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## 1. Introduction

Utilizing the latest in artificial intelligence software, the Institute of Robotic Technology has created a whole new type of Robotic friend – the Dinkie Robots! Robots so small they can fit in your hand – but so smart they can mimic human emotions! The Dinkie Robots will express their feelings through their eye movements, voices, and movements. They are the first true robots of their size to be able to walk, talk, think, and communicate with each other.

Dinkie Robots respond to how they are being played with or the environment around them. Their sensors monitor action, motion, and sound all around them continuously. This data is sent to their central processor computer for analysis. Various eye expressions, voice tonality, and movements are generated by the computer and then displayed on the LCD. After a while of playing with your robot, you will see that they may become excited, curious, angry, happy, and any number of other emotions.

Dinkie Robots can actually communicate with one another. They will start conversations with other Dinkie Robots they run across. The more they talk, the happier they become. They can even communicate with other Dinkie Robots over the internet!

Dinkie Robots are designed with a state-of-the-art Micro motor drive to animate them with highly realistic movements. The precise actions of the head, arms and legs are controlled all by the Robot’s powerful computer brain.

Please read on (or visit [www.tekno-robot.com](http://www.tekno-robot.com)) to learn everything on the care and maintenance of your new Dinkie Robot friend!
2. Removing Dinkie Robot from the Package

Dinkie Robot is shipped in a high tech capsule which is actually part of the package. Your Dinkie is held in place inside by a plastic stand which is fixed to his body and the cable details.

By now you should have with adult supervision carefully cut the cable ties on the locking handle (Fig. 1) and lifted up the locking handle to release the lid (Fig. 2). By pulling the lift up the handle on the lid and slightly turn it around, you will remove Dinkie Robot and its support frame from the capsule. Unscrew and remove the screws from the stands (Fig. 3) & discard the screws & screws washer. You are now ready for the initial set-up.

3. Initial set-up

After your Dinkie Robot is free from the package, pull the tab from his back to begin his program set up (Fig. 4). You will see an opening animation of moving black squares playing on the display. Your Dinkie Robot will then say something and show eye expressions on screen. Your Dinkie Robot has come to life!

4. Understanding Dinkie's programming

Dinkie Robot uses the latest in artificial intelligence software. He or she can accurately mimic Human emotions. Humans are perfect and neither is your Dinkie Robot. Sometimes they will be happy, and other times they will be sad. It all depends on how they feel and how you (or other Dinkie Robots) communicate with them.

Dinkie Robots love to talk to humans or to each other. The easiest way to keep your Dinkie Robot at the peak of happiness is to talk and play with them. When they get lonely, they can get sadder and even a bit feisty. Talk to your Dinkies, "refuel" their energy cells, replace their batteries, play games with them – just think of them as a real "person" and they will be your friend for life!
5. Dinkie's sensor inputs and outputs

To understand how your Dinkie Robot works, you must know about his input and output devices (Fig. 5).
6. Dinkie’s basic functions

In normal situations, your Dinkie Robot will sense what is going on around it automatically. If you yell its name, clap or make a loud noise, your Dinkie Robot may respond by showing different facial expressions, saying some robotic words, or making certain body movements.

Keeping your Dinkie Robot happy

Dinkie Robots need attention and stimulation to be happy. Just like a real person, it’s important to play with it and not forget to take care of it. Gently shaking its body or talking to it are met with all kinds of interesting results. You may see the head turn, the arms swing, the lights flash, and walking and talking — all at the same time!

A Dinkie’s program is controlled by an "energy cell". This cell draws power from the main batteries inside the Dinkie Robot. If the batteries have power, you can play with your Dinkie Robot. However, you should also remember to charge his "energy cell" at least twice a day (or more if you prefer). You can charge him by pressing the FUEL BUTTON on his chest. You will see the charging animation on the LCD screen and hear crunching sounds that indicate he is satisfied (Fig. 6).

Sleeping and Auto Power off

When Dinkie is left alone, it will make some noises and actions, or displaying certain eye expressions in an attempt to draw your attention. If nobody plays with it for about 10 minutes, your Dinkie Robot will get tired. You will start to see his sleepy eyes on screen. (Fig. 7)

Finally, it will go to sleep mode and the power will be shut down automatically (Auto Power Off). To wake your Dinkie Robot up,
simply make a noise, shake its body, or press any one of the buttons on its body.

Your Dinkie Robot has a programmed sense of time. If you don’t play with him, he will go automatically to sleep at about 9pm every night and wake up again at about 8am next morning (see Game Modes to set the initial clock function)

Making your Dinkie Robot Dizzy

Dinkie Robots are very sensitive to motion. In fact, if you shake them too much, they will actually get a little dizzy. Go ahead and try it. Don’t worry, they actually like it! You’ll see it’s eyes spin around for a while and then return to normal play.

Keeping your Dinkie Robot from walking

There may be times that you don’t want your Dinkie to walk. It’s easy to stop them. Just move the WALK Switch to the OFF position. You can keep playing with your Dinkie but it will no longer move around. To allow it to walk again, simply move the Switch to the ON position.

Muting Dinkie Robot

Dinkie likes to talk and make many sounds in normal situations. If you want it to keep quiet, simply shut off the speaker by pressing and holding both the MODE and SELECT BUTTONS for 3 seconds, until you hear a "beep" sound.

You can exit the MUTE mode by pressing any function button on your Dinkie.

7. Game Modes

There’s lots of built-in functions and game modes in Dinkie Robot. All of them can be called out from the Game Mode Menu displayed on the LCD:

To enter the game mode menu, press and hold the MODE button for 3 seconds until you hear a "beep" sound. You will see an icon displayed on LCD screen.

The main menu includes the following functions for you to choose:-

A) CLOCK  B) ALARM  C) SONG  D) GAME  
E) STATUS  F) BRUSHING TEETH  G) ANTI-VIRUS  
H) WALK ON COMMAND

Press the SELECT button to select to the function you want to choose. When you have the correct function that you want to enter on the LCD screen, press the MODE button again to enter that mode.

A) CLOCK

When you select this Icon, a clock with numbers digits will display on screen. The original time set for a new Dinkie Robot is 12:00pm. To change this into the present time, press the MODE button once and the HOUR digits will flash. Press the SELECT button to set the HOUR (including AM or PM), then press the MODE button to confirm that hour is set correctly.

NOTE: The orders for setting the HOUR are as follows:-

HOUR: 12pm>1>2>3>4>... 12am>1>2>...

After the HOUR is set, the MINUTE digits will start flashing. Press the SELECT button to set the MINUTE, then press the MODE key to confirm.

After the MINUTE is set, press the MODE button to finish the setting and exit to normal play.

NOTE: The orders for setting the MINUTE are as follows:-

MINUTE: 00>01>02>03>... 59>00>01>...

B) ALARM

When you select this icon you will enter the mode to set the alarm. A clock will display on screen.
Set the alarm time the same way as you did to set the Clock. After the alarm time is set, the screen will display "ALARM OFF". Press the SELECT button to change the display to "ALARM ON" to switch on the alarm. Press the MODE button to confirm the setting and exit to normal play. Note: If the alarm function is ON, you will see a small alarm icon displayed on the CLOCK.

When the alarm time is up, Dinkie will play a melody, and he will turn it off by himself.

When the alarm time is up when Dinkie is sleeping, he will wake up at the same time.

NOTE: If you set the clock but do not set the Alarm, your Dinkie Robot will wake up automatically at 8AM in the morning.

C) SONG

Dinkie robots are ready to play a tune for you anytime. Select this mode to listen to one of the songs. The next time you select a song, a different song will be played. There are three songs in the playlist for you to listen to.

D) GAME

There are 2 mini games that you can play with Dinkie. The more you play these games with it, the more happier it becomes.

Game 1: Fortune Telling

Your Dinkie Robot is a bit of a mind reader — or at least it thinks so! Dinkie Robots are always ready to answer any question you may have. After you entered this game, a question mark will flash on screen, which means that Dinkie is waiting for your question.

Ask it a question, like "Will we have pizza for dinner?" or "Will it rain tonight?"...Dinkie will make a prediction by giving a "O" (YES) screen or "X" (NO) screen.

Game 2: U.F.O. Hunting

When the game starts, a U.F.O. will fly across the upper screen. Press the FUEL BUTTON on the chest of your Dinkie Robot and fire a missile at it. Time your shots well! If you destroy one U.F.O., you gain one point. The speed of the U.F.O. will increase as time goes by. Each round lasts for about one minute, and a score will display at the end of each round.

When a single round ends, the display will show "continue YES?" and "continue NO?" Press the FUEL BUTTON to select the option for continuing the game or quitting the game.

There are 4 rounds for the whole game and each round will get tougher. A final score will display after you finished all 4 rounds. Try to hit the highest score!

TIP: Playing games with your Dinkie Robot will help to keep it happy!

E) STATUS

Select this option to check the current status of your Dinkie Robot. The STATUS actually shows you how well you are taking care of your Dinkie. The LCD will display a number from 1 to 99. This lets you know how happy it is. One is very very poor and 99 is the highest possible.

This Status Level will change depending on various factors, such as how often it is fed over a period of time, how often it has had it's teeth brushed (see BRUSHING TEETH), or how quickly you take care of a computer bug (see ANTI-VIRUS). The Status Level will drop rapidly if you do not care for your Dinkie when it gets sick.

The Status Level is set at 50 when you first turn
your Dinkie Robot on, replace the batteries, or press the Reset button. NOTE: Your Dinkie Robot's mood is directly related with this scale. For example, if the Status Level drops below 20, the Dinkie Robot will be sad or angry more often than happy and Dinkie will get sick very easily. If the Status Level is above 80, you will see the Robot happy almost all the time. Try to keep your new friend's status as high to 99 as possible. If the Status reaches a very high level, your Dinkie Robot will show you a special display of Fireworks and Flag waving in appreciation!

F) BRUSHING TEETH

To keep your robot healthy, remember to brush your Dinkie's teeth frequently everyday. Select this option to see his teeth being brushed on the screen.

TIP: Forgetting to do this may make your robot act and feel sick, and it will drain away from Dinkie Robot's Status Level.

G) ANTI-VIRUS

Unfortunately, Dinkie Robots are very susceptible to being infected by computer virus if you do not take good care of it. When it is sick, a "program Bug" will display on screen (Fig. 8).

You should get rid of it immediately as it will quickly drain away from the Dinkie Robot's Status Level. If you don't take care on the virus, the illness will get more and more serious and you will see different stages of infections on screen. (Please refer to part 8 for details)

Make sure Dinkie is free of virus before it goes to sleep. Otherwise it's Status will drop a lot when it wakes up the other day.

The way to remedy this situation is by entering the "Anti-virus" mode. You will see the Bug being cleaned on the screen once it is selected.

H) WALK ON COMMAND

Dinkies love to walk (except for the Baby-Bot — it just likes to rock!). Here's a great way to get them out for some exercise!

Select this mode to play the "Walk on Command" feature:

After you entered this mode, your Dinkie will stand still to wait for your command for actions. Shout your Robot's name or clap your hands to start it moving. Your Dinkie Robot will begin to walk (or rock back and forth in the case of the baby) for about 12 seconds. At end of the 12 seconds, it will stop automatically and wait for your command to walk again. If your Dinkie does not receive any command for 1 minute, it will exit the "Walk On Command" mode automatically and return to normal play. You can also exit this mode by simply pressing any buttons on your Dinkie Robot.

NOTE: Make sure that the WALK Switch is in the ON position.
8. Dinkie's different expressions and their meanings

A Dinkie is an emotional Robot that has hundreds of different expressions and screen displays. To help you understand them more, it's better to have a general review on some of these displays. Here are just a few.

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<tr>
<th>Mode</th>
<th>Typical Example</th>
<th>What it means</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good mood</td>
<td></td>
<td>Your Dinkie is in generally good mood. Try to play more with it to make it even more happy.</td>
</tr>
<tr>
<td>Shock/Surprise</td>
<td></td>
<td>Your Dinkie was just surprised by something. It's a normal reaction.</td>
</tr>
<tr>
<td>Curious/Envious</td>
<td></td>
<td>Like a real person, your Dinkie would also express curiosity on things it comes across while observing or communicating.</td>
</tr>
<tr>
<td>Happy/Contented</td>
<td></td>
<td>If you see these kinds of expressions, you know your Dinkie is happy!</td>
</tr>
<tr>
<td>Very, very happy</td>
<td></td>
<td>When you see &quot;Fireworks&quot; or &quot;Flags&quot; on the display, your Dinkie is as happy as it can get. Congratulations!</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sad/Lonely</td>
<td>![Sad Face]</td>
<td>If you see eyes like this, your Dinkie is feeling sad. Check its Status Level and take certain actions like as pressing the Fuel Button, brushing its teeth, or playing with it more often.</td>
</tr>
<tr>
<td>Angry/Upset</td>
<td>![Angry Face]</td>
<td>Dinkie may get angry because you don’t care on him. Calm him down by playing with him more often.</td>
</tr>
<tr>
<td>Dizzy/Confused</td>
<td>![Dizzy Face]</td>
<td>When a Dinkie's internal motion sensor is activate by outside movement, it will show these &quot;dizzy eyes&quot;.</td>
</tr>
<tr>
<td>Tired/Sleepy</td>
<td>![Sleeping Face]</td>
<td>If you leave Dinkie alone for several minutes, it will start to feel tired.</td>
</tr>
<tr>
<td>Asleep</td>
<td>![Sleep Face]</td>
<td>If you still leave your robot alone when it is tired, it will go to sleep. This picture will display for about 2 minutes. Finally, the robot will shut off the LCD screen to save power. <strong>NOTE:</strong> Wake it up by triggering any of the inputs.</td>
</tr>
<tr>
<td>Mode</td>
<td>Typical Example</td>
<td>What it means</td>
</tr>
<tr>
<td>--------------</td>
<td>-----------------</td>
<td>-------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Sick (First Level)</td>
<td>![Image]</td>
<td>When this program bug appears on screen, it means that Dinkie is infected by a computer virus. Clean it by choosing the Anti-virus mode on the main menu. Be quick as the problem will get worse!</td>
</tr>
<tr>
<td>Sick (Second Level)</td>
<td>![Image]</td>
<td>If the program bug is not cleaned right away, the sickness may get more serious and the robot's internal mechanism will be displayed on the screen. There's something wrong inside!</td>
</tr>
<tr>
<td>Sick (Third Level)</td>
<td>![Image]</td>
<td>This piston screen represents an even more serious stage of his sickness. Go to the anti-virus mode right away!</td>
</tr>
<tr>
<td>Sick (Final Level)</td>
<td>![Image]</td>
<td>Oh No! When this skull picture appears, it means that Dinkie is extremely ill. Many of the robot's functions will be out of order. Dinkie will have NO response when you press its Fuel button or trigger its sound sensor. You must get rid of the virus and take good care on it to bring it back to a normal situation.</td>
</tr>
</tbody>
</table>

9. Interacting with other family members

Dinkie's Language

For a new Dinkie that just arrived our world, it can only talk in its own language — a language which we can never truly understand but can appreciate. You can pick out phrases that sound like it is happy or upset with practice. Over a period of a day or so, the Dinkie may actually learn some language from YOU! It may start to say some "real words" that it has picked up. Dinkie Robots ARE really smart! Listen carefully and see if you can understand it!

Placing Dinkie with other Dinkie Robots

All Dinkies can communicate with each other. When one talks, the other will listen and then respond back when the first is finished. It's amazing! Each of them has its' own voice and speech pattern — and they love to get together for a few words of wisdom.

When you place two of them near one another, you will see that they talk with each other and react in different fun ways. The more they talk, the more happier they become! (Fig. 9)
Dinkies can also communicate with other robots over the Internet! If you have a computer that can connect to the internet, go to www.tekno-robot.com and click on the Dinkie Robot Logo. Turn the WALK switch to the OFF position and place it in front of the screen. (Fig. 10)

Use your mouse to click on the icon on the computer screen that says “VIDEO CONFERENCE” and select a robot of your choice. Make sure that the speakers of your computer are turned on and are loud enough for your Dinkie Robot to hear the other robot talking. SHHHHH! Try to keep quiet while they are talking. It’s only polite! After a while, your robot will begin talking to the robot on the screen! Your Dinkie Robot will be very happy to have had such a great experience!

![Fig. 10](image)

10. Replacing Dinkie’s batteries (Fig. 11)

Dinkie Robots run by battery power. When the batteries are low, it will not respond to any of your commands. To replace the batteries, unscrew the small screws on the BATTERY DOORS on Dinkie’s head and back pack. Pull the battery doors out. Replace the batteries in the orientation shown. USE ONLY ALKALINE BATTERIES for the 2AAA type. Never use Rechargeable batteries or they will damage your Dinkie Robot’s sensitive electronic circuitry.

2 "AAA" batteries (1.5V x 2) and 2 "AG13" batteries (1.5V x 2) required.

![Fig. 11](image)

**IMPORTANT:**

IF YOUR DINKIE ROBOT DOES NOT WALK OR RESPOND TO YOUR VOICE BUT IT STILL TALKS AND ITS EYES LIGHT UP, PRESS RESET.

IF THE SITUATION DOES NOT CHANGE, REPLACE THE 2"AAA" BATTERIES. THESE BATTERIES POWER THE ROBOT'S SOUND SENSORS AND MOTORS. THE 2"AG-13" BATTERIES IN THE ROBOT'S HEAD POWER ITS EYES AND COMPUTER BRAIN.

**BATTERY CAUTIONS: IMPORTANT:** Only parents should replace batteries.
- Use only alkaline batteries.
- Do not use rechargeable batteries.
- Do not attempt to recharge non-rechargeable batteries.
- Insert batteries as marked and always follow the toy and battery manufacturer's instructions.
- Use only the same or equivalent type of battery as recommended.
- Do not short circuit the supply terminals.
- Do not mix old and new batteries. Do not mix different types of batteries, such as alkaline, standard (carbon-zinc), rechargeable (nickel-cadmium).
- Always remove exhausted or dead batteries from the product.
- Remove batteries from the product before extended storage.
11. Trouble Shooting

Under the environment with electrostatic discharge, the sample may malfunction and require user to reset the sample.

<table>
<thead>
<tr>
<th>Difficulty</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Robot does not respond to me when I call it</td>
<td>You may be speaking too quietly. Try to get closer, speak louder, or clap your hands. Your Dinkie is always listening! Also make sure Dinkie is not in the final stage of sickness. It will not respond to you when it is seriously ill.</td>
</tr>
<tr>
<td>The Robot does not move when I talk to it</td>
<td>Make sure the WALK ON/OFF switch is turned to ON position. Dinkies have mind of their own. Maybe it just doesn't feel like walking right now! If this doesn't work, try replacing the 2 AAA Alkaline batteries.</td>
</tr>
<tr>
<td>An abnormal screen shows on Dinkie's face or the screen is very &quot;light&quot; (hard to read)</td>
<td>Press the RESET button to reset the unit. If it happens again, try replacing the two small AG-13 button cell batteries in the head.</td>
</tr>
<tr>
<td>My Dinkie fell and the legs popped off</td>
<td>This is normal under extreme conditions. Simply pop the pieces back on. Match the flat surface of the feet to the pins to make the proper alignment. Please do not do this under normal conditions as it may lead to permanent damage.</td>
</tr>
<tr>
<td>Dinkie seems to walk and move very slowly</td>
<td>The 2 AAA batteries are running low. Replace them with a fresh set.</td>
</tr>
</tbody>
</table>