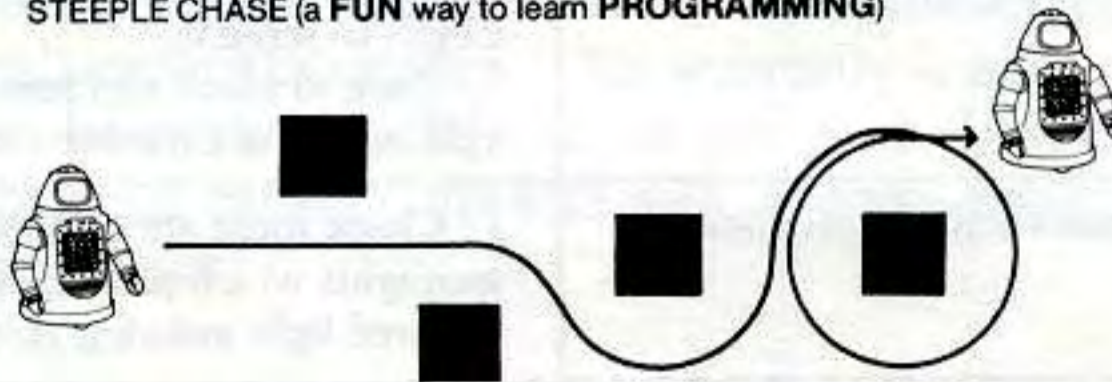
CLEAR LAST ENTRY (C)

CLEAR ALL MEMORY (E)

DEMONSTRATION (D)

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Note: *Step refers to a unit of computer time.*

Troubleshooters Guide: Elami Jr. (3663)

Problem	Possible reason
☐ Elami Jr does not move or talk when turned on.	☐ Make sure on/off switch is positioned next to green dot-on position. ☐ Check to see if batteries are installed properly. ☐ Check batteries-are they charged?
☐ Elami Jr does not move in a straight line when programmed.	☐ Check battery level. (Weak batteries can cause less accurate moves.) ☐ Put on firmer/flat surface. (Thick carpets can cause less accurate moves.)
☐ Elami Jr's voice has static noise. ☐ Elami Jr has no voice. ☐ Elami Jr's arms & hands don't move.	☐ This indicates low battery level on the 4 "AA" size 1.5V batteries. ☐ You may have to replace alkaline batteries or charge Nicad batteries. ☐ These are manually poseable-not motor driven. Just place into desired position. ☐ On D-Demo program Elami Jr will tell you to move his arms up & down & open and close his grippers & he will blink his head LEDs.
☐ Elami Jr keeps repeating programs. ☐ Elami Jr will not accept more commands during programming.	☐ To clear his memory you must press E for erase, or C to clear one command at a time, or turn Elami off/on & begin over. ☐ His memory may be full, you can try to C-Clear one command and enter another to see if he is OK.
☐ Elami Jr's face will not light up. ☐ Elami Jr's face will not function.	☐ Check your 4"C" 1.5V batteries. ☐ Check your 4"AA" 1.5V batteries.
☐ Elami Jr will not move on carpet but will move on hard floor.	☐ The 4 "C" size 1.5V batteries should be checked. (They may be low)
☐ Elami Jr's sensors will not work.	☐ Check the 4 "C" size batteries. ☐ Robot may not be close enough to object to sense it. ☐ Dark to black surfaces absorb infrared light and so are hard to detect.
☐ Infrared sensors activate prematurely	☐ Check there are no shiny surfaces or spotlights which produce or reflect stray infrared light including direct sunlight.

Warning: *Ensure batteries are correctly installed in the battery box. Nicad batteries, if improperly installed, can damage the robot and battery charger during charging.*

Caution: *When storing Elami Jr. for prolonged periods of time, remove batteries and store in box in a safe, dry place.*

V. Warranty

Limited 90-day warranty on Elami Jr. (tm) Product
Valid in the United States only

Robotland, Inc. warrants to the original consumer purchaser that this **Elami Jr.** shall be free from any defects in materials or workmanship for a period of 90 days from the date of purchase. Should you find, during the warranty period, that this **Elami Jr.** is defective, **Robotland** will repair or replace the Product, at its option free of charge. To receive this warranty service you must do the following:

Notify Robotland of the problem requiring warranty service by calling either one of the following numbers:

Telephones:
(305)-53E-LAMI
(305)-585-3278

Send Robotland the product and reasonably acceptable proof of the date of purchase of the product prepaid at your risk of damage during shipment.
Addressed as follows:

Robotland, Inc.
1313 Central Terrace
Lake Worth, Florida 33460, USA

During your phone call the **Robotland** representative will discuss the problem you are having. Frequently this representative will be able to suggest to you a way to correct the problem without return.

This warranty shall not apply if **Elami Jr.** has been damaged by negligence, accident, unreasonable use or by other causes unrelated to defective materials or workmanship. This warranty is also void if the serial number has been altered, defaced, or removed. Unit must be returned in the original carton complete with manual, robot security ID card and battery charger.

Robotland shall have no liability or responsibility to a purchaser for damage caused by or to alkaline or nicad rechargeable batteries. Use batteries according to battery manufacturers recommendations. Improper positioning of Nicads may produce damage.

The provisions of this warranty are valid in the United States only. This warranty gives you specific legal rights and you may also have other rights which vary from State to State. Some States do not allow limitations on how long an implied warranty lasts and/or do not allow the exclusion of incidental or consequential damages, so the above limitations and exclusions may not apply to you.

Out of warranty repair: *If your* **Elami Jr.** *requires service other than under warranty, please contact* **Robotland** *for repair information at the following address:*

Robotland®
Elami Customer Service Division
1313 Central Terrace
Lake Worth, Florida 33460, USA

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ROBOTLAND ®