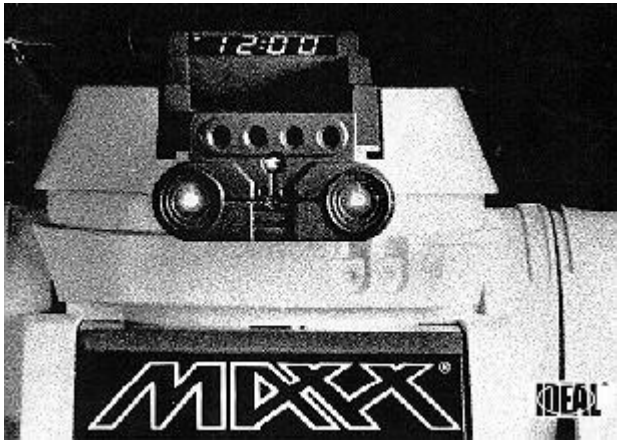
Robot Workshop

MAXX STEELE – IDEAL



MAXX STEELE Robot

Even though MAXX STEELE was made by a toy company, MAXX was not Just a toy! MAXX had a lot of potential for Expansion and didn't have the time it deserved to develop and mature. The robot did have an

onboard microcomputer brain based on the 65C02 microprocessor. There were approximately 5000 MAXX STEELE robots built by CBS Toys for IDEAL. The main downfall of the Robot was the fact that many of the parts were made of plastic and would eventually break. Also there was a problem with the rubber treads on the robot. It could have all been resolved given time. One thing toy companies do a great job at is the way that they can make sophisticated machines in a simple and elegant manner. MAXX is an interesting example of what could be done with a Personal Robot. MAXX also had an Expansion port on his chest. I have seen a demo cartridge for the robot and believe that it could also have expanded RAM cartridges as well.

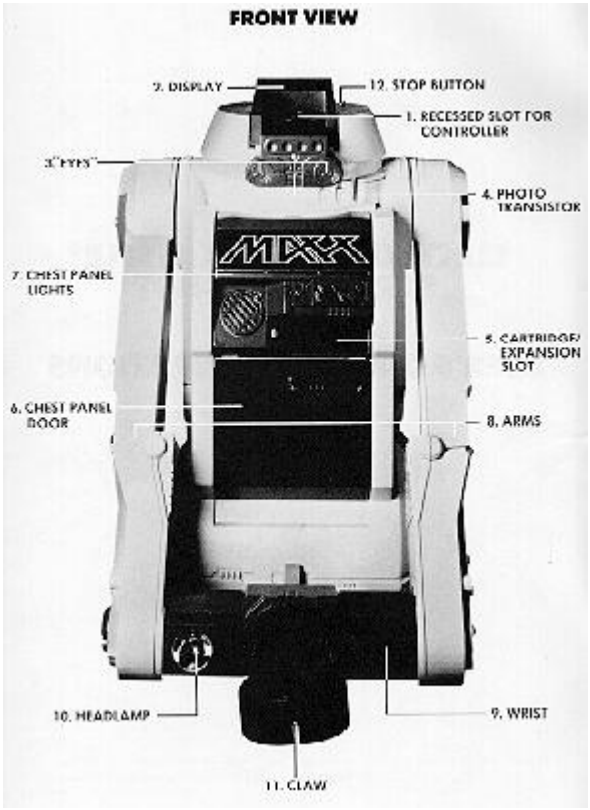
BATTERY
Time between charge: 1.5 to 4 hours, depending upon usage. Arms, wheels, wrist, and claw use more current than speech and music. Battery Charge Time: approximately 14 hours, depending on conditions. (See LABEL on inside of Maxx's chest compartment.)

COMPUTER
Microprocessor: 65C02 (CMOS) Custom version just for Maxx Internal Memory: 2K RAM (CMOS), 8K ROM

CONTROLLER
Keyboard: 25 Multi-function keys Battery Life of Controller: 20 hours Range: approximately 25', depending on local conditions Frequency: 27.095 Mhz Power: 300mw

USER-PROGRAMMABLE MEMORY
Program steps: 255 Music: 127 notes Speech: 16 sentences of 15 words (maximum) each Maximum Continuous Speech: 478 words

GENERAL INFORMATION
Base Vocabulary: approximately 140 words or word particles Music Range: Two octaves (chromatic scale) Serial Port on Controller Expansion Interface Port on Maxx (in chest compartment) Range of Operating Temperatures: 50 to 90 degrees F Fuse: #3AG 5 amp fast blow fuse Charger: 120 VAC, 60Hz. Output: 20 VAC, 14 va



Front view of MAXX STEELE

Troubleshooting: If any of the the lamps do not light check the following. Check the flashligh bulb. It is a #PR12 bulb. The Chest lamps are 6v .1amp lights. If the lamps are good then you might need to change the driving transistors for the lamps. The original Transistor is a D471A which crosses over to an NTE293. These transistors are Q600, Q601, Q602, and Q603 (flashlight). The new NTE part is a heavy duty replacement and has the correct pin orientation for the board. The original transistors had a strange lead configuration and two of the pins of the original had to be crossed. If you change a transistor for the chest lamps you should change all three since the replacement transistors might have a different gain and thus that map might not be the same brightness as the others.

U401 is the 8K ROM that contains the code to run MAXX

U400 is the 2K static RAM (6116) that you can use to program MAXX

U300 is the custom 65C02 CPU

U402 is an LC310 (half of speech)

U403 is an LS8100 (other hald of speech)

U500 is a custom microcontroller to check the status of the switches and control I/O

U200 is and KA2201 ans is the Amplifier for the sound and speech

Below is a picture of one of the prototype cartridges that was made for MAXX. It contains a 2K ROM that runs MAXX through a demonstration, and shows off what the robot can do. It has locations for several jumpers and looks like it would accommodate larger EPROMS or perhaps even extra RAM. I am not sure if any cartridges with other programs/games were made for MAXX. If you know of any please let me know so I can update the website!

MAXX STEELE demo cartridge

Several other MAXX STEELE items were made. Everything from small ROBOFORCE robots and accessories to an Erector set MAXX STEELE robot and even a MAXX STEELE phone.

MAXX STEELE phone

There is an online user group for Maxx Steele robot owners that you can find on Yahoo Groups here: https://groups.yahoo.com/neo/groups/maxsteele/info